Centuri

Micro Probe

CARRIER ROCKET

ASSEMBLY INSTRUCTIONS

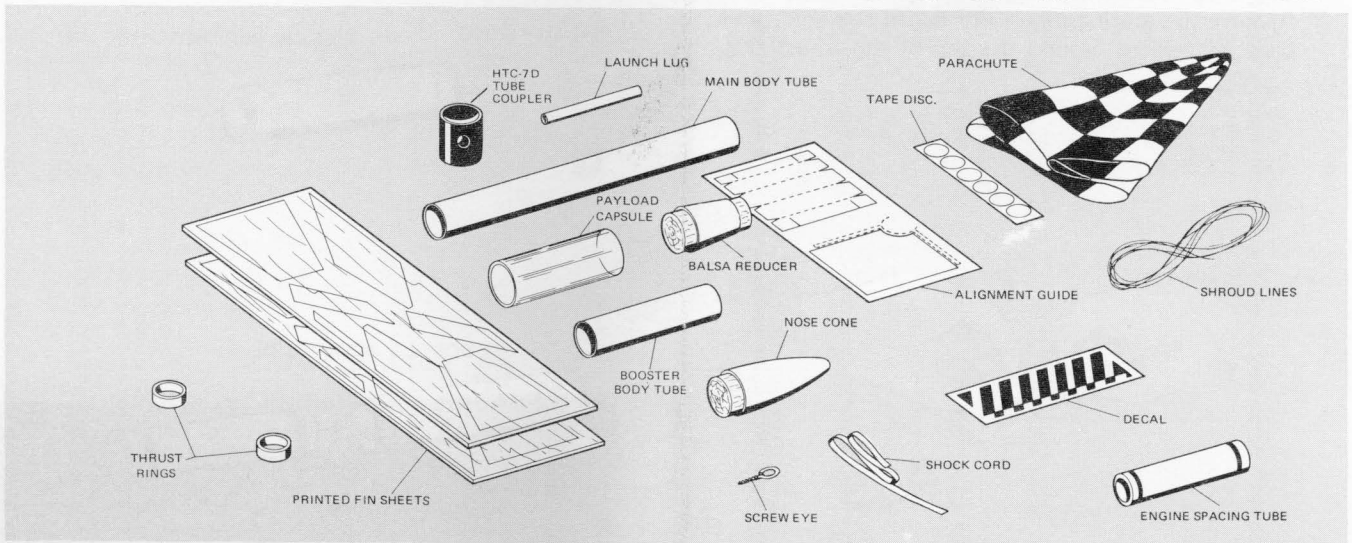
FOLLOW DIRECTIONS CAREFULLY!

CATALOG NO. KB-22

The MICRO PROBE dual stage rocket is capable of boosting payloads (in the clear capsule) to altitudes of well over 1/4 mile high. With light payloads, the MICRO PROBE is equally effective when flown (minus booster) as a single stage rocket.

The theory behind staging is that as the fuel of a booster engine becomes expended, that engine and its attendant superstructure is dropped from the rocket, thereby cutting down on dead weight. Centuri's new PASS-PORT Staging System insures that effective staging takes place without the requirement for special engine preparation. Follow the instructions and take your time. We're sure you will be proud of the results.

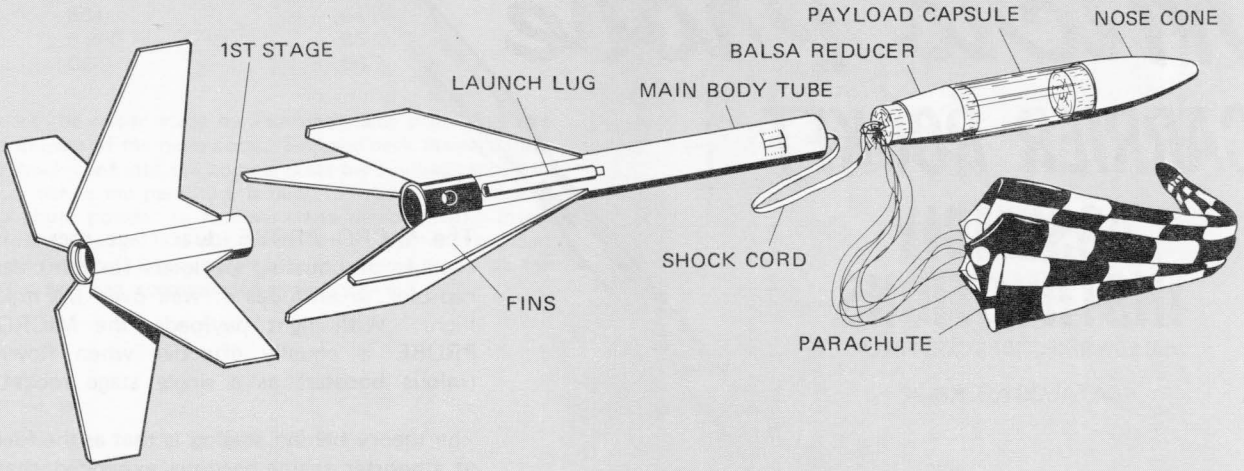
TOOLS: In addition to the parts supplied, you will need the following materials to assemble and finish this kit. DO NOT use model airplane glue for building flying model rockets.



NOTE: Items not included in kit but required to fly the Micro Probe are: engines, launching platform, chute wadding, firing panel, and battery.

Centuri

Micro Probe

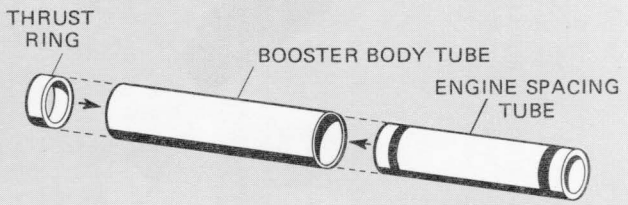


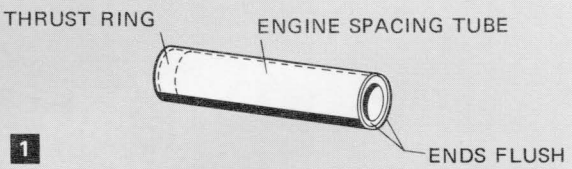
ASSEMBLY INSTRUCTIONS

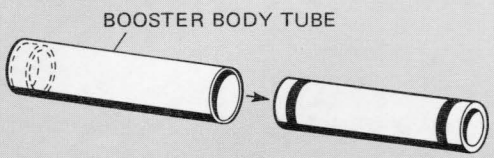
The Centuri PASS-PORT Staging System* is designed to provide maximum dependability in ignition and separation of multi-stage models. At the same time, it eliminates the need to tape the engines together.

BOOSTER ASSEMBLY

1 Place the engine spacing tube into the booster body tube flush with one end. Place cement on the edges of one thrust ring and insert into the end of the booster body tube, butting the thrust ring against the spacing tube. This will correctly position the thrust ring 1/16" inside the end of the booster body tube. Remove the spacing tube. For added strength, run a bead of cement around the top of the thrust ring.



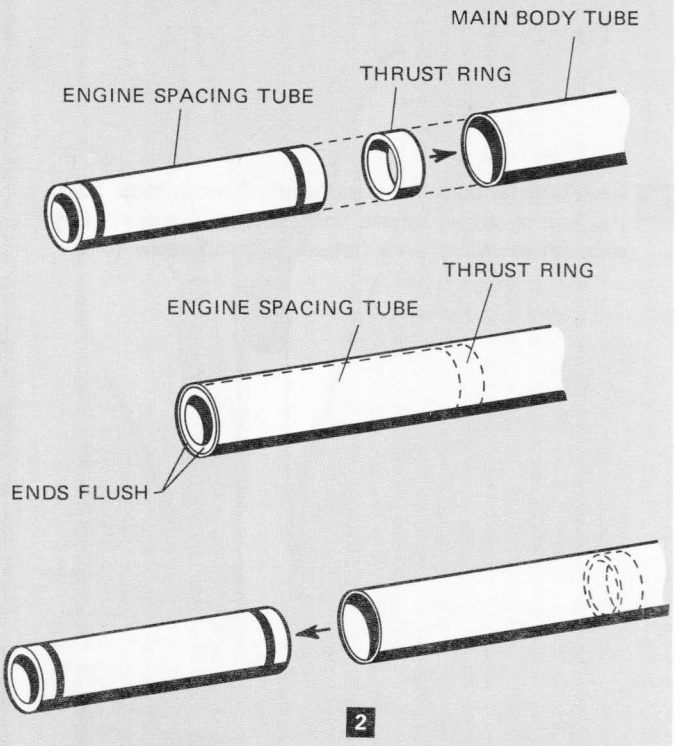




*PATENT PENDING

2ND STAGE ASSEMBLY

2 Using a pencil or stick, place a bead of cement on the inside of the main body tube approximately 2 3/4" from one end. Insert the thrust ring into the tube. Using the engine spacing tube push the thrust ring into the tube until the spacing tube is flush with the end of the body tube.



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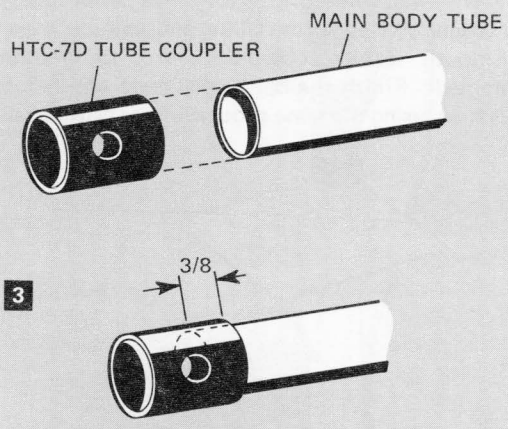
3 Cement the HTC-7D tube coupler onto the bottom end of the main body tube.



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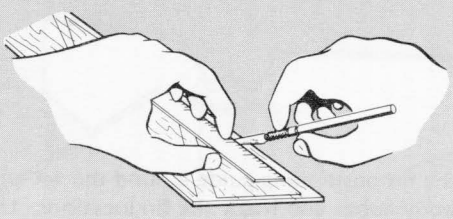
FIN ASSEMBLY

4 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.



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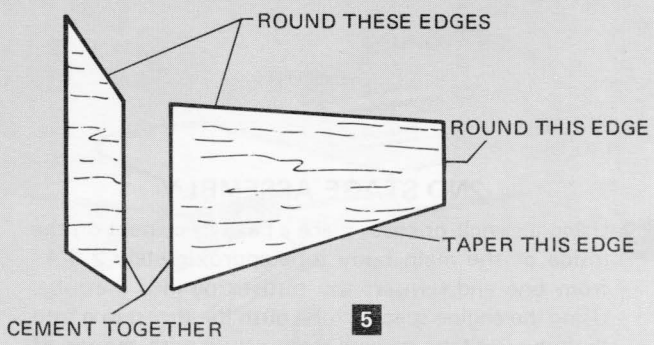
5 Each booster body fin is made up of two pieces. Sand the joining edges square and cement together. Lay each fin assembly on a flat surface and allow to dry.



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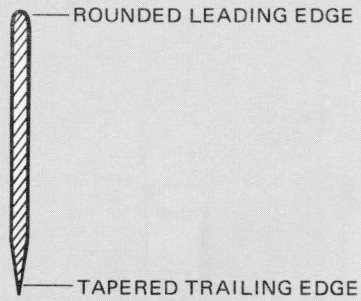
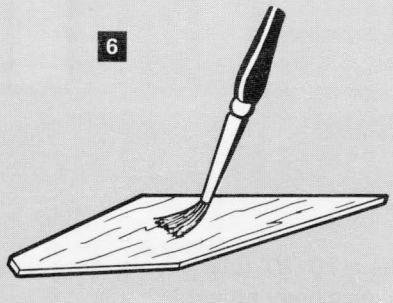


6 Round the leading and tip edges and taper the trailing edges. Lightly sand the faces of the fins. Coat the fins with balsa fillercoat, allow to dry thoroughly and sand lightly. Repeat the filling and sanding steps until a smooth surface, completely free of grainline, is obtained. Finish the balsa nose cone and reducer at this time, using the same proceedure as outlined above.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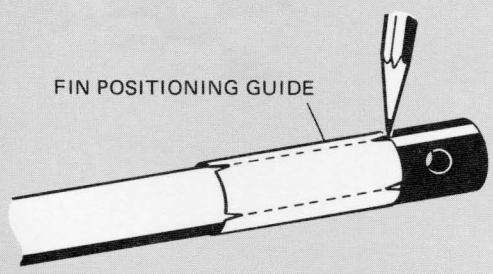
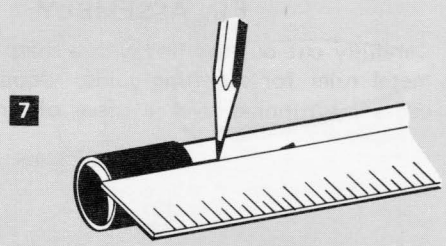


7 Wrap the fin positioning guide around the 1st and 2nd stage body tubes and mark the fin locations. Using a ruler, draw lines connecting the marks.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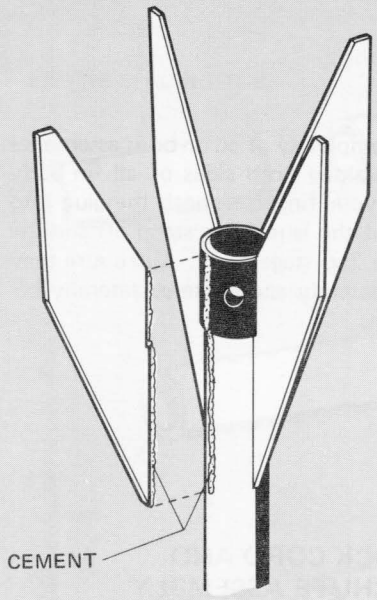
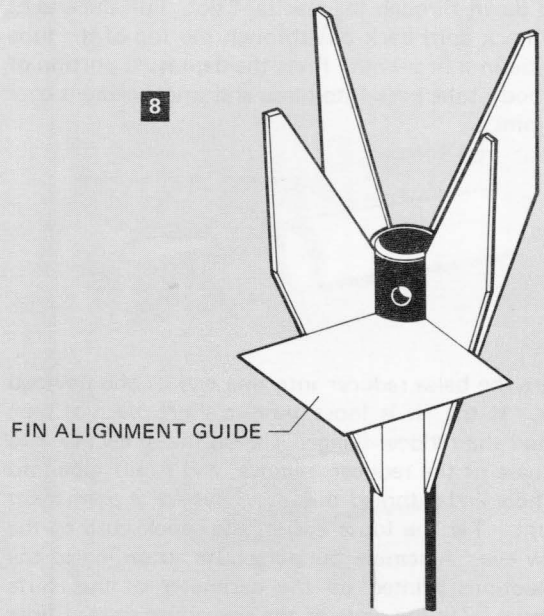
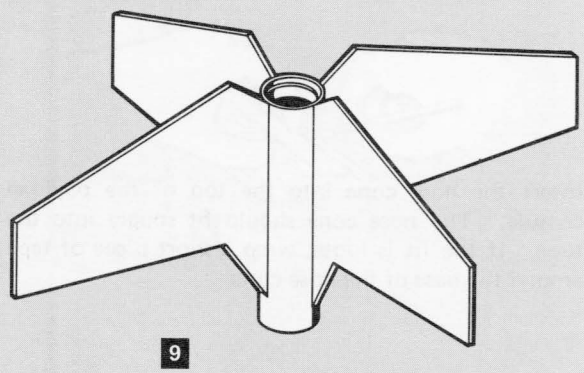
8 Cut a 1" long notch into the root edges of the 2nd stage fins to obtain an even fit against the coupler and body tube area. Apply cement to the fin locations on the main body tube and to the root edges of the 2nd stage fins. Press the fins in place, making sure they are parallel with the long axis of the body. Check vertical fin alignment with the fin alignment guide. Set the assembly aside to dry.

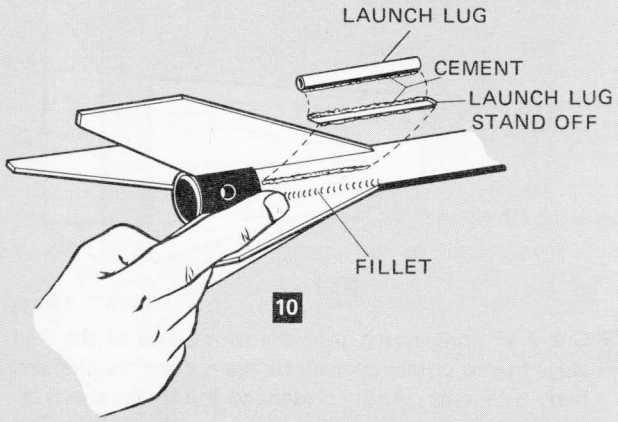




9 Cement the booster fins in place in the manner outlined above.



10 After the glue has completely dried on both assemblies run a bead of glue along both sides of all fin body tube joints. Using your finger, smooth the glue into even fillets. Cement the launch lug stand off and the launch lug onto the 2nd stage body. Make sure they are parallel with the body and centered laterally between two of the fins.



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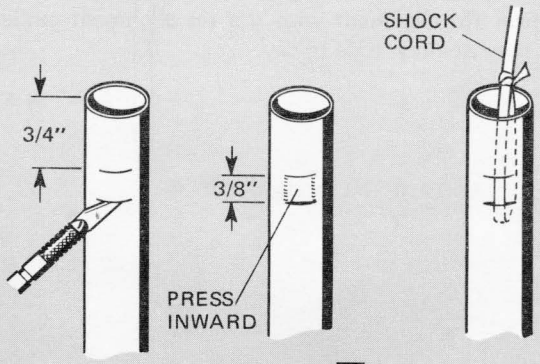
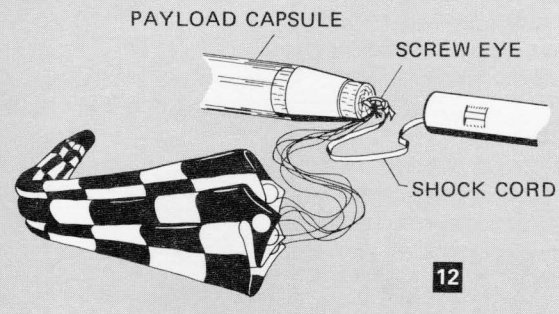
SHOCK CORD AND PARACHUTE ASSEMBLY

11 Cut two slits in the top of the body tube. Press the indicated area of the tube inward and drop the shock cord down through the resultant slot. Pull the end of the shock cord back out through the top of the tube and tie in a firm knot. Press the depressed portion of the body tube back into place and smear cement over the joint.



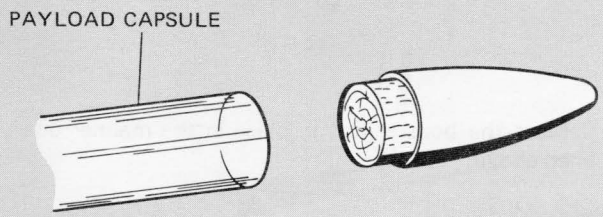
11

12 Insert the balsa reducer into one end of the payload tube. If the fit is loose, wrap a short piece of tape around the reducer flange. Thread the screw eye into the base of the reducer, remove, and squirt glue into the hole and rethread the screw eye for a permanent mount. Tie the loose end of the shock cord to the screw eye. Assemble the parachute according to the instructions printed on the perimeter of the chute material. Tie the ends of the parachute shroud lines to the screw eye.



12

13 Insert the nose cone into the top of the payload capsule. The nose cone should fit snugly into the tube. If the fit is loose, wrap a short piece of tape around the base of the nose cone.



13

FINISHING THE MICRO PROBE

14 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.

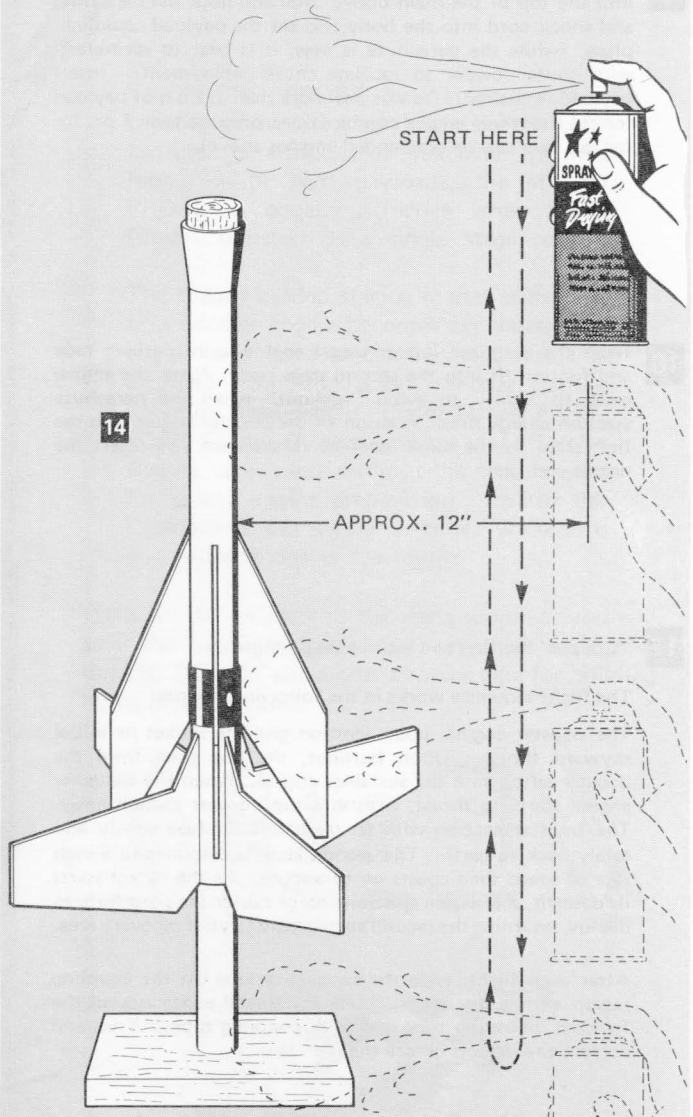
Spray painting your finished model with a fast-drying enamel will produce the best results... IF IT IS DONE PROPERLY!!! Most important is the number of coats of paint. DO NOT try to paint your model with one heavy coat! Instead, give it a couple of quick, light coats first, and THEN a finish coat. Let 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 sandpaper 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.



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

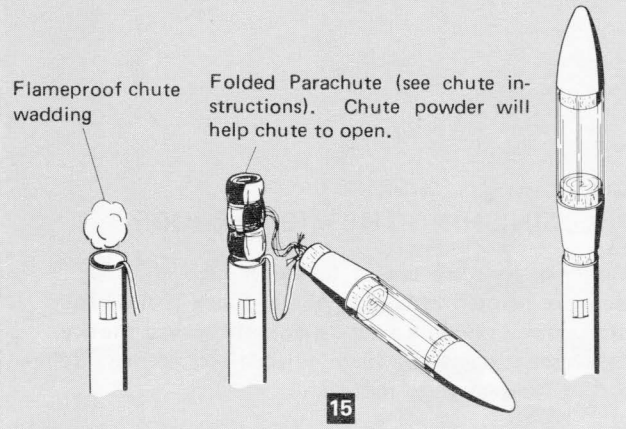
Paint nose cone separately.

LAUNCHING THE MICRO PROBE

The Micro Probe can be launched with any of the following engine combinations:

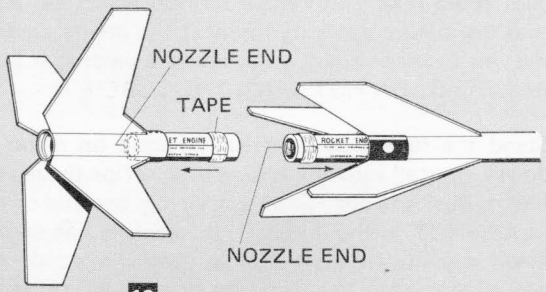
BOOSTER (1st Stage)	SUSTAINER (2nd Stage)
1/2A6-0	1/2A6-4
A8-0	A5-4
B6-0	B4-6
B14-0	B6-6
C6-0	C6-7

15 Prepare the upper stage by inserting flame proof wadding into the top of the main body. Roll and pack the parachute and shock cord into the body and set the payload capsule in place, (while the parachute is new, it is best to sprinkle it with chute powder to faciliate chute deployment). Insert payload if desired. Do not use more than 1/2 oz. of payload for the first three engine combinations, or more than 1 oz. for the last two (see recommended engines above).



15

16 Wrap the sustainer (upper stage) engine with masking tape and friction fit into the second stage body. Note, the engine must fit tightly to avoid "kickout" when the parachute ejection charge fires. Friction fit the booster engine into the first stage in the same manner. Make sure you insert the nozzle end first.

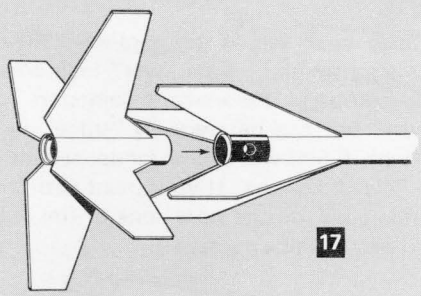


16

17 "Couple" the first and second stages together.

The flight sequence works in the following manner:

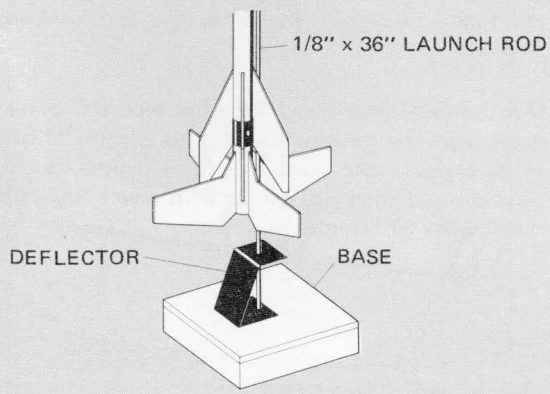
The booster engine, upon ignition give the rocket its initial skyward thrust. Upon burnout, the hot gases from the booster auto-ignite the sustainer engine. When the sustainer engine starts to thrust, it pushes the booster section away. The booster section with its large fins tumbles slowly and safely back to earth. The second stage accelerates to a high rate of speed then coasts on to apogee. As the rocket starts its descent, the engine ejection charge causes the parachute to deploy, returning the second stage gently to your recovery area.


17

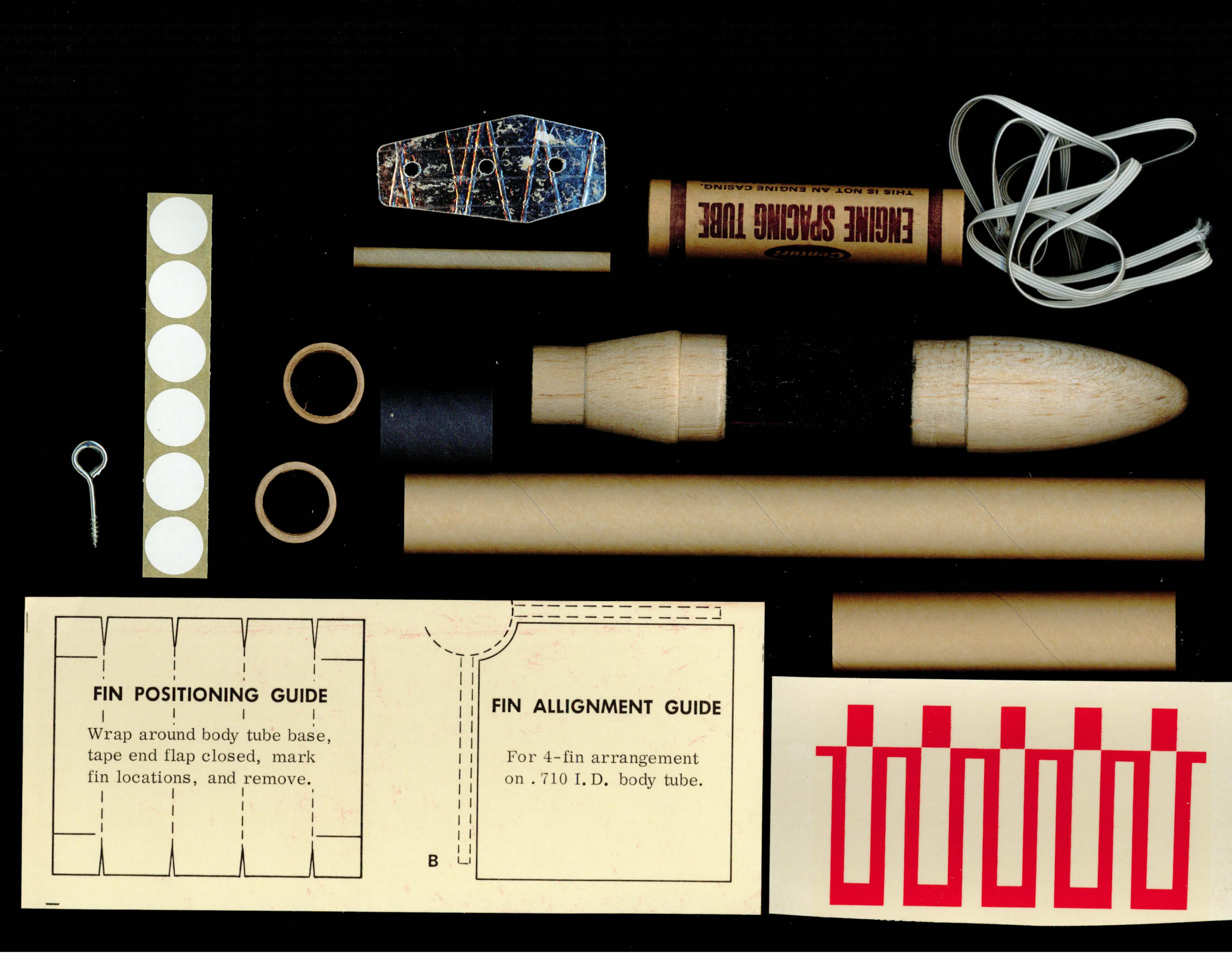
After each flight, wipe the exhaust residue off the coupling region with a dry cloth. Look for frayed edges around the froward mounting tube and both coupling tubes. Trim and correct any defects before the next launch.

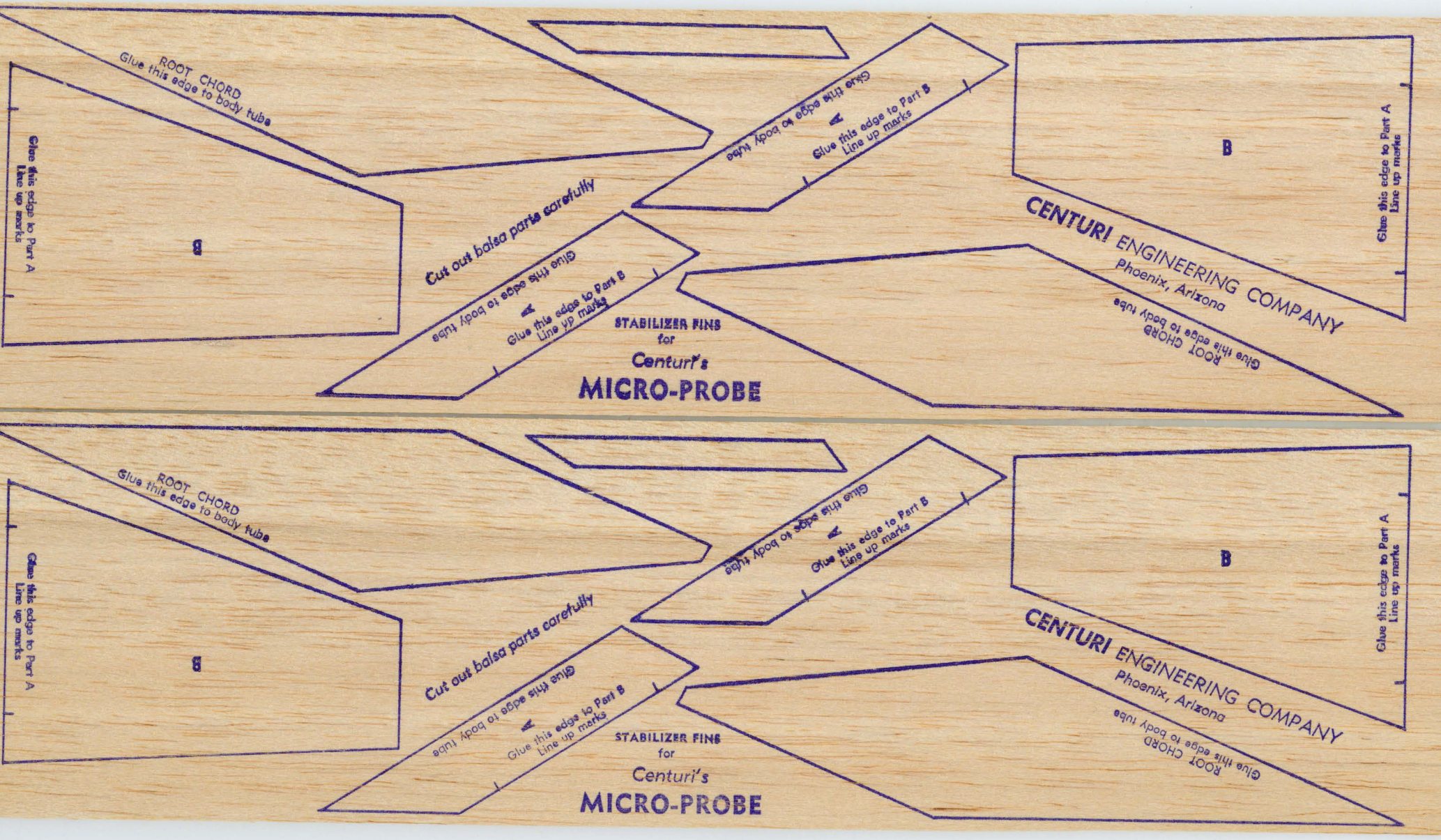
Launch the Micro Probe from a 1/8" dia. x 36" long launching rod. Use electrical ignition only, as outlined in the engine operating instructions. The following safety checks should be adhered to explicitly:

1. Launch in an open area, well away from main streets, powerlines, pedestrians, traffic, and airport approach paths.
2. Be sure the firing panel is disarmed and battery leads disconnected before wiring 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, you may address inquiries directly to: Centuri Engineering Company, Box 1988, Phoenix, Arizona 85001.


ENGINE SPACING TUBE
THIS IS NOT AN ENGINE CASING.
FIN POSITIONING GUIDE
Wrap around body tube base, tape end flap closed, mark fin locations, and remove.
B
FIN ALLIGNMENT GUIDE
For 4-fin arrangement on .710 I.D. body tube.



ROOT CHORD
Glue this edge to body tube
Glue this edge to Part A
Line up marks
B
Cut out balsa parts carefully
Glue this edge to body tube
Glue this edge to Part B
Line up marks
STABILIZER FINS
for
Centuri's
MICRO-PROBE
CENTURI ENGINEERING COMPANY
Phoenix, Arizona
ROOT CHORD
Glue this edge to body tube
B
Glue this edge to Part A
Line up marks