

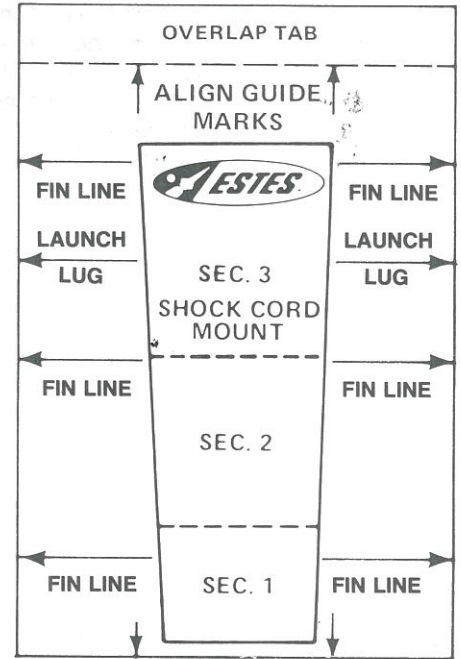
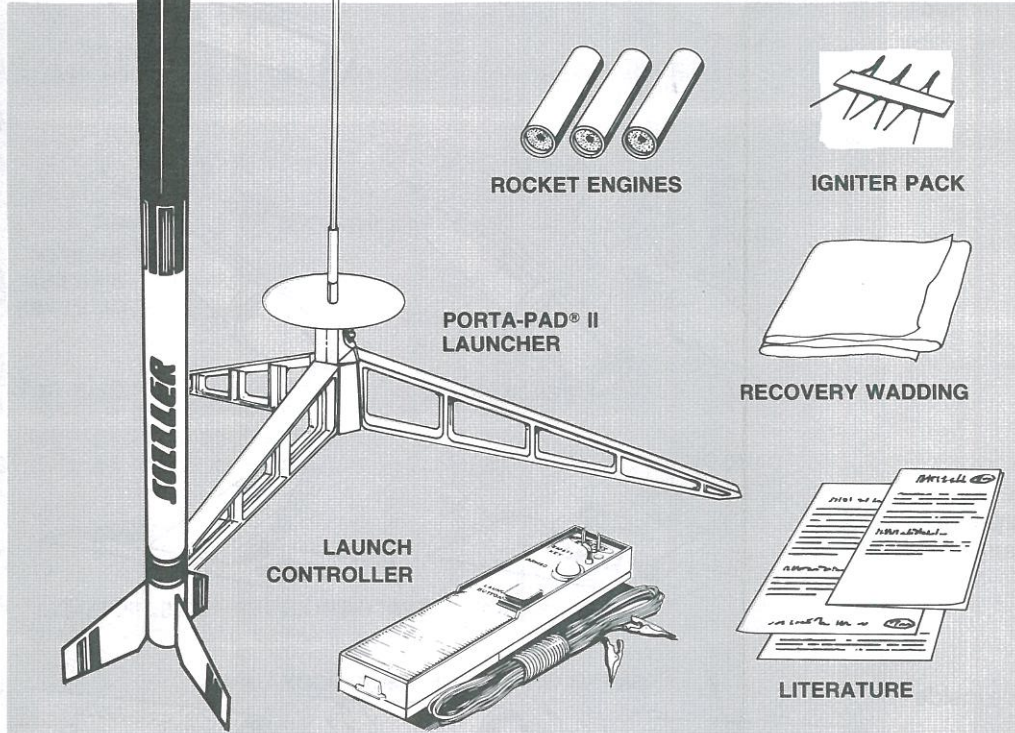


ESTES INDUSTRIES  
PENROSE, CO 81240 USA

# SIZZLER™

## FLYING MODEL ROCKET STARTER SET

#1432

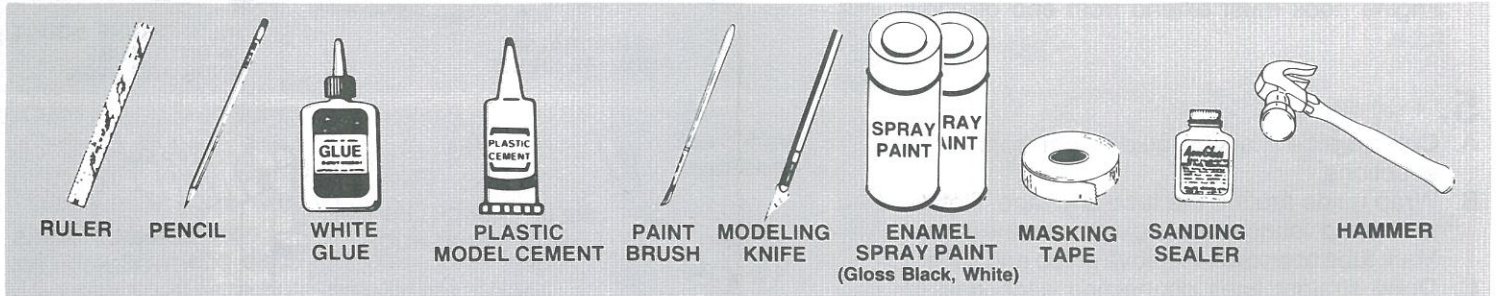


TUBE MARKING GUIDE

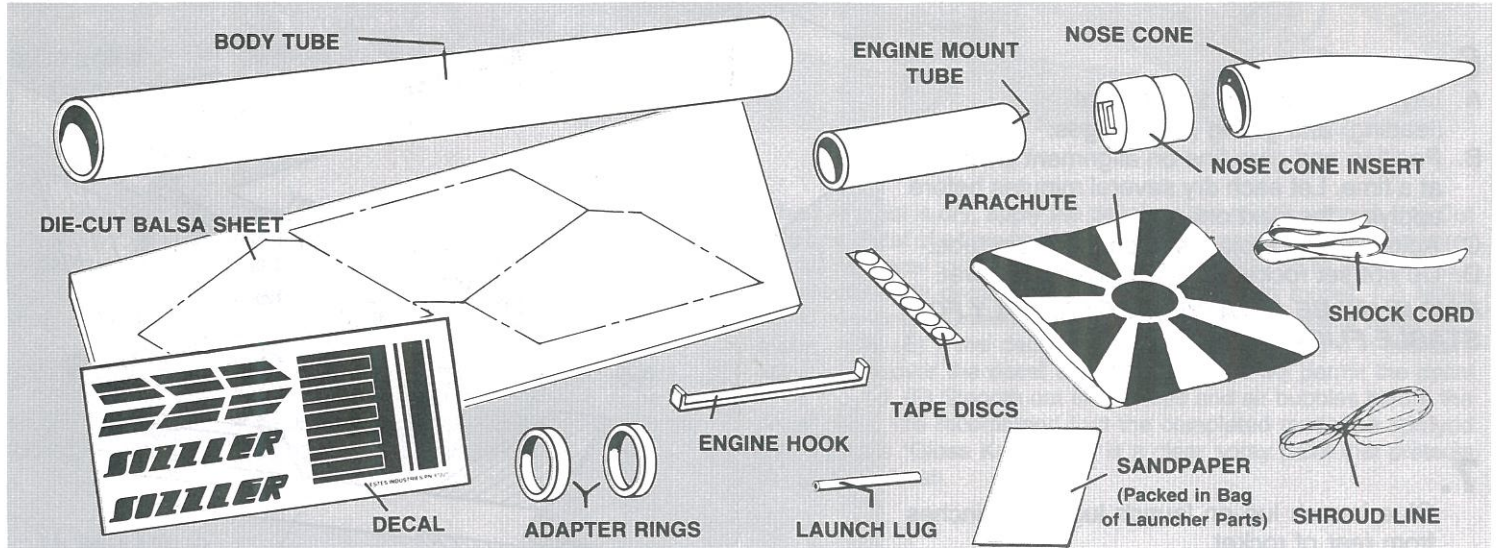
### ASSEMBLY TIP

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.

You will need the following items to assemble this kit:



### Part One: ROCKET ASSEMBLY

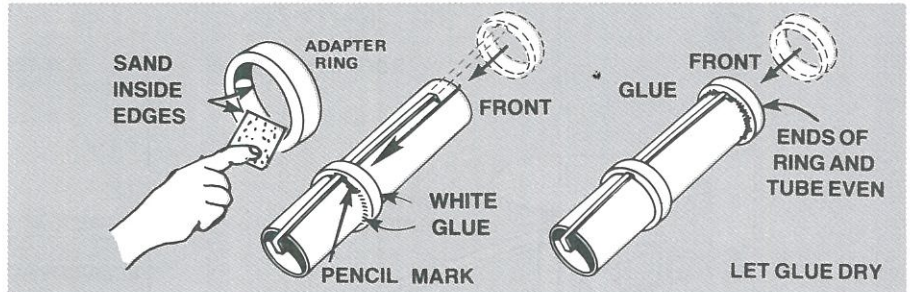
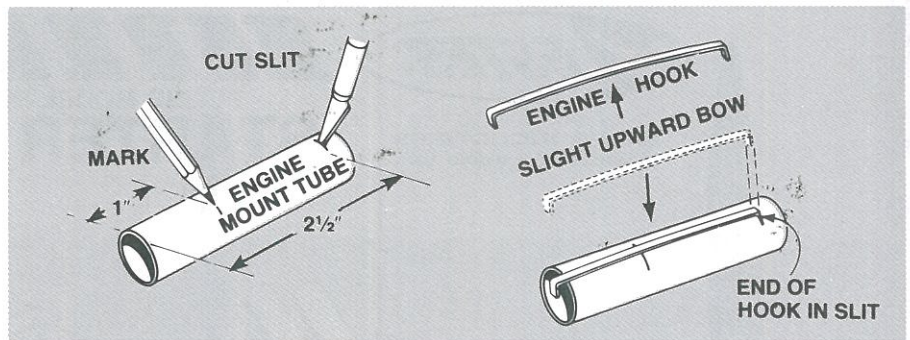


1. Sort and identify the parts shown above.



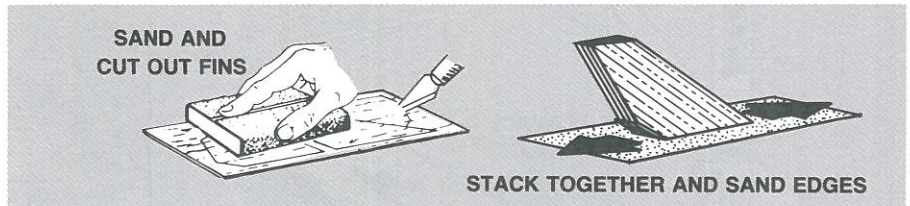
## 2.

- Mark tube 1 inch and 2½ inches from one end.
- Cut 1/8 inch long slit at 2½ inch mark.
- Insert one end of engine hook into slit.
- Sand inside edges of both adapter rings.
- Slide one ring onto front of tube and down to 1 inch mark. Glue both sides of ring/tube joint.
- Apply glue around front of tube. Slide remaining ring into place.



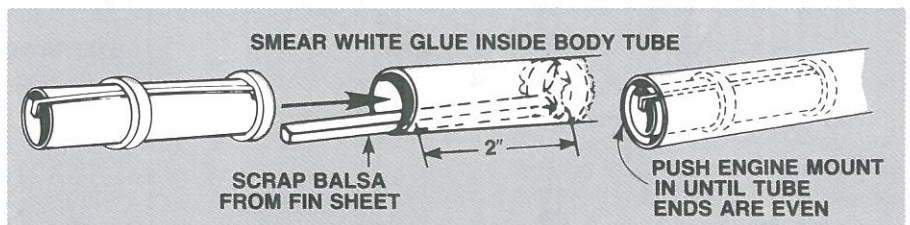
## 3.

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



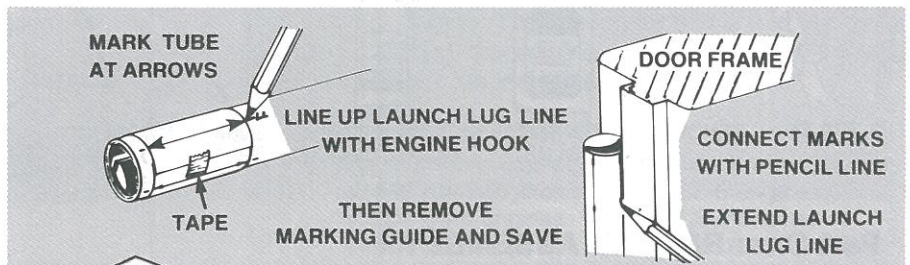
## 4.

- Using a piece of scrap balsa, smear glue inside body tube 2 inches from one end.
- Push engine mount in until tube ends are even. Engine hook must extend from end of body tube.



## 5.

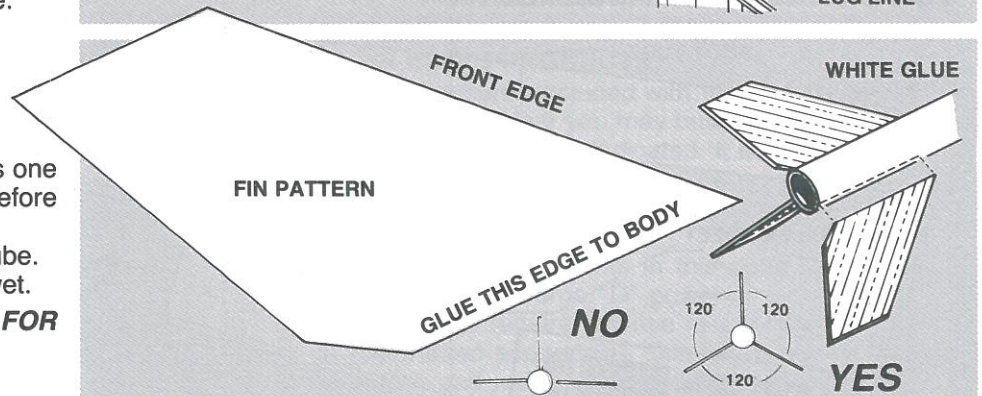
- Cut out tube marking guide from front of instructions.
- Wrap guide around the tube and tape. Rotate to line up launch lug line with engine hook. Mark tube at arrows. Remove guide and save.
- Draw straight lines connecting each pair of marks.
- Extend launch lug line full length of tube.



## 6.

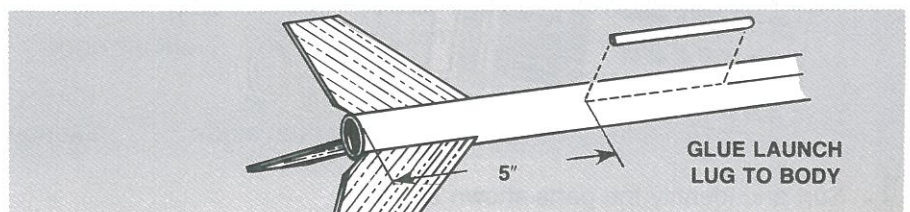
- Lay fins on pattern to find front (leading) and gluing (root) edges.
- Position and glue fins on alignment lines one at a time. Let each dry several minutes before applying the next one.
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet.

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



## 7.

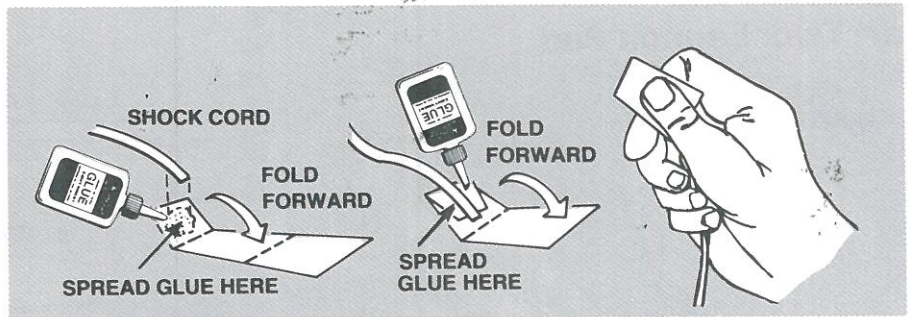
- Glue launch lug on launch lug line 5 inches from rear of rocket.





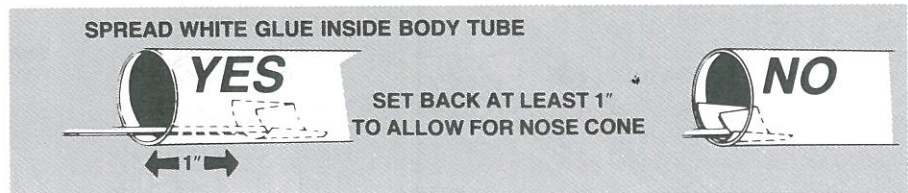
## 8.

- Cut shock cord mount from tube marking guide.
- 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.
- Clamp unit together with fingers until glue sets.



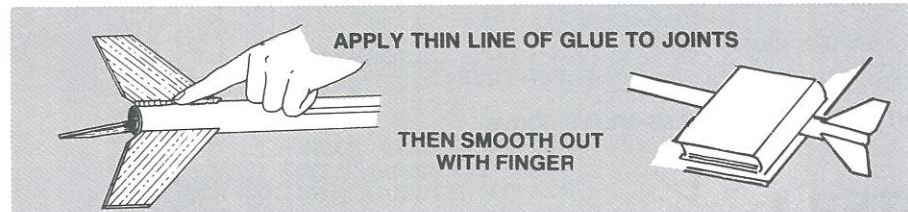
## 9

- 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.
- Press mount firmly into glue as shown.
- Hold until glue sets.



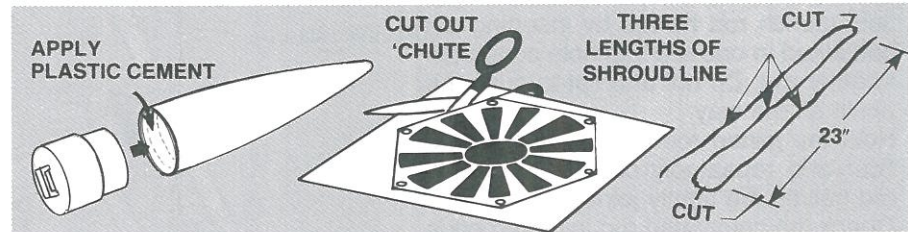
## 10.

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



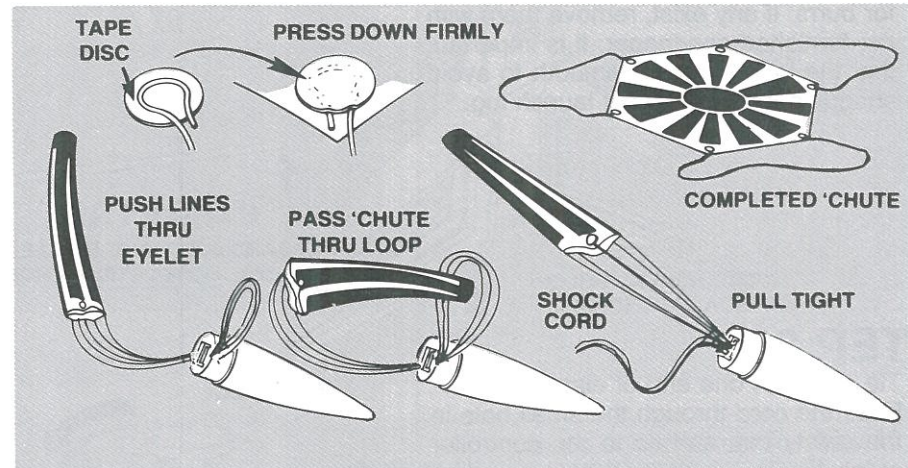
## 11.

- Cement nose cone and nose cone insert together with plastic cement. Let dry.



## 12.

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



## 13.

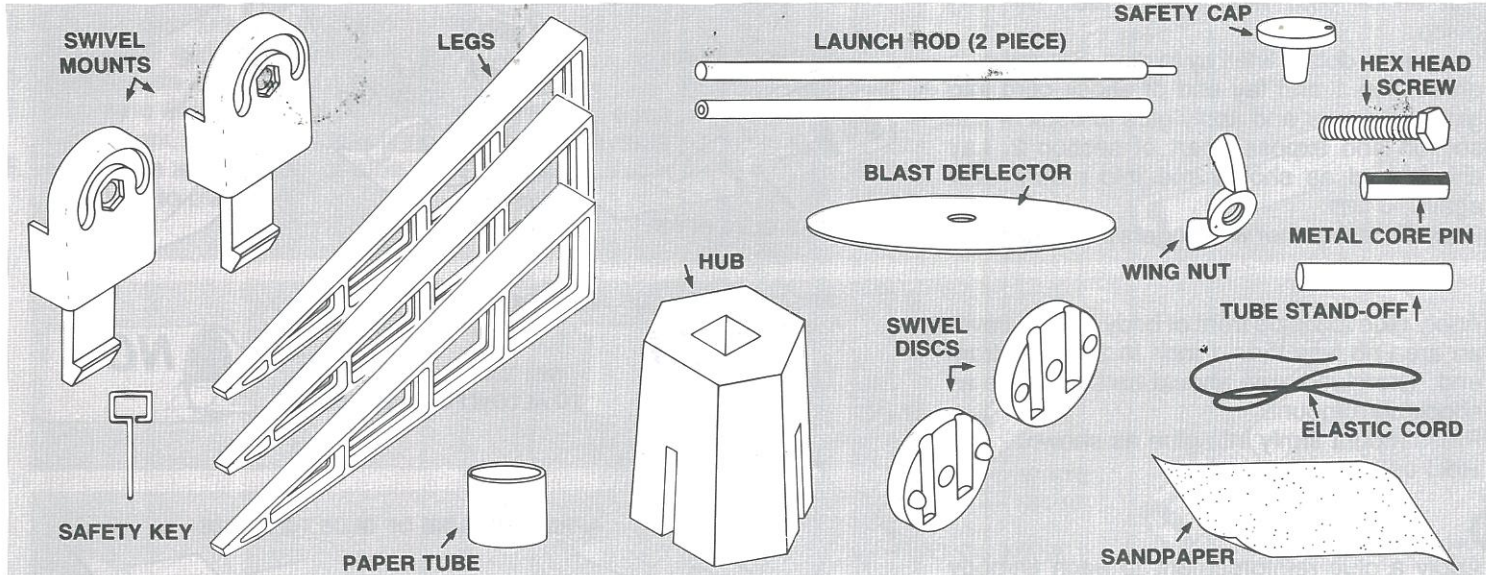
Apply sanding sealer to wood parts with small brush. When sealer is dry, lightly sand all sealed surfaces. Repeat sealing and sanding until balsa grain is filled and smooth. When sanding sealer and glue are completely dry, paint model with gloss white spray enamel. Follow instructions on spray can for best results. Let paint dry overnight.

Apply masking tape and paper to cover and protect the areas which will remain white. (See photo on box.) Paint the forward 4 inches of the body tube and the nose cone gloss black. Carefully remove the masking tape and paper as soon as the paint is dry.

When all paint is dry, apply the decals in the position shown. (A) Cut only one decal at a time from sheet. (B) Submerge decal in lukewarm water until decal slides on backing paper (usually 15 to 30 seconds). (C) Gently slide decal from backing paper onto model. (D) Move decal into exact position and carefully blot away excess water with a soft cloth. (E) If the decal "sticks" before you have it in position, apply water over the decal with a brush. This will permit the decal to be moved. (F) Smooth out all wrinkles and air bubbles before the decal dries. We recommend that the completed model be sprayed with Testor's "Gloss Kote". This is a clear spray paint that protects the model's finish.



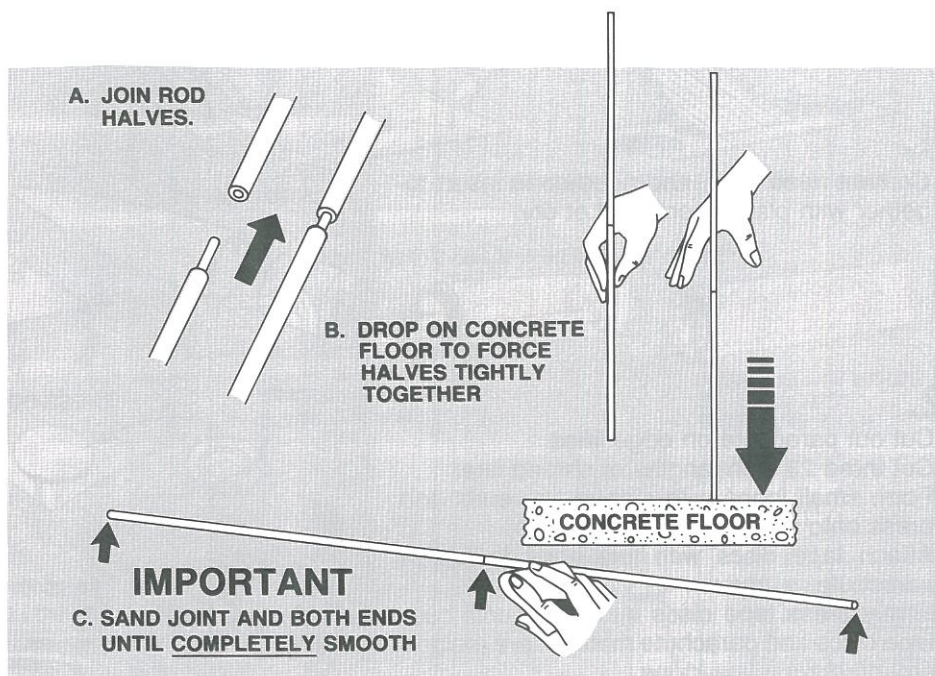
## Part Two: Launch Pad



Sort and identify parts as shown above.

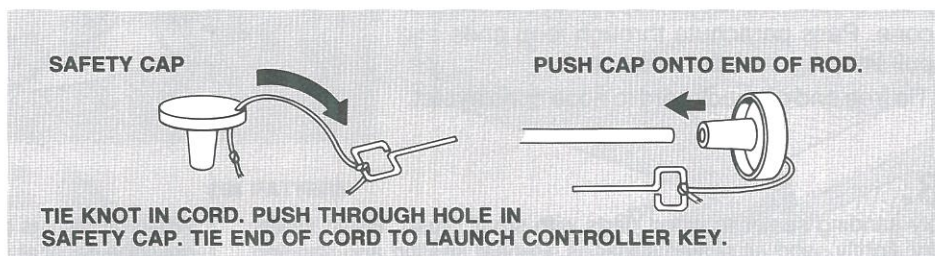
### STEP 1

- Join launch rod halves by inserting pin contained in one rod into hole contained in other rod. Do not attempt to push the pin in all the way.
- Hold the joined rods above a concrete floor and repeatedly drop on end until rod halves are tightly joined.
- Check the completed rod joint and ends for burrs. If any exist, remove them with the furnished sandpaper. It is important that the launch rod be smooth to avoid snagging a model rocket launch lug.



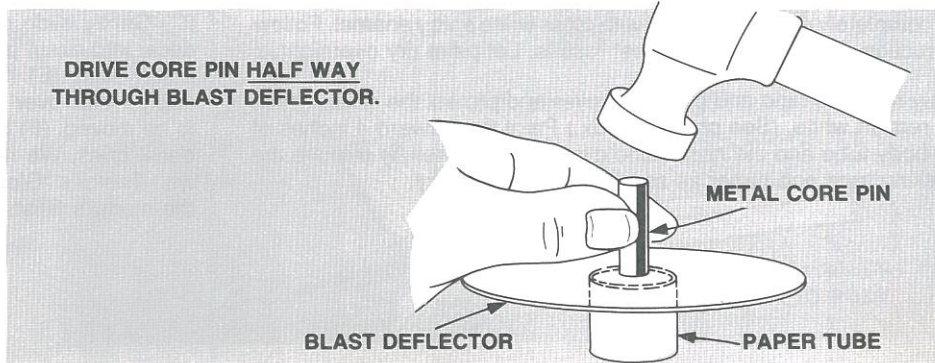
### STEP 2

- Tie a knot in one end of elastic cord.
- Pass the cord through the small hole in the safety cap and tie to the controller safety key.
- Place the safety cap on one end of the launch rod and set aside.



### STEP 3

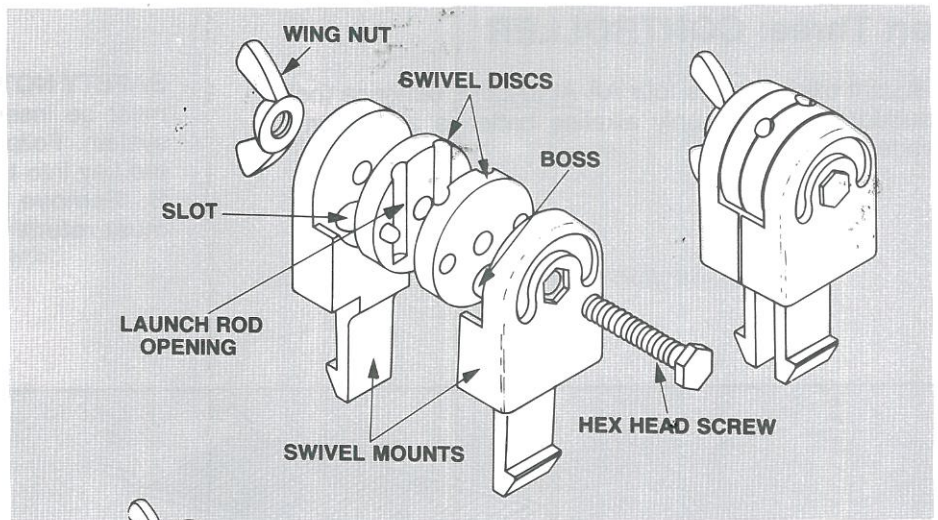
- Center the blast deflector on top of the short heavy wall paper tube over a hard surface.
- Use a hammer to drive the metal core pin half way through the blast deflector.
- Discard the paper tube.





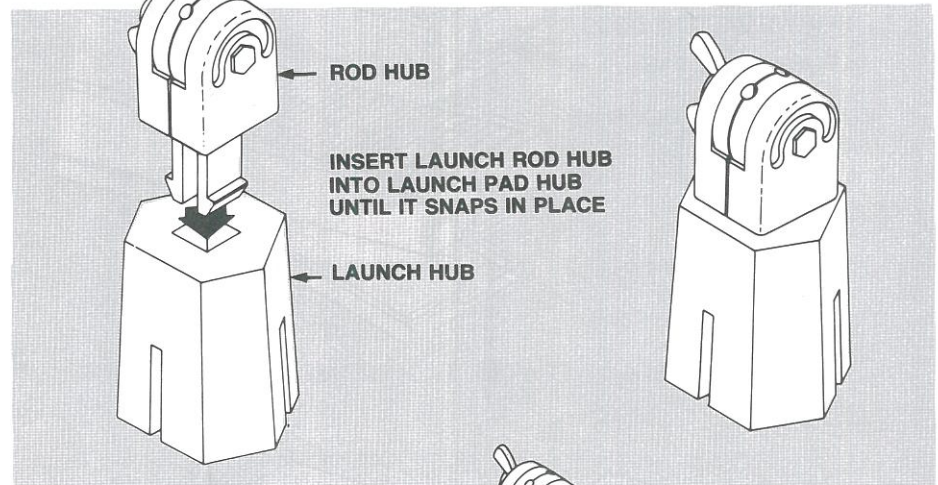
## STEP 4.

- Join swivel discs so that launch rod openings match.
- Insert hex head machine screw through central hole in one swivel mount.
- Slide joined swivel discs onto hex head screw. Seat circular boss on swivel disc into slot in swivel mount.
- Slide remaining swivel mount onto hex head screw and seat slot over circular boss.
- Attach and lightly tighten wing nut.



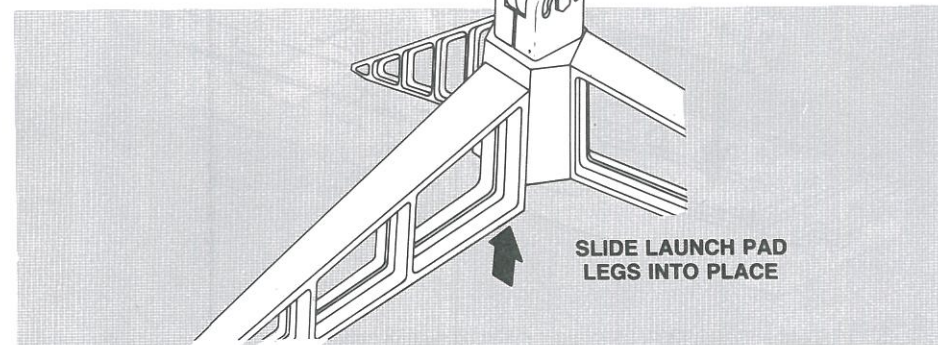
## STEP 5.

- Push the completed launch rod hub assembly into the square opening in the top of the launch pad hub as far as it will go. It will snap in place.



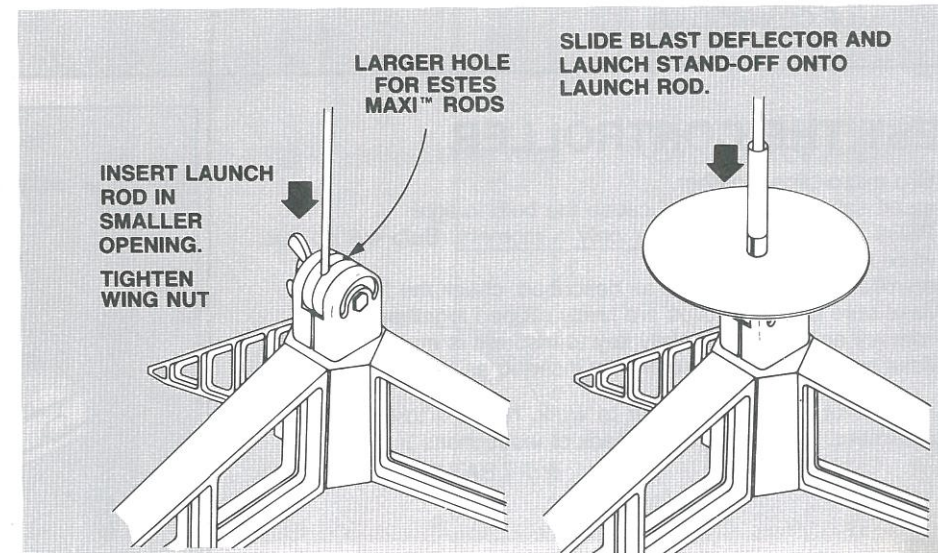
## STEP 6.

- Attach the launch pad legs to the launch pad hub. Legs are seated properly when their tops are even with the top of the hub.



## STEP 7.

- Insert the launch rod into the smaller launch rod opening between the swivel discs until it stops. (The larger opening is designed for Estes Maxi™ Rod launch rods.)
- Tighten the wing nut securely.
- Remove the safety cap from the rod end and slide the blast deflector onto the rod.
- Slide the model rocket tube stand-off onto the rod.
- Replace the safety cap on the launch rod.

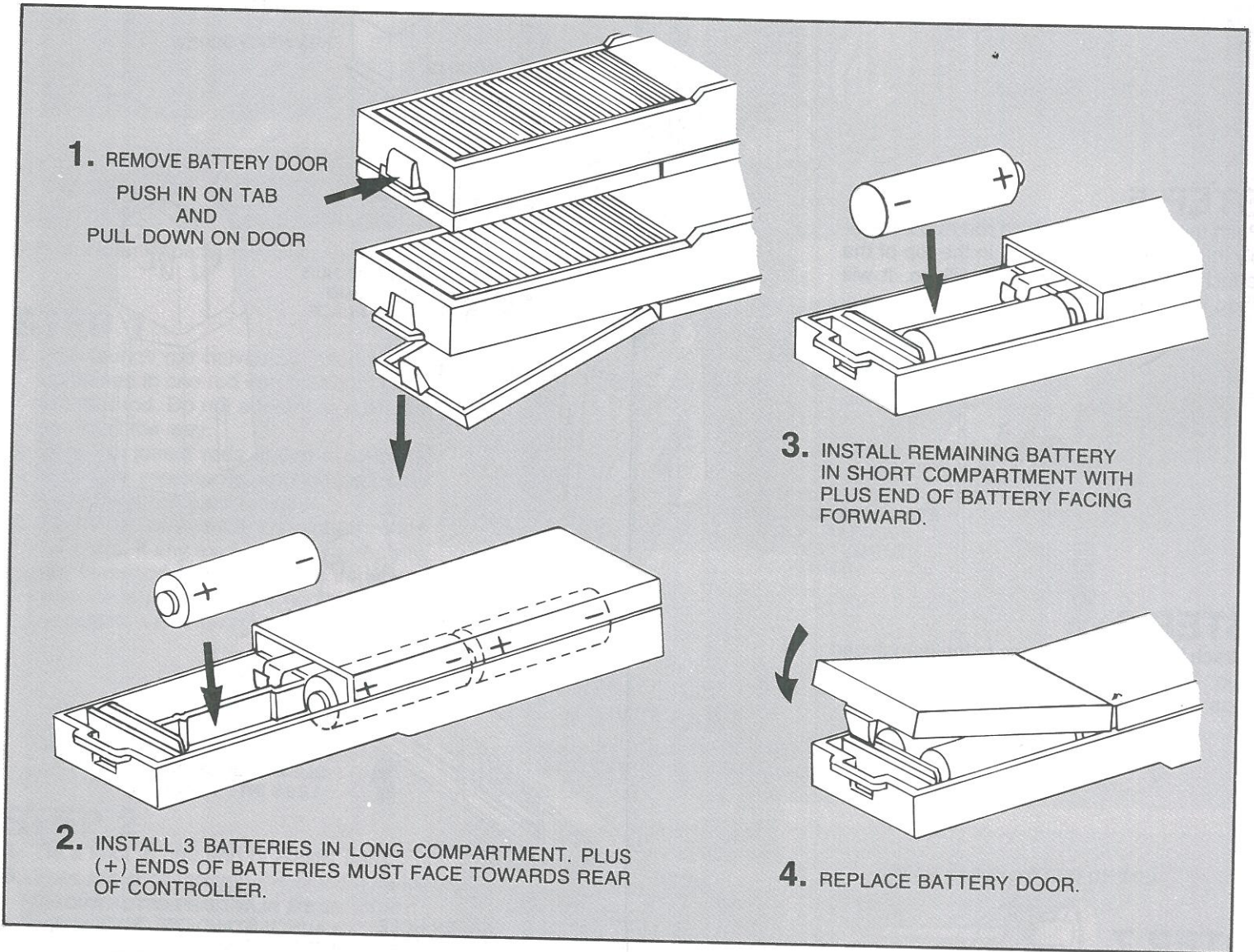




## Part Three: CONTROLLER

This controller requires four AA ALKALINE batteries (not included). Note that only alkaline batteries are recommended.

**SAFETY NOTE:** This controller contains a safety key that must be inserted into the controller to arm the launch system. Follow this simple safety rule: **A.** Never insert the key into the controller until you are ready to launch. **B. Remove the key immediately after launch or if you must return to the launch pad in case of a misfire.**



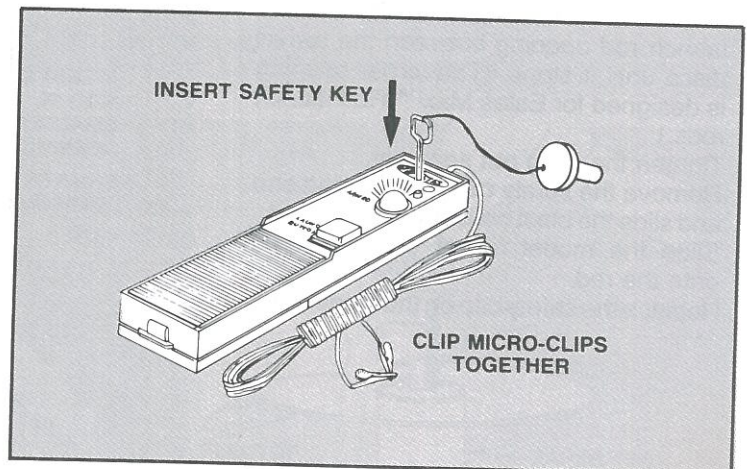
## TEST THE CONTROLLER

1. Clip micro-clips together.
2. Insert safety key. This will cause the bulb to light.
3. Press the launch button for only a moment. Bulb will go out while button is depressed.

If controller does not behave as described, check the following:

- Make sure the micro-clips are firmly clipped together.
- Remove and re-insert safety key to insure it is making contact.
- Make sure batteries are correctly inserted as described above.

If you cannot get the controller to work, return it to Estes for replacement. (See warranty on back of instructions.)

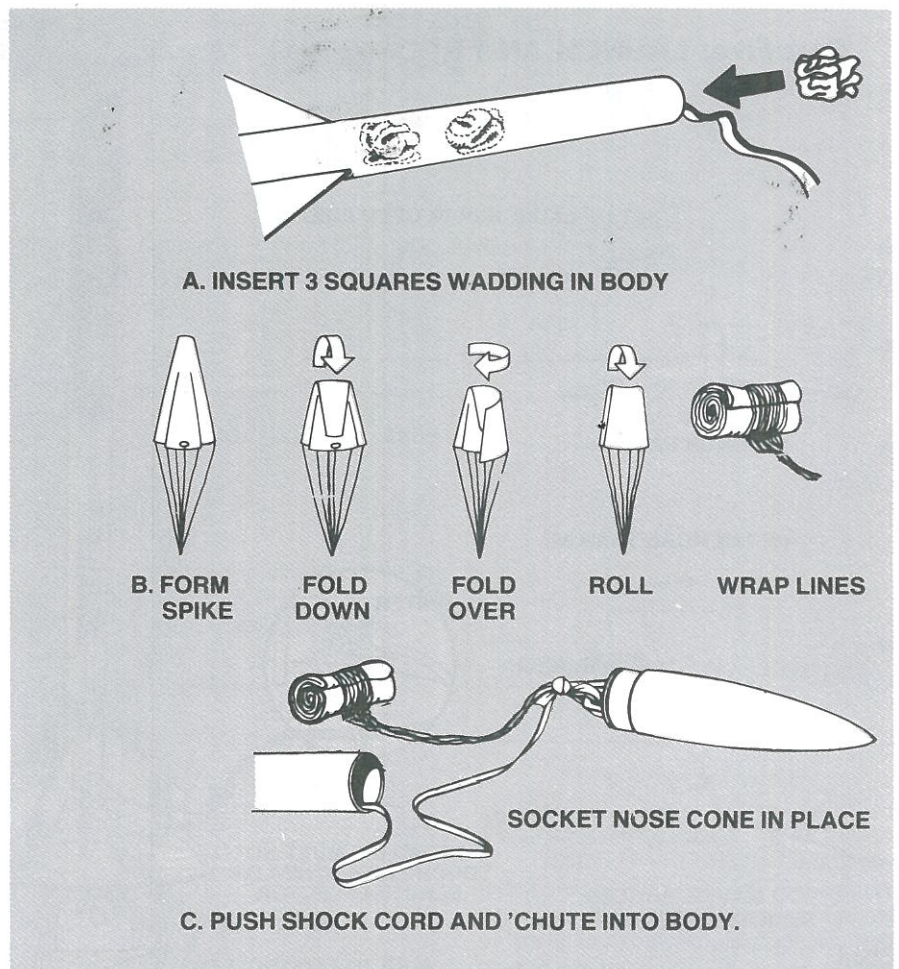




## Part Four: FLIGHT PREPARATION

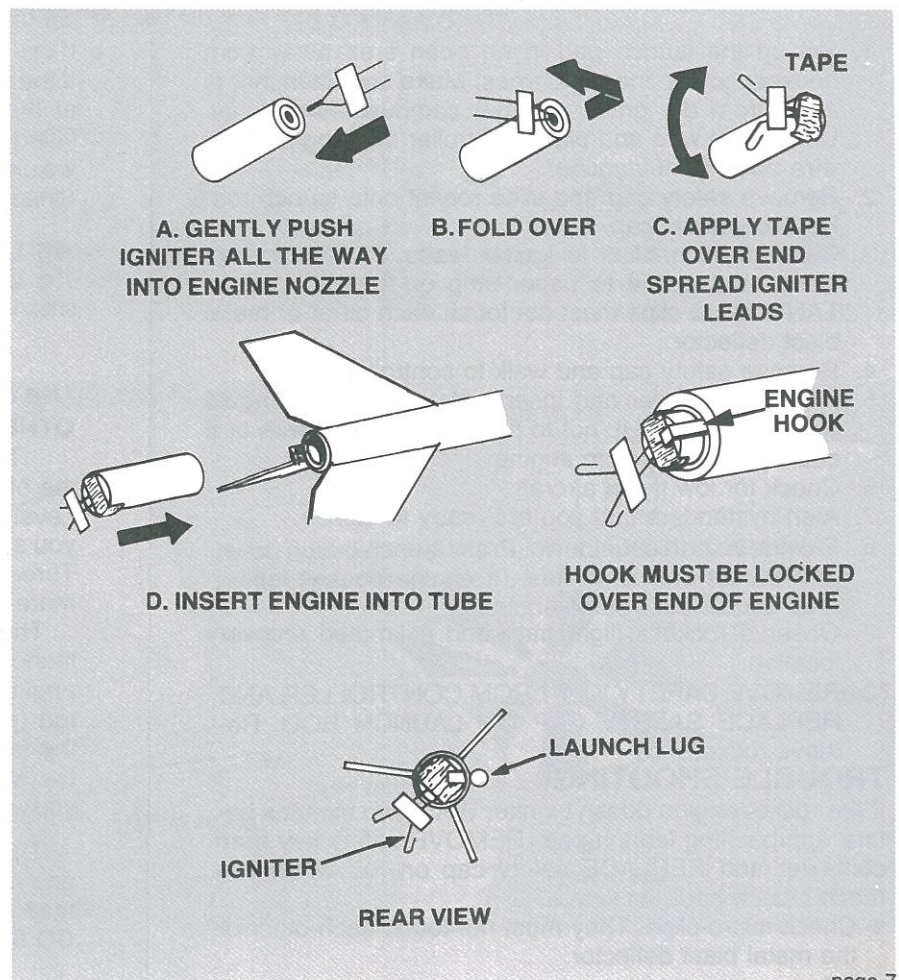
### ROCKET PREPARATION

- A. Loosely crumple three squares of 'chute wadding. Insert wadding into body, but do not pack tightly.
- B. Pull 'chute into spike shape. Fold top of 'chute down then fold one side over. Roll 'chute tightly and wrap shroud lines around it.
- C. Push shock cord and 'chute down into body and socket nose cone into place. **CAUTION:** 'chute must slide easily into body. If it fits tightly, remove and re-pack 'chute.



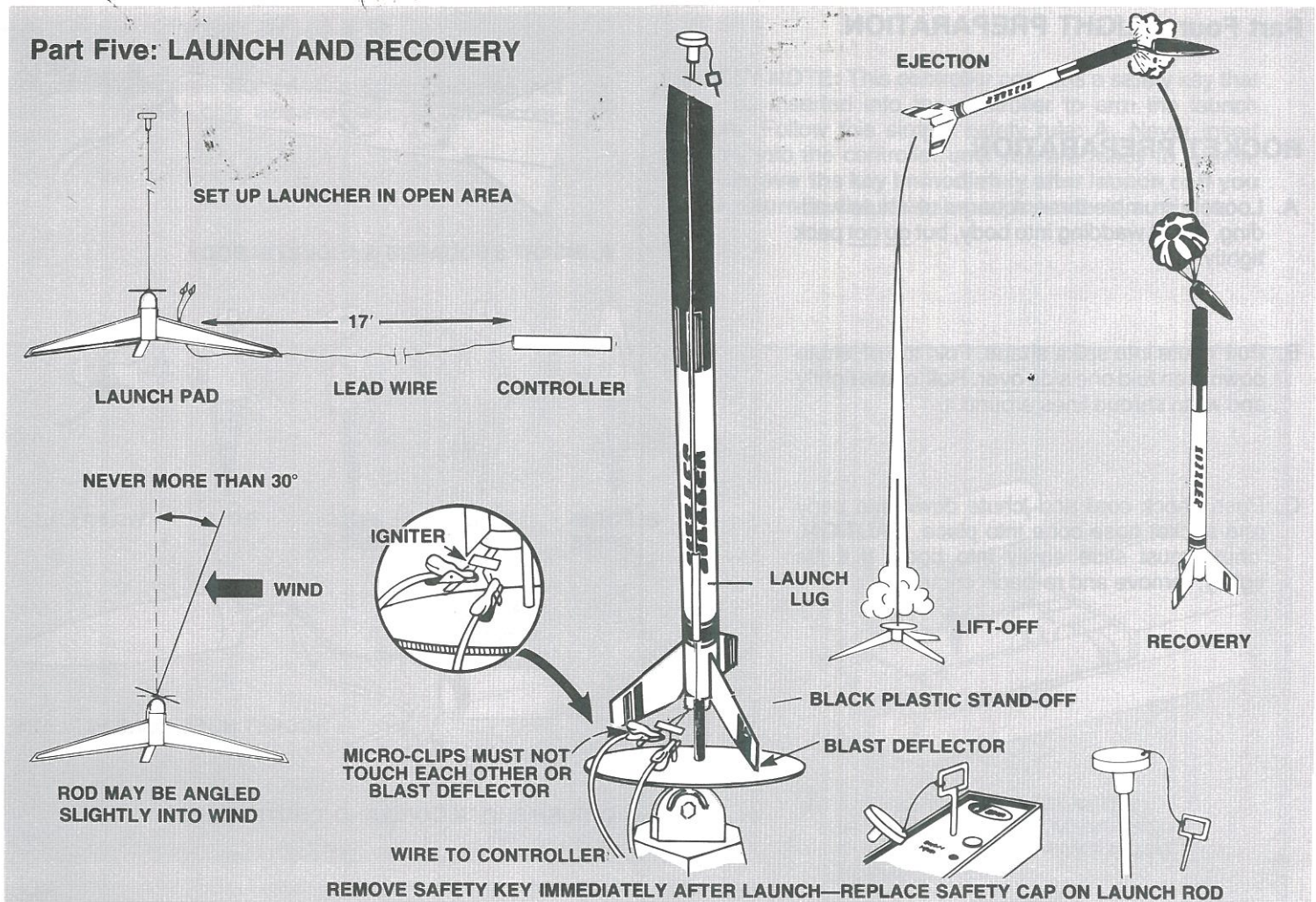
### ENGINE INSTALLATION

- A. Carefully remove the staple holding igniters in paper. Cut one igniter from strip. Insert igniter into engine nozzle. Gently push in as far as it will go.
- B. Fold exposed portion of igniter down flat against end of engine.
- C. Apply a piece of tape over end of engine. Push tape down FIRMLY over nozzle and igniter. Spread igniter leads and bend them back into tight 'U' shapes.
- D. Push end of engine hook back and insert engine into tube. Engine must be rotated so igniter is **NOT** aligned beneath launch lug. Make sure engine hook is securely locked over end of engine.





## Part Five: LAUNCH AND RECOVERY



1. Set up the launch pad in an open area away from houses, power lines and trees. Make sure launcher is away from dry grass or other combustible material. Unroll lead wire and place controller the length of the wire away from launcher.
2. Remove safety cap and slide rocket onto launch rod. Replace safety cap.
3. Connect micro-clips to igniter leads. Attach clips as close as possible to paper strip on igniter. **IMPORTANT:** Micro-clips must not touch each other or metal blast deflector.
4. Remove safety cap and walk to controller.
5. Pick up controller and insert safety key. Bulb should light. **BE CAREFUL** not to put strain on lead wire or it could pull igniter from engine.
6. Check for low flying aircraft.
7. Alert bystanders that you are ready to launch.
8. Provide a short countdown. Press launch button down until rocket engine ignites. (If engine doesn't ignite, read section on trouble shooting).
9. Observe rocket's flight path and estimated recovery location.
10. **REMOVE SAFETY KEY FROM CONTROLLER AND REPLACE SAFETY CAP ON LAUNCH ROD.** Retrieve rocket.

### TROUBLE SHOOTING

If the rocket engine doesn't ignite, **WAIT** two minutes before approaching launch pad. **REMOVE** safety key from controller and **REPLACE** safety cap on rod when you reach launch pad.

- Check micro-clips. They must not touch each other or the metal blast deflector.

- If this isn't the problem, remove the igniter from the engine. If the igniter is broken at the tip, it is defective. If the material at the tip has burned away, then the igniter worked but failed to ignite engine. The reason for this is that the igniter was not contacting the engine propellant. Install a new igniter and repeat the launch sequence.

### RE-LAUNCH COMPONENTS:

The following items are available separately in most hobby shops.

#1598 A8-3 engines	#1620 B8-5 engines
#1602 B4-4 engines	#1614 C6-5 engines
#1606 B6-4 engines	#2274 Recovery wadding

*Use only Estes products with this set.*

### OTHER ESTES PRODUCTS:

The brochures included with this set shows some of the other rockets that you may build and launch. The Skill Level for each rocket is indicated. It is recommended that you start with Skill Level One and Two rockets. A Skill Level Three rocket should not be attempted until you have gained more experience.

The launch components in this outfit can be used to launch even very large "D" powered rockets. Some "D" engine rockets require the use of a larger (3/16") launch rod (purchased separately). The larger pair of grooves in the launch pad rod hub are designed to accept the 3/16" dia. Maxi™ launch rod (#2244). When using the larger rod, you will have to remove the core pin from the blast deflector.

The full line of Estes products is available from most toy and hobby shops and many chain stores. Or for more information write: **Estes Industries, P.O. Box 227, Penrose, CO 81240.**