



www.estesrockets.com

Estes® Industries
1295 H Street
Penrose, CO 81240
PRINTED IN CHINA

CLUSTER BOMB™ BLU-97B

EST 2055/1246

FLYING MODEL ROCKET
KIT INSTRUCTIONS
Keep for Future Reference



SHOCK CORD
MOUNT

SECTION 3

SECTION 2

SECTION 1



ASSEMBLY TIP

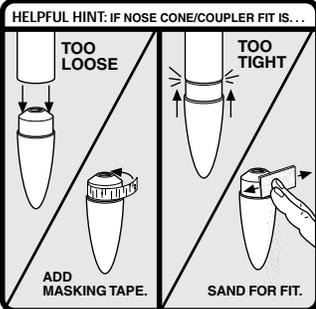
Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

TEST FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE!

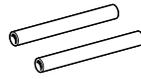
If any parts don't fit properly, sand as required for precision assembly.

PARTS

Locate the parts shown below and lay them out on the table. DO NOT USE THE DRAWINGS TO ASSEMBLE YOUR ROCKET.



Body Tube BT-70 (1) (30413)



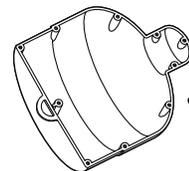
Launch Lugs (2) (38175)



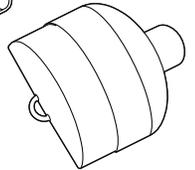
Engine Mount Tube (1) BT-20 (30329)



Yellow Spacer Tool (1) (35003)



Plastic Nose Cone Half A (1) (60558)



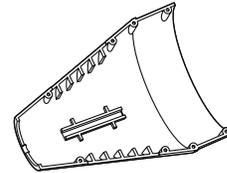
Plastic Nose Cone Half B (1) (60559)



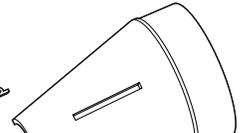
Mylar Retainer Ring (1) (30168)



Green Engine Block (1) (30162-2)



Plastic Tail Cone Half A (1) (60560)



Plastic Tail Cone Half B (1) (60561)



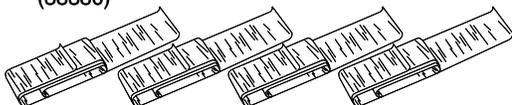
Shock Cord 1/4" x 18" (1) (38380)



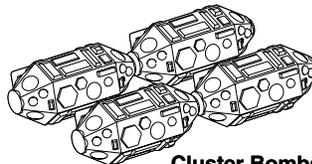
Clay Weights (2) (85705)



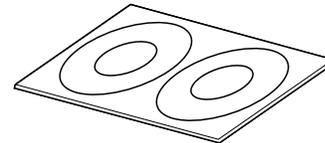
Engine Hook (1) (35021)



Orange Streamers (4) (60034)



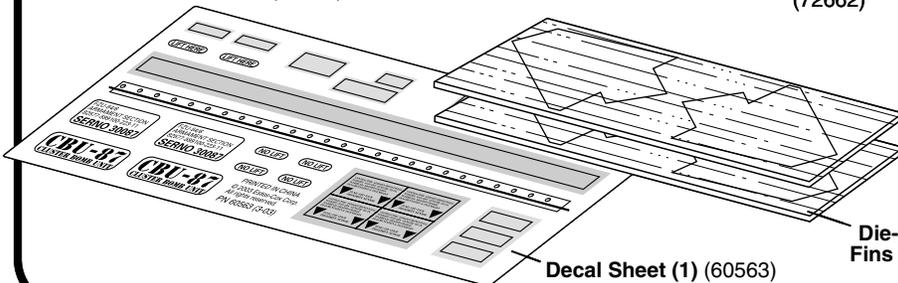
Cluster Bombs (4) (72662)



Centering Ring Card (1) (60562)

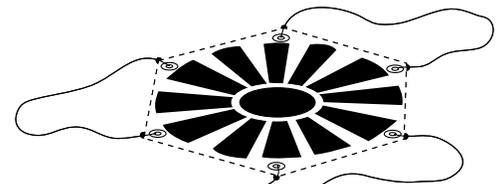


Enduring Freedom Sticker (1) (60586)



Decal Sheet (1) (60563)

Die-Cut Balsa Fins (2) (32217)



Assembled 12" (30 cm) Parachute (1) (35801)

SUPPLIES

In addition to the parts included in the kit you will also need:



SCISSORS



PENCIL



RULER



FINE SAND PAPER (#400-600 GRIT)



MASKING TAPE



CARPENTER'S GLUE



PLASTIC CEMENT



MODELING KNIFE



PAINT PEN (SILVER)



SPRAY PRIMER (WHITE)

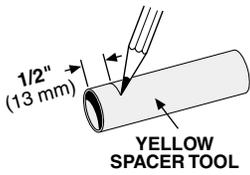


SPRAY PAINT: (OLIVE DRAB, LIGHT GRAY)

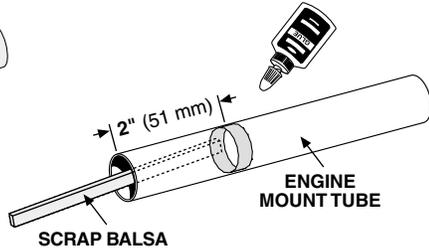


SPRAY DULL COAT (OPTIONAL)

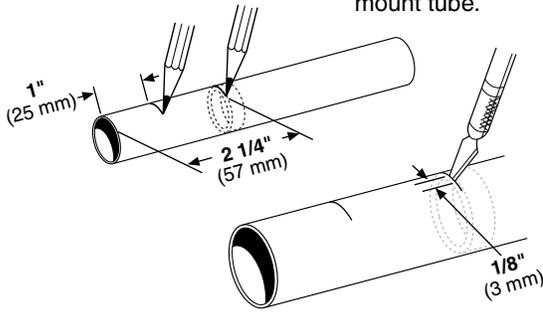
1. ASSEMBLING ENGINE MOUNT



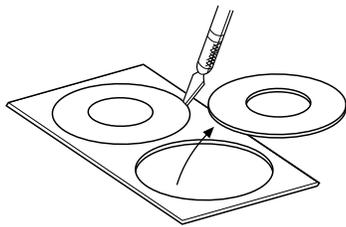
A. Mark yellow spacer tool.



B. Use scrap balsa to smear glue 2" (51 mm) inside engine mount tube.



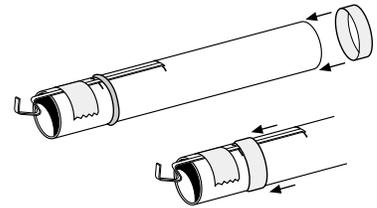
D. Mark engine mount tube at 1" (25 mm) and 2 1/4" (57 mm) from rear end. Cut 1/8" (3 mm) slit at the 2 1/4" mark.



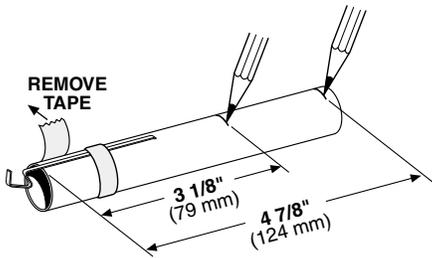
G. Carefully remove rings from card.



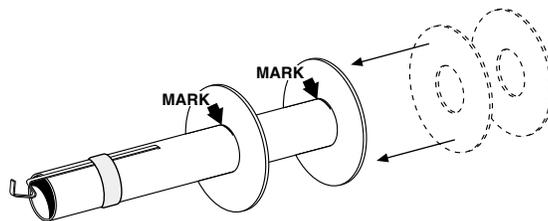
H. Apply glue above the 1" (25 mm) line.



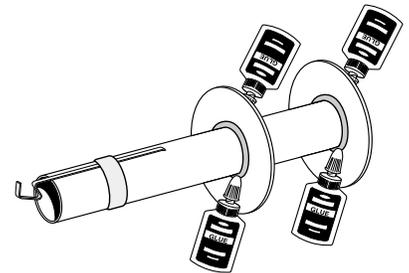
I. Slide the mylar retainer ring onto engine mount tube up to 1" (25 mm) mark. Let dry.



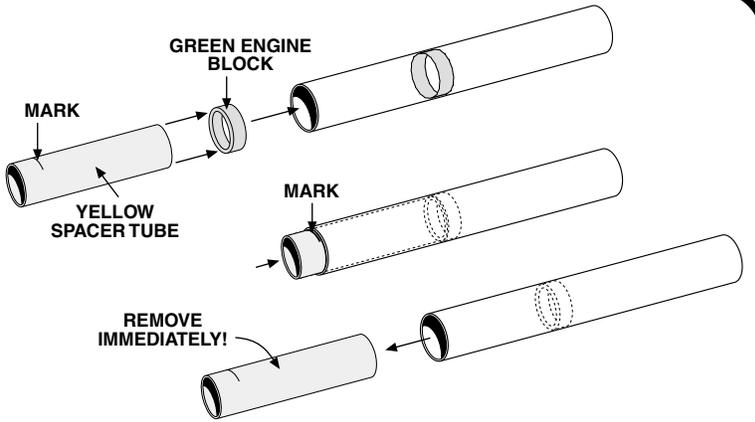
J. Place a pencil mark at 3 1/8" (79 mm) and 4 7/8" (124 mm) from rear of engine mount.



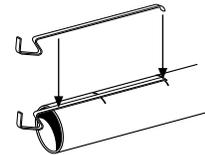
K. Slide centering rings up to the marks.



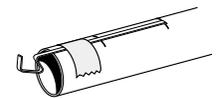
L. Apply glue fillets to both sides of each centering ring. Let dry.



C. Push engine block into BT-20 engine mount tube with spacer tool up to the mark. Remove spacer tool.

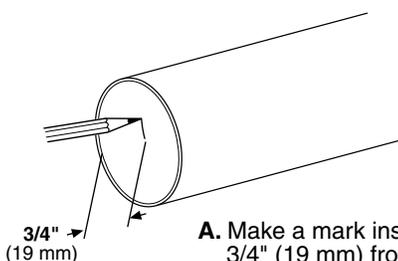


E. Position engine hook.

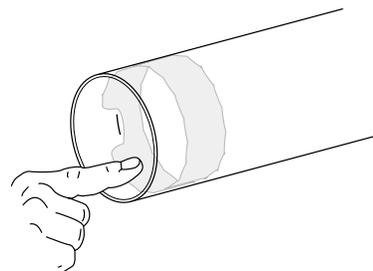


F. Temporarily tape engine hook into place.

2. INSERTING ENGINE MOUNT

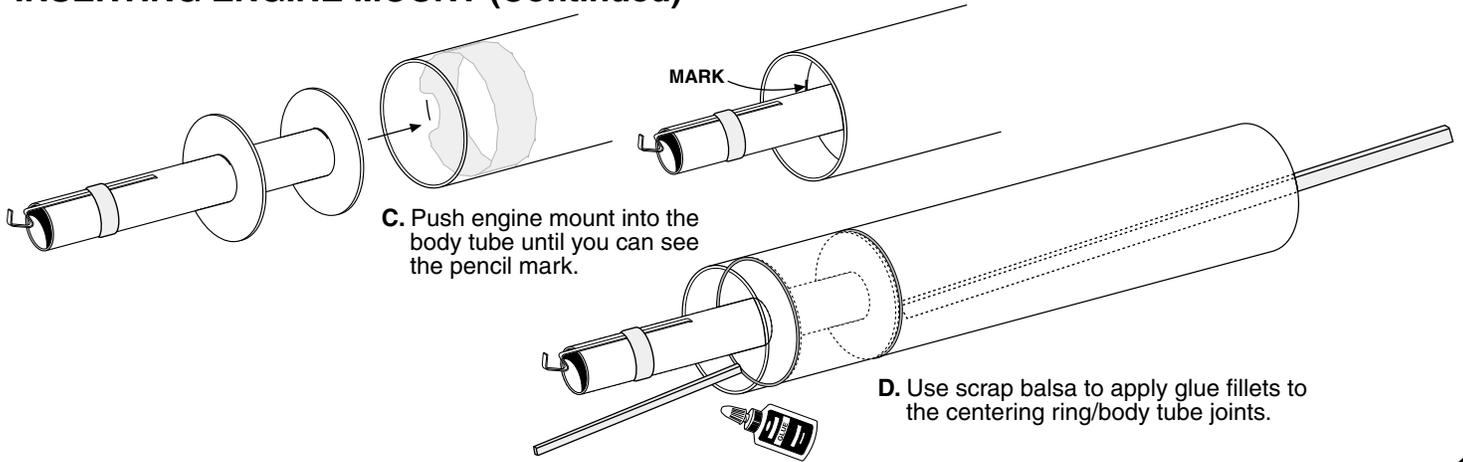


A. Make a mark inside the body tube 3/4" (19 mm) from end.

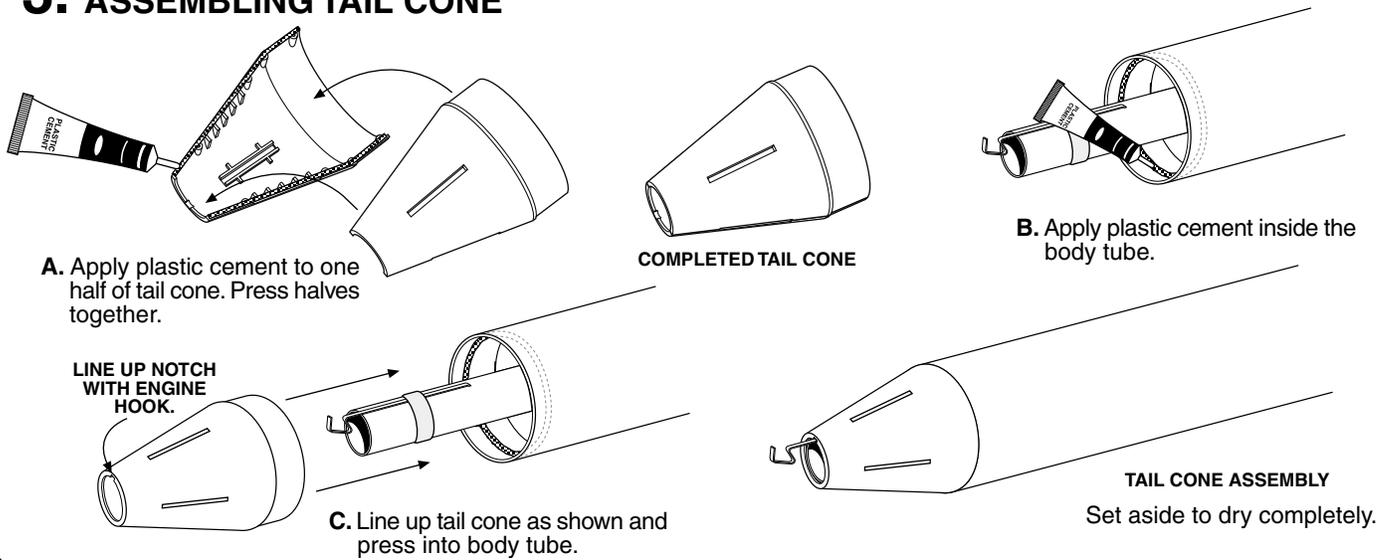


B. Use finger to smear glue ring around inside of tube at pencil mark. Don't cover pencil mark with glue.

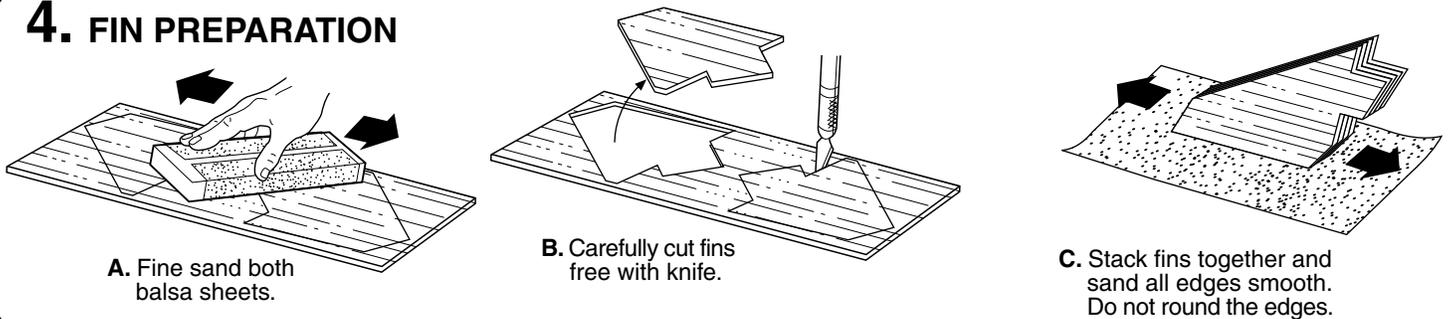
INSERTING ENGINE MOUNT (Continued)



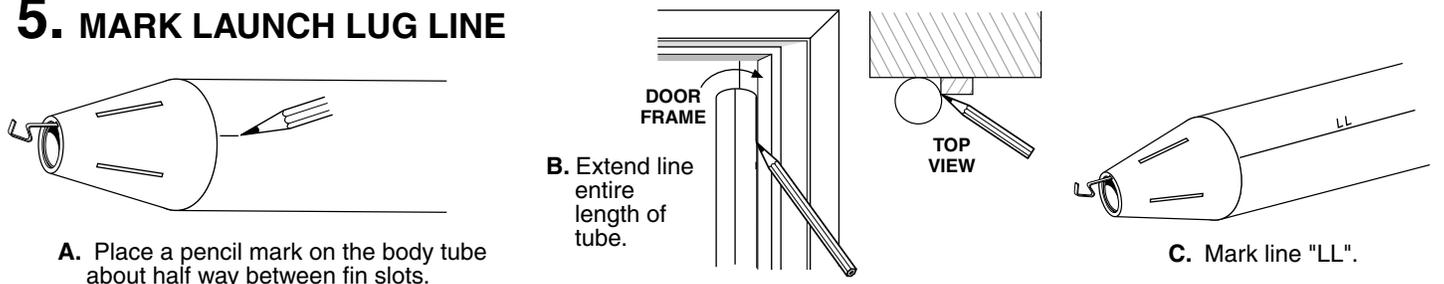
3. ASSEMBLING TAIL CONE



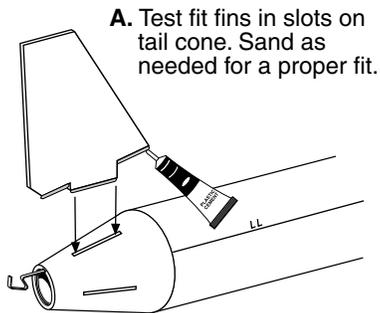
4. FIN PREPARATION



5. MARK LAUNCH LUG LINE

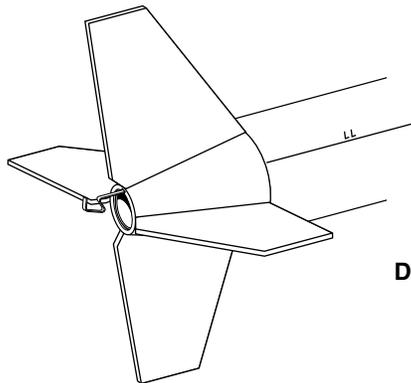


6. ATTACHING FINS

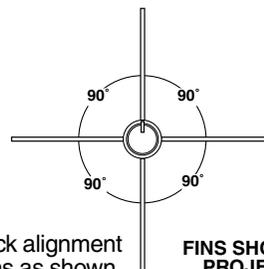


A. Test fit fins in slots on tail cone. Sand as needed for a proper fit.

B. Apply plastic cement to root edge of fin and tab. Insert into slot.

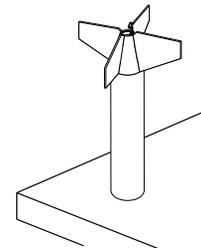


C. Repeat for remaining fins.



D. Check alignment of fins as shown. Allow glue to set.

FINS SHOULD PROJECT STRAIGHT OUT.

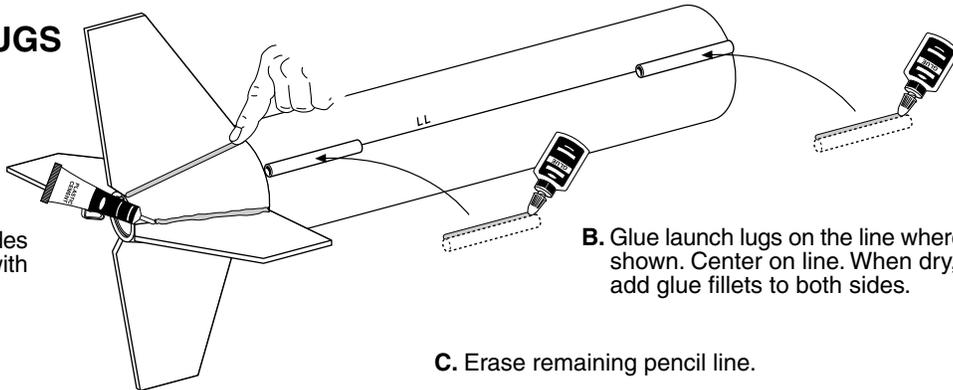


E. Stand rocket on flat tabletop until glue dries completely.

NOTE: Fins must be attached correctly for stable flight.

7. ATTACHING LAUNCH LUGS

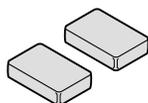
A. Using plastic cement, apply fillets to both sides of fin, smooth with finger. Let dry. Proceed to remaining fins.



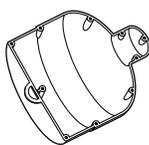
B. Glue launch lugs on the line where shown. Center on line. When dry, add glue fillets to both sides.

C. Erase remaining pencil line.

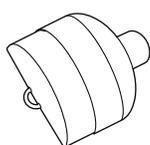
8. ASSEMBLING NOSE CONE AND CLAY WEIGHTS



CLAY WEIGHTS

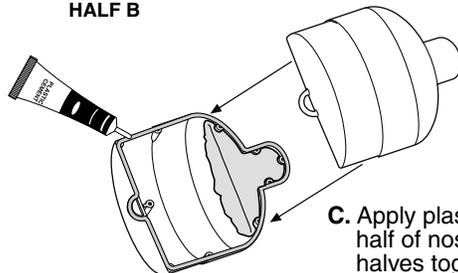


HALF A

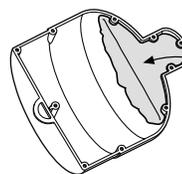


HALF B

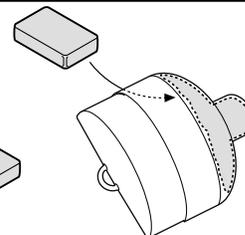
A. Clay weights must be added to nose cone for stability. The weights must be added prior to assembling nose cone halves together.



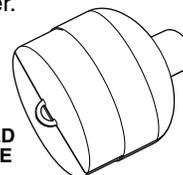
C. Apply plastic cement to one half of nose cone. Press halves together. Let dry.



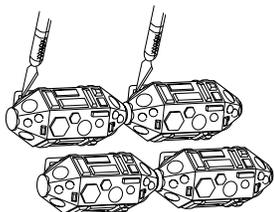
B. Press one clay weight firmly and evenly into each half of nose cone as indicated. NOTE: Clay weights must be installed prior to gluing halves together.



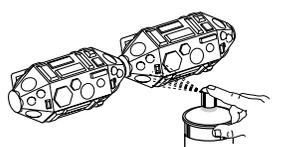
COMPLETED NOSE CONE



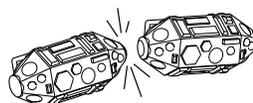
9. PREPARE CLUSTER BOMBS



A. Remove excess flash and clean eyelets.
CAUTION: Do not cut off eyelet.

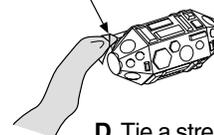


B. Spray paint cluster bombs light gray. Let dry.

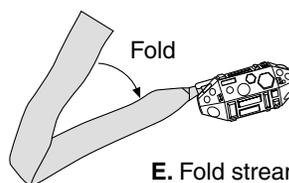


C. Snap cluster bombs in half.

DOUBLE KNOT.



D. Tie a streamer to each cluster bomb.



E. Fold streamer in half. Roll the remainder.

10. ATTACHING SHOCK CORD

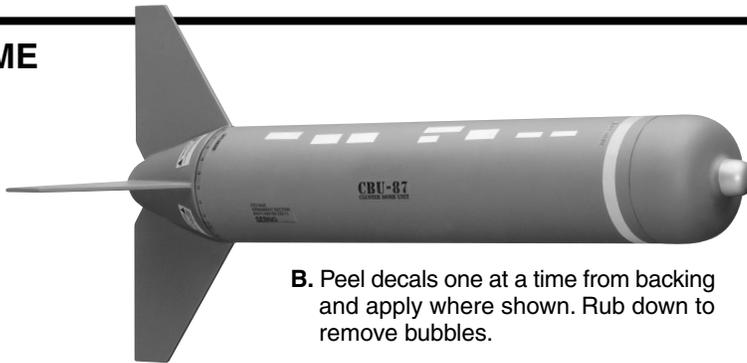
-
- Cut out shock cord mount from front page.
 - Smear glue. Fold forward. (Shock cord slightly angled as shown.)
 - Smear glue. Fold forward.
 - Squeeze tightly. Hold for 1 minute.
 - Glue shock cord mount 1" (25 mm) inside front of body tube. Let dry completely.

11. ATTACHING PARACHUTE & SHOCK CORD

-
- Scrape excess flash from the nose cone and clean eyelet.
 - Prepare the parachute.
 - Attach the parachute to the shock cord.
 - Attach the shock cord to the rocket.
 - PULL 'CHUTE TIGHT. DOUBLE KNOT SHOCK CORD.
- CAUTION:** Do not cut off eyelet.

PAINT SCHEME

- First spray the rocket with primer, let dry and sand. Repeat until the rocket is smooth. Follow the paint scheme on the package.



- Peel decals one at a time from backing and apply where shown. Rub down to remove bubbles.

OPTIONAL: Spray a dull coat over the entire rocket when completed.

PREPARE FOR FLIGHT

-
- Insert 6-8 squares of loosely crumpled recovery wadding into body tube.
 - Move the shock cord out of the way and slide streamers then cluster bombs into body tube. (Streamers should slide in easily. If fit is too tight, repack.)

NOTE: Use Estes® Recovery Wadding (EST 302274) only.

-
- Spike.
 - Fold.
 - Roll.
 - Wrap lines loosely. Insert parachute, shock cord, and nose cone.

PREPARE ENGINE

⚠ WARNING: FLAMMABLE

To avoid serious injury, read instructions & NAR Safety Code included with engines. **PREPARE YOUR ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!** If you do not use your prepared engine, remove the igniter before storing your engine.

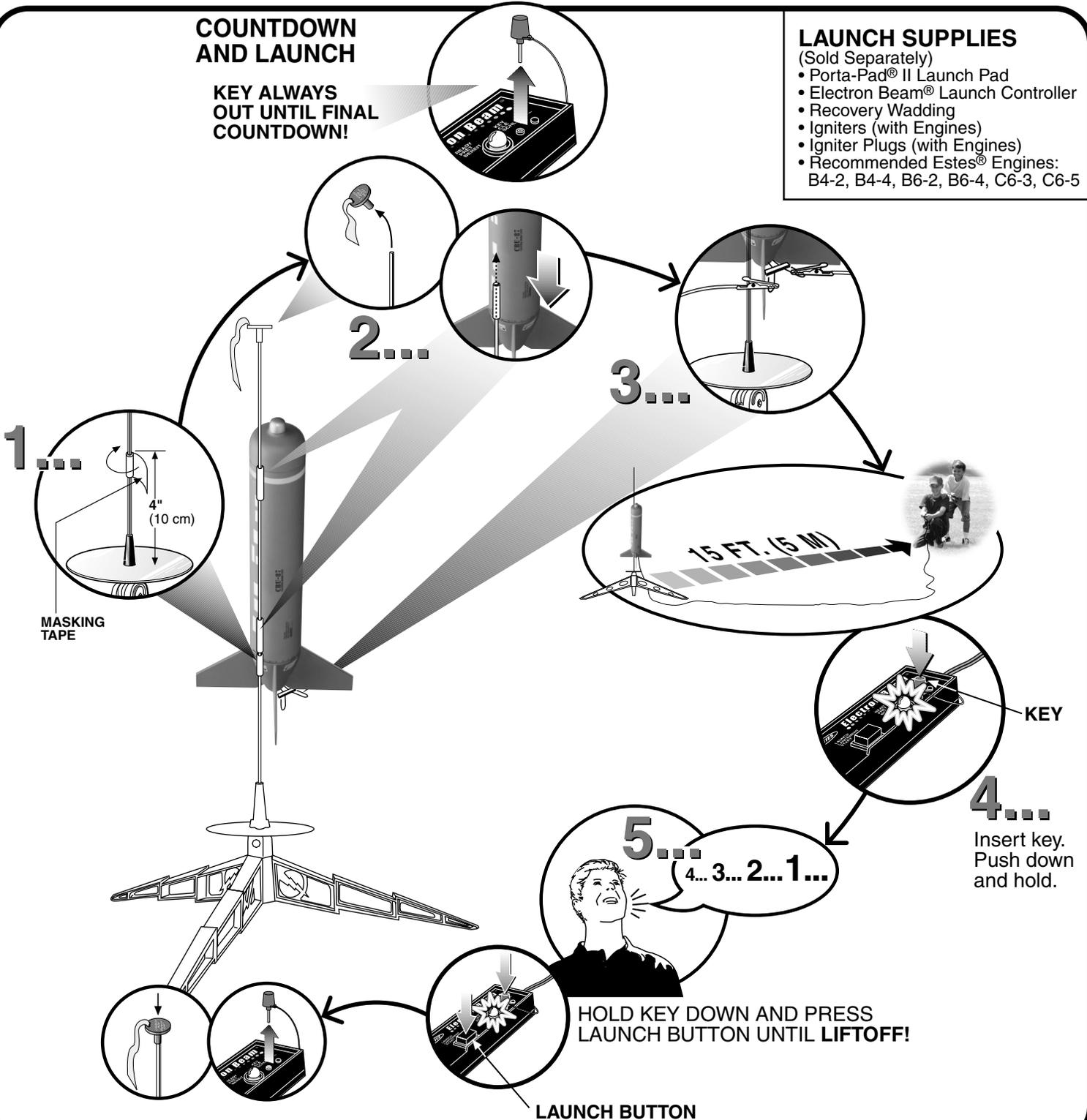
-
- Cut igniter.
 - Tip must touch propellant.
 - Insert igniter.
 - Tighten igniter.
 - Insert engine.
 - Insert engine.

COUNTDOWN AND LAUNCH

KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!

LAUNCH SUPPLIES

- (Sold Separately)
- Porta-Pad® II Launch Pad
 - Electron Beam® Launch Controller
 - Recovery Wadding
 - Igniters (with Engines)
 - Igniter Plugs (with Engines)
 - Recommended Estes® Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5



PRECAUTIONS

NAR Safety Code



NO DRY GRASS OR WEEDS

FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better the chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the NAR Safety Code.

MISFIRES

TAKE THE KEY OUT OF CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.