



ESTES INDUSTRIES  
1295 H Street  
Petrose, CO 81240

(7-96) 82130  
EST 1473

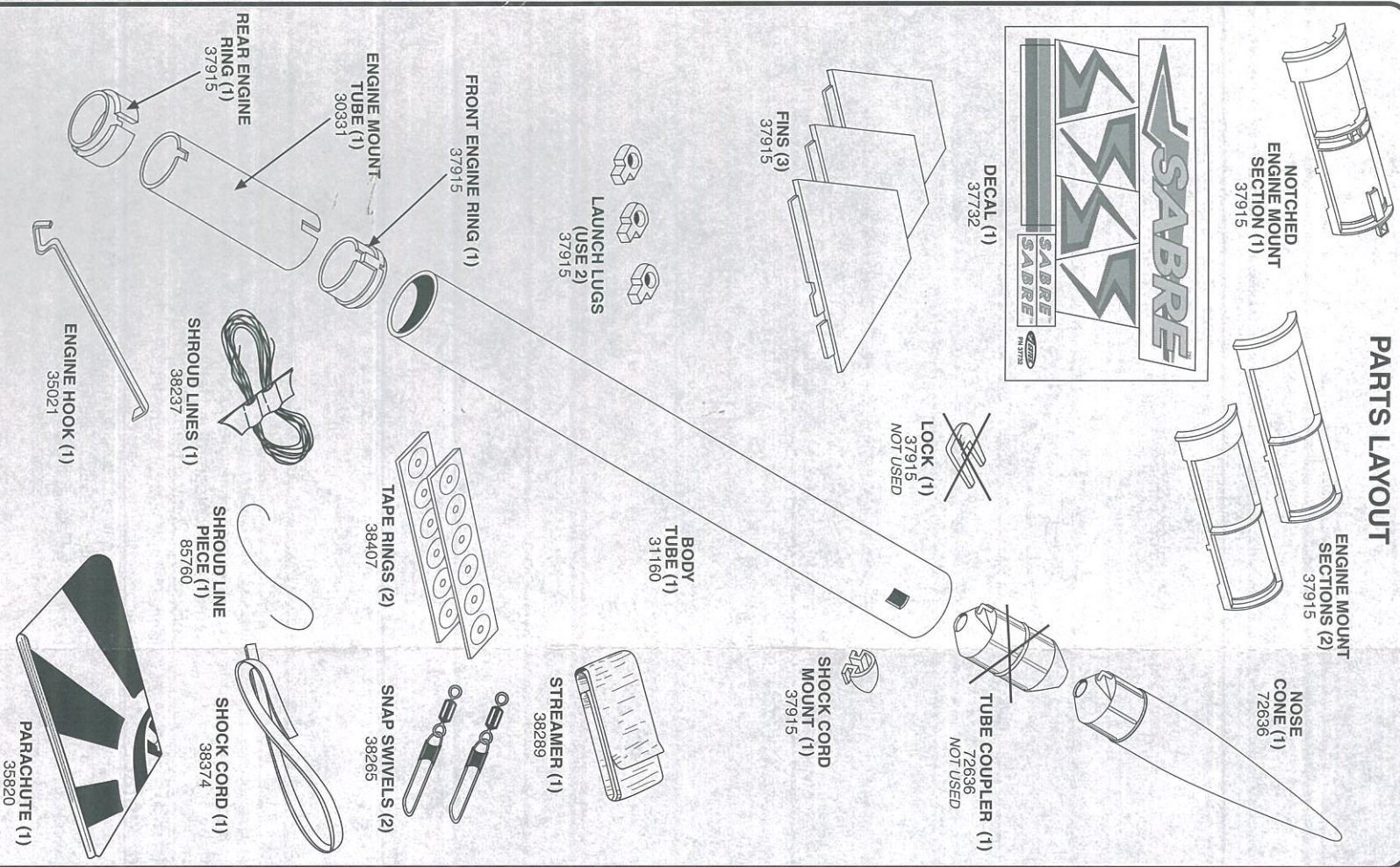


# SABRE™ INSTRUCTIONS

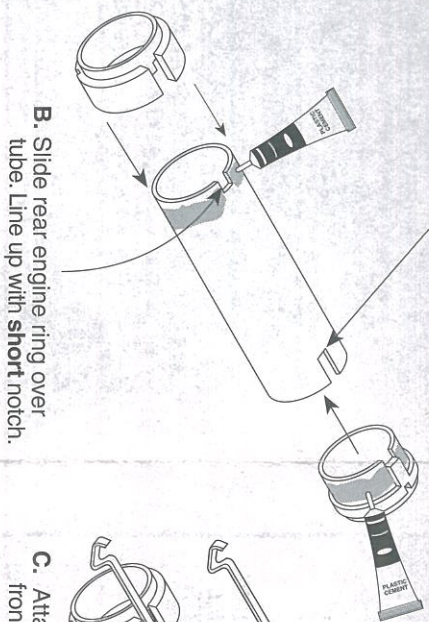
**TOOLS REQUIRED:**  
HOBBY KNIFE, MASKING TAPE, TUBE-TYPE PLASTIC CEMENT

ALL GLUED AREAS ARE SHADED IN GRAY

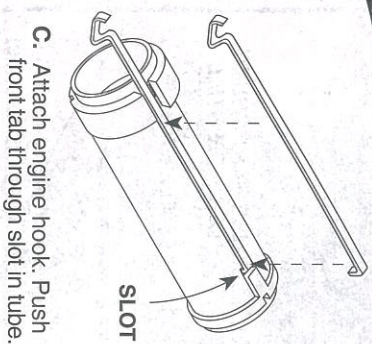
## PARTS LAYOUT



**1.** A. Slide front engine ring inside engine mount tube. Line up with long notch.

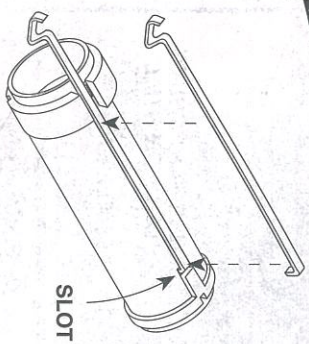


**IMPORTANT!** THIS NOTCH GOES OVER ENGINE HOOK

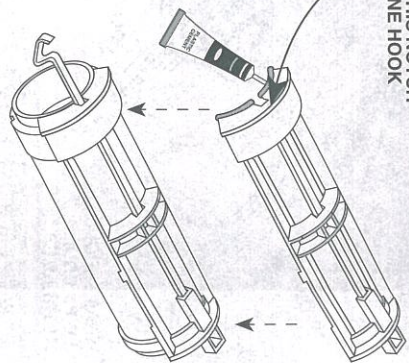


B. Slide rear engine ring over tube. Line up with short notch.

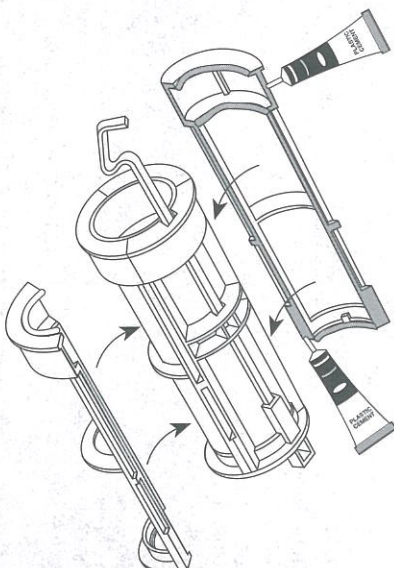
C. Attach engine hook. Push front tab through slot in tube.



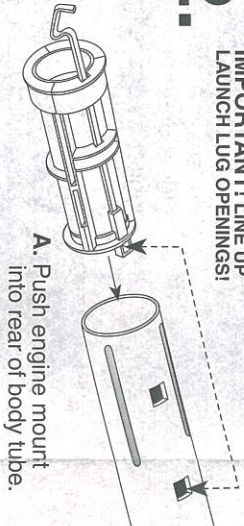
D. Apply cement to underside of notched engine mount section and attach.



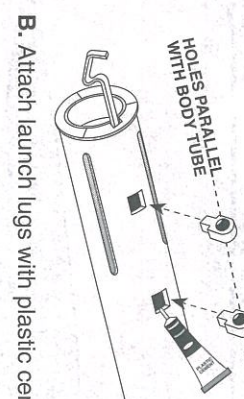
E. Now attach the remaining sections with cement as shown.



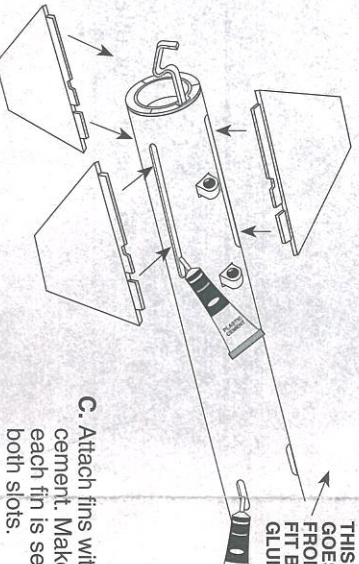
**2.** **IMPORTANT!** LINE UP LAUNCH LUG OPENINGS!



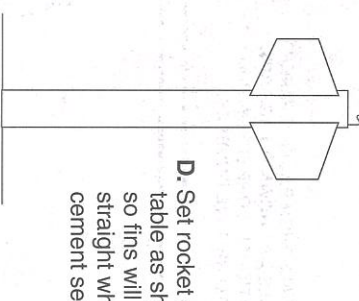
A. Push engine mount into rear of body tube.



B. Attach launch lugs with plastic cement.

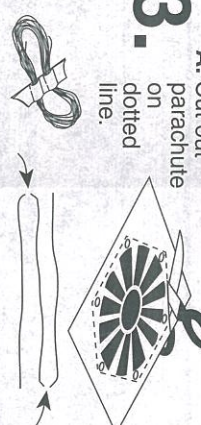


C. Attach fins with plastic cement. Make sure each fin is seated in both slots.



D. Set rocket on table as shown so fins will stay straight while cement sets.

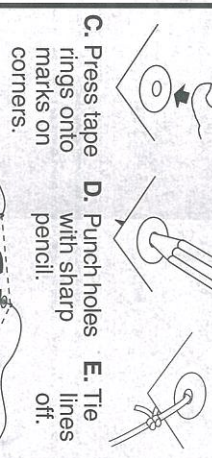
**3.**



A. Cut out parachute on dotted line.



B. Find shroud line material. Remove tape. Using all of the string, fold and cut into three equal lengths.



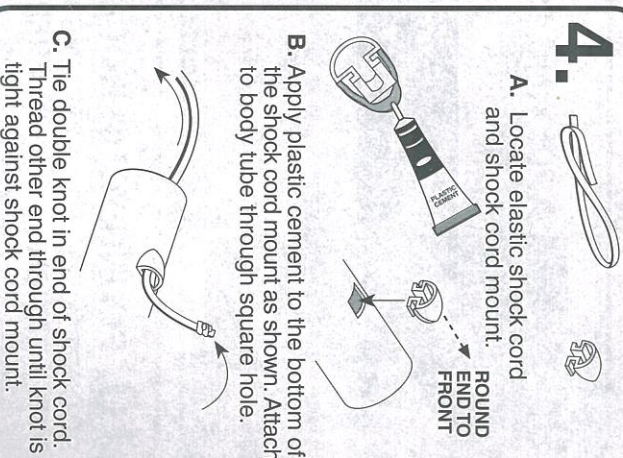
C. Press tape rings onto corners.



D. Punch holes with sharp pencil.



E. Tie lines off.

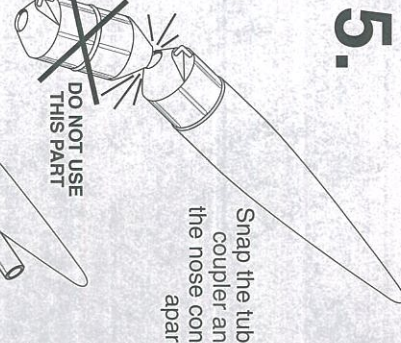


A. Locate elastic shock cord and shock cord mount.

B. Apply plastic cement to the bottom of the shock cord mount as shown. Attach to body tube through square hole.

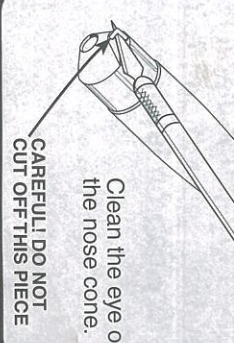
C. Tie the double knot in end of shock cord. Thread other end through until knot is tight against shock cord mount.

**5.**



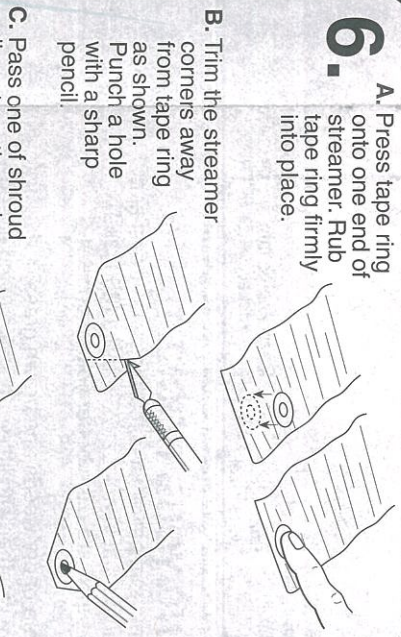
Snap the tube coupler and the nose cone apart.

DO NOT USE THIS PART



Clean the eye of the nose cone. CAREFUL! DO NOT CUT OFF THIS PIECE

**6.**



A. Press tape ring onto one end of streamer. Rub tape ring firmly into place.



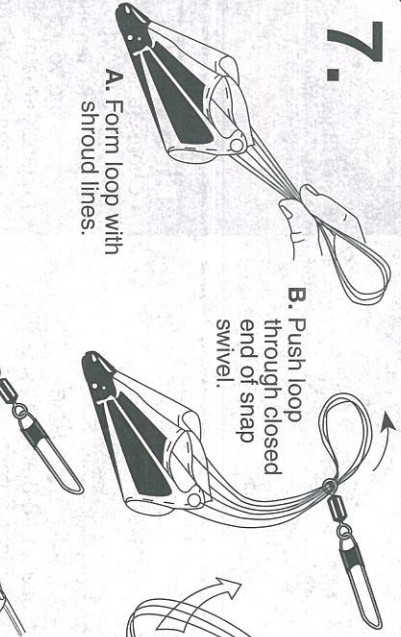
B. Trim the streamer corners away from tape ring as shown. Punch a hole with a sharp pencil.



C. Pass one of shroud line piece through the center of tape ring and tie the line with a double knot.

D. Tie the free end of line to closed end of snap swivel (i.e. "non-snapping" side)

**7.**



A. Form loop with shroud lines.

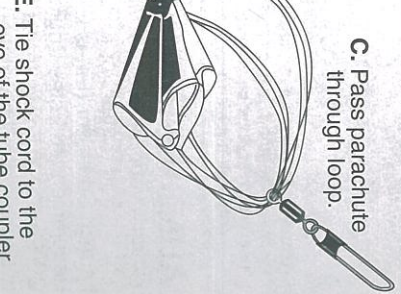


B. Push loop through closed end of snap swivel.



C. Pass parachute through loop.

D. Pull tight.



E. Tie the shock cord to the eye of the tube coupler with a double knot.

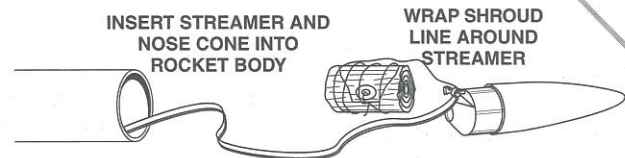
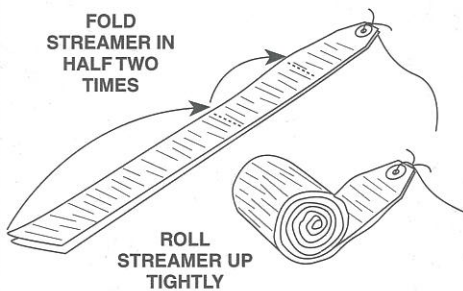
Then attach either the parachute or streamer by means of the snap swivel attached to them. (See step 8 for more information.)

## 8. PACKING STREAMER OR PARACHUTE

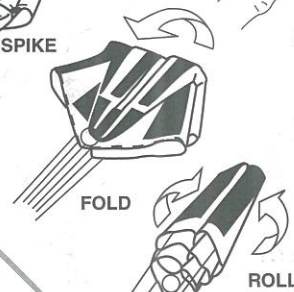
- A. Select parachute or streamer recovery device.
- B. Attach snap swivel to nose cone eyelet.

Recovery device should slide easily into body tube. If fit is too tight, unfold and repack again.

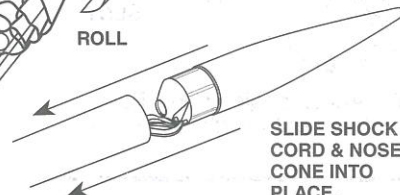
**DO NOT FORGET TO PACK RECOVERY WADDING IN THE ROCKET BEFORE FLYING - SEE STEP 10**



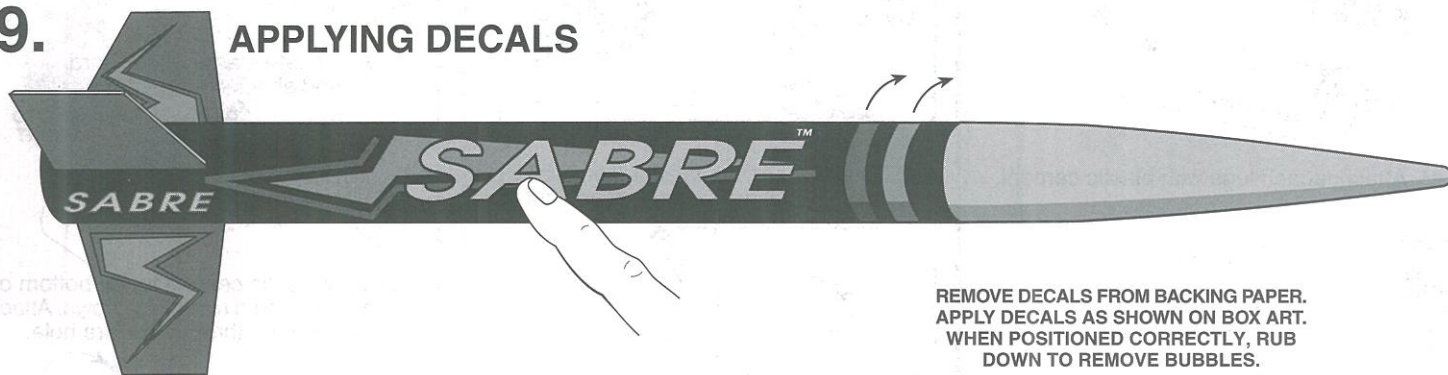
**USE STREAMER RECOVERY WHEN BREEZE IS STRONG AND WITH ALL B AND C ENGINES.**



**USE PARACHUTE ONLY ON STILL DAYS AND WITH SMALL ENGINES.**



## 9. APPLYING DECALS



REMOVE DECALS FROM BACKING PAPER. APPLY DECALS AS SHOWN ON BOX ART. WHEN POSITIONED CORRECTLY, RUB DOWN TO REMOVE BUBBLES.

## 10. FLYING YOUR ROCKET

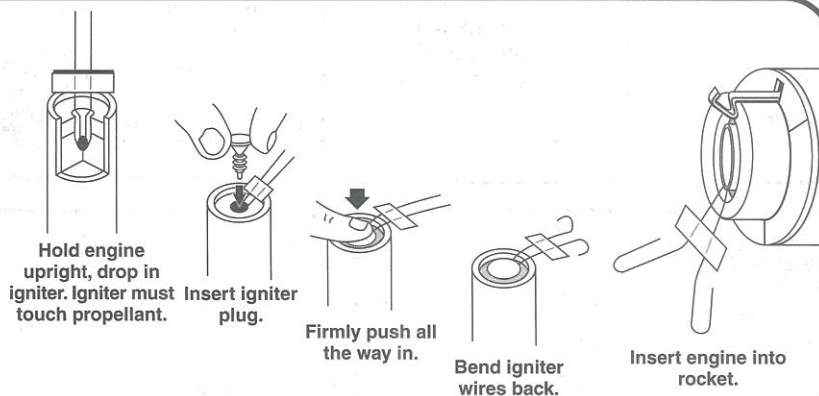
### ROCKET PREPARATION

Remove nose cone, shock cord and recovery device.

Crumple and insert three squares of recovery wadding. Repack and insert recovery device, shock cord and nose cone.

### ENGINE PREPARATION

Separate igniter and igniter plug.



## LAUNCH SUPPLIES

To launch your rocket, you will need the following:

- Launch Pad (Estes Porta-Pad® II)
- Launch Controller (Estes Electron Beam®)
- Recommended Estes Engines: A8-3, B4-4, B6-4, B6-6, C6-5 or C6-7. For your first flight, use an A8-3 engine to become familiar with your rocket's flight pattern.
- Recovery Wadding (EST 302274)
- Igniters and Igniter Plugs (included with Estes engines)

Use only Estes products to launch this rocket.

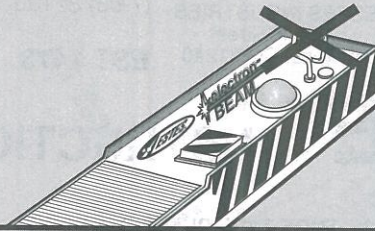
ENGINE	PROJECTED ALTITUDE	
	Feet	Meters
A8-3	189	58
B4-4/B4-6	475	145
B6-4/B6-6	510	155
C6-5/C6-7	1050	320

## TIPS FOR FLYING YOUR ROCKET

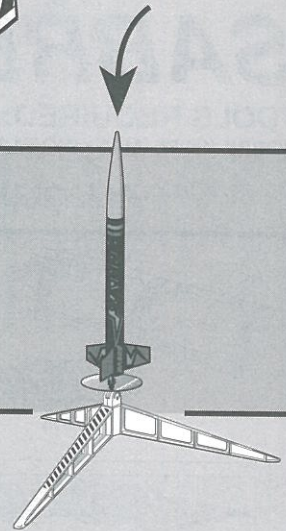
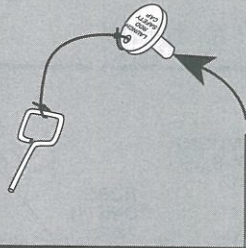
- Choose a large field away from power lines, buildings, tall trees, and low flying aircraft. Try to find a field at least 76 meters (250 feet) square. The larger the launch area, the better your chance of recovering your rocket.
- Launch area must be free of dry weeds and brown grass.
- Launch only during calm weather with little or no wind (wind speed less than 30 kph - 10 mph) and good visibility.
- Don't leave parachute packed more than a minute or so before launch during cold weather (colder than 4° Celsius [40° Fahrenheit]). Parachute may be dusted with talcum or baby powder to avoid sticking.
- Always follow the National Association of Rocketry (NAR) MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities. The safety code is enclosed with this kit.

## COUNTDOWN AND LAUNCH

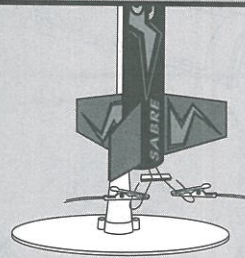
- 10...** Safety key must not be in launch controller.  
The safety cap with safety key attached should already be on the launch rod.



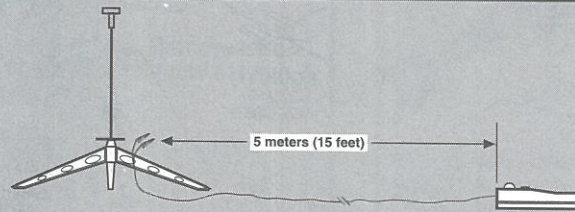
- 9...** Remove safety cap from launch rod, slide launch lugs over rod. Make sure rocket slides freely and micro-clips are clean for good electrical contact.



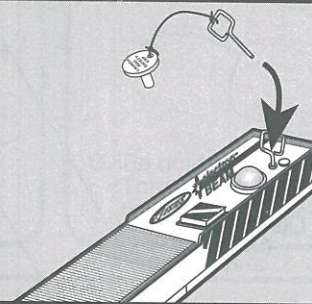
- 8...** Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.



- 7...** Move everyone back from your rocket as far as launch wire will permit (at least 5 meters - 15 feet).

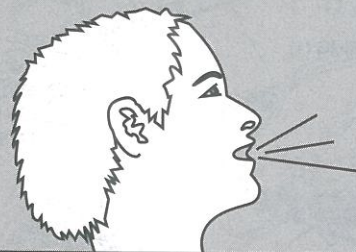


- 6...** Insert safety key to arm the launch controller.



- 5...** Start audible countdown.

**4...3...2...1.....**



## LAUNCH!

Push and hold button until engine ignites.

**For safety, immediately remove safety key from launch controller and replace safety cap on launch rod.**

## MISFIRES

When an ignition failure occurs, remove the safety key from the launch control system and wait one minute before approaching the rocket. Remove the expended igniter from the engine and install a new one. Be certain the coated tip is in direct contact with the engine propellant. Broken or chipped coating will not affect the performance of the igniter. Reinstall the igniter plug as illustrated previously. Repeat the countdown and launch procedure.