

HOW IT WORKS

At peak of flight the Mini-Motor's ejection charge ignites, pushing out the nose cone and streamer (recommended version), or the motor mount ejects itself and the streamer from the rear (alternate version). The rocket descends safely to Earth, on its fluttering streamer. A parachute would be impractical for this "Bird", because of its extreme altitude capability . . . a chute on the light weight STAR TROOPER might cause it to drift far away beyond recovery distance.

TOOLS YOU WILL NEED

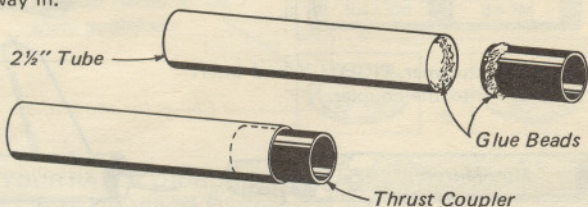
- Superbond Glue (or "white" glue)
- Fil-Cote (or Sanding Sealer)
- Fine Sandpaper
- Spray Paint (Enamel)
- Modeling Knife
- Pencil & Masking Tape
- Plastic model cement or epoxy glue (for recommended version only)

MAIN ASSEMBLY INSTRUCTIONS

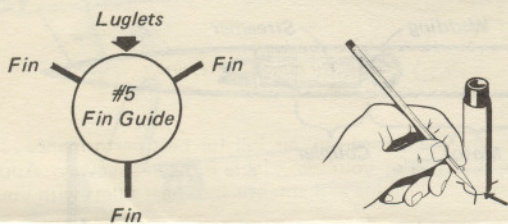
This "Kustom Kit" may be built in either one of two styles. The easier, and recommended style is shown on this side of the instruction sheet. Tips on building the slightly more challenging alternate version are shown on the reverse side. You must read the steps on this side to familiarize yourself with the basic assembly, even if you plan to build the alternate version.

- 1** Start assembly by choosing the shorter body tube (2½" long). Run a small glue bead around the inside of one end, and around the outside of the thrust coupler.

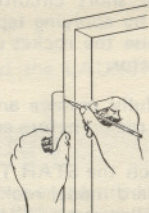
Join the parts with a firm, turning motion until the coupler is about half way in.



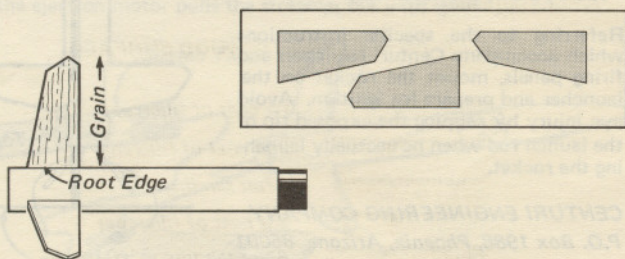
- 2** To draw guide lines for neatly gluing on fins: Stand the body tube up-right on its fin guide and mark each position on the tube.



- 3** Find a convenient groove or channel, such as a door jamb or partially open drawer. Extend the marks into straight guide lines the length of the tube.

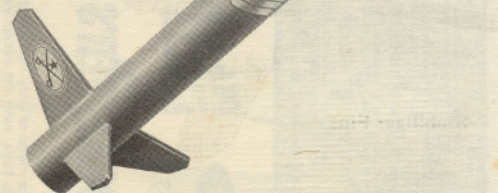


- 4** Remove the pre-cut fins from their sheet carefully, to avoid tearing the balsa. Please notice which edge is the root edge (part that glues to body tube).

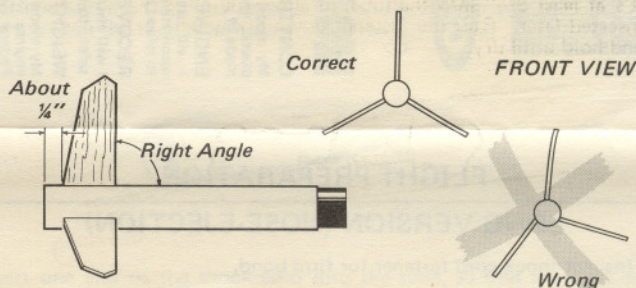


Star Trooper

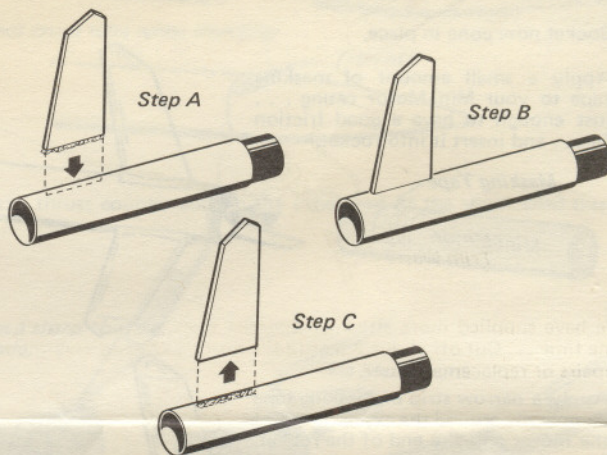
Centuri



- 5** Fins will be glued on in the next step. Be sure to position them as shown, and try to have neat alignment.

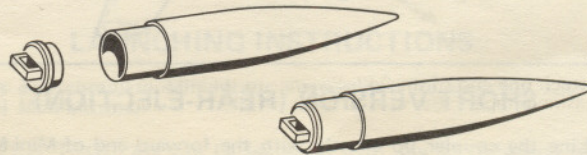


- 6** Use this pre-gluing technique to put your fins on: One at a time, apply glue to the root edge of a fin. Press in place on the fin line drawn on the body tube. Remove the fin, and repeat with remaining fins. Now, apply fresh glue to each fin and re-position on the tube.

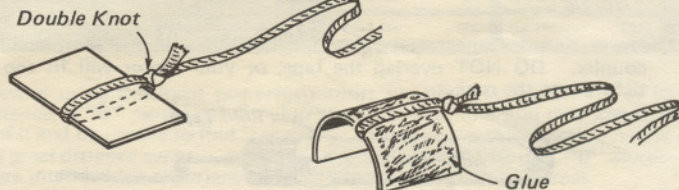


Proceed with these other steps while fin joints are drying:

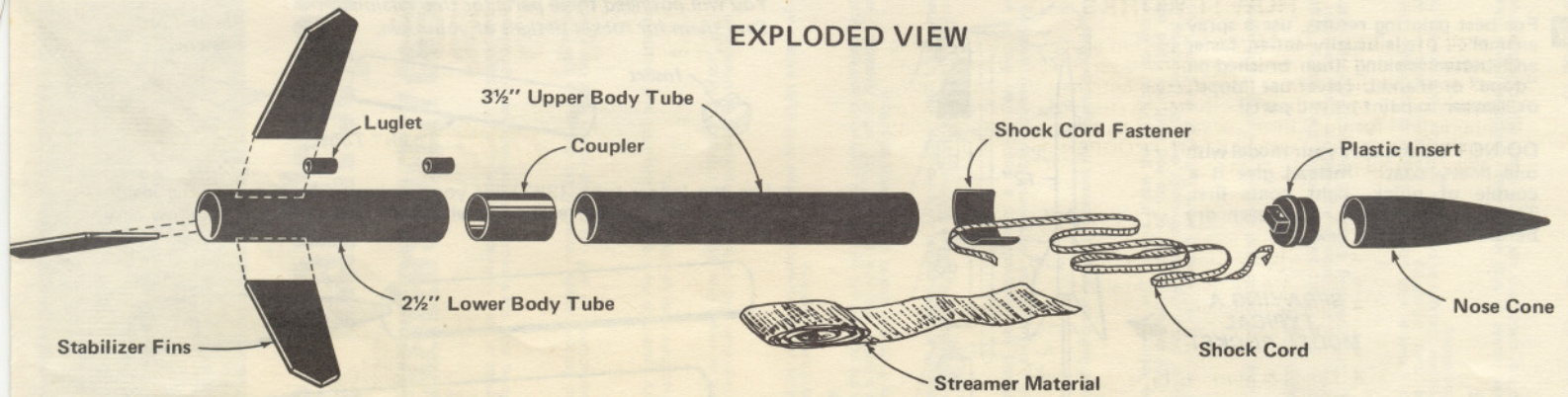
- 7** Use plastic model cement, or epoxy glue to install the plastic insert into the nose cone.



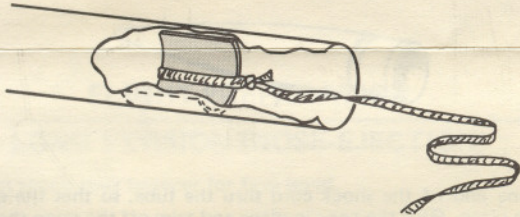
- 8** Tie one end of the shock cord around the heavy paper shock cord fastener (½" x 1"). Bend it neatly into a half-circle and apply glue to the entire outside surface.



EXPLODED VIEW

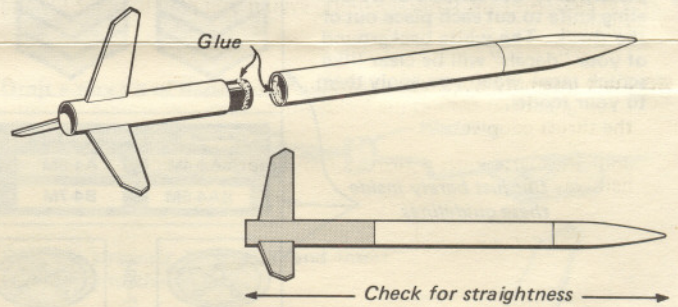


- 9** Insert the assembly into the OTHER body tube (3 1/2" long). Make sure it's at least 3/4" into the tube, to allow room for the nose cone to be inserted later. Rub the fastener down firmly with eraser end of pencil, and hold until dry.

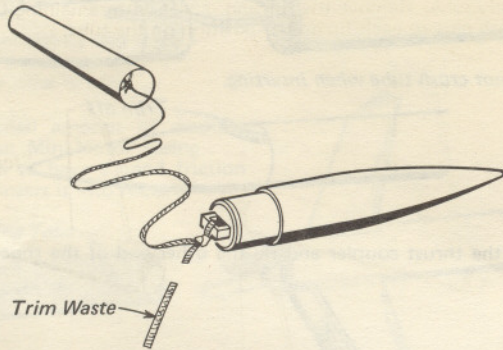


- 13** Glue the lower and upper rocket assemblies together.

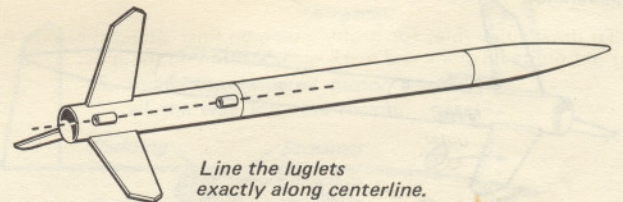
NOTE: This step can be saved for later if you want to spray paint each assembly different colors . . . but mask-off the coupler first!



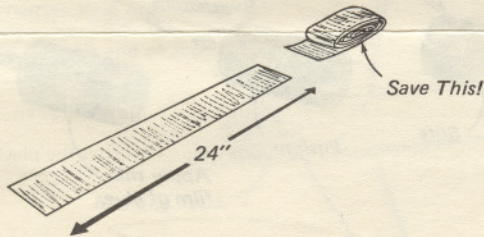
- 10** Tie the other end of the shock cord thru the eyelet of the nose cone insert . . . use a double knot, and trim off any excess.



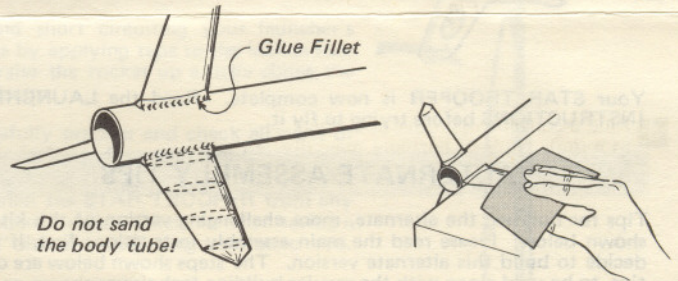
- 14** Glue the two launch luglets along their drawn line as shown . . . use enough glue to be sure they are on firmly.



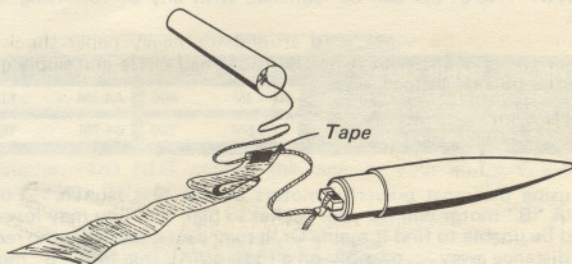
- 11** We have supplied more streamer material than you can actually use at one time . . . Cut off about 2 feet (24") for this kit, and save the rest for repairs or replacement later.



- 15** Sand each fin to a "teardrop" air foil for best performance . . . resting the fin on the edge of your work table is the easiest way. Apply a glue bead along each fin joint and smooth into neat fillets with your finger.

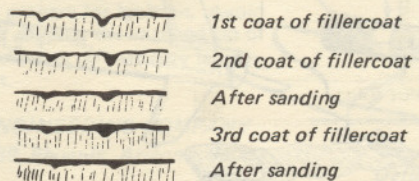


- 12** Attach one end of the 24" streamer to the middle of the shock cord with masking tape. Be sure it is on firmly . . . add a staple if you can.



- 16** Paint the fins with balsa fillercoat or sanding sealer and allow to dry. Sand lightly with fine sandpaper. Paint and sand again, repeating the process until all grain is filled.

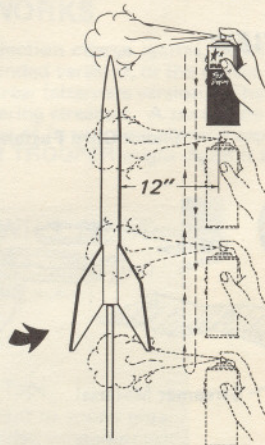
CROSS SECTIONS OF WOOD SURFACE:



- 17** For best painting results, use a spray enamel . . . it is usually easier, faster and better looking than brushed-on "dope" or enamel. Never use "dope" or lacquer to paint plastic parts!

DO NOT try to paint your model with one heavy coat! Instead give it a couple of quick, light coats first, THEN a finish coat. Let each dry before applying the next.

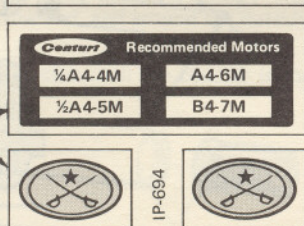
SPRAYING A TYPICAL MODEL ROCKET



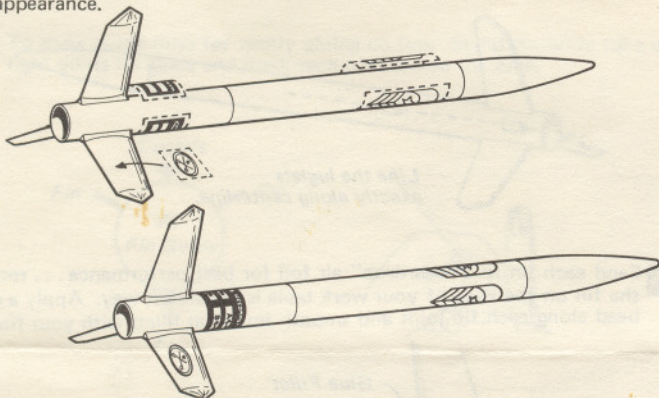
- 18** The pressure-sensitive "decals" may be applied when the paint is completely dry. Use scissors or a modeling knife to cut each piece out of the sheet. The white background of your "decals" will be clear (like scotch tape) when you apply them to your model.



Cut just barely inside these guidelines



- 19** WASH YOUR HANDS THOROUGHLY BEFORE APPLYING DECALS, or your fingerprints will get the decal glue dirty, and hurt your rocket's appearance.

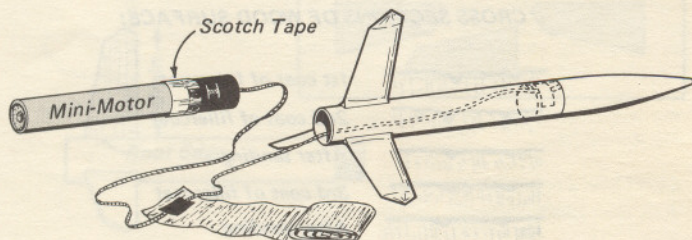


Your STAR TROOPER is now complete. Read the LAUNCHING INSTRUCTIONS before trying to fly it.

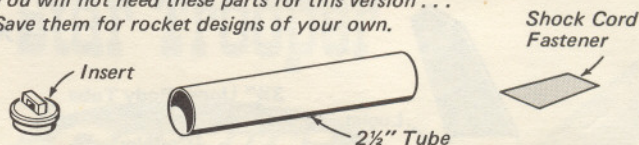
ALTERNATE ASSEMBLY TIPS

Tips for building the alternate, more challenging version of this kit are shown below. Please read the main assembly instructions first, if you decide to build this alternate version. The steps shown below are only tips, to be used along with the regular building techniques shown on the other side.

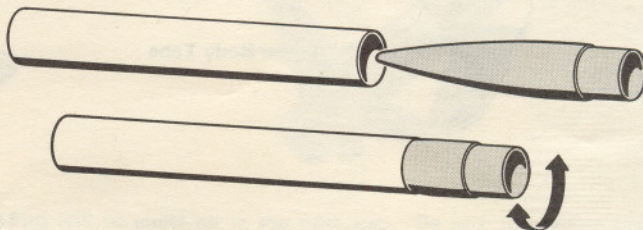
Building this shorter and lighter rear-ejection version will provide higher flights . . . but it is a little more challenging to prep and fly. In this version the ejection motor pulls the streamer out with itself.



You will not need these parts for this version . . . Save them for rocket designs of your own.



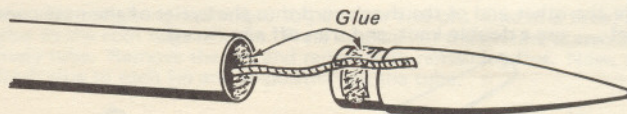
Use the longer tube, (3 1/2") for your rocket body. Smooth the inside edge of one end by reaming it with your nose cone . . . to allow easy insertion later.



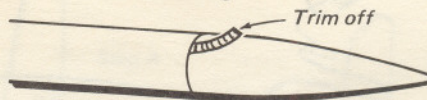
Peel the backing from the small white pressure-sensitive tab, and apply the tab onto the nose cone base . . . rub the tab firmly.



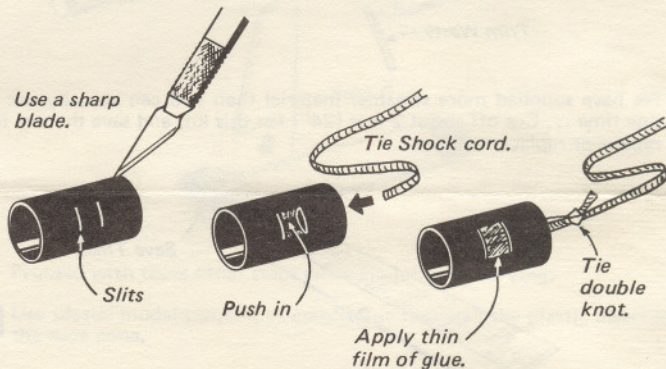
Insert one end of the shock cord thru the tube, so that the cone will hold it in place. Glue the cone in place and trim off the scrap shock cord.



Do not crush tube when inserting.



Slit the thrust coupler and tie the other end of the shock cord thru it.



LAUNCHING INSTRUCTIONS

Igniters and complete Mini-Motor instructions are included with all Centuri Mini-Motors.

The STAR TROOPER can be launched with any of following Mini-Motors.

MAXIMUM ALTITUDE CHART			
MOTOR	FEET	MOTOR	FEET
1/4 A-4M	400	A-4-6M	1100
1/4 A-5M	700	B-4-7M	1800

ALTITUDES DEPEND GREATLY ON THE PRECISION OF ASSEMBLY AND SMOOTHNESS OF THE SURFACE FINISH. USE LOWER POWER MOTORS (1/4 A, 1/4 A) FOR FIRST FLIGHTS.

Avoid using the most powerful motors on the first launch. For instance, A "B" motor will fly your rocket so high that you may lose sight of it and be unable to find it again. Or, it may cause the rocket to recover a great distance away . . . possibly on a roof, or in a tree top. "B" motors are intended for experienced rocketeers, and large launch areas.

THE RIGHT MATERIALS FOR THE JOB		
PART	REQUIREMENTS	MATERIAL
Nose Cone	Symmetrical & smooth Contains recovery system	Hollow Molded Plastic
Fins	Must allow for precision sanding & shaping	Balsa Wood
Recovery	Avoid recovery "drift" from extreme altitudes	Streamer

Centuri
Catalog No. KM-3

Star Trooper

MODEL ROCKETEER'S SAFETY CODE

CONSTRUCTION
My model rockets will be made of only lightweight materials such as paper, wood, plastic, and thin metallic foils, with the exception of payloads and engine holders made of wirelike material.

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

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

WEIGHT LIMITS
My model rocket will weigh no more than 453 grams (16 oz.) at liftoff, and the engines will contain no more than 113 (4 oz.) of propellant, as prescribed by Federal Regulations.

STABILITY
I will check the stability of my model rockets before their first flight except when launching models of already proven stability.

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

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

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.

BLAST DEFLECTOR
My launcher will have a blast deflector device to prevent the engine exhaust from hitting the ground directly.

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

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

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

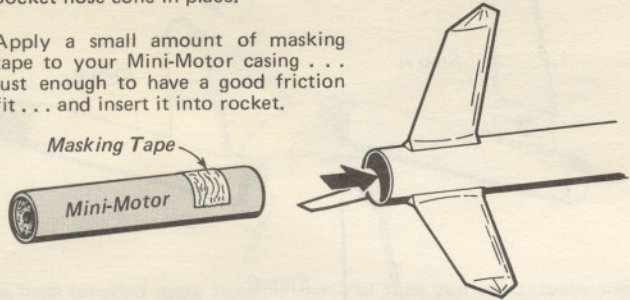
PRE-LAUNCH TEST
When conducting research activities with unproven designs or methods, I will, when possible, determine their reliability through pre-launch tests. I will conduct launchings of unproven designs in complete isolation from persons not participating in the actual launching.

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.

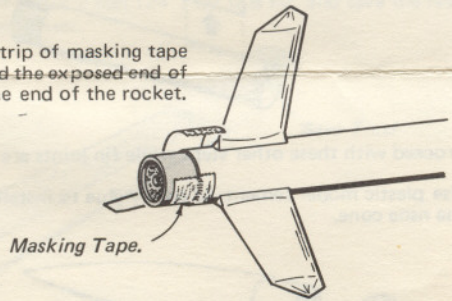
FLIGHT PREPARATION

LONG VERSION (NOSE-EJECTION)

1. Inspect shock cord fastener for firm bond.
2. Insert a very small amount of Flameproof Parachute Wadding according to its directions.
3. Tuck in shock cord.
4. Roll streamer tightly and insert.
5. Socket nose cone in place.
6. Apply a small amount of masking tape to your Mini-Motor casing . . . just enough to have a good friction fit . . . and insert it into rocket.

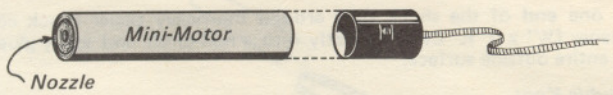


7. Apply a narrow strip of masking tape completely around the exposed end of the motor and the end of the rocket.

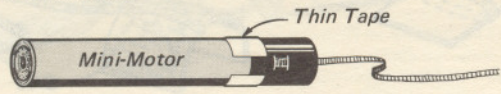


SHORT VERSION (REAR-EJECTION)

1. Line the coupler up exactly with the forward end of Mini-Motor.



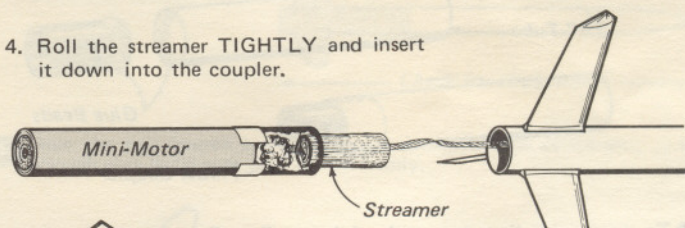
2. Use very thin tape (such as Scotch tape) to join the Motor and coupler. DO NOT overlap the tape, or your motor will fit too tightly into the rocket.



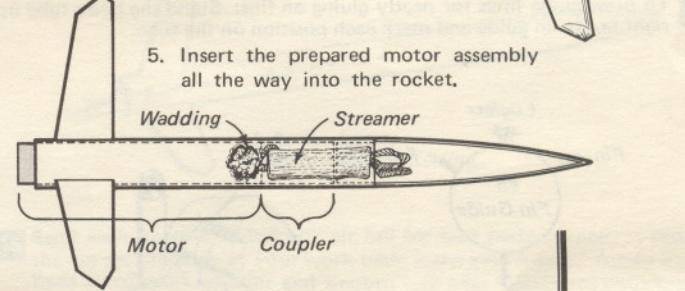
3. Drop a tiny bit of flame proof wadding down into the motor casing.



4. Roll the streamer TIGHTLY and insert it down into the coupler.



5. Insert the prepared motor assembly all the way into the rocket.



Avoid short circuiting your launcher's clips by applying tape to the launch rod, to raise the rocket up a little above the deflector.

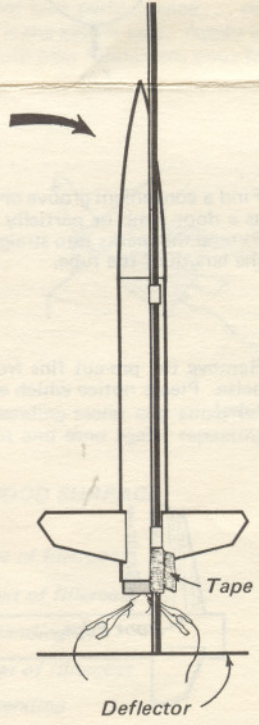
Carefully prepare and check all parts of your rocket before each flight.

Launch the STAR TROOPER from any standard model rocket launcher having a 1/8" diameter x 36" long steel launch rod.

This rocket is designed to be launched only from standard remote-controlled electrical launch systems. Always use the recommended engines. Comply with all Federal, State, and local laws.

Referring to the specific instructions which accompany Centuri launchers and firing panels, mount the rocket on the launcher and prepare for ignition. Avoid eye injury by capping the exposed tip of the launch rod when not actually launching the rocket.

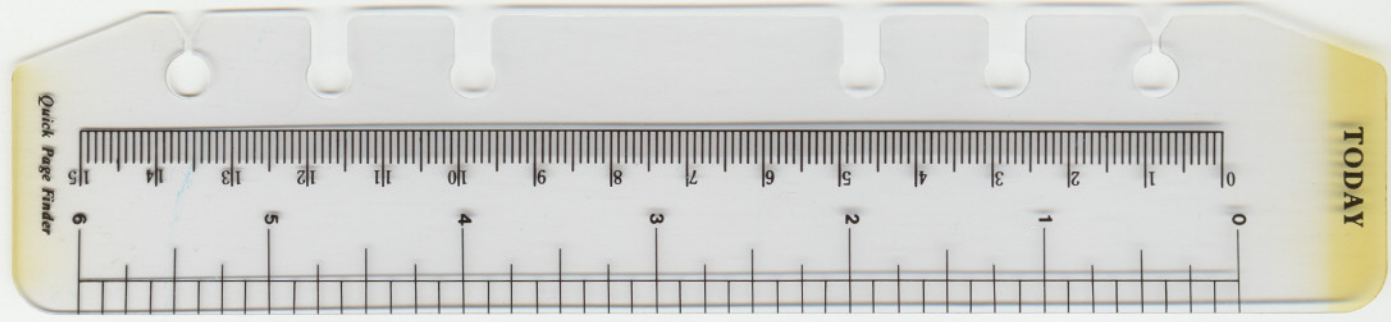
CENTURI ENGINEERING COMPANY
P.O. Box 1988, Phoenix, Arizona 85001



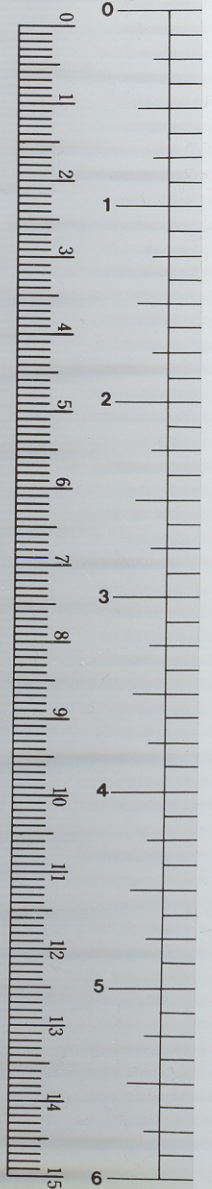


Centuri Recommended Motors

¼A4-4M	A4-6M
½A4-5M	B4-7M

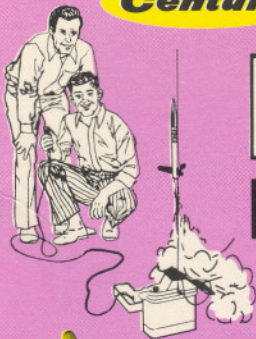


TODAY



Quick Page Finder

Centuri



FLYING MODEL ROCKET KIT

high performance

Star Trooper

contest rocket

Catalog No. **KM-3**

Centuri

Mini Rocket

Star Trooper

contest rocket

contest rocket

Star Trooper

Mini Rocket

Centuri

- THE HIGHEST FLYING MINI KIT!
- REAR-EJECTION STREAMER RECOVERY!
- MOLDED CONE HOLDS RECOVERY SYSTEM!
- PRE-CUT BALSA FINS!
- 2-COLOR STICK-ON "DECALS"!
- HIGH EFFICIENCY LAUNCH-LUGLETS!

Kustom Kit
Includes parts for alternate, longer version with nose-ejection streamer.

Centuri STAR TROOPER SPECIFICATIONS			
Length	5.6"	Net Wt.	0.3oz.
Body Diam.	0.54"		
RECOMMENDED MOTORS			
¼A4-4M	A4-6M		
½A4-5M	B4-7M		

↑ The recommended motors are also listed on the stick-on "decal"

95¢

Motors Not Included

Centuri

Mini Rocket

FOR USE WITH CENTURI MINI-MOTORS

IP-696
0873

TOOLS YOU WILL NEED

Here are the ordinary modeling tools & supplies you'll find useful in assembling this kit.

- Superbond glue (or "white" glue)
- Modeling knife
- Fine sandpaper
- Fil-Cote (or sanding sealer)
- Spray paint (enamel)

Star Trooper

MINI-ROCKET

MAXIMUM ALTITUDE CHART

ALTITUDES DEPEND GREATLY ON THE PRECISION OF ASSEMBLY AND SMOOTHNESS OF THE SURFACE FINISH. USE LOWER POWER MOTORS ($\frac{1}{4}$ A, $\frac{1}{2}$ A) FOR FIRST FLIGHTS.

MOTOR	FEET	MOTOR	FEET
$\frac{1}{4}$ A4-4M	400	A4-6M	1100
$\frac{1}{4}$ A4-5M	700	B4-7M	1800



A REWARDING HOBBY FOR AGES 10 TO ADULT

RECOMMENDED AVERAGE AGE
FOR "STAR TROOPER" KIT:

12

TO ADULT