

Liberty™

FLYING MODEL ROCKET

SKILL LEVEL 1

Recommended for the Beginning Modeler.

- ★ **FAST, EASY ASSEMBLY**
- ★ **Plastic Nose Cone and Fin Unit**
- ★ **12" 'Chute Recovery**
- ★ **Quick Release Engine Mount**

Length: 16 in. (40.64 cm)

Dia: .976 in. (24.8 mm)

Weight: 1.38 oz. (39 g)

Recommended Engines:

A8-3 (First Flight), B4-4,
B6-4, B8-5, C5-3,
C6-3, C6-5, or C6-7



A DAMON COMPANY

ESTES INDUSTRIES
PENROBE, CO 81240 USA



#1989

**FLIGHTS
OVER
1000
FEET!**

This is a model kit requiring assembly. Glue and finishing supplies, launch system and engines for flight are not included.

This kit has been designed specifically for use only with Estes model rocket engines.

MADE IN U.S.A.



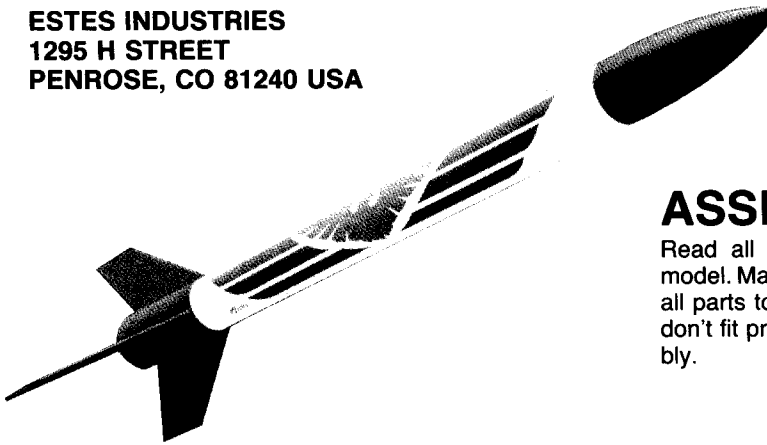


Liberty™

#1989

SHOCK CORD MOUNT

ESTES INDUSTRIES
1295 H STREET
PENROSE, CO 81240 USA

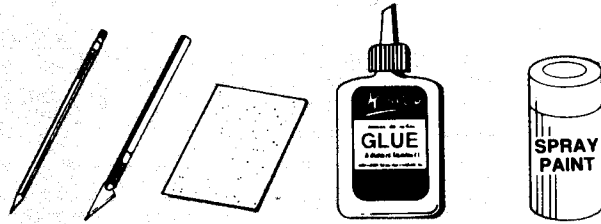


ASSEMBLY TIP

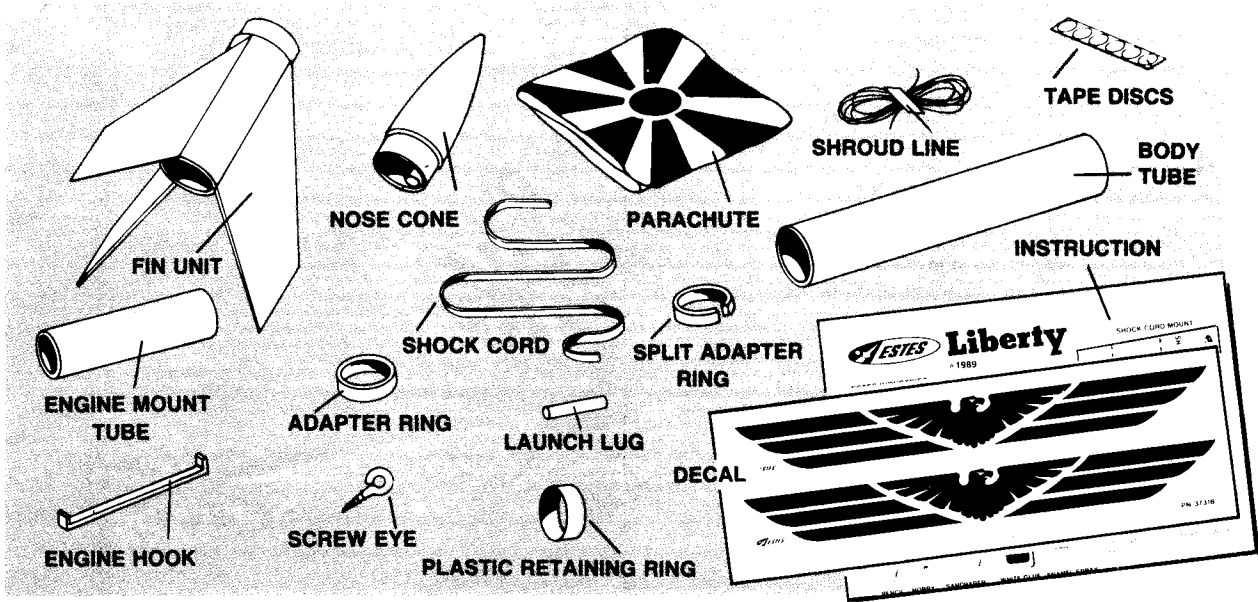
Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don't fit properly, sand as required for precision assembly.

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:



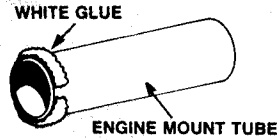
PENCIL HOBBY SANDPAPER WHITE GLUE ENAMEL SPRAY
KNIFE PAINT (Gloss White)



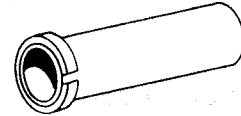
ROCKET ASSEMBLY

- finger until glue begins to set.
- C. Draw a line straight forward from the gap in the split ring. Place a mark on this line 1/4 inch from the opposite end of the tube. Cut a 1/8 inch wide slit in the tube on the mark.
 - D. Push one end of engine hook into slit. Mark tube 1 3/4 inch from end of tube. Apply glue around tube above this mark and slide plastic retaining ring onto tube. Push ring down to 1 3/4 inch pencil mark. Lay assembly aside to allow glue to dry.

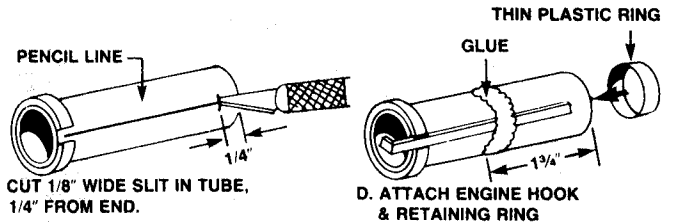
A. APPLY GLUE TO TUBE



B. GLUE SPLIT RING TO TUBE

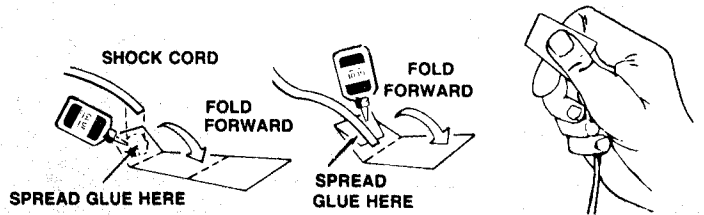


- C. CUT 1/8" WIDE SLIT IN TUBE, 1/4" FROM END.
- D. ATTACH ENGINE HOOK & RETAINING RING



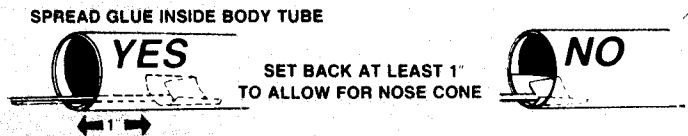
2.

- 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.



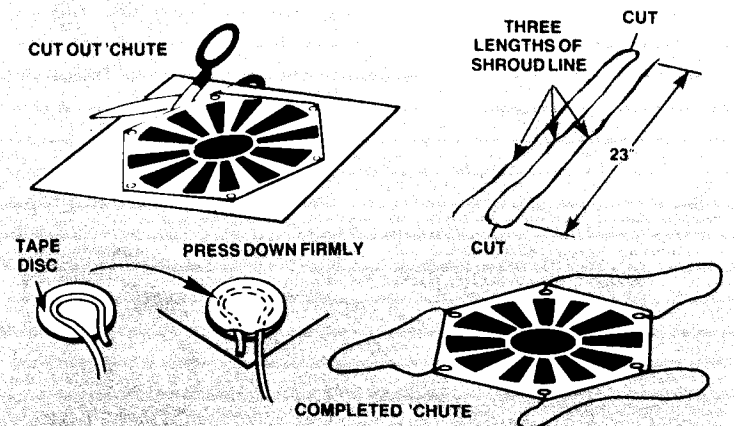
3.

- A. Apply glue to inside 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. Set body aside.



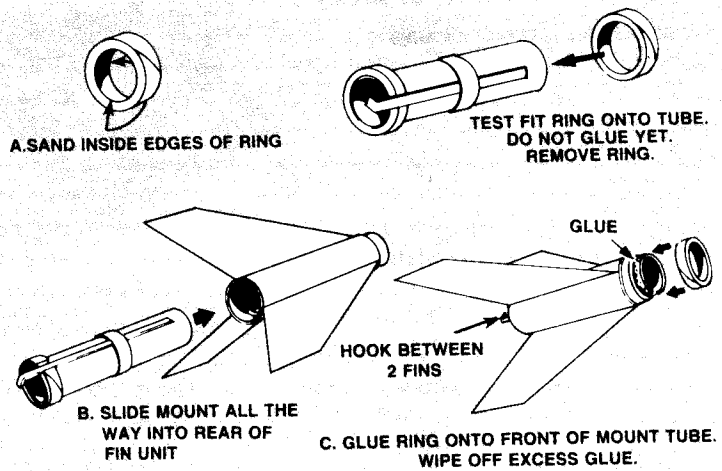
4.

- 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. Set parachute aside.

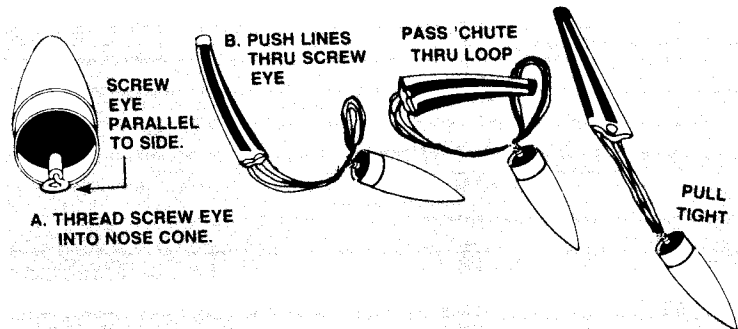


5. NOTE: Do not proceed with this step until glue on the engine mount assembly is completely dry.

- Sand the inside edges of the remaining adapter ring to remove any burrs. Test-fit the ring onto the front of the engine mount tube to make sure it slides on easily, then remove the ring.
- Insert the engine mount assembly into the rear of the fin unit. The split ring fits inside the rear of the fin unit. Rotate the mount so the engine hook is between two fins.
- Apply glue around the end of the engine mount tube that extends from the FRONT of the fin unit. Press upward on the rear of the mount and slide the adapter ring down over the front of the tube. Push the ring down against the fin unit and hold until the glue begins to set.

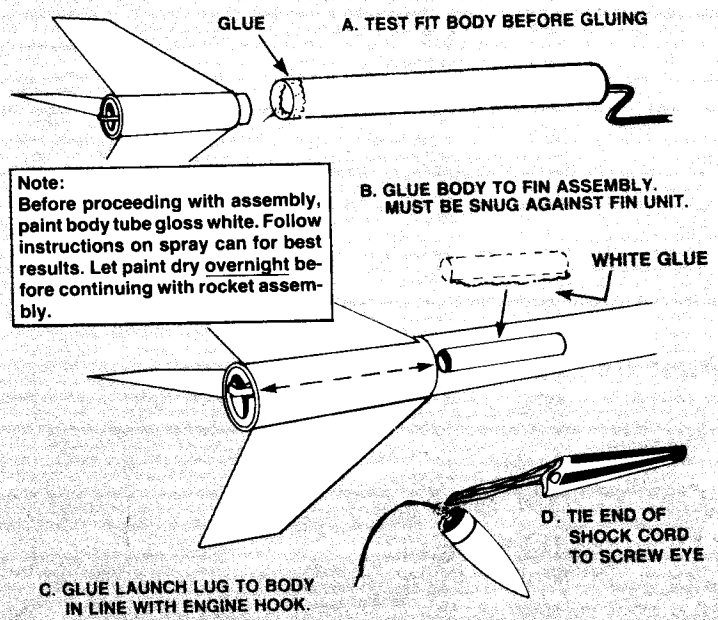


- 6.**
- Thread screw eye into hole in base of nose cone. Once threaded in, turn so eye is parallel to side of nose cone.
 - Press shroud line loops through screw eye on nose cone. Pass parachute through loop ends and pull lines tight against the screw eye.



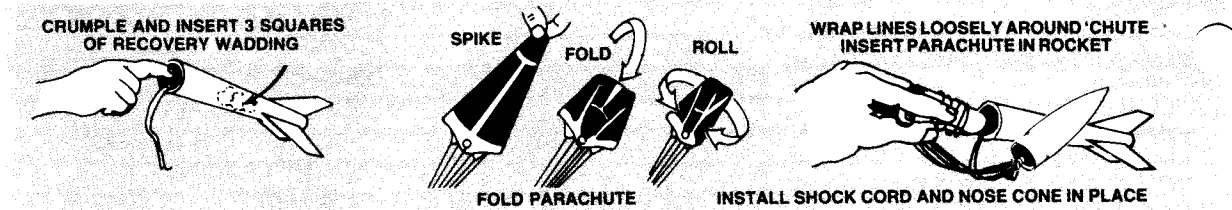
7. NOTE: Do not proceed with this step until the glue on the fin unit assembly is completely dry.

- Test fit the end of the body tube onto the front of the fin assembly. If necessary, sand the inside edge of the body tube so it will slide over the adapter ring.
- Remove the body tube and apply glue to the inside of the end of the tube. Slide the body tube over the adapter ring and push down until it is against the shoulder of the fin unit.
- Glue the launch lug to the body tube as shown. Make sure the launch lug is centered between two of the fins and in line with the engine hook.
- Tie free end of shock cord to screw eye on nose cone.

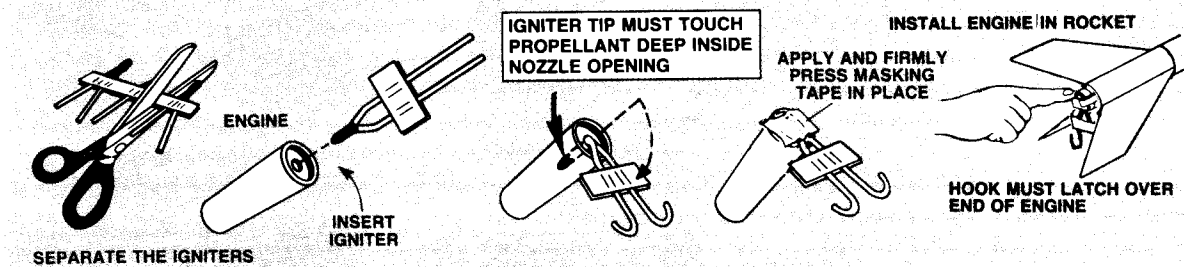


8. Refer to photos on panel and on front page of instructions for decal placement. To apply decals, cut each out, dip in lukewarm water for 20 seconds, and hold until it uncurls. Slip decal off backing sheet and onto model. Blot away excess water.

ROCKET PREFLIGHT



PREPARE ENGINE



COUNTDOWN AND LAUNCH

LAUNCH SUPPLIES

To launch your rocket you will need the following items:
 —Estes Recovery Wadding (No. 2274)
 —Recommended Engines: A8-3, B4-4, B6-4, B8-5, C5-3, C6-3, C6-5, or C6-7
 Use A8-3 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.

Don't leave parachute packed more than a minute or so before launch during cold weather [colder than 40° Fahrenheit (4° Celsius)]. Parachute may be dusted with talcum powder to avoid sticking.

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.

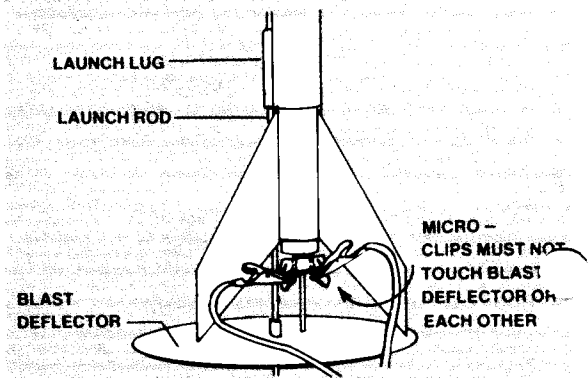
FOR YOUR SAFETY AND ENJOYMENT

Use only Estes products with this rocket.

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

page 4

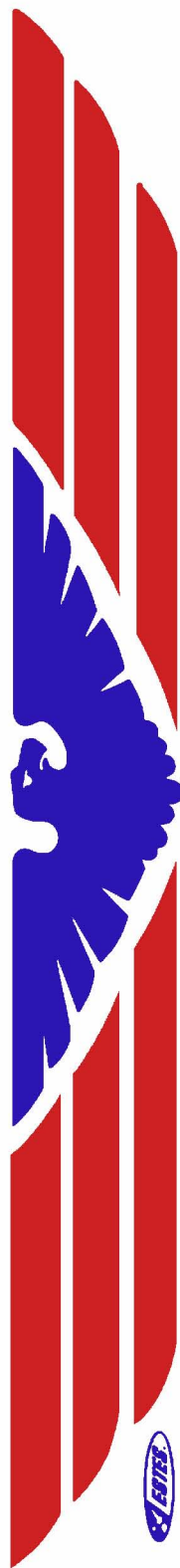
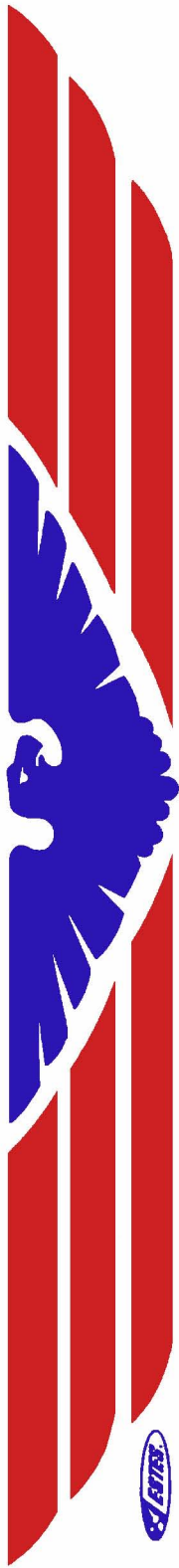


- ⑩ REMOVE SAFETY KEY to disarm the launch controller.
- ⑨ Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.
- ⑧ Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the 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 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—Replace cap on rod. 83909



PN 37318