

# Astro™

## FLYING MODEL ROCKET

SKILL LEVEL

1

Suggested For Beginners

FLIGHTS  
UP TO  
1,000 FEET!

Engine Types: 1 2A6-2  
(First Flight), A8-3, B4-4,  
B6-4, C6-5  
Length: 12.75" (32.4 cm)



A DAWSON COMPANY

This is a hobby  
kit requiring  
assembly

Engines, launch  
system, glue and  
finishing supplies  
are not included

#1937

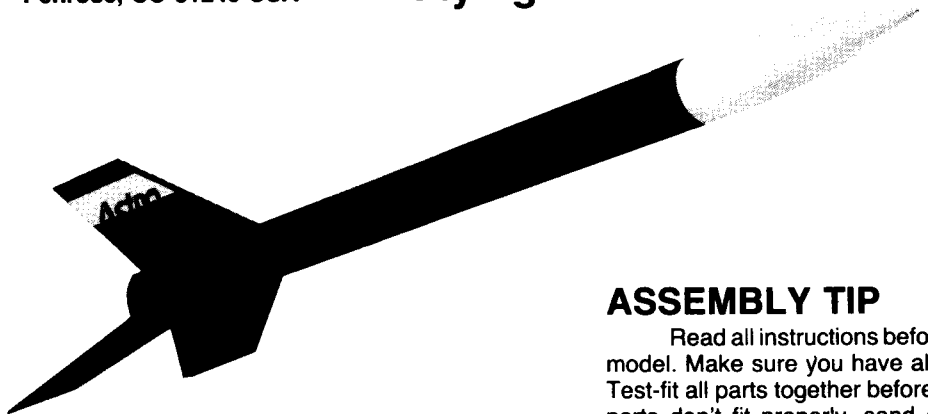
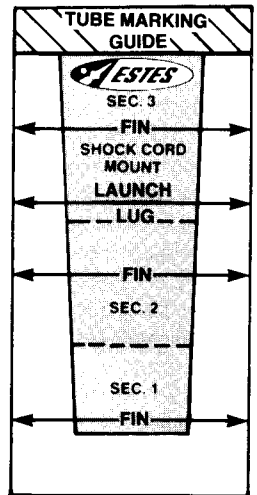




A DAMON COMPANY

ESTES INDUSTRIES  
1295 H Street  
Penrose, CO 81240 USA

# Astro<sup>TM</sup> #1937 Flying Model Rocket



## 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.

## 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:

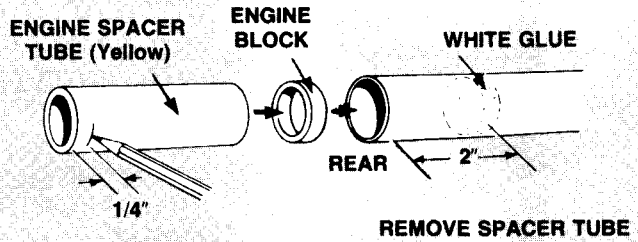
**MODELING KNIFE**   **SCISSORS**   **PENCIL**   **PAINT BRUSH**   **RULER**   **SANDPAPER**   **PLASTIC CEMENT**   **MASKING TAPE**   **SANDING SEALER**   **WHITE GLUE**   **ENAMEL SPRAY PAINT (Gloss Black and Silver)**

**ENGINE SPACER TUBE (Yellow)**   **BODY TUBE**   **NOSE CONE**   **LAUNCH LUG**   **ENGINE BLOCK**   **NOSE CONE INSERT**   **STREAMER**   **SHOCK CORD**   **DIE-CUT FIN SHEET**   **DECAL**   **INSTRUCTIONS**

# ROCKET ASSEMBLY

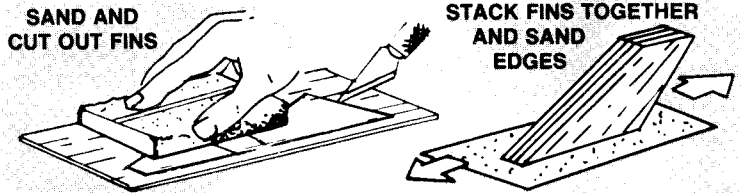
**1**

- Mark the yellow spacer tube 1/4 inch from one end.
- Apply white glue inside one end of the body tube 2 inches from the end.
- Using the engine spacer tube, push the engine block up into the end of the body tube with the glue in it until the mark on the engine spacer tube is even with the end of the body tube. Remove the engine spacer tube **IMMEDIATELY**.



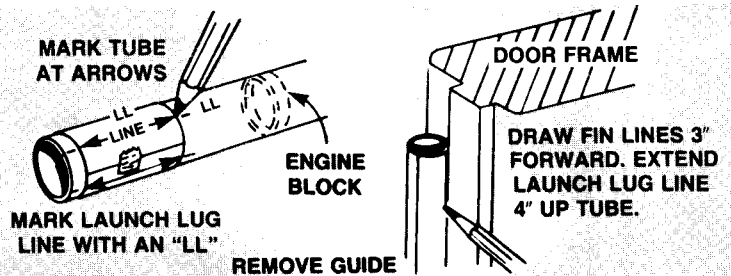
**2**

- Fine sand balsa die-cut sheet. Carefully remove fins by freeing edges with sharp knife.
- Stack fins together. Sand all edges smooth.



**3**

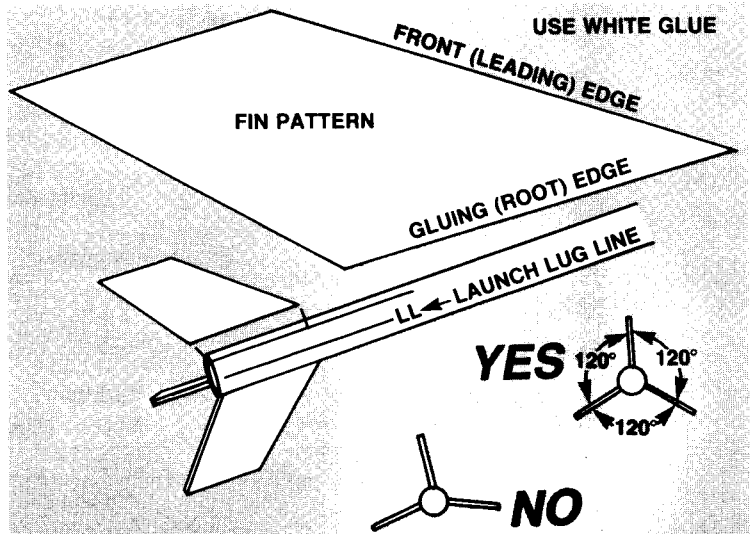
- Cut out tube marking guide from front page.
- Mark tube at arrows. Remove guide and save for Step 7. Draw 3 inch long lines for fins and 4 inch line for launch lug.



**4**

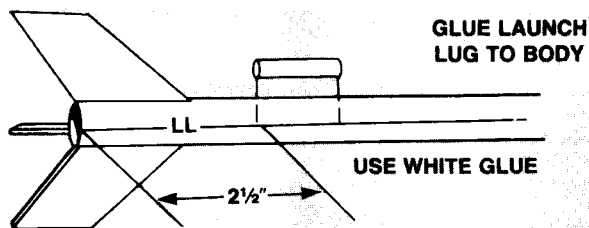
- Lay fins on pattern to find gluing (root) and front (leading) edges.
- Position and glue fins on alignment lines one at a time. Let each dry several minutes before applying the next one.
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet.

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



**5**

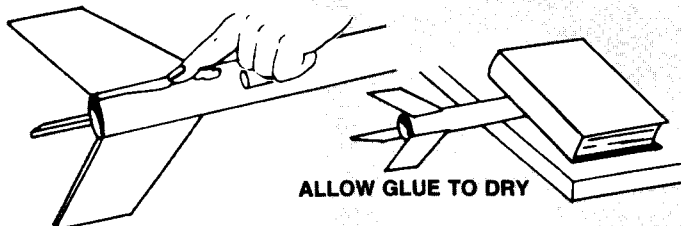
- A. Glue launch lug straight on launch lug line with its rear edge  $2\frac{1}{2}$  inches from rear of tube.



**6**

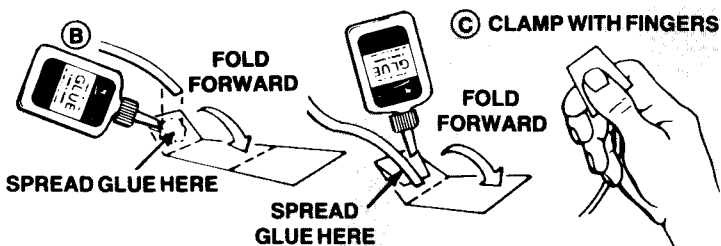
- A. Apply a glue reinforcement to both sides of each fin/body tube joint and each side of launch lug.  
B. Support rocket as shown until glue dries.

APPLY WHITE GLUE TO JOINTS. SMOOTH WITH FINGER.



**7**

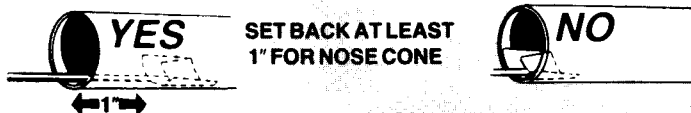
- A. Cut shock cord mount from tube marking guide.  
B. Crease on dotted lines by folding. Spread glue on section 1 and lay end of shock cord into glue. Fold over and apply glue to back of first section and exposed part of section 2. Lay shock cord as shown and fold mount over again.  
C. Clamp unit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



**8**

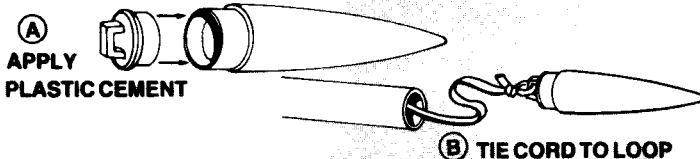
- A. Apply glue to inside front of body tube to cover an area no less than 1 inch to 2 inches from end. The glued area should be same size as shock cord mount.  
B. Press mount firmly into glue as shown.  
C. Hold until glue sets.

SPREAD GLUE INSIDE BODY TUBE



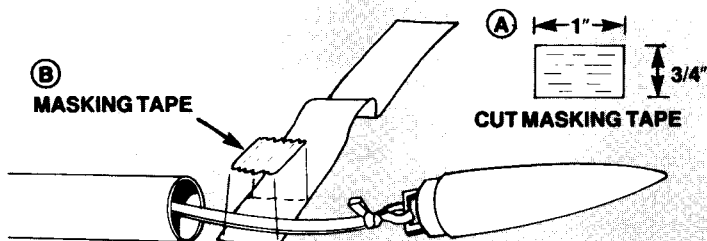
**9**

- A. Assemble nose cone and nose cone insert with plastic cement.  
B. When dry, tie free end of shock cord to nose loop with double knot.



**10**

- A. Cut a 1 inch long piece of  $\frac{3}{4}$  inch wide masking tape.  
B. Lay end of shock cord over end of streamer material as shown, and tape shock cord and streamer together.  
C. Press tape down firmly to assure a strong bond.

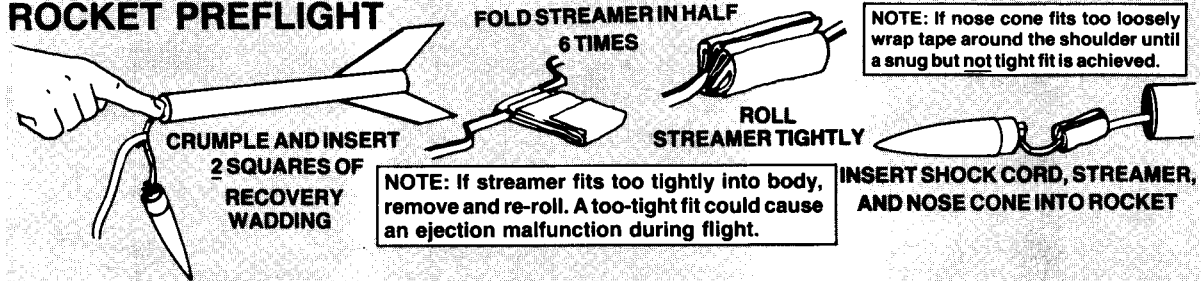


## FINISHING YOUR ROCKET

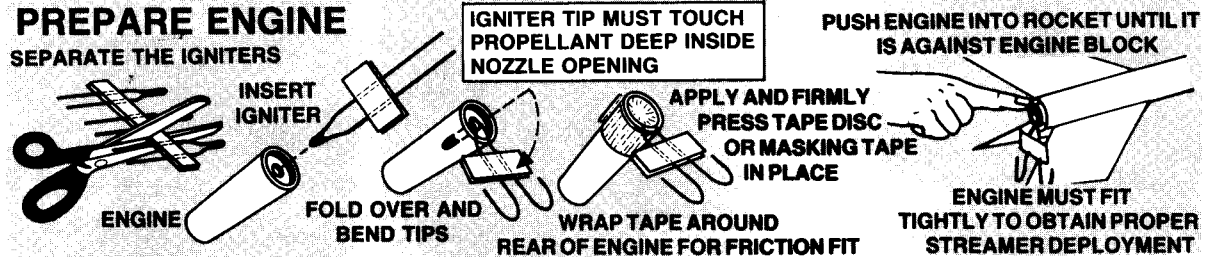
Apply sanding sealer to wood parts with small brush. When sealer is dry, lightly sand all sealed surfaces. Repeat sealing and sanding until balsa grain is filled and smooth. When sanding sealer and glue are completely dry, paint model with spray enamel. Refer to photograph on front page and/or on front of panel for paint locations and decal placement. Paint body

gloss black and nose cone bright silver. Follow instructions on spray can for best results. Let paint dry overnight before applying decals. To apply decals, cut each out, dip in lukewarm water for 20 seconds, and hold until it uncurls. Refer to photograph 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 gloss paint to protect decals.

## 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: 1/2A6-2, A8-3, B4-4, B6-4, or C6-5
- Use 1/2A6-2 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.

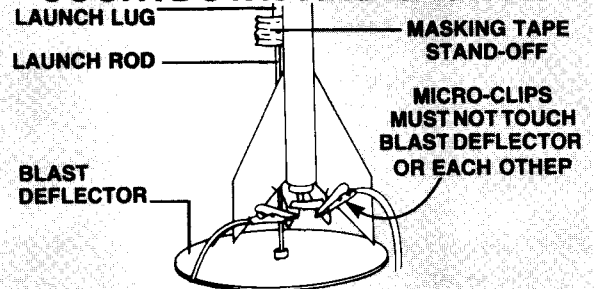
## FOR YOUR SAFETY AND ENJOYMENT

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

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

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## 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.

A diagram of a diamond-shaped fin pattern. The diamond is oriented with its vertices at the top, bottom, left, and right. The text "FIN PATTERN" is centered within the diamond. The text "GLUING (ROOT) EDGE" is located along the bottom-right edge of the diamond, following its orientation.

**FIN PATTERN**

**GLUING (ROOT) EDGE**



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