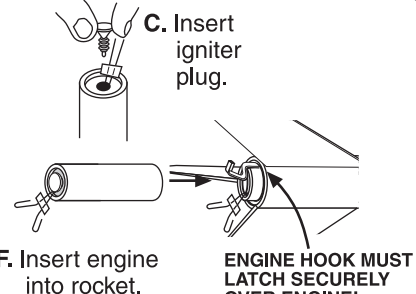
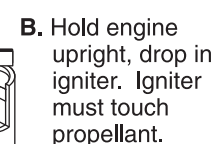
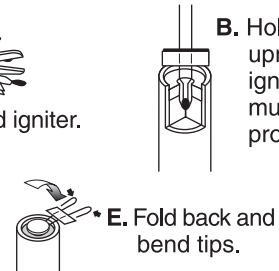
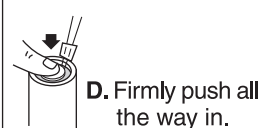


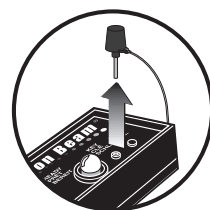
ENGINE PREPARATION

⚠ WARNING: FLAMMABLE

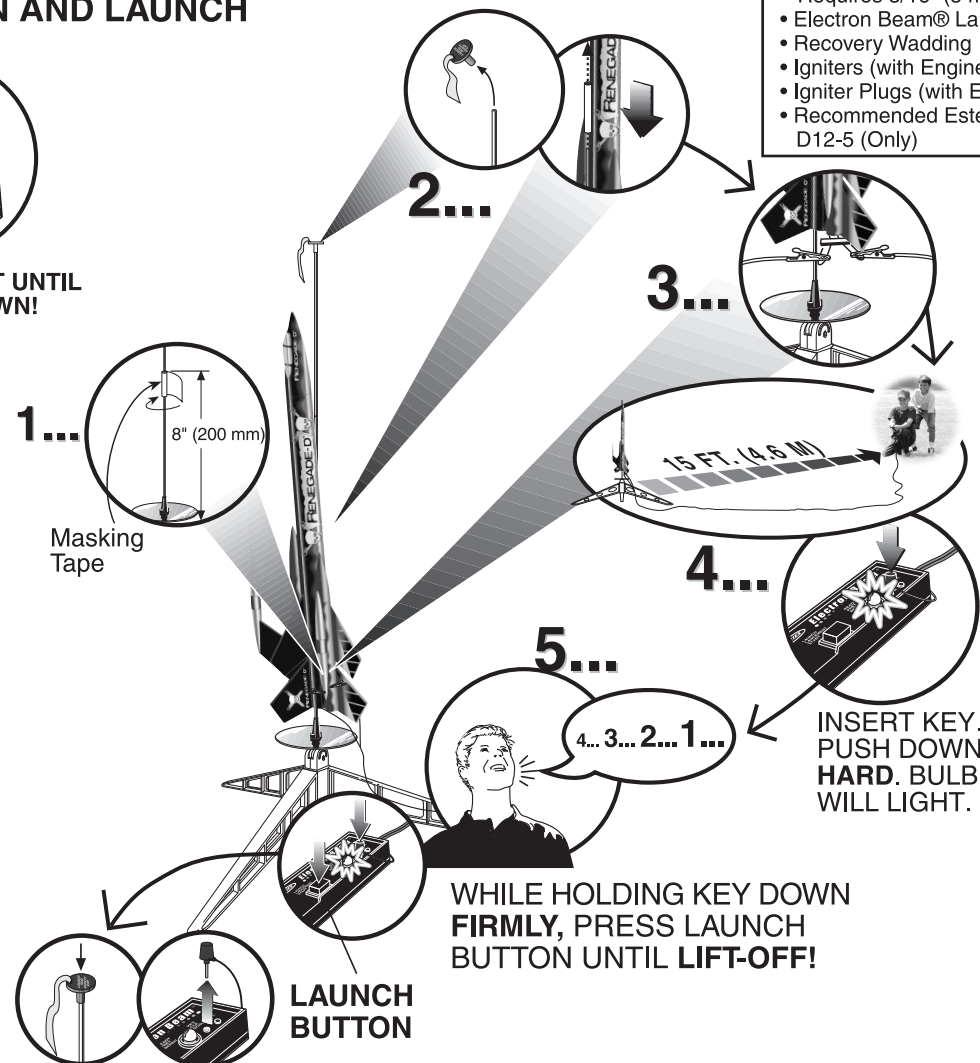
To avoid serious injury, read instructions & NAR Safety Code included with engines. **PREPARE ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!** If you do not use your prepared engine, remove the igniter before storing engine.



COUNTDOWN AND LAUNCH



KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!



LAUNCH SUPPLIES (Sold Separately)

- Porta Pad® II Launch Pad Requires 3/16" (5 mm) Maxi™ Rod (302244)
- Electron Beam® Launch Controller
- Recovery Wadding
- Igniters (with Engines)
- Igniter Plugs (with Engines)
- Recommended Estes® Engine: D12-5 (Only)

PRECAUTIONS



PRE-LAUNCH CHECK

For safety, never launch a damaged rocket. Check the rocket's body, nose cone and fins. Also, check the engine mount, recovery system and launch lug(s). Repair any damage before launching the rocket.

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 your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the enclosed National Association of Rocketry (NAR) SAFETY CODE.

MISFIRES

TAKE THE KEY OUT OF THE 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.



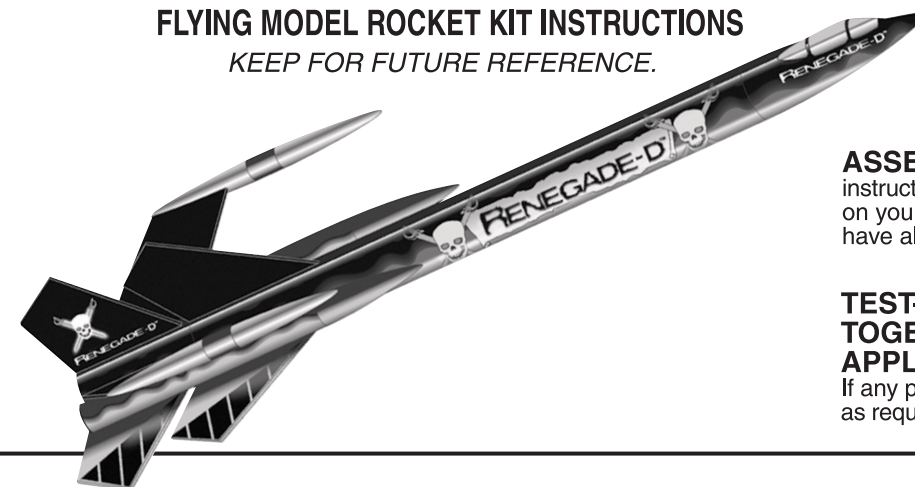
www.estesrockets.com
ESTES-COX CORP.
1295 H Street, P.O. Box 227
Penrose, CO 81240-0227
PRINTED IN CHINA



FLYING MODEL ROCKET KIT INSTRUCTIONS

KEEP FOR FUTURE REFERENCE.

#2410

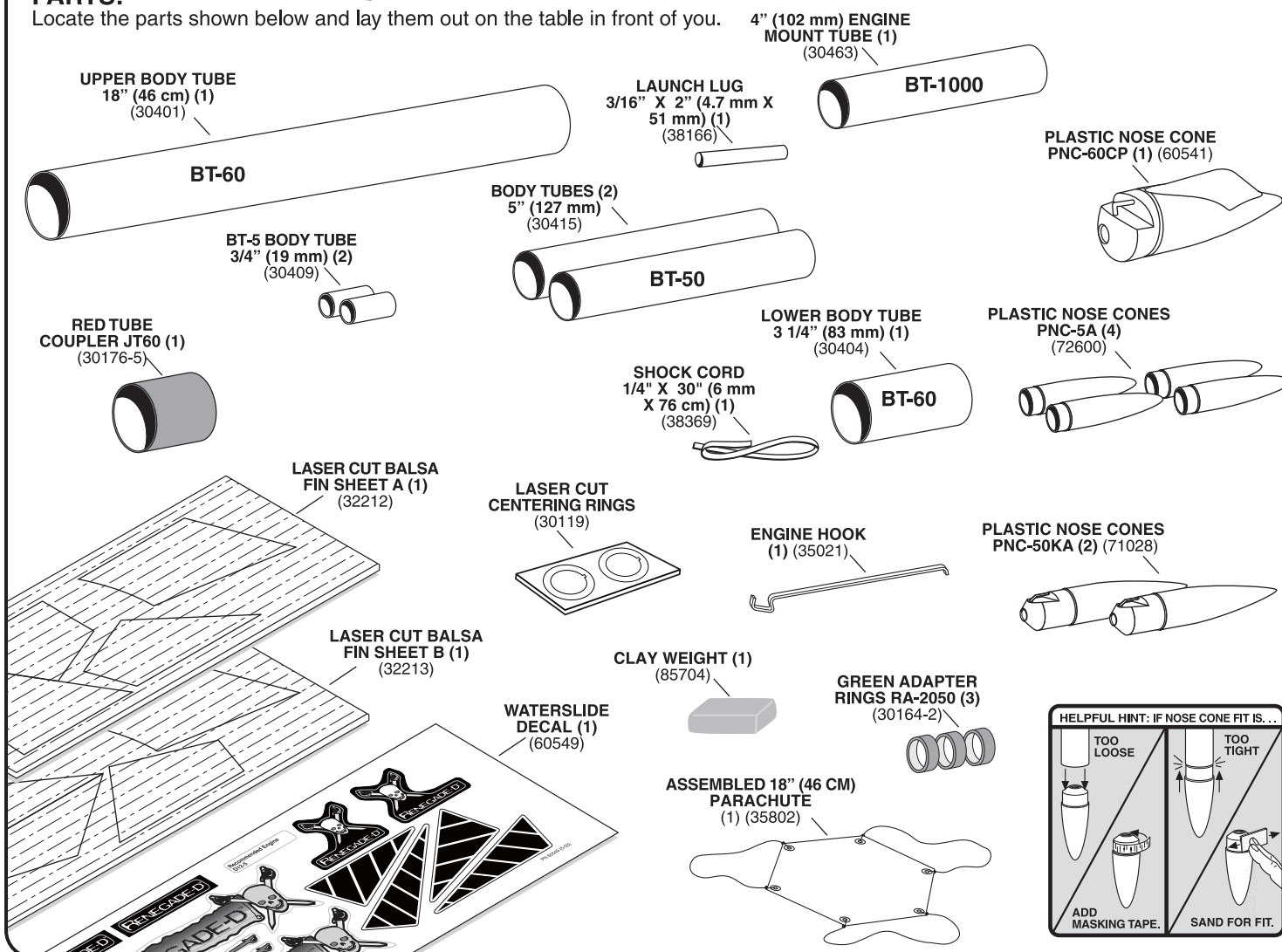


ASSEMBLY TIP: Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

TEST-FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE! If any parts don't fit properly, sand as required for precision assembly.

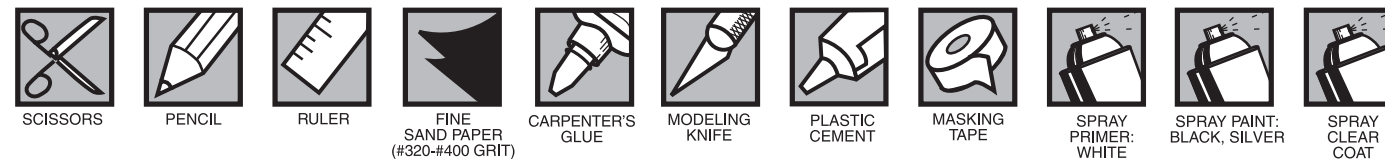
PARTS:

Locate the parts shown below and lay them out on the table in front of you.

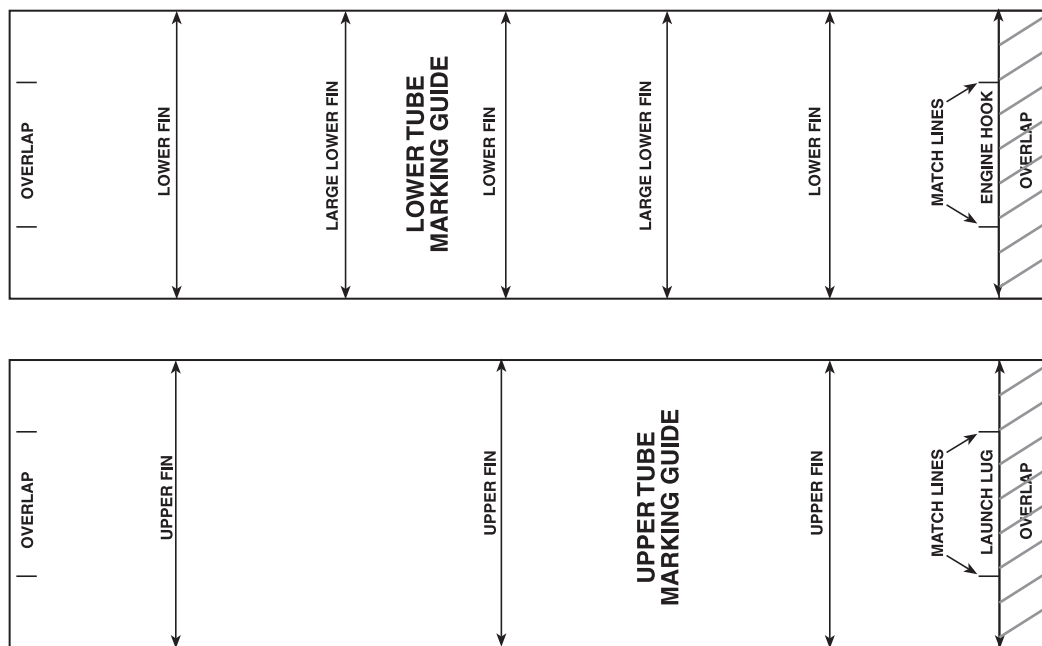


SUPPLIES

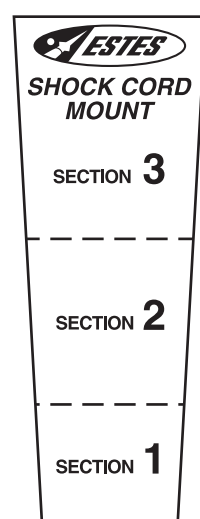
In addition to the parts included in the kit you will also need:



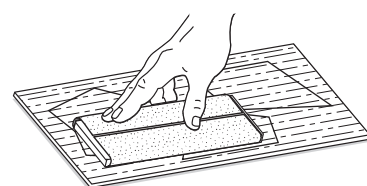
TUBE MARKING GUIDES



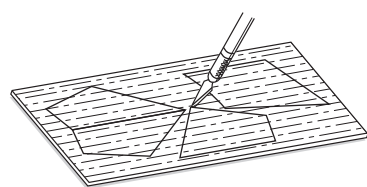
SHOCK CORD MOUNT



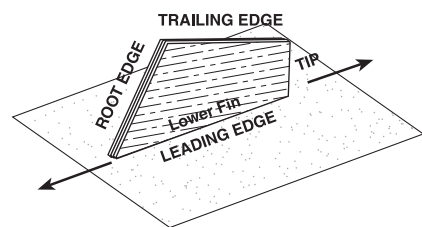
1. FIN PREPARATION



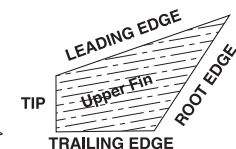
A. Sand both sides of balsa sheets with fine sandpaper (#320 or #400 grit).



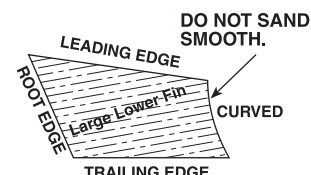
B. Cut fins from sheets.



C. Stack like fins together. Sand edges smooth.

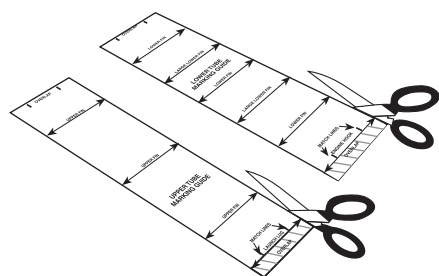


D. Sand leading and trailing edges round.

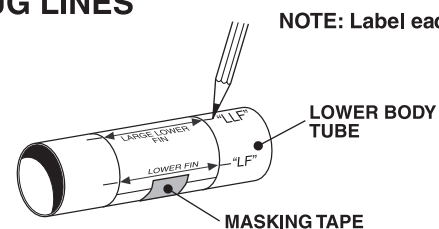


DO NOT SAND SMOOTH.

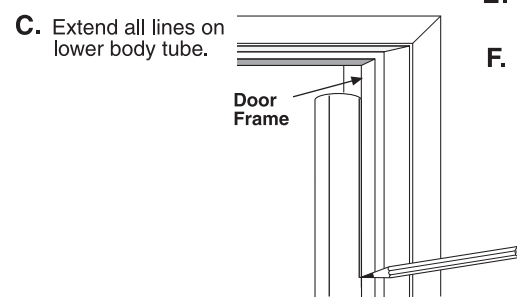
2. MARK FIN AND LAUNCH LUG LINES



A. Cut marking guides from instructions.

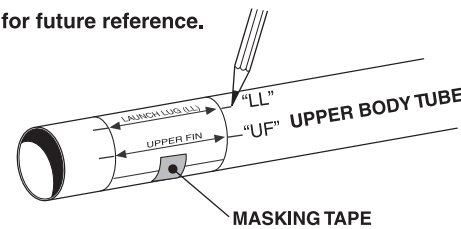


B. Wrap LOWER TUBE MARKING GUIDE around lower tube and tape. Mark tube at arrows. Label lower fins "LF", engine hook "EH", and large lower fins "LLF". Remove guide.



C. Extend all lines on lower body tube.

NOTE: Label each line for future reference.



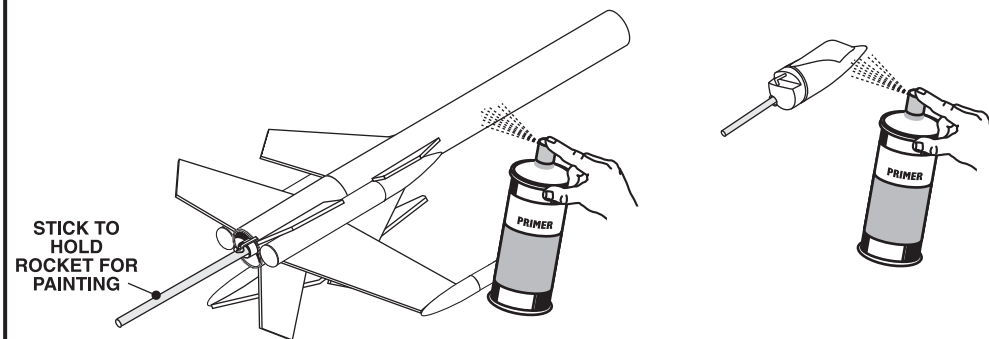
D. Wrap UPPER TUBE MARKING GUIDE around upper body tube and tape. Mark upper fin lines "UF" and launch lug line "LL". Remove guide.

E. Extend upper fin lines on upper body tube 4" (102 mm).

F. Extend launch lug line 6" (152 mm).

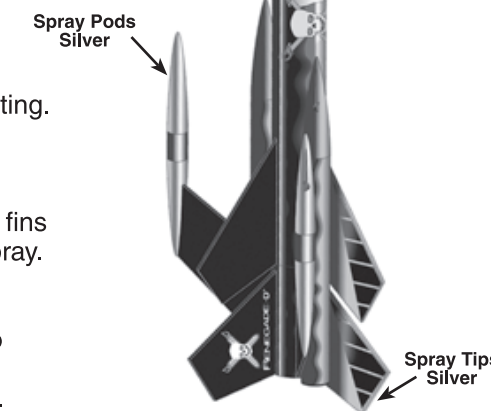
16. FINISHING ROCKET

NOTE: We have found Testors One Coat Lacquer, Testors Model Master spray paints (color of your choice) and Testors Gloss Lacquer (#1961) to be excellent for providing a long lasting and durable finish on your rocket. Always be sure to spray your models outside or in a well ventilated area.



Steps to a quality finish:

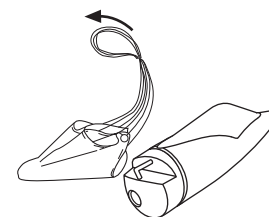
1. Insert shock cord into body tube and hold in place with paper.
2. Lightly sand body tube and fins with fine sandpaper (#320 or #400 grit).
3. Use a stick inserted into the engine mount end of the rocket for painting.
4. Insert a stick into the open end of the nose cone to hold while painting.
5. We recommend a good filler/primer to be applied to the balsa fins before painting.
6. After priming the rocket and nose cone, sand smooth in preparation for color.
7. Spray paint main rocket and nose cone glossy black.
8. Let paint dry overnight (24 hours is best).
9. Apply masking tape around the center of the pods and protective cover to the fins below the pods. Cover entire rocket prior to painting to protect against overspray.
10. Spray pods bright silver.
11. Let paint dry overnight (24 hours is best). Remove tape and protective cover.
12. Apply masking tape to top side of fins along main rocket body. Cover rocket to protect from overspray on fins.
13. Spray the top half of the fins silver (refer to image above for paint application).
14. Let paint dry overnight (24 hours is best). Remove tape and protective cover.
15. Apply waterslide decals.



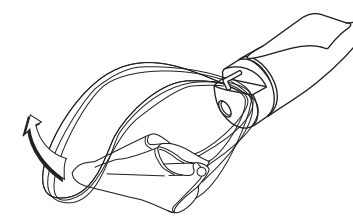
- A.** Cut the decal to be applied from the decal sheet, trimming close to the decal edge.
- B.** Hold the decal in warm water until decal begins to curl.
- C.** Remove the entire decal, position in place and slide the decal backing material from under the decal and onto the model as close to final position as possible.
- D.** Gently blot out excess water with a clean paper towel.
- E.** Allow decals to set overnight before applying protective clear coat.

16. When decals are dry, spray entire rocket (body and nose cone) with a light coat of Testors Gloss Lacquer (#1961). This will provide added protection and shine to your Renegade-D™ rocket!

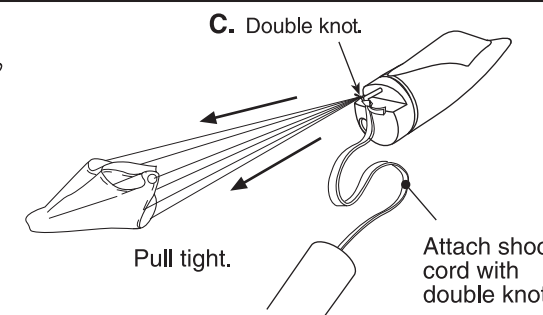
17. ATTACH NOSE CONE



A. Form loop.



B. Loop through.



C. Double knot.

Pull tight.

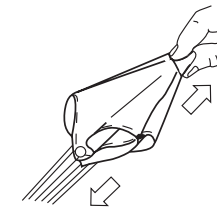
Attach shock cord with double knot.

18. PREPARE PARACHUTE FOR FLIGHT



A. Insert 7-8 squares of loosely crumpled recovery wadding into rocket.

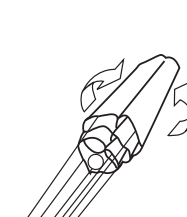
NOTE: Use Estes Recovery Wadding (302274) Only.



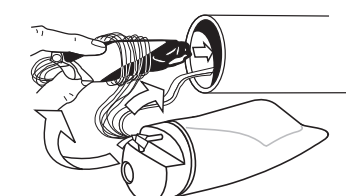
B. Spike parachute.



C. Fold.

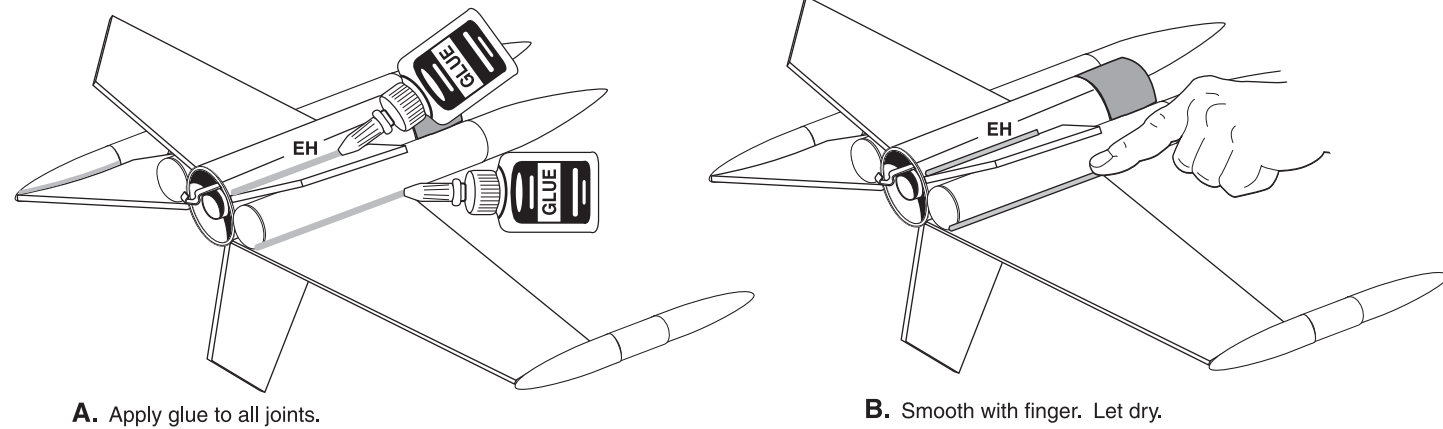


D. Roll.



E. Wrap lines loosely. Insert parachute, shock cord and nose cone into body tube.

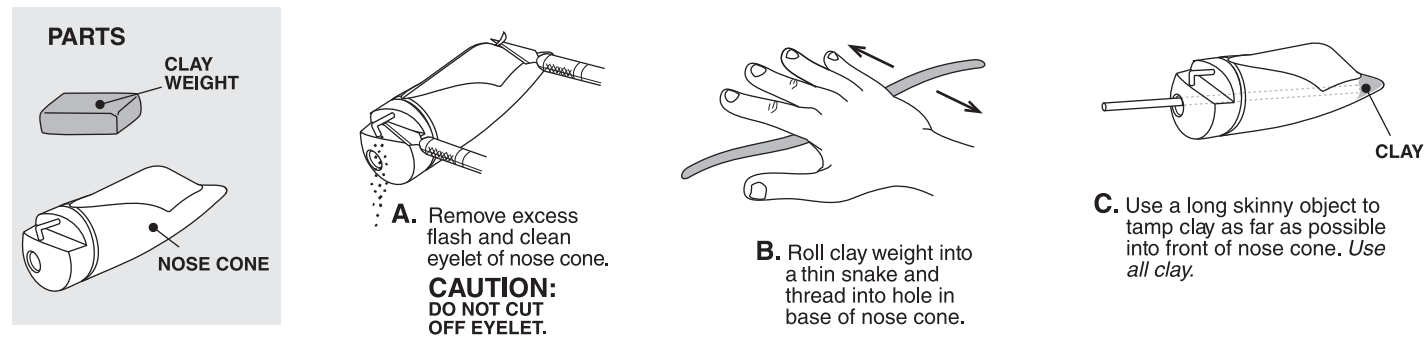
12. APPLY GLUE FILLETS



A. Apply glue to all joints.

B. Smooth with finger. Let dry.

13. INSTALL NOSE WEIGHT

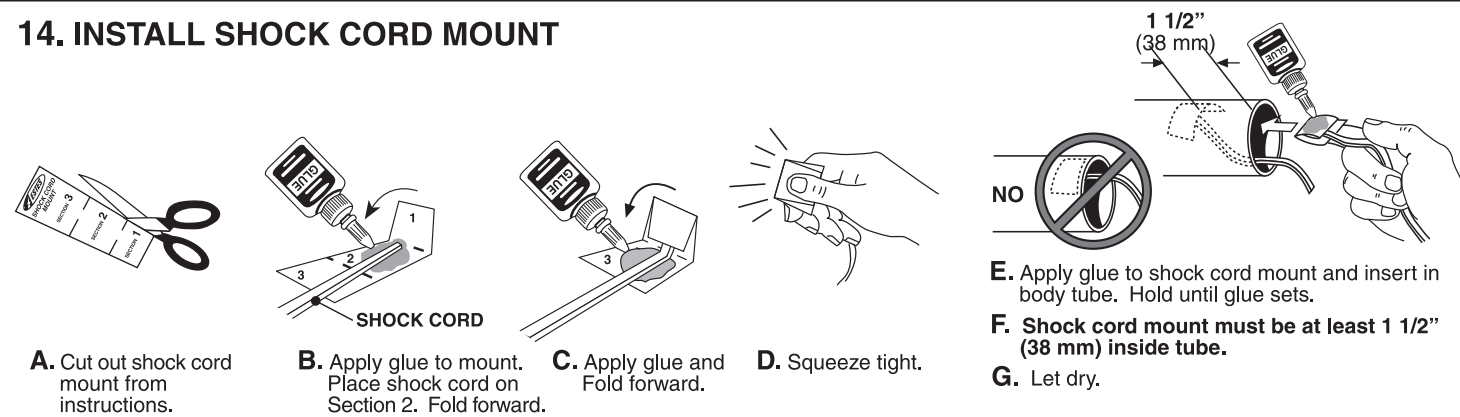


A. Remove excess flash and clean eyelet of nose cone.
CAUTION: DO NOT CUT OFF EYELET.

B. Roll clay weight into a thin snake and thread into hole in base of nose cone.

C. Use a long skinny object to tamp clay as far as possible into front of nose cone. Use all clay.

14. INSTALL SHOCK CORD MOUNT



A. Cut out shock cord mount from instructions.

B. Apply glue to mount. Place shock cord on Section 2. Fold forward.

C. Apply glue and fold forward.

D. Squeeze tight.

E. Apply glue to shock cord mount and insert in body tube. Hold until glue sets.

F. Shock cord mount must be at least 1 1/2" (38 mm) inside tube.

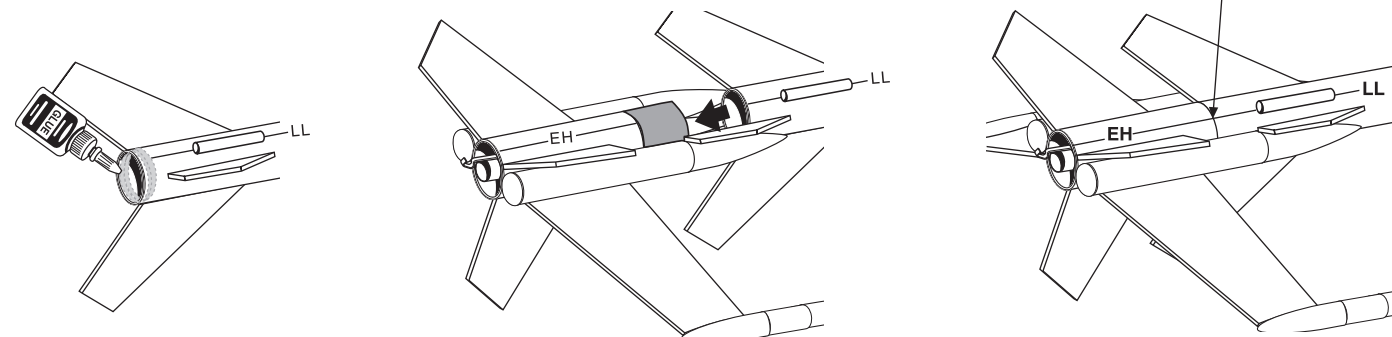
G. Let dry.

15. ATTACH UPPER BODY TUBE

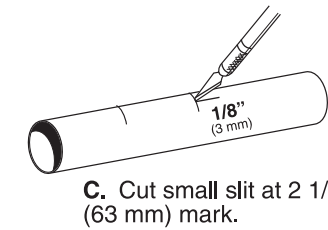
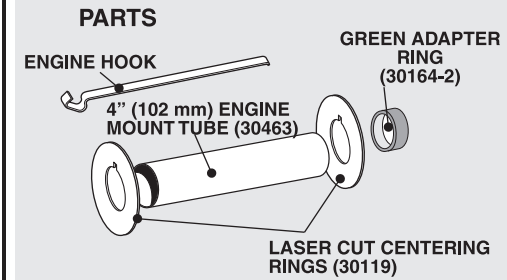
A. Apply ring of glue to inside of upper body tube.

B. Align "LL" with the "EH" line and insert lower assembly into upper assembly as shown. Let Dry.

NOTE: MAKE SURE "EH" AND "LL" ARE ALIGNED.



3. ENGINE MOUNT ASSEMBLY



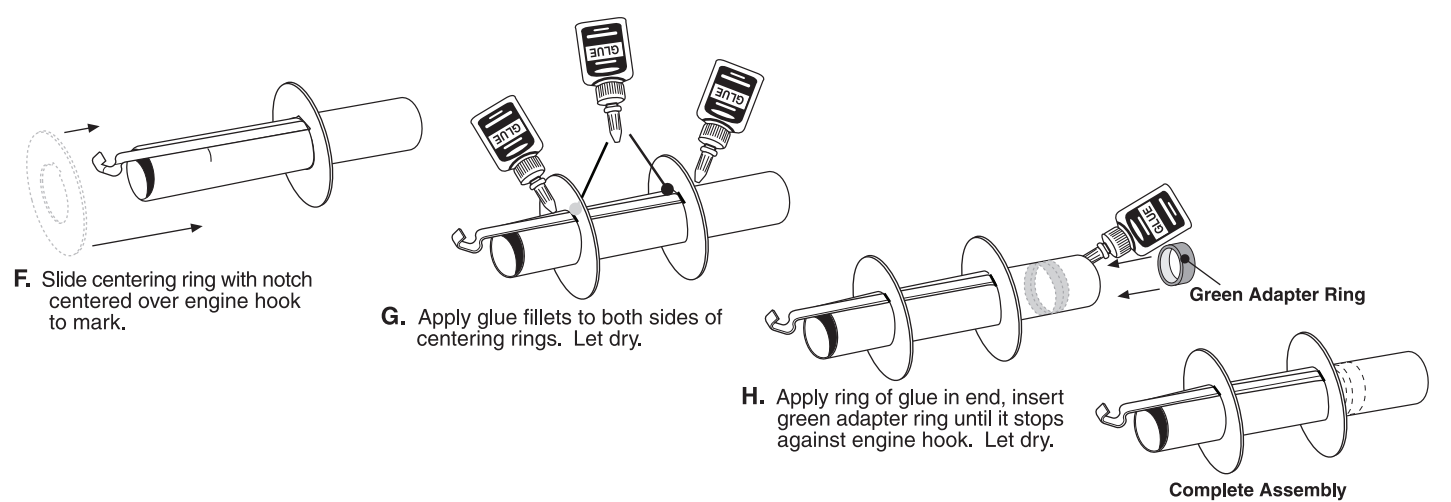
C. Cut small slit at 2 1/2" (63 mm) mark.

A. Remove centering rings. Save center discs for Step 4.

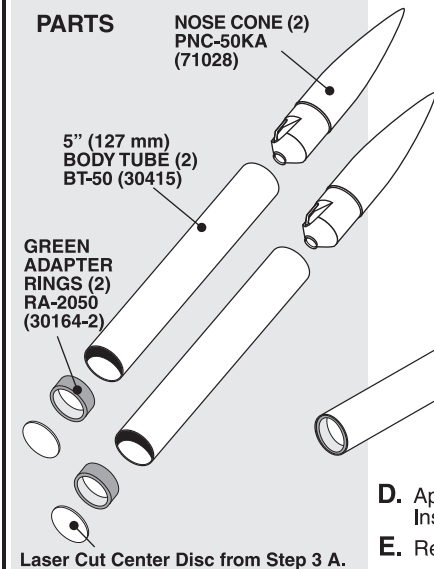
B. Measure and mark engine mount tube.

D. Insert engine hook in slit.

E. Slide centering ring with notch centered over end of engine hook.



4. SIDE TUBE ASSEMBLIES



A. Remove flash from nose cones.

B. Apply a ring of glue inside tube. Insert green adapter ring even with end. Let dry.

C. Repeat for 2nd tube.

D. Apply a ring of cement inside tube. Insert nose cone. Let dry.

F. Apply glue to end of tube. Position disc over end. Let dry.

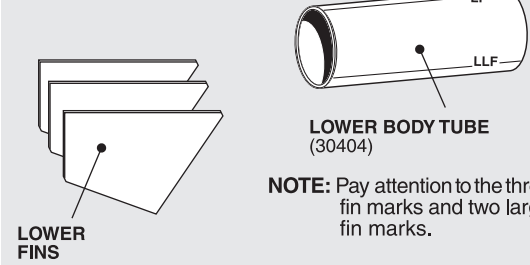
H. Sand edge of disc even with tube.

E. Repeat for second tube.

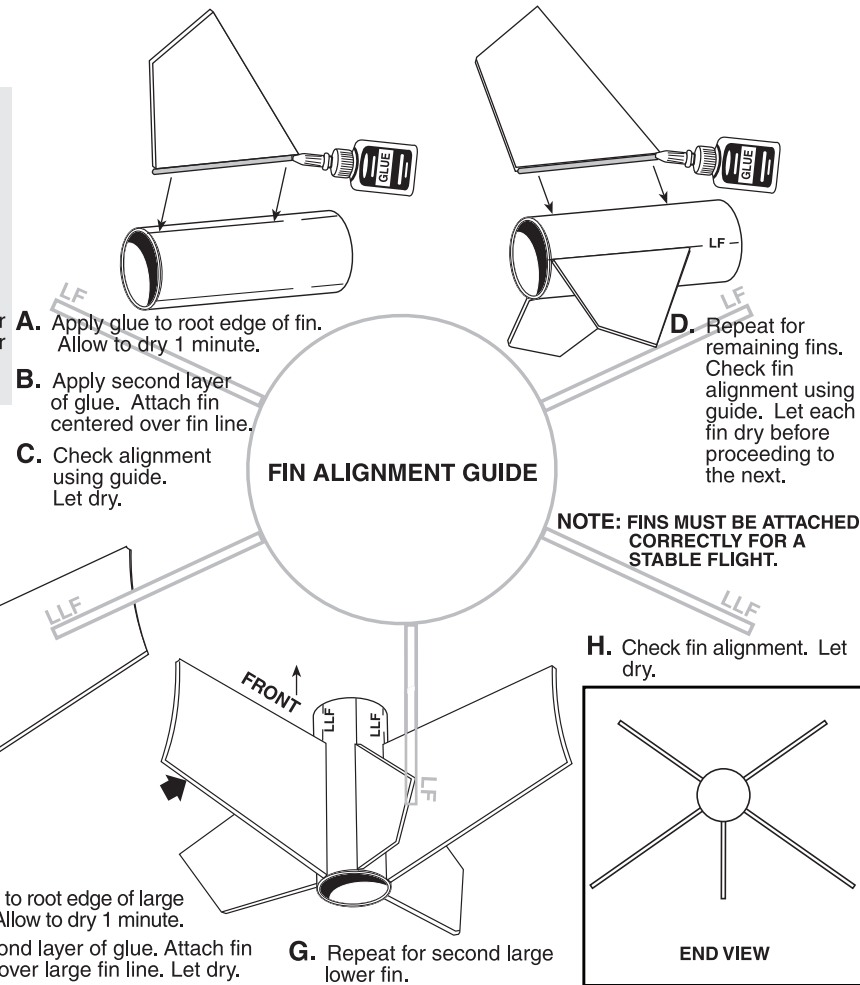
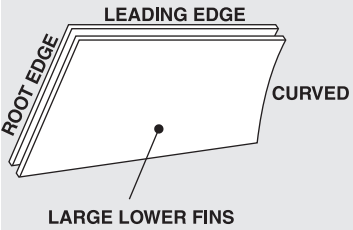
G. Repeat for other tube. Let dry.

5. ATTACH LOWER BODY TUBE FINS

PARTS



NOTE: Pay attention to the three lower fin marks and two large lower fin marks.

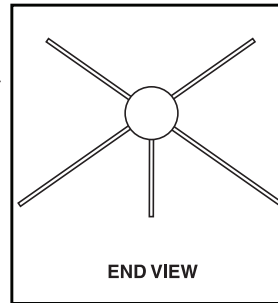


- A.** Apply glue to root edge of fin. Allow to dry 1 minute.
- B.** Apply second layer of glue. Attach fin centered over fin line.
- C.** Check alignment using guide. Let dry.

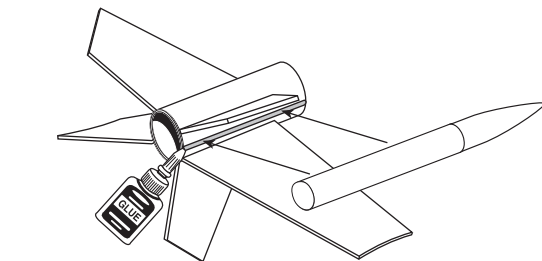
- D.** Repeat for remaining fins. Check fin alignment using guide. Let each fin dry before proceeding to the next.

NOTE: FINS MUST BE ATTACHED CORRECTLY FOR A STABLE FLIGHT.

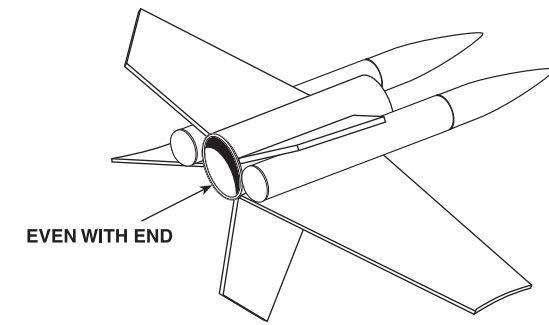
- H.** Check fin alignment. Let dry.



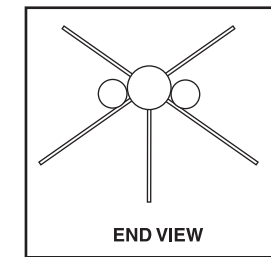
6. ATTACH SIDE TUBE ASSEMBLIES



- A.** Apply line of glue on lower body tube and large lower fin.
- B.** Position side tube even with end of lower body tube. Let dry.

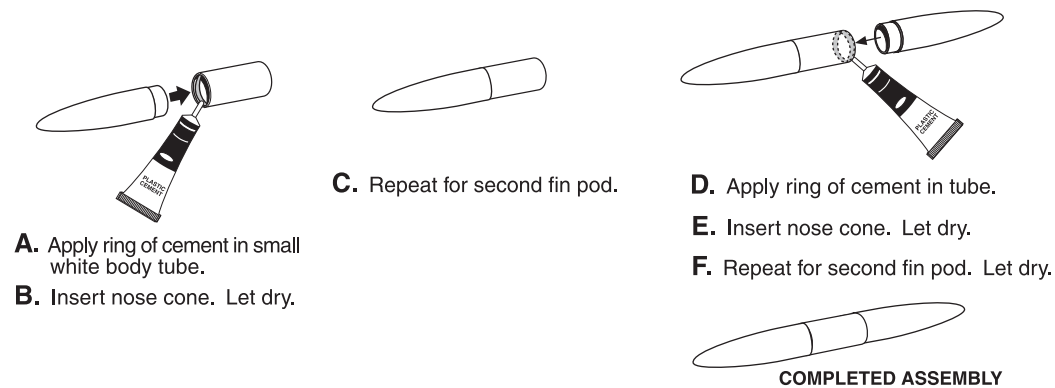
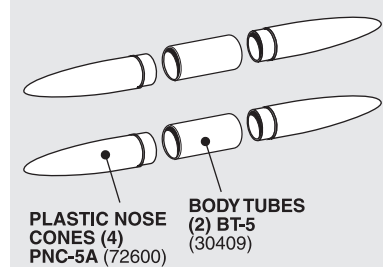


- C.** Repeat for other side tube assembly. Let dry.



7. PREPARE FIN PODS

PARTS



- A.** Apply ring of cement in small white body tube.
- B.** Insert nose cone. Let dry.

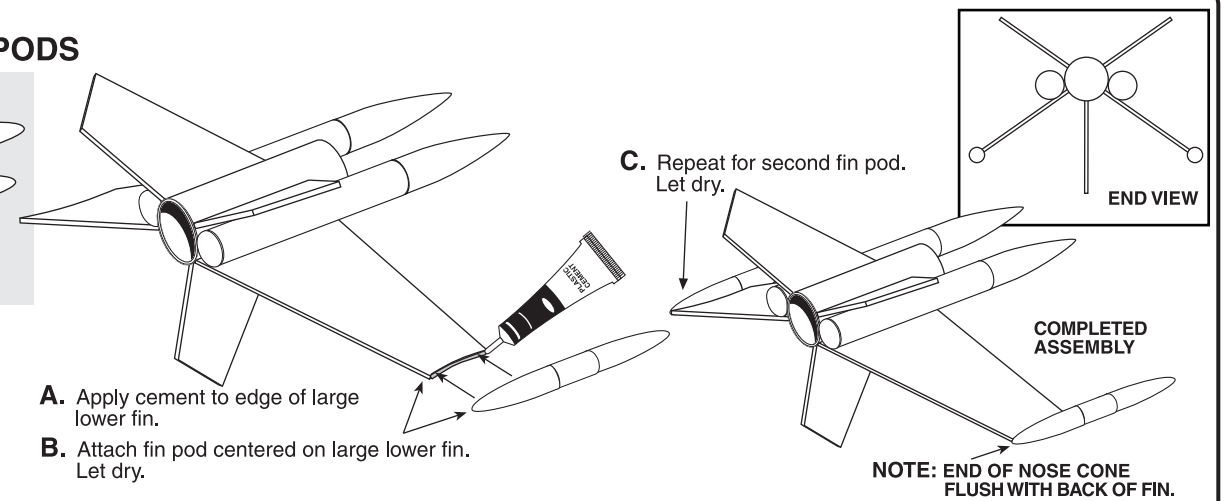
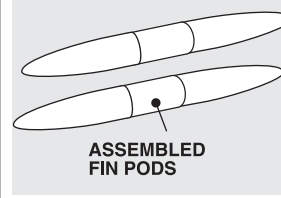
- C.** Repeat for second fin pod.

- D.** Apply ring of cement in tube.
- E.** Insert nose cone. Let dry.
- F.** Repeat for second fin pod. Let dry.

COMPLETED ASSEMBLY

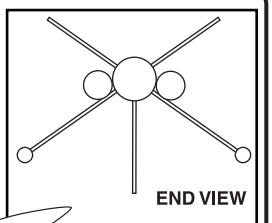
8. ATTACH FIN PODS

PARTS



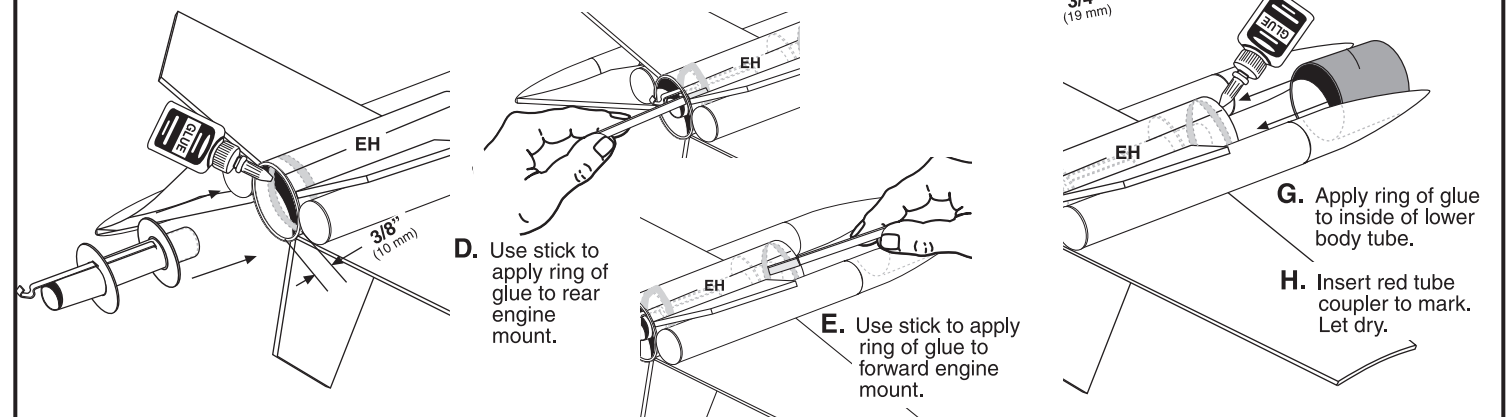
- A.** Apply cement to edge of large lower fin.
- B.** Attach fin pod centered on large lower fin. Let dry.
- C.** Repeat for second fin pod. Let dry.

NOTE: END OF NOSE CONE FLUSH WITH BACK OF FIN.



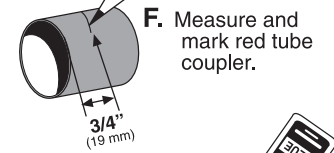
9. INSTALL ENGINE MOUNT

- A.** Test fit engine mount assembly. Sand centering rings if required for good fit.
- B.** Apply glue inside of lower body tube.
- C.** Insert engine mount assembly until engine tube is even with lower body tube. Make sure engine hook is aligned with "EH" line. Let dry.



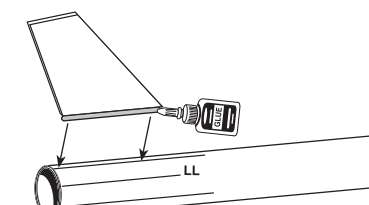
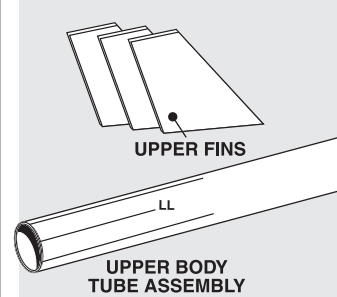
- D.** Use stick to apply ring of glue to rear engine mount.
- E.** Use stick to apply ring of glue to forward engine mount.

- G.** Apply ring of glue to inside of lower body tube.
- H.** Insert red tube coupler to mark. Let dry.

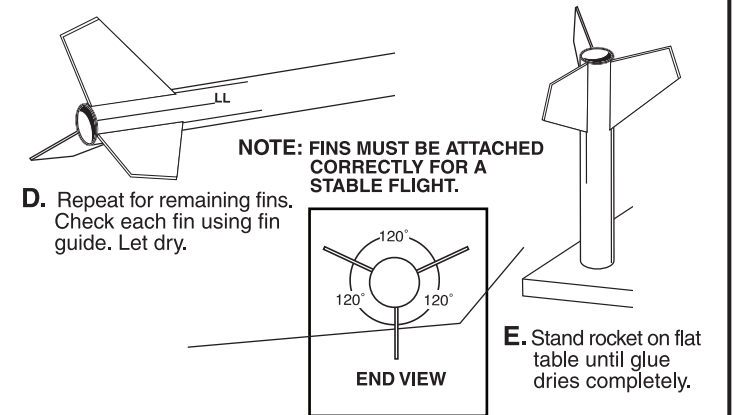


10. ATTACH UPPER FINS

PARTS

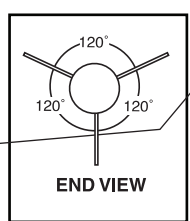


- A.** Apply glue to root edge of upper fin. Allow to dry 1 minute.
- B.** Apply second layer of glue. Attach fin centered over fin line and even with end of body tube.
- C.** Check fin alignment using guide on page 4. Let dry.



- D.** Repeat for remaining fins. Check each fin using fin guide. Let dry.

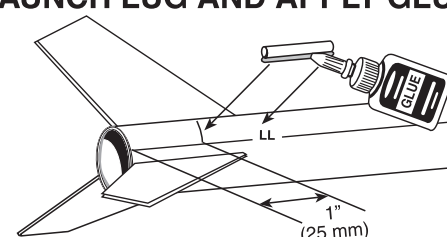
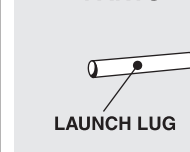
NOTE: FINS MUST BE ATTACHED CORRECTLY FOR A STABLE FLIGHT.



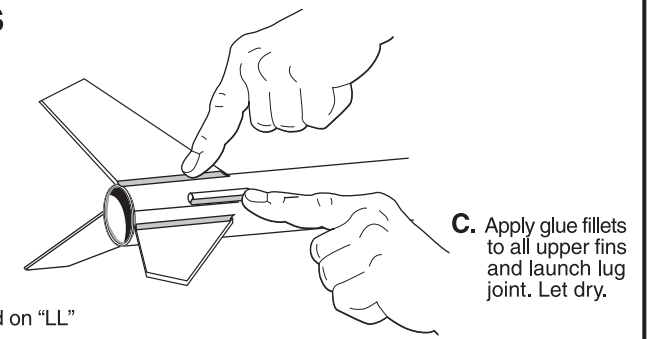
- E.** Stand rocket on flat table until glue dries completely.

11. ATTACH LAUNCH LUG AND APPLY GLUE FILLETS

PARTS



- A.** Place mark on "LL" where shown.
- B.** Apply glue on "LL" and place launch lug centered on "LL" forward of mark. Let dry.



- C.** Apply glue fillets to all upper fins and launch lug joint. Let dry.