



Centuri Flying Model Rockets.

Why, what & how.

Flying Model Rockets.

Why?

WELCOME TO ONE OF THE MOST ACTION-PACKED HOBBIES IN THE WORLD — Flying Model Rocketry! It all started about the time Alan Sheppard's "Freedom 7" lifted off for America's first manned space flight and it's been going strong ever since with over 40 MILLION individual model rocket launches (most of them by young men 10-17 years of age)! Simply put model rocketry is SAFE and FUN! And it's been endorsed by people and organizations from all walks of life including the Boy Scouts of America, The National 4-H Club, U.S. Air Force, and many many more. Just imagine counting down and watching your rocket streak almost-out-of-sight to return safely by parachute — ready to fly again! That's what it is really all about — FUN!

And its educational too! Based on sound scientific principles, model rockets fly just like the real ones. This rewarding hobby offers many young people a chance to build, fly and observe science principles in action. Learning in this exciting meaningful way drives home more understanding of school studies such as math, physics, aerodynamics and the like. What better way to make learning a growing experience? Centuri offers an Educational Service to learning institutions that compliments a scientific and technical courses.

The Federal Aviation Administration and the National Fire Prevention Association have established guidelines for the manufacture and use of model rockets. Centuri adheres to these guidelines and established industry standards for engine size, power & safety precautions. We are also an active member of the National Association of Rocketry and the Hobby Industry Association of America.

Welcome aboard and we look forward to meeting you at the launch pad!

Charles Fox

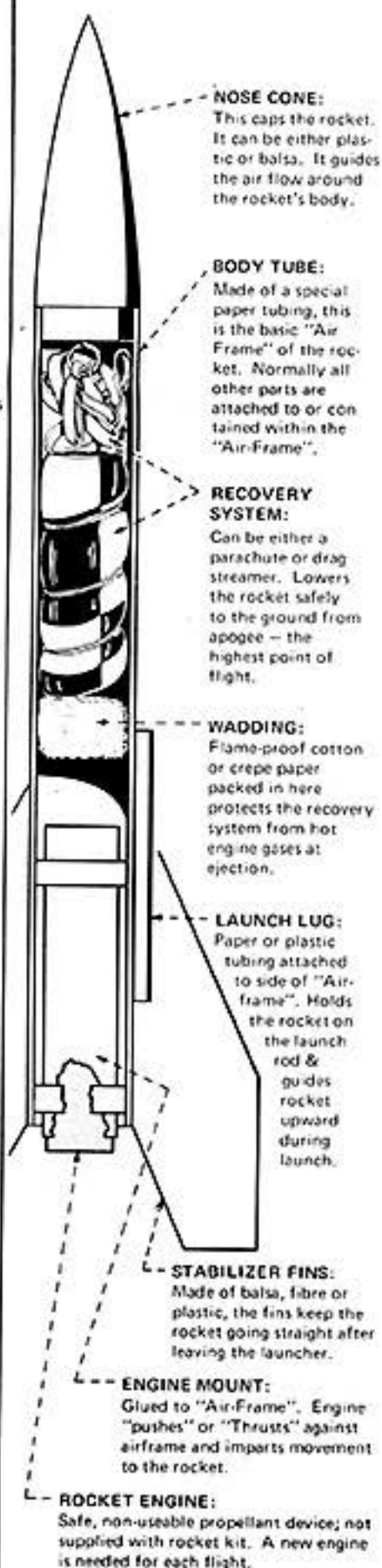
Charles Fox

General Manager
CENTURI



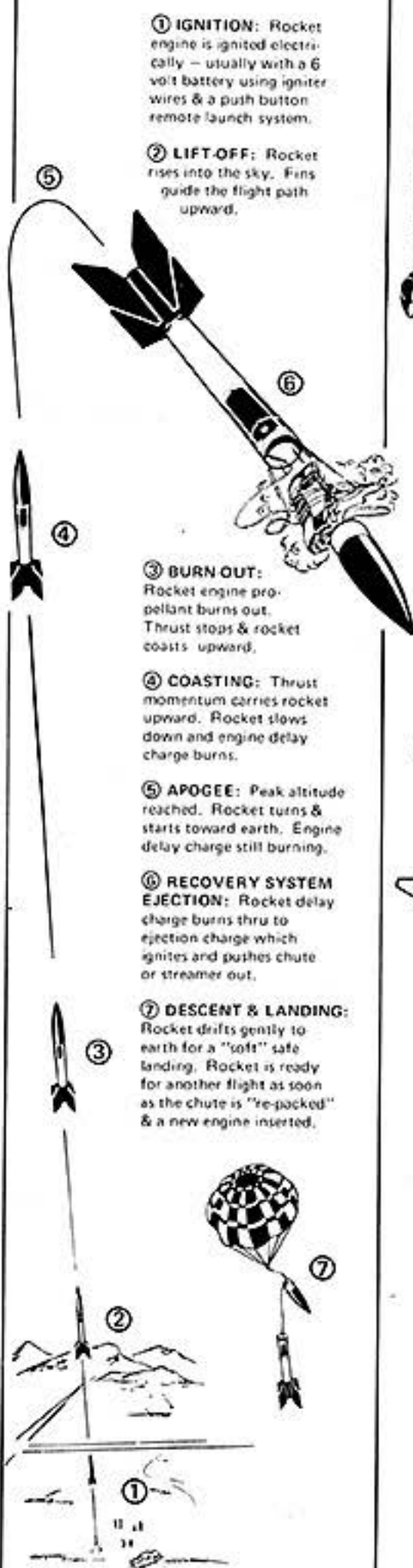
What?

SOME FLYING MODEL ROCKETS HAVE DIFFERENT SHAPES & FLIGHT CHARACTERISTICS, BUT MOST ARE LIKE THIS ONE...



How?

CENTURI MODEL ROCKETS PERFORM MUCH LIKE BIG ROCKETS AND MISSILES. HERE'S THE FLIGHT PATH OF A TYPICAL MODEL ROCKET.



Recovery systems.

THERE ARE 5 BASIC WAYS TO RECOVER A FLYING MODEL ROCKET!

PARACHUTE: Normally for medium to extra large rockets. Some rockets use two chutes together or separately to "Let Down" the component parts.



STREAMER: Drag Streamers are for light & very high fliers — so they won't drift as far as parachutes. The fall is sufficiently "Braked" by the streamer for a soft landing.



GLIDING: A section or sometimes all of the rocket glides to earth on "wings" for a safe landing.



HIGH DRAG: These rockets "Tumble" slowly to earth due to high air resistance (drag). They are designed to land safely, and usually weigh less than 1/2 ounce.



GYRO ACTION: Lightness, forward center of gravity and air flowing past the structure causes a slow-falling Gyro-Spin to a soft earth landing.



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What it takes to build and fly.

ABOUT YOUR ROCKETS:

All Centuri Rockets come in kit form, most include colorful decal sheets. Engines are NOT included except with Kits in "Outfits". All kits contain complete instructions and all necessary parts - most are pre-formed, molded or pre-cut. Simplicity, quality parts, easy construction and clear instructions make Centuri model rockets hard to beat!

CHOOSING ROCKETS: SKILL-LEVEL

Each Centuri rocket has a Skill-Level number assigned in this catalog, indicating a level of building & flying complexity. If you are a newcomer to this hobby, we suggest building a Skill Level 1 rocket. The Eagle Power Outfit gives you everything you need to build & fly including a launch system - all at a bargain price! Here's a Skill-Level number system found on many packages.

TYPICAL SYMBOL: "Lil' Hero" is Skill Level 1

SKILL LEVEL				
1	2	3	4	5
Beginner	Intermediate			Advanced

- 1-For the beginner who has no previous modeling experience of any kind.
- 2-Build & fly Skill Level 1 or have some experience in other modeling hobbies.
- 3-Experience in Skill Level 1 & 2 - Average modeling challenge.
- 4-Continued experience such as staging, boost gliders & scale model rockets.
- 5-Special configuration on high detail, multi-engine, or advanced gliding models requiring a solid background in model rocketry.

HERE'S WHAT YOU NEED:

Not all kits require all types of tools. Generally, you need a good X-acto type modeling knife, a ruler, scissors, a pencil & a small paint brush. Some kits, like "Screaming Eagle" require no tools at all!

FINISHING MATERIALS:

The best glue is an "Aliphatic" (Wihold Titebond) or common "White Glue" like Elmer's. Model airplane cement is NOT recommended as it dries too fast & does not hold well. Kits with balsa parts require "Sanding Sealer" and a fine (220-400) sandpaper. Use spray enamel for smooth painting.

LAUNCH SYSTEMS:

There are 2 systems. POWER-PAD is included in all Centuri basic starter outfits, and is complete except for battery. POWER TOWER requires the POWER-CONTROL launch controller. See page 22.

POWER SUPPLY:

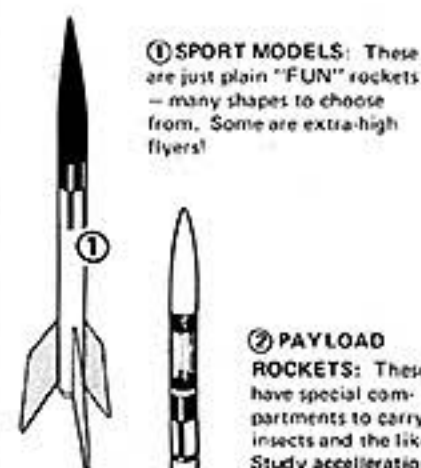
Any standard 6 volt lantern battery as shown here works with Power-Pad. Any 6 or 12 volt system (including an auto battery) works with Power Tower & Power-Control. Do not use house current or a lower voltage than recommended.

ROCKET ENGINES:

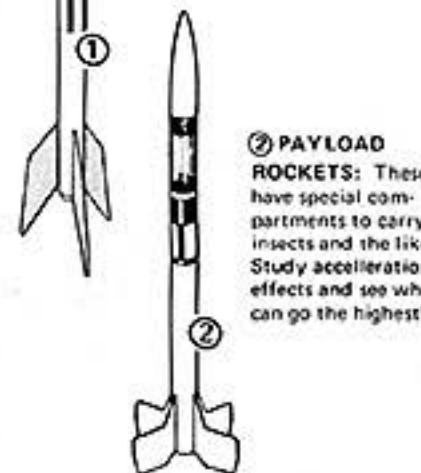
Centuri offers 25 engine types & sizes including Mini-Motors. Pick the power to fit your rocket for flights from 50 to over 2000 feet! Sure-Shot igniters & complete instructions are included in each 3-engine package.

Things to do and try.

CENTURI'S KIT VARIETY LETS YOU EXPERIENCE JUST ABOUT EVERYTHING FROM PAYLOAD EXPERIMENTS TO THE CLUSTERED ENGINE LIFT-OFF OF A GIANT ROCKET.



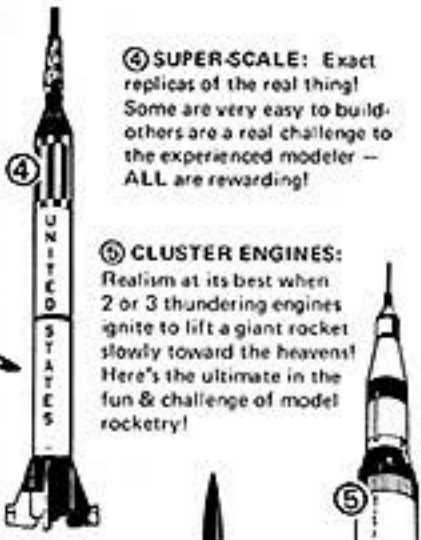
① SPORT MODELS: These are just plain "FUN" rockets - many shapes to choose from. Some are extra-high flyers!



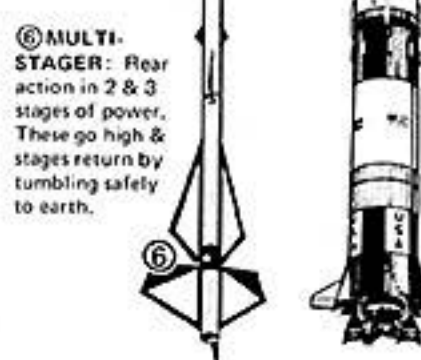
② PAYLOAD ROCKETS: These have special compartments to carry insects and the like. Study acceleration effects and see who can go the highest!



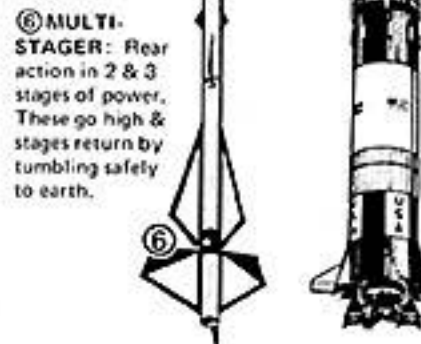
③ BOOST GLIDERS: They blast off & up like a rocket and glide-return like an airplane. Hold a contest on who's stays up the longest!



④ SUPER-SCALE: Exact replicas of the real thing! Some are very easy to build; others are a real challenge to the experienced modeler - ALL are rewarding!



⑤ CLUSTER ENGINES: Realism at its best when 2 or 3 thundering engines ignite to lift a giant rocket slowly toward the heavens! Here's the ultimate in the fun & challenge of model rocketry!



⑥ MULTI-STAGER: Rear action in 2 & 3 stages of power. These go high & stages return by tumbling safely to earth.

Safety code.

1 CONSTRUCTION - My model rockets will be made of lightweight materials such as paper, wood, plastic, and rubber without any metal as structural parts.

2 ENGINES - I will use only pre-loaded factory made model rocket engines in the manner recommended by the manufacturer. I will not change in any way nor attempt to reload these engines.

3 RECOVERY - I will always use a recovery system in my model rockets that will return them safely to the ground so that they may be flown again.

4 WEIGHT LIMITS - My model rocket will weigh no more than 453 grams (16 oz.) at lift-off, and the engines will contain no more than 133 grams (4 oz.) of propellant.

5 STABILITY - I will check the stability of my model rocket before its first flight, except when launching models of already proven stability.

6 LAUNCHING SYSTEM - The system I use to launch my model rockets must be remotely-controlled and electrically operated and will contain a switch that will turn to "off" when released. I will remain at least 10 feet from any rocket that is being launched.

7 LAUNCH SAFETY - I will not let anyone approach a model rocket on a launcher until I have made sure that either the safety interlock key has been removed or the battery has been disconnected from my launcher.

8 FLYING CONDITIONS - I will not launch my model rocket in high winds, near buildings, power lines, tall trees, low flying aircraft or under any conditions which might be dangerous to people or property.

9 LAUNCH AREA - My model rockets will always be launched from a cleared area free of any easy to burn materials, and I will only use non-flammable recovery wadding in my rockets.

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

11 LAUNCH ROD - To prevent accidental eye injury I will always place the launcher so the end of the rod is above eye level or cap the end of the rod with my hand when approaching it. I will never place my head or body over the launching rod. When my launcher is not in use I will always store it so that the launch rod is not in an upright position.

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

13 LAUNCH TARGETS & ANGLES - I will not launch rockets so their flight path will carry them against targets on the ground, and will never use an explosive warhead, nor a payload that is intended to be flammable. My launching device will always be pointed within 30 degrees of vertical.

14 PRE-LAUNCH TEST - When conducting research activities with unproven designs or methods, I will when possible determine their reliability through pre-launch tests. I will conduct launchings of unproven designs in complete isolation from persons not participating in the actual launching.

How do I learn more?

LEARN BY DOING:

Many questions about this exciting hobby are answered in this catalog and product instruction sheets. As you grow in experience there are more places to learn from.

HOBBY STORES:

Your local hobby dealer is one of your best information sources. He has years of experience helping new rocketeers. If he doesn't have Centuri Rockets ask him to start and drop us a note so we can add him to our mailing list.

SCHOOLS & CLUBS:

There are hundreds of independent model rocket clubs in the U.S., Canada, & Europe. Others are sponsored by groups like the Boy Scouts, YMCA, 4-H or Civil Air Patrol. Some are organized by school teachers or groups like Kiwanis or city Recreation Departments Ask around!

BOOKS & PUBLICATIONS:

Your local library probably has books on model rocketry. Ask the librarian to show you how to use the library's resources. Some hobby magazines (such as SPORT MODELER) frequently have rocketry articles. Centuri produces many Tech Reports (too specialized for most dealers to carry). Write for more information!

NATIONAL ASSOCIATION OF ROCKETRY (NAR)

The NAR is THE official non-profit organization working for the advancement of model rocketry nation-wide. Open to all serious rocketeers, membership includes competition sporting license, decals, insurance, and subscription to MODEL ROCKETEER magazine. For information, write:
NAR Headquarters, Dept. C75
P.O. Box 725
New Providence, New Jersey 07974

AEROSPACE TEAM:

Centuri's Aerospace Team is one of the oldest model rocket clubs established by a manufacturer. For a real flying-start join "OUR TEAM" for a one-time fee of \$1.00. Here's what you get by return mail:
*MEMBERSHIP CARD - Fits wallet & contains safety code.
*I.D. STICKER for your field box.
*WALL CERTIFICATE - your name inscribed.
*ROCKET DESIGN MANUAL with photos, plans & many pages!
*IRON-ON EMBLEM for shirt or jacket.
*TEAM DECAL SHEET - 16 insignias!
*PLUS - - - A direct-line on all the latest in Model Rocketry.
JOIN TODAY! Send \$1.00 To:
CENTURI, Dept. C75
P.O. Box 1988
Phoenix, Arizona 85001



Educational SERVICES.

Centuri's Educational Services Division has a series of aid materials to assist the educator in preparing a "motivating" model rocketry program in school. Educators are invited to write on their school's letterhead for free information. Send request to address above.
Director of Educational Programs,

SAFETY FIRST!

Centuri **Outfits.**

Everything you need to fly.



Build & launch in one day!

Centuri's Eagle Power Outfit* gets you off to a flying start in model rocketry! No painting, no sanding & no special tools. Look at what you get

- SCREAMING EAGLE rocket kit with preformed tail fin assembly, plastic nose cone, pre-colored body wrapper, decals & parachute.
- POWR-PAD LAUNCH SYSTEM Launch Sys-

tem with tilting rod, steel exhaust deflector, carrying handle, launch controller & safety key, (battery not included*).

- Plus 2 powerful rocket engines, glue, Mini-Manual on model rocketry, parachute wadding, igniters, and complete instructions -- THE WORKS! GET GOING WITH "EAGLE POWER" today!

PROD. NO. 3501 (Formerly SK-110)

Shipping Wt. 3 lbs.

Eagle Power

T.M.

RECOMMENDED BATTERY	
6 VOLT LANTERN	
Capacity (mAh)	Power (Watt)
Capacity (Ah)	Power (Watt)
Capacity (Ah)	Power (Watt)
Capacity (Ah)	Power (Watt)
Capacity (Ah)	Power (Watt)

- Powr-Pad uses standard 6-volt lantern battery
- Good for over 500 launches
- Available at most hobby and sporting goods stores

SKILL LEVEL-1

\$9.95



Two big rockets and everything else you need to fly!

Centuri's Big Shot is really loaded! Includes everything you get in the Eagle Power Outfit . . . plus more! Includes ● SCREAMING EAGLE almost-ready-to-fly rocket kit for super-easy start. ● Long tall EXCALIBUR rocket kit to get you into regular rockets. ● POWR-PAD launch system . . . universally praised as the best there is. ● Enough

engines, igniters and parachute wadding for THREE thundering flights. Illustrated instructions, mini-manual, and glue for assembly. ● Plus our big 36 page ROCKETEER'S GUIDEBOOK loaded with tech info on multi-staging, altitude tracking and much more. For a flying rocket start — go with BIG SHOT!

PROD. NO. 3502

(Formerly SK-210)

Shipping Wt. 4 lbs

Big Shot™

SKILL LEVEL-1

\$14.95

Centuri Kits.

Flying Model Rockets.

PLANETARY SPACE CRUISER — FUTURISTIC MARKINGS!

Almost 2 feet tall, TAURUS has the look of the future! This kit is so highly detailed, (one of our most detailed decal sheets), that you'll be proud to fly it or display it! Plastic body reducers, a large molded nose cone, simulated cluster boosters, chrome trim, pre-cut balsa fins & a large parachute make TAURUS a standout-anywhere! Build it — detail it & get ready for REALISTIC SPACE ACTION with TAURUS!



SPECIFICATIONS	RECOMMENDED ENGINES
Length 23.3"	A8-3 B44
Body Dia. 1.34"	B6-4 C6-5
Net Wt. 2.6 oz.	

PROD. NO. 2112 (Formerly KB-3)

Taurus

SKILL LEVEL-3 \$3.50 Shipping Wt. 15 oz. Engines not included.

HI-PERFORMING BEGINNER'S ROCKET!

EASY FLIGHTS TO 800'!

Get perfect high altitude flights every time with a proven design. This swift rocket has super-stabilizing tail fins. And it goes as good as it looks! Pre-cut balsa fins, plastic nose cone, "quick-change" engine lock, large colorful chute and decals make ASTRO-1 THE CHOICE for the beginner.

SPECIFICATIONS	RECOMMENDED ENGINES
Length 16"	A6-2 B6-4
Body Dia. 1.04"	A8-3 B14-5
Net Wt. 1.1 oz.	B44 C6-5

PROD. NO. 2121 (Formerly KB-17)

Astro 1

SKILL LEVEL-1 \$2.50 Shipping Wt. 12 oz. Engines not included.



AMERICA'S FIRST SUPERSONIC ROCKET

1/37 SCALE!

Get in on history with MX-774! A Convair design, this sleek rocket was inspired by the famous German V-2 rockets. And the "MX" gets up there fast with flights as high as 1/4 mile! And it recovers so gently by parachute. Streamlined "Boat-Tail" fins, a molded nose section & a special 2-page scale data sheet makes MX-774 an interesting & exciting project!

PROD. NO. 2102 (Formerly KA-3)

MX-774

SKILL LEVEL-3 \$1.95 Shipping Wt. 9 oz. Engines not included.

SPECIFICATIONS	RECOMMENDED ENGINES
Length 11"	A6-2 B46 B6-6
Body Dia. 0.91"	B14-7 C6-7
Net Wt. 1.1 oz.	

FLY A ROCKET POWERED FIGHTER

ACTION GALORE!

How about a jet-style fighter that roars skyward to 500', ejects a streamer recovered target marker, then smoothly circles for a soft-landing. Talk about action—MACH-10 has it! Pre-cut balsa wings & tail plus a rugged plastic-coned belly tank & Centuri's lift-generating "T-TAIL" makes this easy-to-construct "BIRD" a show-stealer-every flight!

PROD. NO. 2103 (Formerly KA-4)

Mach 10

SKILL LEVEL-4 \$2.95 Shipping Wt. 14 oz. Engines not included.

SPECIFICATIONS	RECOMMENDED ENGINES
Length 12"	B4-2 C6-3
Body Dia. 1.64"	
Wing Span 11"	
Gross Wt. 1.35 oz.	
Net Wt. 1.05 oz.	





TWO-STAGE GIANT — 3 FEET TALL!

Get ready for Action when this one lifts-off! Slim & trim, LONG TOM streaks up to 1/4 mile high & returns gently with its large parachute. Colored plastic body reducer & nose cone with decal emblems make this one really fun to build & fly. Add Centuri's exclusive "Passport" Staging * and Baffle/Chute Ejection* (no chute wadding necessary!) You've got "SURE-FIRE" PERFORMANCE every launch!

SPECIFICATIONS	RECOMMENDED ENGINES	
	1st Stage	2nd Stage
Length..... 35.5"	A80	B44
Body Dia..... 1.34"	B60	B66
Net Wt..... 3 oz.	B140	C67
	C69	

PROD. NO. 2124 (Formerly KC-4)

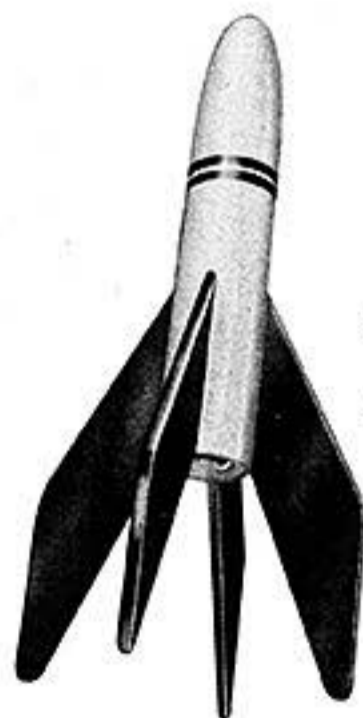
Long Tom

SKILL LEVEL-4

\$4.50

Shipping Wt. 18 oz.
Engines not included.

U.S. Pat. No. 1's
3,721,100
3,719,145



**BEGINNERS FEATHERWEIGHT
A SNAP TO ASSEMBLE!**

Watch this little "BIRD" move out to high altitudes! Super-simple to build, LIL' HERC has no parachute — at apogee the engine is "POPPED" free to let "HERC" tumble ever so gently to earth. Pre-cut balsa fins, a fibre body casing & plastic nose cone make this one an afternoon project of fun and action!

SPECIFICATIONS	RECOMMENDED ENGINES	
	XA6-2	XA6-4
Length..... 6.5"		
Body Dia..... 0.76"		
Net Wt..... 0.3 oz.		

PROD. NO. 2100 (Formerly KA-1)

Lil' Herc

SKILL LEVEL-1

\$1.00

Shipping Wt. 2 oz.
Engines not included.

**MODEL OF ACTUAL
NASA ROCKET**

EASY TO BUILD

Here's an IMPRESSIVE BIRD 1/10 the size of NASA'S 75,000' altitude Research Rocket. It's big - almost two feet tall! Watch it swoosh almost out of sight to return softly with its large chute. Goes together fast with a high-detail molded nose cone. Pre-cut balsa fins & special Baffle/Ejection* & authentic decal sheet. Beautiful in flight or as a scale display. A "MUST" for the scale rocketeer!

PROD. NO. 2141 (Formerly KS-15)

Nike Smoke

SKILL LEVEL 2

\$3.95

Shipping Wt. 15 oz.
Engines not included.

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

RECOMMENDED ENGINES	
B42	C05

*U.S. Pat. No. 3,719,145



**2
PARACHUTES**

**FLY A WINNER!
TWO CHUTES AND MORE!**

This slim speedster won the parachute duration event at the First International Model Rocket Championships! VERY sleek, VERY fast, STARFIRE goes VERY VERY HIGH-UP to 1,500'! Then floats VERY slowly down on its extra large chute. You get a small chute too! Pre-cut balsa fins, a streamlined plastic nose cone, boat-tail fin design & special "stars" decal make STARFIRE the real "PRO" at the launch pad!

SPECIFICATIONS	RECOMMENDED ENGINES	
	XA6-2	B46 B66 B147 C67
Length..... 16"		
Body Dia..... 0.91"		
Net Wt..... 1 oz.		

PROD. NO. 2129 (Formerly KC-12)

Starfire

SKILL LEVEL-2

\$2.50

Shipping Wt. 10 oz.
Engines not included.



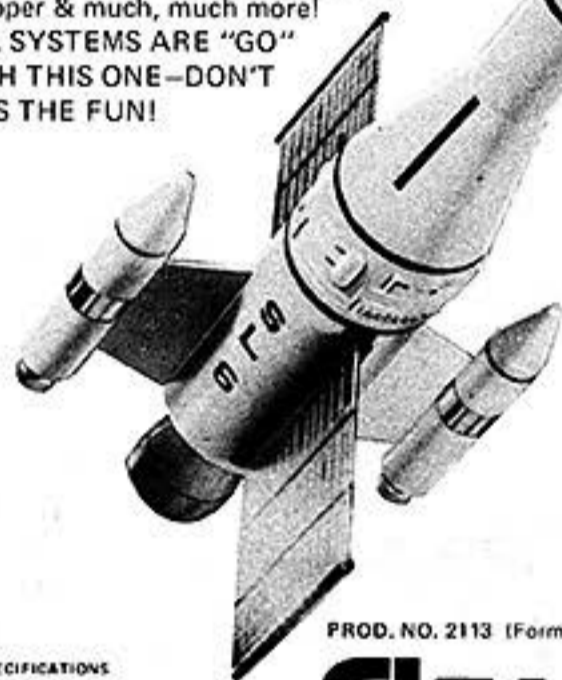
Kits.

Centuri

Flying Model Rockets.

NASA'S SPECTACULAR DETAILS GALORE & IT FLYS!

So realistic, you'll thrill from the moment of its majestic lift-off to its breath-taking soft recovery to earth. Over 2 feet tall, Centuri's SKY LAB is probably the most exciting flying model rocket you'll ever build! And, we've made it easy with molded plastic parts, chromed solar panels, super-detail large decal sheet, a body wrapper & much, much more! ALL SYSTEMS ARE "GO" WITH THIS ONE—DON'T MISS THE FUN!



PROD. NO. 2113 (Formerly KB-4)

Sky-Lab

SKILL LEVEL-4 \$5.95 Shipping Wt. 16 oz. Engines not included.

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

RECOMMENDED ENGINES
 B4-2 C6-3



OUR EASIEST ROCKET ALL YOU NEED IS GLUE!

Centuri's made it EXTRA-EASY FOR BEGINNERS & experienced rocketeers with this one. All parts are preformed, pre-colored & ready to assemble—NOW! Includes a complete plastic tail & fin section, nose cone, shiny chrome multi-colored body wrapper, engine lock & parachute. As rugged as it is beautiful—SCREAMING EAGLE performs too, with flights to 1500 feet! GET GOING FAST with this big one!

SPECIFICATIONS
 Length..... 16.4"
 Body Dia..... 0.91"
 Net Wt..... 1.6 oz.

RECOMMENDED ENGINES
 A2-3 B4-6 B6-6
 B14-5 C6-7

PROD. NO. 2145 (Formerly KF-3)

Screaming Eagle

"EAGLE" FIN UNIT
 Replacement only. Does NOT include engine mount parts. Improve for "own-design" (F-48) \$1.00

SKILL LEVEL-1 \$2.50 Shipping Wt. 13 oz. Engines not included.

SPIN STABILIZED HI-FLYER

FLIGHTS TO ONE-QUARTER MILE!

Watch as the canted fins spin & stabilize TWISTER on its way up. At apogee the parachute "POPS" to let TWISTER down slow & easy. This one's easy to build with plastic molded nose cone, extra-colorful decals and pre-cut balsa fins. Get in the spin—Fly TWISTER!

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

RECOMMENDED ENGINES
 A4-2 B4-6 B14-7
 A5-4 B6-6 C6-7

PROD. NO. 2101 (Formerly KA-2)

Twister

SKILL LEVEL-1 \$1.95 Shipping Wt. 8 oz. Engines not included.



SEMI-SCALE NAVAL MISSILE TARGET DRONE

FLIGHTS TO 1,400'

JAYHAWK has realism PLUS! With some variations, it looks and flies like the U.S. Navy AQM-37A Missile Target. Details galore in this kit with 3-color decal, pre-cut fibre-fins, plastic nose cone and parachute. All you need is glue & spray paint and your JAYHAWK is ready for the sky!

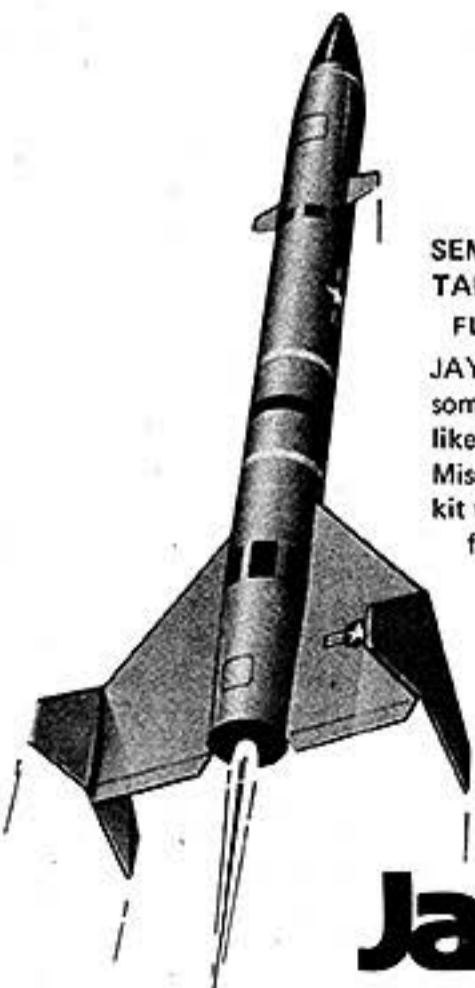
SPECIFICATIONS
 Length..... 12.6"
 Body Dia..... 0.91"
 Net Wt..... 1 oz.

RECOMMENDED ENGINES
 A4-2 A5-4 B4-6
 B6-6 C6-7

PROD. NO. 2143 (Formerly KF-1)

Jayhawk

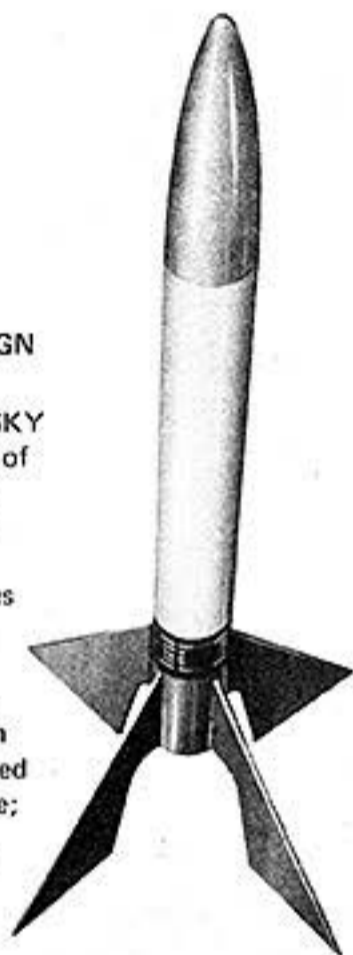
SKILL LEVEL-2 \$2.50 Shipping Wt. 9 oz. Engines not included.





CUSTOMIZED FIN DESIGN
8 TO CHOOSE FROM!

YOU DECIDE how your SKY DEVIL will look with one of 8 different tail fin designs! Then blast-off to altitudes as high as 1,800'! This foot-long performer comes with plastic nose cone, balsa fin sheet & colorful parachute and the price is right! How about these fin choices! Aero Bee-Hi; Raked Delta; Swept-Delta; Bastille; Swept-Subsonic; Cobra; Clipped-Delta & Elliptical. It's flyer's CHOICE with SKY DEVIL!



PROD. NO. 2118 (Formerly KB-10)

Sky Devil

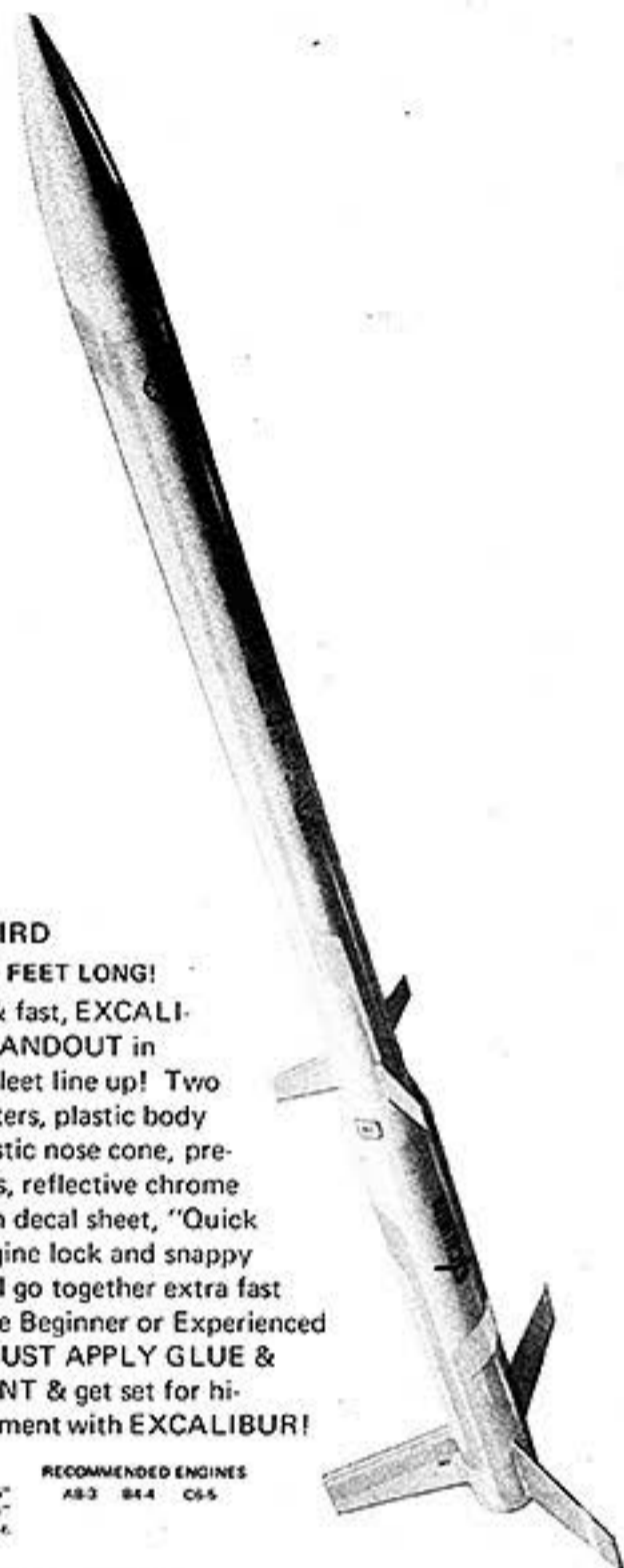
SPECIFICATIONS
Length 12" to 14"
Body Dia. 0.75"
Net Wt. 0.8 oz.

RECOMMENDED ENGINES
A6-4 A8-5 B4-6
B5-6 C6-7

SKILL LEVEL-2

\$1.50

Shipping Wt. 6 oz.
Engines not included



BIG-BIG BIRD

OVER TWO FEET LONG!
Long, slim & fast, EXCALIBUR is a STANDOUT in any rocket fleet line up! Two body diameters, plastic body reducer, plastic nose cone, pre-cut fibre fins, reflective chrome trim, custom decal sheet, "Quick Change" engine lock and snappy parachute all go together extra fast for either the Beginner or Experienced rocketeer. JUST APPLY GLUE & SPRAY PAINT & get set for hi-flying excitement with EXCALIBUR!

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

RECOMMENDED ENGINES
A8-3 B4-4 C5-5

PROD. NO. 2106 (Formerly KA-8)

Excalibur

SKILL LEVEL-1

\$2.50

Shipping Wt. 18 oz.
Engines not included

IT GLIDES BACK TO EARTH
LIFTING BODY PRINCIPLE!

Yes, it actually flies! X-24 is our version of tomorrow's manned re-entry vehicle. The "BUG" climbs smoothly away from the launch pad trailing smoke and making a weird sound! Different! At apogee it quickly stabilizes in a long sweeping glide to a soft earth landing. Assembly is simple using PRE-PAINTED PAPER loaded with color & details. Get the "BUG" and start your own test program!



PROD. NO. 2109 (Formerly KA-12)

X-24 Bug

SKILL LEVEL-3

\$1.50

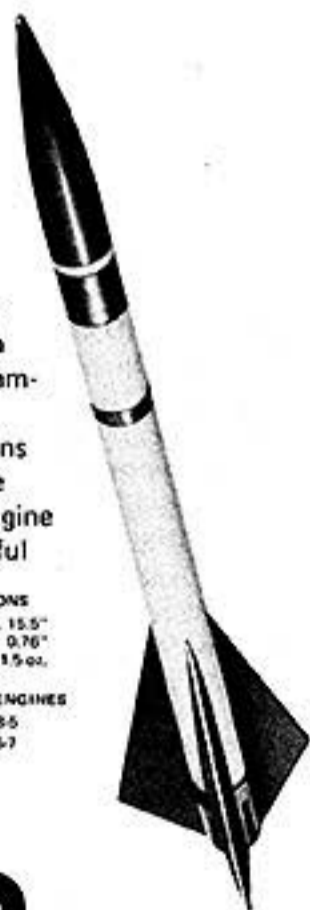
SPECIFICATIONS
Length..... 7"
Wingspan..... 7"
Net Wt..... 1.0 oz.

RECOMMENDED ENGINES
B4-2 C6-3 C5-0

Shipping Wt. 10 oz.
Engines not included

EXTRA-HI FLYER

NO SANDING OR SEALING!
See this slim one streak to almost-out-of-sight altitudes! Then watch it return on a colorful drogue streamer, ready to go again! BANDITO uses unique wedge shaped speed fins (pre-cut fibre) designed to enhance aerodynamics, "Quick Change" engine lock, shiny chrome trim & a colorful decal sheet. And it goes together fast without any sanding or sealing. FLY THE HOT ONE - the BANDITO!



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

RECOMMENDED ENGINES
A6-4 A8-5
B4-6 C5-7

PROD. NO. 2105 (Formerly KA-7)

Bandito

SKILL LEVEL-2

\$1.95

Shipping Wt. 10 oz.
Engines not included

Kits.

Flying Model Rockets.



LAUNCH YOUR OWN!

Styled after the U.S. Naval missiles Tarter & Terrier, NOMAD has the look of the real thing. Slim and sleek. It really moves out with flights up to 1/6th mile! Recovery is by a colored parachute for launch after launch. AND WHAT DETAILS! Pre-cut fibre-fins & body vanes, chrome bands and a super-detailed 2-color decal sheet. Round out your rocket fleet with this fast flying performer—NOMAD!

SPECIFICATIONS
 Length 18.0"
 Body Diam. 1.0"
 Net Wt. 1.75 oz.

RECOMMENDED ENGINES
 A83 B44
 B64 C65

PROD. NO. 2114 (Formerly KB-5)

Nomad

SKILL LEVEL-3

\$3.50

Shipping Wt. 12 oz.
 Engines not included.

SHAPE OF THE FUTURE

QUICK ASSEMBLY AND NO PAINTING!

This is one of our most exotic Rockets. With a unique shape of its own, VULCAN flies beautifully without conventional rocket fins! Goes together quick with pre-colored parts & a minimum of fuss. Watch VULCAN streak skyward & return gracefully by its colorful parachute. Definitely NOT ANOTHER "ME TOO" ROCKET, VULCAN is really something special.

PROD. NO. 2107 (Formerly KA-10)

Vulkan

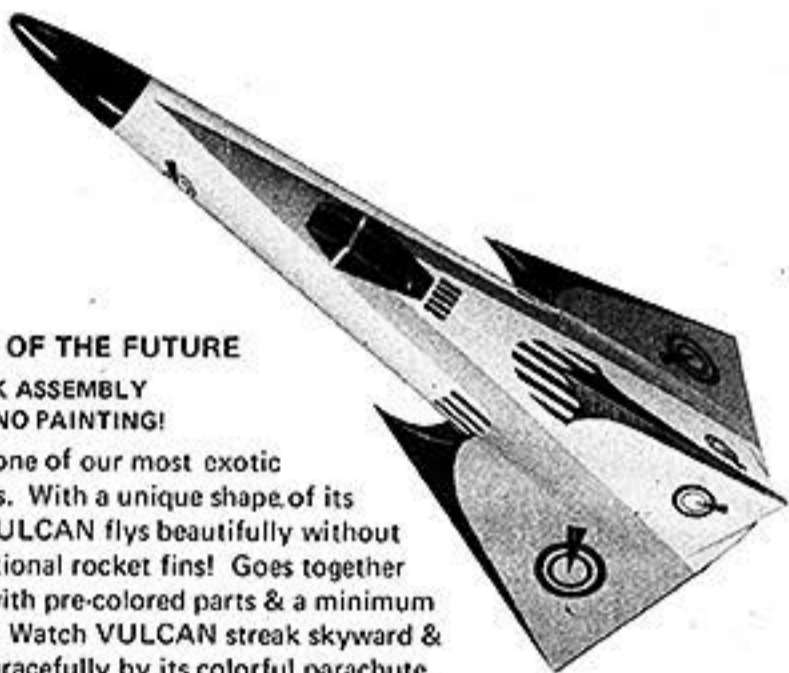
SKILL LEVEL-3

\$1.95

Shipping Wt. 11 oz.
 Engines not included.

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

RECOMMENDED ENGINES
 B42 C63



PERFORMANCE PLUS!

FLIGHTS TO 1,800'

This kit is a must for the beginner who wants BIG SINGLE-STAGE PERFORMANCE in a small, fast rocket. Die cut fins & a plastic nose cone gets you to the launch pad—fast! Recovery is by colorful streamer for safe & happy landings — everytime! Every fleet needs this high-flying tiger — MICRON!

SPECIFICATIONS
 Length 8.5"
 Body Dia.930"
 Net Wt. 0.4 oz.

RECOMMENDED ENGINES
 XA64 A85 B46
 B66 C67

PROD. NO. 2104 (Formerly KA-5)

Micron

SKILL LEVEL-1

\$1.50

Shipping Wt. 8 oz.
 Engines not included.



DUAL-SHIP ACTION!

A swept wing glider rides the sleek SST rocket to high altitudes, detaches & circles back to earth while the SST "carrier" deploys a large chute & drifts down in a horizontal position. Here's exciting dual-ship action that flies again & again! This kit is packed with colorful decals, pre-formed hi-detailed plastic parts, pre-cut balsa fins and wings — the works! Build it and fly it!

PROD. NO. 2131 (Formerly KC-17)

SST Shuttle

SKILL LEVEL-5

\$4.95

Shipping Wt. 18 oz.
 Engines not included.

SPECIFICATIONS

	SST	GLIDER
Length	22.5"	8.5"
Body Dia.	1.04"	0.76"
Net Wt.	2 oz.	.8 oz.

RECOMMENDED ENGINES
 B42 C63



BUILDERS CHOICE

OVER 12 WAYS TO GO!

Here's one you customize to one of over a dozen different configurations. And it goes together fast too, with pre-cut fibre fins, plastic nose cone, a large decal sheet of exotic markings & super detailing & finishing ideas. Recover by parachute for a fast turn-around with Centuri's Quick Change Engine Lock. Get started in the Design-Your-Own game today with VECTOR-V!



PROD. NO. 2111 (Formerly KB-2)

Vector V

SKILL LEVEL-3

\$1.95

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

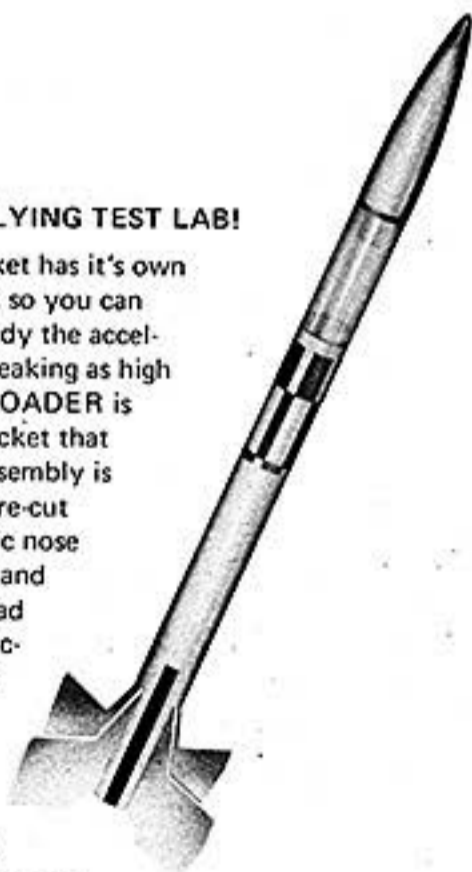
Length 12.5"
Max. Dia. 1.34"
Net Wt. 0.9 oz.

RECOMMENDED ENGINES

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

BEGINNER'S HI-FLYING TEST LAB!

This high-flying rocket has its own clear plastic capsule, so you can launch insects to study the acceleration effects! Streaking as high as 1,000', the PAYLOADER is a great beginner's rocket that doubles the fun. Assembly is simple & fast with pre-cut balsa tail fins, plastic nose cone, custom decals and a clean plastic payload section. Both the rocket & capsule return safely to earth by sturdy parachute to FLY AGAIN & AGAIN. Fly with the Centuri "Carrier Rocket" PAYLOADER III!



PROD. NO. 2132 (Formerly KC-20)

Payloader II

SKILL LEVEL-2

\$2.95

Shipping Wt. 14 oz.
Engines not included.

SPECIFICATIONS

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

RECOMMENDED ENGINES

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

FLY IT IN 1/2 HOUR

NO PAINTING OR SANDING!

This BIG "BIRD" is over 28" inches tall & goes together real fast with plastic molded tail section (& launch lug!) body reducer & nose cone! Colors are built-in. No tools or measuring - just glue together and go! Dual chutes make for an exciting recovery. Styled after the Air Force X-17 Research Rocket - ARGUS is a great Saturday afternoon project!

SPECIFICATIONS

Length 28.5"
Body Dia. 1.34"
Net Wt. 3.0 oz.

RECOMMENDED ENGINES

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

PROD. NO. 2117 (Formerly KB-9)

Argus

SKILL LEVEL-2

\$4.50

Shipping Wt. 16 oz.
Engines not included.



"ARGUS" FIN UNIT
Replacement or for "own-
designs". Fits over #13 tube.
(F-134L) \$1.50

FLIGHTS TO 2,200 FEET

TWO-STAGE PERFORMANCE AT ITS BEST!

One of our highest flying rockets. This long thin 2-stager slices upward to almost OUT-OF-SIGHT ALTITUDES! It recovers on dual streamers while the booster tumbles safely to earth. Pre-cut balsa fins & passport staging* get this sleek performer in the air-fast! Put real "GO" on your launch pad-STILETTO!

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



SPECIFICATIONS

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

RECOMMENDED ENGINES

1st Stage	2nd Stage
A8-0	A6-4
B6-0	A8-5
B14-0	B5-6
C6-0	C6-7

PROD. NO. 2110 (Formerly KB-1)

Stiletto

SKILL LEVEL-3

\$2.50

Shipping Wt. 11 oz.
Engines not included.

Kits.

Contour

Flying Model Rockets.



CENTURI'S SINGLE ENGINE GIANT SUPER DETAILING

Get into the BIG TIME with This one! ORION'S details are so realistic, it's great just to look at ... And it flies beautifully too! Details galore including a special nose cone shape, corrugated body wrappers, pre-cut balsa fins, large decals, "baffle/chute" ejection" rocket exhaust nozzle. ORION thunders to over 400' & returns gently on it's large colored chute. GO BIG WITH ORION!

*U.S. Pat. No. 3,719,145

PROD. NO. 2127 (Formerly KC-8)

Orion

SKILL LEVEL-4

\$5.95

Shipping Wt. 16 oz.
Engines not included

SPECIFICATIONS
Length 22.5"
Body Dia. 2.04"
Net Wt. 4.5 oz.
RECOMMENDED ENGINES
B4.2 or C6.3

LOOK - NO FINS!

FOR BOTH THE BEGINNER & EXPERIENCED ROCKETEER!

An easy to build rocket with a "DIFFERENT" look. You'll be happy with its stable vertical flights especially in windy conditions. And, you can put it together in an evening. No fins to sand; a plastic nose cone, custom decals & shiny chrome trim make it a cinch with just glue & spray paint. Surprise your buddies with this unusual rocket.

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

RECOMMENDED ENGINES
A8.3 B4.4 C6.5

PROD. NO. 2108 (Formerly KA-11)

Groove Tube

SKILL LEVEL-1

\$2.50

Shipping Wt. 15 oz.
Engines not included



BEGINNER'S FUN!

DUAL CONFIGURATION!

Here's a quick moving midget with lots of action! Launch your MOONRAKER and watch it separate into 2 sections at apogee! Both gyro-tumble harmlessly to earth. You can also change the fin rake angles easily - it's two ships in one! Quick to assemble with plastic nose cone & durable pre-cut fibre fins, MOONRAKER is a must "FUN SHIP" for every beginner!

PROD. NO. 2119 (Formerly KB-11)

Moonraker

SKILL LEVEL-1

\$1.00

Shipping Wt. 5 oz.
Engines not included

SPECIFICATIONS
Length 5.5"
Body Dia. 0.76"
Net Wt. 0.3 oz.
RECOMMENDED ENGINES
A6.4 A8.5



BEGINNERS CHOICE

FLIGHTS TO 1,800 FEET!

Get a flying start in model rocketry with JAVELIN. It's easy to assemble with plastic nose cone, colorful decals & pre-cut balsa fins. You'll see your "BIRD" streak hundreds of feet skyward. Then you'll hear the "POP" as the parachute deploys and the return to earth begins. Model Rocketry is fun and JAVELIN is where the fun begins!

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

RECOMMENDED ENGINES
A6.4 A8.5 B4.6 B6.6 B14.7 C6.7

PROD. NO. 2133 (Formerly KC-31)

Javelin

SKILL LEVEL-1

\$1.95

Shipping Wt. 10 oz.
Engines not included



**EASY TO ASSEMBLE
BIG & BEAUTIFUL!**

Get to the launch pad quick with this IMPRESSIVE "BIRD"! Count down and watch CENTURION'S realistic "slow" lift-off! This is one of Centuri's easier-to-assemble rockets. It comes complete with colored plastic nose cone, special decal, "Baffle/Chute" ejection recovery and a large parachute. For single-stage "ACTION" at its best-it's CENTURION!

SPECIFICATIONS Length..... 24" Body Dia..... 1.64" Net Wt..... 2.3 oz.	RECOMMENDED ENGINES B42 C65
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PROD. NO. 2122 (Formerly KC-2)

Centurion

SKILL LEVEL-2 **\$3.95** Shipping Wt. 16 oz. Engines not included



**BIG 3 STAGER
OVER 3 FEET LONG!**
This one's a real High-Flyer - reaches up to 1/2 mile high! Or, you can launch with only one or two stages. Try advanced staging & watch as each stage "POPS" free to tumble safely to earth. You get 12 pre-cut fibre-fins, a payload section, an extra large decal, parachute & much more. **ARROW 300** means "ACTION" for the experienced rocket flyer!

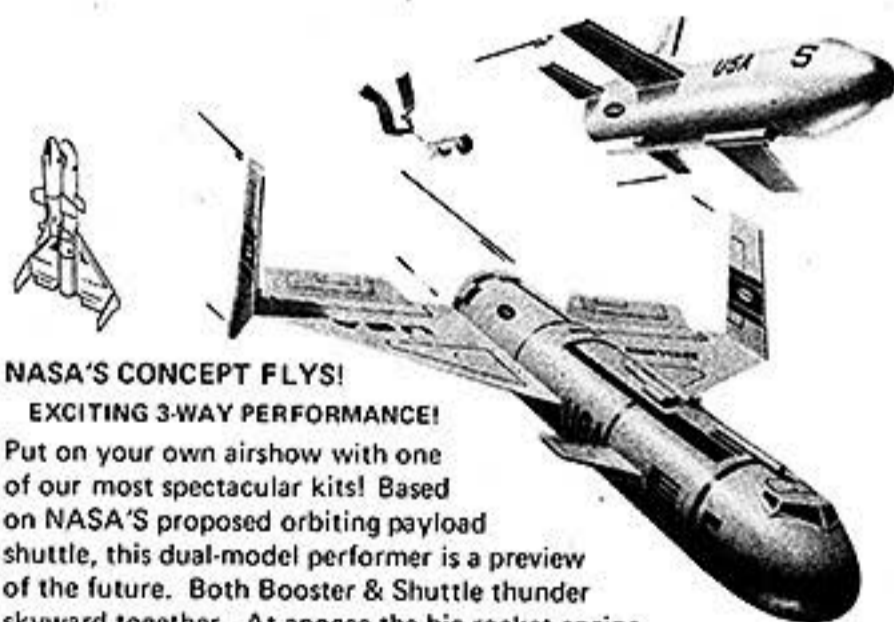
*U.S. Pat. No. 3,721,193

SPECIFICATIONS		
Length..... 31.7"		
Body Dia..... 0.91"		
Net Wt..... 2.5 oz.		
RECOMMENDED ENGINES		
1st Stage	2nd Stage	3rd Stage
B60	A80	1/2A54
B60	B50	A85 or B46
C60	C60	B66 or C67

PROD. NO. 2116 (Formerly KB-7)

Arrow-300

SKILL LEVEL-4 **\$3.95** Shipping Wt. 14 oz. Engines not included



**NASA'S CONCEPT FLYS!
EXCITING 3-WAY PERFORMANCE!**

Put on your own airshow with one of our most spectacular kits! Based on NASA'S proposed orbiting payload shuttle, this dual-model performer is a preview of the future. Both Booster & Shuttle thunder skyward together. At apogee the big rocket engine pod ejects & returns to earth on a streamer. The separated Booster & Shuttle then begin individual glides to soft landings. Plastic cones, cockpits, pre-cut balsa wings & fins and a big highly detailed decal sheet makes SPACE SHUTTLE exciting!

PROD. NO. 2126 (Formerly KC-6)	SPECIFICATIONS		RECOMMENDED ENGINE C63 ONLY!
	Booster Ship	Shuttle Ship	
	Length..... 15"	9.5"	
	Body Dia..... 1.64"	1.34"	
	Net Wt..... 2.20 oz.	.85 oz.	

Space Shuttle

SKILL LEVEL-5 **\$4.95** Shipping Wt. 15 oz. Engines not included

**SUPER DETAIL
MILITARY STYLED
HIGH PERFORMER**

Here's something really different from Centuri's Think-Tank! Unique off-center fins & dual stabilizing tubes make SCRAM-JET look like a fast-moving military target drone. And move it does to altitudes of 1/4 mile! Pre-cut balsa fins, plastic nose cone and a super decal sheet puts a beautifully detailed rocket on your launch pad and - parachute recovery keeps you flying again & again! Something "DIFFERENT" for your model rocket fleet - SCRAM-JET!

PROD. NO. 2146 (Formerly KF-4)	SPECIFICATIONS		RECOMMENDED ENGINES
	Length	18.8"	
	Body Dia	.76"	
	Net Wt.	1.3 oz.	
		1/2A6-4 AB-5 B46 B6-6 C67	

Scram-Jet

SKILL LEVEL-3 **\$2.50** Shipping Wt. 11 oz. Engines not included



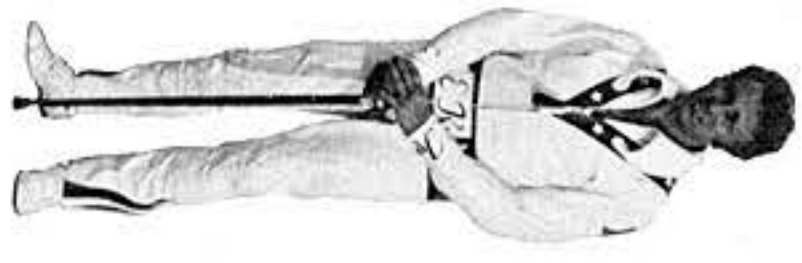


Everything you need to fly!

GET STARTED TODAY IN MODEL ROCKETRY WITH EVEL'S X-2 SKY-CYCLE! Look at what you get in this one-of-a-kind Flying Model Rocket Starter Outfit...

- SKY CYCLE ROCKET KIT ... complete with decals, parachute recovery, pre-colored parts & easy-to-follow instructions.
- POWER-PAD LAUNCH SYSTEM ... includes steel blast deflector, launch rod, carrying handle, launch controller system with 15' of wire, continuity light & launch button. All you need is

EVEL KNEIVEL
Sky Cycle Outfit
 SKILL LEVEL 1
 Shipping Wt. 3.95
 PROD. NO. 3503
\$12.95



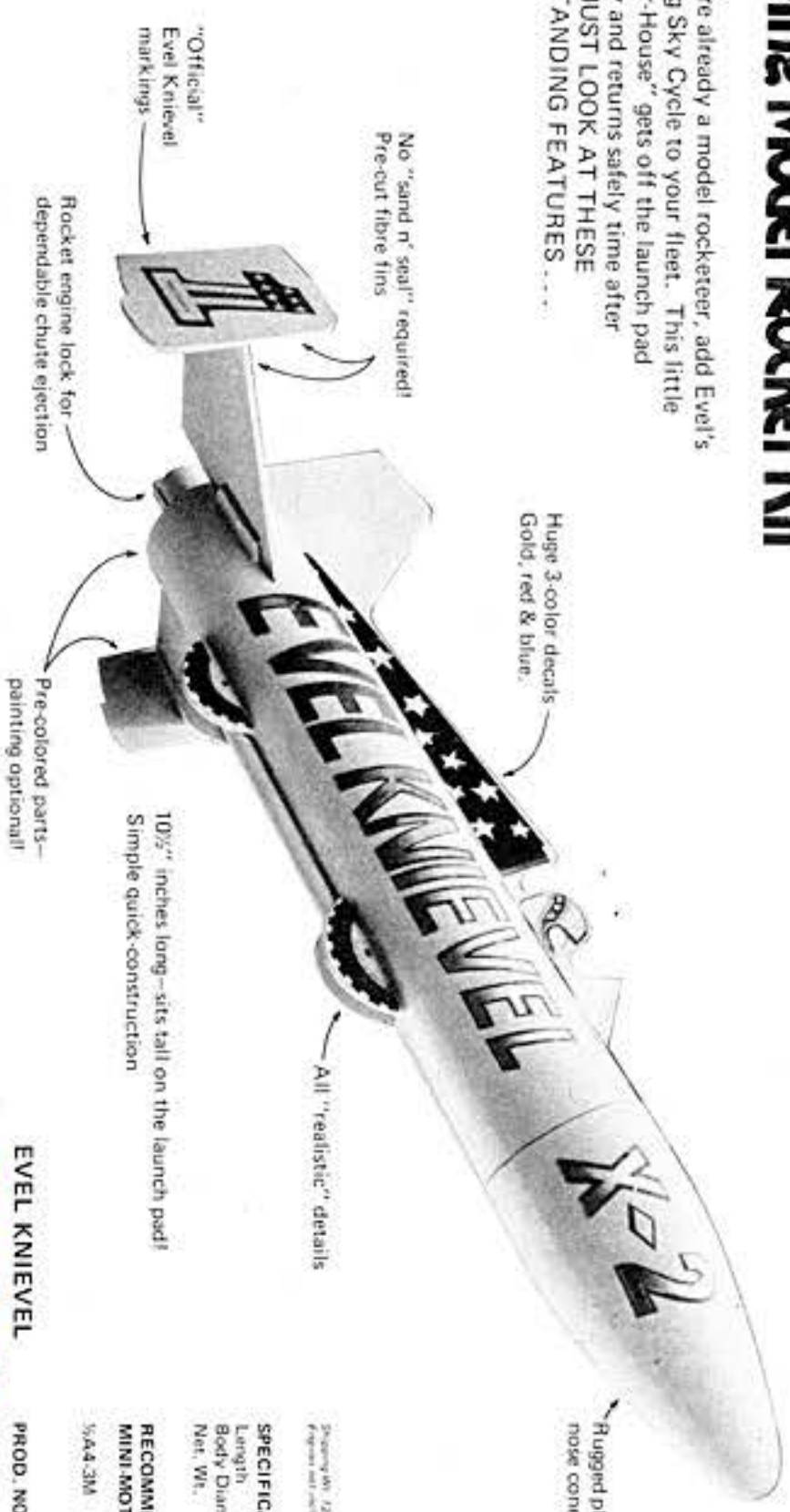
ABOUT THE REAL MACHINE
 Evel has used several versions of the Sky-cycle. Each differs slightly in details, but all are basically the same shape and covered with the famous gold, red, white & blue Knievel graphics. The real Sky-cycle uses a steam engine principle to develop 5000 lbs. of thrust for a maximum speed of 350 MPH at an apogee of 3000' above the launch site. The all-metal ship was designed for Evel by Bob Truax, a reknowned NASA rocket expert. Recovery is by tail ejected chute, much like the Russian space vehicles.



Evel Knievel Sky Cycle Build it and fly it.

Flying Model Rocket Kit

If you're already a model rocketeer, add Evel's exciting Sky Cycle to your fleet. This little "Power-House" gets off the launch pad quickly and returns safely time after time. JUST LOOK AT THESE OUTSTANDING FEATURES...



- "Official" Evel Knievel markings
- No "sand n' sea!" required! Pre-cut fibre fins
- Huge 3-color decals Gold, red & blue.
- Pre-colored parts - painting optional!
- 10 1/2" inches long - sits tall on the launch pad! Simple quick-construction
- All "realistic" details
- Rugged plastic nose cone
- Rocket engine lock for dependable chute ejection

EVEL KNEIVEL
Sky Cycle Kit
 SKILL LEVEL 1
 PROD. NO. 2150
\$3.50

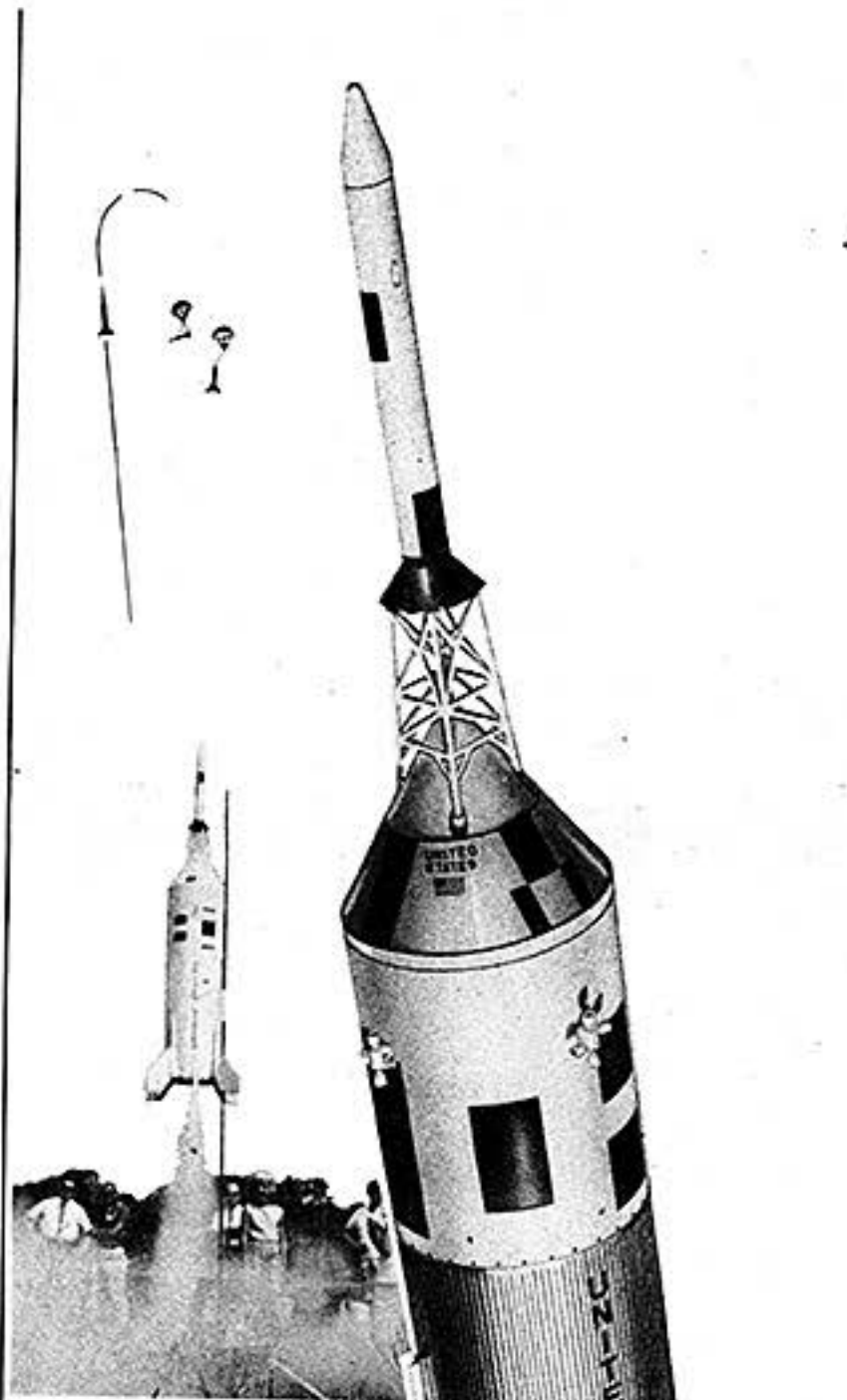
SPECIFICATIONS:
 Length 10.5"
 Body Diam. 1.34"
 Net. Wt. 1.5 oz.
RECOMMENDED MINI-MOTORS
 S44 3M A44M

Century Flying Model Rockets.

Super Scale.

Flying Model Rockets.

Super-Scale are loaded with far more exotic parts and detail than found in other kits. We recommend a heavy-duty launch stand and 3/16" diameter rod for the Saturns and Little Joe II. See page 22 for "POWER-TOWER" and LR-188 Rod.



3-ENGINE POWER!
DETAILS &
PRE-FORMED
PARTS GALORE!

This Big-Fat 1/45 flying scale model of the Apollo Tower Tester gets up and away fast on its 3-rocket engines! Look at what you get — printed chrome mylar corrugated skin on main body, press-on roll decals, molded fairings, pre-cut balsa fins, die-cut simulated engine nozzles, sure-

shot igniters, dual-chute recovery, historical brochure — the works!

Build & fly this impressive kit!

SPECIFICATIONS	RECOMMENDED ENGINES
Length..... 22.4"	3 - B4-2's
Body Dia..... 3.4"	3 - B6-4's
Net WL..... 5.5 oz.	3 - C6-5's

PROD. NO. 2137 (Formerly KS-8)

Little Joe II

1/45 SCALE

SKILL LEVEL-4

\$17.95

Shipping wt. 2 lbs.
Engines not included.



MERCURY CAPSULE KIT
Plastic tower & capsule, for replacement or "own design". Fits #20 tube. Includes instructions.
IMR 361 \$1.50

*U.S. Pat. No. 3,319,145



NUMBER ONE IN SPACE!

PRE-FORMED PLASTIC PARTS! Accurate in scale to the LAST DETAIL, Centuri's Redstone is the best flying replica of Alan Shepard's "FREEDOM 7". Nearly 2½ feet long the "Redstone" lifts-off beautifully with tower separation at apogee (500 feet!) — then the TWO CHUTES "POP" to let tower &

booster gently back to earth. Hi-detail molded plastic tower, baffle-ejection,* balsa pre-cut fins plus and extra-large scale decal sheet make "REDSTONE" a reality on your launch pad!

SPECIFICATIONS
Length..... 29"
Body Dia..... 2.04"
Net WL..... 3.7 oz.
RECOMMENDED ENGINES
B4-2 or C6-3

PROD. NO. 2136 (Formerly KS-1)

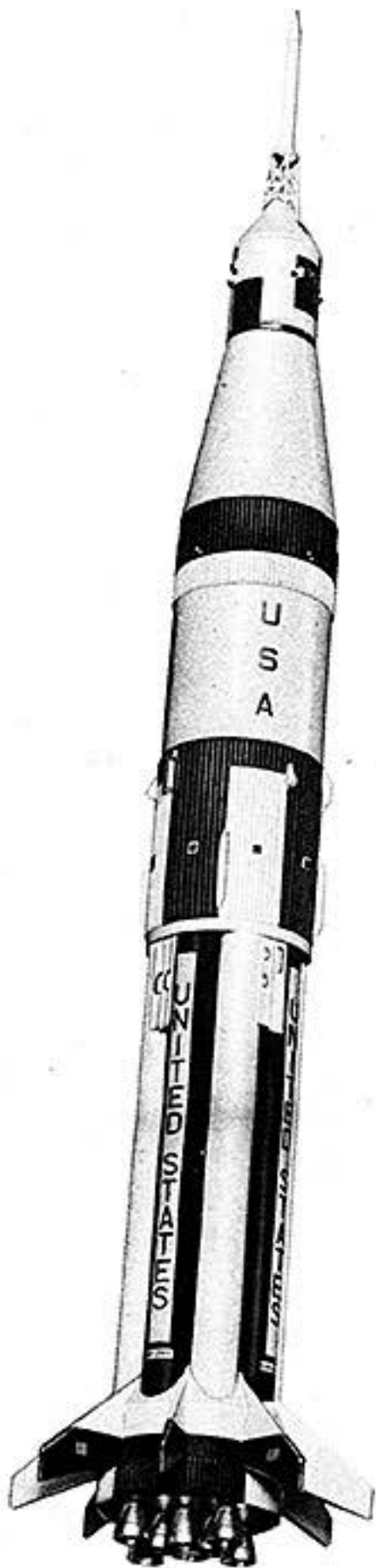
Mercury Redstone

1/36 SCALE

SKILL LEVEL-5

\$5.95

Shipping wt. 1.5 lbs.
Engines not included.



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

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

DUAL-ENGINE MOONSHOT FORERUNNER!

This is a true 1/100 flying scale model of the manned Apollo Mission warm-up! EVERY DETAIL IS CORRECT down to the original ship's markings! We designed it so the average modeler can create his own museum piece! This Big "Bird"

is OVER 2 FEET TALL, flies on a 2-engine cluster and recovers via two separate chutes. Many pre-molded plastic parts, Apollo Historical booklet, a Cluster Report and large decal sheet makes your "1B" a "STANDOUT" in flight or on display!

PROD. NO. 2139 (Formerly KS-10)

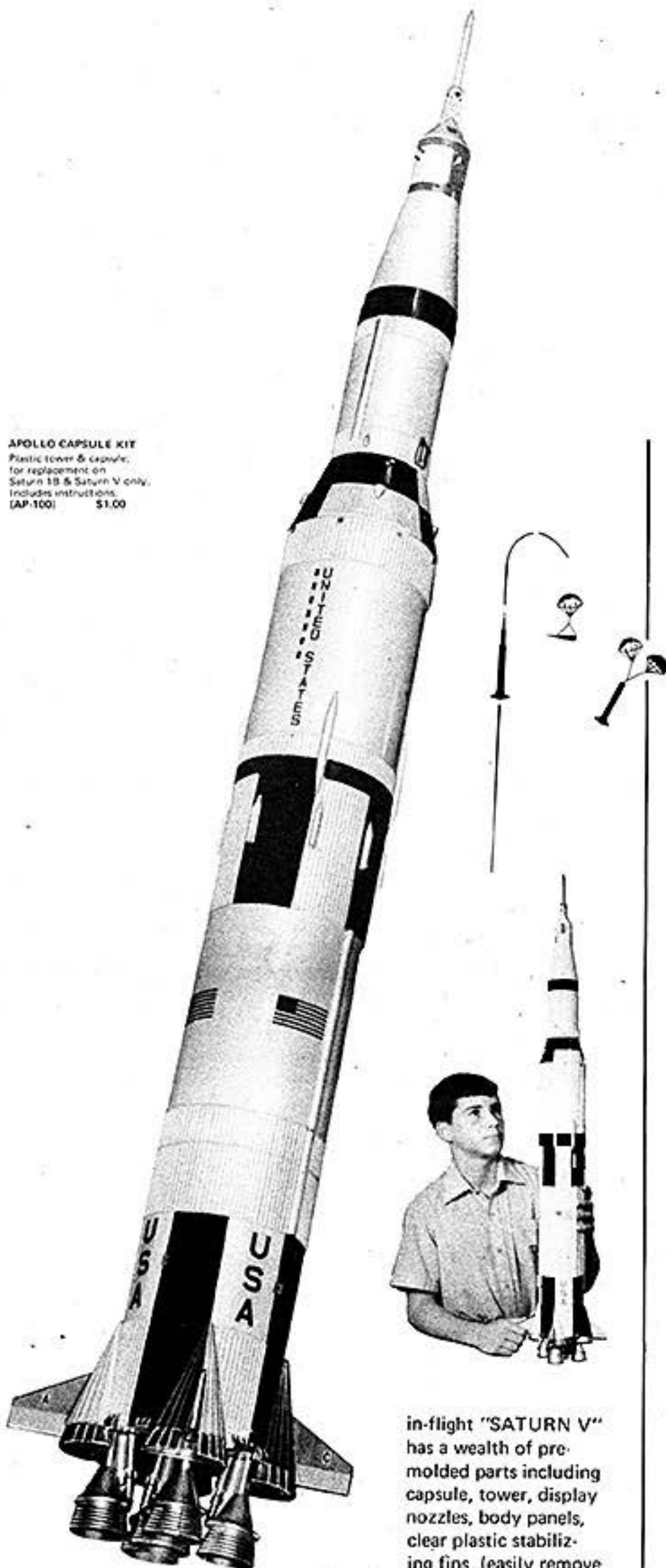
Saturn 1B

1/100 SCALE

SKILL LEVEL 5

\$13.95

Shipping at 7.0%
 Engines not included



APOLLO CAPSULE KIT
 Plastic tower & capsule,
 for replacement on
 Saturn 1B & Saturn V only.
 Includes instructions.
 (AP-100) \$1.00

THE ULTIMATE IN FLYING SCALE!

OVER 3 1/2 FEET TALL!
 A 3-engine show stopper, this flying replica of the Man-On-the-Moon-Mission, is scaled from actual NASA blueprints! Absolutely authentic at rest, or

PROD. NO. 2140 (Formerly KS-12)

Saturn V

1/100 SCALE

SKILL LEVEL 5

\$24.95

Shipping at 7.0%
 Engines not included

in-flight "SATURN V" has a wealth of pre-molded parts including capsule, tower, display nozzles, body panels, clear plastic stabilizing fins, (easily remove them for display!). Comes with two-24" chutes, one 20" chute and an authentic detail decal sheet. From its thundering lift-off to a triple-chute return - SATURN V commands the scene!

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

RECOMMENDED ENGINES
 3 - C6-3's

Kits.

Centuri



ONE OF CENTURI'S LONGER ROCKETS!
This lean one is almost 2½' feet long! And two stages of thrust puts EXCALIBUR-2 high above most other rockets with FLIGHTS TO 1800'! Comes with molded plastic nose cone & body reducer, pass-port staging* colorful decals, bright chrome trim & a large parachute. Get above the crowd with this one!

SPECIFICATIONS
Length..... 29.5"
Max. Diam. .091"
Net Wt. 2.1 oz.

RECOMMENDED ENGINES
1st Stage A50 B50 B140 C60
2nd Stage A55 B46 B56 C67

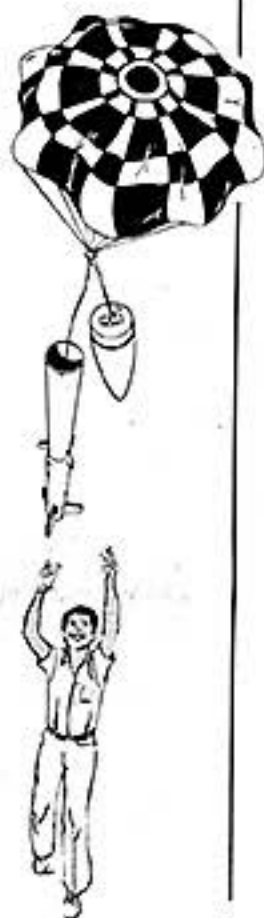
PROD. NO. 2147 (Formerly KF-5)

Excalibur 2

SKILL LEVEL 3

\$2.95 Shipping Wt. 12 oz. Engines not included.

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



SPACE PROBE REALISM!
ALMOST TWO FEET TALL!
IMPRESSIVE just sitting on the launch pad—FANTASTIC in flight! This super-stable "bird" has realistic lift-offs and flies straight & true. Kit has pre-cut balsa fins, large parachute, body reducer and an extra-large customizing decal sheet. Build it & fly it—again & again!

SPECIFICATIONS
Length..... 21.5"
Body Dia. 1.24"
Net Wt. 1.75 oz.

RECOMMENDED ENGINES
A53 B145
B54 C65

PROD. NO. 2135 (Formerly KC-50)

Laser X

SKILL LEVEL 3

\$3.95 Shipping Wt. 14 oz. Engines not included.



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

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

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

RECOMMENDED ENGINES
1st Stage 2nd Stage 3rd Stage
B140 A50 A55
B140 B50 B46
B140 B140 B56
B140 C60 C67

PROD. NO. 2128 (Formerly KC-9)

T-Bird

SKILL LEVEL 4

\$3.95 Shipping Wt. 14 oz. Engines not included.

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



HI-FLYING SINGLE STAGER!
SEE-THRU PAYLOAD CAPSULE!

Watch this square-tailed performer go! See-thru payload capsule lets you send live insects aloft. And... the recovery is slow & safe by colored parachute. Plastic nose cone & body reducer plus colorful decals makes "HUNTER" EASY to build & FUN to fly!

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

RECOMMENDED ENGINES
A46-2 A55
B56 B145 C67

PROD. NO. 2120 (Formerly KB-13)

Snipe Hunter

SKILL LEVEL 2

\$2.50 Shipping Wt. 10 oz. Engines not included.



BIG 2-STAGE FUN with A GLIDING BOOSTER!

Here's a unique one! The extra large fins of the booster section cause a slow-sweeping glide return to earth. Meanwhile the "WIDOW's" upper section climbs away to over 2,000' to recover gently by chute. A plastic nose cone, custom decals, & reliable pass-port staging* makes this kit an excellent step up in 2-STAGE FUN!

SPECIFICATIONS
Length..... 15"
Body Dia. 0.76"
Net Wt. 1.2 oz.

RECOMMENDED ENGINES
1st Stage 2nd Stage
A50 A15
B50 B46
C50 C67

PROD. NO. 2115 (Formerly KB-6)

Black Widow

SKILL LEVEL 5

\$2.95 Shipping Wt. 10 oz. Engines not included.

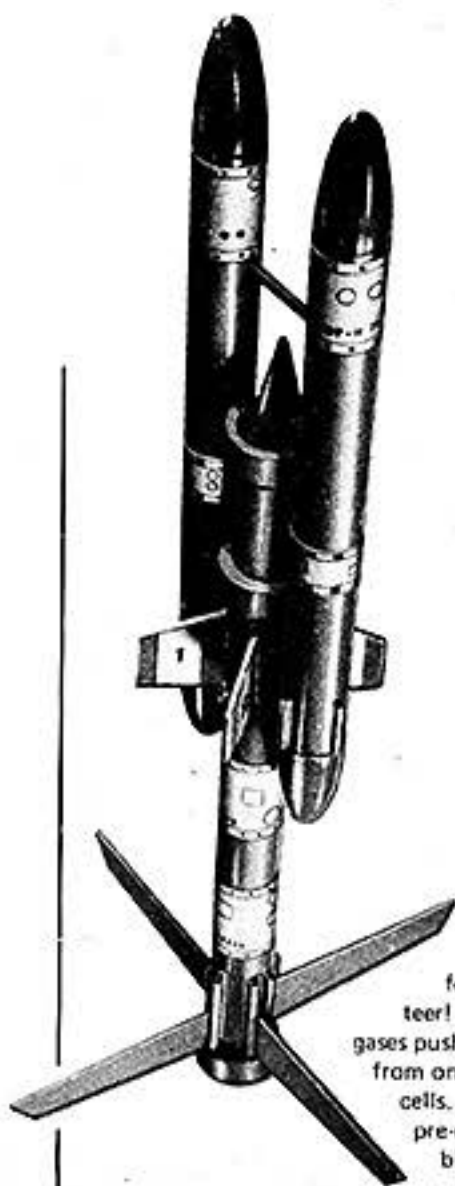


*U.S. Pat. No. 3,721,193

Mini Line

Centuri Flying Model Rockets.

These neat little rockets are powered by Centuri Mini-Motors (not included; see page 21) which fit our small #5 tubes. Mini kits are generally thinner and lighter than standard rockets . . . so they really Get-Up and GO!



SEMI-SCALE MODEL OF BRITISH MISSILE!

Here's a challenge for any model rocketeer! Ducted ejection gases push out the 12" chute from one of the "fuel" cells. Plastic nose cones, pre-cut fibre-fins & a big silver & black decal sheet makes **FIREFLASH** a rewarding project.

SPECIFICATIONS
Length 11.5"
Body Diam. 0.54"
Net Weight 1.7 oz.

RECOMMENDED MOTORS
1A43M A44M

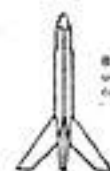
PROD. NO. 2504 (Formerly KM-5)

Fireflash

SKILL LEVEL-5

\$2.50

Shipping Wt. 10 oz.
Engines not included



#2 is left unattached, so you can customize.

YOU GET 2 ROCKETS UNUSUAL CONSTRUCTION!

Join the beginner's fun with these two ultra-light performers that go very, very high & fast. The return is a soft flutter to earth. Exciting? You bet! Pre-painted sheets make it quick and easy to get started in model rocketry today!



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

RECOMMENDED MOTORS
1A42M A44M
1A43M

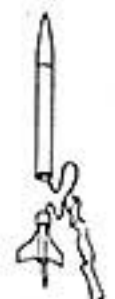
Shipping Wt. 6 oz.
Engines not included

PROD. NO. 2500 (Formerly KM-1)

Two-Bitz

SKILL LEVEL-2

\$.75



BEAUTIFUL FLIGHTS YOU CHOOSE THE RECOVERY SYSTEM!

NOVA gets up and away to 700'! Then according to your desires, returns to earth by a **NOSE-EJECTED** parachute or by a **TAIL-EJECTED** streamer. **UNIQUE!** Comes with pre-cut balsa tail fins, a parachute, drag streamer & a long balsa nose cone. For fun-flying try **NOVA!**

SPECIFICATIONS
Length 12.4"
Body Diam. 0.36"
Net Weight 0.6 oz.

RECOMMENDED MOTORS
1A42M A44M
1A43M

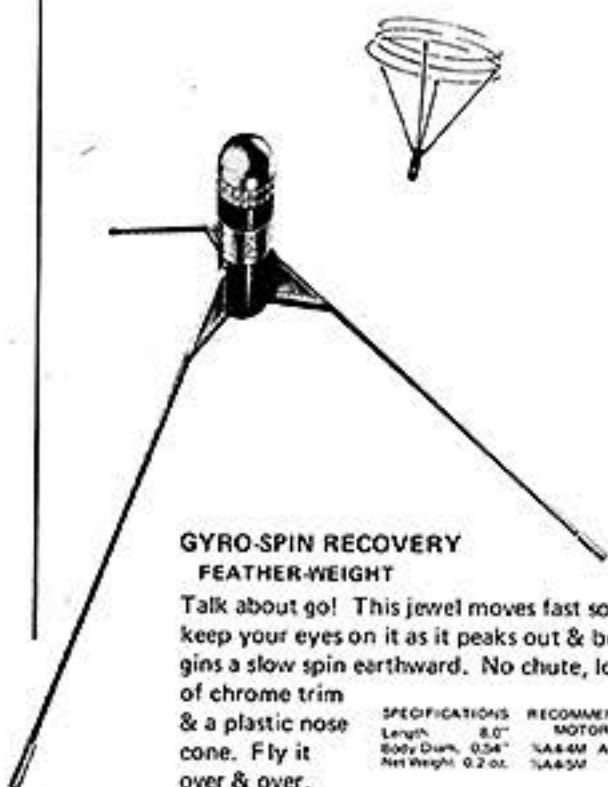
PROD. NO. 2503 (Formerly KM-4)

Nova

SKILL LEVEL-3

\$1.95

Shipping Wt. 10 oz.
Engines not included



GYRO-SPIN RECOVERY FEATHER-WEIGHT

Talk about go! This jewel moves fast so keep your eyes on it as it peaks out & begins a slow spin earthward. No chute, lots of chrome trim & a plastic nose cone. Fly it over & over.

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

RECOMMENDED MOTORS
1A44M A46M
1A45M

PROD. NO. 2501 (formerly KM-2)

Satellite 62SL

SKILL LEVEL-1

\$1.00

Shipping Wt. 6 oz.
Engines not included



CONTEST BOOST GLIDER! EXTREME TIME DURATION

Put one or two — (both are included) gliders onto the thrust pod. This is a true **CONTEST KIT** that can put your glider above the competition. Pod recovers by streamer. All balsa parts pre-cut. Includes large decal sheet and balsa cone. **MINI-DACTYL** — the choice of champions!

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

RECOMMENDED MOTORS
DOUBLE 1A43M A42M B43M
SINGLE 1A42M 1A43M A44M

PROD. NO. 2505 (Formerly KM-6)

Mini-Dactyl

SKILL LEVEL-4

\$2.95

Shipping Wt. 10 oz.
Engines not included



TOPKICK!

FLIGHTS TO 900' ON "A" POWER! Look up fast when this one moves! And move it does with a **REAR-EJECTED** streamer. Now that's different! And it lands soft too! Plastic nose cone, pre-cut balsa fins, special "Trooper" decals and an alternate "long" version makes **STAR TROOPER** a contest winner!

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

RECOMMENDED MOTORS
1A44M A46M
1A45M B47M

PROD. NO. 2502 (Formerly KM-3)

Star Trooper

SKILL LEVEL-2

\$1.25

Shipping Wt. 6 oz.
Engines not included

Centuri Engines.

Flying Model Rockets.

Safe and reliable.

Our safe & reliable solid propellant engine is at the heart of every Centuri Flying Model Rocket. These little power packages are safely ignited by remote electrical control. These "one-shots" cannot be re-loaded or re-used. We manufacture engines to precise tolerances on special automatic equipment. It is not practical or safe for individuals to attempt to make their own engines. Look for the National Association of Rocketry Emblem on Centuri rocket engines - it means they are regularly tested by NAR to meet exacting performance & safety standards.

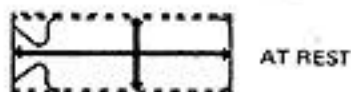


What makes a rocket fly.

Centuri's rocket engines power the rocket to peak altitudes (apogee) and after a delay time provide ejection thrust to push-out the rocket's recovery system.

Here's why a rocket engine moves. It's called the action-reaction principle.

Engine at rest (no ignition). Equal pressure on all-sides - no movement.



Engine Burning (ignition). Burning gases escape only through nozzle. Pressure imbalance causes engine to move away from the open ended nozzle. The gases speed up due to nozzle restriction. Rocket engines do not need to "push against the air" ... or real rockets couldn't fly in outer space!



Basic types.

THE END BURNER

Most engines are end burners, for flying regular rockets.

NOT PORTED



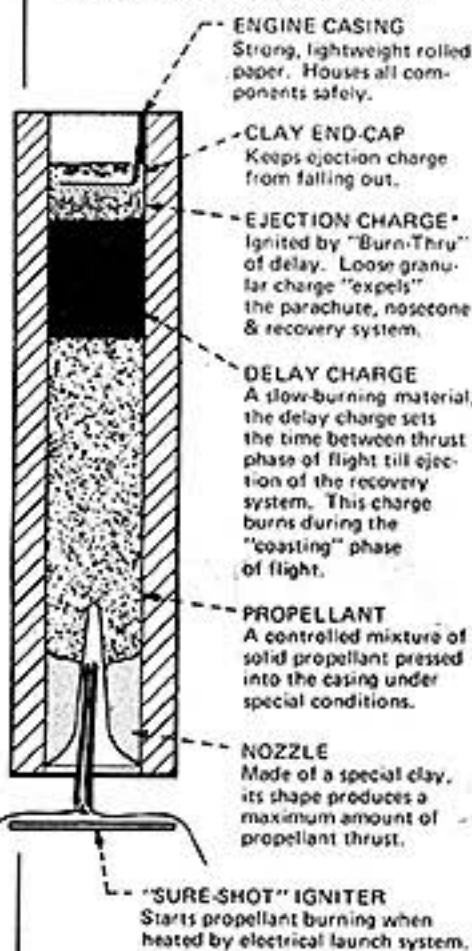
The "PORT BURNER" consumes propellant faster because the propellant "core" has a hole in it. This gives higher thrust and acceleration. B-14's are port burners ideal for lifting payloads or "heavy" rockets.

PORTED



How a model engine works.

Centuri rocket engines operate like many large atmospheric solid propellant rockets. The basic engine layout is shown below.



*Booster engines do not contain delay or ejection charges.

FROM IGNITION TO EJECTION IN 4 STEPS

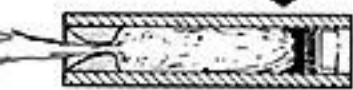
Battery-operated launch system heats igniter in engine nozzle - propellant starts burning almost instantly.



Propellant burns rapidly to maximum thrust level. Reaction principle causes lift-off & acceleration to burn-out.



Rocket coasts upward after propellant expended. Delay charge burns slowly until rocket reaches peak altitude.



At end of delay, the ejection charge is ignited and hot gases activate the recovery system. Normally the expended engine returns with the rocket.



How to select engines.

Always use the engines recommended for successful flights. See next column for tips on selecting engines for "own"-design rockets.

ALL CENTURI ENGINES ARE CODED BY COLOR AND LETTER NUMBERS

COLOR - always refers to delay time.
GREEN - A delay best suited to a single stage rocket.
PURPLE - A longer delay usually for multi-stage rockets or very high flying lightweight single stages.
RED - Always a "BOOSTER" engine for staged rockets with zero (0) delay. NEVER USE A BOOSTER IN A SINGLE STAGE ROCKET! When the propellant burns out, the ejection charge immediately ignites the next stage. This "blows-off" the expended stage which tumbles safely to earth.

LETTER-NUMBERS - coded to show thrust & delay times.

A LETTER - This is the TOTAL THRUST code. Each higher letter class has double the power of the previous letter. (5A has up to 1.25 newton-seconds of total impulse; A has 2.50; B has 5.00 and C has 10.00).

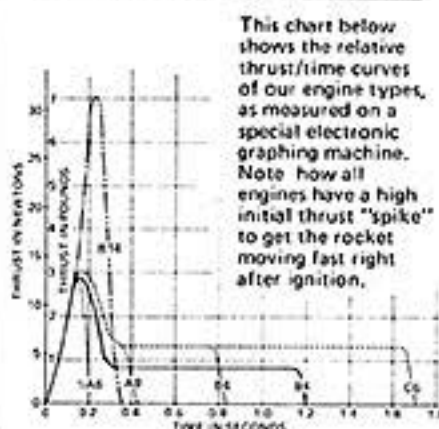
8 FIRST NUMBER - This is the AVERAGE THRUST coded to indicate how the thrust is delivered. (B-4 means long duration-low thrust and B-6 means short duration-high thrust). The higher the number (Newton-Seconds) - the higher the average thrust. The reason for this is that various rockets require different kinds of thrust levels & duration due to weight, frontal area, etc. We've already done the math to recommend engines for best all-around performance & that all-important safe return to mother-earth!

3 SECOND NUMBER - This is the delay code in seconds ... The actual delay between burn-out & ejection. It's important to use the correct delay time as you want the chute to eject at the peak of flight, not on the way up or down!



NOTE: Newtons (or pounds) are a measure of force in the Metric System.

CODED TOTAL IMPULSE CHART	Engine Type	Total Impulse in Newton Seconds	Total Impulse in Pound Seconds
5A	A	0.626 to 1.25	0.15 to 0.28
A	A	1.26 to 2.50	0.29 to 0.56
B	B	2.51 to 5.00	0.57 to 1.12
C	C	5.01 to 10.00	1.13 to 2.24



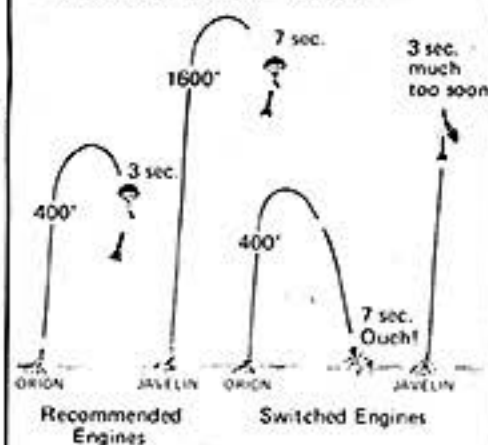
This chart below shows the relative thrust/time curves of our engine types, as measured on a special electronic graphing machine. Note how all engines have a high initial thrust "spike" to get the rocket moving fast right after ignition.

Rocket performance.

Various landing sites & conditions may limit how high you want your rocket to go. That's the reason we recommend different engines for each kit. Make your first test flight with the less powerful engine & then move up!

ALWAYS USE THE RECOMMENDED ENGINE!

Big & heavy rockets or boost gliders usually need high thrust to lift them off and they do not coast as high as smaller rockets. Look at the comparison below between the slim "Javelin" & the bulkier "Orion". The recommended C6-7 engine flies the Javelin to over 1,600 feet! The Orion goes only to 400 feet with the C6-3 engine. What happens if we switch? The heavy Orion has too much delay - goes only to 400 feet & returns to earth with no chute ejection - CRASH! The lighter Javelin is coasting merrily on its way when "POP" the chute is ejected 4 seconds too soon - perhaps ripping it away for a fast-fast return to earth - SMASH!



CHOOSING ENGINES FOR "OWN DESIGNS"

What engines should you use in rockets you design? Take the guesswork out of it by flipping thru this catalog until you find a Centuri kit of roughly similar size, diameter, weight, etc. Then just use the engines recommended! Generally you should use short delays for large rockets, long delays for small rockets, and medium delays for average sized "birds".

CHOOSE YOUR LAUNCH AREA CAREFULLY!

Launching in too small an area may cause you to lose your rocket. You'll be surprised at how far they drift, even in a slight breeze. Here's some valuable tips sometimes learned the "Hard-Way" -

1. Choose a site large enough for you to recover by walking to the rocket without crossing roads, walls, rivers or fences. Don't launch in your back yard ... Unless you live on a farm!
2. Avoid launching in winds over 15 mph. Look at a flag, if it's standing out so you can see almost all of it - there's too much wind!
3. You can cut a 2" spill-hole in your canopy to keep the recovery more vertical.
4. Stay away from forested areas! Take a look down-wind, that's where it will end up. So keep tree-highlines, houses, streets & buildings away from your rocket by finding that ideal area. Be sure to check with local authorities if there's a possibility of trespassing. Keep it careful, courteous & you'll fly smart with Centuri rockets-Again & Again!



Specifications & prices.

Rocket Engines listed on these charts are designed for use with Centuri kits and for your own rocket designs. Our standard engine line comes in 3-pack boxes; the Mini-Motors are sold in 4-packs. Both types contain Centuri's SURE-SHOT Igniters complete with illustrated instructions for rocket prepping and launching.



Mini-Motor

Standard Engine

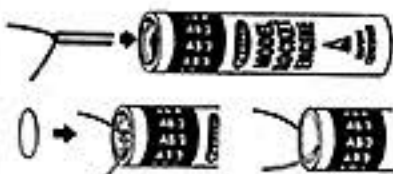
Actual size comparison. Note: the band of coding has nothing to do with which end the nozzle is in. Can be either end.

Standard engines

Prod. Number	Type	PRICES 3 FOR	Total Impulse N-sec.	Average Thrust Newtons	Thrust Duration seconds	Delay Time 15% seconds	Engine Weight ounces	Recom. Max. lift-off wt. (with engines) ounces
Single-stage engines (Green Label)								
1650	1/2 A6-2	1.25	1.25	6.23	.20	2	.53	2.5
1660	A8-3	1.35	2.50	7.81	.32	3	.57	4.0
1664	B4-2	1.45	5.00	4.15	1.20	2	.70	4.5
1666	B4-4	1.45	5.00	4.15	1.20	4	.74	4.0
1672	B6-4	1.45	5.00	6.00	.83	4	.78	5.0
1678	B14-5	1.65	5.00	14.23	.35	5	.69	6.0
1684	C6-3	1.65	10.00	5.86	1.70	3	.88	5.0
1686	C6-5	1.65	10.00	5.86	1.70	5	.91	4.5
Single-stage engines for lightweight rockets (Purple Label)								
1652	1/2 A6-4	1.25	1.25	6.23	.20	4	.54	1.0
1662	A8-5	1.35	2.50	7.81	.32	5	.62	2.0
1668	B4-6	1.45	5.00	4.15	1.20	6	.78	2.0
1674	B6-6	1.45	5.00	6.00	.83	6	.71	3.0
1680	B14-7	1.65	5.00	14.23	.35	7	.73	3.5
1688	C6-7	1.65	10.00	5.86	1.70	7	.95	3.0
Booster engines (Red Label)								
1658	A8-0	1.35	2.50	7.81	.32	0	.51	4.0
1670	B6-0	1.45	5.00	6.00	.83	0	.58	5.0
1676	B14-0	1.65	5.00	14.23	.35	0	.61	6.0
1682	C6-0	1.65	10.00	5.86	1.70	0	.80	5.0

Mini-motors™

Prod. Number	Type	PRICES 4 FOR	Total Impulse N-sec.	Average Thrust Newtons	Thrust Duration seconds	Delay Time 15% seconds	Engine Weight ounces	Recom. Max. lift-off wt. (with engines) ounces
Single-stage Mini-Motors (Red Label)								
1500	1/2 A4-2M	1.35	.63	3.6	.16	2	.22	1.5
1504	1/2 A4-3M	1.45	1.25	3.6	.31	3	.25	2.0
1508	A4-2M	1.55	2.50	3.6	.63	2	.29	3.0
1510	A4-4M	1.55	2.50	3.6	.63	4	.30	2.5
Single stage Mini-Motors for lightweight Rockets (Purple Label)								
1502	1/2 A4-4M	1.35	.63	3.6	.16	4	.23	1.0
1506	1/2 A4-5M	1.45	1.25	3.6	.31	5	.26	1.5
1512	A4-6M	1.55	2.50	3.6	.63	6	.31	2.0



SURE-SHOT® "DOT" IGNITERS

This igniter system is probably the world's most efficient — complete & accurate ignition — every-time! Perfect for standard engines, mini-motors & clusters! Keep plenty on hand. Comes in kit form with complete instructions. Ready in seconds! PROD. NO. 4100 (Formerly IG-12) Kit of 12 75¢

© Reg. T.M. Centuri U.S. Pat. No. 3,422,763

NOTE: Code band is not necessarily at nozzle end.

Estimated maximum altitude.

The chart below tells how high an expertly built standard-shape rocket can go depending on the tube diameter & the engine combination. Altitudes can vary according to rocket drag, length, weight, shape and other factors. Use this chart as a guide to tell you how large an area you should launch in. Blank spaces in the chart indicate that the specific engine/rocket diameter should generally not be used. Of course there are exceptions to every "rule". This chart is only a general guide.

Type	Largest tube diameter of model					
	#7	#8	#10	#13	#16	#20
1/2 A6-2	250	200	100			
A8-3		375	275	150		
B4-2				300	275	200
B4-4	950	750	550	400	375	
B6-4	850	650	450	325	200	
B14-5	700	500	400	200	100	
C6-3				600	500	450
C6-5		1100	850	700	575	450
1/2 A6-4	300	250	125			
A8-5	550	425	350	250		
B4-6	1100	900	750	500		
B6-6	1000	800	650	450		
B14-7	900	700	550			
C6-7	1800	1500	1200	800		

A8-0
B6-0
B14-0
C6-0

Staged model flights may go as high as a half-mile, depending on engine configuration.

Type	Largest tube diameter of model.					
	#5	#7	#8	#10	#13	#16
1/2 A4-2M	225	175	125			
1/2 A4-3M		300	200	150	100	
A4-2M				350	250	150
A4-4M	750	550	450	375	300	125
1/2 A4-4M	300	225	175			
1/2 A4-5M	500	400	325	225		
A4-6M	900	700	600	400		

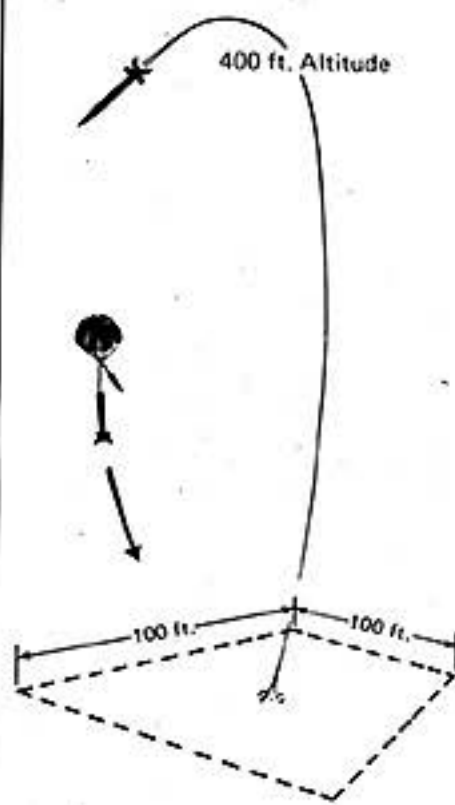
MINI-MOTOR ADAPTER

Now you can fly your Standard-Engine Centuri rockets with Mini-Motors, too! For temporary conversions. Instructions include recommended Mini-Motors for dozens of Centuri rockets. PROD. NO. 7700 (Formerly EM-57) 60¢



Choosing a launch site.

The best launch site is one with side dimensions of at least one-quarter the estimated peak altitude of your rocket. Pace off the area to make sure! And don't forget to allow for wind-drift by locating up-wind a ways.



Follow these common sense rules and those found in "Rocket Performance" for many exciting flights!

1. Launch in areas where you're sure there is no hazard to persons or property. This includes crops or grass that could burn if exposed to hot exhaust gases.
2. Do not fly near power or telephone lines, motor highways, hi-rise buildings or other obstacles such as radio towers or air fields. Watch out for "Rocket Eating" trees!
3. Keep attention during your launches to people, aircraft, cars, or equipment moving into the launch/recovery area.
4. Make a short count-down prior to each launch, to alert spectators.
5. Do not fire your rocket at an angle of more than 30 degrees from the vertical.
6. Keep a clear circle at least 20 feet in diameter around your launch pad.
7. It is best to avoid standing directly up or down wind during launch.
8. Do not hook up or disconnect the ignition leads until you have removed the safety key. Always keep the key with you so that launching is totally under YOUR control!

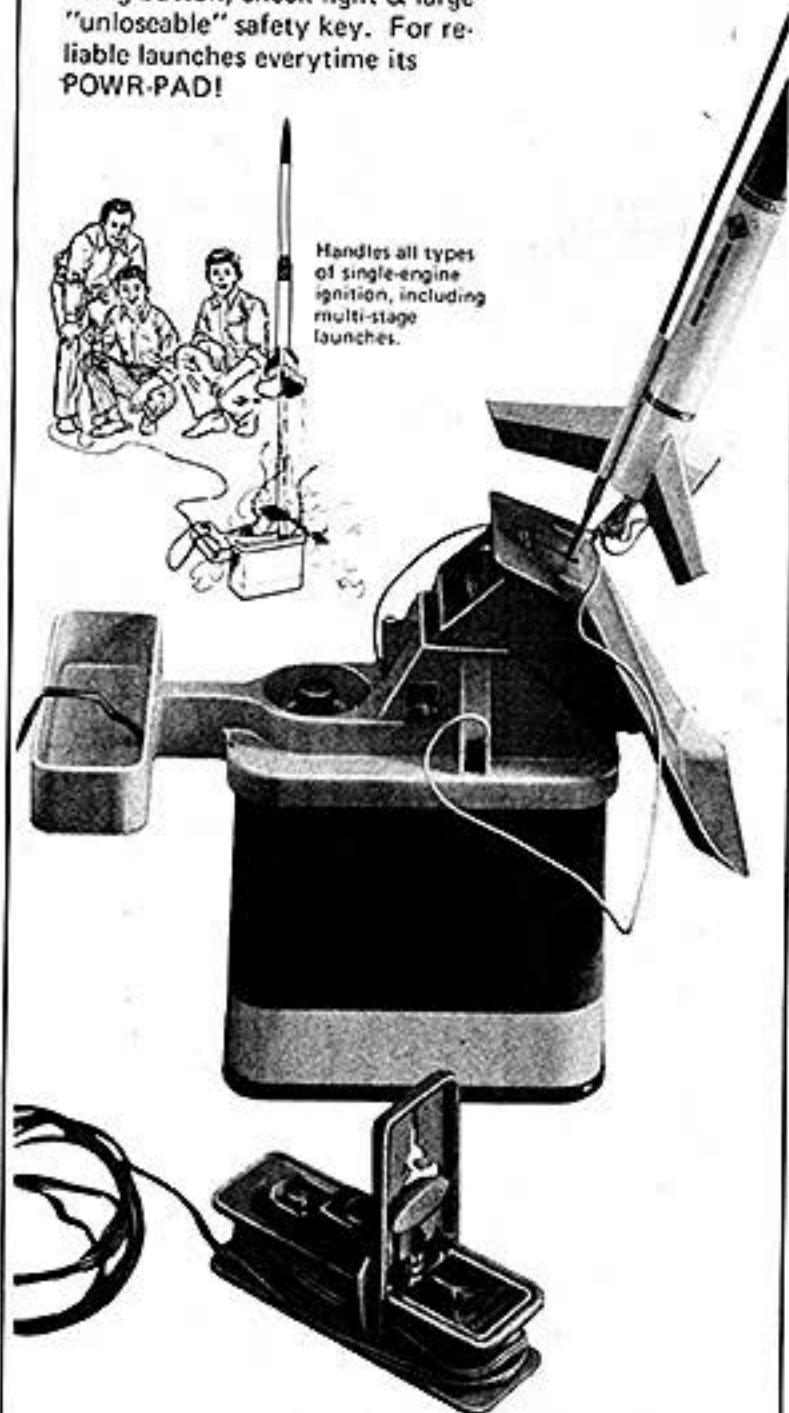
Launch systems.

Century Flying Model Rockets.

POWR PAD^{T.M.}

WORLD'S MOST PRACTICAL MODEL ROCKET LAUNCH SYSTEM!

For all mini and standard rockets, POWR-PAD is the most compact & portable launcher — ever! Assemble & mount on top of any standard 6 volt lantern battery (not included) and you're ready to fire! You get everything, including TILTER for wind drift correction, large STEEL BLAST DEFLECTOR and a neat CARRYING HANDLE that transports the LAUNCH CONTROLLER. This controller is safety-engineered with 15' of wire, a safety-recessed firing button, check light & large "unloseable" safety key. For reliable launches everytime its POWR-PAD!



Handles all types of single-engine ignition, including multi-stage launches.

PROD. NO. 3606 (Formerly LIA-99) **\$7.95**
SKILL LEVEL-1 Shipping Wt. 1lb. 8oz.

power tower^{T.M.}

THE LAUNCH PAD OF THE FUTURE IS HERE TODAY!

This highly detailed heavy-duty plastic tripod launch stand is a real standout in the field! And, it's universal design fits all sizes of model rockets; mini-size thru clustered engines. Look at these features. COMPACT — remove the legs for storage or transport; TILT-ADJUSTMENT for flight angle direction & drift compensation; TWO-PIECE 1/8" DIAMETER LAUNCH ROD*; BLAST DEFLECTOR — made of steel to protect fins from hot gases; METALLIC "SPEC. PLATES" for useful launch site data. POWER TOWER is where the action starts!



PROD. NO. 3610 (Formerly LIA-66)

\$3.95

SKILL LEVEL-1
Shipping Wt. 2 lb.

*We recommend the extra heavy-duty 3/16" rod for any rocket with engine power greater than "C" class or with clustered engines. Order separately factory-direct: Prod. No. LR-188 (\$1.25 + 50¢ postage), or you can make your own from 3/16" x 36" piano wire.



POWR-CONTROL^{T.M.}

THE HEAVY-DUTY ONE!

This general purpose launch system controller has 15' of firing line, micro-clips, 5 feet of jumper cable & extra-large battery clips. Use a car battery or any 6 or 12 volt heavy-duty battery. Launcher has a recessed firing button — continuity light & safety clip. Fly big cluster systems and super-scale with the versatile POWR-CONTROL. A perfect mate for the Power Tower!

PROD. NO. 4110 SKILL LEVEL-2 **\$4.95** Shipping Wt. 12oz.
(Formerly EFC-3)

Launch Accessories AND REPLACEMENT PARTS

LAUNCH ROD
2-piece 1/8" steel. Use for your own "home-built" launch system or as a replacement part for POWR-PAD or POWER TOWER. Also fits older Servo-Launcher & wooden tripod launcher.
LR-125 (4103)
65¢ each

DEFLECTOR

All-steel 4" x 6" designed to protect fins & tail assemblies from hot rocket gases. Use on all launch systems.
ID-65 (4104)
90¢ each



TILTER

Permits adjustment of launch rod angle to compensate for rocket wind drift. Fits the earlier Powr-Pad launch system. Now standard in Powr-Pad and Eagle Power starter outfit.
T-99 (4109)
\$1.25



MICRO-CLIPS

Great for replacement or "own design" launchers, spring-grip all igniters.
1 1/8" long.
EMC-34 (4106)
2 for 50¢

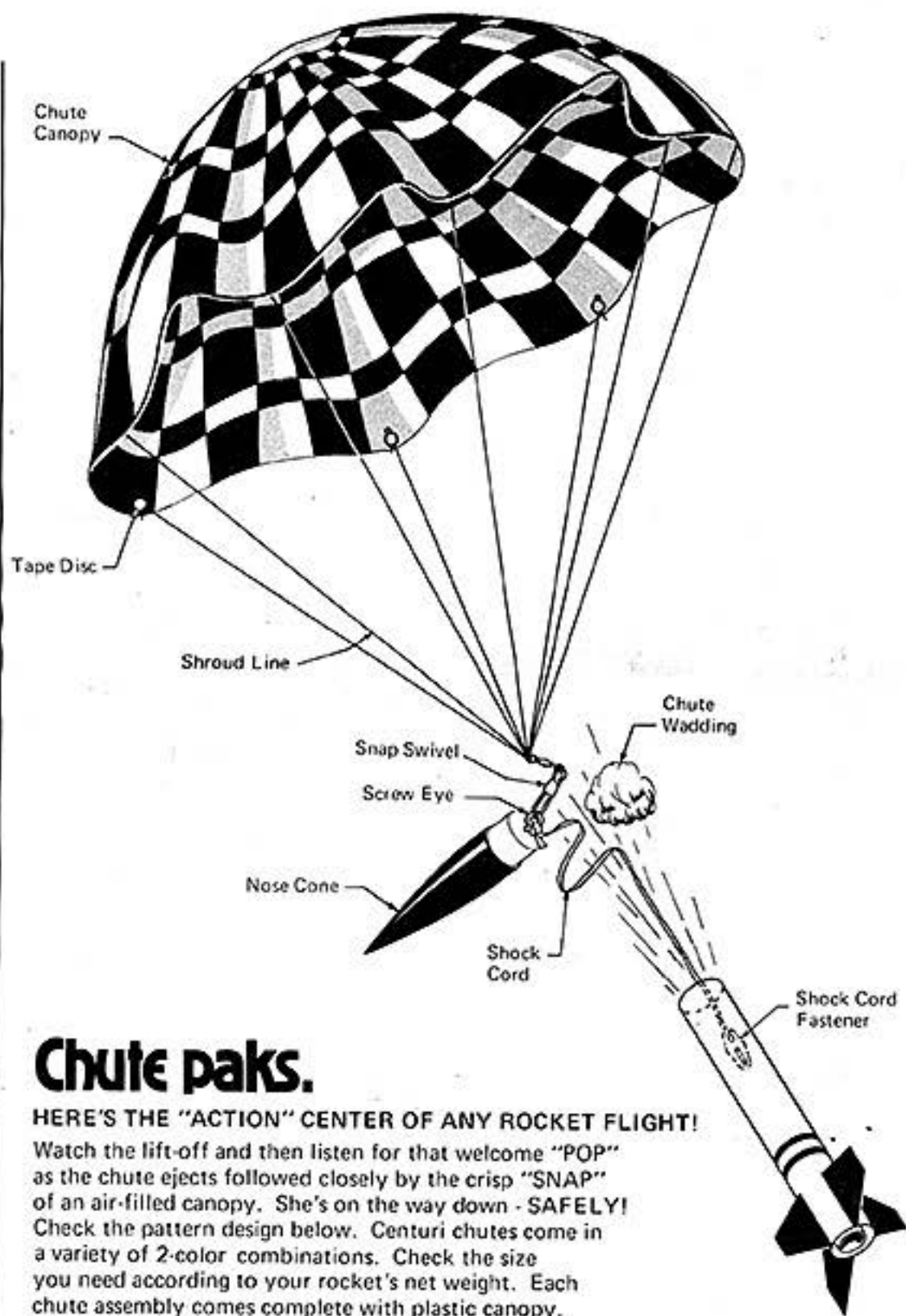
HEAVY DUTY BATTERY CLIPS



These copper clips will connect to a car battery. Jaws open to 1-1/8". Colored handles to identify polarity.
EMC-46 (4107)
2 for \$1.40

RECOVERY DEVICES.

Centuri Flying Model Rockets.



Chute paks.

HERE'S THE "ACTION" CENTER OF ANY ROCKET FLIGHT!

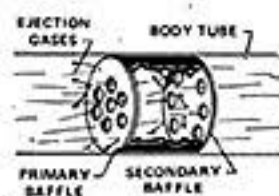
Watch the lift-off and then listen for that welcome "POP" as the chute ejects followed closely by the crisp "SNAP" of an air-filled canopy. She's on the way down - SAFELY! Check the pattern design below. Centuri chutes come in a variety of 2-color combinations. Check the size you need according to your rocket's net weight. Each chute assembly comes complete with plastic canopy, heavy-duty shroud lines, super-stick tape discs and complete instructions.



DESC.	PROD. NO.	DIA.	MAX WT	EACH
CP-12	(4200)	12"	3 oz.	50¢
CP-16	(4201)	16"	6 oz.	60¢
CP-20	(4202)	20"	9 oz.	70¢
CP-24	(4203)	24"	12 oz.	85¢

Ejection baffles.

U.S. Pat. No. 3,719,145



For use in long large diameter "own designs". Centuri's baffle/ejection system is permanently installed to protect the chute from heat. A great idea! Reduces launch turn-around time too!

"Own-designs" require at least 4 inches of space between engine mount and baffle.

EB-13 (5502)	Fits #13	50¢
EB-16 (5504)	Fits #16	60¢
EB-20 (5506)	Fits #20	75¢

Shock cord fasteners.



Made of special foil-woven nylon, Centuri's shock cord fastener attaches permanently to any body tube without glue! It's simple, just pull the backing off the fastener, slip the shock cord thru & press into place for a heat-resistant installation. Check before each launch for permanent bond!

SCF-1 (4207) 6 for 50¢

Plastic drag streamers.

For soft-recovery of rockets weighing up to one oz. A bright day-glo orange, these streamers are over 1" wide & 36" long! They eject the same as a chute and are highly visible for those almost-out-of-sight flights! Includes tape discs plus instructions. Net weight is .09 oz.

RS-20 (4208) 3 for 50¢

Shock cord.



This super strong elastic cord connects recovery chute or streamer to the rocket body. Use SC-18 cord with birds powered by 1/8A thru "C" engines.

SC-18 (4206) 3 For 50¢

Tape discs.



Attach streamer or parachute shroud lines permanently with these super-stick discs! 36 discs per sheet.

TD-35 (4205) Per Sheet 30¢

Chute wadding.

TWO KINDS!

CREPE-TYPE:

More flame-resistant. All purpose, easy to use; Just count number of sheets; Enough for 25 #7 rockets.

Prod. No. (4102) SPW-19 65¢

COTTON TYPE

Flame-resistant and soft! Also recommended for Rocket diameters above 2 inches, enough for 20 flights in #7 rockets.

Prod. No. (4101) PW-19 75¢

Parachute powder.

Keep that chute "POPPING" SMOOTHLY" with Centuri's special chute powder lubricant. Sprinkle it on during folding and look for a small dust cloud at apogee. It really works!

PDR-17 (4204) 2 oz. shaker can

90¢

Design YOUR OWN.

Flying Model Rockets.

Fun and easy.

After launching & building several Centuri rocket kits, you'll no doubt have some ideas of your own on what YOUR "Bird" should look like. Check our Centuri's DESIGN MANUAL, it's loaded with construction techniques, design tips & theories, rocket plans and flight data! You'll be surprised at the good looking "birds" you can build. The DESIGNER'S MANUAL comes with your Aerospace Team Membership (see page 3).

Selecting parts.



All mating parts have the same Series Number for simplicity. That is, a #8 series body tube will fit a #8 series nose cone, #8 engine mount, or #8 connector. The pattern above is to scale and can be used to order parts by series number. It's also a fin-guide for neat alignment.

Don't forget.

Most model rockets use the same functional parts; launch lugs for lift-off; shock cord for chute ejection; fastener; chute/streamer; screw eye for balsa nose cone & engine locks

Building.

The best advice is "Plan-Ahead"! Get everything you need by sketching your rocket "idea" in advance & making a list of parts. Keep the fin area toward the tail—too much forward fin area creates instability. The Design Manual explains this and many more technical points.

Before you test fly.

Swing-test your fully prepped "bird" on a string connected at the balance point. The rocket should point in the direction you swing. All Centuri kits are stable in flight, even if you can't get some of them to pass a swing-test. Always use a low power rocket engine for the first flight.

That first bird

Look over these two typical one-of-a-kind rocket ideas. You may want to build one, so we've got the parts named & coded. (See the Parts Section of this catalog) Once you really get started in designing & flying your original rockets, you'll discover the reward of seeing your own ideas come to life in a hi-flying rocket!

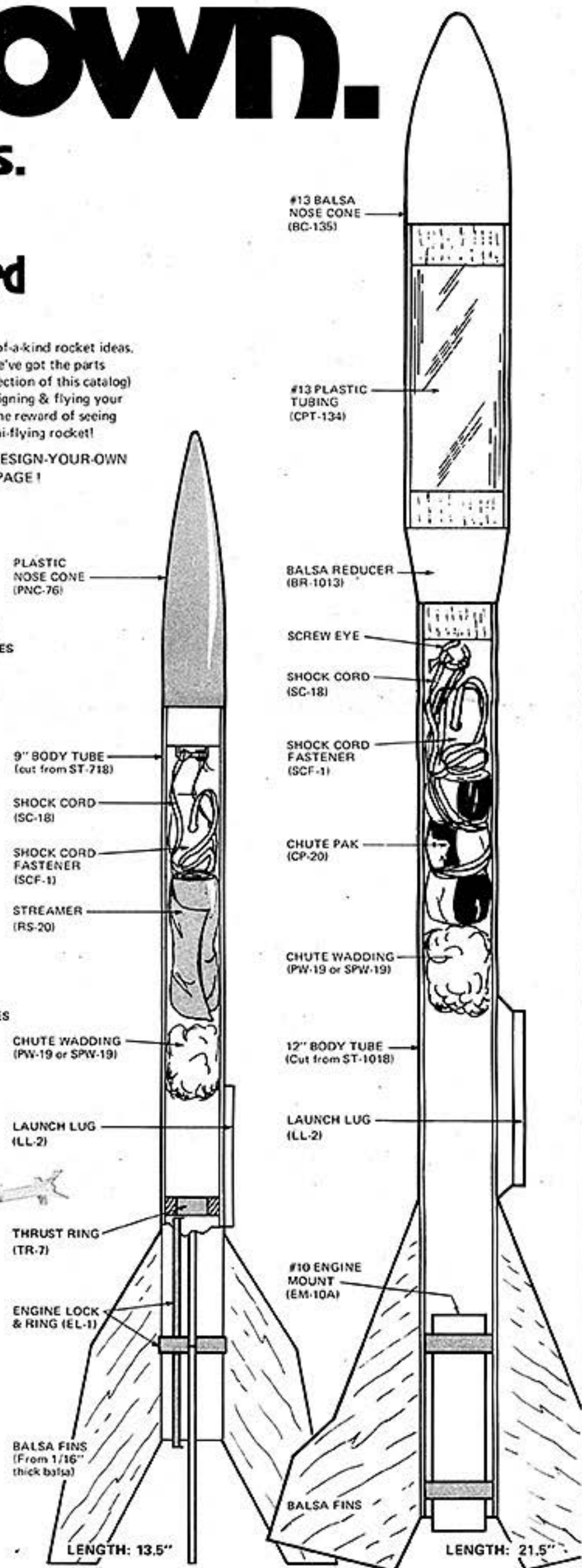
JUST TAKE A LOOK AT THE DESIGN-YOUR-OWN ASSORTMENT ON THE NEXT PAGE!

(SMALL ROCKET)
RECOMMENDED ENGINES
A6-4 A8-5
B4-6 B6-6 C6-7

DIAMETERS

	Inside	Outside
#5 SERIES	.515"	.543"
#7 SERIES	.715"	.759"
#8 SERIES	.865"	.908"
#10 SERIES	1.000"	1.040"
#13 SERIES	1.300"	1.340"
#16 SERIES	1.600"	1.640"
#20 SERIES	2.000"	2.040"

(BIG ROCKET)
RECOMMENDED ENGINES
A8-5 B4-4
B6-4 B14-5 C6-5





Custom parts assortments.

How about over \$21.00 worth of supplies for only \$12.95? You can build up to 8 big rockets with this fantastic assortment of parts. Great for groups, clubs, or the rocketeer who really wants to "move-up" at bargain price. Check this list of parts.

NOSE CONES: (Balsa & Plastic)

- 3 - #7
- 3 - #8 Assorted balsa
- 3 - #10 & Plastic

BODY TUBES:

- 3 - #7 Tubes
- 2 - #8 Tubes
- 1 - #10 Tube
- 1 - Plastic Capsule

FINS:

- 1 - Fin Pattern Sheet
- 6 - Balsa Fin Sheets

ENGINE SECTION:

- 3 - Thrust Rings
- 5 - Engine Mounts

PARACHUTES:

- 3 - 12" Chutes
- 3 - 16" Chutes
- 2 - 20" Chutes

MISC:

- 2 - Sheets Tape Discs
- 1 - Roll Shroud Line
- 8 - Elastic Shock Cords
- 8 - Shock Cord Fasteners
- 8 - Launch Lugs
- 1 - Flag Decal Sheet
- 3 - Screw Eyes
- PLUS
- 1 - Rocket Designer's Manual



PROD. NO. 3705 (Formerly SPA-8)

Designer's Special

SKILL LEVEL-3

\$12.95

BEGINNERS SPECIAL

Here's the ideal kit for the new designer. With it you can build 6 medium size rockets. And it's made easy with instructions and plans included in the Designer's Manual. For a "perfect start" in model rocket design, you can't miss with this value-packed assortment. A BIG-BIG \$12.00 value for only \$7.95.

HERE'S WHAT YOU GET!

- 6 - Body Tubes (#7)
- 6 - Nose Cones (Balsa & Plastic)
- 4 - Fin Material Sheets
- 1 - Fin Pattern Sheet
- 4 - 12" Chutes
- 2 - 16" Chutes
- PLUS
- 3 - Screw Eyes
- 1 - Sheet Tape Discs
- 1 - Roll Shroud Line
- 6 - Elastic Shock Cords
- 6 - Thrust Rings
- 6 - Launch Lugs
- 6 - Shock Cord Fasteners
- 1 - Rocket Designer's Manual



PROD. NO. 3704 (Formerly SPA-4)

Beginners Special.

SKILL LEVEL-2

\$7.95

Parts.

Flying Model Rockets.

The parts shown here are the most popular. Additional parts (too specialized for most hobby stores) are available factory-direct. All parts sold in kit-form, such as paper reducers & engine mounts, include complete assembly instructions.

Air frame

This is the "tubing" section of your rocket. Use the fin guide shown in the "Design Your Own" section for correct sizing. Remember the size-codes fit each other - A #5 body tube will fit a #5 connector, etc.

BODY TUBES

Heat-welded, strong, smooth, lightweight.



Prod. No.	Desc.	Size	Length	Price
4400	ST-518	#5	18"	40¢
4402	ST-718	#7	18"	50¢
4404	ST-818	#8	18"	60¢
4406	ST-1018	#10	18"	70¢
4408	ST-1318	#13	18"	90¢
4410	ST-1618	#16	18"	1.20
4412	ST-2018	#20	18"	1.60

CLEAR PLASTIC TUBES

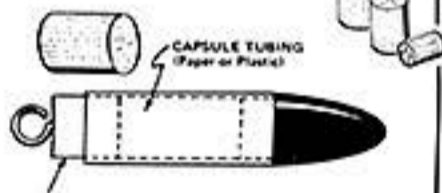
ENLARGED PAYLOAD COMPARTMENT



Prod. No.	Desc.	Size	Length	Price
7600	CPT-72	#7	2.75"	20¢
7602	CPT-83	#8	3.5"	25¢
7604	CPT-103	#10	3.5"	30¢
7606	CPT-134	#13	4.0"	40¢

BALSA TUBE CONNECTORS

Solid balsa plugs for connecting payload sections to body tubes when a solid wall is needed.



Prod. No.	Desc.	Size	Length	Price
7400	BTC-7	#7	1"	35¢
7402	BTC-8	#8	1"	40¢
7404	BTC-10	#10	1 1/2"	50¢
7406	BTC-13	#13	1 1/2"	60¢
7408	BTC-16	#16	1 1/2"	70¢

HOLLOW TUBE COUPLERS

Great for multi-staging connections & cutting guides for body tubing. Joins equal diameter tubes. Extremely strong.



Prod. No.	Desc.	Size	Length	Price
7500	HTC-5	#5	1/2"	15¢
7502	HTC-7A	#7	1"	15¢
7504	*HTC-7CDH	#7	Staging Coupler	20¢
7506	HTC-8	#8	1"	15¢
7508	HTC-10	#10	1"	20¢
7510	HTC-13	#13	1.5"	25¢
7512	HTC-16	#16	1.75"	35¢
7514	HTC-20	#20	1.75"	45¢

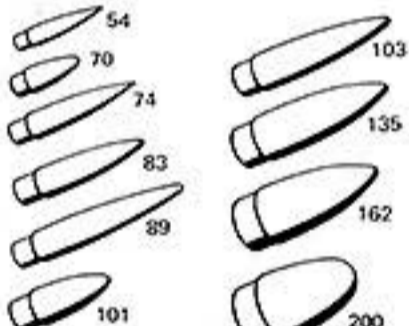
Nose cones.

Plastic nose cones are precision-molded in a wide variety of shapes and sizes. Most have bases with lugs for eyelets for attaching shock cords. Plastic cones are ready-to-use in bright colors. May be painted with enamel.



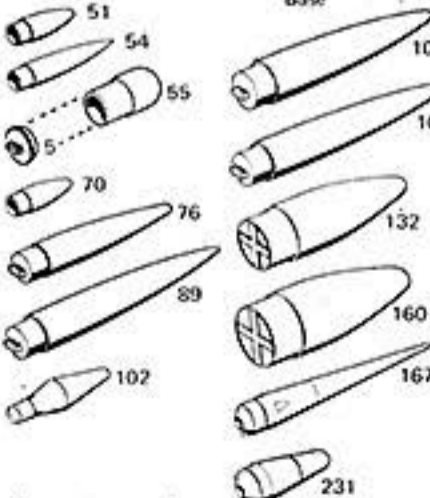
BALSA NOSE CONES

Prod. No.	Desc.	Size	Length	Price
5100	BC-54	#5	2.4"	50¢
5102	BC-70	#7	1.6"	40¢
5104	BC-74	#7	3.5"	55¢
5106	BC-83	#8	3.2"	65¢
5108	BC-89	#8	4.8"	1.20
5110	BC-101	#10	2.0"	65¢
5112	BC-103	#10	3.9"	1.00
5114	BC-135	#13	3.9"	1.20
5116	BC-162	#16	3.4"	1.20
5118	BC-200	#20	2.5"	1.60



PLASTIC NOSE CONES

Prod. No.	Desc.	Size	Length	Price
6100	PNC-51	#5	1.0"	35¢
6102	PNC-54	#5	2.2"	35¢
6104	PNC-55	#5	0.5"	25¢
6105	PNC-70	#7	1.5"	35¢
6108	PNC-76	#7	3.0"	40¢
6112	PNC-89	#8	4.6"	75¢
6114	PNC-102	#10	4.3"	1.20
6116	PNC-103	#10	4.1"	85¢
6118	PNC-106	#10	4.5"	85¢
6120	PNC-132	#13	2.7"	75¢
6122	PNC-160	#16	2.5"	85¢
6124	PNC-167	#16	9.3"	1.20
6126	PNC-231	#20	3.2"	1.20
6128	PIN-5	#5	Cone Base	20¢



Illustrations are for shape comparison only. They are NOT in scale to each other.

Reducers.

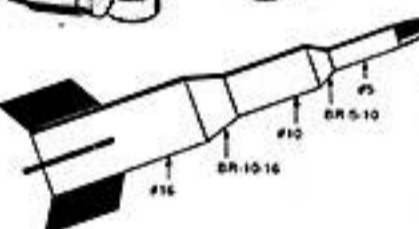
Reducers connect body tubes of different diameters. They can be solid (balsa) or hollow (plastic - paper). You would want a solid reducer just above your recovery system and a hollow reducer where ejection gases must pass through to activate the recovery system.

PLASTIC REDUCERS



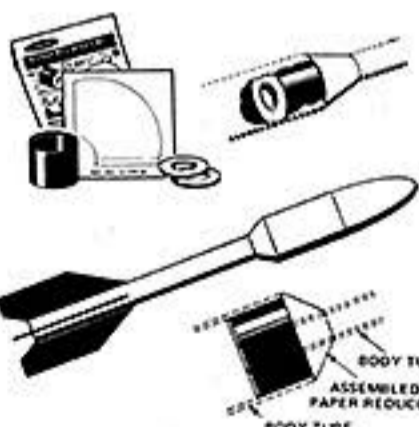
Prod. No.	Desc.	Fits	Price
7300	PSR-78	7 to 8	35¢
7302	PSR-813	8 to 13	55¢
7304	PSR-1620	16 to 20	70¢

BALSA REDUCERS



Prod. No.	Desc.	Fits	Price
7102	BR-58	5 to 8	45¢
7104	BR-510	5 to 10	50¢
7106	BR-710	7 to 10	50¢
7108	BR-713	7 to 13	85¢
7110	BR-810	8 to 10	50¢
7112	BR-816	8 to 16	1.20
7114	BR-1013	10 to 13	85¢
7116	BR-1016	10 to 16	1.10
7118	BR-1316	13 to 16	95¢

PAPER REDUCERS



Prod. No.	Desc.	Fits	Price
7200	PR-713	7 to 13	50¢
7202	PR-813	8 to 13	50¢
7204	PR-816	8 to 16	50¢
7206	PR-820	8 to 20	60¢
7208	PR-1020	10 to 20	60¢
7210	PR-1320	13 to 20	60¢

Miscellaneous

These mounts hold and center the rocket engine in the "Airframe" body tube. They can be adapted to #8, 10, 13, 16 & 20 body tube sizes. You get everything you need including centering rings, engine mount tube, thrust ring & sleeve tube.

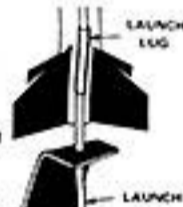
ENGINE MOUNTS



Prod. No.	Desc.	Fits	Price
7702	EM-8	#8	50¢
7704	EM-10A	#10	60¢
7706	EM-13	#13	65¢
7708	EM-16	#16	75¢
7710	EM-20	#20	95¢

LAUNCH LUGS

Slender tube glued to side of the rocket. The launch rod passes thru to guide the rocket during lift-off.



Prod. No.	Desc.	Price
4300	LL-2	6 for 40¢

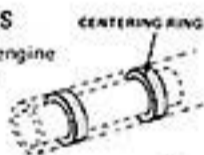
THRUST RINGS

These featherweight fibre rings are 3/8" long. Used as forward engine stop when glued into any #7 series body tube.

Prod. No.	Desc.	Price
4302	TR-7	6 for 35¢

CENTERING RINGS

These rings center the engine tube (#7) in #8 & #10 body tubes.



Prod. No.	Desc.	Fits	Price
4304	CR-8	#8	6 for 50¢
4306	CR-10	#10	6 for 50¢

ENGINE LOCKS

Includes mylar holding ring & steel lock strip. Keeps engine firmly in place in flight & during ejection thrust.

Prod. No.	Desc.	Price
4308	EL-1	3 for 60¢

DECALS

These multi-color decal sheets "Dress-Up" your model rocket. The military sheet has U.S.A. markings including Army, Navy, & Air Force. The missile sheet has detailed hatch covers, center of pressure & gravity emblems and other "space vehicle" markings. The U.S. Flag decal sheet has 17 flags plus U.S.A. markings - all are in brilliant colors.

Prod. No.	Desc.	Price
4250	DC-3 Military Insignias	75¢
4251	DC-4 Missile Markings	75¢
4252	DC-35 U.S. Flags	75¢

Technical tips.

Some friendly advice...

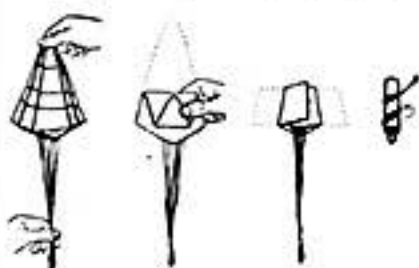
Getting that rocket back safely is mighty important... We designed them to fly again & again!

So... on that first flight always (we repeat: always!) use the least powerful recommended engines. We realize that new rocketeers are anxious to see "how high she'll go", which is only natural. Trouble is, a small lightweight rocket can go much higher than you expect. For instance a "C" engine in a small rocket on its maiden flight may result in a lost rocket! All model rockets come back to earth eventually of course, but following their descent & finding them is another matter.

Please take the advice of our R. & D. people; after thousands of rocket flights we've learned it's best to start with less powerful engines and work your way "up"!

Pre-flight know-how...

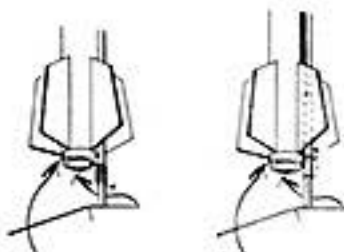
Fold chutes tightly to allow for smooth ejection. Re-pack chute just before launch! If chute stays packed overnight it may not open properly.



Respect your recovery system, and it will respect you! You can't be hasty and careless about "prepping" your rocket if you want a good flight. Cut a small "spill hole" in chutes for launching in breezes, or to extremely high altitudes, to enable recovery within a reasonable distance. Experienced rocketeers and national contest winners follow this simple procedure before each flight.

1. Check rocket structure; be sure fins are solidly glued on.
2. Install engine, securing it with tape or engine lock as explained in kit instructions.
3. Insert the right amount of FLAME-PROOF chute wadding... not too much, not too little. Flameproof means FLAMEPROOF... Do not use plain toilet paper or ordinary cotton batting please... Smokey the Bear won't like that, nor will your parachute!
4. Check the recovery system... shock cord intact? Securely fastened to the rocket? Chute shroud lines firmly attached? Nose cone loose enough to eject but not TOO loose?

5. Install igniter carefully and place rocket onto launch rod. Rocket slides easily on launch rod?
6. Attach micro-clips to igniter leads. Make sure clips don't touch each other or the metal deflector... That could cause a short circuit and ignition failure. If necessary, raise the rocket slightly off the deflector with a "positioning spring" (included in Centuri launchers) or piece of tape around the launch rod.



Ignition

Always use Centuri Sure-Shot® igniters for best reliability. The patented Sure-Shot, packed with each box of Centuri engines, is recognized by experienced rocketeers as the best there is, and well worth the little bit of assembly required.

From time to time a rocketeer will experience a "mis-fire"... that's when the igniter fires, but does not ignite the engine. A "misfire" is rarely caused by an engine or igniter defect. Usually the rocketeer has simply assembled the igniter wrong (wire not touching igniter stick), or the igniter stick was not inserted far enough into the engine nozzle to touch the propellant.

Model rocket engine ignition is simple—just follow the instructions. Ask an experienced rocketeer friend to help you rig your ignition on that first flight. It makes a world of difference & puts you in the know fast!

Launch

It's always a good idea to test a launcher for satisfactory operation before going out to launch... No sense finding a problem when you're away from your tools!

CAUTION: Always handle launch rod with care. To avoid injury, cap the rod with an expended engine when not in use.

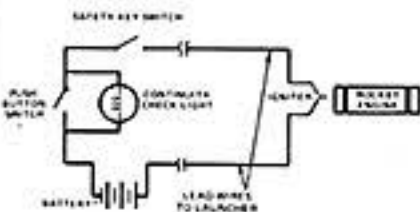
The engine exhaust will build up residue on the igniter micro-clips. Run a piece of sandpaper through the jaws after every few launches, to clean the clips and insure continuity of electrical circuit.



If your launcher does not work, follow a logical system of checking out the problem... there's always an explanation. The most common problems are weak battery or improper launcher assembly or hook-up.

HOW A LAUNCHER WORKS:

Model rocket engines are specially designed so they can not be lit with a match, for obvious safety reasons. Electrical ignition works great, and is more realistic.

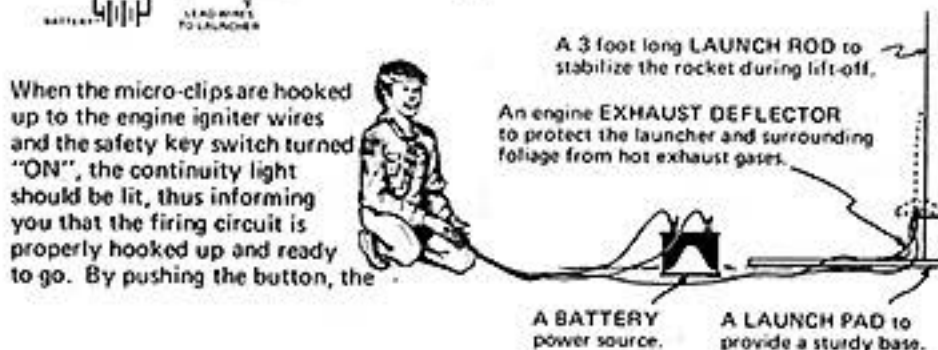


When the micro-clips are hooked up to the engine igniter wires and the safety key switch turned "ON", the continuity light should be lit, thus informing you that the firing circuit is properly hooked up and ready to go. By pushing the button, the

electric current passes through the switch instead of being "used up" by the light bulb. The full current is then routed to the igniter wire which in turn glows red hot and ignites the model rocket engine. If the engine does not ignite, read the trouble-shooting remarks that are on the instruction sheet you received with your engines.

CONTROLLER:

- A SAFETY KEY to prevent premature ignition.
- A continuity LIGHT to indicate completed circuit.
- A SWITCH that returns to "off" when released.



Build your own launch system

All Starred (*) items are cut from a common 15 or 20 foot extension cord... about 97¢.

1/8" x 36" welding rod or music wire (found in most hobby shops)

Use tin snips to cut an exhaust deflector from a large juice can.

Normally model rockets are launched vertically. Sometimes you may want to aim the rocket slightly away from vertical (never more than 30°), as in a spot landing contest.

Drill 1/8" hole for rod.

LAUNCH PAD: Board or plywood base with these approximate dimensions: 8" to 10" x 16" to 20" x 1" to 1 1/2"

Battery Clips salvaged from old car jumper cables

BATTERY: Any 6-volt lantern battery
Ray-O-Vac No. 918
Eveready No. 731
Burgess No. TW1
or any 6 or 12 volt auto battery.

Twist ends together

6 or 12 volt continuity light made from trailer marker light. (about 97¢ at most auto supply stores)

* "Safety Key" and socket from the extension cord.

* 10 to 15 foot firing line

* Common door bell push button about 40¢

* 4-foot battery lead

Use nails or screws as terminals

#34 Mueller "Micro-Clips" (found in hobby and Electronics shops).

Evel Knievel

Here's the one you've been waiting for! Centuri's ALL NEW EVEL KNieVEL FLYING SKY-CYCLE! And it's a real flying model rocket kit replica of Evel's rocket-powered vehicle.

Comes complete with giant 3-color decal sheet, molded nose cone, quick assembly, fibre-fins, recovery chute — the works! And it flies on dependable Centuri Mini-Motor Rocket Power! Watch your colorful Sky-Cycle thunder off the launch pad to altitudes higher than a football field is long. Listen for the "POP" as the chute deploys for a safe return to earth!

Talk about detail, this neat "BIRD" has the feel of the real thing — including EVEL'S red-white and blue "Number One" insignia! Surprise your friends at the launch pad with this ONE-OF-A-KIND rocket. More details on this fantastic easy-to-build product are inside check out the center spread.



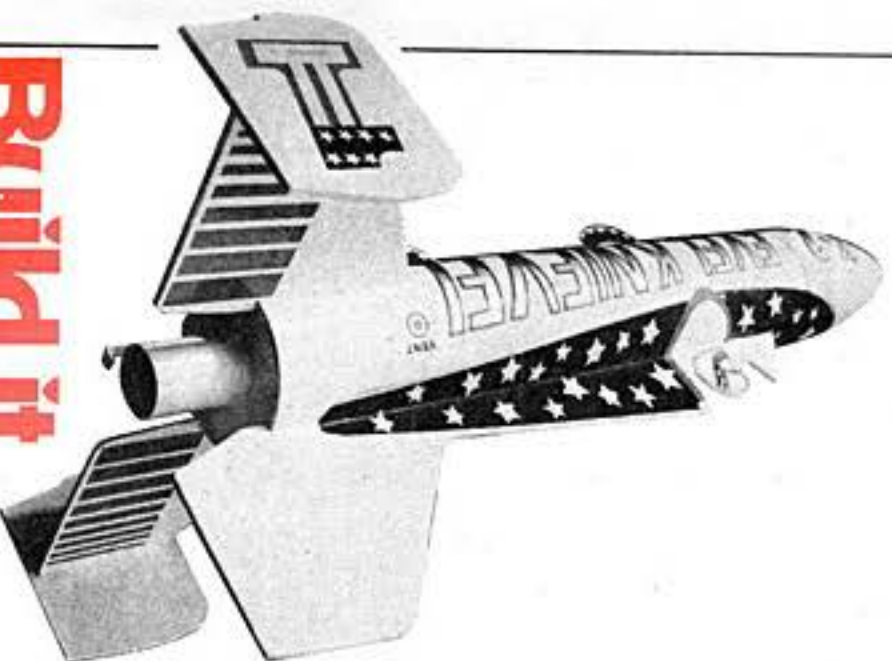
A MESSAGE FROM EVEL...
Safety first is any motto, and it should be yours. Follow all safety instructions to enjoy flying your "SKY CYCLE"!

Evel Knievel Sky Cycle
Centuri Flying Model Rockets.

HAPPY LANDINGS!

Centuri Flying Model Rockets.

Evel Knievel Sky Cycle



Build it
and fly it.

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