



www.estesrockets.com

ESTES-COX CORP.
1295 H Street
Penrose, CO 81240

PRINTED IN CHINA

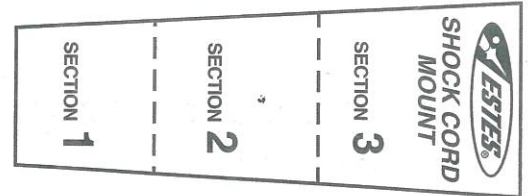
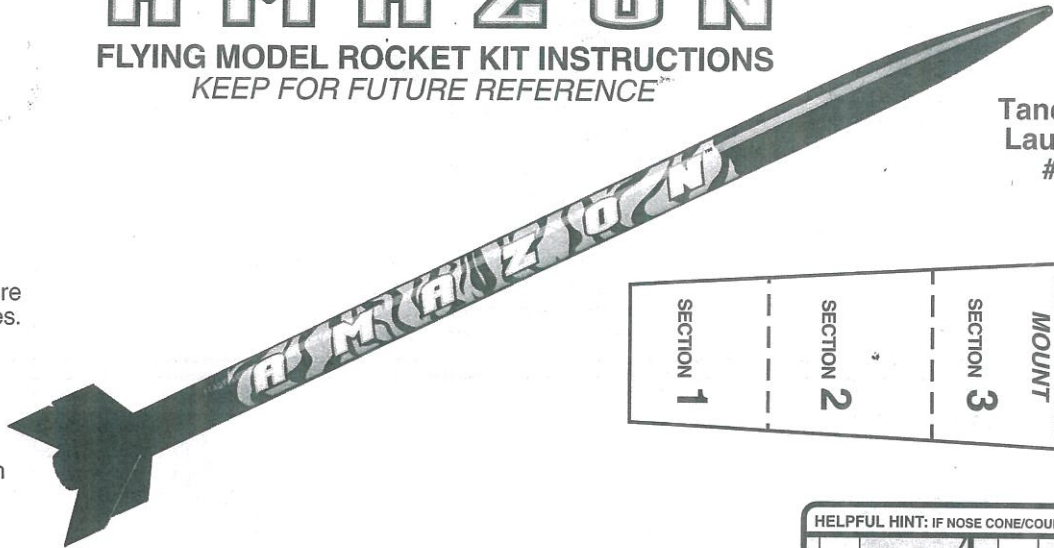
AMAZON™

FLYING MODEL ROCKET KIT INSTRUCTIONS
KEEP FOR FUTURE REFERENCE™

Tandem-X™
Launch Set
#1483

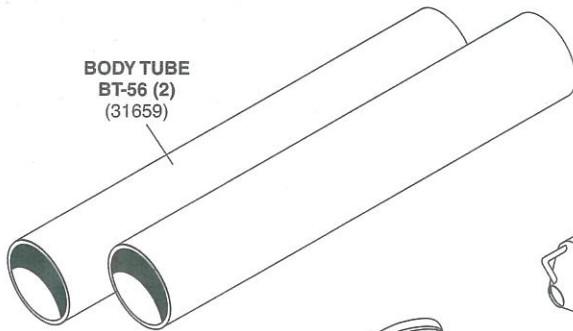
ASSEMBLY TIP: Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

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. DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.

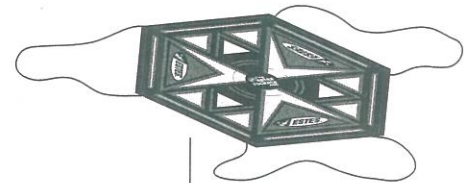
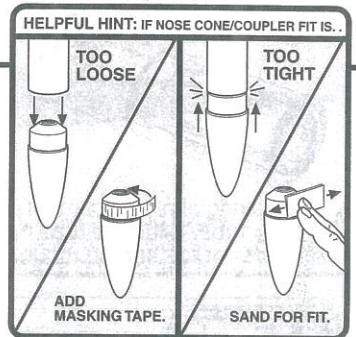
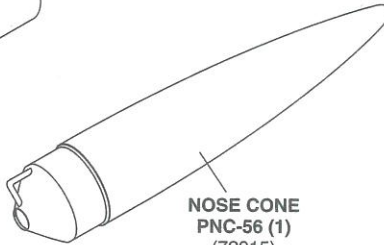
BODY TUBE
BT-56 (2)
(31659)



RUBBER
SHOCK CORD
(1) 1/4" x 30"
(38369)



NOSE CONE
PNC-56 (1)
(72015)



ASSEMBLED PARACHUTE
18" (46 CM) (1)
(35802)

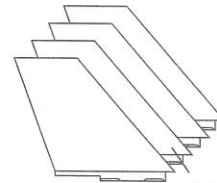
DECAL SHEET (1)
(61174)



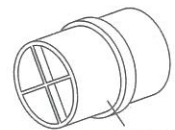
PLASTIC PARTS (SUPPLIED AS A SET)
(61265)



ENGINE MOUNT
HALF A (1)



FINS (4)



TUBE
COUPLER



ENGINE MOUNT
HALF B (1)



ENGINE LOCK
RING (1)



LAUNCH LUG (1)

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



RULER



SCISSORS



FINE
SANDPAPER



CARPENTER'S
GLUE



MODELING
KNIFE



MASKING
TAPE

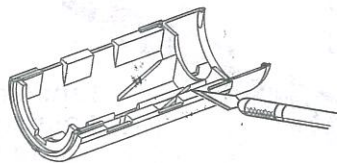


PLASTIC
CEMENT

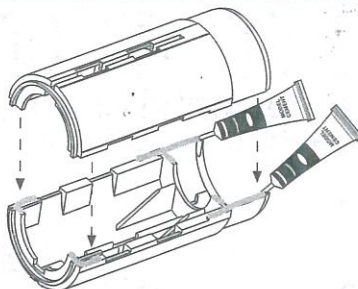


CLEAR
SPRAY
COAT
(OPTIONAL)

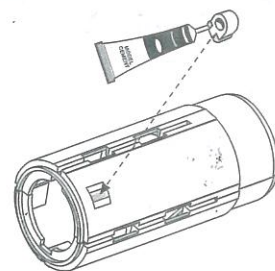
1. ASSEMBLE ENGINE MOUNT



- A.** Scrape flash (excess plastic) from edges of engine mount halves A and B.



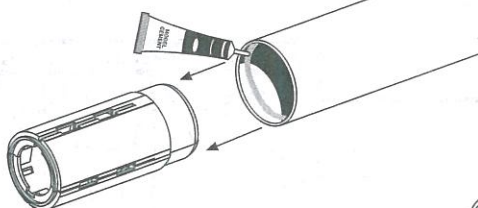
- B.** Cement the two plastic engine mount halves together. Remove any excess cement from fin slots. Hold until cement sets. Let cement dry completely.



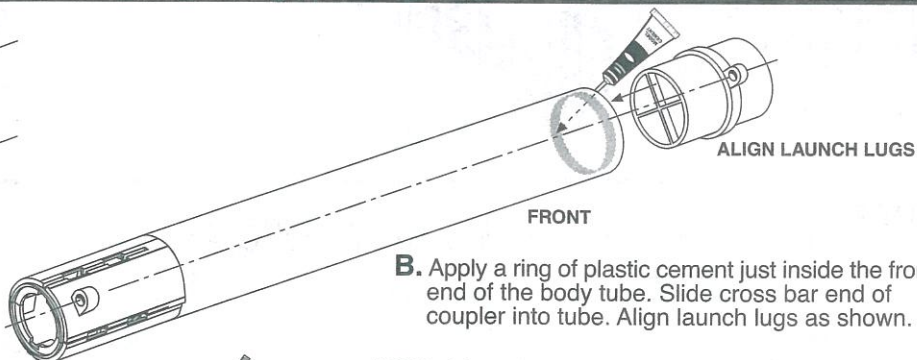
- C.** Cement a launch lug into the recessed area on engine mount as shown.

NOTE: Use only plastic cement for this step.

2. ASSEMBLE BODY TUBE

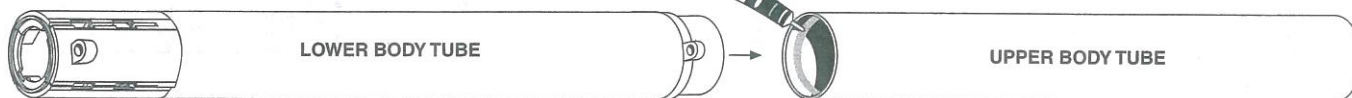


- A.** Apply a ring of plastic cement just inside a body tube. Slide the tube onto the shoulder of the engine mount.



- B.** Apply a ring of plastic cement just inside the front end of the body tube. Slide cross bar end of coupler into tube. Align launch lugs as shown.

NOTE: A launch rod may be inserted to assure alignment.



- C.** Apply a ring of plastic cement just inside the end of the other body tube. Slide the body tube into the tube coupler. Allow assembly to dry.



3. ATTACH SHOCK CORD



- A.** Cut out shock cord mount from FRONT PAGE.



- B.** Fold.



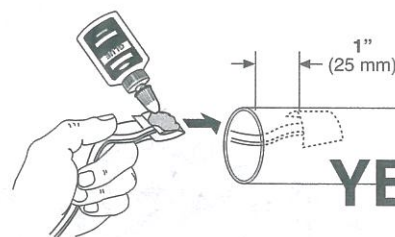
- C.** Apply glue. Fold forward.



- D.** Apply glue. Fold forward.



- E.** Squeeze tightly and hold for one minute.



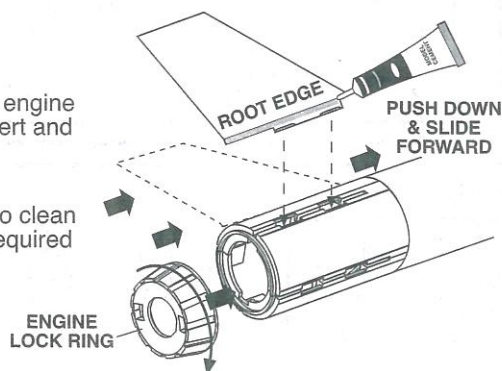
- F.** Glue mount 1" (25 mm) inside upper body tube. Hold until glue sets. Let dry.



4. ATTACH FINS

- A.** Test fit each fin into slots on engine mount to make sure fins insert and fit.

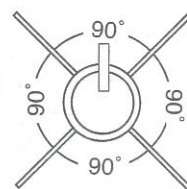
- B.** Use a modeling knife to clean any flash from fins if required to ensure proper fit.



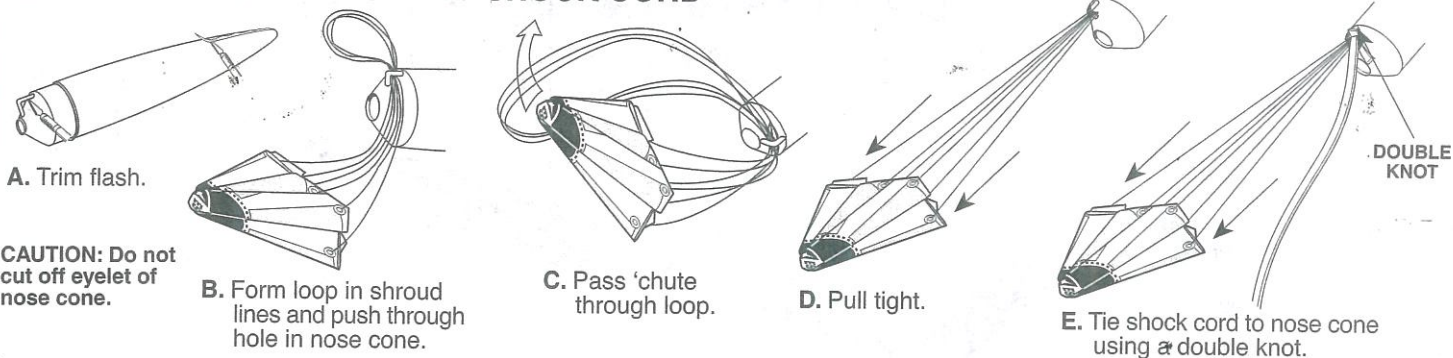
- C.** When satisfied with fit, apply plastic cement to the root edge of each fin and reinsert. Be sure fins are straight. Let dry completely before moving to step D.

NOTE: Fins must be attached correctly for a stable flight.

- D.** Push engine lock ring into engine mount and twist. Do not glue in place.



5. ATTACH PARACHUTE AND SHOCK CORD



6. APPLY DECALS

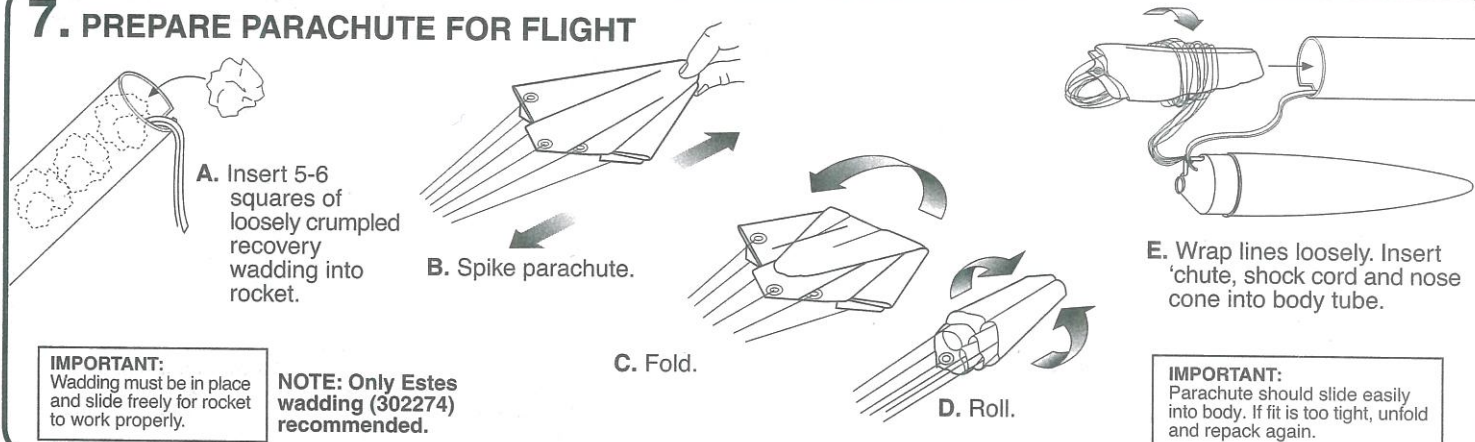


A. Peel decals one at a time from backing sheet and apply where shown. Rub with finger to remove bubbles.

B. Apply engine sticker from decal sheet to body tube as an easy reference.

OPTIONAL: Spray a clear coat on entire rocket after decal placement.

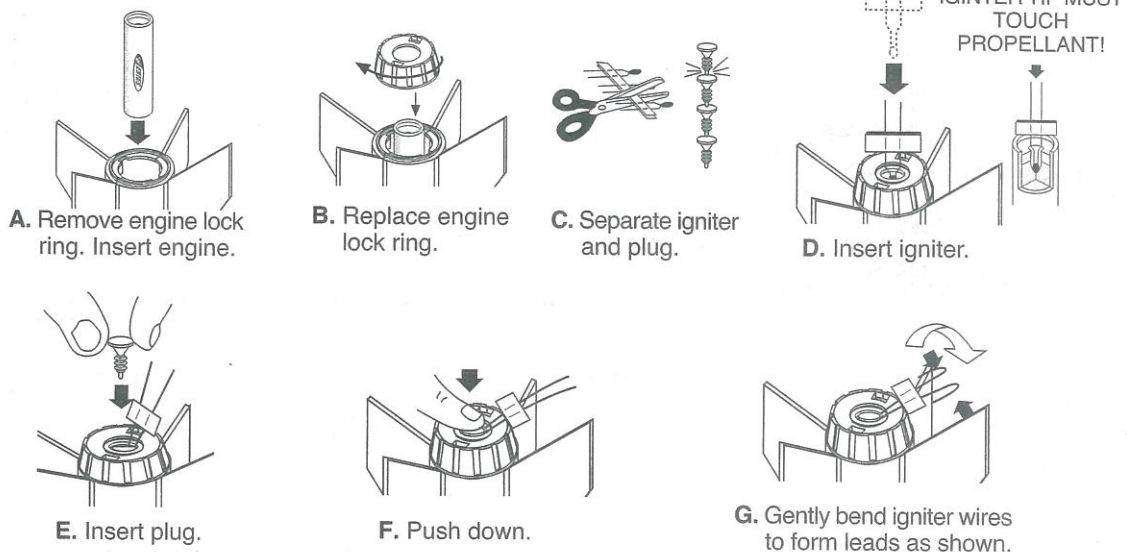
7. PREPARE PARACHUTE FOR FLIGHT



8. ENGINE PREP AND LOADING

⚠ 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.





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crossfire™ ISX

FLYING MODEL ROCKET KIT INSTRUCTIONS
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Tandem-X™
Launch Set
#1483

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

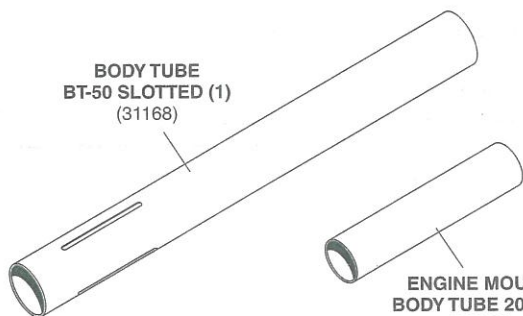
TEST FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE!

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



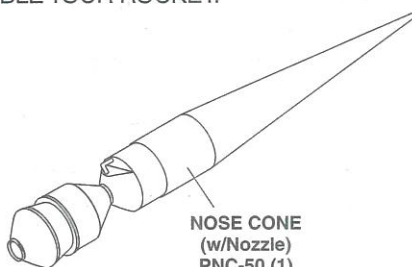
PARTS Locate the parts shown below and lay them out on the table in front of you. DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.

BODY TUBE
BT-50 SLOTTED (1)
(31168)



ENGINE MOUNT
BODY TUBE 20G (1)
(30324)

NOSE CONE
(w/Nozzle)
PNC-50 (1)
(71026)



GREEN ENGINE BLOCK
520 (1)
(30162-2)



GREEN CENTERING
RINGS 2050 (2)
(30164-2)



LAUNCH LUG
1/8" x 1-1/4" (1)
(38175)



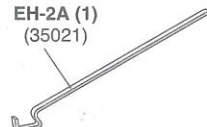
RUBBER
SHOCK CORD
(1) 1/8" x 12"
(38365)



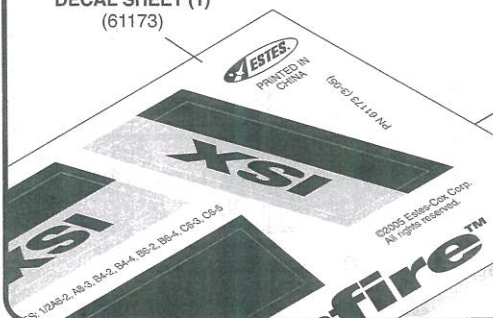
YELLOW SPACER TUBE
ET-2 (1)
(35003)



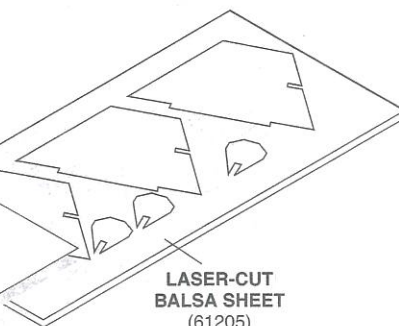
ENGINE HOOK
EH-2A (1)
(35021)



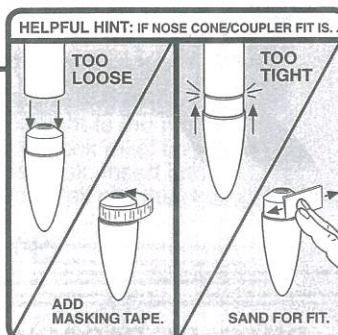
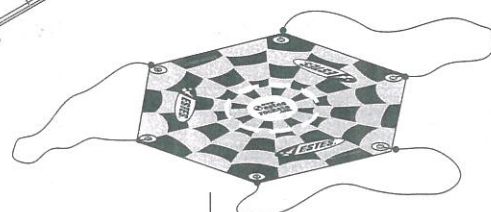
DECAL SHEET (1)
(61173)



LASER-CUT
BALSA SHEET
(61205)



ASSEMBLED PARACHUTE
12" (30 CM) (35801)



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



SCISSORS



PENCIL



RULER



FINE
SANDPAPER



CARPENTER'S
GLUE



MODELING
KNIFE



MASKING
TAPE



HOBBY SAW



PLASTIC
CEMENT



SPRAY
PRIMER
(WHITE)



SPRAY
PAINT
(WHITE &
RED)



CLEAR
SPRAY
PRIMER
(OPTIONAL)

1. PREPARE FINS

- A.** Using fine sand paper, sand both sides of balsa fin sheet.
- B.** Carefully cut fins free with modeling knife.
- C.** Stack fins together and sand edges smooth.
- D.** Optional: Round the leading edges.
- E.** Save scrap balsa to use as a glue applicator.
-

2. ASSEMBLE ENGINE MOUNT

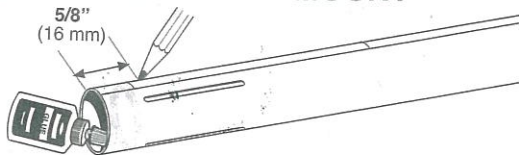
- A.** Measure and mark engine mount tube at 1/8" (3 mm), 5/8" (16 mm), 2 1/4" (5.7 cm) and 2 5/8" (6.7 cm).
- B.** Cut a 1/8" (3 mm) slit at the 2 1/4" (5.7 cm) mark.
- C.** Mark yellow spacer tool 1/2" (13 mm) from end.
- D.** Using a scrap piece of balsa apply carpenter's glue just short of the 2 1/4" (5.7 cm) mark inside engine mount tube.
- E.** Push green engine block into engine mount tube with yellow spacer tool up to 1/2" (13 mm) mark (so green engine block just clears the slit). **Remove yellow spacer tool immediately!** Let dry.
- F.** Position and insert engine hook into slit as shown.
- G.** Apply glue around engine mount tube just ahead of the 5/8" (16 mm) mark.
- H.** Slide one centering ring onto engine mount tube up to the 5/8" (16 mm) mark. Make sure engine hook is straight. Let dry.
- I.** Apply glue around engine mount tube just ahead of the 2 5/8" (6.7 cm) mark.
- J.** Slide second centering ring onto engine mount tube up to the 2 5/8" (6.7 cm) mark. Let dry.
-

3. MARK LAUNCH LUG LINE

- A.** Draw a launch lug (LL) line the entire length of slotted body tube, centered between the slots on the body tube.
-

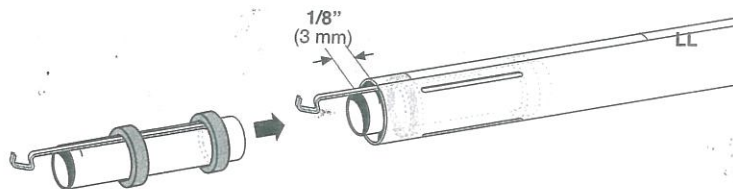
- B.** Measure and mark on (LL) line 3 1/4" (8.3 cm) from the end of the tube with the slots.
-

4. INSTALL ENGINE MOUNT



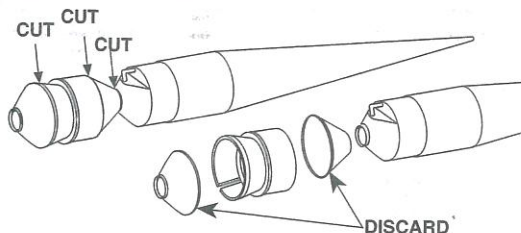
A. Mark body tube 5/8" (16 mm) from rear end.

B. Apply glue just short of the 5/8" (16 mm) mark inside the body tube on the slotted end.



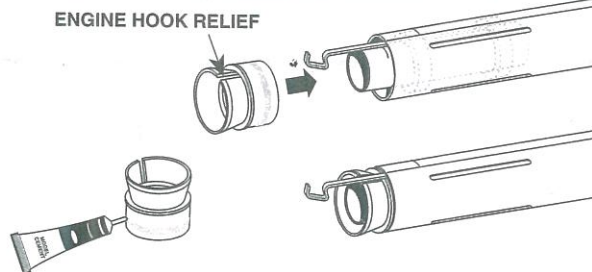
C. Position engine mount assembly so that the engine hook is aligned with the LL line and insert into body tube up to the 1/8" (3 mm) mark on the engine mount tube.

5. INSTALL NOZZLE



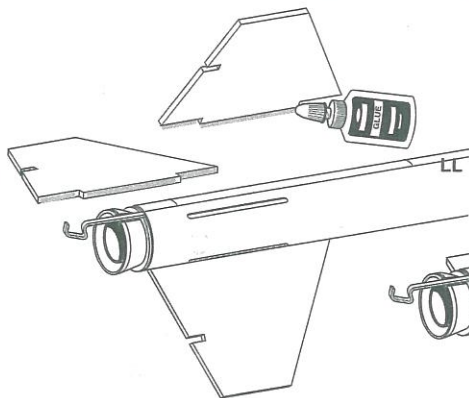
A. Using a hobby saw, cut the molded nose cone and nozzle into four sections where shown. Discard the two unused sections.

B. Lightly sand the front and rear edges of the nozzle to remove burrs. To obtain an even surface, rotate the part over the sandpaper placed on a flat surface.



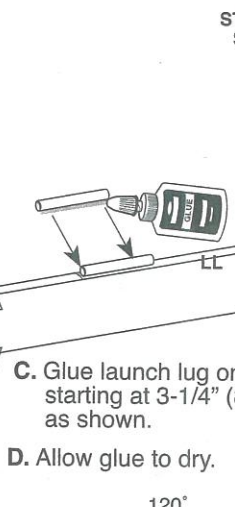
C. Apply plastic cement to the nozzle shoulder. Align the engine hook relief area on the nozzle with the engine hook. Insert into the body tube until the plastic detail hits the end of the body tube.

6. ATTACH FINS & LAUNCH LUG



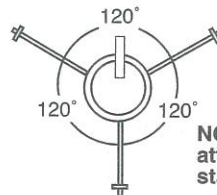
A. Test fit one fin into a slot before gluing. Sand fin tab surface if needed. Apply thin layer of glue to fin, wait one minute, and apply a second layer. Insert fin into slot.

B. Repeat for other fins.

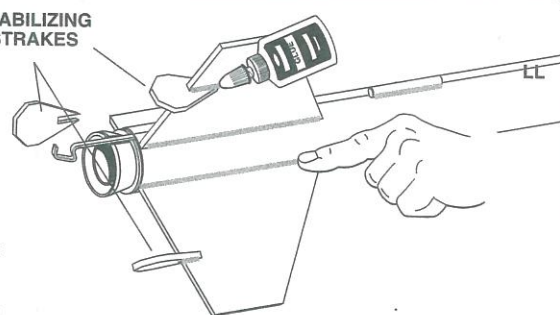


C. Glue launch lug onto "LL" line starting at 3-1/4" (8.3 cm) mark as shown.

D. Allow glue to dry.



NOTE: Fins must be attached correctly for stable flight.

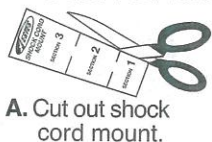


E. Glue stabilizing strakes (fin details) to fins.

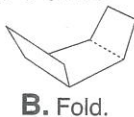
F. Apply glue fillet to all fin/body tube joints, strake/fin joints, and launch lug/body tube joints.

G. Smooth with finger tip.

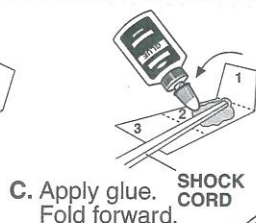
7. ATTACH SHOCK CORD



A. Cut out shock cord mount.



B. Fold.



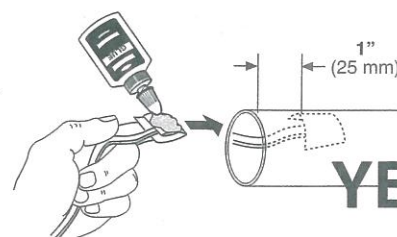
C. Apply glue. Fold forward.



E. Squeeze tightly and hold for one minute.



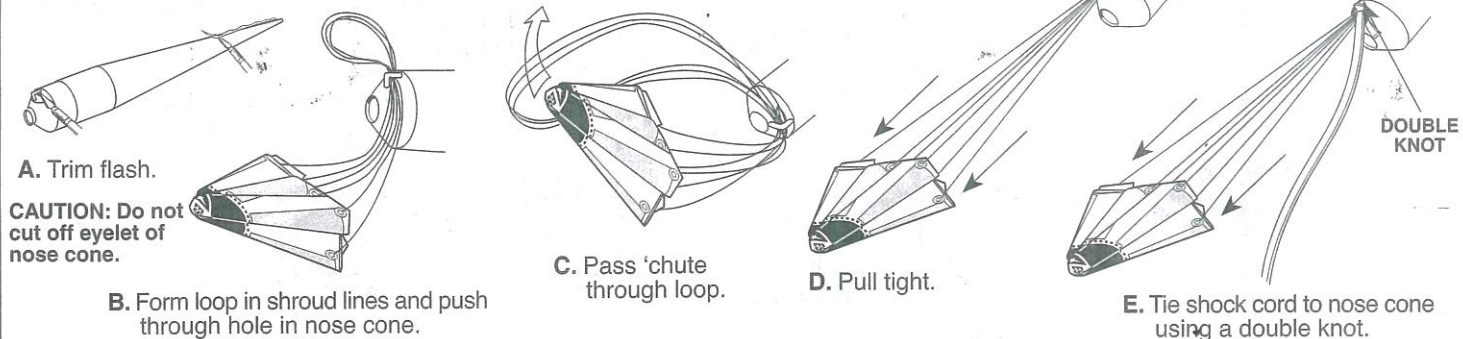
D. Apply glue. Fold forward.



F. Glue mount 1" (25 mm) inside upper body tube. Hold until glue sets. Let dry.

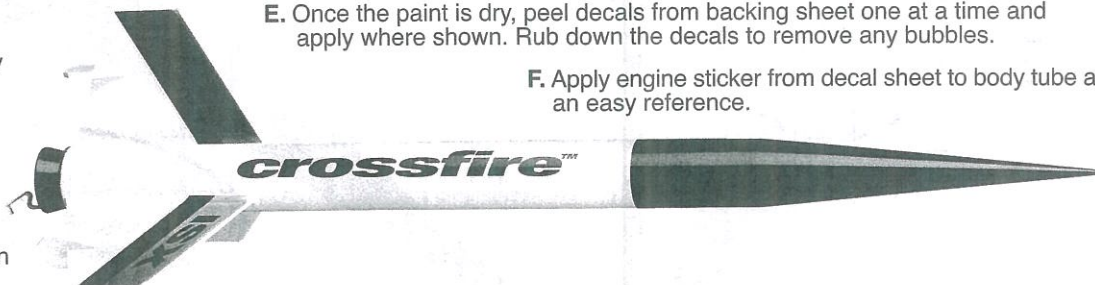


8. ATTACH PARACHUTE AND SHOCK CORD



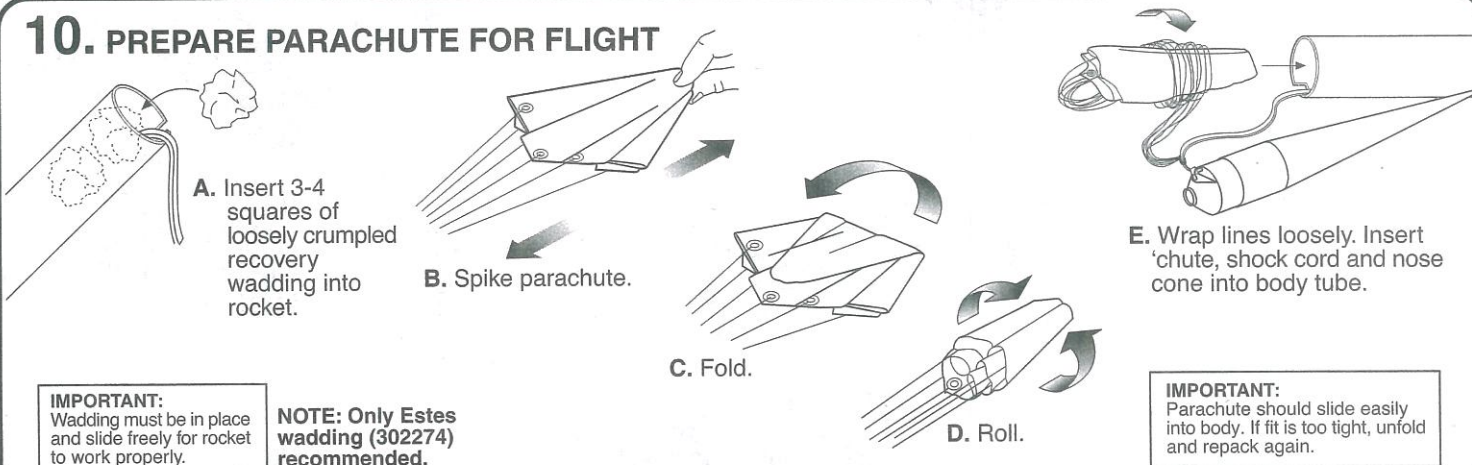
9. PAINT SCHEME

- Spray the entire rocket body & fins with white primer.
- Let dry and lightly sand.
- Repeat until rocket and fins are smooth.
- Follow the paint scheme shown on package (or design your own).

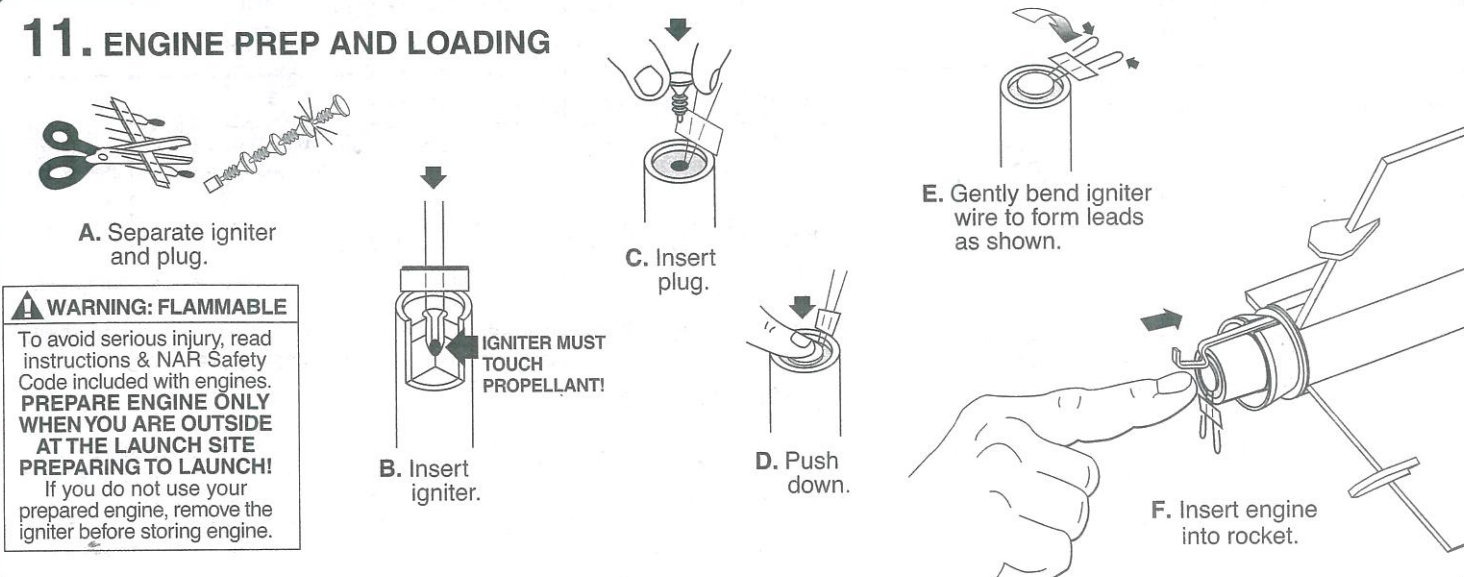


OPTIONAL: Clear coat entire rocket when complete.

10. PREPARE PARACHUTE FOR FLIGHT



11. ENGINE PREP AND LOADING



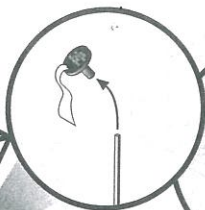
COUNTDOWN AND LAUNCH

**KEY
ALWAYS
OUT UNTIL FINAL
COUNTDOWN!**

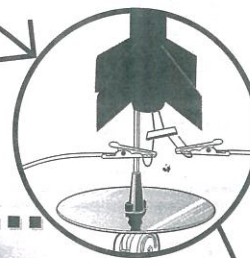
1...



2...



3...



4...



5...

4... 3... 2... 1...

**HOLD KEY DOWN AND
PRESS LAUNCH BUTTON
UNTIL LIFTOFF!**

**INSERT KEY.
PUSH DOWN
FIRMLY AND
HOLD.**

KEY

ESTES LAUNCH SUPPLIES

(Sold Separately)

- Recovery Wadding (included with some engines)
- Igniters (with engines)
- Igniter Plugs (with engines)
- Recommended Engines:
Amazon: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5
Crossfire: 1/2A6-2, A8-3, B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

PRECAUTIONS

NAR Safety Code



**NO DRY GRASS
OR WEEDS**

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 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 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.