



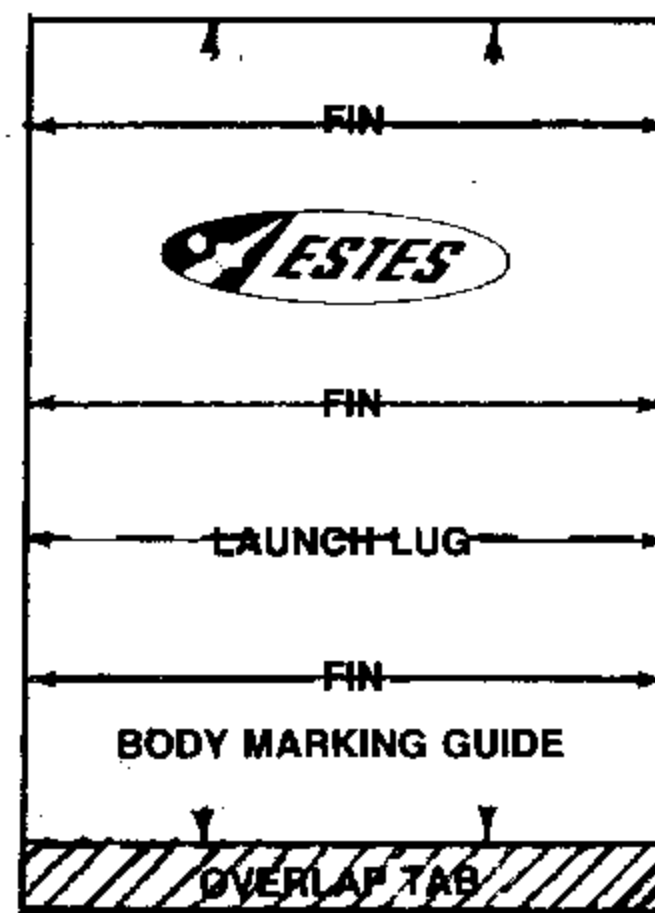
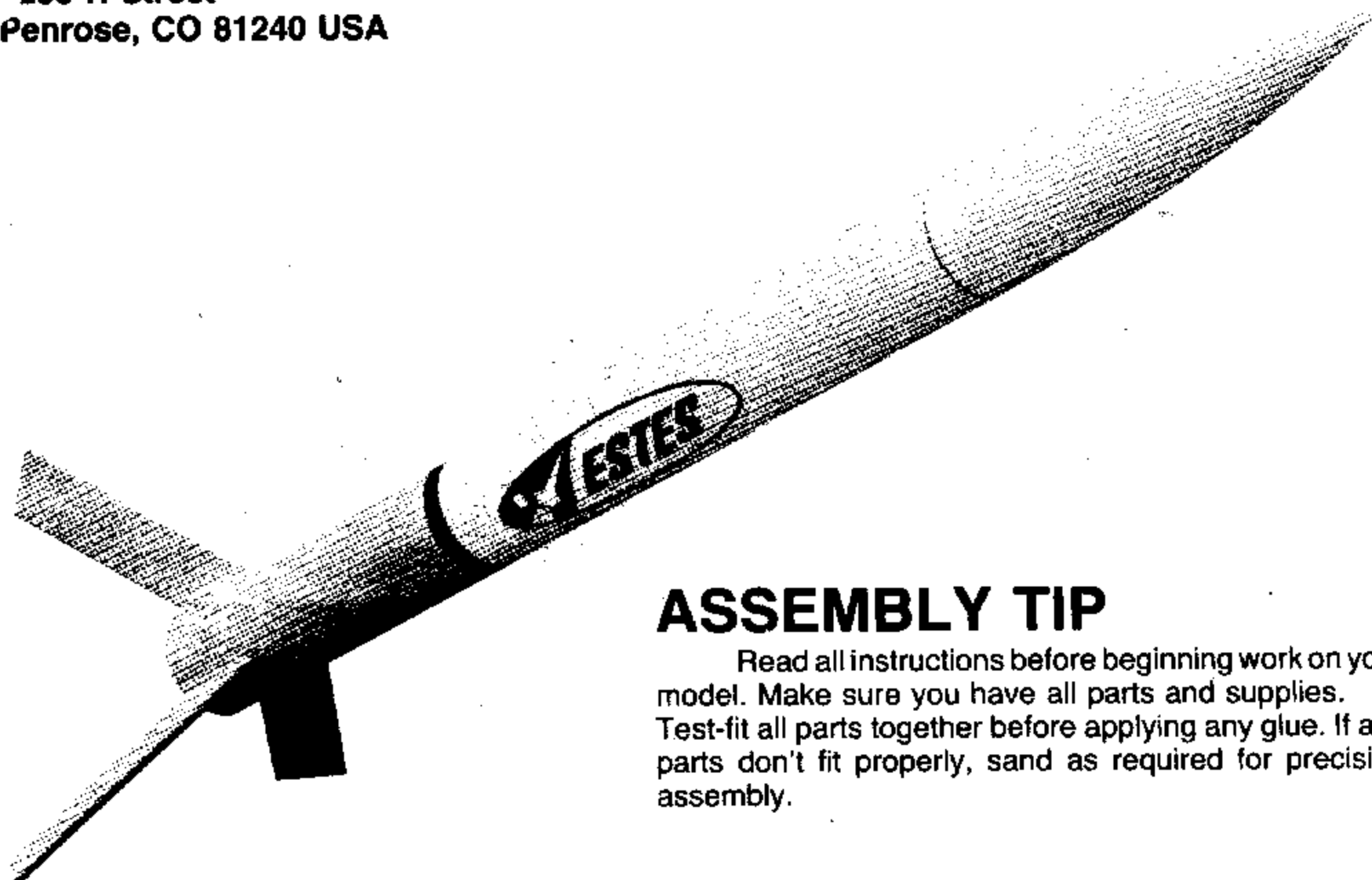
A DAMON COMPANY

# ZINGER™

Estes Industries  
295 H Street  
Penrose, CO 81240 USA

## Flying Model Rocket

#1917



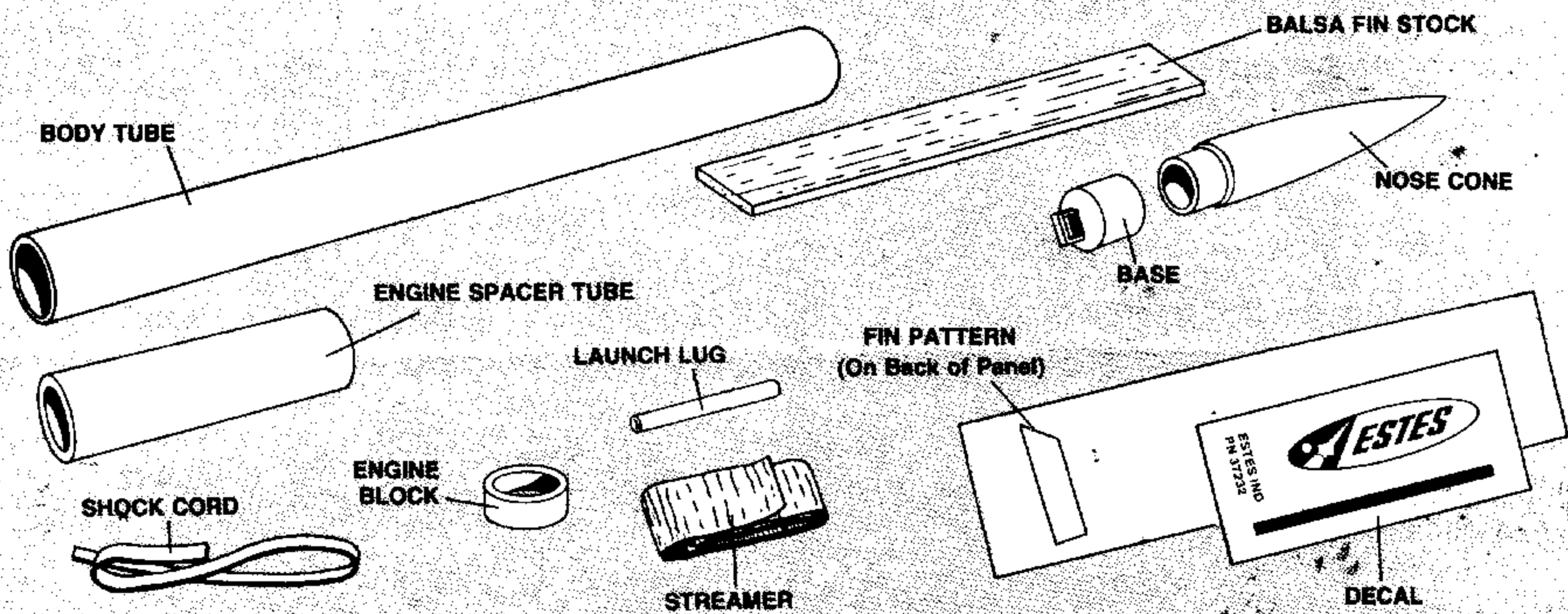
### ASSEMBLY TIP

Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don't fit properly, sand as required for precision assembly.

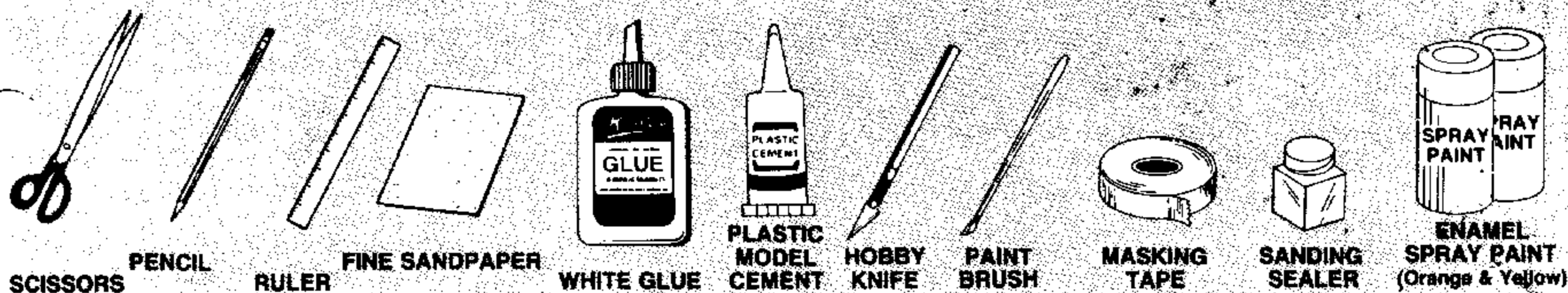
SHOCK CORD MOUNT SEC. 3
SEC. 2
SEC. 1

## PARTS AND SUPPLIES

Locate the parts shown below and lay them out on the table in front of you.



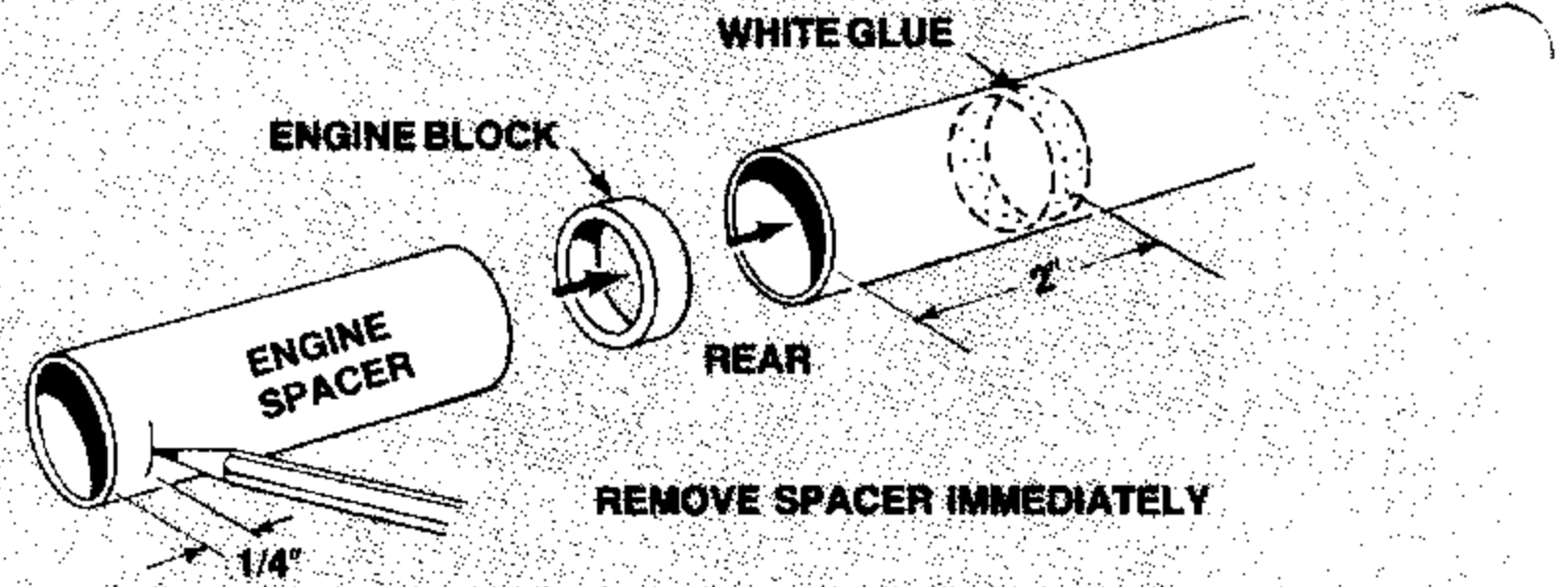
In addition to the parts included in the kit you will also need:



# ROCKET ASSEMBLY

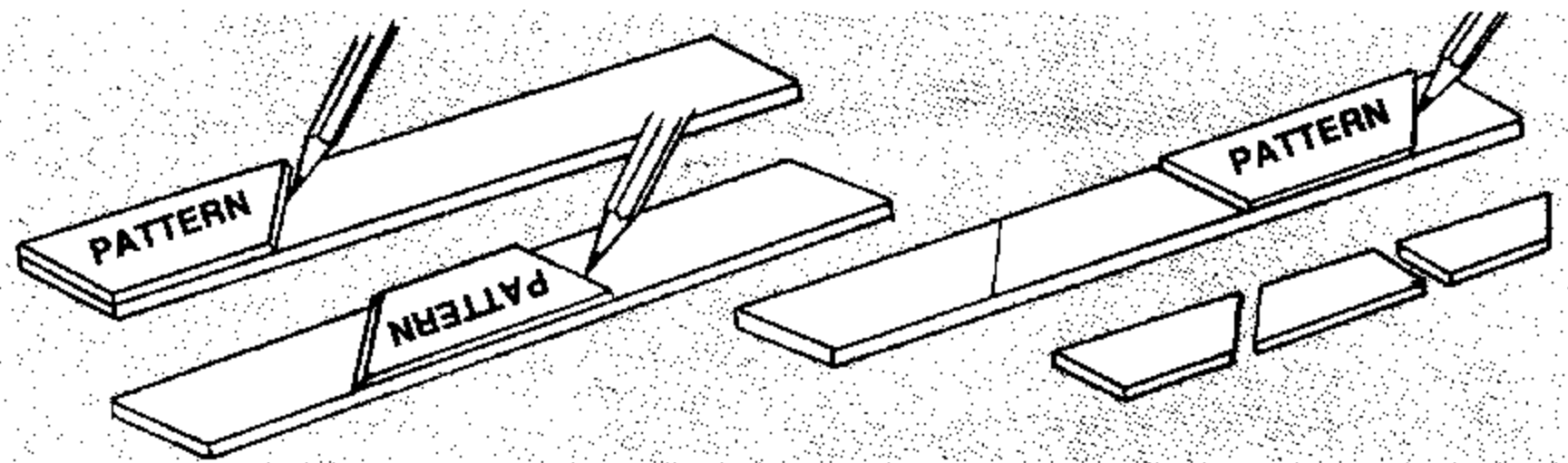
**1**

- Mark engine spacer tube 1/4 inch from one end.
- Using a small stick, apply a bead of glue around the inside of one end of the body tube, about 2 inches from the end.
- Insert the engine block into this end of the tube.
- Push the engine block into the tube with the engine spacer until the mark on the spacer is even with the end of the tube. **CAUTION:** Once you begin pushing engine block forward, do not stop until it is in place, then remove spacer immediately!



**2**

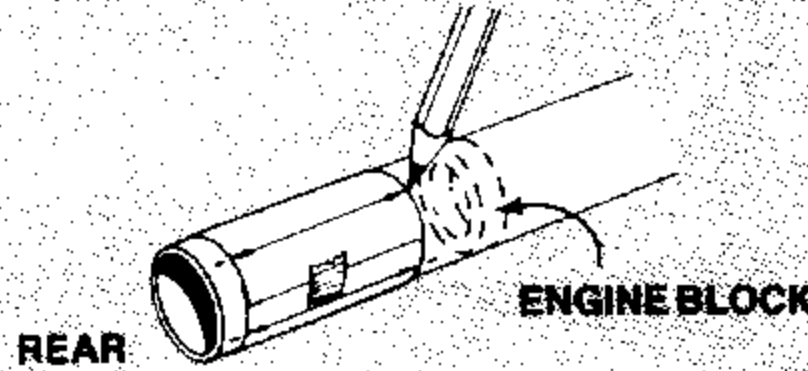
- Cut out the fin pattern from the back of the kit panel.
- Place the pattern on the balsa fin stock and mark fins.
- Cut out the three fins. Stack fins together and sand edges.



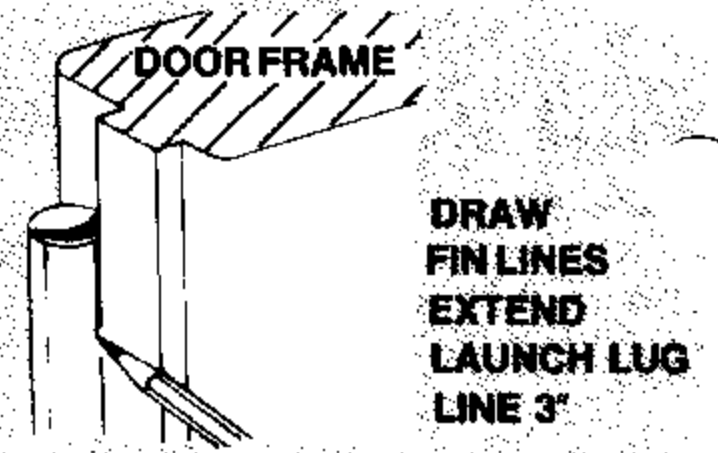
**3**

- Cut the body marking guide from the front of these instructions.
- Wrap the guide around the same end of the body tube in which the engine block was installed. Tape ends of guide together and mark the tube at each arrow point. Remove guide.
- Using a door frame as a guide, draw lines connecting the marks. Extend the launch lug line about 3 inches along tube.

MARK FIN AND LAUNCH LUG LOCATIONS



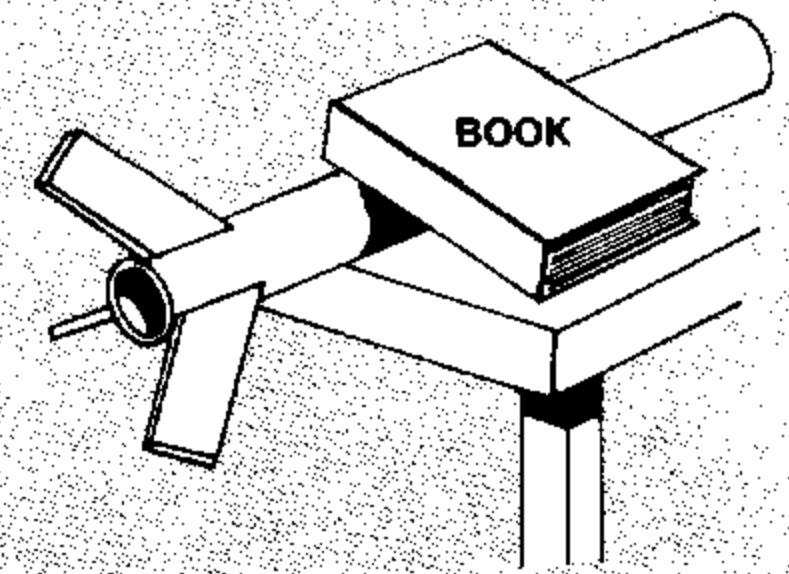
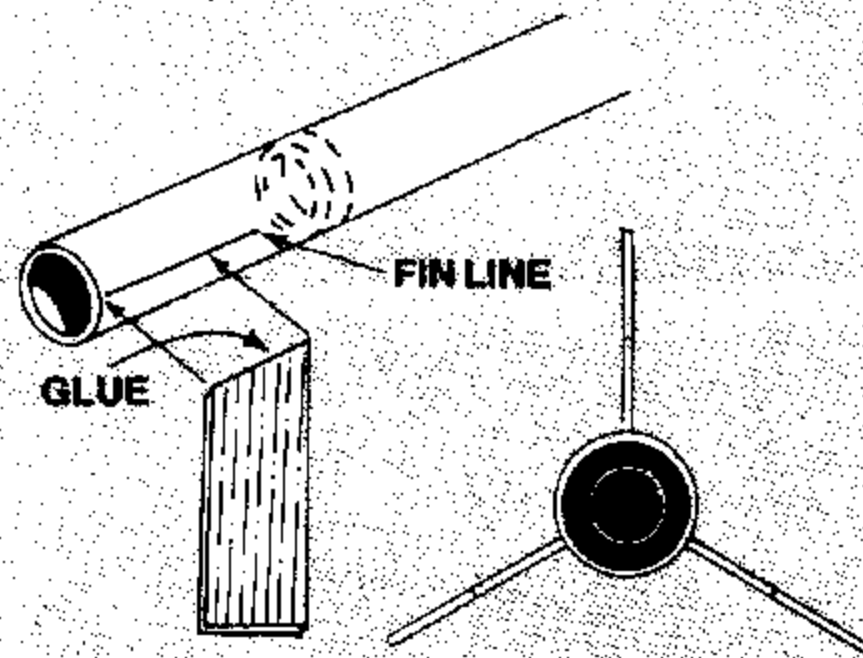
DOOR FRAME



**4**

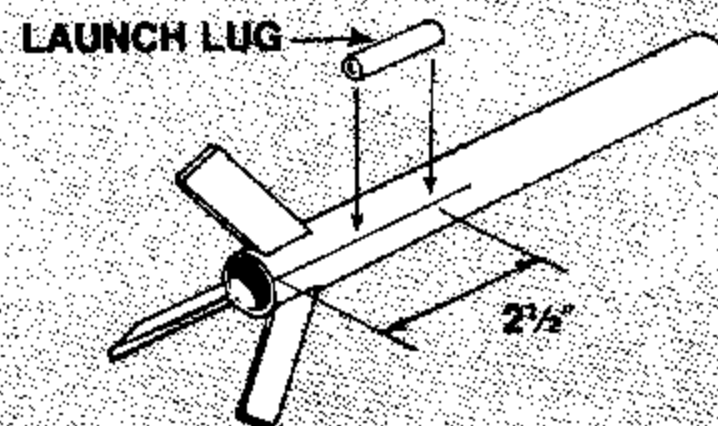
- Apply a bead of glue to the angled edge of a fin.
- Attach the fin to the body, centered on a fin line, with the rear of the fin even with the rear of the body. Support as shown, with fin pointing straight up while glue dries.
- Attach the two remaining fins in the same manner. Allow glue to dry on one fin before attaching the next.

SUPPORT AS SHOWN WHILE GLUE DRIES

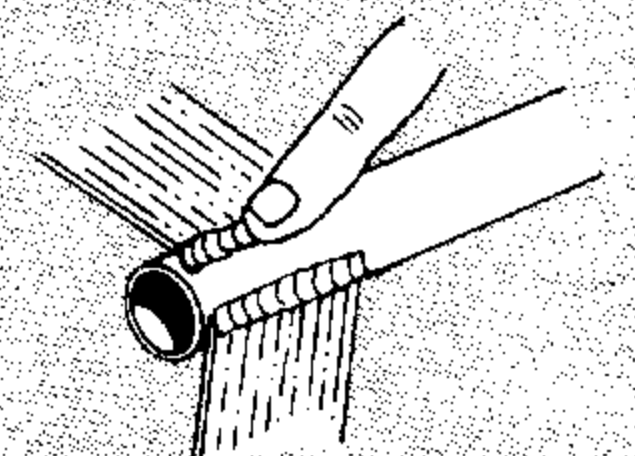


**4**

- Mark the launch lug line 2 1/2 inches from rear of tube.
- Glue launch lug on line with front of lug on mark.
- Apply a bead of glue to both sides of each fin-body joint. Smooth the glue into an even fillet with your finger. Also apply a light bead of glue to both sides of the launch lug. Support rocket in a horizontal position (as in Step 4) until glue dries.

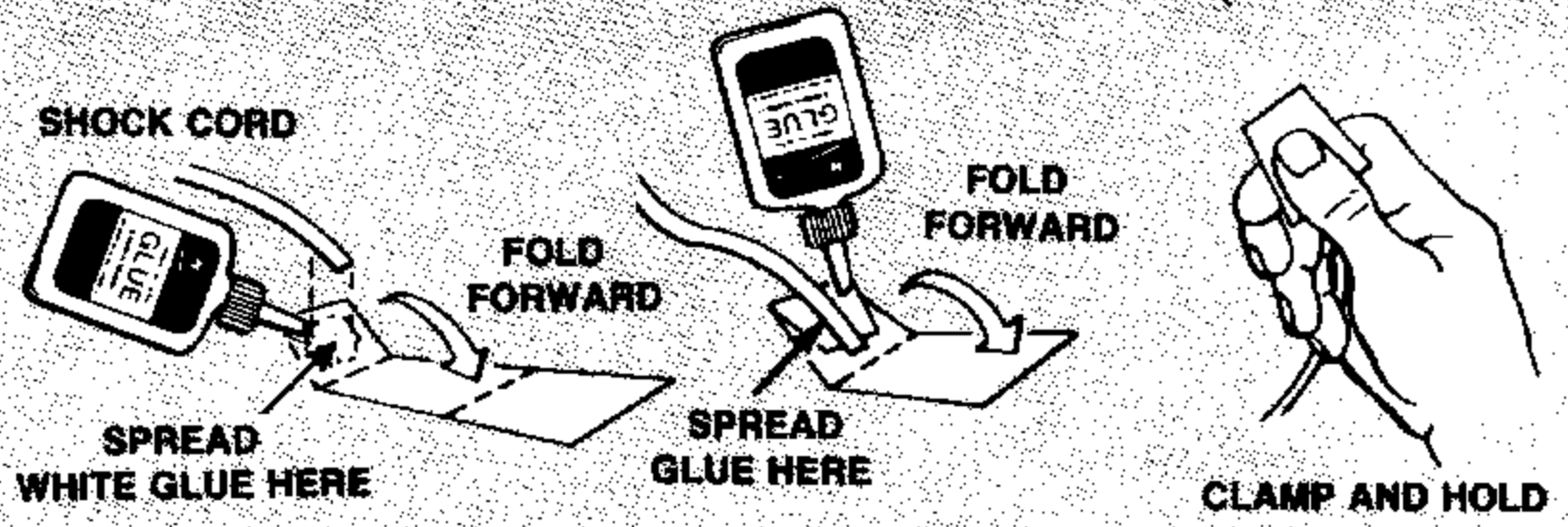


APPLY GLUE REINFORCEMENTS. SMOOTH WITH FINGER



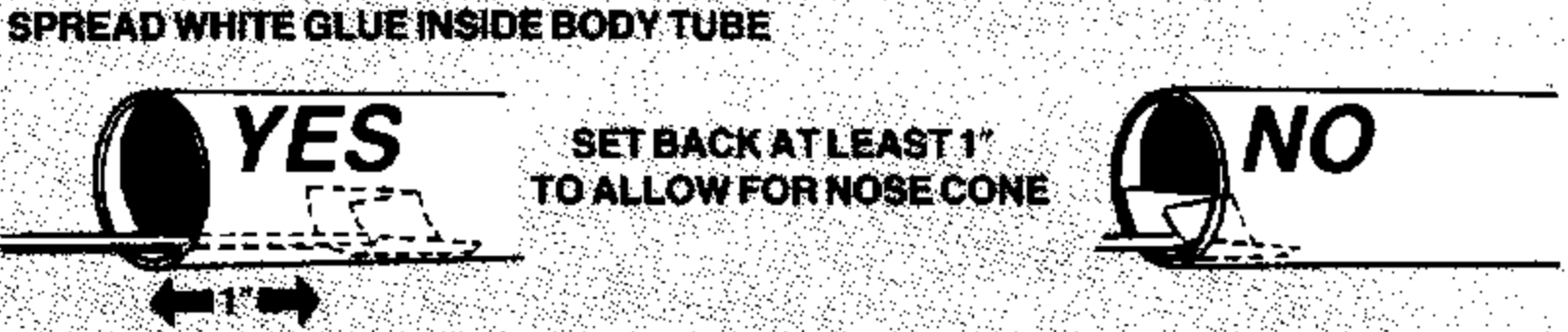
6

- A. Cut out shock cord mount from front of instructions.
- B. Fold on dotted lines, then unfold.
- C. Apply glue to sec. 1 and lay shock cord into glue.
- D. Fold over and apply glue to back of sec. 1 and exposed part of sec. 2.
- E. Lay shock cord as shown and fold mount over again. Clamp unit together with fingers. Hold until glue sets.



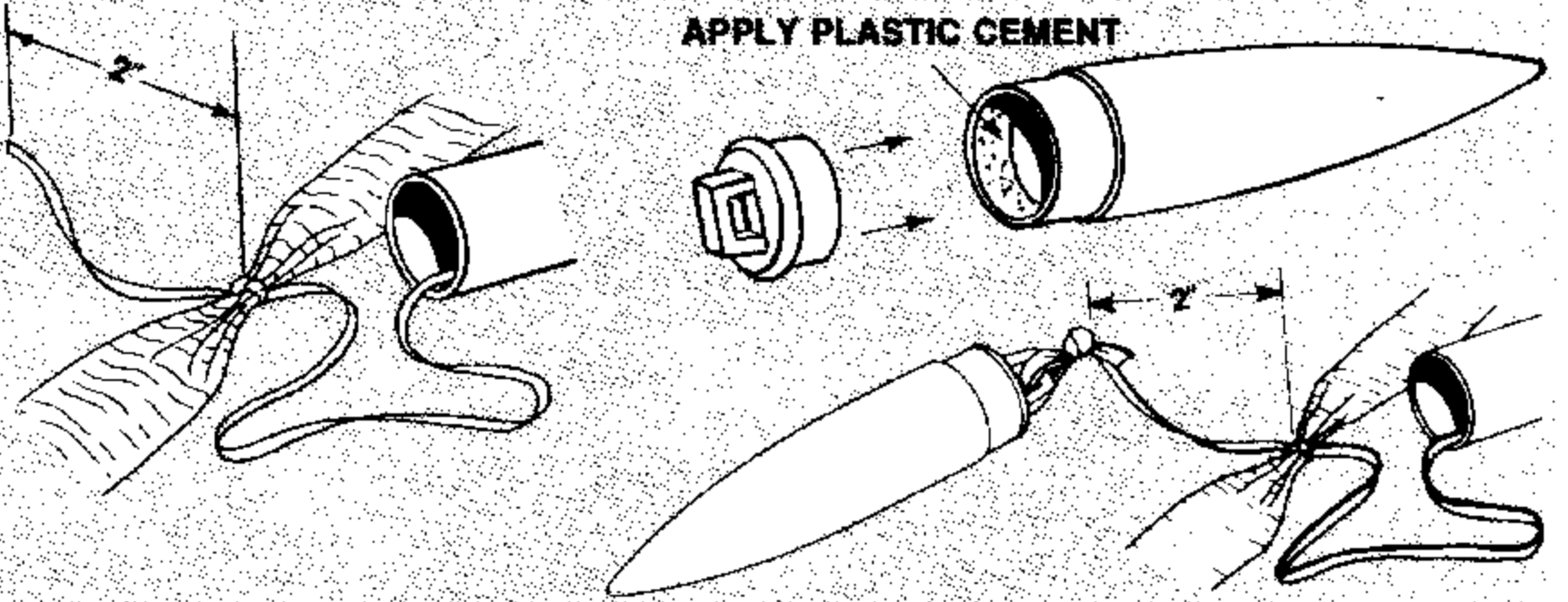
7

- A. Apply glue to the inside of the front of the body tube to cover an area no less than 1 inch to 2 inches from the end.
- B. Set the shock cord mount into the glue. Make sure the mount is back 1 inch from the end of the tube. Press the mount into the glue and hold until the glue sets.



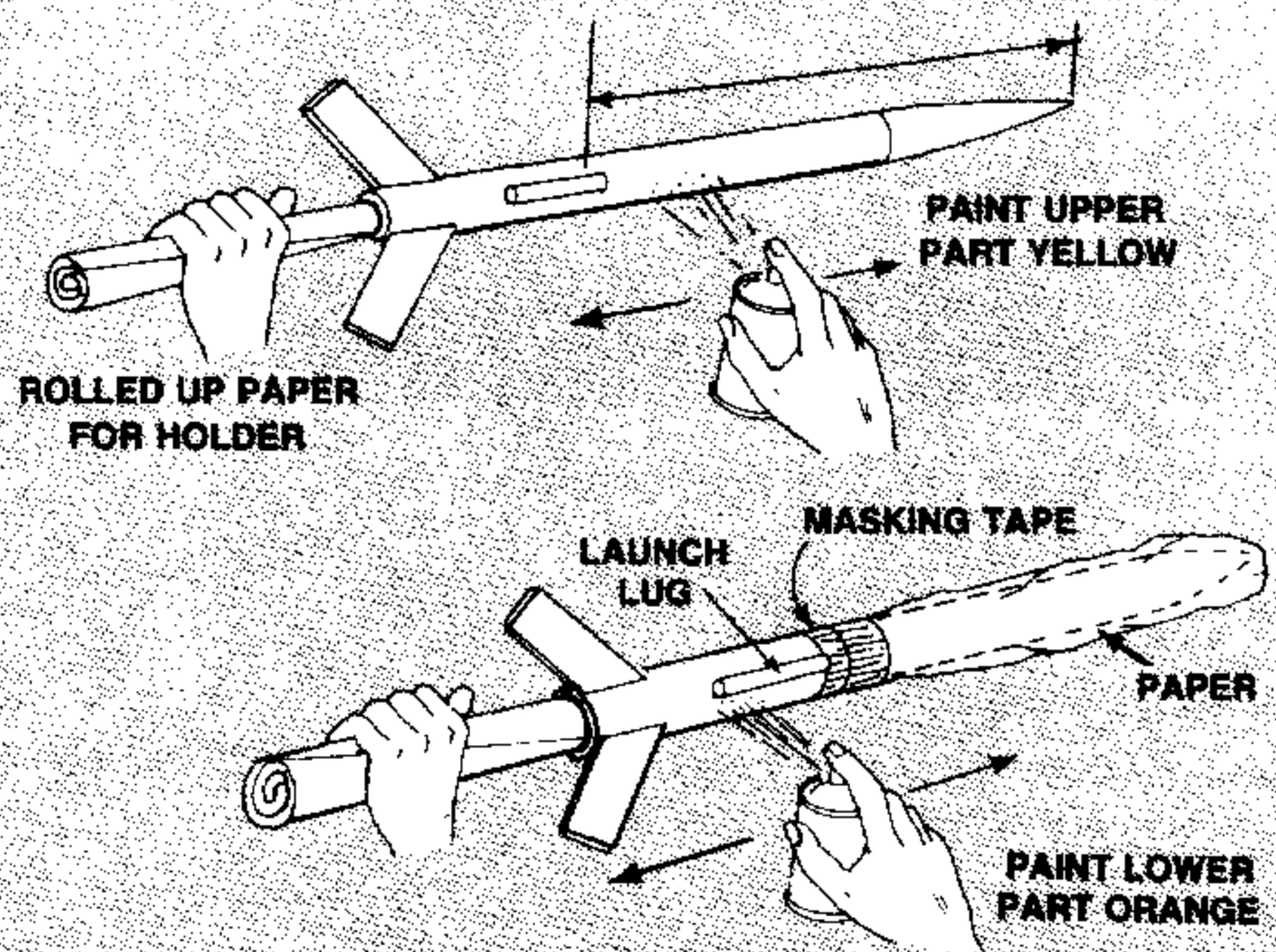
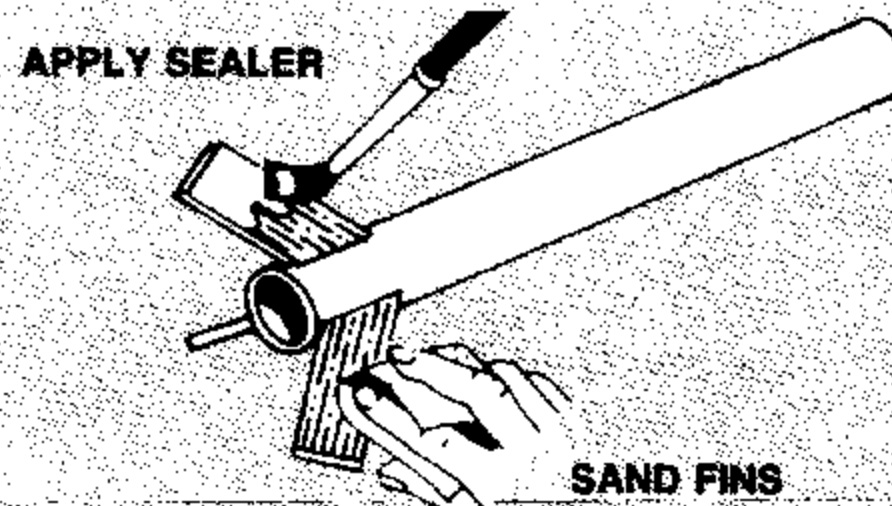
8

- A. Tie shock cord around middle of streamer, leaving about 2 inches of shock cord extending beyond knot.
- B. Apply PLASTIC MODEL CEMENT around the inside of the nose cone and push the nose cone base into place.
- C. Using a double knot, tie the end of the shock cord to the loop on the nose cone base.

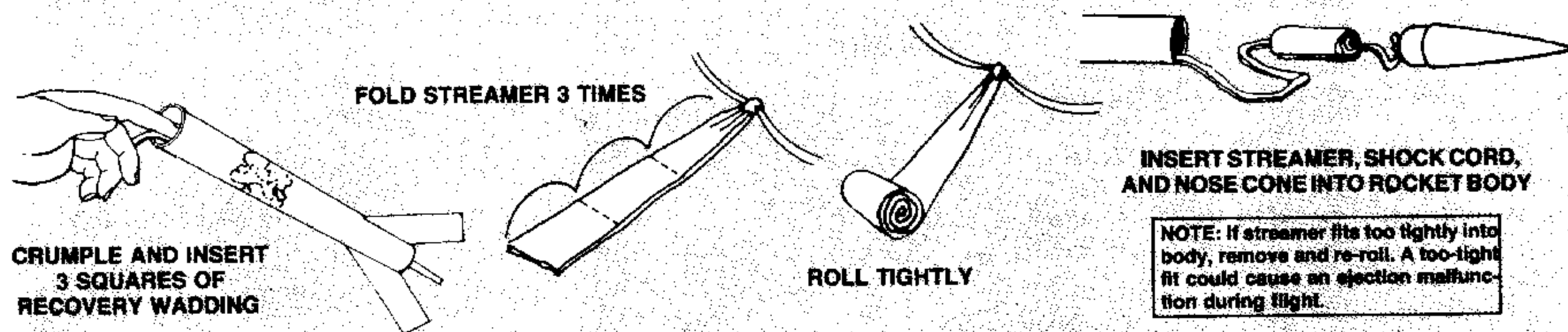


## FINISHING THE ROCKET

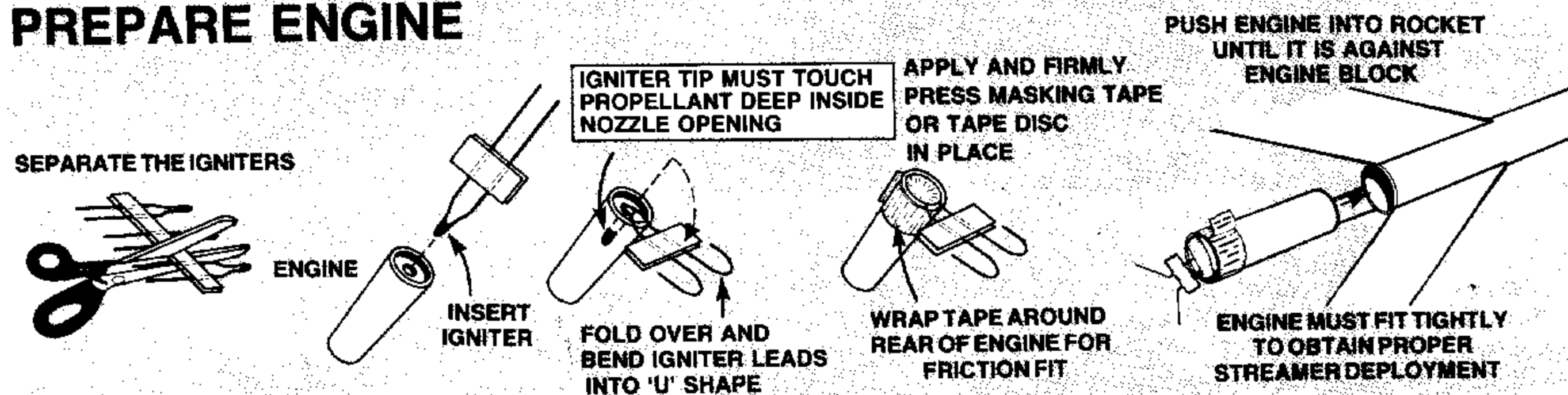
- A. Lightly sand fins before painting. Although it is not mandatory, application of balsa sanding sealer to the fins will improve the model's appearance. To seal fins, apply sealer to sides and edges of fins and let dry. Sand the fins lightly then repeat sealing and sanding steps until fins are very smooth.
- B. Push streamer and shock cord into body and socket nose cone in place. Roll up a piece of paper and insert into rear of body for a holder. Following directions on spray can, paint upper portion of rocket yellow. Make sure paint covers completely down to the launch lug.
- C. Wrap a piece of masking tape around the body just above the launch lug. Wrap paper around the upper body and secure with masking tape. Make sure tape overlaps both paper and first wrap of tape. Paint lower portion of rocket orange. Let paint dry, then carefully remove tape and paper.
- D. Apply decals according to picture on kit panel. Cut one decal at a time from sheet. Dip in water for 20 - 30 seconds and hold until decal uncurls. Slide decal from backing paper onto rocket. Position decal and gently blot away excess water.



# ROCKET PREFLIGHT



# PREPARE ENGINE



# LAUNCH SUPPLIES

To launch your rocket you will need the following items:

- An Estes model rocket launching system
- Estes Recovery Wadding (No. 2274)
- Recommended Engines: A8-5, B4-6, B6-6, or C6-7

Use an A8-5 engine for your first flight to become familiar with your rocket's flight pattern.

# FLYING YOUR ROCKET

Choose a large field away from power lines, tall trees, and low flying aircraft. Try to find a field at least 250 feet square. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great.

Launch area must be free of dry weeds and brown grass.

Launch only during calm weather with little or no wind and good visibility.

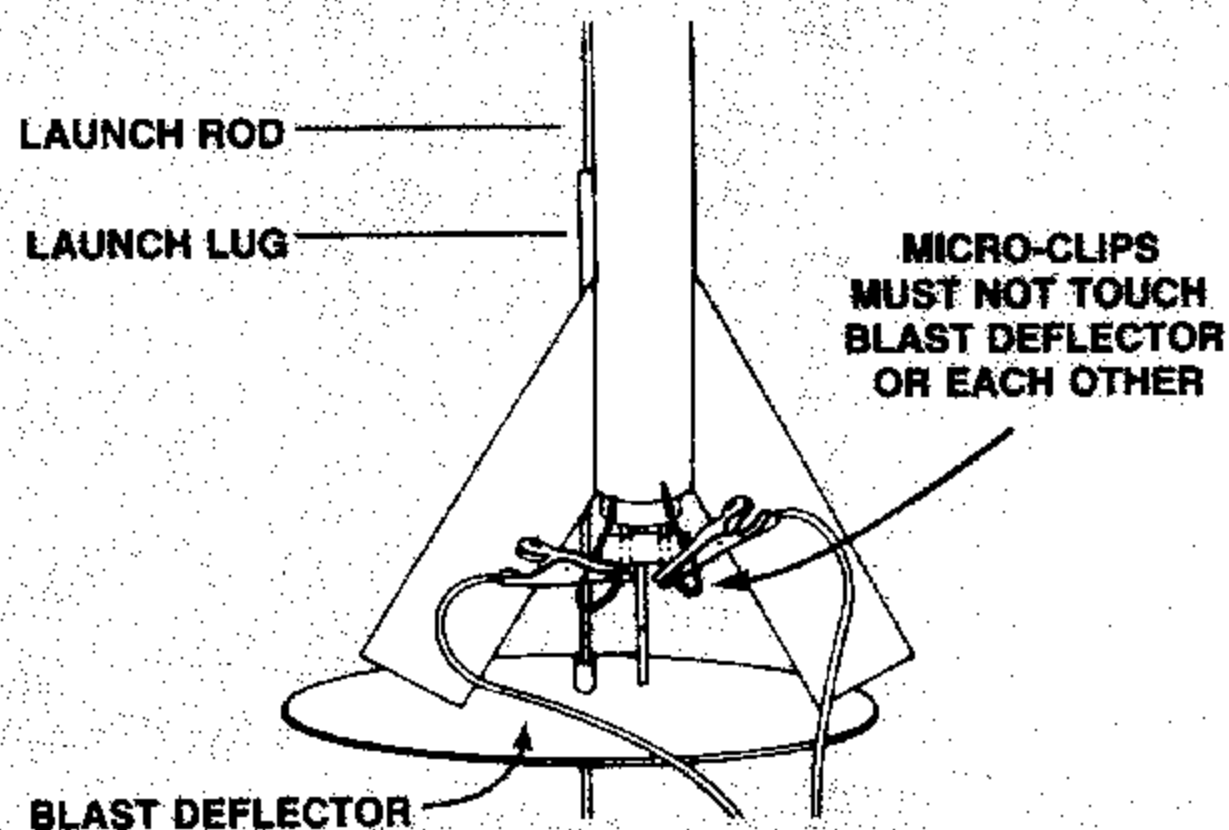
# MISFIRES

Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.

# FOR YOUR SAFETY AND ENJOYMENT

Always follow the NAR-HIA\* MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities.

# COUNTDOWN AND LAUNCH



- ⑤ REMOVE SAFETY KEY to disarm the launch controller.
- ④ Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.
- ③ Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.
- ② Move back from your rocket as far as launch wire will permit (at least 15 feet).
- ① INSERT SAFETY KEY to arm the launch controller.

**LAUNCH!!! PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES**

Remove safety key—Replace cap on rod.