



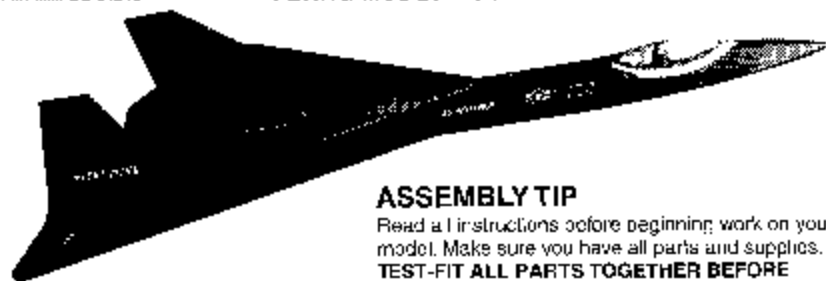
www.estesrockets.com

Estes Industries
1285 H Street
Ft. Worth, CO 81242

NIGHT WING™

FLYING MODEL ROCKET KIT

EST 2177



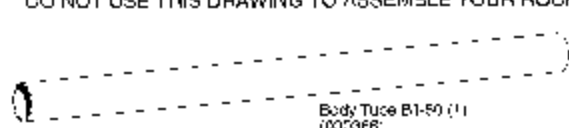
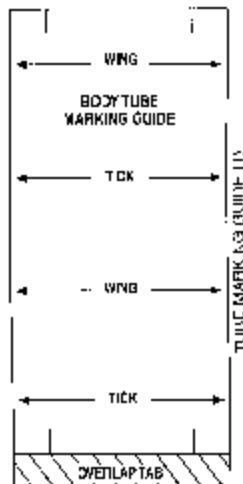
ASSEMBLY TIP

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

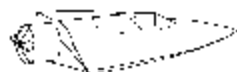
TEST-FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE. If any parts don't fit properly, sand as required for precision assembly.

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 B1-50 (1)
(000366)



Nose Cone (1)
(072026)

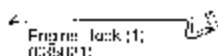


ESTES
SHOCK CORD MOUNT

SECTION 3



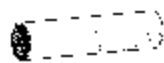
Green Centering Rings (2)
(030194)



Engine Lock (1)
(058401)



Clay Weight (1)
(085704)



Blue Engine Mount Tube (1)
(050326)

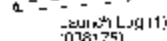
SECTION 2



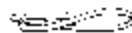
Assembled Patchite 14" (41-cm) (1)
(035802)



Decal Sheet (1) (037510)



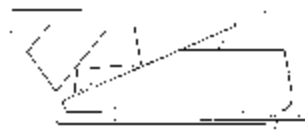
Launch Lug (1)
(038175)



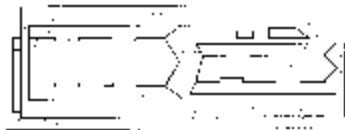
Shock Cord (1)
(048363)

Shock Cord Mixer (1)

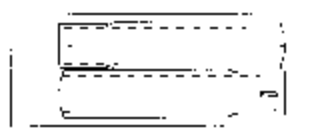
Die-cut Sales Sheet (2)
(032248)



Die-cut Ballo Sheet (2)
(039949)



Die-cut Paper (1)
(033131)



SUPPLIES

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



SCISSORS



PENCIL



RULER



WAX PAPER



FINE SAND PAPER
(4-60 Grit)



CEMENT (1)



MODELING KNIFE



SPRAY PAINT
(LOSS BLACK
ORANGE)



SPRAY PAINT
(BLUE)
(037063)



SPRAY PAINT
(RED OR
ORANGE)

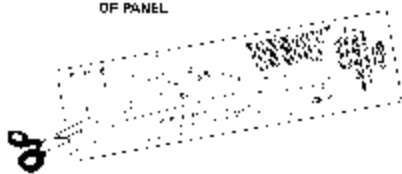


MASKING TAPE

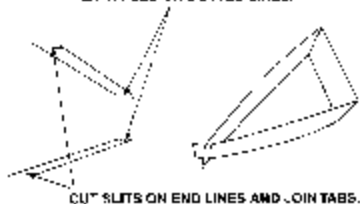


TUBE (1)

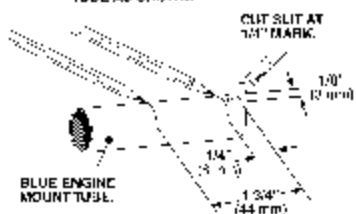
1. A. CUT OUT WING JIGGS FROM BACK OF PANEL



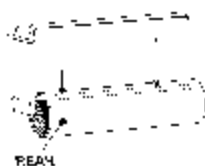
- B. 1. FOLD ON DOTTED LINES



2. A. MARK ENGINE TUBE AS SHOWN.



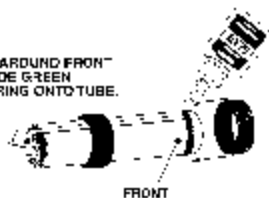
- B. POSITION HOOK.



- C. APPLY GLUE AROUND TUBE AT 1 3/4" (44mm) MARK. SLIDE GREEN CENTERING RING ONTO TUBE



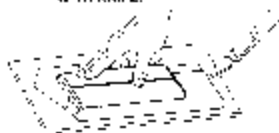
- D. APPLY GLUE AROUND FRONT OF TUBE. SLIDE GREEN CENTERING RING ONTO TUBE.



3. A. CUT OUT LOWER FRONT TEMPLATE FROM BACK OF PANEL.



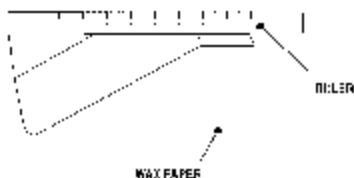
- B. 1. FINE SAND ALL BALSA SHEETS. 2. FREE FINN AND WING PIECES WITH KNIFE.



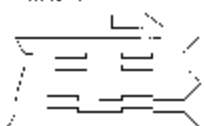
- C. SAND ALL EDGES OF EACH PIECE



- D. GLUE WING PIECES TOGETHER. LET DRY.



- E. LOCATE PIECES FOR BOTH WING TOP SECTIONS.



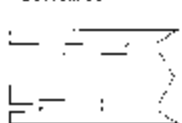
- F. ALIGN TABS WITH SLOTS AND GLUE.



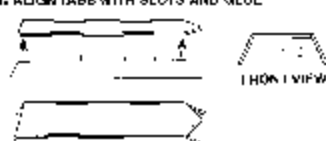
- G. G. IF REMAINING PIECE CENTERED IN FRONT LET DRY



- H. LOCATE BALSA BOTTOM COVER PIECES.



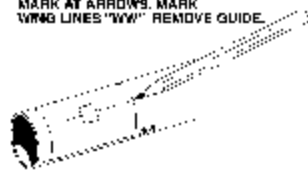
- I. ALIGN TABS WITH SLOTS AND GLUE



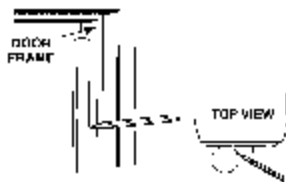
4. A. CUT OUT TUBE MARKING GUIDE FROM FRONT PAGE.



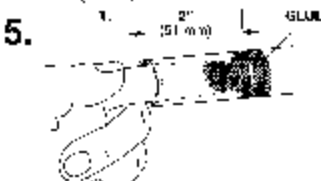
- B. TAPE TUBE MARKING GUIDE AROUND END OF BODY TUBE. MARK AT ARROWS. MARK WING LINES "W-W". REMOVE GUIDE.



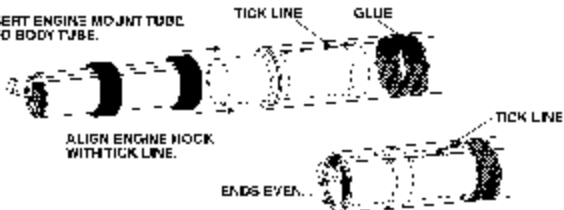
- C. CONNECT TICK & WING LINES AND EXTEND ENTIRE LENGTH OF TUBE.



5. A. USE FINGER TO SMEAR GLUE 2" (51 mm) INSIDE BODY TUBE.



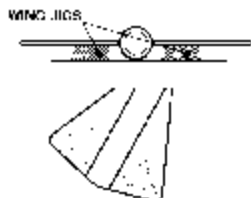
- B. INSERT ENGINE JOINT TUBE INTO BODY TUBE.



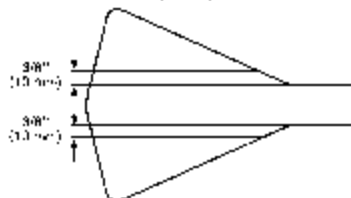
6. A. GLUE WINGS ON WING LINES.



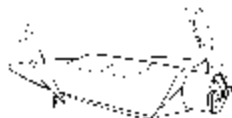
- B. TO INSURE PROPER ALIGNMENT USE WING JIGS FROM STL# 1. LET GLUE DRY.



- C. WHEN JOINTS ARE DRY, DRAW STRAIGHT LINES ON TOP AND BOTTOM OF EACH WING 3/8" (10 mm) FROM BODY TUBE.

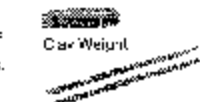


7. A. TRIM ANY EXCESS PLASTIC FROM AROUND SIDES OF NOSE CONE.



- B. USE KNIFE TO REMOVE EXCESS PLASTIC FROM HEAD EYELETS.

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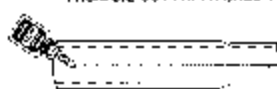


Car Weight

- D. USE A PENCIL TO TAMP CLAY IN TO FRONT OF NOSE CONE. TAMP ALL THE CLAY INTO NOSE CONE.



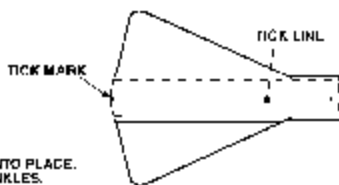
8. A. 1 REMOVE BOTTOM SECTION FROM DIE-CUT PAPER SHEET.



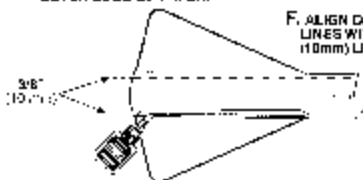
- C. SPREAD OUT THIN LINE OF GLUE WITH FINGER.



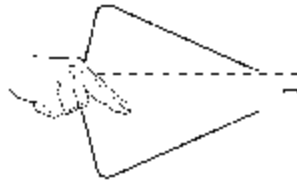
- D. ALIGN TICK MARKS WITH TICK LINE. GLUE TO BODY TUBE. RUB OUT ANY WRINKLES. PAPER SECTIONS SHOULD BE EVEN WITH BOTH ENDS OF BODY TUBE.



- E. SPREAD THIN LAYER OF GLUE UNDERNEATH FROM DASHED LINES TO OUTER EDGE OF PAPER.



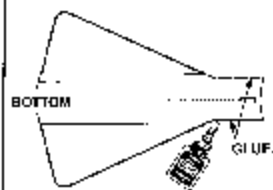
- F. ALIGN DASHED LINES WITH 3/8" (10 mm) LINES ON WINGS.



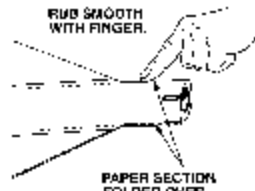
- G. PRESS BOTTOM SECTION EDGES INTO PLACE. USE FINGER TO RUB OUT ANY WRINKLES.



9. A. GLUE UNDER DASHED LINE AND FOLD OVER ONTO WOOD.

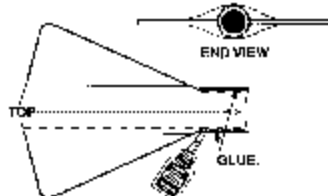


RUB SMOOTH WITH FINGER.



- B. GO BACK TO STEP 8. FOLLOW SAME DIRECTIONS FOR TOP SECTION.

- C. GLUE UNDER DASHED LINE AND FOLD OVER.



10.

- A. CUT OUT SHOCK CORD MOUNT FROM FRONT FACE.



- B. GLUE AND FOLD.



- C. GLUE AND FOLD.



11.

- A. LOOP SHROUD LINES AND PUSH THROUGH EYELET.



B.

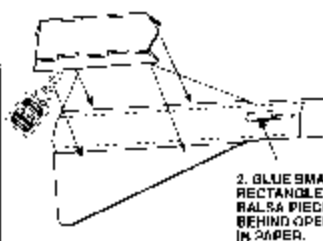


C.



12.

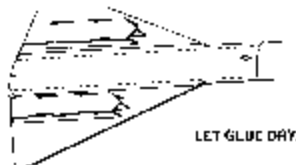
- A. 1. GLUE BOTTOM Balsa PIECE TO BOTTOM OF BODY TUBE. ALIGN WITH OUTER EDGES OF PAPER.
2. GLUE SMALL RECTANGLE Balsa PIECE BEHIND OPENING IN PAPER.



- B. 1. CUT LAUNCH LUG INTO TWO 3/4" (19 mm) PIECES
2. GLUE LAUNCH LUG PIECE INTO PLACE.

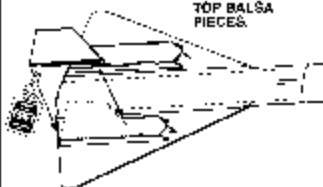


- C. GLUE EACH Balsa TOP PIECE TO TOP OF WINGS. EVEN WITH PAPER EDGES AND BACK EDGES OF WINGS.

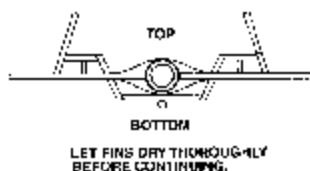


13.

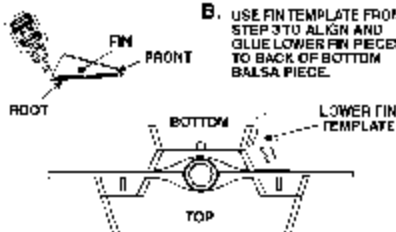
- A. GLUE TOP FINS TO TOP Balsa PIECES.



ALIGN FINS SO THEY ARE FLUSH WITH OUTER EDGES.

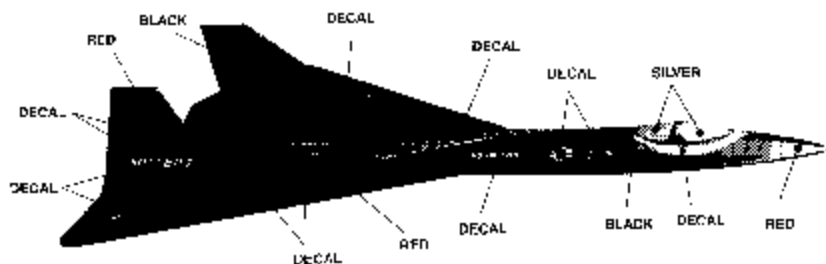


- B. USE FIN TEMPLATE FROM STEP 3 TO ALIGN AND GLUE LOWER FIN PIECES TO BACK OF BOTTOM Balsa PIECE.

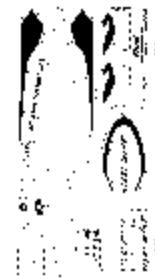


"CONVENTIONAL" PAINT SCHEME

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



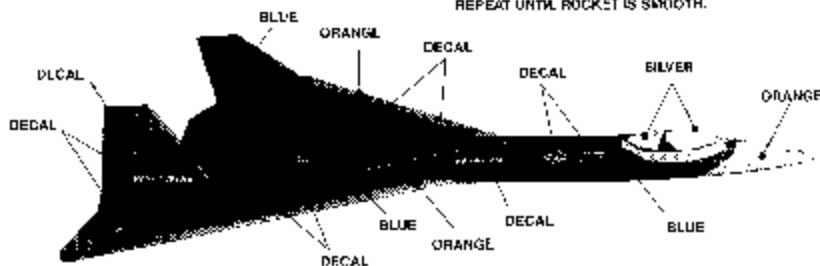
DECALS



* 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



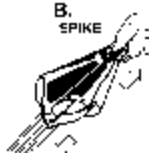
* CLEAR COAT ENTIRE ROCKET WHEN PAINT DRIES.

ROCKET PREFLIGHT

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



B. SPIKE



C. FOLD



D. PUSH



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



ENGINE PREP

WARNING: FLAMMABLE
 Do not perform this task in a room with a gas supply. Good ventilation is required.
PREPARE FROM ENGINE ONLY WHEN TOP IS OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH.
 Do not touch the engine directly with your hands. Use the provided safety glasses.

B. - MUST TOUCH PROPELLANT



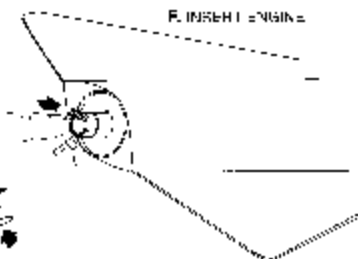
D.



C.



F. INSERT ENGINE



A.



E.

