



ESTES INDUSTRIES  
1295 H STREET  
PENROSE, CO 81240 USA

**EX**  
SERIES

**Pegasus**<sup>TM</sup>  
FLYING MODEL ROCKET KIT #2076

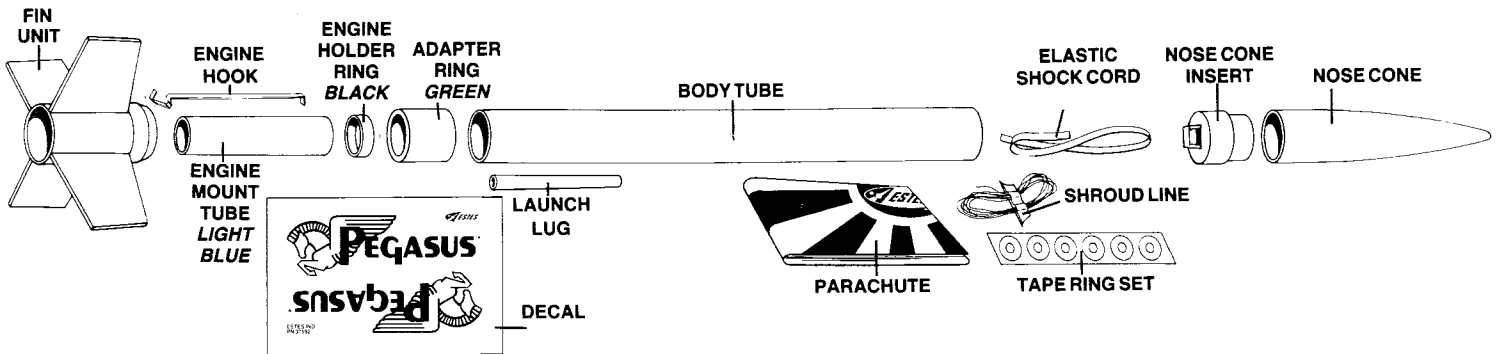


## HOW TO USE THESE INSTRUCTIONS:

### READ ALL INSTRUCTIONS BEFORE STARTING WORK ON THIS MODEL

- A. This rocket, incorporating basic model rocketry construction techniques, will help you in the development of your rocketry modeling skills.
- B. **Read each step first** and visualize the procedure thoroughly in your mind before starting construction.
- C. Lay parts out on the table in front of you. (Check inside tubes for any small parts.)
- D. Use exploded view to match all parts contained in kit.
- E. Collect all construction supplies that are not included in the kit.
- F. Shock cord mount is printed in the instructions and will be found on page 5 in the patterns section.
- G. Test fit parts before applying any glue.
- H. Sand parts as necessary for proper fit.
- I. The construction supplies required for each step are listed at the beginning of each step.
- J. Check off each step as you complete it.

## EXPLODED VIEW



**EXTREMELY IMPORTANT: THE EXPLODED VIEW IS FOR REFERENCE ONLY! DO NOT USE THIS DRAWING ALONE TO ASSEMBLE THIS MODEL.**

The exploded view is only intended to assist you in locating the parts included in this kit. Refer back to this exploded view as you build your model step by step. This method will help you to put the parts into perspective as you progress through the construction.

## CONSTRUCTION SUPPLIES

In addition to the parts included in your kit, you will need these construction supplies. Each step shows which supplies will be required.



PENCIL



KNIFE



GLUE  
(white or yellow)



RULER



SCISSORS



PLASTIC  
CEMENT

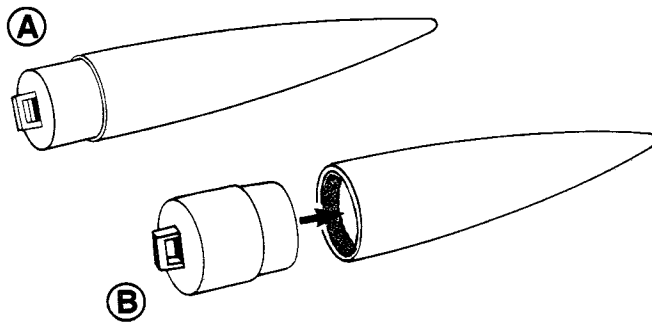
GLUE IS APPLIED TO SURFACES SHOWN IN RED.

# 1. NOSE CONE ASSEMBLY

NOTE: This is the only step in the construction of your model rocket that requires plastic cement



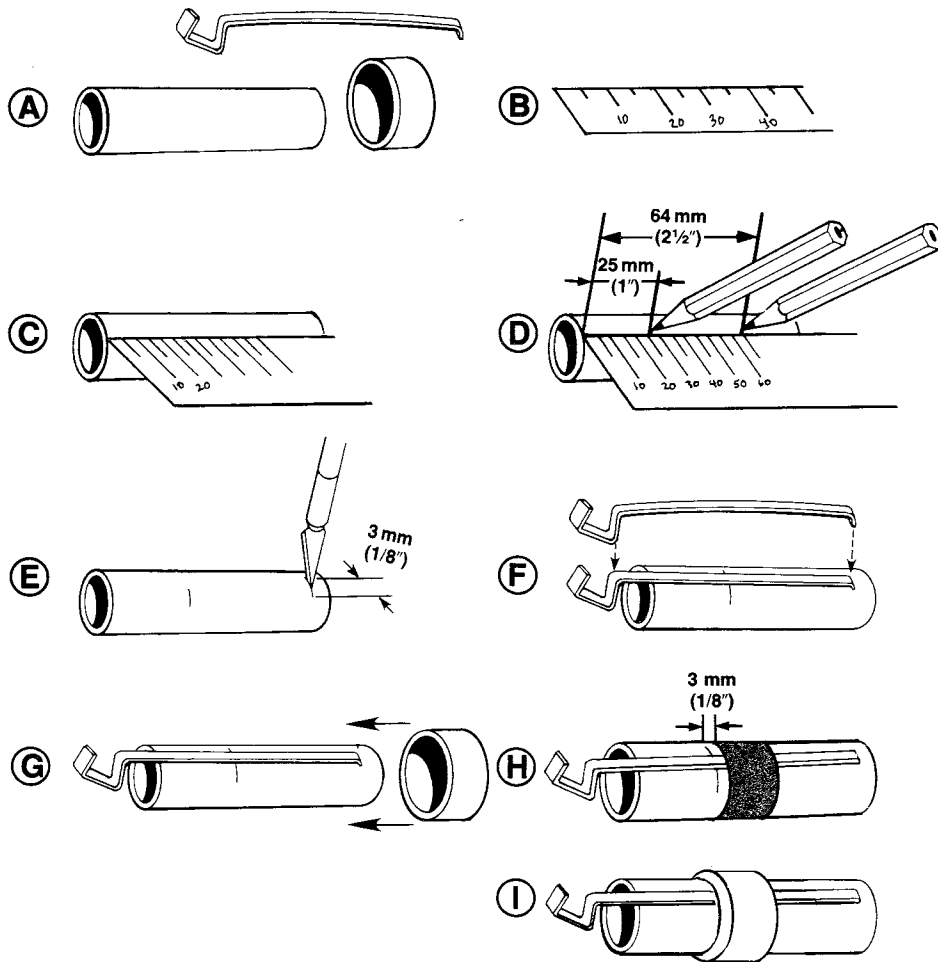
- A.  Test fit the nose cone insert into the nose cone. **Do not glue at this time.** Remove the insert.
- B.  Apply plastic cement as shown in the illustration and assemble the nose cone and insert pieces. Allow assembly to dry.



# 2. ENGINE MOUNT ASSEMBLY



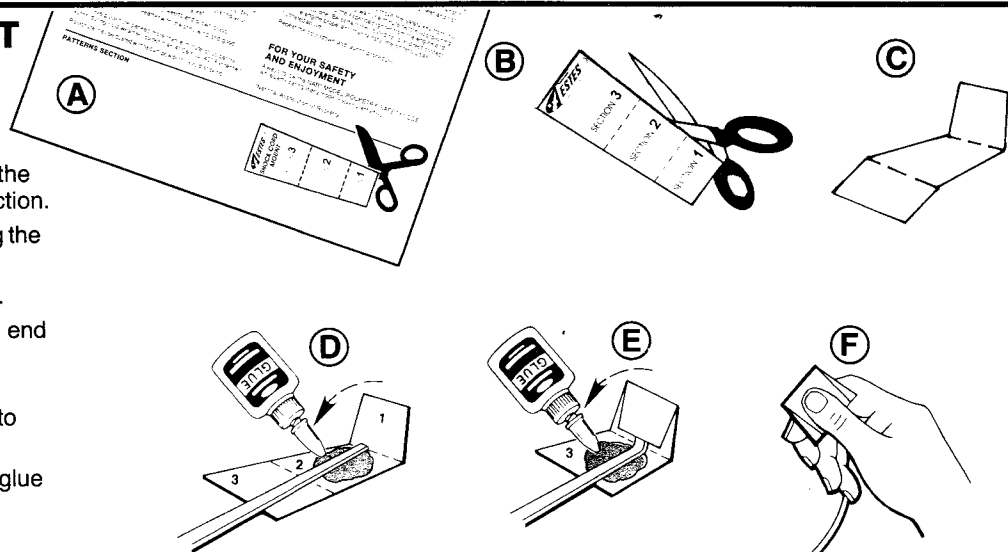
- A.  For this step you will need the light blue engine mount tube, the engine hook and the black engine holder ring.
- B.  Locate the ruler printed in the center crease of this instruction sheet.
- C.  Lay one end of the engine mount tube on the zero mark of the ruler.
- D.  Place a mark on the engine mount tube 25 mm (1") from zero. Make another mark 64 mm (2½") from zero.
- E.  Cut a 3 mm (1/8") long slit at the 64 mm (2½") mark.
- F.  Insert the engine hook into the slit as shown. The engine hook should extend beyond the rear of the engine tube.
- G.  Test fit the black engine holder ring by sliding it on to the front of the engine tube. Slide the ring over the engine hook and up to the 25 mm (1") mark that you made in step D. Remove the ring.
- H.  Apply glue around engine mount tube about 3 mm (1/8") ahead of 25 mm (1") mark as shown.
- I.  Now slide the engine holder ring on to the engine mount tube up to 25 mm (1") mark **and no further**. Do not stop while sliding ring into place or the glue may grab at the wrong point.
- J.  Let assembly dry.



# 3. SHOCK CORD MOUNT ASSEMBLY



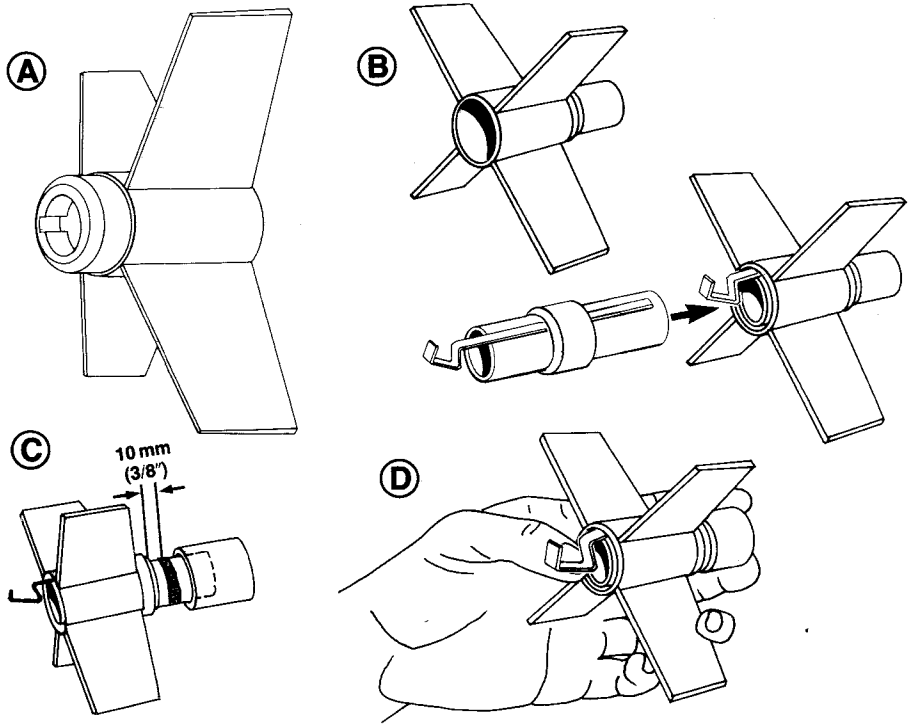
- A.  Locate the shock cord mount on the bottom of page 5 in the patterns section.
- B.  Cut out the shock cord mount along the solid black outline.
- C.  Crease on dotted lines by folding.
- D.  Spread glue on section 2 and lay end of shock cord into glue at a slight diagonal as shown.
- E.  Fold section forward. Apply glue to section 3. Fold forward again.
- F.  Clamp firmly with your fingers until glue dries.



## 4. FIN UNIT ASSEMBLY



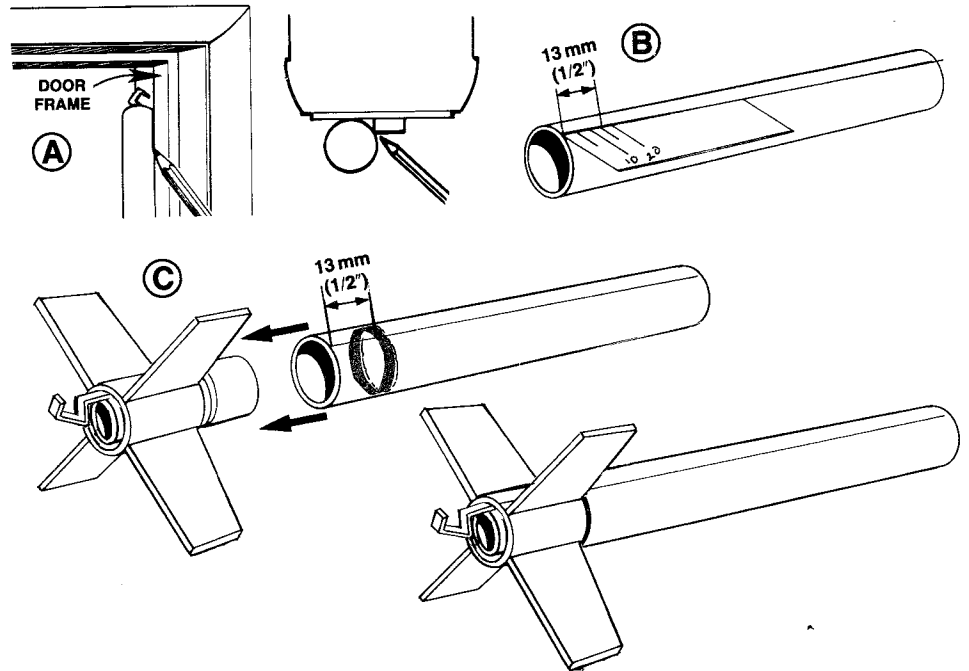
- A.**  Locate slot on inside of fin unit. The engine hook on the engine mount tube will fit into slot in fin unit.
- B.**  Slide assembly from step 1 into plastic fin unit from the rear.
- C.**  Measure approximately 10 mm (3/8") ahead of fin unit and apply glue around the engine tube as shown.
- D.**  Hold engine mount tube in place with thumb and in one continuous movement, slide green adapter ring on to engine mount until it touches the fin unit.



## 5. FIN ATTACHMENT



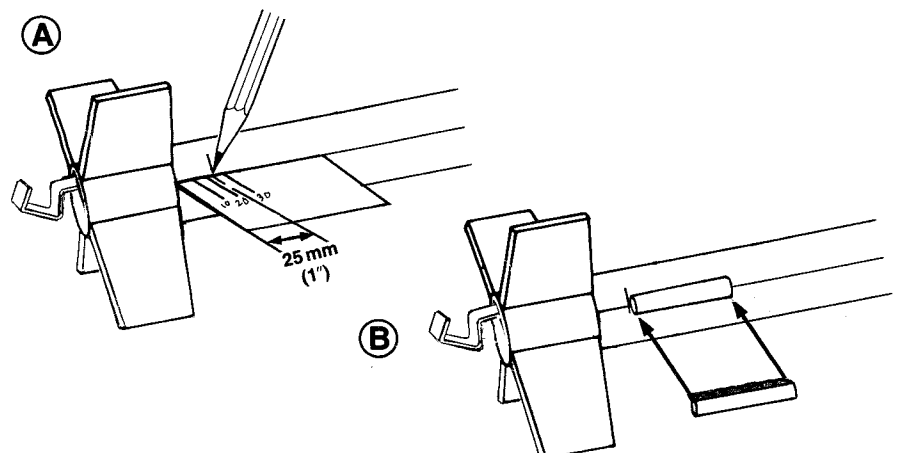
- A.**  Using a door frame as a guide, lightly draw a straight line along entire length of body tube as shown.
- B.**  Measure approximately 13 mm (1/2") from one end of the body tube. This gives you an idea of where inside the tube you will be spreading glue for the next step.
- C.**  Apply glue inside one end of body tube about 13 mm (1/2") from end. Align the line on body tube with the engine hook and in one continuous motion, push the body tube over the adapter ring until the body tube touches the fin unit as shown. The body tube should be snug to top edge of fin unit.



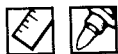
## 6. LAUNCH LUG ATTACHMENT



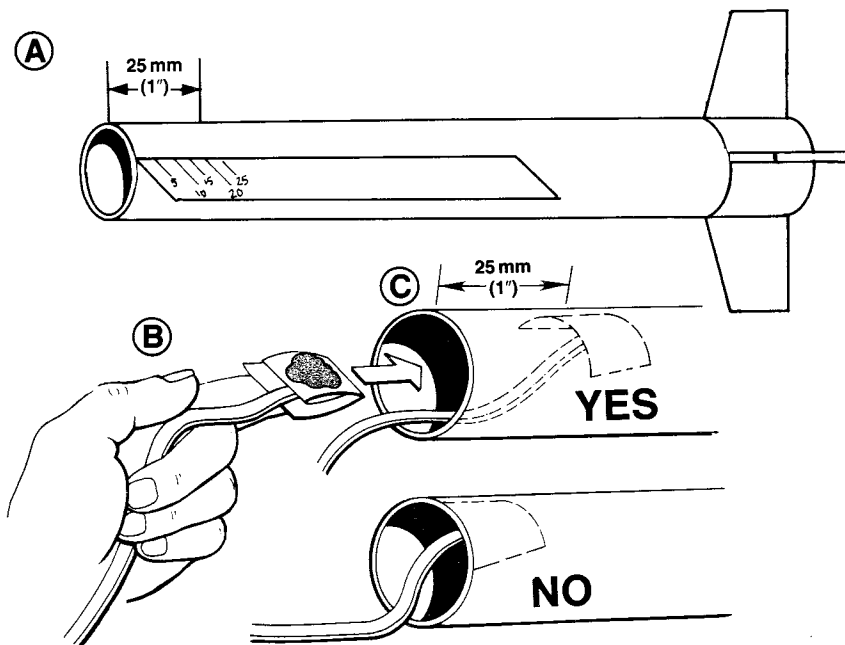
- A.**  Measure approximately 25 mm (1") from front of fin unit along the line you drew in step 5. Place a mark at this point.
- B.**  Apply glue to the launch lug and attach it to the body tube at the 25 mm (1") mark. Sight along tube to be sure launch lug is straight with body.
- C.**  After glue is dry, erase pencil line still showing on tube.



## 7. SHOCK CORD MOUNT ATTACHMENT



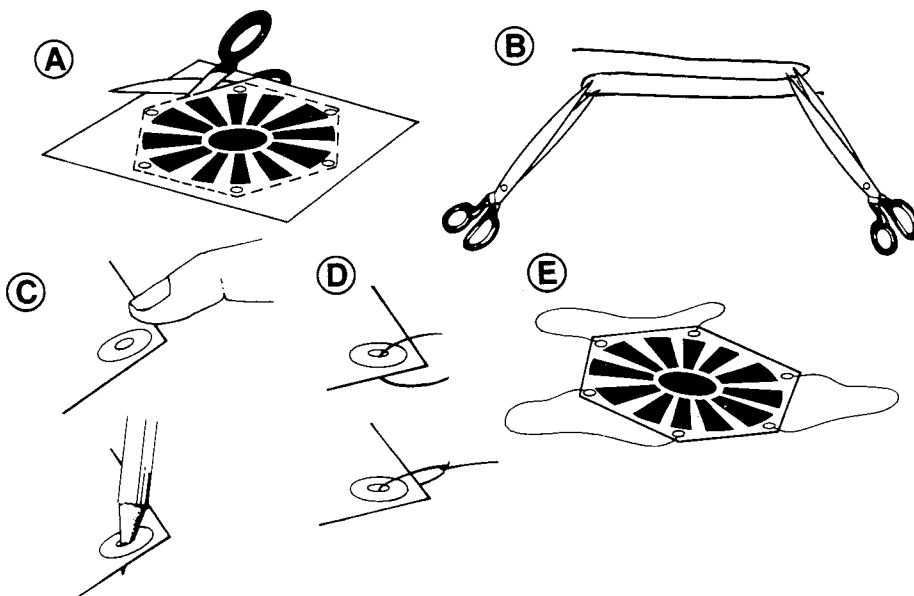
- A.  Measure approximately 25 mm (1") from the front end of the body tube.
- B.  Apply glue to shock cord mount and insert into tube.
- C.  Set the mount back at least 25 mm (1") to allow for nose cone clearance and press mount firmly into glue as shown.
- D.  Hold until glue sets.



## 8. PARACHUTE ASSEMBLY

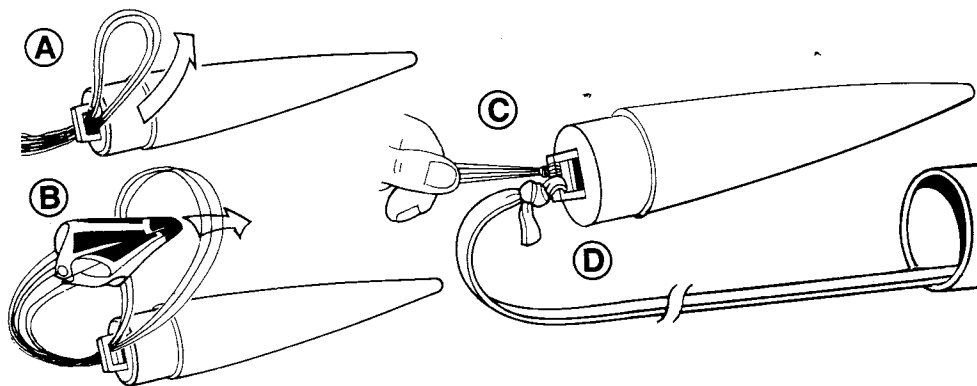


- A.  Cut out parachute on printed edge lines.
- B.  Remove tape from shroud lines, fold and cut into three equal lengths.
- C.  Attach tape rings to top of parachute and press firmly into place. Punch hole through the parachute material with the point of a sharp pencil. (Do not use a dull pencil or ballpoint pen.)
- D.  Pass shroud line through hole in parachute and tape ring. Tie lines together with a double knot.
- E.  Attach remaining lines to other corners to complete parachute.



## 9. PARACHUTE AND SHOCK CORD ATTACHMENT TO NOSE CONE

- A.  Thread shroud lines through eyelet on nose cone.
- B.  Pass parachute back through loop of shroud lines as shown.
- C.  Pull lines tight.
- D.  Tie free end of shock cord to nose cone. Use a double knot.



## 10. FINISHING YOUR ROCKET

When all glue is completely dry, apply self-adhesive decals. Refer to the illustration on the front of the color panel for decal placement.

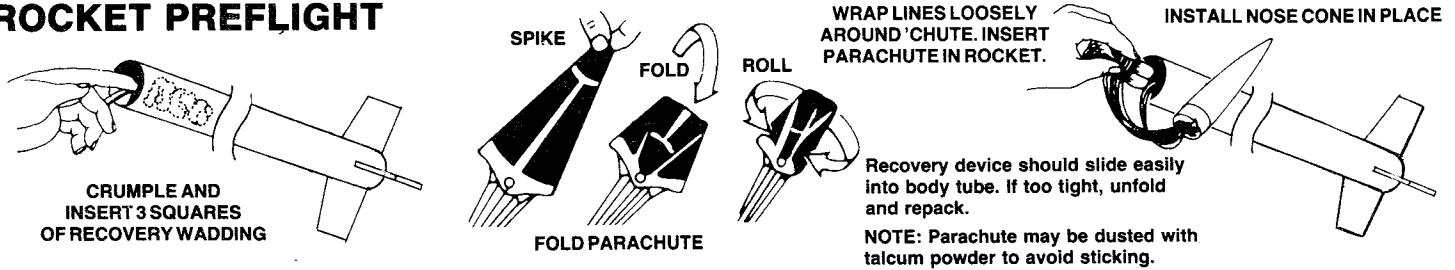


# WHAT TO EXPECT WHEN FLYING YOUR PEGASUS™

The Pegasus™ is a perfect beginner's rocket. The different engines that are suggested for this kit will give you a wide range of performances. The A8-3 (recommended for the first flight), will put your rocket up to 76-91 meters (250-300 feet) and the B6-4 should give you about 152-168 meters (500-550 feet) of altitude. Your Pegasus™ is capable of using a C6-5. On a C6-5, you can expect nearly 305 meters (1000 feet) of altitude. Remember to "size" your

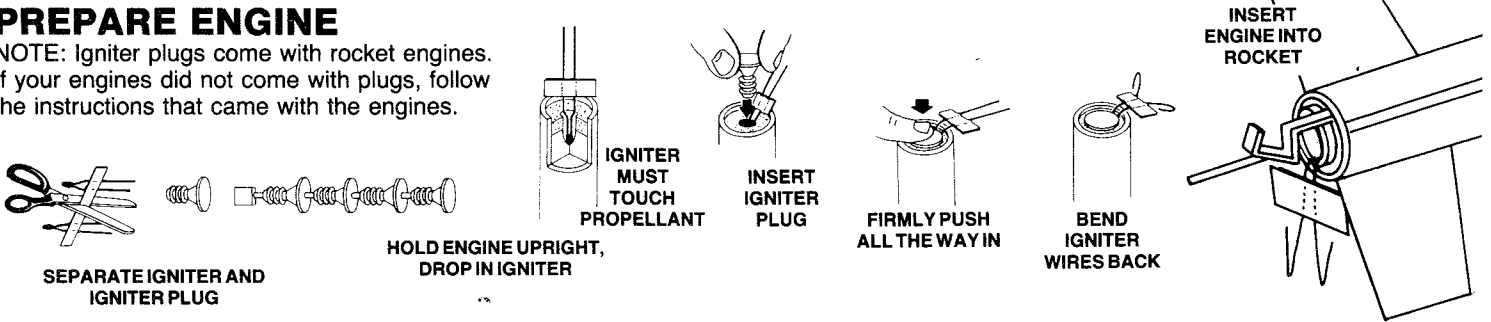
engine for the fields you are flying in. "A" engines are ideal for baseball diamond sized fields whereas a "C" engine may require an area twice the size of a football field. At apogee (the highest point of your rocket's flight), the parachute will eject. If it is breezy, remember to fly only in less than 32 kph (20 mph) wind. Your rocket may drift, so keep this also in mind when you decide which engine to use. Enjoy flying your Pegasus™.

## ROCKET PREFLIGHT



## PREPARE ENGINE

**NOTE:** Igniter plugs come with rocket engines. If your engines did not come with plugs, follow the instructions that came with the engines.



## LAUNCH SUPPLIES

To launch your rocket you will need the following items:

- Estes Electrical Launch Controller and Launch Pad
- Estes Recovery Wadding No. 2274
- Recommended Estes Engines: 1/2A6-2, A8-3, (First Flight), A8-5, B4-4, B4-6, B6-4, B6-6, B8-5, C6-5 or C6-7

To become familiar with your rocket's flight pattern, use an A8-3 engine for your first flight.

**Use only Estes products to launch this rocket.**

## FLYING YOUR ROCKET

Choose a large field away from power lines, 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. 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 4° Celsius (40° Fahrenheit)].

Parachute may be dusted with talcum powder to avoid sticking.

## MISFIRES

If the igniter functions properly but the propellant does not ignite, keep in mind the following: An Estes igniter will function properly even if the coated tip is chipped. However, if the coated tip is not in direct contact with the engine propellant, it will only heat and not ignite the engine.

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, then reinstall the igniter plug as illustrated above.

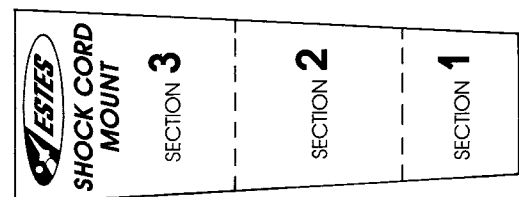
Repeat the countdown and launch procedure.

## FOR YOUR SAFETY AND ENJOYMENT

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

\*National Association of Rocketry

## PATTERNS SECTION



## COUNTDOWN AND LAUNCH

- ⑩ BE CERTAIN SAFETY KEY IS NOT IN LAUNCH CONTROLLER.
- ⑨ 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.
- 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 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.  
Give audible countdown 5...4...3...2...1

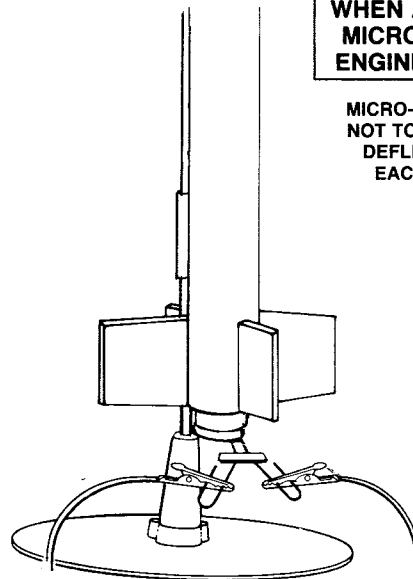
### LAUNCH!!

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

REMOVE SAFETY KEY FROM LAUNCH CONTROLLER. KEEP SAFETY KEY WITH YOU OR REPLACE SAFETY KEY AND SAFETY CAP ON LAUNCH ROD.

**SAFETY KEY MUST NOT BE IN LAUNCH CONTROLLER WHEN ATTACHING MICRO-CLIPS TO ENGINE IGNITERS**

**MICRO-CLIPS MUST NOT TOUCH BLAST DEFLECTOR OR EACH OTHER**



**If you use the ultrasafe E2™ or Command™ Launch Controllers to fly your models, use the following launch steps.**

- A. After attaching micro-clips, etc., insert the safety key into the controller receptacle. If the igniter clips have been attached properly to the igniter, the red L.E.D. will now begin to flash on and off and the audio continuity indicator will beep on and off.
- B. Hold the yellow (left) arm button down. The L.E.D. will stop flashing and the audio indicator will produce a steady tone.
- C. Verbally count down from five to zero loud enough for the bystanders to hear. Still holding the yellow arm button down, push and hold the orange (right) button down until the rocket ignites and lifts off.

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