



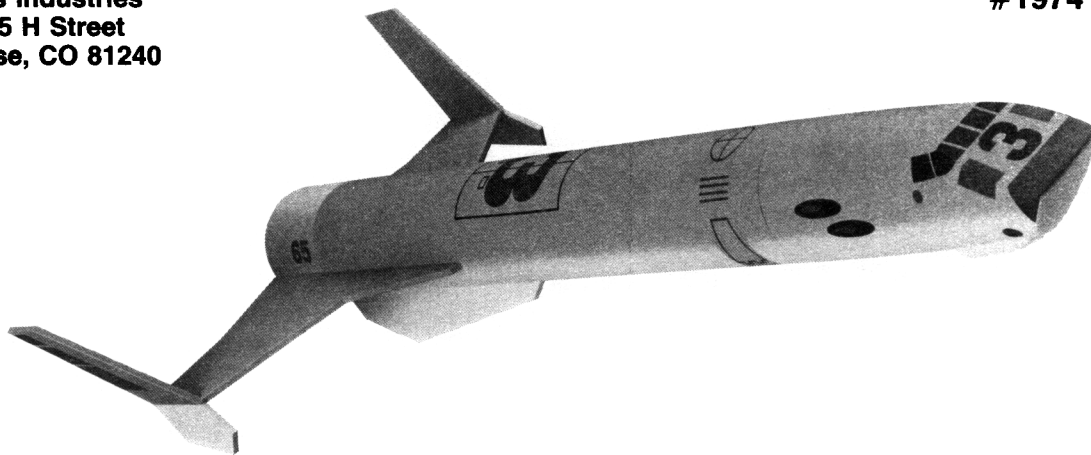
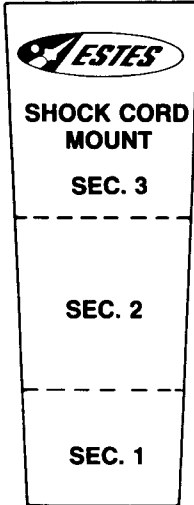


A DAMON COMPANY

Estes Industries  
1295 H Street  
Penrose, CO 81240

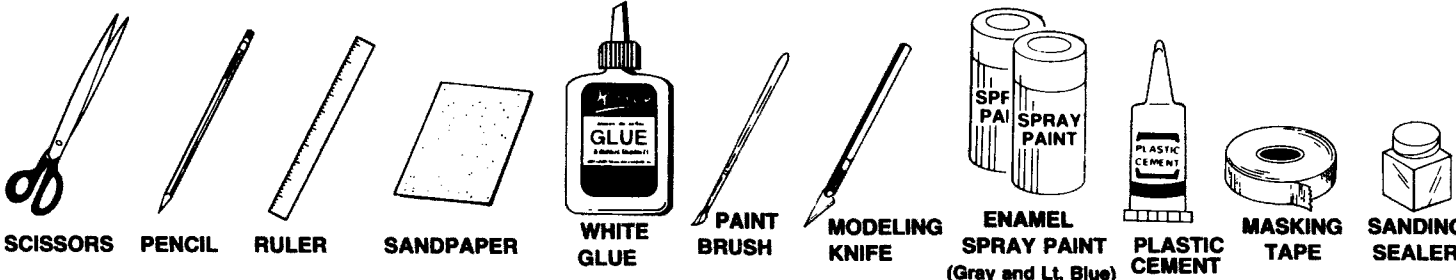
# EXPLORER

#1974



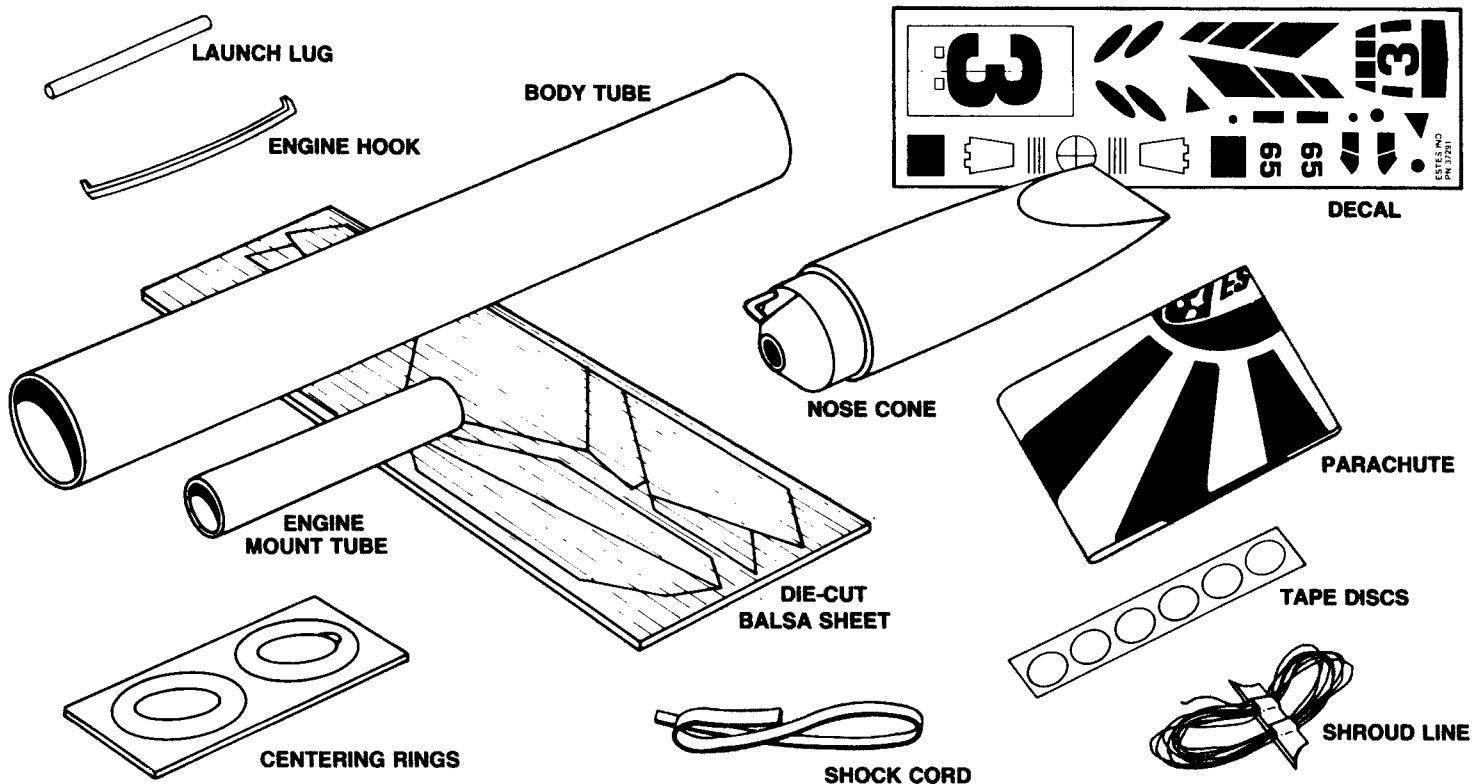
## PARTS AND SUPPLIES

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:



## 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.

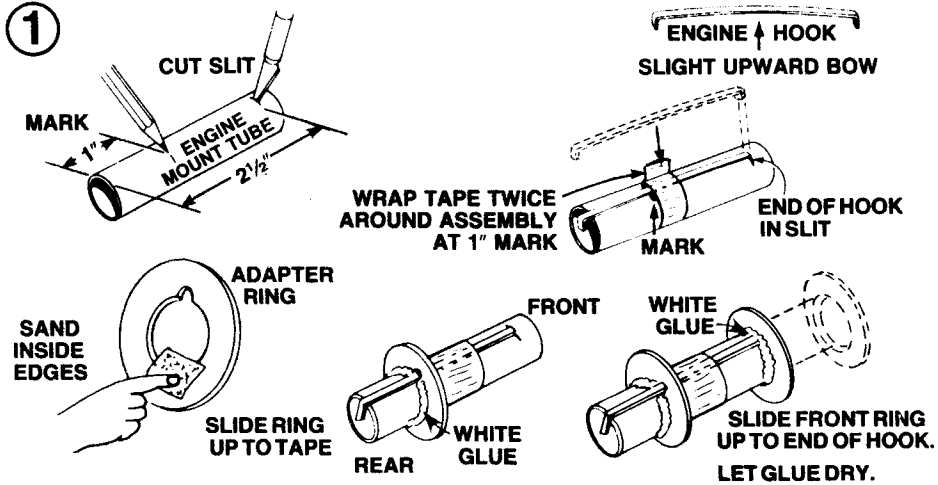


# ROCKET ASSEMBLY

**1**

- Mark engine mount tube 1 inch and 2 1/2 inches from one end.
- Cut 1/8 inch long slit at 2 1/2 inch mark.
- Insert one end of engine hook into slit.
- Wrap masking tape around assembly twice at 1 inch mark.
- Slide slotted adapter ring onto rear of tube and up to masking tape. Slot fits over engine hook. Glue both sides of ring/tube joint.
- Slide remaining ring over front of tube and down to end of engine hook. Glue both sides of ring/tube joint.

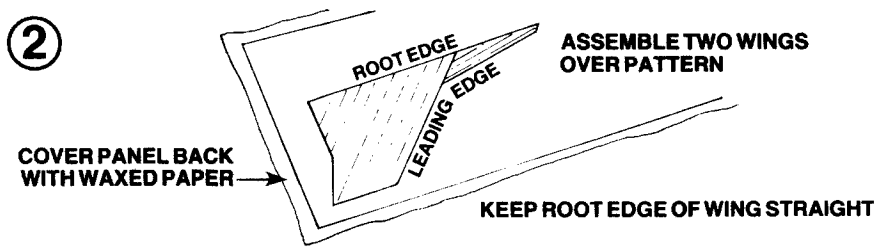
**1**



**2**

- Fine sand die-cut balsa sheet. Carefully remove fins and wings by freeing edges with a sharp knife.
- Stack alike fins and wings together. Sand all edges smooth.
- Cover pattern sheet on back of panel with waxed paper and assemble wing parts together.

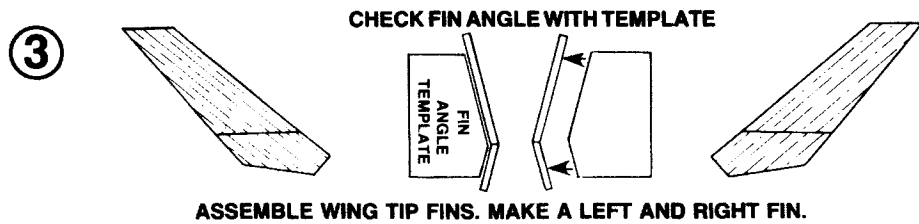
**2**



**3**

- Cut out fin angle template from back of panel.
- Assemble tip fins making a left fin and a right fin assembly.
- Check angle of fins with template. After glue sets check fin again and adjust angle if needed. Set fins aside to dry.

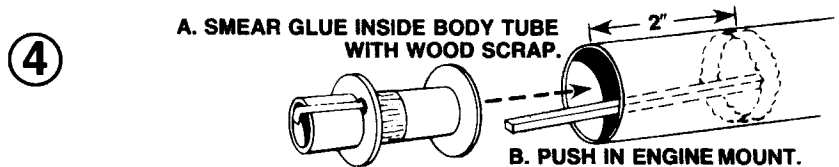
**3**



**4**

- Using a piece of scrap balsa, smear glue inside body tube 2 inches from one end.
- Push engine mount in tube until end of engine hook is even with end of tube.

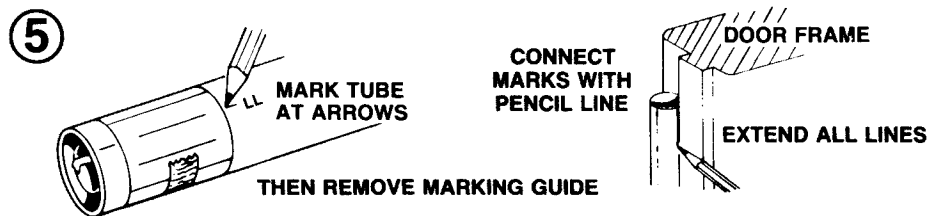
**4**



**5**

- Cut out tube marking guide from back of panel.
- Wrap guide around the tube and tape. Mark tube at arrows, remove guide.
- Draw straight lines connecting each pair of marks.
- Extend launch lug line full length of tube.

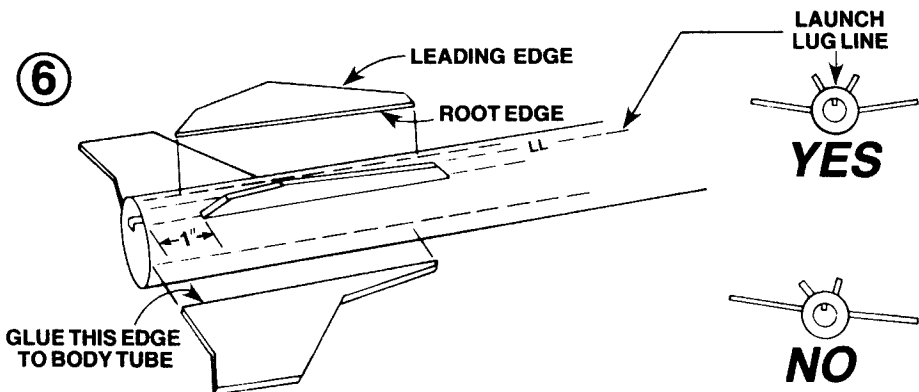
**5**



**6**

- Lay fins on pattern to determine the gluing (root) and front (leading) edges of each fin.
- Position and glue fins on alignment lines one at a time. Let each dry several minutes before applying the next one.
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet.

**6**

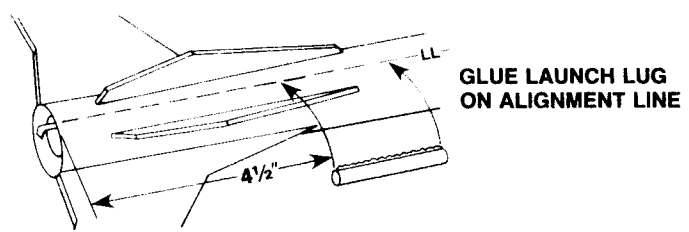


**FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!**

7

- A. Glue launch lug straight on launch lug line with its rear edge 4½ inches from rear of tube.

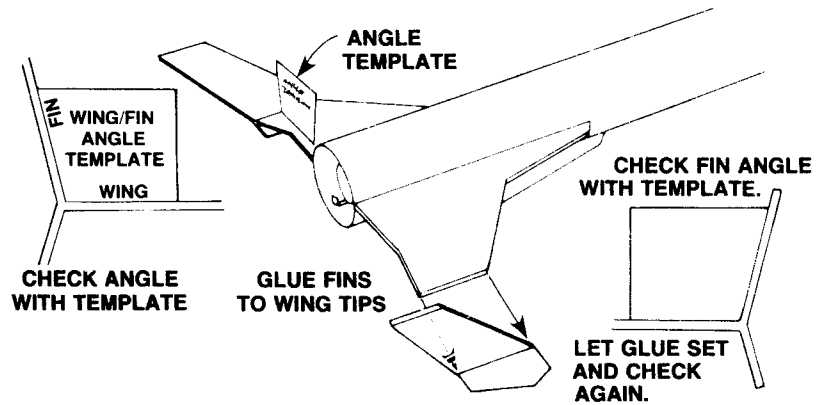
7



8

- A. Cut out wing/fin angle template from back of panel.
- B. Apply glue to wing tip and fin joint. Allow glue to set slightly, then position fins on wing tips.
- C. Let glue set and check each wing/fin angle. After glue has set longer, check angles again, and adjust if needed.

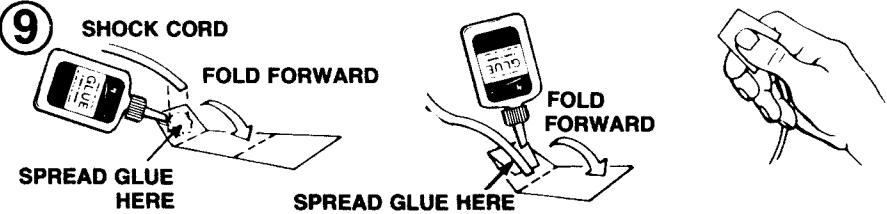
8



9

- A. Cut shock cord mount from front of instructions.
- B. Crease on dotted lines by folding. Spread glue on section 1 and lay end of shock cord into glue. Fold over and apply glue to back of first section and exposed part of section 2. Lay shock cord as shown and fold mount over again.
- C. Clamp unit together with fingers until glue sets.

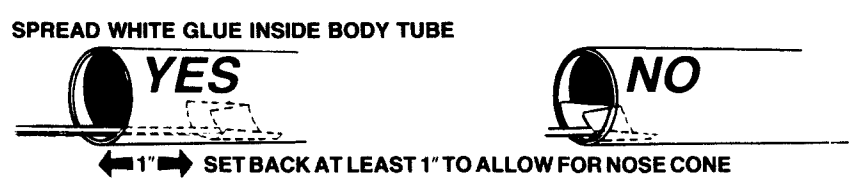
9



10

- A. Apply glue inside front of body tube to cover an area no less than 1 inch to 2 inches from end. The glued area should be same size as shock cord mount.
- B. Press mount firmly into glue as shown.
- C. Hold until glue sets.

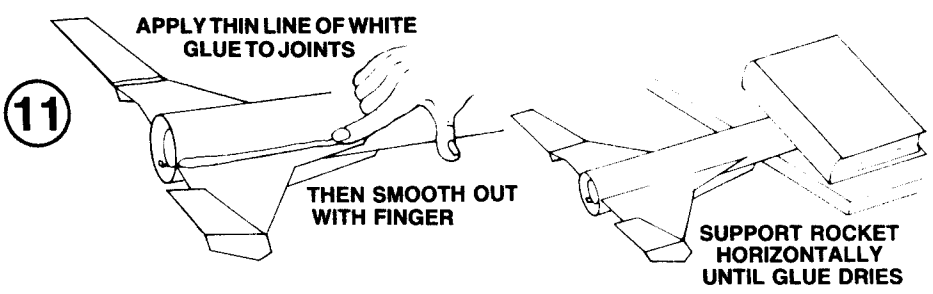
10



11

- A. Apply a glue reinforcement to each fin/wing and wing/body tube joint and each side of launch lug.
- B. Support rocket as shown until glue dries.

11



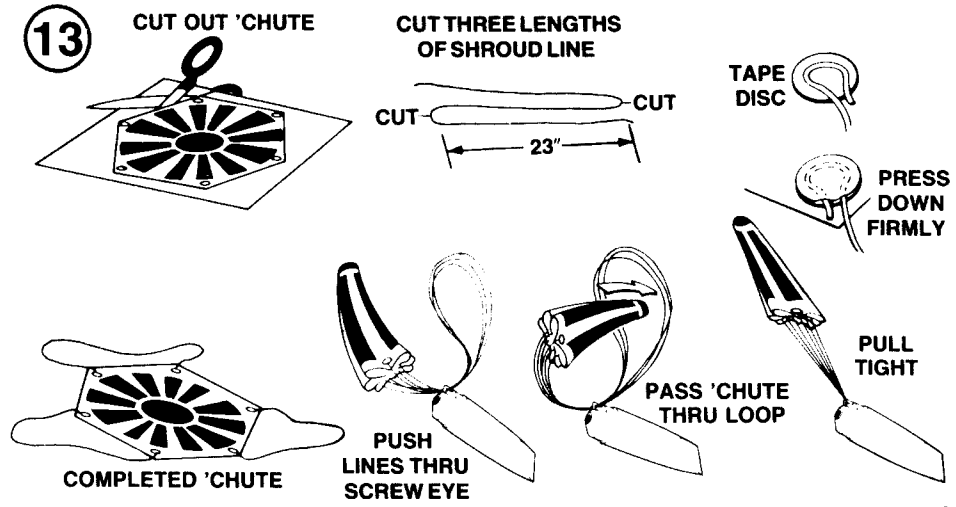
12

- A. Trim excess plastic from around sides of nose cone with a sharp knife. Also remove any excess plastic from inside molded eyelet.
- B. Wipe nose cone with damp cloth to remove oil and dirt.

13

- A. Cut out parachute on edge lines.
- B. Cut three 23 inch lengths of shroud line.
- C. Form small loops with shroud line ends and press onto sticky side of tape discs.
- D. Attach tape discs with line ends to top of parachute as shown.
- E. Firmly press tape discs into place until both tape discs and parachute material are molded around shroud line loops.
- F. Pass shroud line loops through loop on nose cone. Pass parachute through loop ends and pull lines against the nose cone.
- G. Tie free end of shock cord to nose cone eyelet.

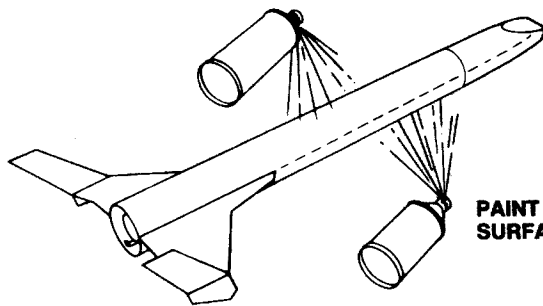
13



# FINISHING YOUR ROCKET

Apply sanding sealer to wood parts with small brush. When sealer is dry, lightly sand all sealed surfaces. Repeat sealing and sanding until balsa grain is filled and smooth. When sanding sealer and glue are completely dry, paint all bottom surfaces of model light blue. Allow paint to dry. Then paint all top surfaces gray. Follow instructions on spray can for best results. Let paint dry. To apply decals, cut each out, dip in lukewarm water for 20 seconds and hold until it uncurls. Refer to photograph on front page and/or on front of panel for decal placement. Slip decal off backing sheet and onto model. Blot away excess water. For best results, let decals dry overnight and apply a coat of clear spray paint to protect decals.

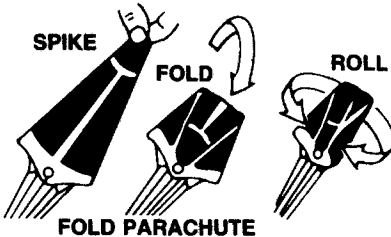
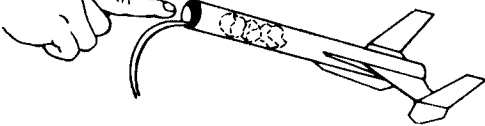
**PAINT ALL TOP SURFACES GRAY**



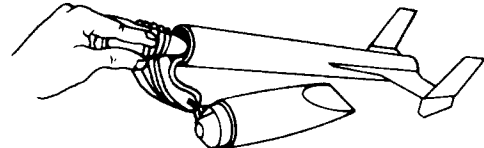
**PAINT ALL BOTTOM SURFACES LT. BLUE**

## ROCKET PREFLIGHT

**CRUMPLE AND INSERT 3 SQUARES OF RECOVERY WADDING**



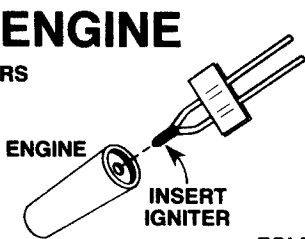
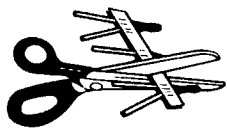
**WRAP LINES LOOSELY AROUND 'CHUTE  
INSERT PARACHUTE IN ROCKET**



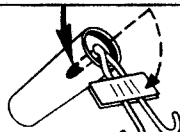
**INSTALL NOSE CONE IN PLACE**

## PREPARE ENGINE

**SEPARATE THE IGNITERS**



**IGNITER TIP MUST TOUCH  
PROPELLANT DEEP INSIDE  
NOZZLE OPENING**

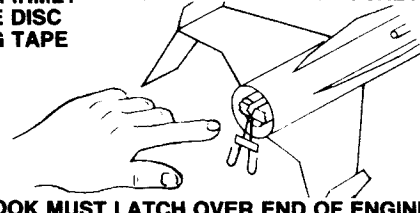


**FOLD OVER AND BEND TIPS**

**APPLY AND FIRMLY  
PRESS TAPE DISC  
OR MASKING TAPE  
IN PLACE**



**INSTALL ENGINE IN ROCKET**



**HOOK MUST LATCH OVER END OF ENGINE**

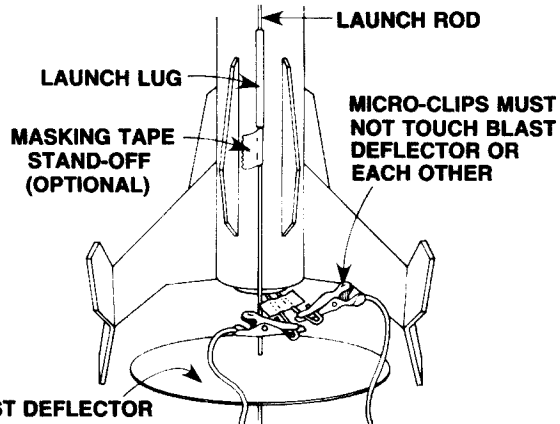
## LAUNCH SUPPLIES

To launch your rocket you will need the following items:

- An Estes model rocket launching system
- Estes Parachute Recovery Wadding (No. 2274)
- Recommended Engines: A8-3, B4-4, B6-4, B8-5, and C6-5

Use an A8-3 engine for your first flight to become familiar with your rocket's flight pattern.

## 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.

## 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.

Don't leave parachute packed more than a minute or so before launch during cold weather. [Colder than 40° Fahrenheit (4° Celsius)].

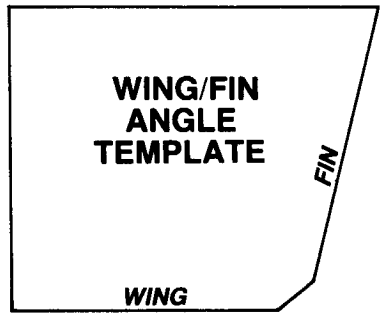
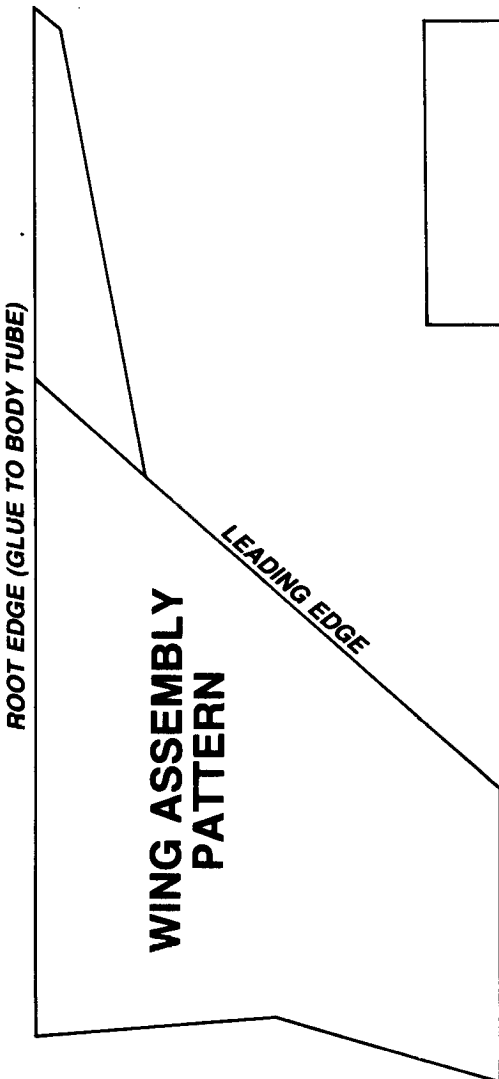
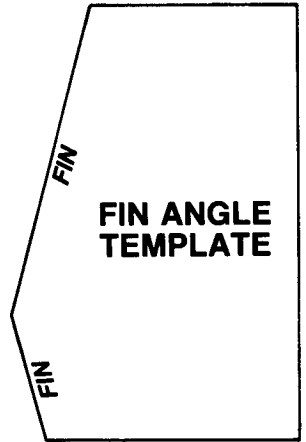
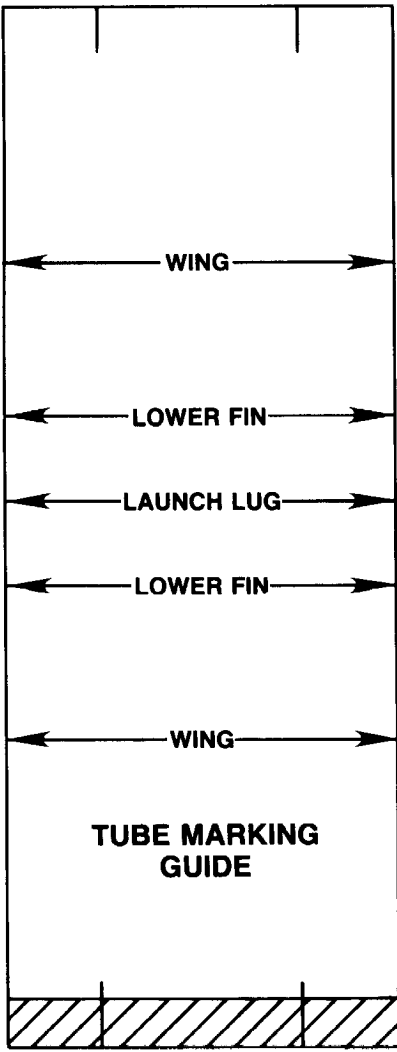
## MISFIRES

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

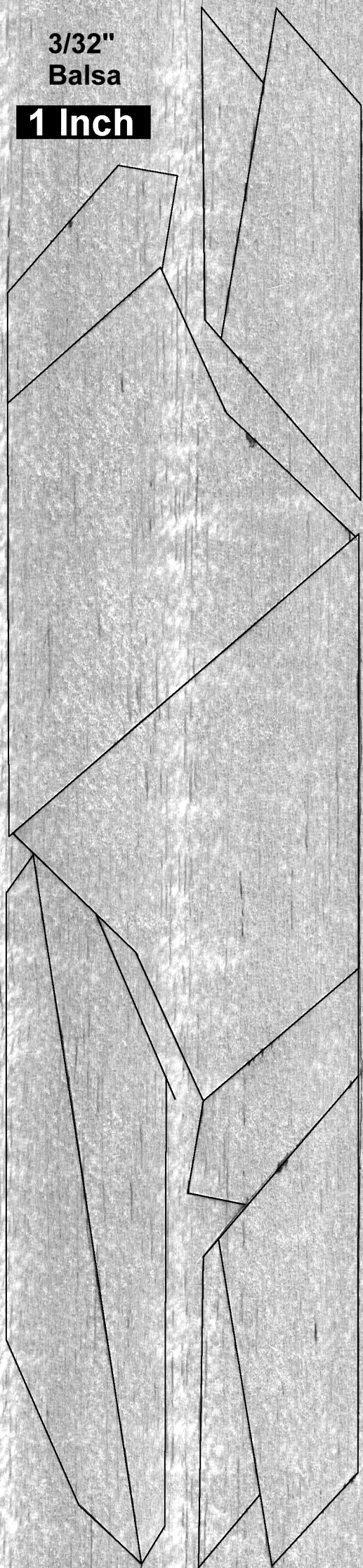
Always follow the NAR-HIA\* MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities.

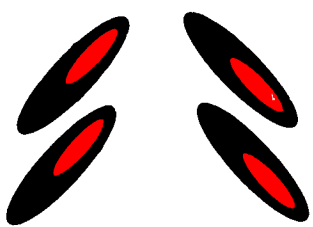
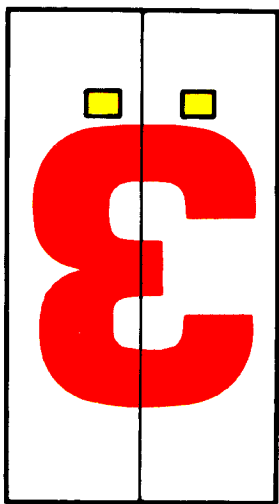
\*National Association of Rocketry-The Hobby Industry of America



**3/32"**  
**Balsa**

**1 Inch**





59

59





# EXPLORER

## FLYING MODEL ROCKET

SKILL LEVEL 3

### ■ DEEP SPACE SCOUT SHIP

- Plastic Nose Cone
- Large 18" Parachute
- Die-Cut Brass Fins
- Quick-Release Engine Mount

Length: 18 1/2" (46.7 cm)

Wing: 10 1/2" (26.7 cm)

Weight: 2 1/2 oz (70 g)

Recommended Engines:

A6-3, A6-4, A6-5, or A6-6

or A, B, C, or D

This is a model of a rocket ship. It is not a toy and should be used only for model building. Do not use for anything else.

FLIGHTS  
OVER  
900 FEET!

#1974

ESTES

