



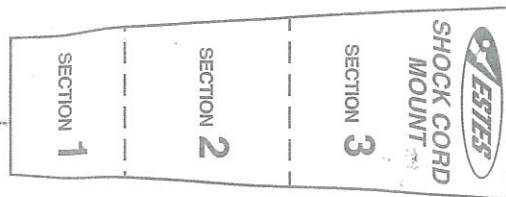
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Estes® Industries  
1295 H Street  
Penrose, CO 81240  
PRINTED IN CHINA

# SR-71 BLACKBIRD™

## FLYING MODEL ROCKET KIT INSTRUCTIONS

Keep for Future Reference

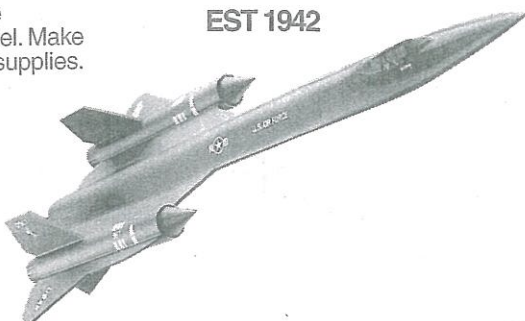


### ASSEMBLY TIP

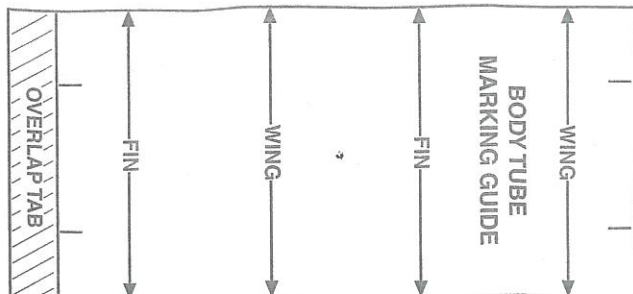
Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

### TEST FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE!

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



EST 1942



## PARTS

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

Body Tube (1) (30366)

Engine Nacelle Tubes (2) (30359)

Engine Mount Tube (Blue) (1) (30326-1)

Launch Lug (1) (38175)

Pattern Sheet (A) (1) (83760)

Die-Cut Balsa Sheet (2) (32642)

Die-Cut Paper (1) (32456)

Inlet/Tail Cones (2) (71023)

Centering Rings (Green) (2) (30164-2)

Nose Cone (1) (72023)

Clay Weight (1) (85704)

Engine Hook (1) (35021)

Assembled Parachute 18" (46 cm) (1) (35802)

Shock Cord 1/4" x 24" (1) (38383)

Decal (1) (037259)

USAF U.S. AIR FORCE 17967 17967 967 967  
USAF U.S. AIR FORCE 17967 17967 967 967  
ESTES INDUSTRIES PN 37259

TOP FIN TEMPLATE, TOP FIN, LOWER FIN, LOWER FIN TEMPLATE, TOP SIDE WING, SR-71 PATTERN SHEET PN 83760, BOTTOM SIDE WING

Pattern Sheet (B) (1) (83761)

## SUPPLIES

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



SCISSORS



PENCIL



RULER



CARPENTER'S GLUE



MODELING KNIFE



WAX PAPER



FINE SAND PAPER (#400-600 GRIT)



ROCKET BUILDER'S MARKING GUIDE-EST 302227 (Optional)



SPRAY PAINT (Gloss Black)



SPRAY CLEAR COAT (Optional)



SPRAY PAINT PRIMER (Optional)



PLASTIC CEMENT



MASKING TAPE



RAZOR SAW

HELPFUL HINT: IF NOSE CONE/COUPLER FIT IS...

TOO LOOSE

TOO TIGHT

ADD MASKING TAPE.

SAND FOR FIT.

# 1. ROCKET ASSEMBLY

A. Cut out and assemble wing jigs from separate pattern sheet.



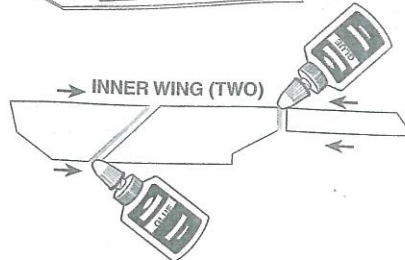
B. Fold on dotted lines. Slide ends together as shown. These will be needed in Step 5.

2.

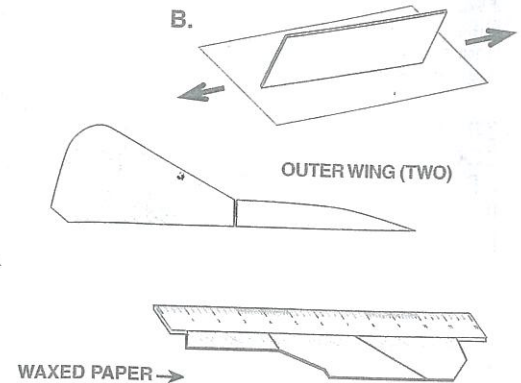
A. Fine sand both sides of balsa sheets. Carefully remove parts by freeing edges with a sharp knife.



B. Stack alike parts together. Sand all edges smooth.

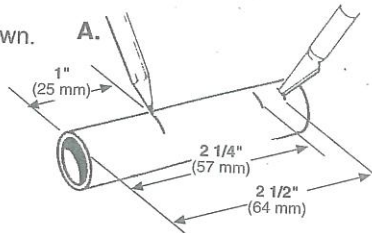


C. Lay a piece of waxpaper on a flat surface and glue wing sections together as shown. Repeat this procedure for other wings. Once glue has dried, sand joints smooth.

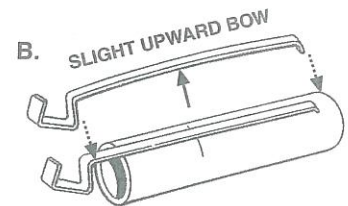


3.

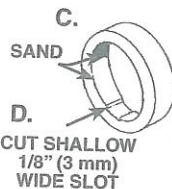
A. Mark engine mount tube from one end as shown.



B. Cut 1/8" (3 mm) long slit at 2-1/2" (64 mm) mark. Bend engine hook slightly in the middle as shown. Insert hook into slit.

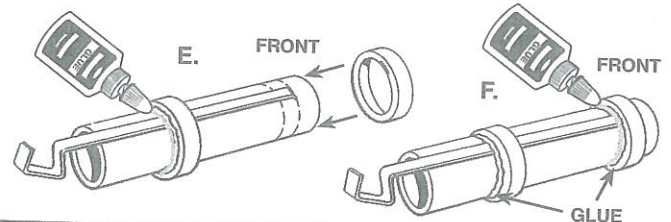


C. If green centering rings do not slide on blue tube easily, then lightly sand inside edges of two centering rings to remove burrs.



D. Cut 1/8" (3 mm) wide shallow slot inside both rings as shown.

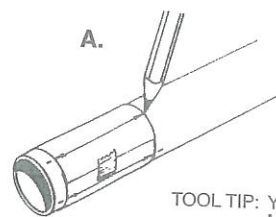
E. Glue one ring at 1" (25 mm) mark. Make sure engine hook is straight on tube. Let dry.



F. Glue other centering ring at 2-1/2" (64 mm) mark. Let dry.

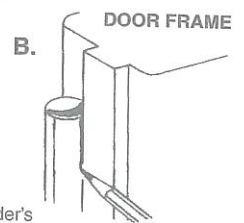
4.

A. Cut out marking guide from front of instructions and wrap it around main body tube. Tape ends together as shown. Mark tube at each arrow point.



TOOL TIP: Before marking tubes, lightly sand (400-600 grit) body tubes. This will allow the glue to adhere better to the surface.

B. Remove guide and draw straight lines through the marks. Extend lines the length of tube.

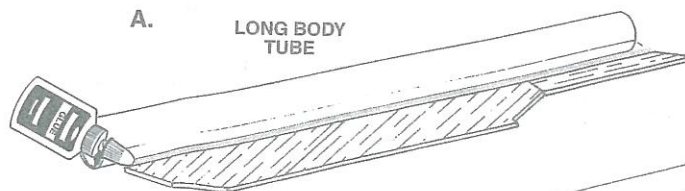


C. Mark two shorter body tubes with same procedure.

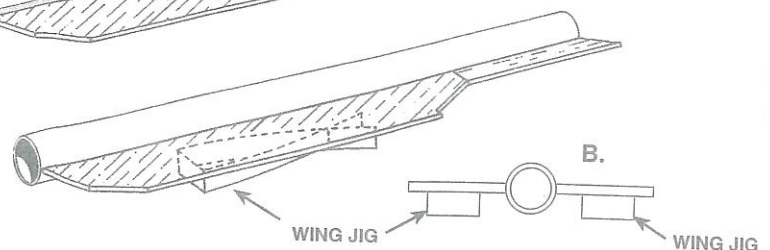
TOOL TIP: You can use the Rocket Builder's Marking Guide™ to mark the tube - use the BT-50 four fin markings.

5.

A. Rub a thin film of glue into the root edge of a wing. Allow it to dry for a minute or two, then position wing on alignment line of large body tube so front of wing is flush with end of body tube. Let dry.

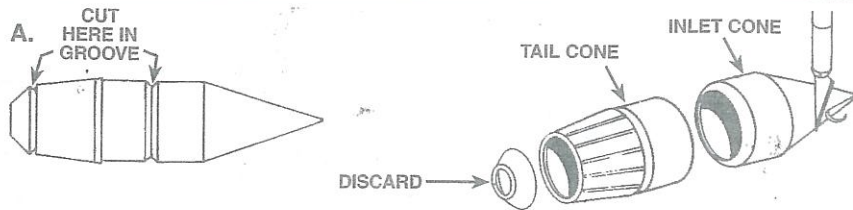


B. To insure proper alignment, use wing jigs from Step 1. Place jig and tube on flat surface and center wing on top of jig. Repeat procedure for other wing using second jig.



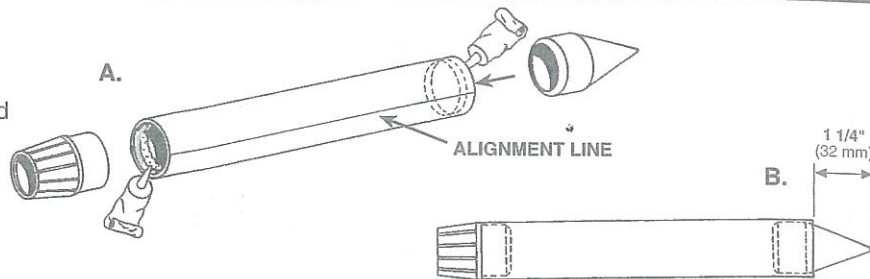
6.

- A. Use a razor saw to cut along grooves of inlet/tail cone molding. Work slowly to avoid damage to parts. Discard scrap tail piece of plastic.
- B. Sand parts where pieces were cut apart. Carefully remove any plastic "flash" along seams of parts using a modeling knife.
- C. Repeat procedures for other inlet/tail cone.



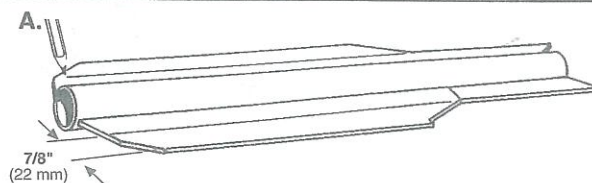
7.

- A. Run a bead of plastic cement around the inside of both ends of the short engine nacelle tube and insert tail cone and inlet cone.
- B. Push inlet cone in until 1-1/4" (32 mm) sticks out from end of tube.
- C. Repeat procedures for other engine nacelle tube. Let dry.



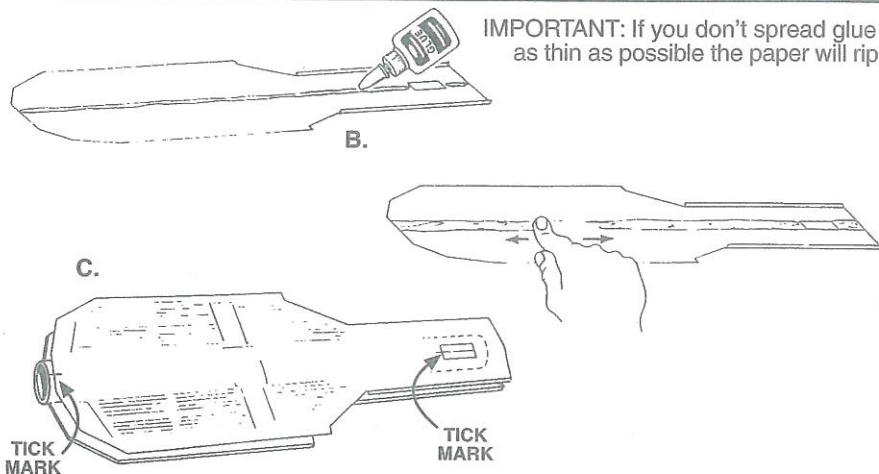
8.

- A. When joints are completely dry, using a ruler or straight edge, draw straight lines on each wing on both top and bottom, 7/8" (22 mm) from outer edge of wing.



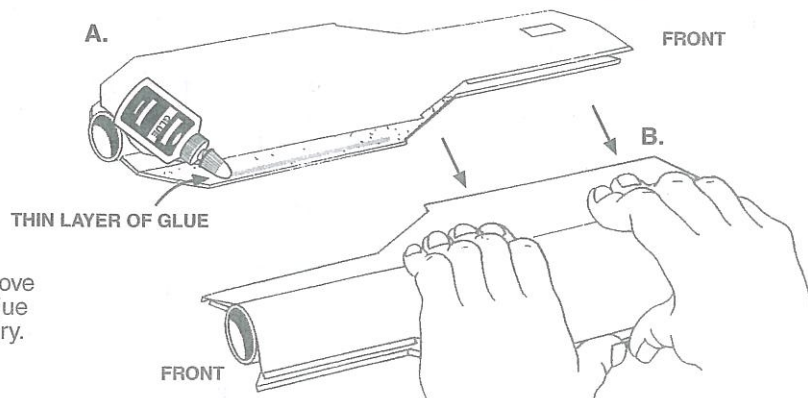
9.

- A. Remove top and bottom embossed paper wing shrouds from die-cut sheet.
- B. Run a thin line of glue between the two tick marks on the back side of the "bottom" paper shroud. Spread out a thin layer of glue with your finger.
- C. Using the line on the body tube and the tick marks for proper alignment, place shroud on body tube so the front edge is even with the balsa wing end. Run your finger back and forth rapidly over shroud to remove any wrinkles. Allow to dry for a few minutes.



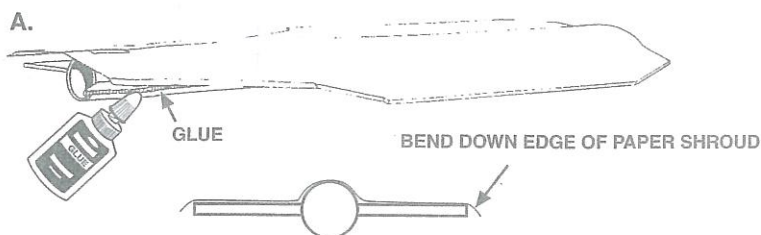
10.

- A. Lift up one side of paper shroud and apply a thin layer of glue from line drawn in Step 8 to outer edge of wing. Place edge of paper shroud on edge of wing and "pull" it in with your fingers toward the body tube until the two edges are aligned.
- B. Run your fingers back and forth over the shroud to remove any ripples and help piece hold its shape until the glue sets. Repeat procedure for other side of wing. Let dry.



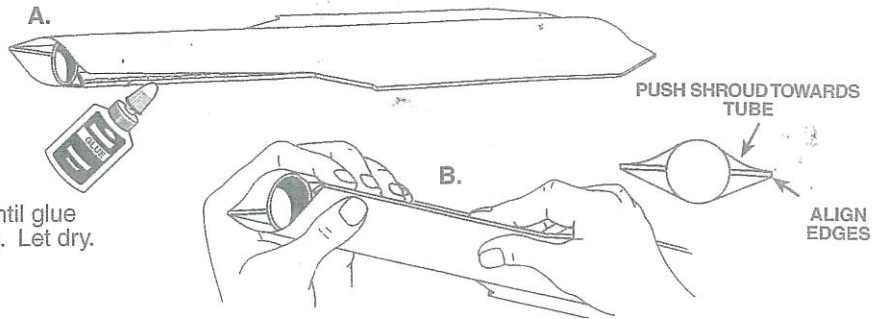
11.

- A. Apply glue along edge of forward section of wing. Push shroud down on wing and bend edges of paper down onto edge of wing.
- B. Run your fingers back and forth over edge until glue sets. Repeat procedure for other side of wing.
- C. Repeat Steps 10 and 11 for top side of wing. Let dry.



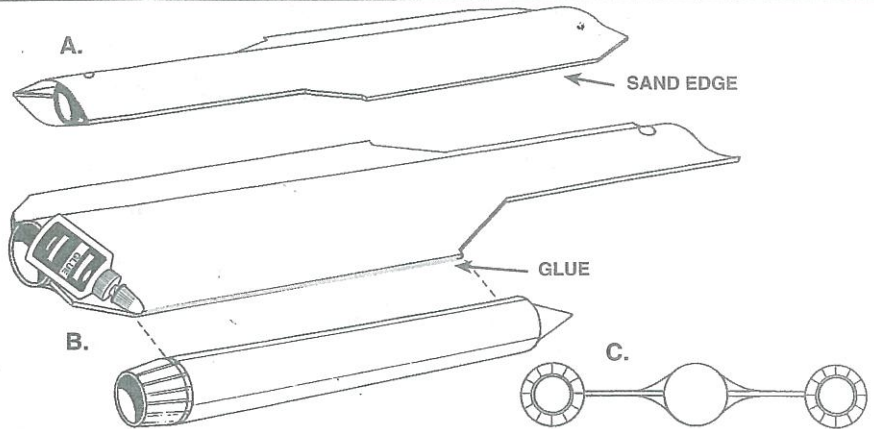
12.

- A. Lift edge of shroud and apply a small bead of glue along edge of front portion of wing. Push shroud down and pull towards body tube until it aligns with edge of wing.
- B. Run your fingers back and forth over edge until glue sets. Repeat procedure for other side of wing. Let dry.
- C. Slide nose cone into place to see that the paper shroud fits with nose cone.



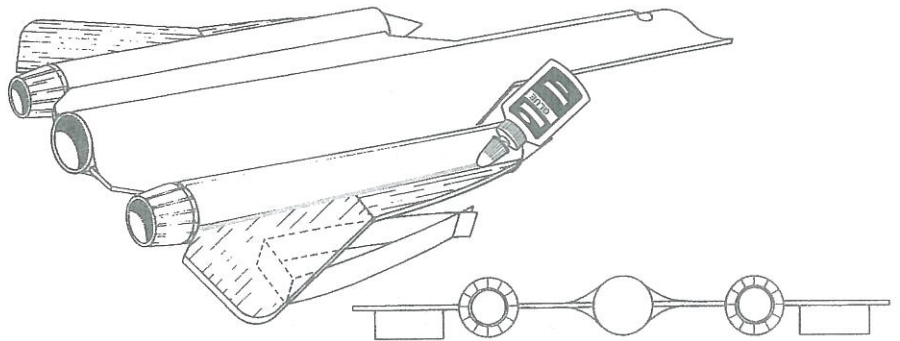
13.

- A. Sand edge lightly to remove any shroud or excess glue.
- B. Apply glue to edge of wing, position engine assembly with end of wing aligned with alignment line as shown. Allow glue to set. Let dry.
- C. Repeat for other side. Let dry.



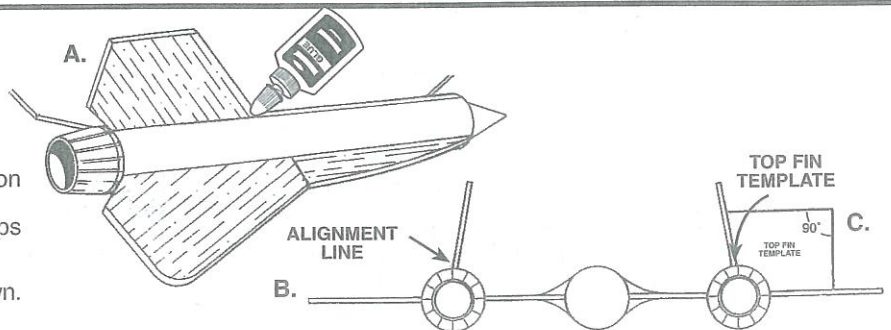
14.

- A. Rub a line of glue into the root edge of each outer wing. Position wing on the alignment lines of the engine assembly. Let dry.
- B. Place wing jigs from Step 1 under outer wing. Allow wings to dry.



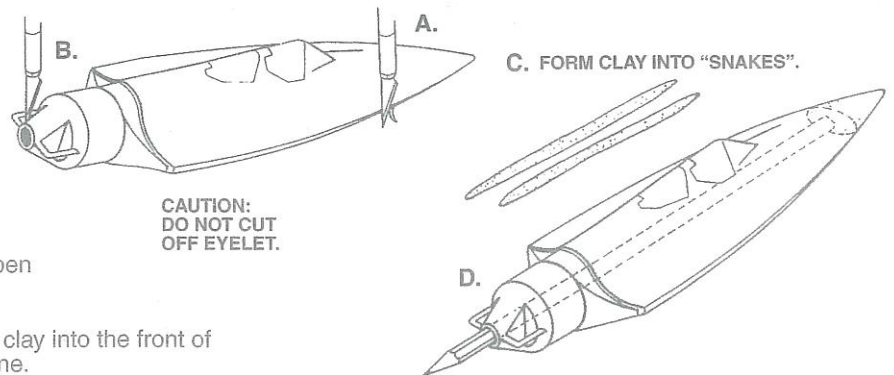
15.

- A. Cut out top fin and lower fin templates from separate pattern sheet.
- B. Apply glue to root edge of each top fin. Position fin on each engine assembly with side of fin aligned along inside of alignment line so fin tips slightly inward.
- C. Check angle of fin with top fin template as shown. Let dry.



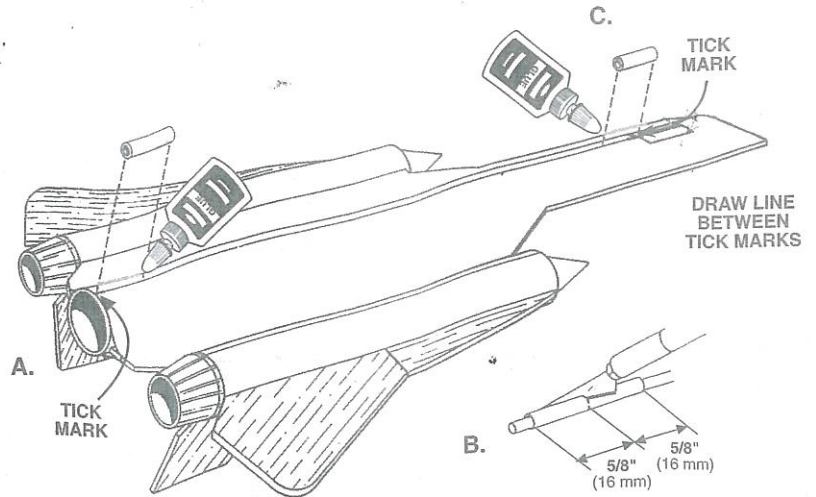
16.

- A. Carefully trim or sand any excess plastic from around sides of nose cone.
- B. Use a modeling knife to remove excess plastic from inside of the molded eyelets at rear of nose cone.
- C. Form clay into thin "snakes" and insert into open end of nose cone.
- D. Use one end of a pencil or dowel to tamp the clay into the front of nose cone. Tamp all the clay into the nose cone.



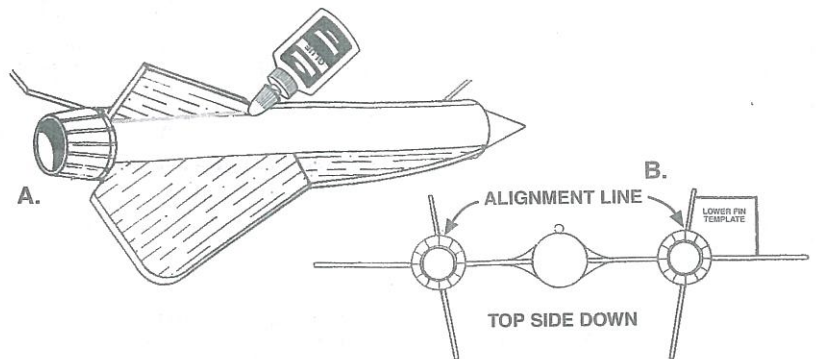
17.

- A. When all glue joints are completely dry, turn your SR-71 over. Locate the two tick marks on the paper shroud, and draw a line between them.
- B. Cut launch lug into two equal parts. Use a dowel or stick for an internal support when cutting to prevent crushing.
- C. Glue lugs to alignment line at tick marks. Sight through both lugs to align them. The launch rod will need to slide freely through both lugs. Let dry.



18.

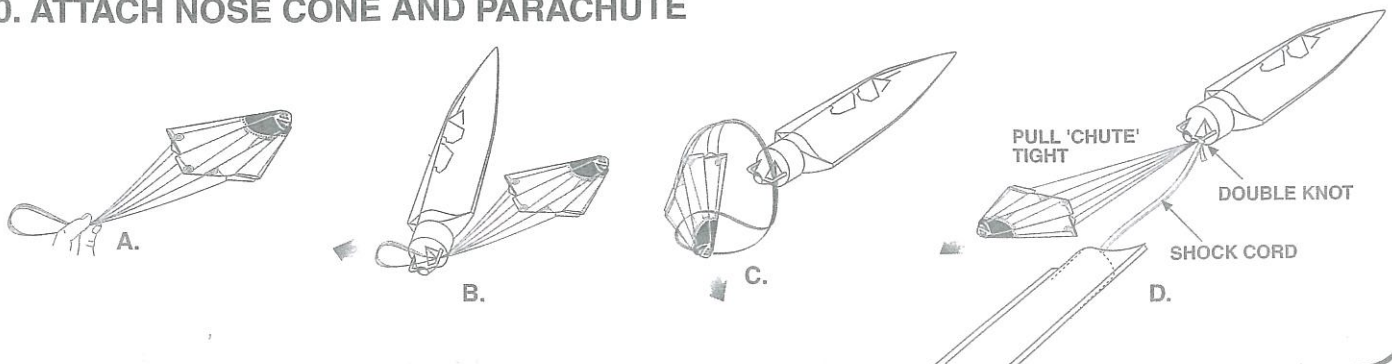
- A. Rub a thin film of glue into the root edge of each bottom fin. Let dry for a minute or two. Position on each engine assembly with side of fin aligned along outside of alignment line, so fin tips outward slightly. Let dry.
- B. Check angle of fins with fin template for bottom fins  
**FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!**



### 19. INSTALL SHOCK CORD MOUNT

- A. Cut out shock cord mount from page 1.
  - B. Smear glue. Fold forward. (Shock cord slightly angled as shown.)
  - C. Smear glue. Fold forward.
  - D. Squeeze tightly. Let dry.
  - E. Glue shock cord mount inside front of upper body tube. Let dry.
- NO**

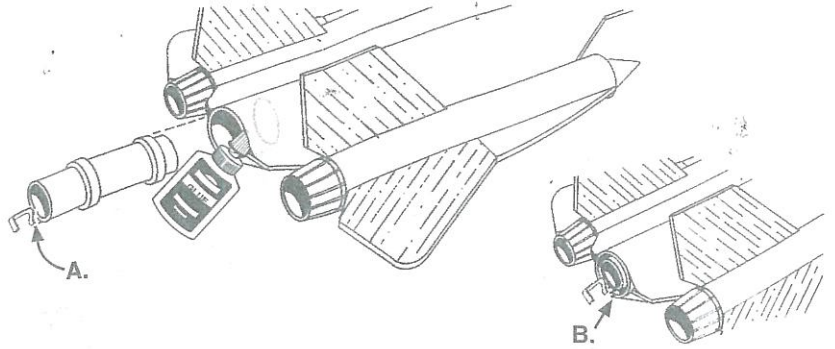
### 20. ATTACH NOSE CONE AND PARACHUTE



21.

A. Test fit engine mount into end of rocket body tube.

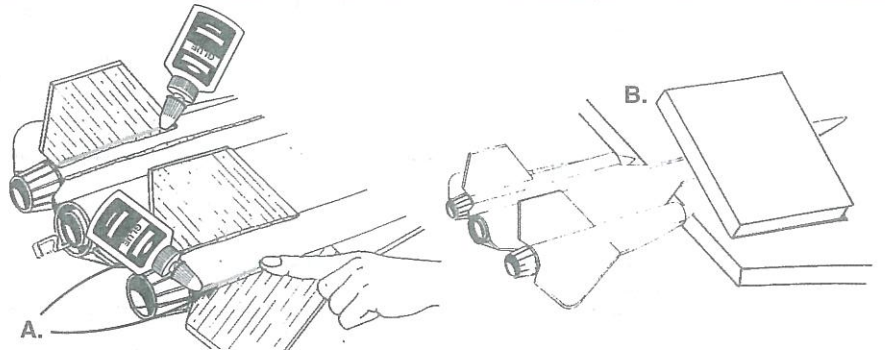
B. Apply a ring of glue around inside of body tube 1-1/2" (38 mm) to 2" (51 mm) inside tube. Insert engine mount into tube with engine hook aligned with launch lugs and push engine mount in with one smooth motion until ends of tubes are even. Let dry.



22.

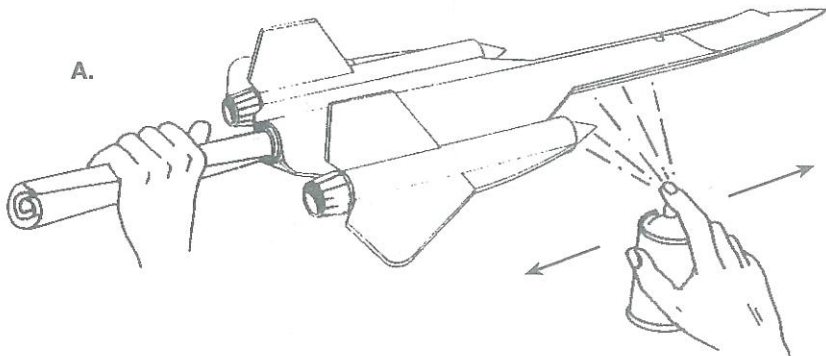
A. When all glue joints have dried, apply a glue reinforcement fillet to each fin/body tube joint and each launch lug joint. Wipe away any excess glue.

B. Support rocket as shown until glue dries.



23.

A. Before painting with gloss black, spray entire model with primer. Let primer dry. When primer is dry, lightly sand (600 grit). Repeat primer and sanding until balsa grain is filled and smooth. Primer will allow the paint to adhere better and give your SR-71 a smoother finish. Spray entire model gloss black. Follow instructions on spray can for best results.



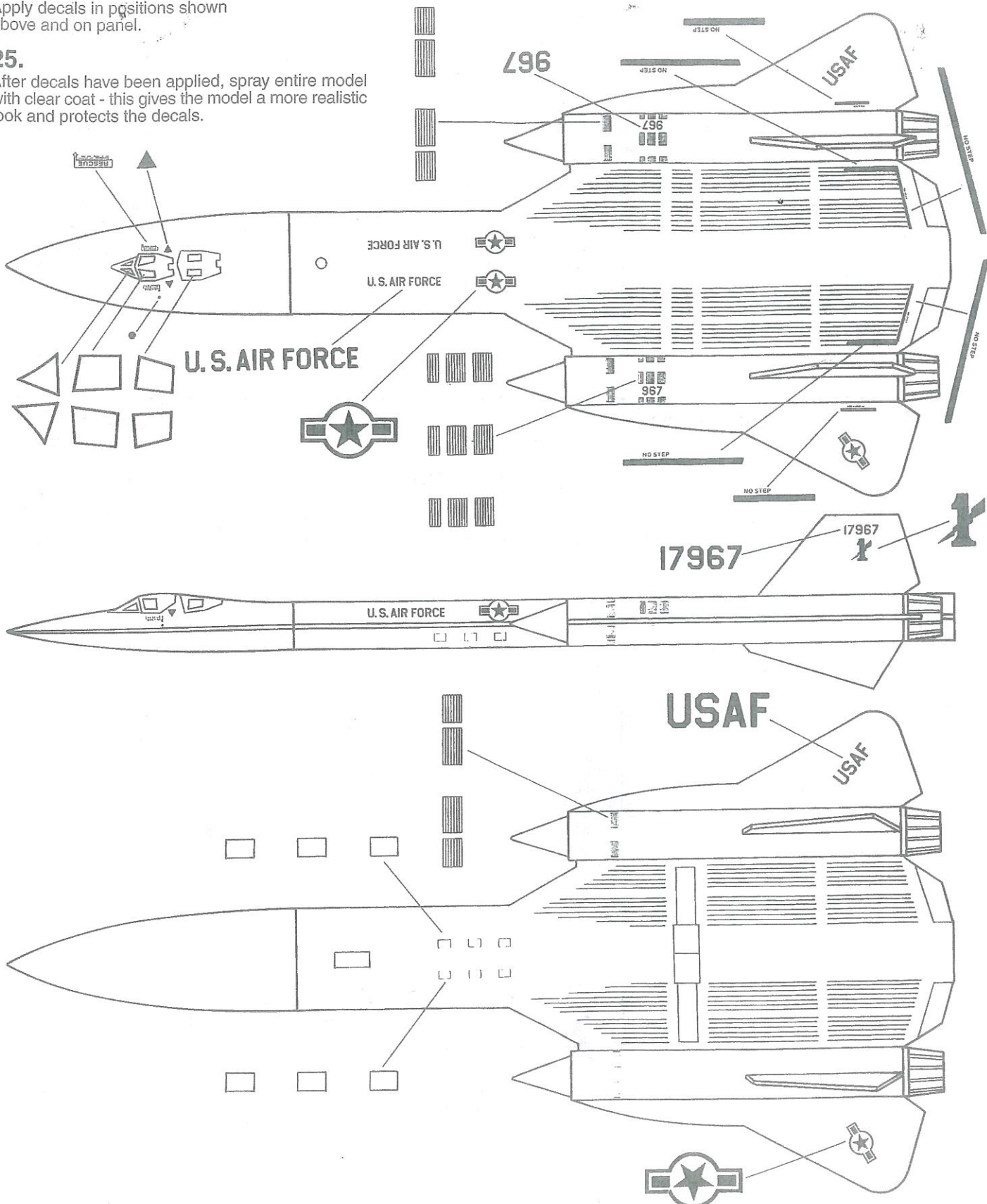
# DECAL PLACEMENT

24.

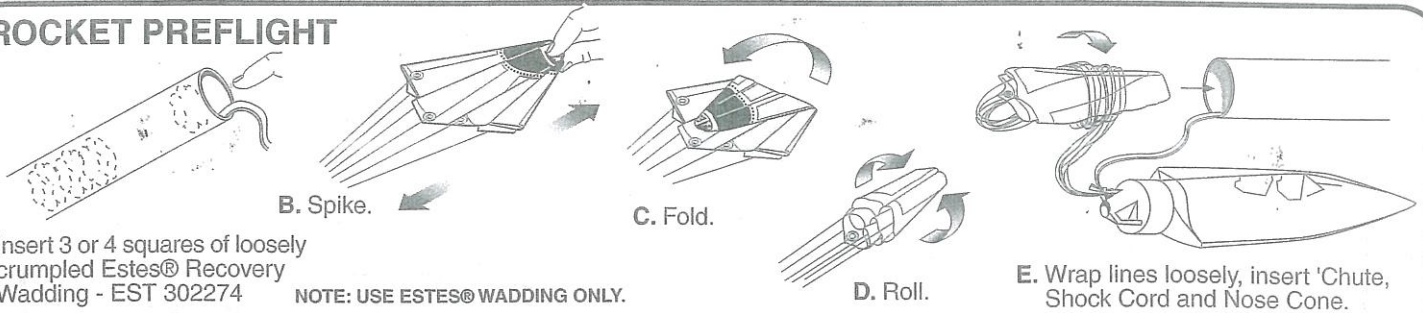
Apply decals in positions shown above and on panel.

25.

After decals have been applied, spray entire model with clear coat - this gives the model a more realistic look and protects the decals.



## ROCKET PREFLIGHT



A. Insert 3 or 4 squares of loosely crumpled Estes® Recovery Wadding - EST 302274

NOTE: USE ESTES® WADDING ONLY.

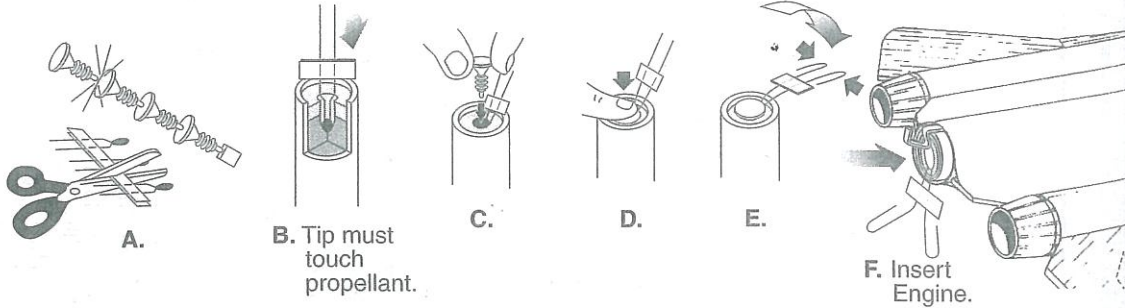
## PREPARE ENGINE

### ⚠ WARNING: FLAMMABLE

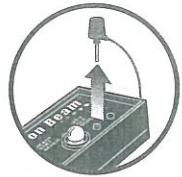
To avoid serious injury, read instructions & NAR Safety Code included with engines.

**PREPARE YOUR ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!**

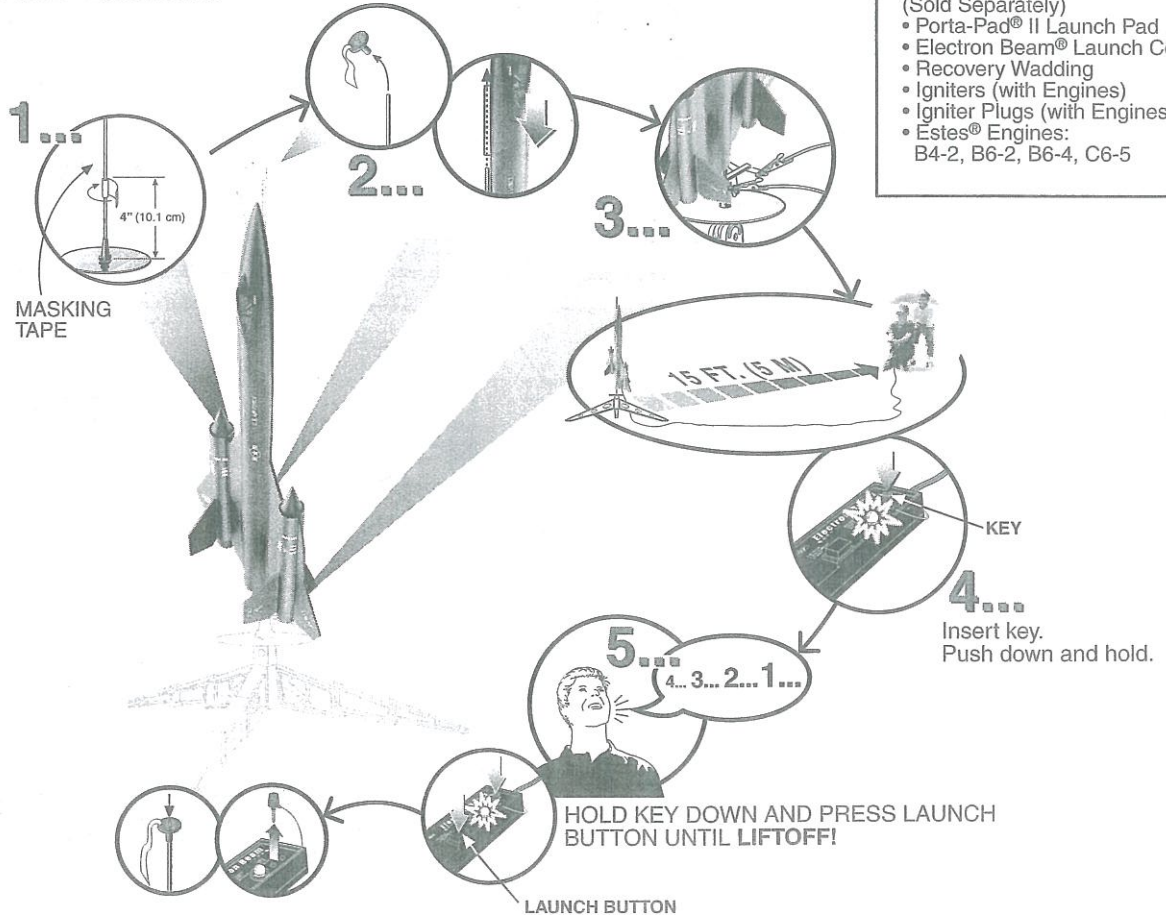
If you do not use your prepared engine, remove the igniter before storing your engine.



## 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)
  - Estes® Engines: B4-2, B6-2, B6-4, 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.