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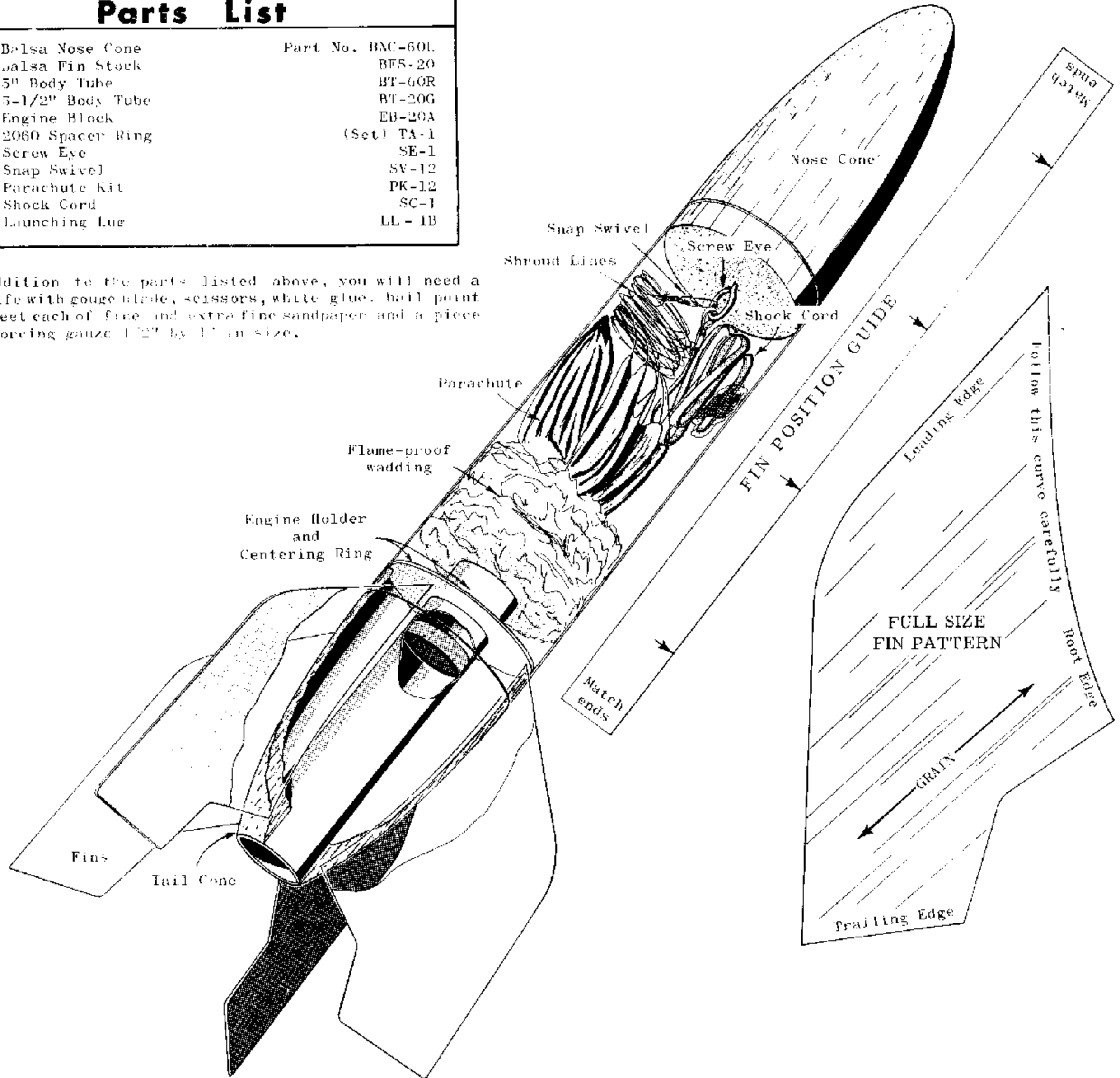
# Estes Industries Rocket Plan No. 34

## WHEE II

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Parts List	
2 Balsa Nose Cone	Part No. BNC-60L
2 Balsa Fin Stock	BFS-20
1 5" Body Tube	BT-60R
1 5-1/2" Body Tube	BT-20G
1 Engine Block	EB-20A
1 2060 Spacer Ring	(Set) TA-1
1 Screw Eye	SE-1
1 Snap Swivel	SV-12
1 Parachute Kit	PK-12
1 Shock Cord	SC-1
1 Launching Lug	LL-1B

In addition to the parts listed above, you will need a model knife with gouge blade, scissors, white glue, ball point pen, 1 sheet each of fine and extra fine sandpaper and a piece of reinforcing gauze 12" by 12" in size.



**1.**

Locate Tip Center

Tail Cone

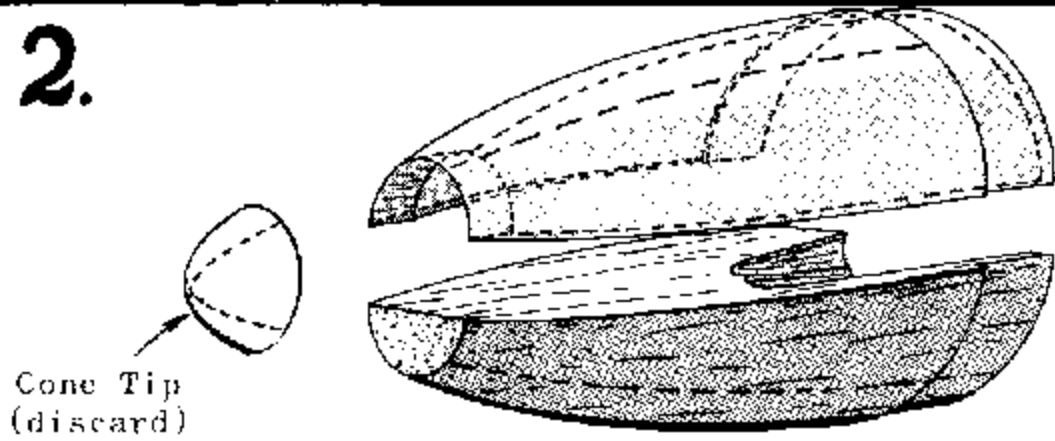
5" Body Tube

Insert one nose cone in the 5" body tube and wrap the fin position guide with arrows pointing to the tip of the cone as shown. Locate the center of the cone tip and draw a line from each arrow through this point as shown. Center the engine tube over the tip of the cone and mark all the way around as shown on the right.

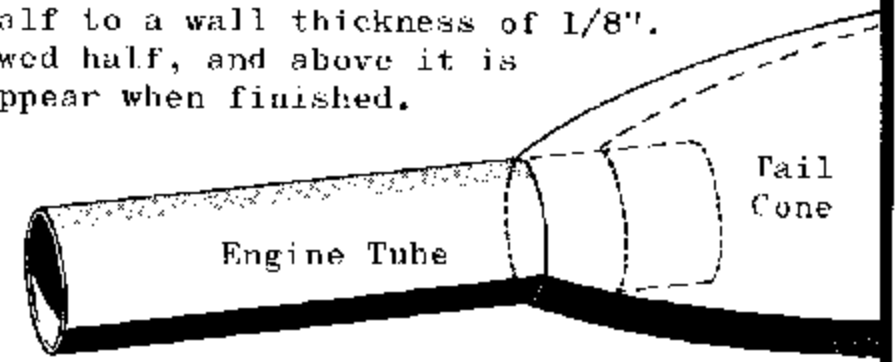
5-1/2" Engine Tube

Mark all the way around

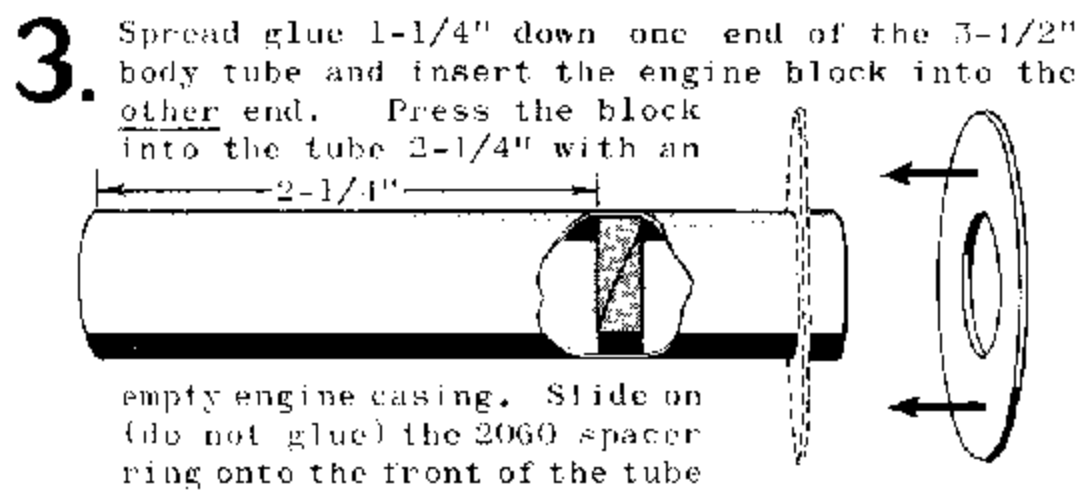
2.



Cut away the tip of the cone and discard. Split the cone for hollowing and carefully gouge each half to a wall thickness of 1/8". At left is seen a partly hollowed half, and above it is shown how both pieces should appear when finished. Glue the pieces together. Use the small tube as a size gauge and finish the engine tube outlet to be a slide fit. Tape the tube or sand the opening to accomplish this fit.

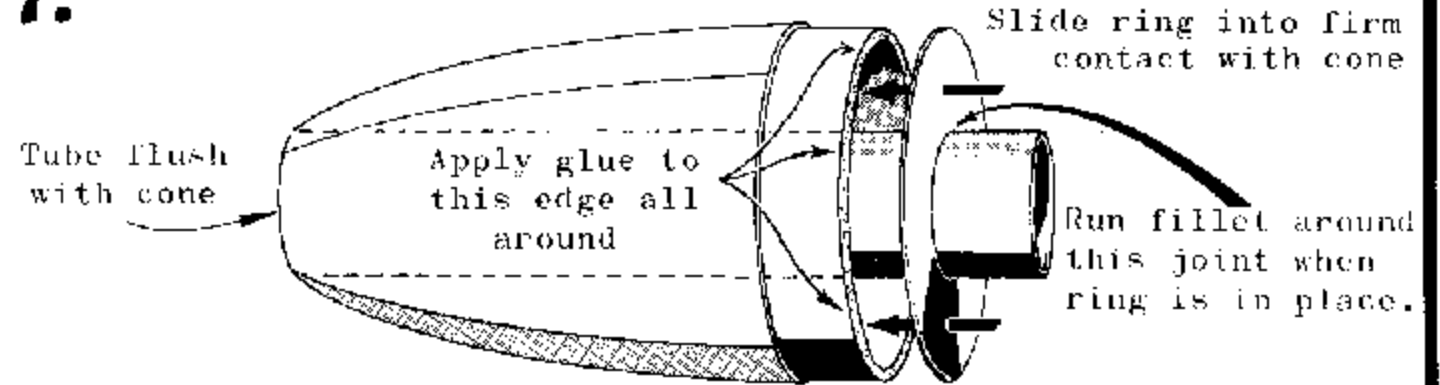


3.



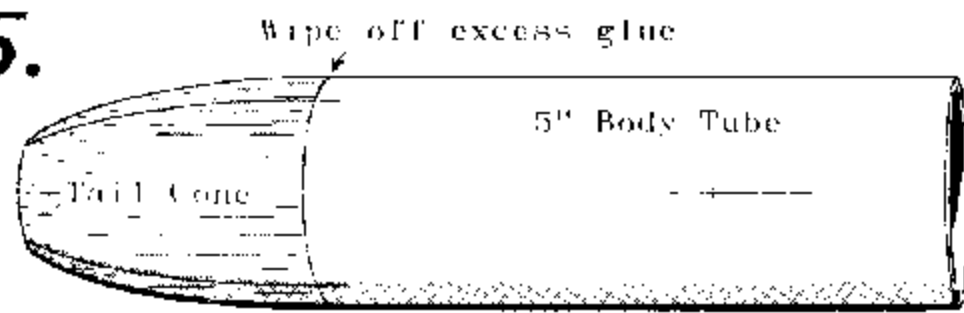
Spread glue 1-1/4" down one end of the 3-1/2" body tube and insert the engine block into the other end. Press the block into the tube 2-1/4" with an empty engine casing. Slide on (do not glue) the 2060 spacer ring onto the front of the tube

4.



Slide ring into firm contact with cone. Apply glue to this edge all around. Run fillet around this joint when ring is in place. Spread glue inside the tail cone at the engine tube outlet. Slide the tube into place fitting the end flush with the end of the cone. Spread a line of glue around the front of the cone and slide the 2060 ring into contact. Center the forward end of the engine tube in the tail cone with this ring.

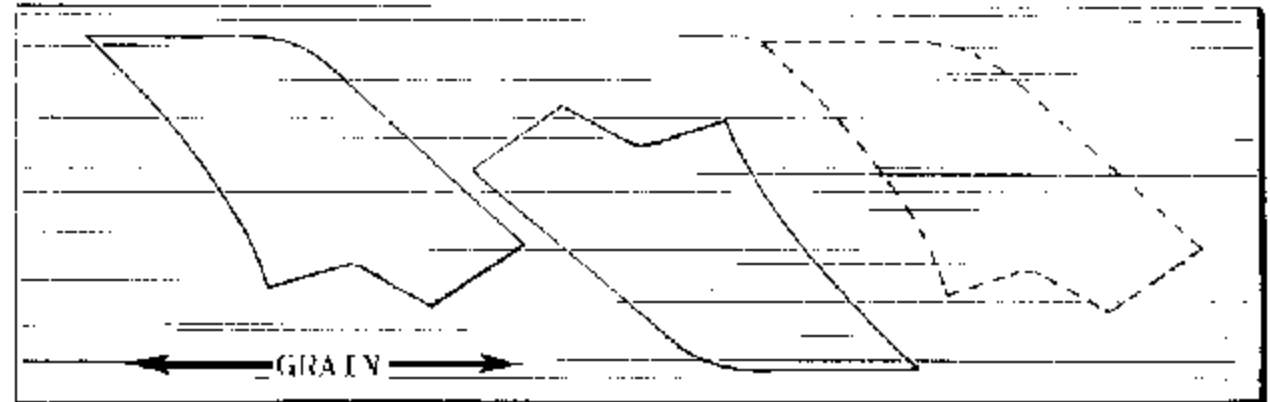
5.



Wipe off excess glue. Apply glue inside one end of the 5" body tube and install the tail cone assembly. Draw a guide line midway between fin locations for the launching lug. Draw a small mark 1-5/4" from the forward end of the tube to show where the front of the lug will locate.

6.

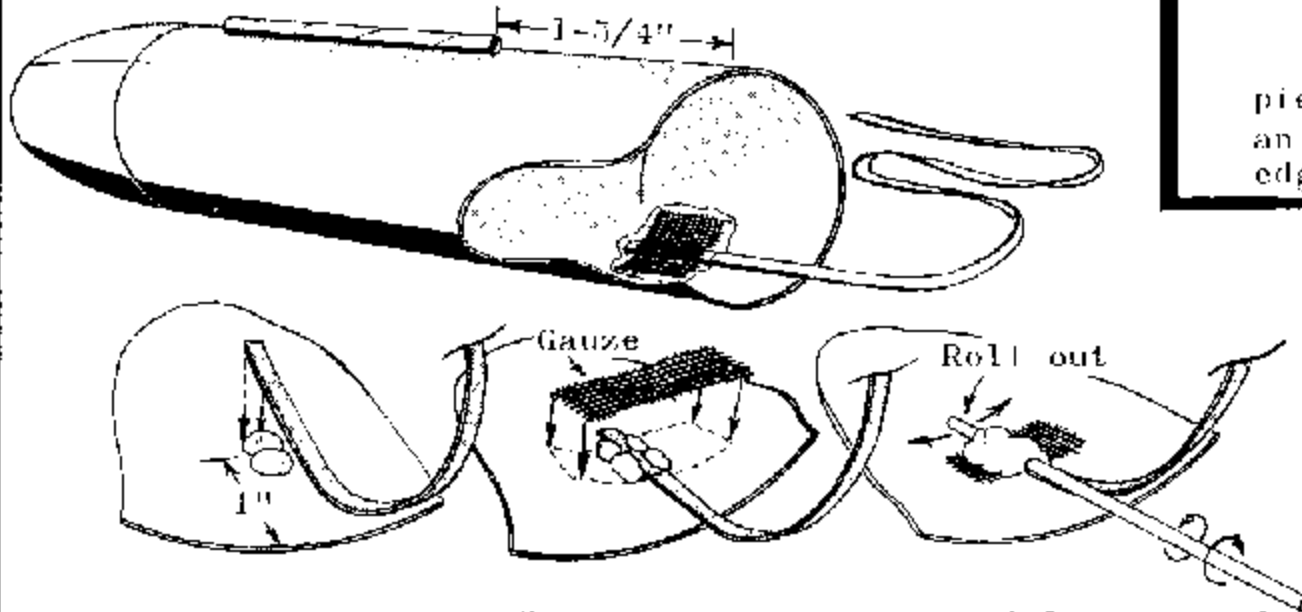
Trace the fin pattern onto stiff paper. Lay the template on the finstock as shown and carefully trace two fins on each



piece. You'll have spare wood for two more fins in case of an accident. Carefully cut out and sand the fins. Make all edges round except the root which will be fitted later.

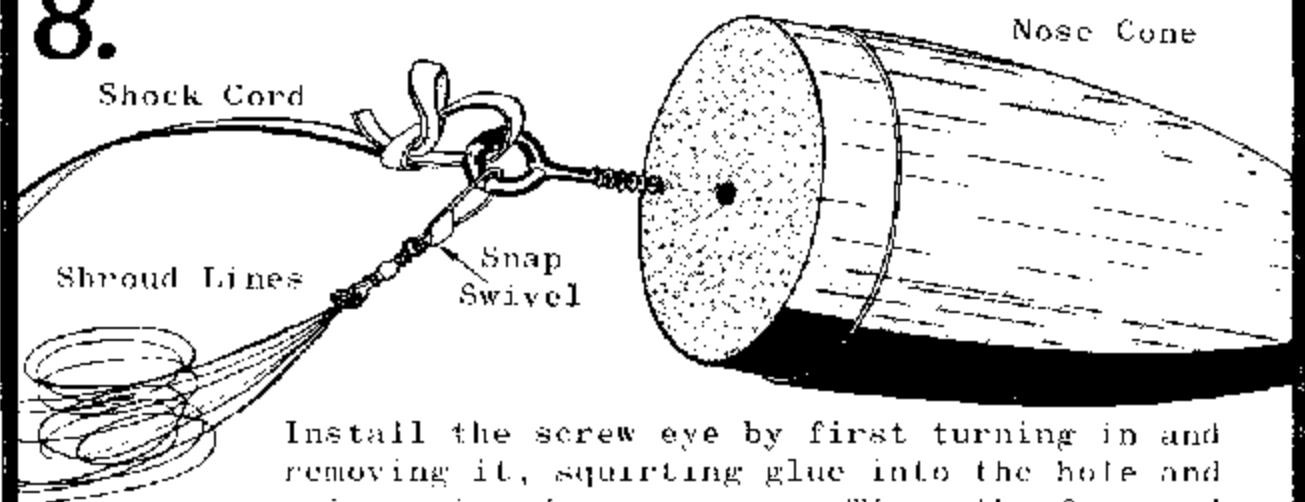
7.

Shown are the launching lug and shock cord in their installed positions. Shock cord details are shown.



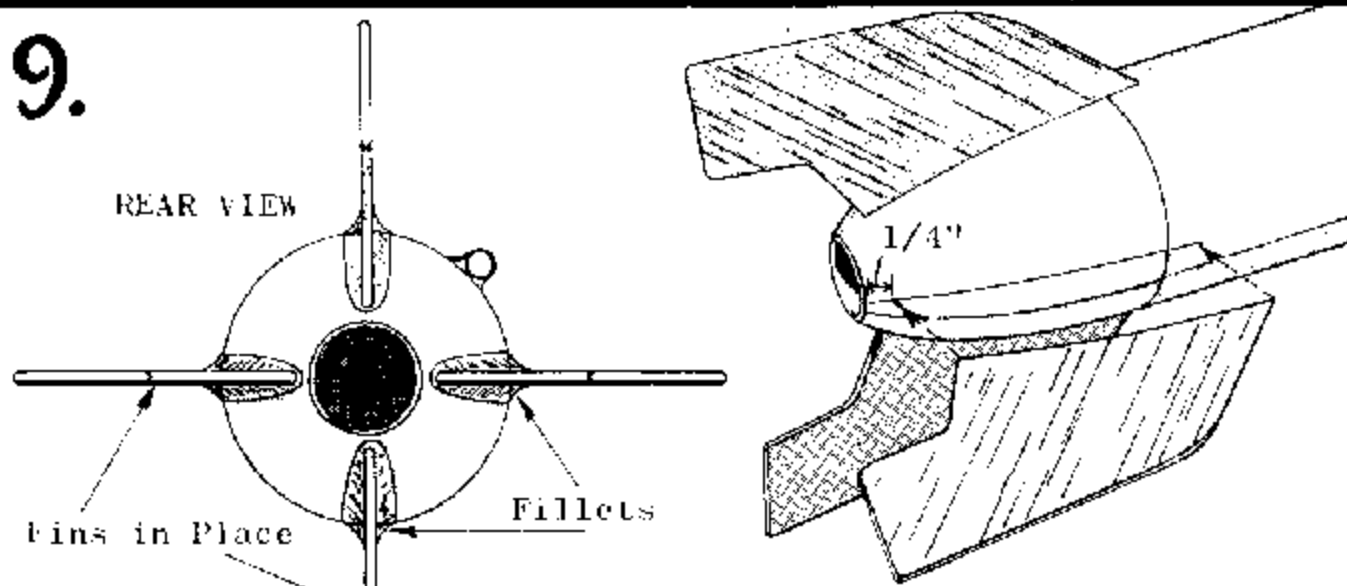
Place two drops of glue 1" into the body tube and lay the end of the shock cord into this. Lay the reinforcing gauze over this point as shown. Apply 5 or 6 drops of glue over the center of the gauze and roll out to either side with a dowel or brush handle. Set aside to dry completely. Assemble the parachute at this point in construction.

8.



Install the screw eye by first turning in and removing it, squirting glue into the hole and reinserting the screw eye. Tie on the free end of the shock cord and clip on the snap swivel.

9.



With parachute, nose cone and all other parts of the rocket in place, select one fin and one guide line to which the fin will be fitted, then glued. Carefully sand the root edge until contact is made along its entire length. Apply glue and align the fin to stick straight out from the tail cone and be in line with the centerline. Do the same with the other three fins and when dry, apply a generous fillet to each. Dry the WHOLE THING completely and paint to suit your taste. Prep your bird and start the countdown...5...4...3...2...1...LAUNCH!

