



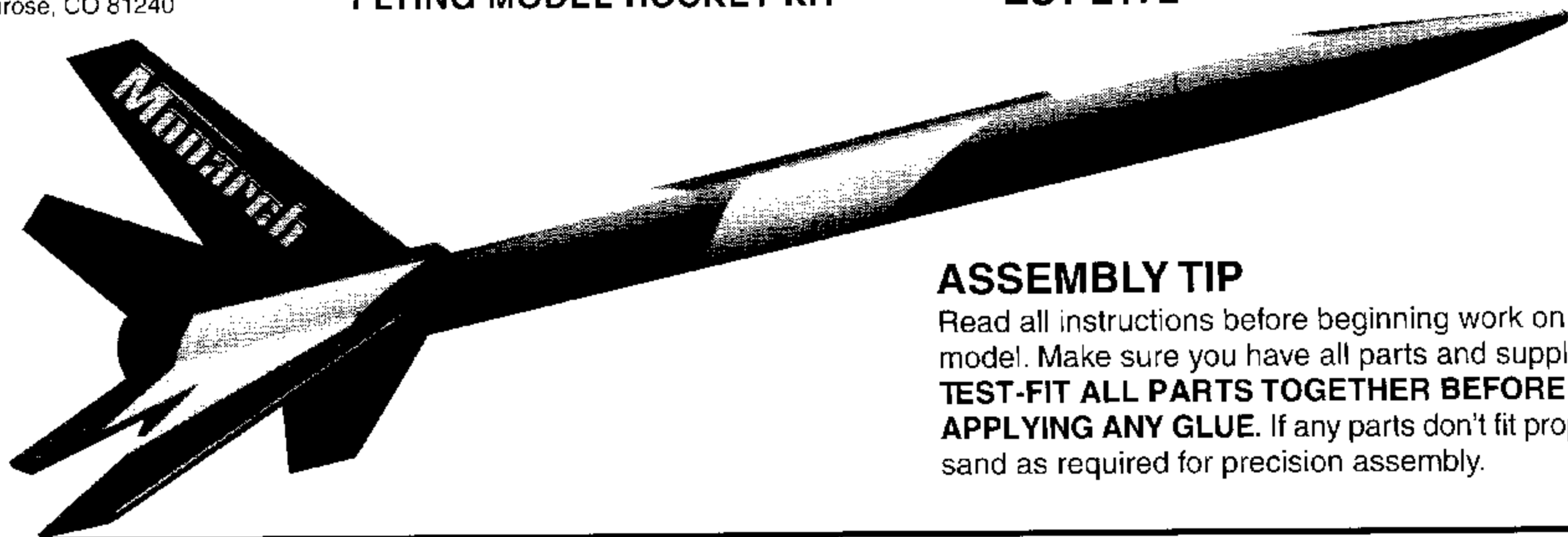
www.estesrockets.com

Estes Industries
1295 H Street
Penrose, CO 81240

Monarch™

FLYING MODEL ROCKET KIT

EST 2172



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.

SUPPLIES

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



SCISSORS



PENCIL



RULER



CARPENTER'S
GLUE



MODELING
KNIFE



PLASTIC
CEMENT



PRIMER
(WHITE)



SPRAY PAINT
OLIVE & ANTIQUE
WHITE OR RED,
YELLOW & BLACK



SPRAY
CLEAR
COAT



MASKING
TAPE



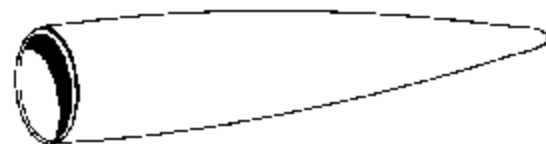
FINE
SAND
PAPER
(#400-600 GRIT)

PARTS

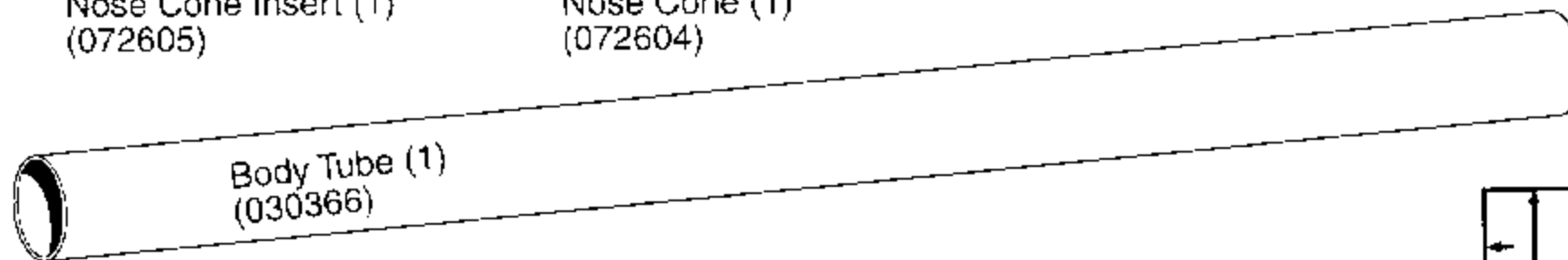
Locate the parts shown below and lay them out on the table in front of you. **DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.**



Nose Cone Insert (1)
(072605)



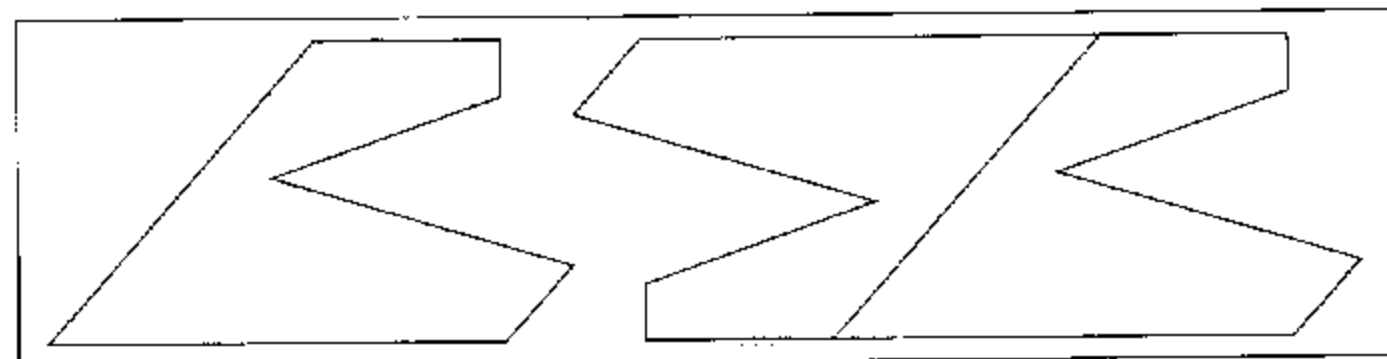
Nose Cone (1)
(072604)



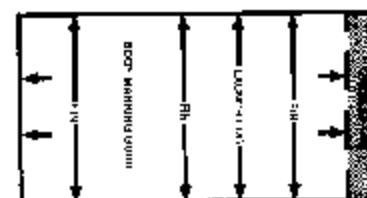
Body Tube (1)
(030366)



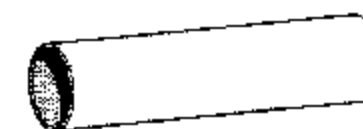
Green Centering Rings (2)
(030164-2)



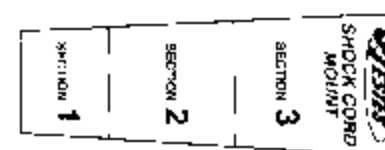
Die-cut Balsa Sheet (1) (032242)



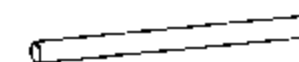
Tube Marking
Guide (1)
(on page 2)



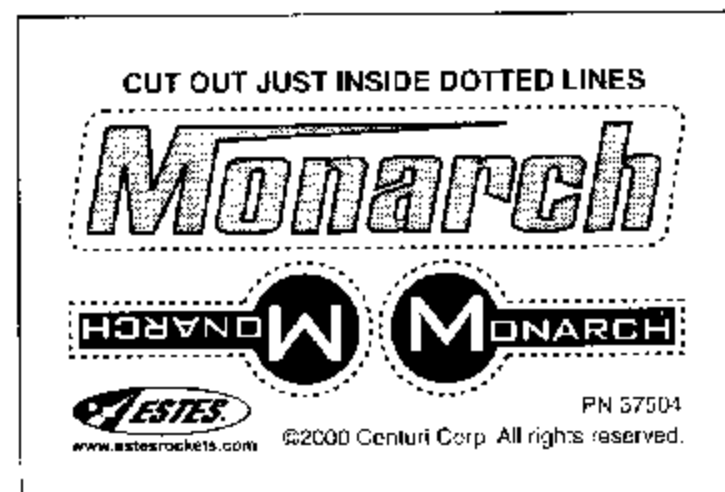
Blue Engine
Mount Tube (1)
(030326-1)



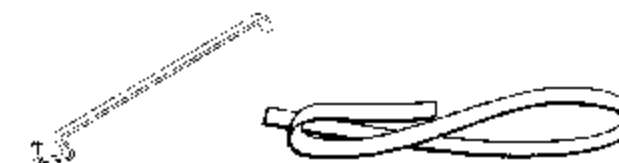
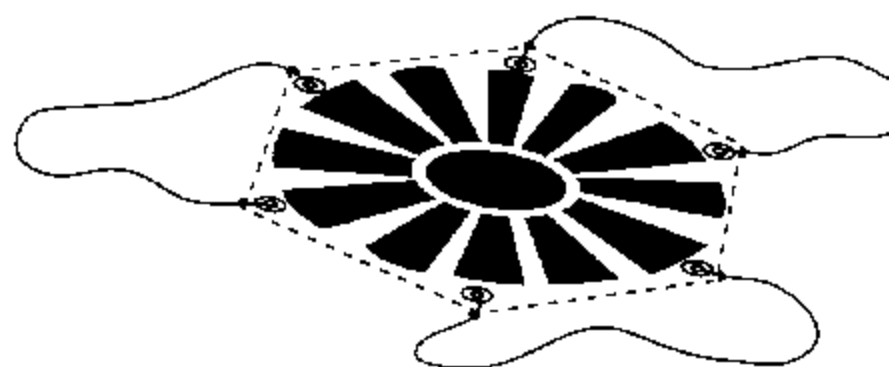
Shock Cord
Mount (1)
(on page 2)



Launch Lug (1)
(038175)



Decal Sheet (1) (037504)

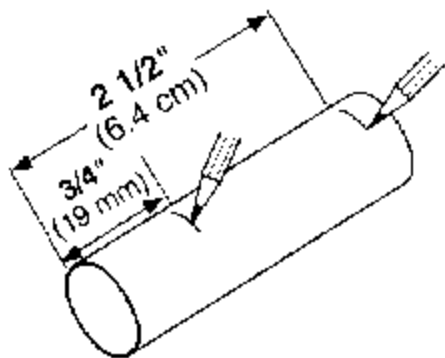


Assembled Parachute 12" (30 cm)
w/ Engine Hook and Shock Cord (1)
(035804)

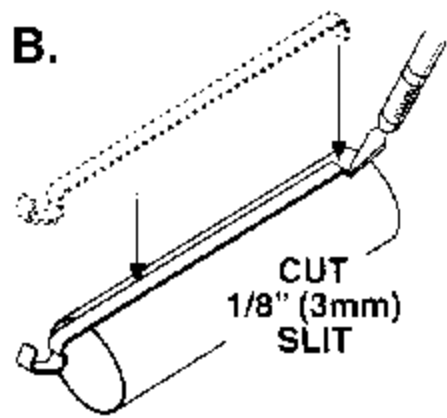
1. NOTE: USE PLASTIC CEMENT ONLY IN THIS STEP.



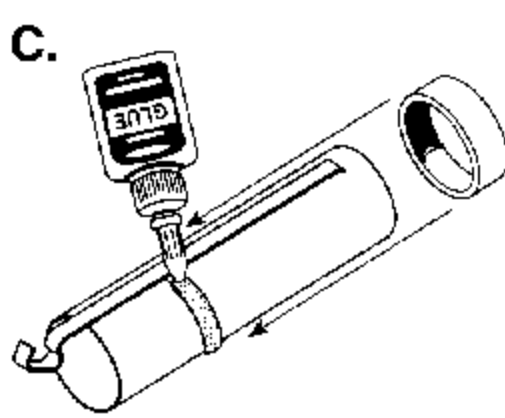
2. A.



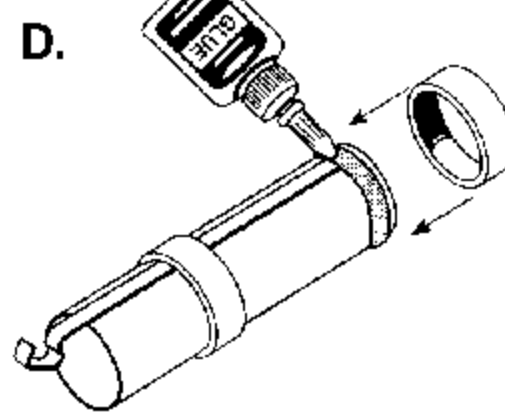
B.



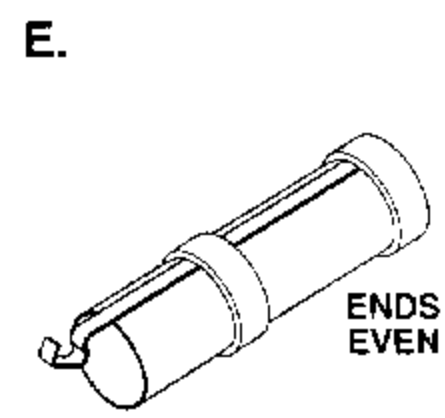
C.



D.

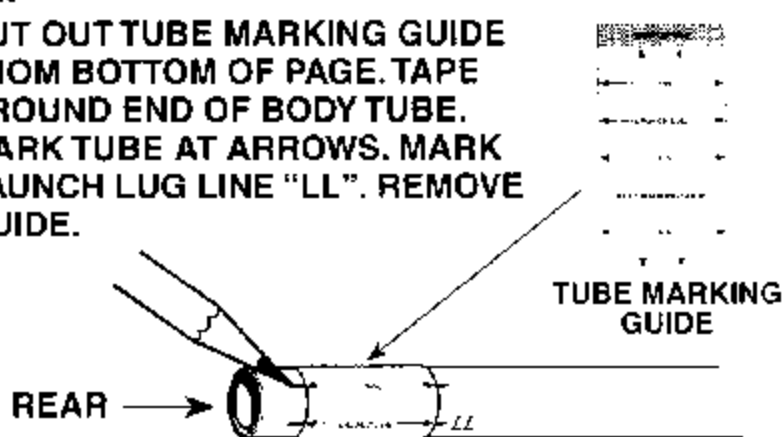


E.

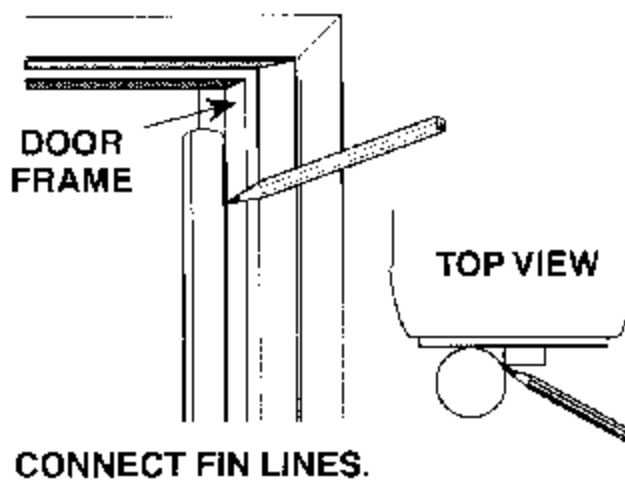


3. A.

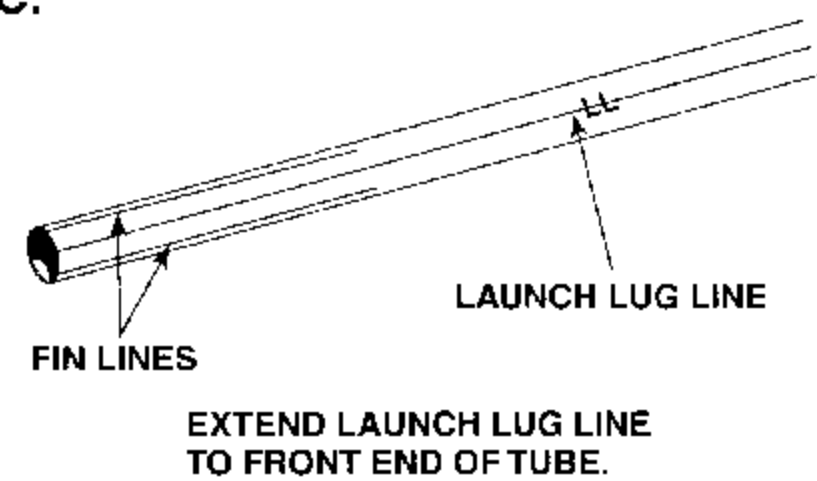
CUT OUT TUBE MARKING GUIDE FROM BOTTOM OF PAGE. TAPE AROUND END OF BODY TUBE. MARK TUBE AT ARROWS. MARK LAUNCH LUG LINE "LL". REMOVE GUIDE.



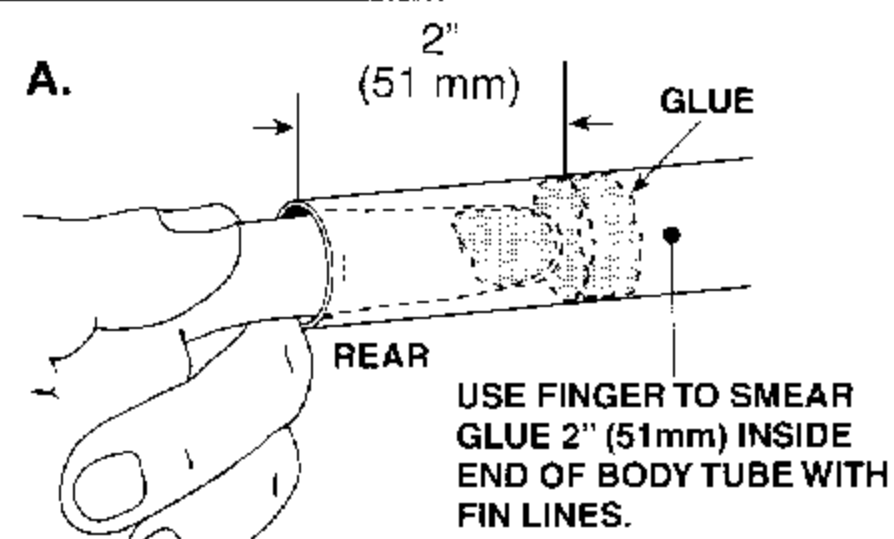
B.



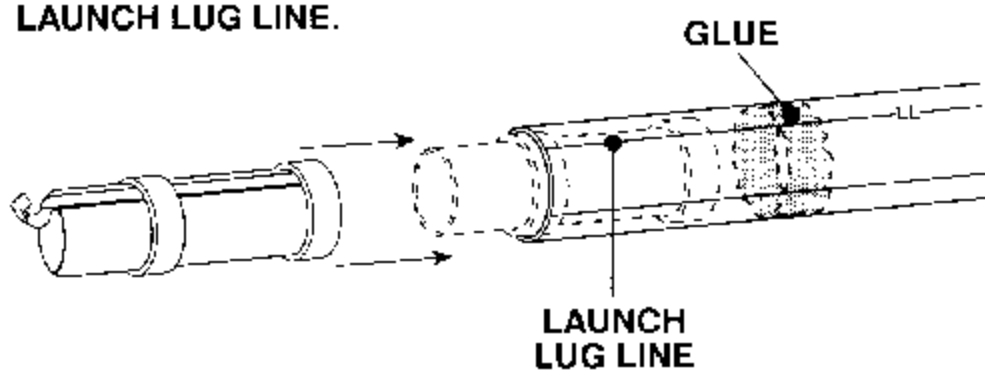
C.



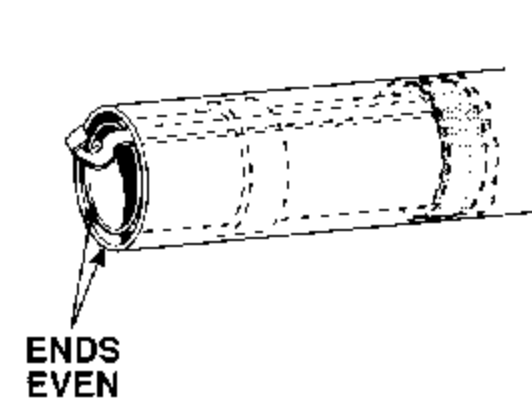
4. A.



B. ALIGN ENGINE HOOK WITH LAUNCH LUG LINE.

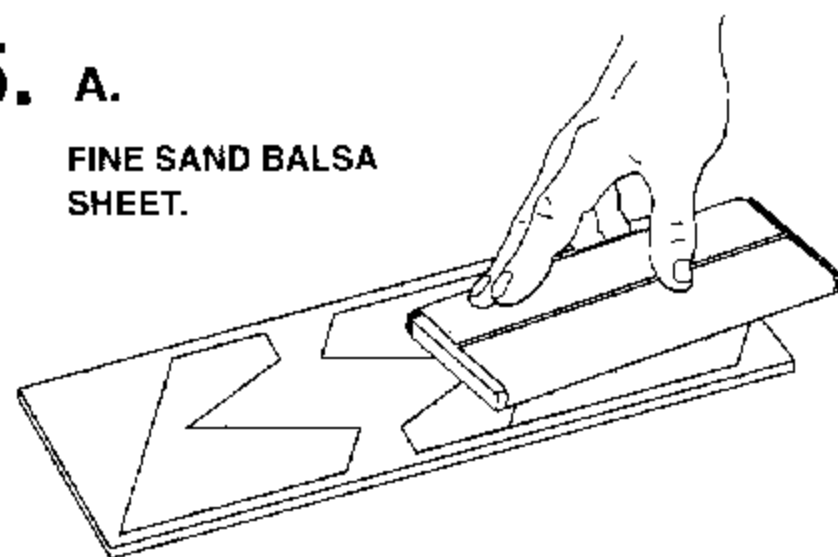


C.



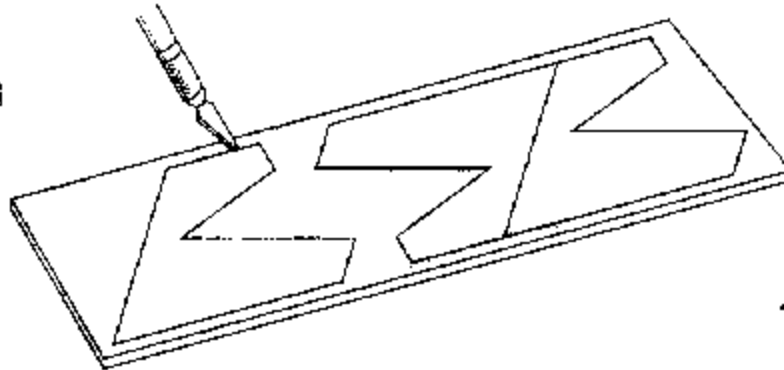
5. A.

FINE SAND Balsa SHEET.



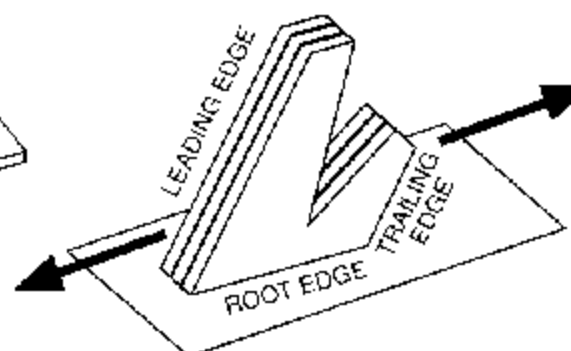
B.

CUT FINS FREE WITH KNIFE.



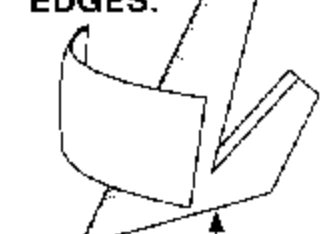
C.

STACK FINS TOGETHER & SAND EDGES SMOOTH.



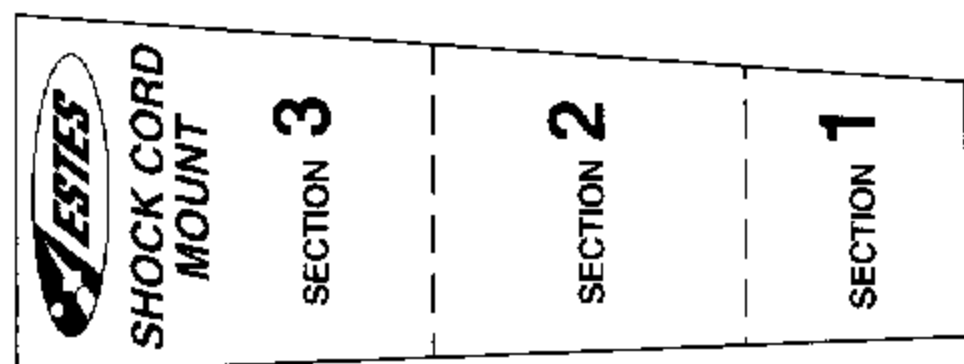
D.

ROUND LEADING EDGES.

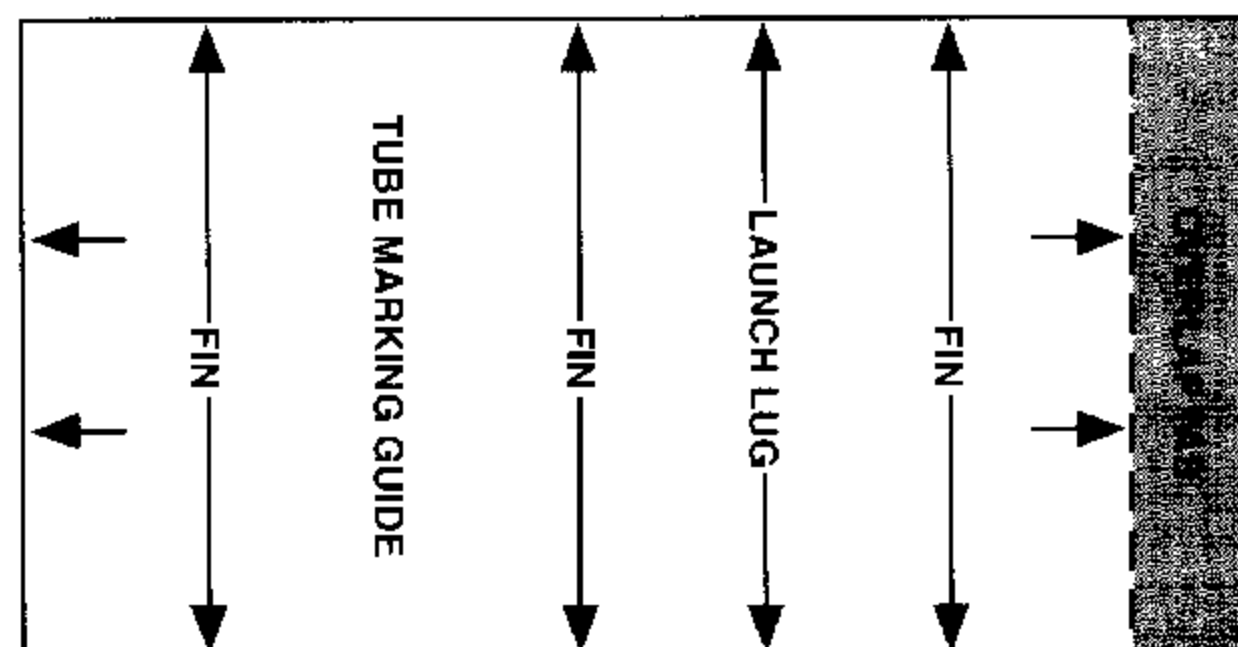


ROOT EDGE GLUES TO BODY TUBE (DO NOT ROUND!).

CUT OUT (FOR STEP "9")

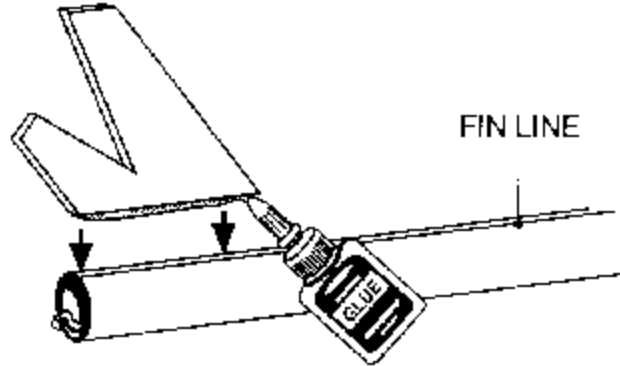


CUT OUT (FOR STEP "3")

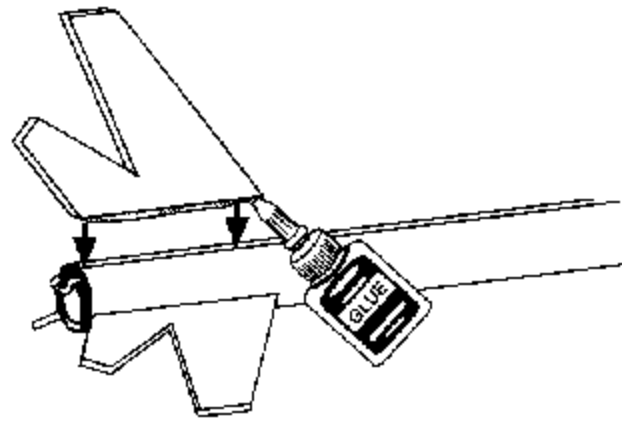


6. A.

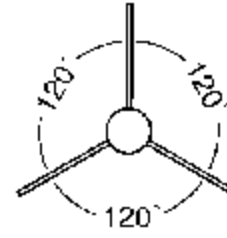
APPLY THIN LAYER OF GLUE. WAIT 1 MINUTE. APPLY 2ND THIN LAYER AND ATTACH FIN CENTERED ON FIN LINE.



REPEAT FOR OTHER FINS.



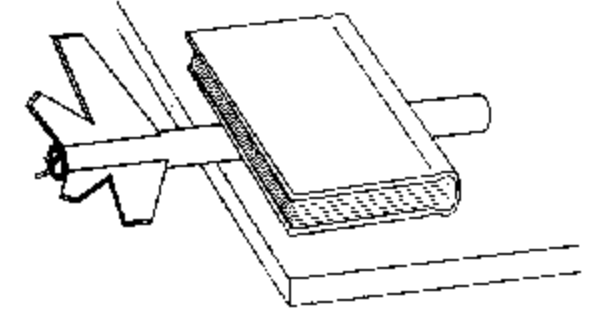
FINS PROJECT STRAIGHT FROM THE BODY.



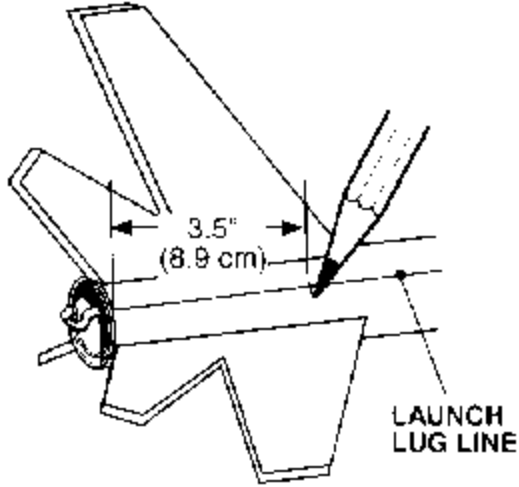
YES

B.

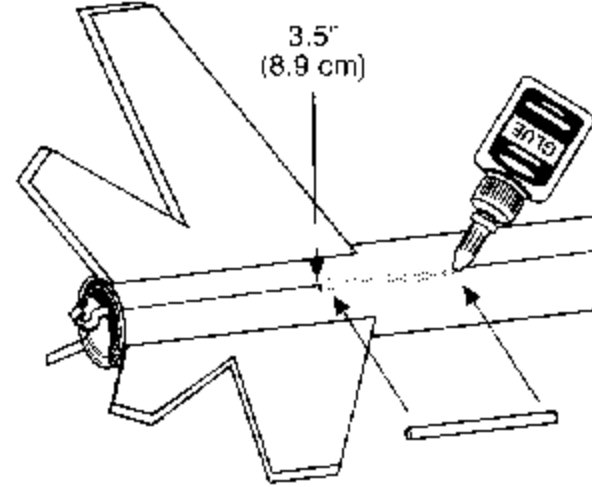
SUPPORT ROCKET UNTIL GLUE DRIES.



7. A.



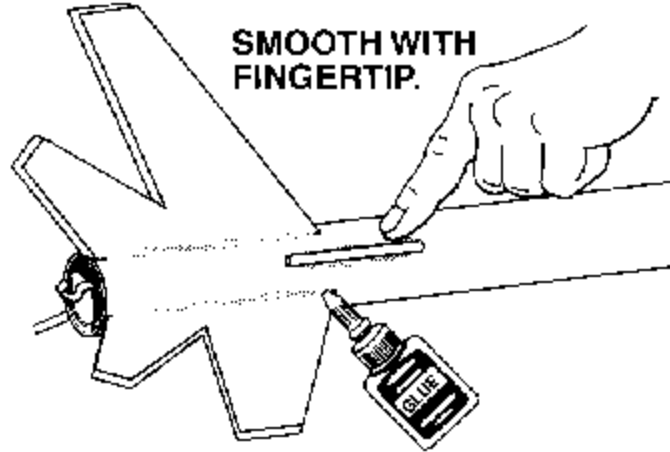
B.



NOTE: PROCEED WITH THE NEXT STEP ONLY AFTER THE GLUE ON FINS AND LAUNCH LUG IS THOROUGHLY DRY.

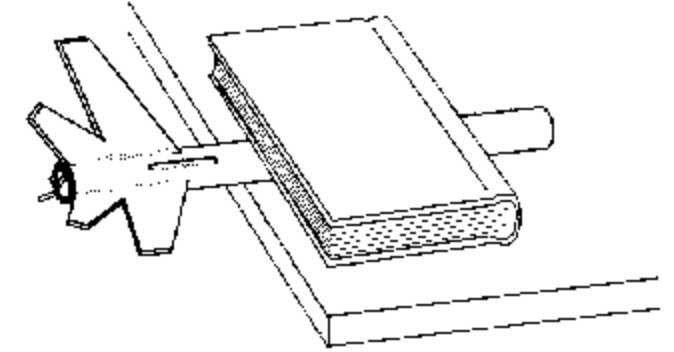
8. A.

APPLY GLUE FILLETS TO ALL FIN AND LAUNCH LUG/BODY TUBE JOINTS.

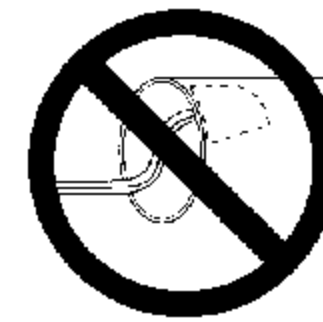
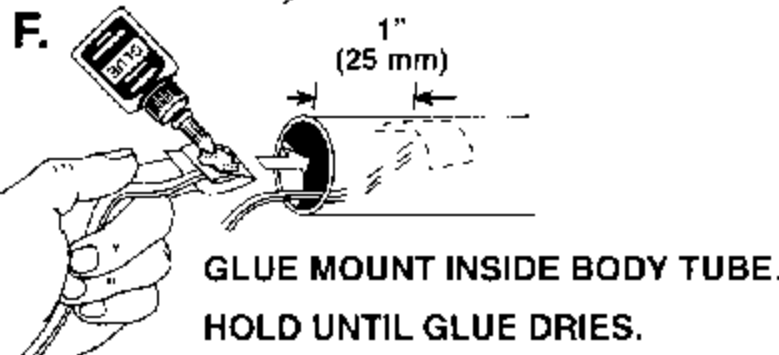
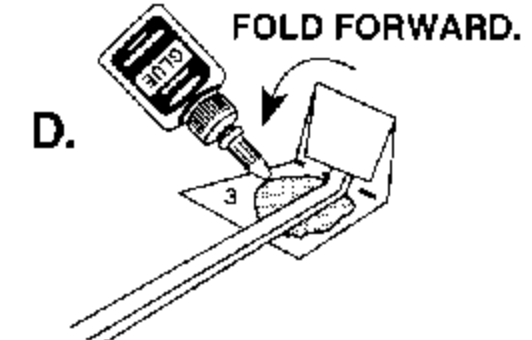
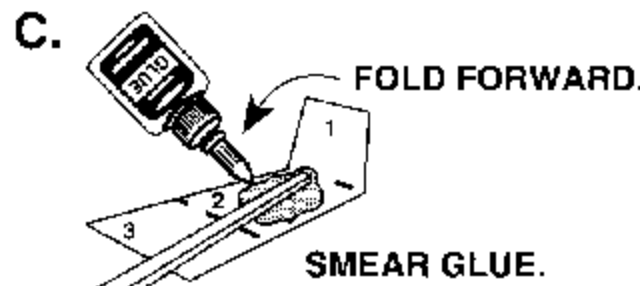
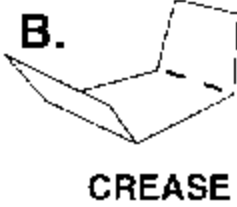
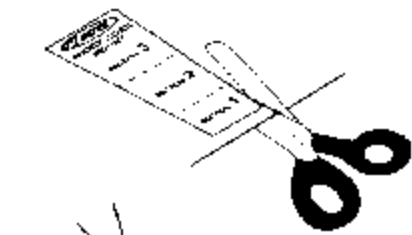


B.

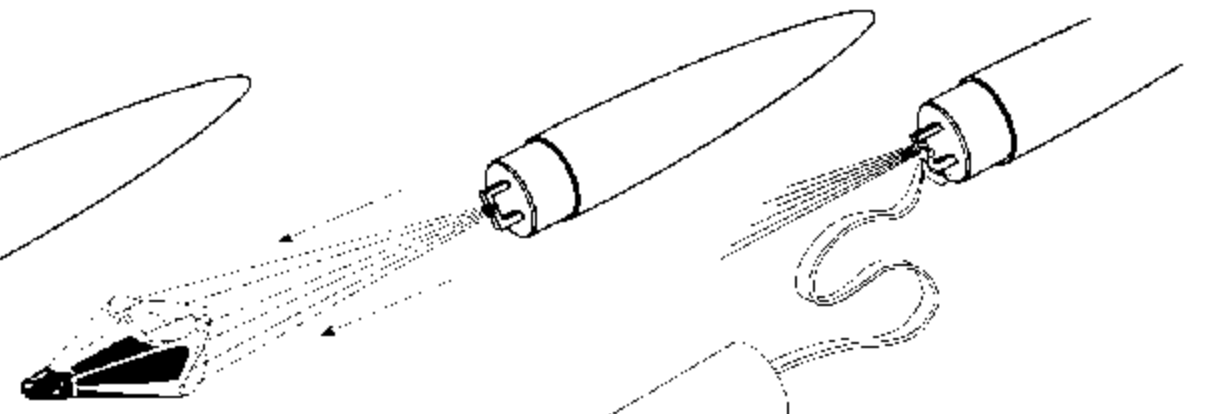
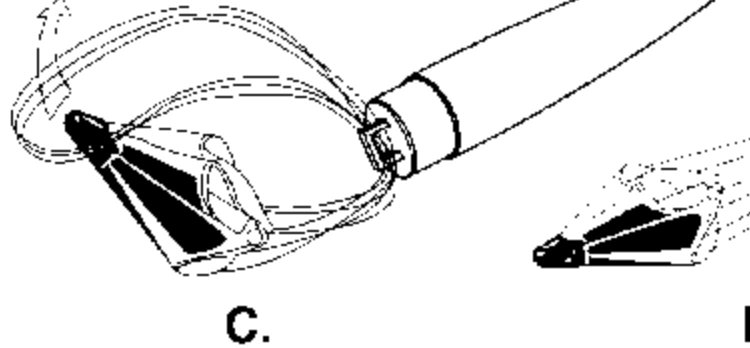
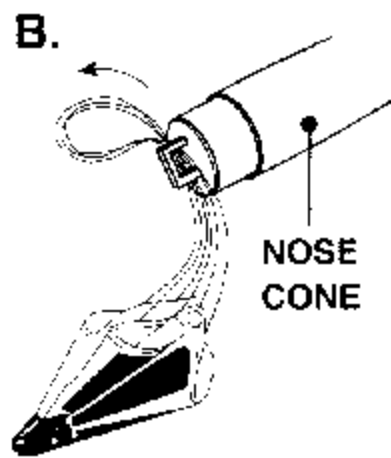
SUPPORT ROCKET UNTIL GLUE FILLETS DRY.



9. A. CUT OUT SHOCK CORD MOUNT ON PAGE 2.

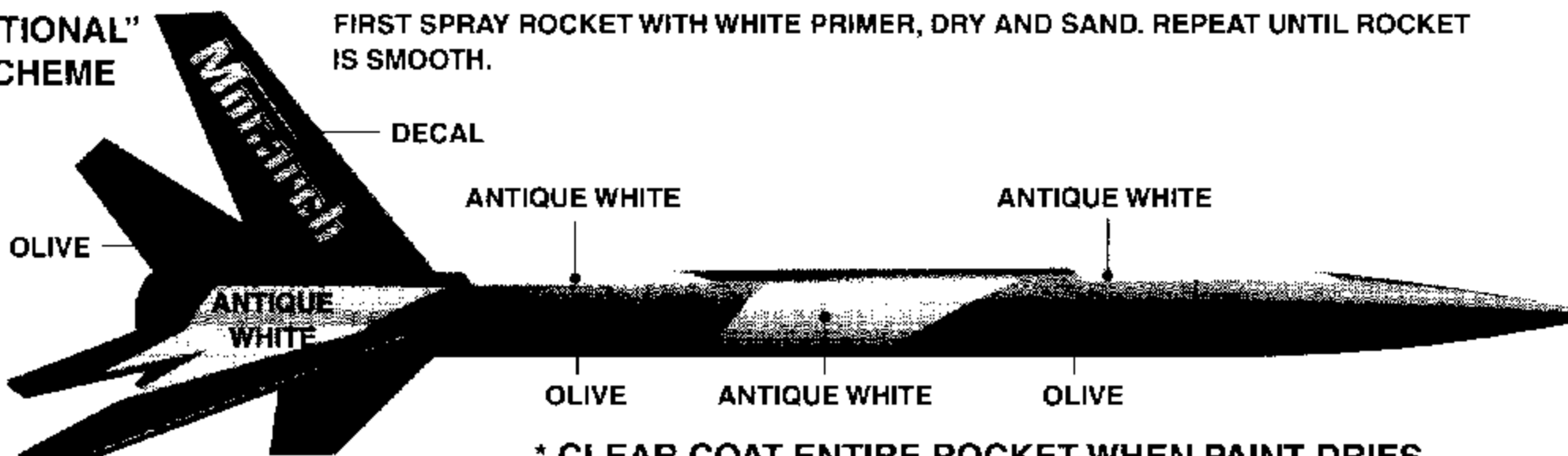


10. A. LOOP



E. DOUBLE KNOT SHOCK CORD.

"CONVENTIONAL" PAINT SCHEME



FIRST SPRAY ROCKET WITH WHITE PRIMER, DRY AND SAND. REPEAT UNTIL ROCKET IS SMOOTH.

DECALS

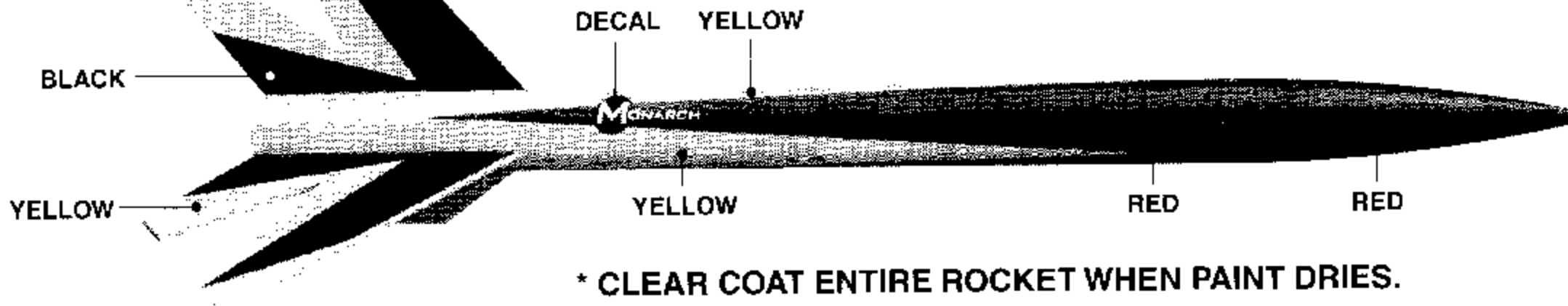


* CLEAR COAT ENTIRE ROCKET WHEN PAINT DRIES.

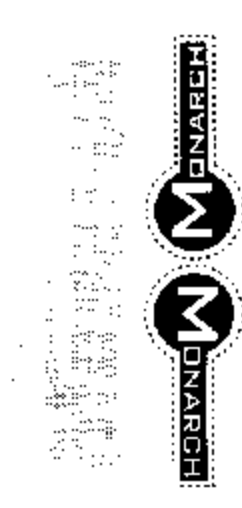
"WILD" PAINT SCHEME

FIRST SPRAY ROCKET WITH WHITE PRIMER, DRY AND SAND. REPEAT UNTIL ROCKET IS SMOOTH.

DECALS

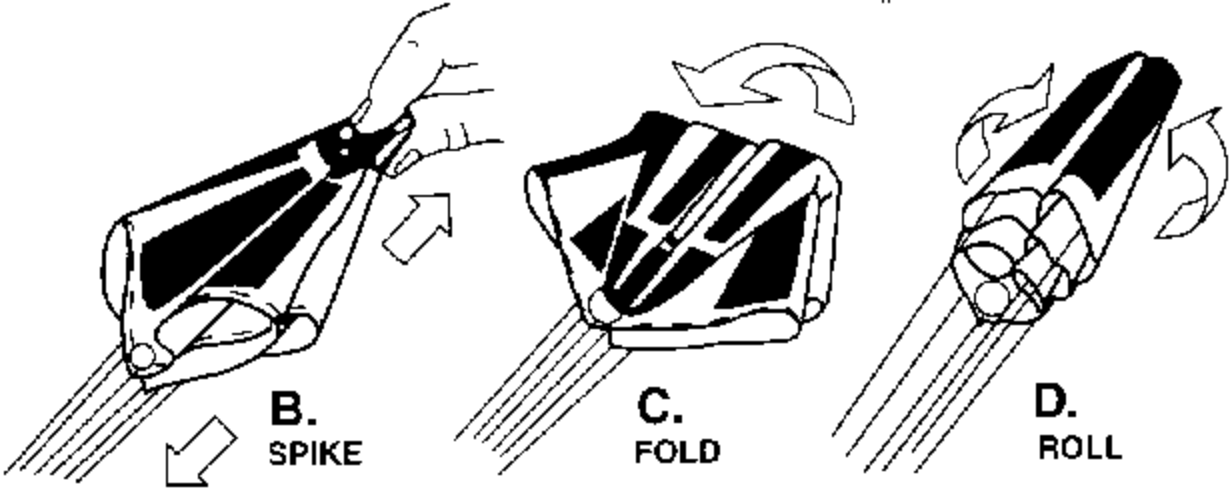
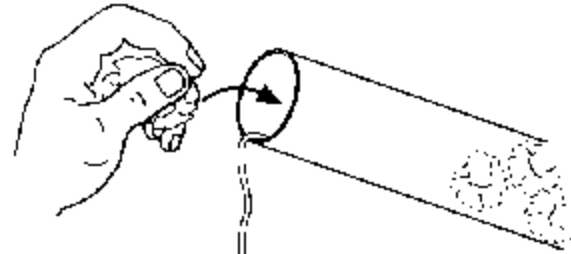


* CLEAR COAT ENTIRE ROCKET WHEN PAINT DRIES.

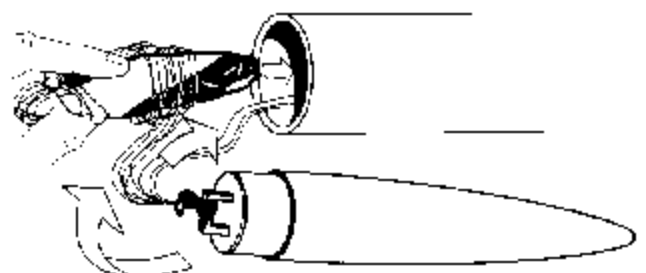


ROCKET PREFLIGHT

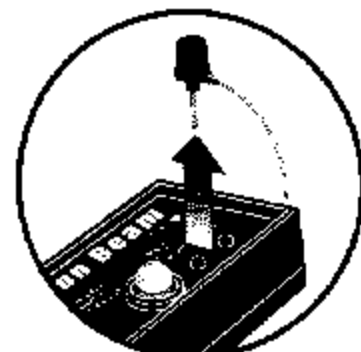
A.
INSERT 3 OR 4 LOOSELY CRUMPLED SQUARES OF RECOVERY WADDING.



E.
WRAP LINES LOOSELY, INSERT CHUTE, SHOCK CORD AND NOSE CONE.



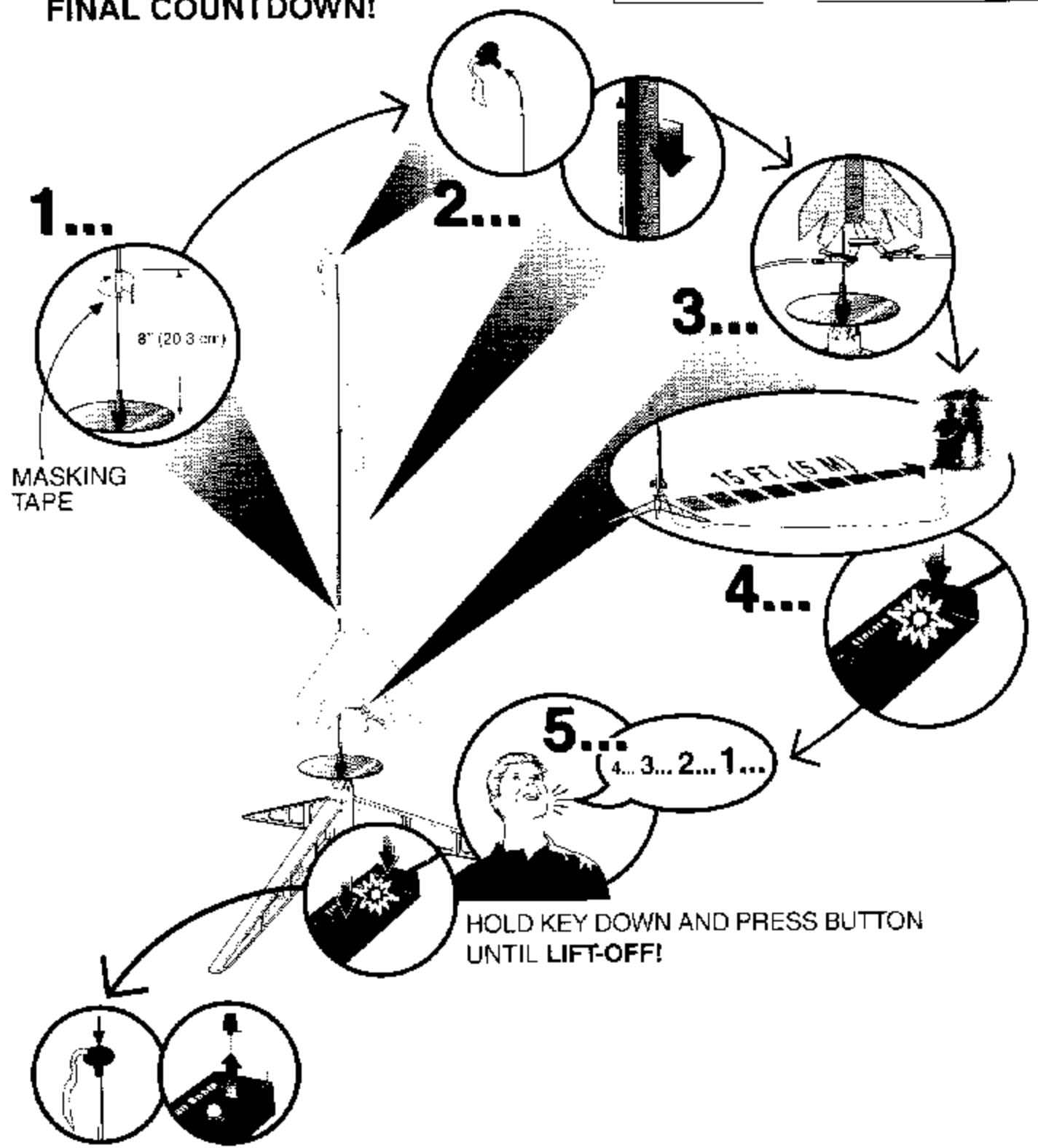
COUNTDOWN AND LAUNCH



KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!

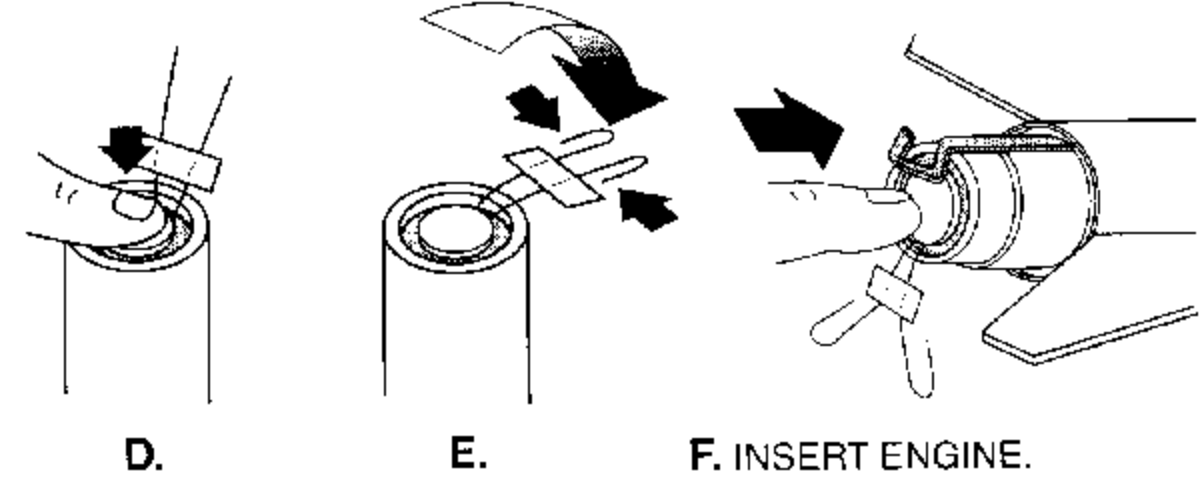
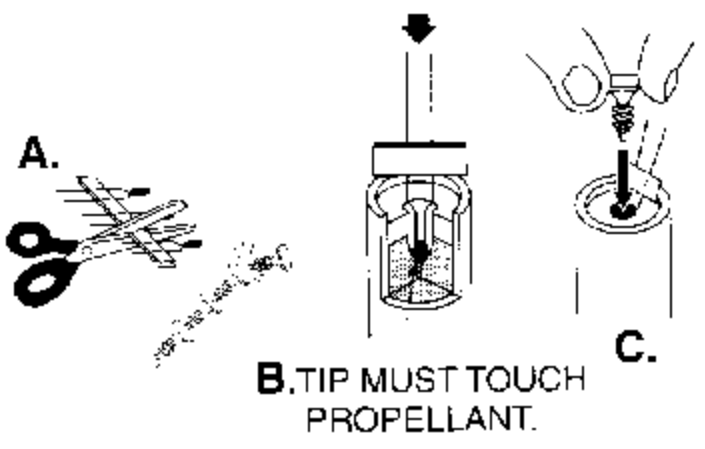
LAUNCH SUPPLIES

- (Sold Separately)
- Estes® Porta Pad® II and Electron Beam® Controller
 - Recovery Wadding
 - Igniters (with Engines)
 - Igniter Plugs (with Engines)
 - Estes® Engines:
A8-3 (First Flight), B4-4
B6-4, C6-5



ENGINE PREP

WARNING: FLAMMABLE
Before proceeding 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.



PRECAUTIONS

NAR Safety Code



NO DRY GRASS OR WEEDS

FLYING YOUR ROCKET

Choose a large field (500 ft. [76 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 National Association of Rocketry (NAR) SAFETY CODE.

MISFIRES

TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! 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.