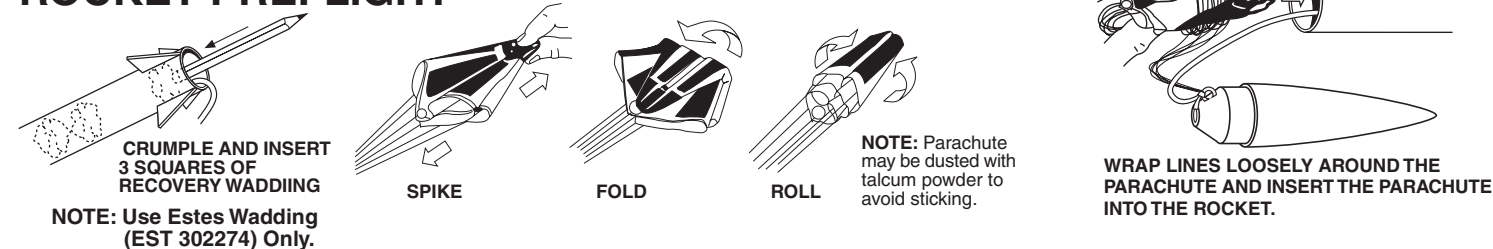
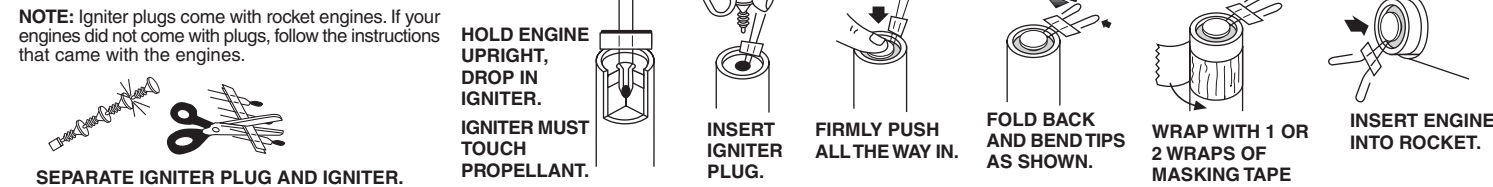


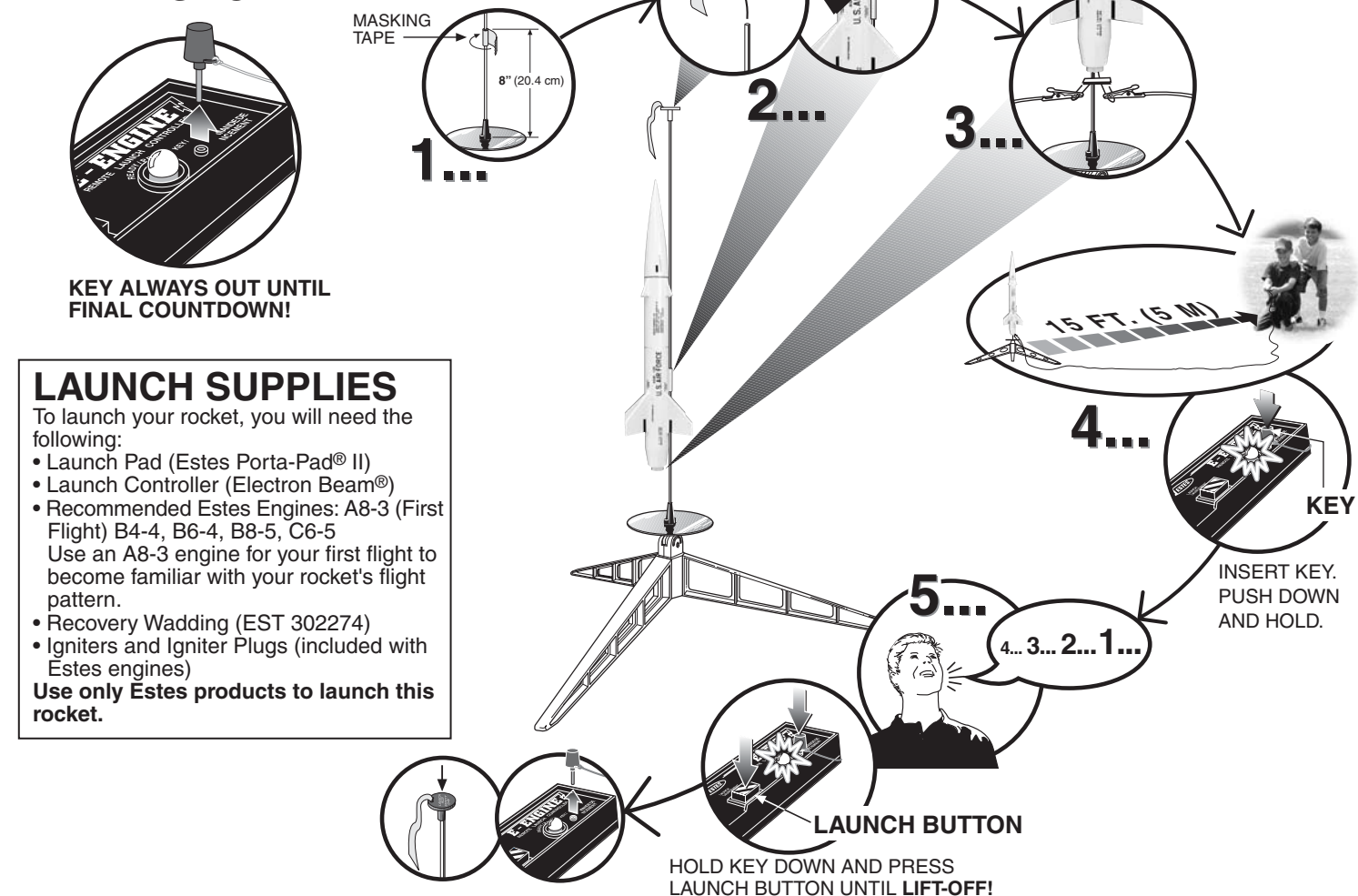
ROCKET PREFLIGHT



PREPARE ENGINE



COUNTDOWN AND LAUNCH



LAUNCH SUPPLIES

To launch your rocket, you will need the following:

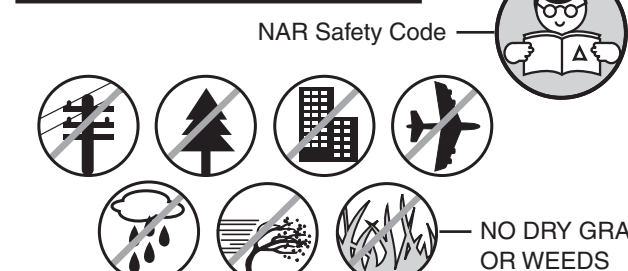
- Launch Pad (Estes Porta-Pad® II)
- Launch Controller (Electron Beam®)
- Recommended Estes Engines: A8-3 (First Flight) B4-4, B6-4, B8-5, C6-5

Use an A8-3 engine for your first flight to become familiar with your rocket's flight pattern.

- Recovery Wadding (EST 302274)
- Igniters and Igniter Plugs (included with Estes engines)

Use only Estes products to launch this rocket.

PRECAUTIONS



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 National Association of Rocketry (NAR) Safety Code.

MISFIRES

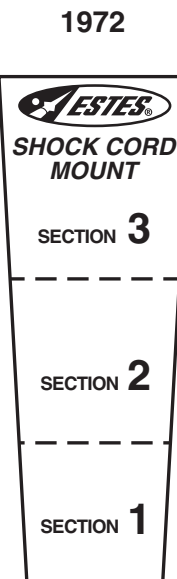
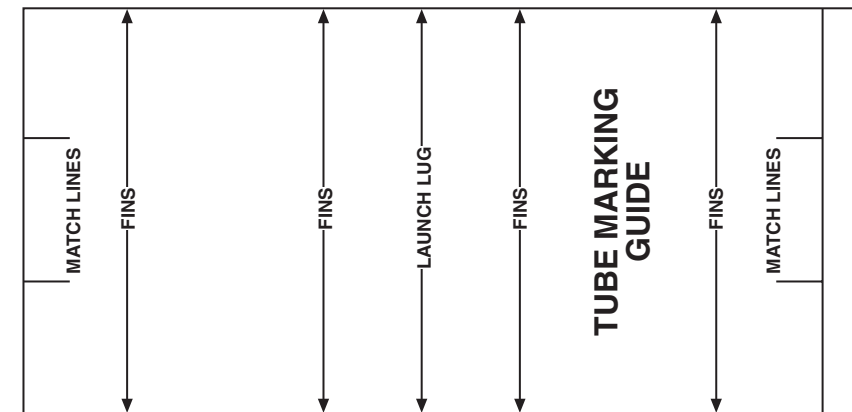
TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. 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 INDUSTRIES
 1295 H Street
 Penrose, CO 81240
 PRINTED IN CHINA

BULLPUP 12D

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.

HOW TO USE THESE INSTRUCTIONS: READ ALL INSTRUCTIONS BEFORE STARTING WORK ON THIS MODEL.

- A. Read each step first and visualize the procedure thoroughly in your mind before starting construction.
- B. Lay the parts out on the table in front of you. (Check inside tubes for any small parts.)
- C. Use the parts layout to match all parts contained in kit.
- D. Collect all construction supplies that are not included in this kit.
- E. Sand parts as necessary for proper fit.
- F. The construction supplies required for each step are listed at the beginning of each step.
- G. Check off each step as you complete it.

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.**

ENGINE SPACER TUBE (35003)

BODY TUBE (30384)

TAIL CONE (30101)

ENGINE MOUNT TUBE (30324)

LAUNCH LUG (38175)

ENGINE BLOCK (GREEN) (30162-2)

DECAL (37289)

DIE-CUT BALSA SHEET (32702)

CENTERING RINGS (30125)

ASSEMBLED PARACHUTE 12" (30 CM) (35801)

SHOCK CORD (38374)

NOSE CONE (71070)

CLAY WEIGHT (2) (85705)

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

TOO LOOSE: ADD MASKING TAPE.

TOO TIGHT: SAND FOR FIT.

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)

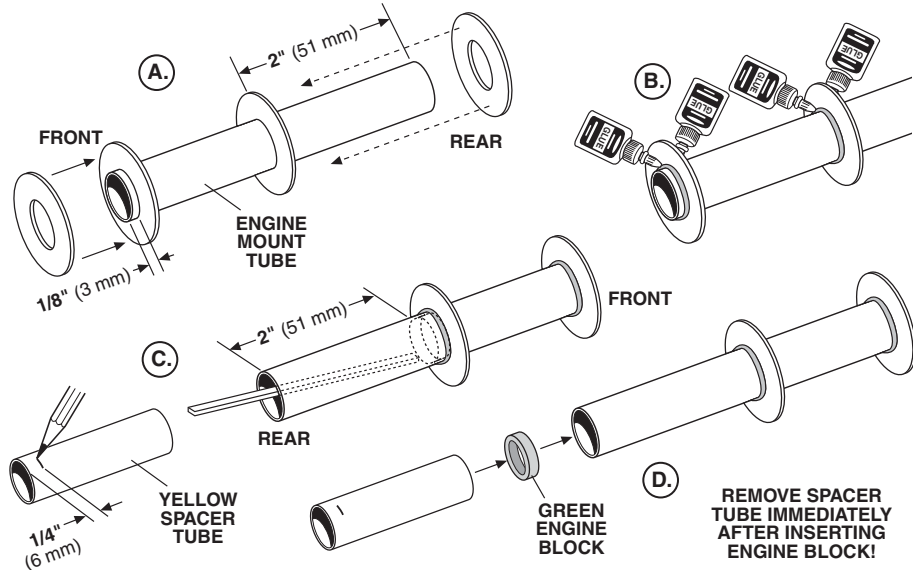
SPRAY PAINT (WHITE)

CLEAR SPRAY PRIMER (OPTIONAL)

ROCKET ASSEMBLY

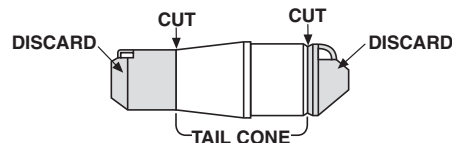
1.

- Remove centering rings from die-cut sheet. Slide over Engine Mount Tube as shown.
- Apply glue to both sides of both ring/tube joints.
- Mark yellow spacer tube 6 mm (1/4") from one end. Using a piece of scrap balsa, smear glue 51 mm (2") inside engine mount tube.
- Insert green engine block into rear of tube. Insert spacer tube and push engine block into tube until 1/4" (6 mm) mark is even with end of tube. NOTE: The yellow spacer tube is a tool and must be removed as soon as you match the mark with the end of the engine mount tube. Don't accidentally



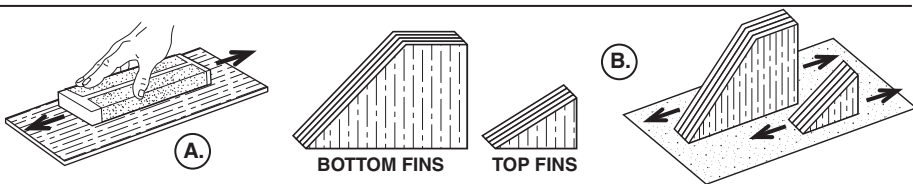
2.

- Locate the plastic tail cone.
- Cut the excess plastic parts off as indicated in diagram and discard.
- Sand front and rear of tail cone flat and remove any excess plastic with modeling knife.



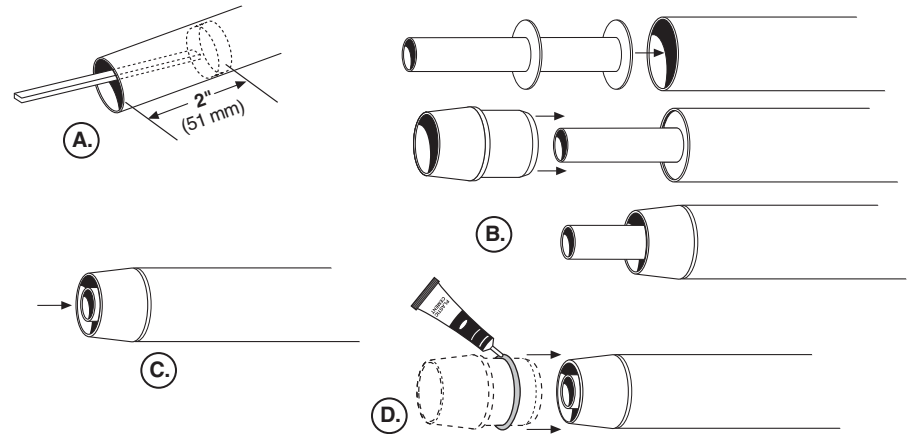
3.

- Fine sand balsa die-cut sheet. Carefully remove fins by freeing edges with sharp knife.
- Stack fins together. Sand all edges smooth.



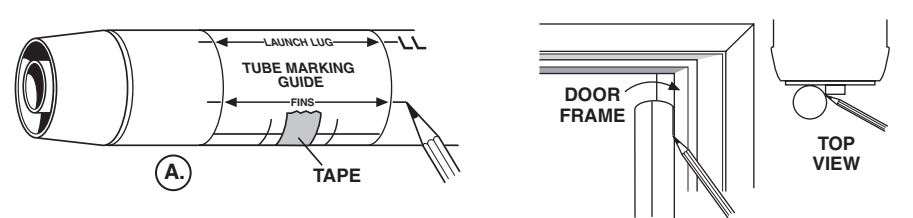
4.

- Using a piece of scrap balsa, smear glue inside body tube 2" (51 mm) from one end.
- Slide engine mount into body tube until both rings are inside tube. Push tail cone (no glue yet) over Engine Tube until snug against Body Tube.
- Push Engine Mout Tube the rest of the way in (until it is flush with end of Tail Cone).
- Remove tail cone. Apply plastic cement to tail cone as shown and push tail cone back into place.



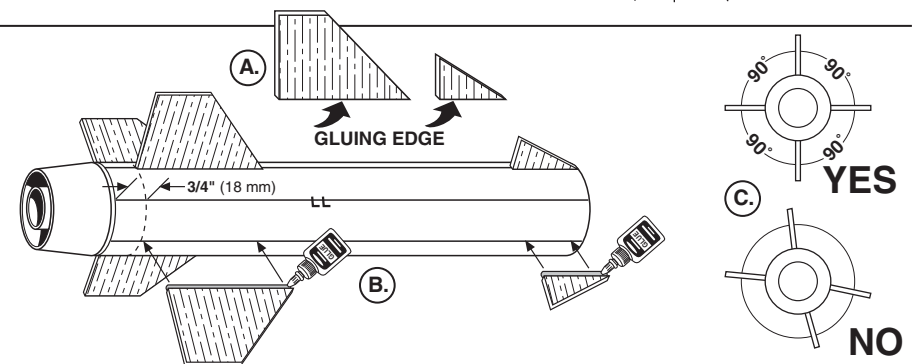
5.

- Cut out Tube Marking Guide from front of instructions. Wrap guide around the Body Tube and tape.
- Mark tube at arrows. Label Launch Lug Line 'LL'. Remove guide.
- Using door frame, extend all lines the full length of tube.



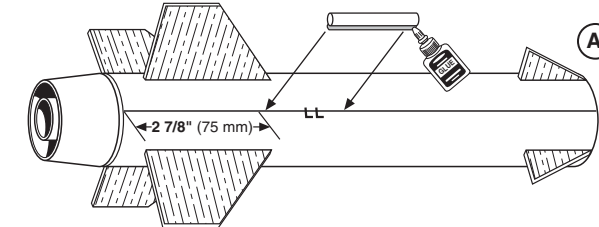
6.

- Compare fins to patterns to find front (leading) and gluing (root) edges.
- Position and glue fins on alignment lines as shown, one at a time. Bottom fins should be positioned 18 mm (3/4") from end of body tube. Let each dry several minutes before applying the next one.
- Adjust fins to project straight out from tube.
- Do not set rocket on fins while glue is wet. FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!



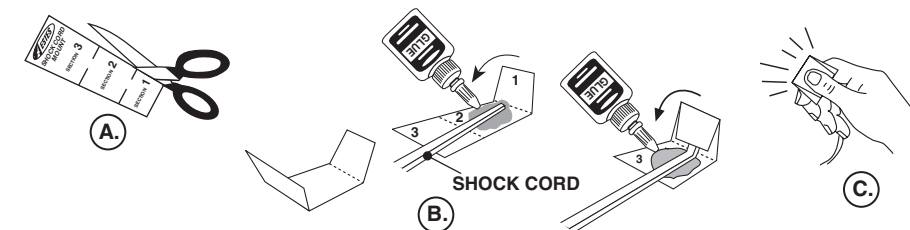
7.

- Glue launch lug straight on launch lug line with its rear edge 73 mm (2-7/8") from rear of tube.



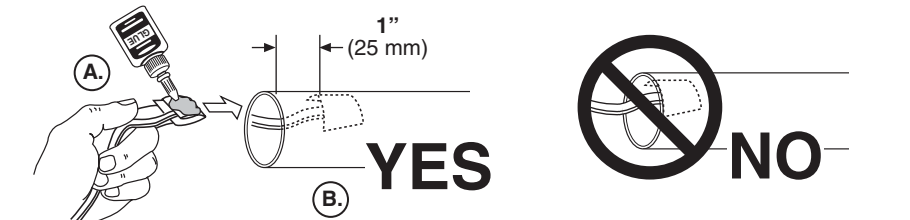
8.

- Cut out shock cord mount located on page one of the instructions.
- Crease on dotted lines by folding. Spread glue on section 2 and lay end of shock cord into glue. Fold over section 1 and apply glue to section 3. Fold forward again.
- Clamp unit together with fingers until glue sets.



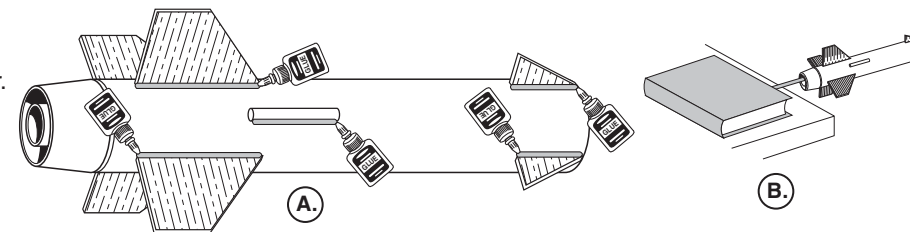
9.

- Apply glue to shock cord mount.
- Press mount into body tube about 25 mm (1") in from end of tube to allow for the nose cone.
- Hold until glue sets.



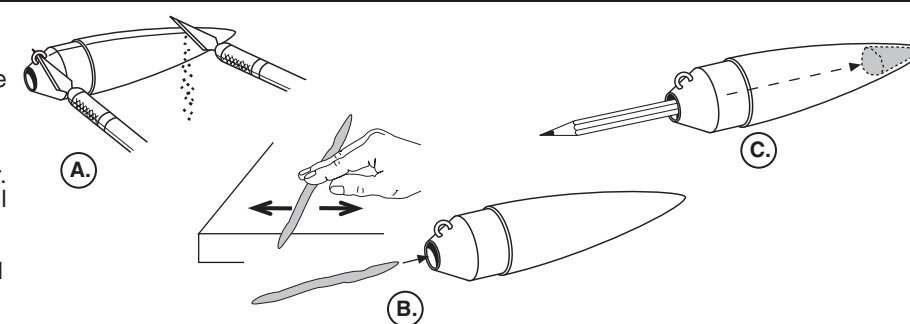
10.

- Apply a glue reinforcement to each fin/body tube joint and each side of launch lug. Smooth with finger.
- Support rocket as shown until glue dries.



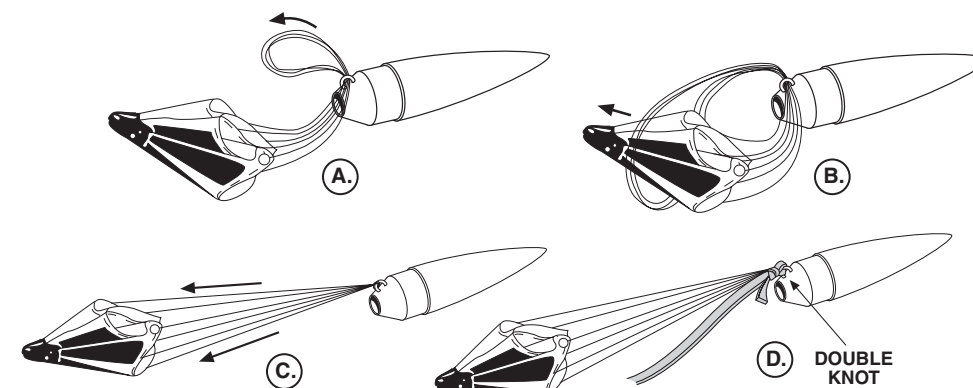
11.

- Trim excess plastic from around sides of nose cone with sharp knife. Remove any excess plastic from inside molded eyelet. Enlarge hole in rear of nose cone.
- Roll clay into a "snake" about 3 mm (1/8") diameter. Poke clay through the hole in nose cone. Use pencil or dowel to push clay into end of nose cone. Pack clay tightly. Use all of the clay.
- Wipe nose cone with damp cloth to remove oil and dirt.



12.

- Form loop in shroud lines and push shroud lines through eyelet.
- Pass 'shute through loop.
- Pull 'chute tight.
- Tie free end of shock cord to eyelet with double knot.



FINISHING YOUR ROCKET

Apply sanding sealer to fins. When sealer is dry, lightly sand parts. Repeat sanding and sealing until balsa grain lines are filled. Optional: Spray a light coat of automotive primer over entire rocket. Lightly sand (600 grit) when primer is dry. This allows the paint to adhere better and gives a smoother finish.

Spray paint the entire rocket gloss white. Follow instructions on spray can for best results. Allow paint to dry overnight before applying decals. Refer to photo on front of instructions and photo on panel for decal placement. To apply decals, cut out each decal, dip in lukewarm water for 20 seconds, and hold until it uncurls. Slip decal off backing sheets and onto model. Blot away excess water. For a more realistic appearance and to protect decals, spray a flat clear coat on the rocket.