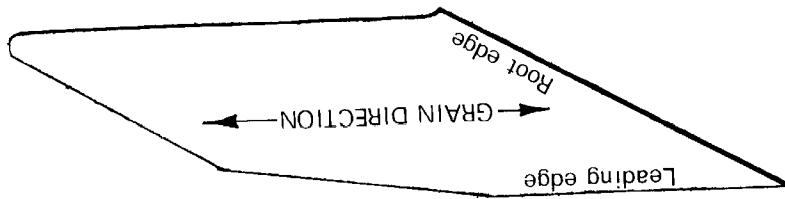




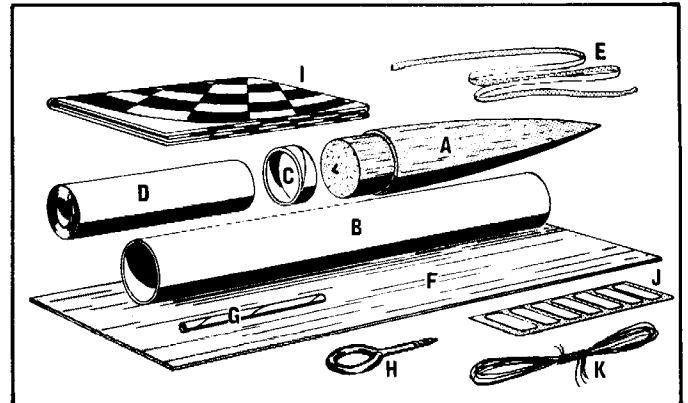


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ESTES INDUSTRIES
 PENROSE, COLO. 81240



Your **ASTRON SKY HOOK** kit contains the following parts as illustrated at the right and as listed below. Check to be sure your kit is complete then read the entire instruction sheet, familiarizing yourself with parts names and assembly procedure before beginning actual assembly of your rocket.

- | | | |
|----|------------------|------------------|
| A) | Nose Cone | Part No. BNC-30N |
| B) | Body Tube | Part No. BT-30F |
| C) | Engine Block | Part No. EB-30A |
| D) | Engine Casing | Part No. EC-2 |
| E) | Shock Cord | Part No. SC-1B |
| F) | Balsa Fin Stock | Part No. BFS-20 |
| G) | Launching Lug | Part No. LL-1B |
| H) | Screw Eye | Part No. SE-1 |
| I) | Parachute | Part No. PK-12A |
| J) | Tape Strips | Part No. TD-2(7) |
| K) | Shroud Line Cord | Part No. SLT-12 |



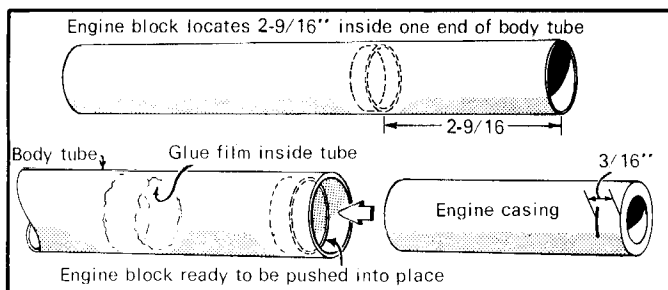
NOTE: The engine casing provided with this kit is one which has been rejected as unsuitable for use in the construction of a rocket engine. It is provided as a measuring device only, and is not suitable for any other use. A live engine is not included with the kit because many of the kits will be sold in countries or areas which prohibit the flying of rockets.

In addition to the materials included with your kit you will need the following tools and supplies:

1. A single edge razor blade or modelers knife.
2. Extra strong cement. (White glue such as Estes WG-1 is recommended.)
3. Fine and extra fine sandpaper.
4. A ball point pen or pencil.

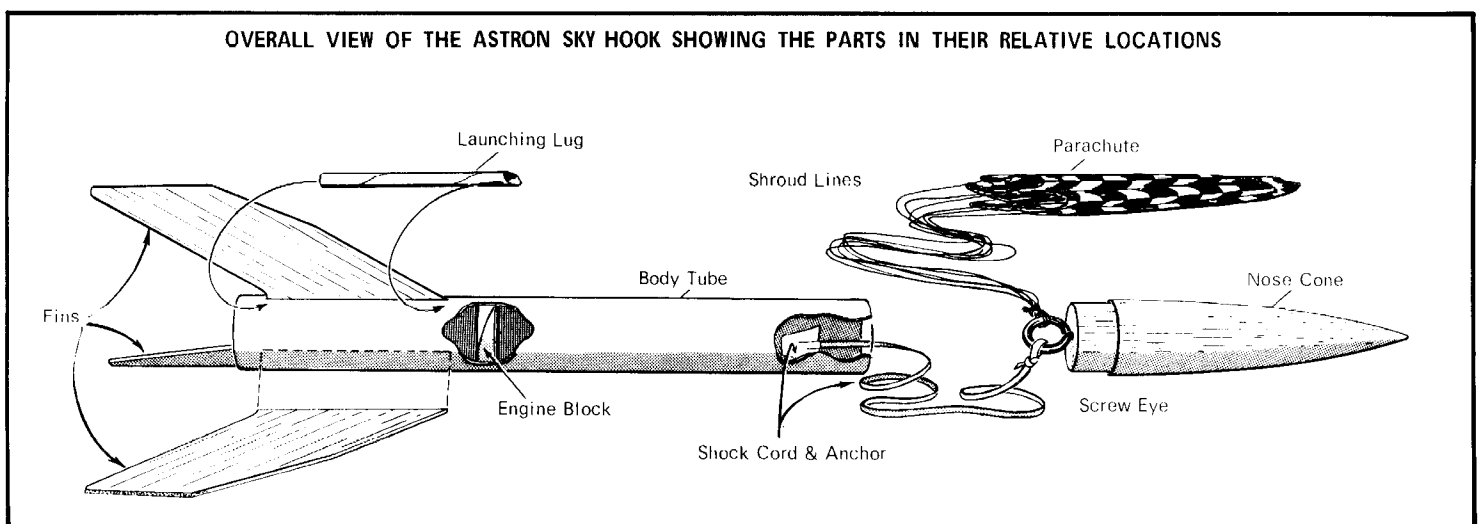
ASSEMBLING THE MAIN BODY UNIT

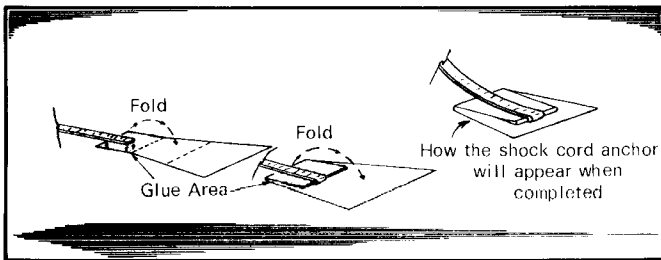
1. Fit the nose cone first. Insert the nose cone into one end of the body tube. The nose cone should fit snugly enough so that it will be held in straight alignment, but loose enough so that only slight pressure is necessary to remove it. If it is too tight, sand the shoulder slightly. If the fit is too loose, wrap the shoulder with masking tape to bring it to a proper fit. Remove the nose cone and set it aside to use later in final assembly.



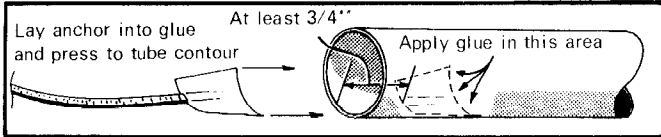
2. The engine block is to be placed 2-9/16" from the rear of the rocket body. Mark the empty engine casing exactly 3/16" from one end and set it aside for a moment. Put a large dab of glue near the end of your little finger (or use a brush if you prefer) and spread the glue around the inside of the tube as far up as your finger will reach. Try not to get any glue near the very end of the tube or the engine block may "freeze" in the wrong place as you attempt to put it in place. Carefully insert the engine block just inside the end of the tube in which you have just spread the glue. Put the engine casing just marked against the engine block and push it forward into the tube until the mark on the casing is just even with the rear edge of the tube. The engine block will pick up enough glue as it passes up into place to anchor it in place securely. CAUTION: Once you have started to push the block forward, DO NOT stop until it is in place.

3. Cut out the shock cord mount and prefold on the dotted lines. Lay the mount out flat, apply glue to section I and lay the end of the shock cord into the glue. Fold this section over as

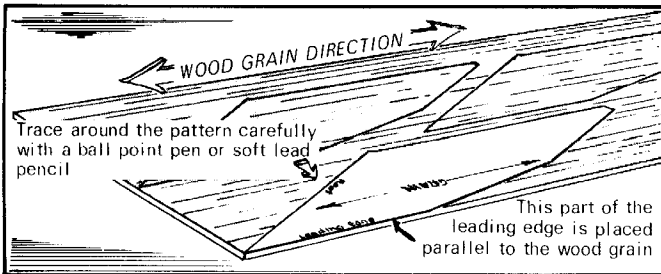




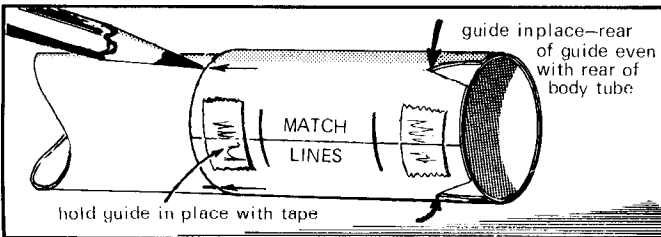
shown above. Spread glue over the back of the first section and the exposed part of the second fold. Lay the shock cord as shown and make the second fold.



4. Apply glue to the inside of the front end of the body tube about 3/4" in from the end. Lay the shock cord mount on the glue and press it to the shape of the tube.

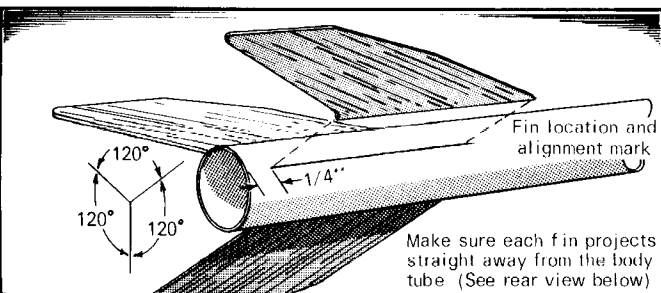


5. Cut out the fin pattern. Trace around it onto the balsa fin stock and cut out three identical fins. Be careful to align the grain of the balsa wood as shown by the grain direction arrow on the pattern. The leading, tip and trailing edges of each fin are to be sanded round, while the root edges are to be sanded flat. Save the remaining balsa fin stock for replacement of broken or damaged fins at a later date.

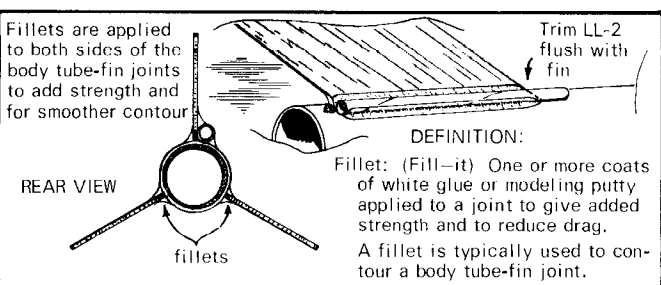


6. Cut out the body tube marking guide. Wrap it around the rear end (the end into which you put the engine block) of the body tube so the arrow points are toward the front end of the tube—the rear edge flush with the rear edge of the tube as shown. Mark the tube at each of the six arrow points. Connect each pair of marks with a straight line.

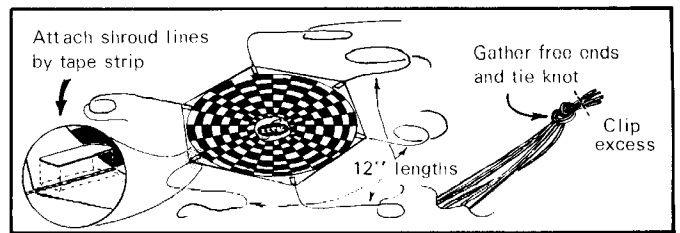
Glue on the Fins



7. Apply glue to the root edge of one fin and place it on one of the guide lines drawn in step 6. The rear tip of the root edge should be 1/4" from the rear edge of the tube. The fin should stick straight out from the body tube with the root edge parallel to the centerline (an imaginary line through the tube center, lengthwise) of the body tube. Repeat this step with the other two fins.

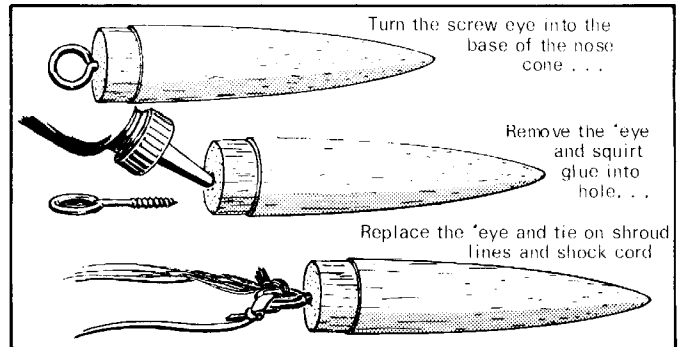


8. Glue the launching lug to a fin-body tube joint as seen in the illustration above. After the glue has set, spread a fillet of glue on each side of the launching lug and along the length of each fin-tube joint that remains exposed. Spread the glue to smooth contour along both sides of each fin and along the launching lug—then set the model aside to dry, supporting it horizontally until all fillets have dried nearly clear. You may proceed through steps 9 and 10 while waiting on the assembly to dry.



9. Cut out the parachute on its edge lines and lay it out on a flat surface with the printed side up. Cut six 12" lengths of the shroud line cord. Attach one cord to each of the six corners of the chute as shown by laying the end of the cord on the corner and pressing a tape strip down over it. Tie the free ends of the six cords together.

Final Assembly



10. Turn the screw eye into the center of the base of the nose cone—unscrew it, and squirt glue into the hole. Reinstall the screw eye and wipe off any excess glue. Tie the free end of the shock cord to the screw eye. Also tie on the gathered ends of the shroud lines. Refer to step 10 in the countdown check list and fold the chute, stow the shroud lines and shock cord, and insert the nose cone—preparatory to working through the painting steps to follow.

Sand 'n Paint

11. Using extra fine sandpaper, sand all balsa surfaces until smooth. Coat these surfaces with white paint or sanding sealer and sand again with extra fine grit sandpaper. The smoother the surface of the rocket, the better it will fly.

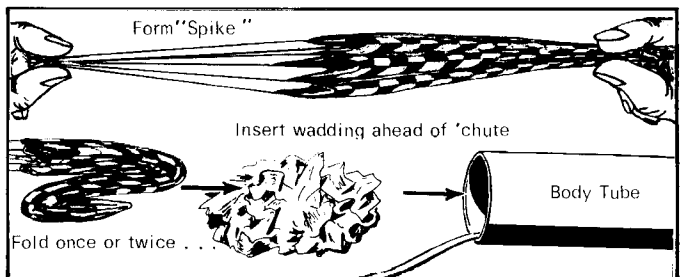
12. Give the rocket a clean base coat of glossy white paint or dope, then give it a bright final coat of red, fluorescent orange or cerise to make it more visible in flight.

Flying Tips

The engine types recommended for use in this model are the 1/2A6-2, A5-4, B4-4, B6-6 and the C6-7. For the first test flights the 1/2A6-2 engine should be used. This rocket should be flown only on calm days, as it will drift a considerable distance in a light breeze. Launch your rocket using a standard electrical system with a 1/8" diameter guide rod at least 36" long.

Countdown Check List

11. Pack flame resistant wadding into the body of the rocket from the front. (Three squares should do.)



10. Form the parachute into a "spike", then fold it over once or twice and shove it into the body tube on top of the wadding. Roll up the shock cord and shroud lines and pack them in on top of the parachute. Slide the nose cone into place.

9. Install an electrical igniter in the engine you have chosen according to the instructions that came with the engine. Slide the engine into place.

8. Place the rocket on the launching rod. Check to be sure the panel is disarmed. Clean the micro-clips and attach them to the igniter leads.

7. Clear the area. Alert the tracking and recovery crew—check for low flying aircraft.

6. Arm the launch panel and begin your final countdown...

5 4 3 2 1 LAUNCH!