

FLY WITH  
HI-PERFORMANCE  
**Centuri**  
ROCKET ENGINES

# PAYLOADER II

## FLYING MODEL ROCKET

- See-Thru Payload Capsule
- Carries Payloads To 1100'
- Great Beginner Kit



**Centuri** IDENTIFICATION  
Model No. **PAYLOADER II**  
List Price \$19.95 Sale Price **12.95**  
Part No. **A23 414**  
Part No. **9135 CSE**  
Manufactured in U.S.A.

**BONUS**  
Centuri  
SPSC-FLITE

CAREFULLY CUT ON DOTTED LINE, PEEL OFF BARCODE, AND USE ON YOUR ROCKET!

**Centuri**

**KC-20**  
1451321

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Mfg. by Centuri Corporation, P.O. Box 100, Phoenix, Arizona

# Payloader II

CATALOG NO. KC-20

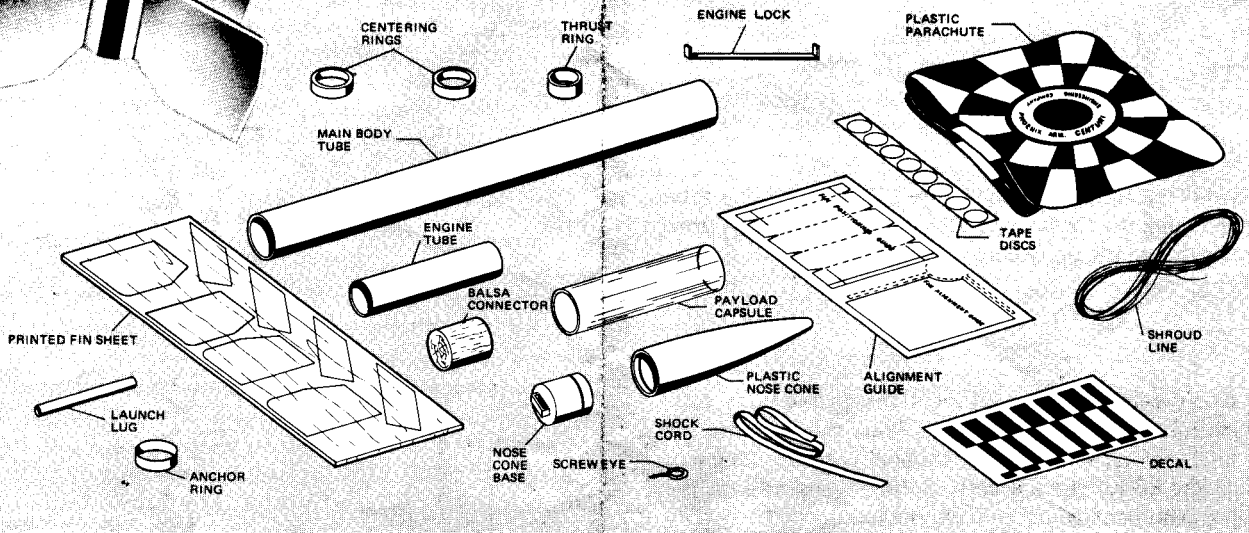
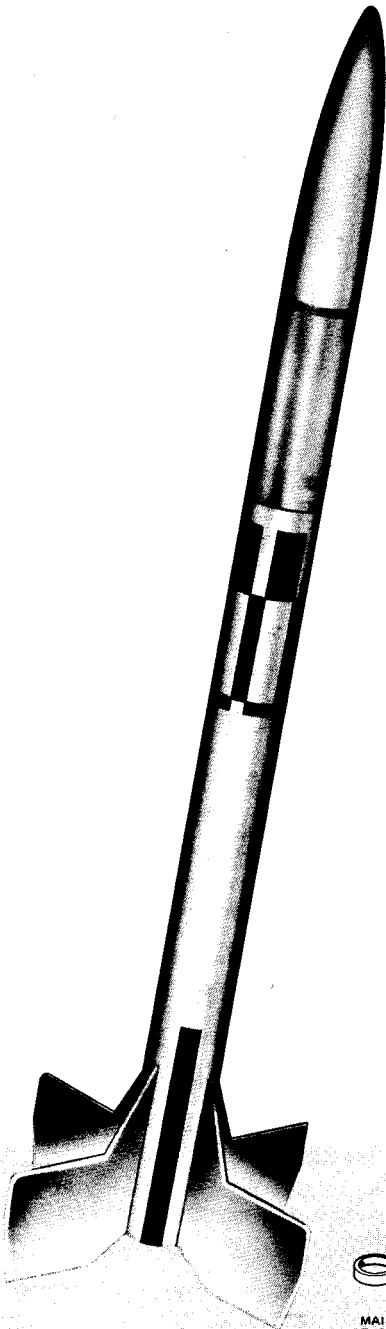
## ASSEMBLY INSTRUCTIONS

FOR BEST RESULTS... FOLLOW DIRECTIONS CAREFULLY!

The Payloader II Carrier Rocket is designed to carry your payloads such as crickets, beetles, ants, and other insects to high altitudes and return them safely by parachute. The plastic see-thru capsule permits you to observe the payload before and after flight without removing the capsule from the rocket.

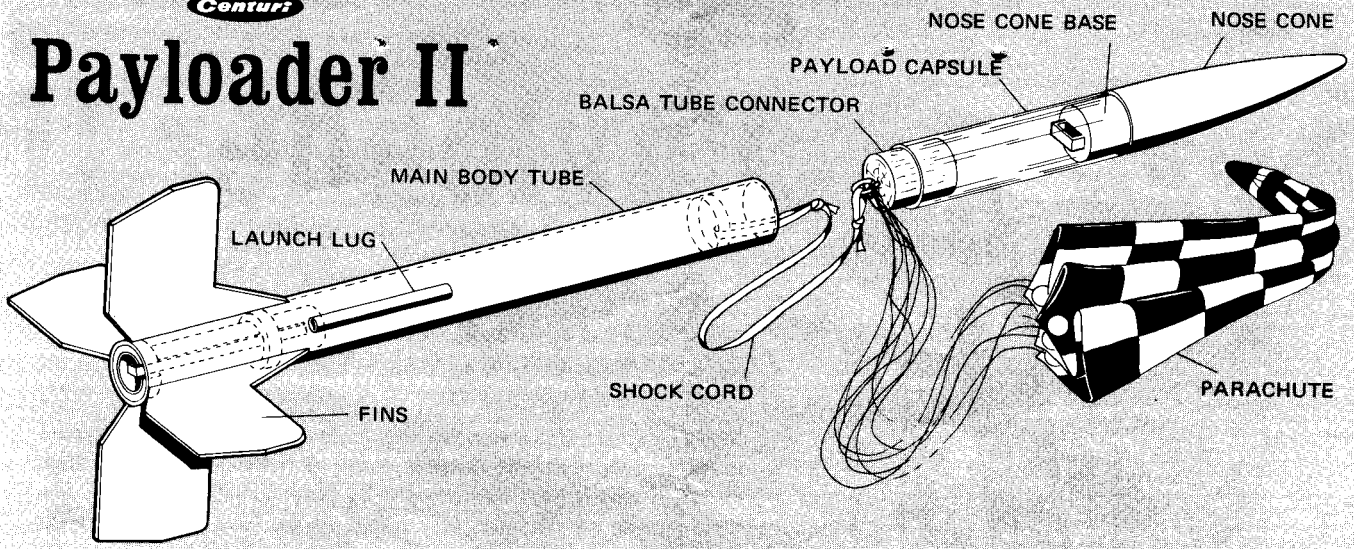
The primary objective in flying a live payload is to study the effects of acceleration, radiation, pressure changes, and sudden shock on living organisms. There is little radiation or pressure change effect at relatively low altitudes achieved by model rockets. However, with the large sounding rockets used by scientific organizations, these effects would be an important object of study.

**TOOLS** - In addition to the parts supplied, you will need the following materials to assemble and finish this kit. **DO NOT** use model airplane glue for building flying model rockets.



**NOTE:** Additional items required to fly the Payloader are: engines, launching platform, chute wadding, firing panel, battery.

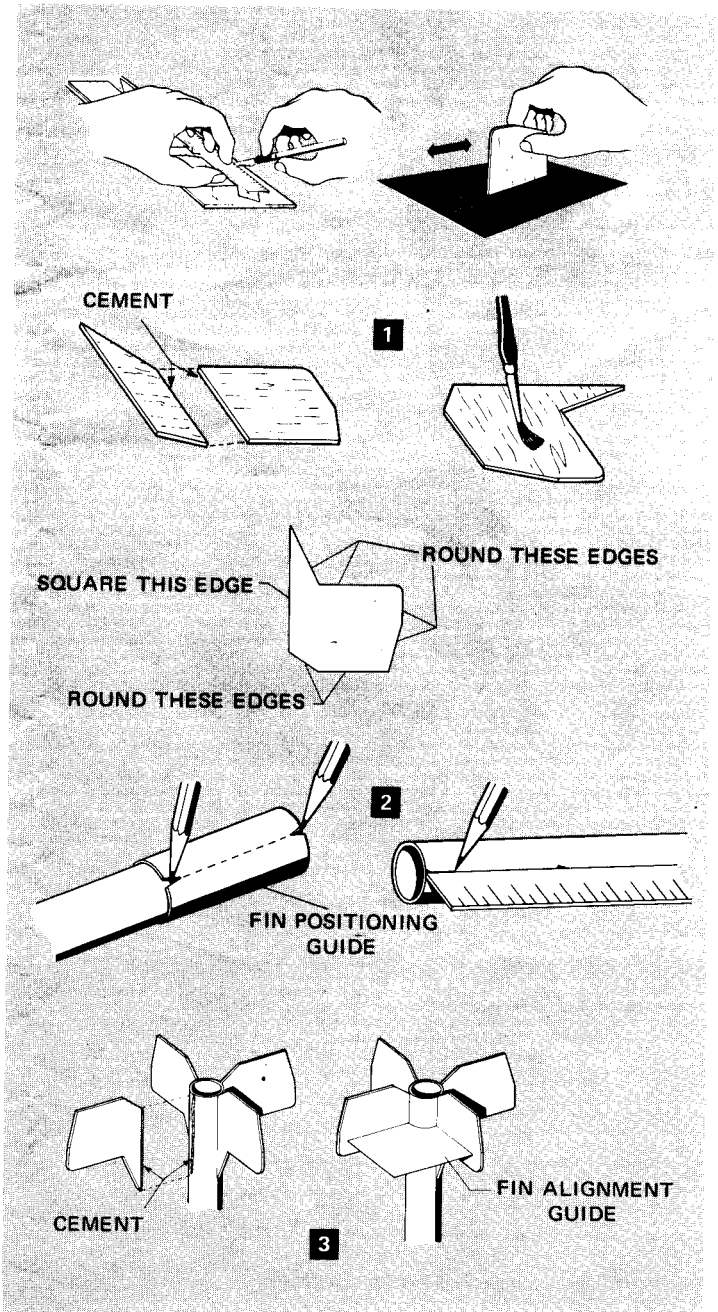
# Payloader II



## ASSEMBLY INSTRUCTIONS

### FIN ASSEMBLY

- 1 Carefully cut out the fins with a sharp knife. Use a metal ruler for a cutting guide. Square up the fin edges by running over a piece of fine sandpaper. Run a bead of cement along the mating edges of fin parts A & B. Allow cement to set for a minute, then press the parts together. Wipe away any excess cement. After all four fins have been completed and the cement has thoroughly dried, round all fin edges except the root edges (which glue to body). Paint the fins with balsa filler coat, allow to dry, then sand lightly with fine sandpaper. Repeat the painting and sanding process until the fins are smooth and all grain line has been filled.



- 2 Wrap the fin positioning guide around the body tube and mark the fin locations. Using a straight edge, draw lines along the body connecting the marks.

- 3 Apply cement to the fin locations on the body tube to the root edges of the fins. Press the fins onto the tube making sure they are parallel with the long axis of the body. Check vertical fin alignment with the fin alignment guide and set the completed assembly aside to dry.

- 4** After the fin assembly has completely dried, run a bead of cement along both sides of each fin-body tube joint. Using the forefinger, smooth the cement into even fillets. Cement the launch lug onto the body. Make sure it is parallel with the body and centered laterally between two of the fins.

### ENGINE TUBE ASSEMBLY

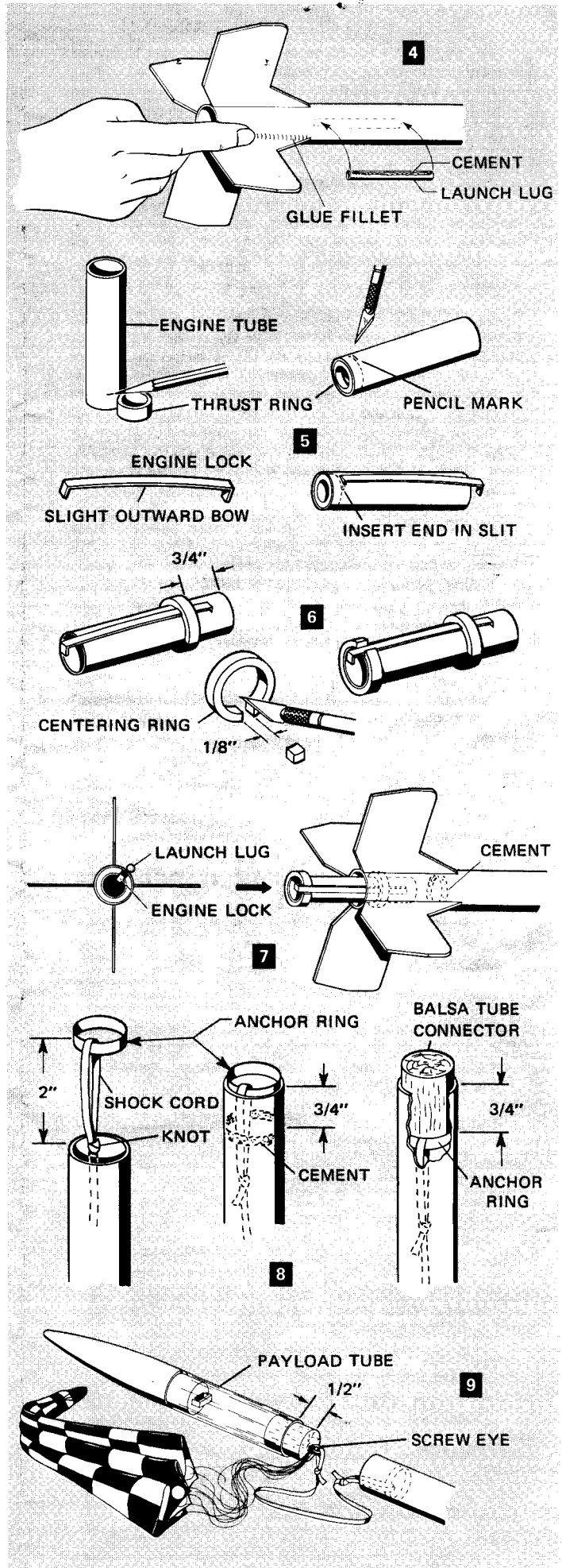
- 5** Place the thrust ring against the engine tube, flush with one end. Mark the tube as shown. Cement the thrust ring into the engine tube (ends flush). Make a short slit in the tube on the pencil mark. Bend the engine lock very slightly so it forms a light bow in the direction indicated. Insert one end of the engine lock into the slit in the tube.
- 6** Run a bead of cement around the engine tube 3/4" from the top (thrust ring) end. Slip one centering ring over the end of the tube and slide down into the cement. This centering ring will hold the engine lock firmly in place and will provide the spring action necessary to release the expended engine. Cut a 1/8" segment from the second centering ring and cement in place flush with the bottom of the tube. Be sure the engine lock is centered in the slot cut in the ring.

- 7** Run a bead of cement around the inside of the body tube at a depth of approx. 1 1/2". Slip the engine mount into the tube and push forward until the rear of the engine tube is flush with the bottom of the body tube. Make sure the engine lock is equidistant between 2 fins (this facilitates engine removal). Smooth a film of cement over the bottom of the engine mount-body tube joint.

### SHOCK CORD AND PARACHUTE ASSEMBLY

- 8** Tie one end of the shock cord around the anchor ring in a loose loop. Run a bead of cement around the inside of the body tube at a depth of about 1/2". Spread the cement out with the finger. Drop the end of the shock cord down into the tube and insert the anchor ring. Using the plastic nose cone base, push the anchor ring down into the tube, embedding it in the cement. Remove the nose cone base immediately.
- 9** NOTE: If you wish to paint your model (and you should), defer this step until after the model has been painted (see next page). If you are going to paint the nose cone use only paints recommended for plastics.

Press the base into the nose cone, engaging the snap ring in the groove in the cone. Socket the nose cone into the payload tube. Press the balsa tube coupler into the opposite end of the payload tube. If necessary, lightly sand the sides of the projecting portion of the balsa tube coupler. It should fit snugly, but not tightly into the main body tube. Thread the screw eye into the base of the connector. Remove, squirt glue into the hole and rethread the screw eye for a permanent mount. Tie the free end of the shock cord to the screw eye. Assemble the parachute according to directions printed on the plastic material. Tie the ends of the shroud line to the screw eye. This completes the assembly.



## FINISHING THE PAYLOADER II

**10** Model rockets are easiest to see at high altitudes if they are painted in bright colors. Black is also often used since it presents a dark silhouette against the sky. Fluorescent paints are highly visible and add an interesting touch to most models.

Spray painting your finished model with a fast-drying enamel will produce the best results. . .IF IT IS DONE PROPERLY!!! Most important is the number of coats of paint. DO NOT try to paint your model with one heavy coat! Instead, give it a couple of quick, light coats first, and THEN a finish coat. Let each coat dry before applying the next. . .gently sanding the fins between coats with very fine sandpaper (400 to 600 grit). DO NOT SAND THE TUBE!!

Stand the rocket in a vertical position on a rod or dowel inserted into the engine tube. Wipe the rocket free of dust and dirt. Start spraying at one end of the rocket (NOT in the middle!). Moving the can up and down with quick, even strokes, passing beyond each end so that when the direction of motion is changed the spray doesn't get too heavy on one spot and cause a run. Hold the can vertical and about 12" away from the model, rotating the rocket slightly after each pass. Be sure to shake the can vigorously before starting to spray.

The finish coat should be applied a little heavier (slower strokes) and have a "wet" look when you're finished painting. Fluorescent paints are not glossy when dry, but can be made to "shine" by rubbing gently with # 600 wet & dry sand paper and spraying with a "clear" coating. If your paint pattern includes a separate color on the nose cone or fins, masking of selected parts will be necessary.

Decals are the easiest and fastest way to "dress up" your model rocket. The decal included with this kit is especially designed for this rocket but also available are many variations shown in the current Centuri catalog.

Dip the decal into water for a few seconds. Slide the decal from the backing paper onto the model rocket in its approximate position. Slide it into its proper position and then rub gently with a wet fingertip to remove any air bubbles.

## LAUNCHING THE PAYLOADER II

**11** The Payloader may be launched with any of the following engines:

B8-3	B14-5
B6-4	C6-5

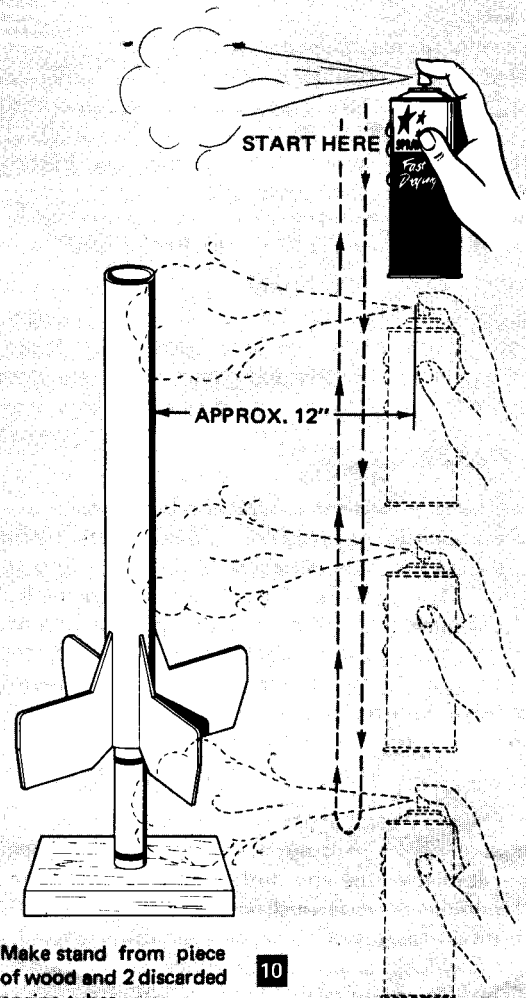
Prepare the Payloader for launching according to the illustrations at right. Note: Complete igniter and engine installation instructions are included in "Engine Operating Instructions", which accompany all Centuri engines.

Referring to the specific instructions which accompany Centuri launchers and firing panels, mount the rocket on the launcher and prepare for ignition.

**REMEMBER:** Safety is the key word and the following safety checks should be adhered to explicitly:

1. Launch only in an open area, well away from main streets, power lines, populated area, and main airline paths.
2. Be sure the firing panel is disarmed before hooking up the engine.
3. Check for low flying aircraft before launching.
4. Give a short countdown to alert spectators.
5. Always keep in mind that a model rocket is a scientific instrument, not a toy.

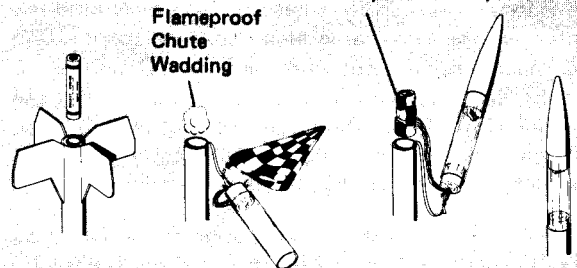
For more information concerning Centuri Model Rocketry Products, see your local hobby dealer. If there is no dealer in your area, write direct to Centuri Engineering Company, Box 1988, Phoenix, Arizona 85001.



Make stand from piece of wood and 2 discarded engine tubes.

**10**

Folded Parachute (See chute instructions. Chute powder will help chute to open.)



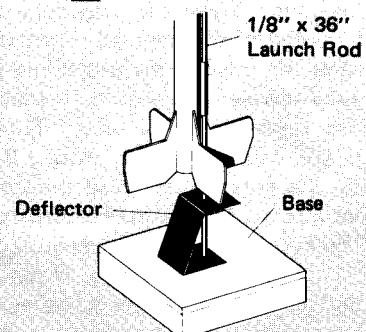
1. INSERT ENGINE

2. INSERT WADDING

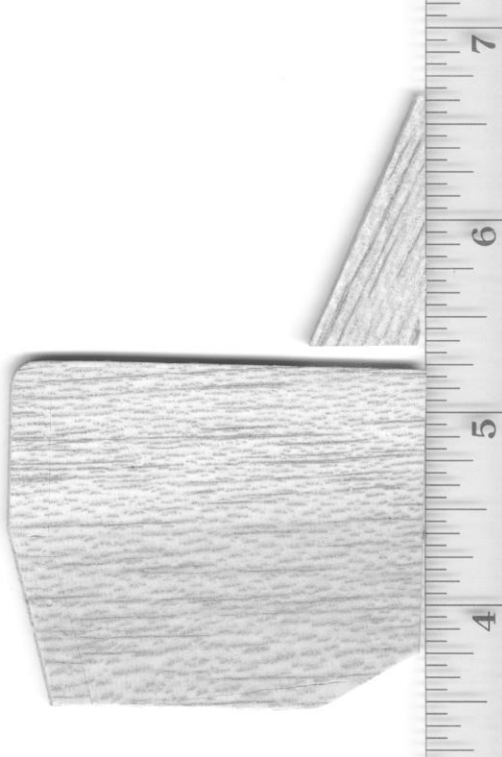
3. INSERT PARACHUTE

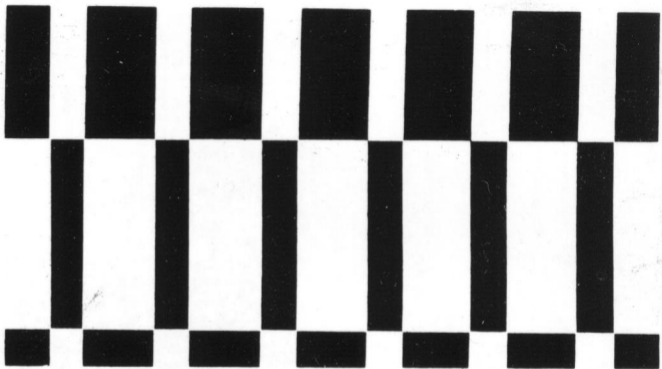
4. ASSEMBLE NOSE CONE

**11**









**Centuri**

**PAYLOADER**

M-345

Payloader II

Main Body Tube  
Payload Section  
Nose Cone

ST-10 = 10.5"  
CPT-10 = 2.5"  
PNC-103 = 4.1"