

TUBER TOOPER

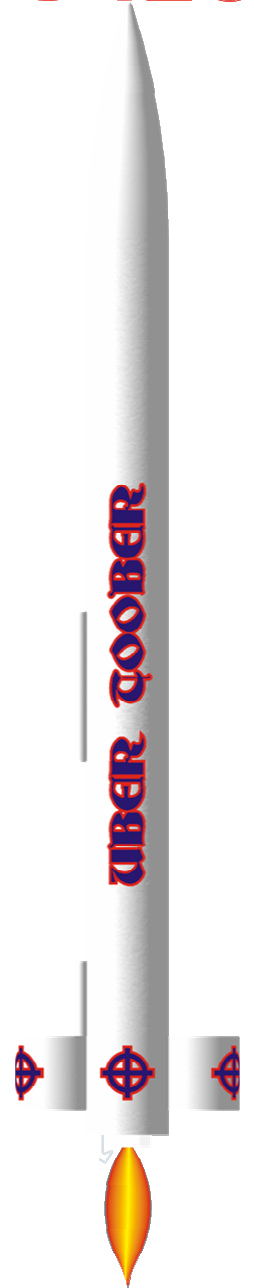
Assembly Instructions

Parts Included:

- 1 Nose Cone
- 1 Body Tube
- Laser Cut Tube Fins
- 1 Thrust Ring
- 1 Motor Tube
- 1 Motor Hook
- 1 Motor Sleeve
- 1 D Motor Spacer
- 2 Centering Rings
- 2 Launch Lug 3" Long
- 1 Kevlar Shock Cord (yellow)
- 1 Elastic Shock Cord
- 1 12" Nylon Parachute
- 1 Decal Sheet

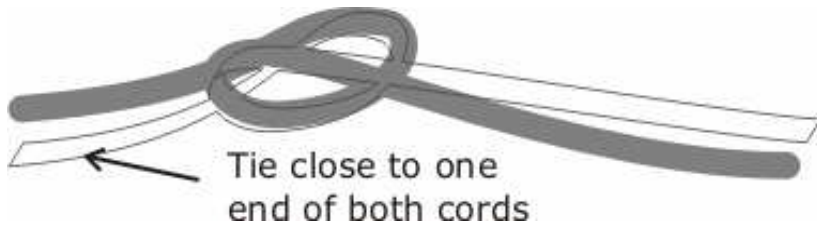
Materials Needed (not Included):

- White or Yellow Wood Glue
- Sanding Sealer
- Paint Brush
- Sandpaper (#240 grit)
- Glossy White Spray Paint (enamel)
- Primer Spray Paint (enamel)

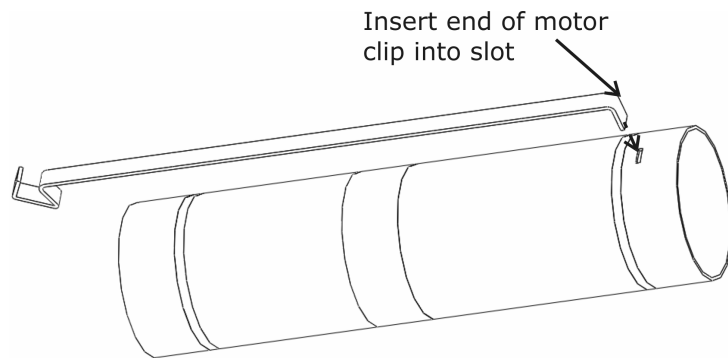


Motor Mount and Shock Cord Assembly

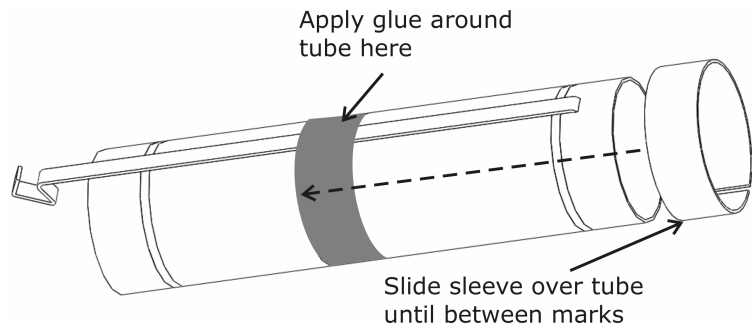
Step 1 – Tie the end of the elastic shock cord to the kevlar shock cord with both ends together in one looping knot.



Step 1 – Insert the flat end of the metal motor hook into the pre-cut slot $\frac{1}{4}$ " from the end of the motor tube.

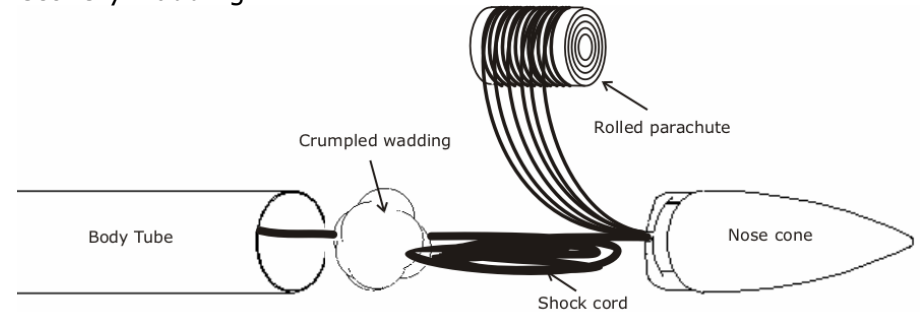


Step 2 – While holding the motor hook in the slot, apply glue around the motor tube between the wide marks. Push the slotted motor sleeve over the motor hook until the ring is between the wide marks on the motor tube.



Flying Your Rocket

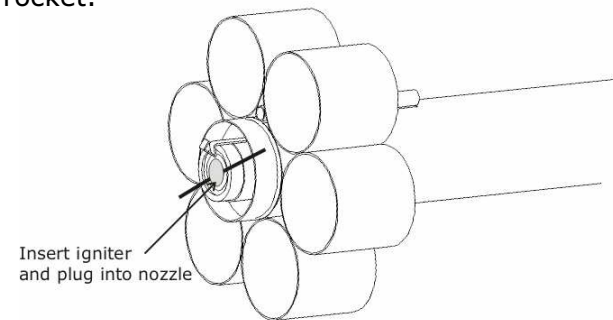
Step 1 – Insert several crumpled sheets of recovery wadding into the lower body tube and the folded shock cord after the recovery wadding.



Step 2 – Insert the folded parachute into the lower body tube, then insert the payload section to complete the recovery assembly.

NOTE: Some 24mm motors are 95mm long (E9) and some are 70mm long (D12). Use the 1" motor spacer provided when using the shorter 70mm D motors.

Step 3 – Insert the rocket motor with the nozzle end facing the rear of the rocket.

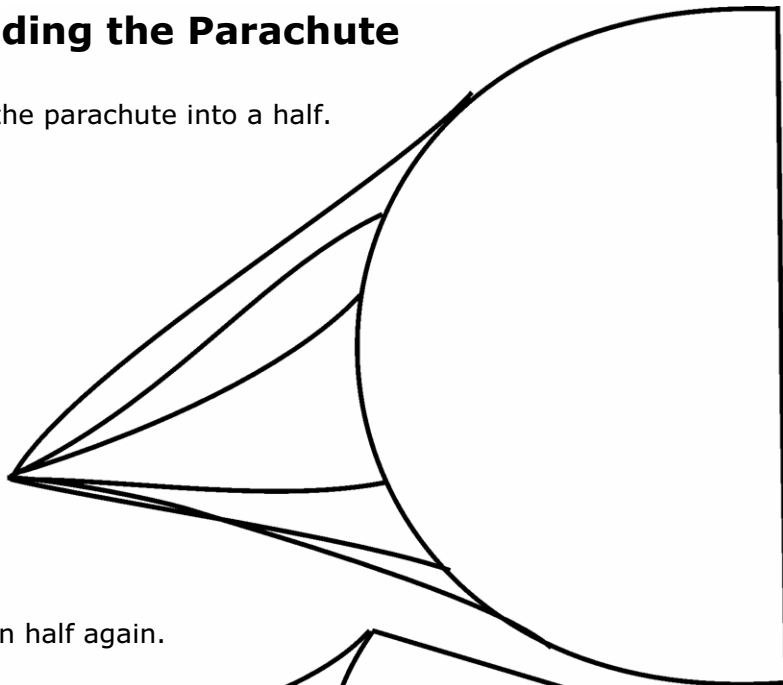


Step 4 – Install model rocket motor igniter according to manufacturers recommended procedure.

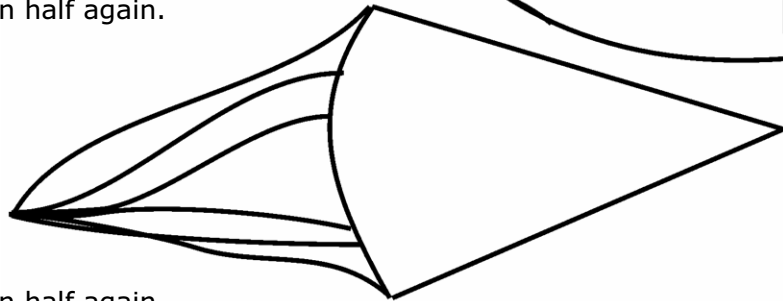
IMPORTANT: FOLLOW THE N.A.R. SAFETY CODE REGARDING LAUNCHING AND THE USE OF MODEL ROCKET MOTORS

Folding the Parachute

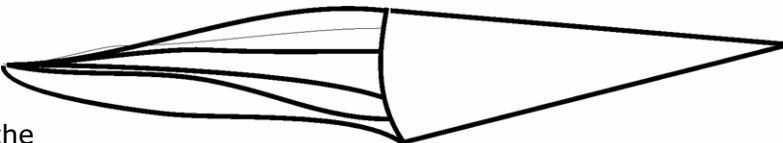
Fold the parachute into a half.



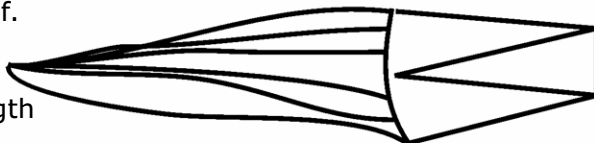
Fold in half again.



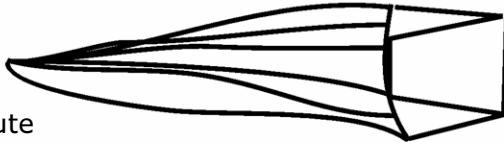
Fold in half again.



Fold the length in half.



Fold the length once more.

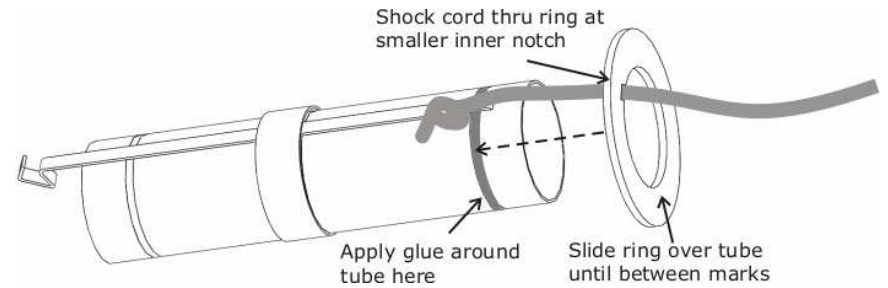


Roll the parachute onto the shroud lines. Do not twist or wrap the shroud lines.

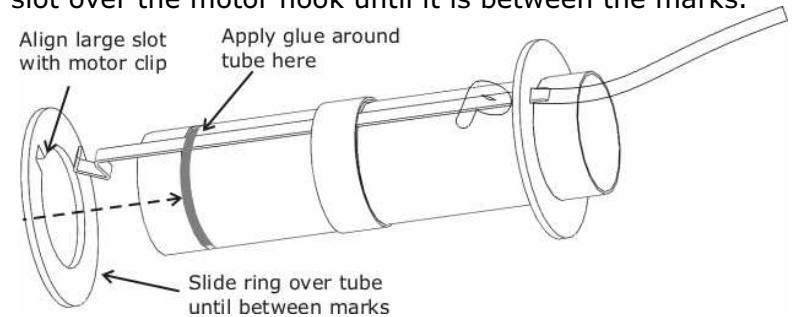


Step 3 – Tie a single knot in the end of the yellow Kevlar shock cord opposite the end the elastic shock cord is attached to.

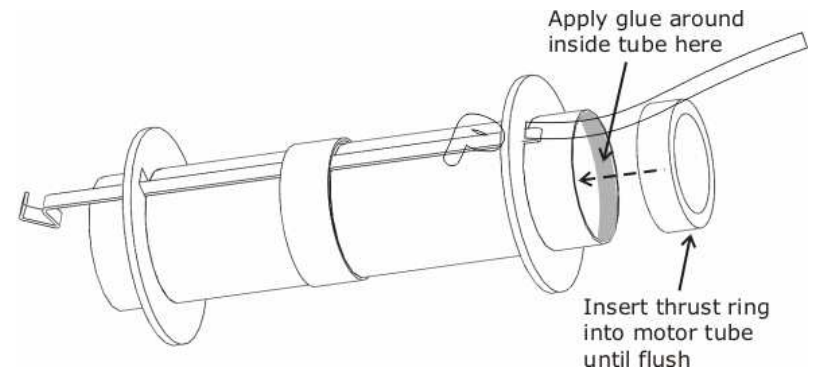
Step 4 – Apply glue around the motor tube between the marks near the top of the tube. With the shock cord thru the small notch of the centering ring, slide centering ring over the motor hook and the knot in the Kevlar shock cord until it is between the marks.



Step 5 – Apply glue around the motor tube between the marks near the bottom of the tube. Push the centering ring with the larger slot over the motor hook until it is between the marks.



Step 6 – Apply glue around the inside of the top end of the motor tube and push the thrust ring in until against the motor hook and flush with the end of the motor tube. Set aside to dry thoroughly.

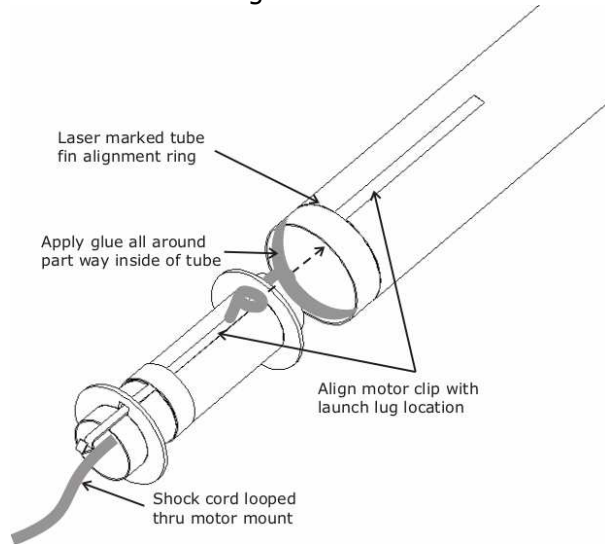


Motor Mount Attachment

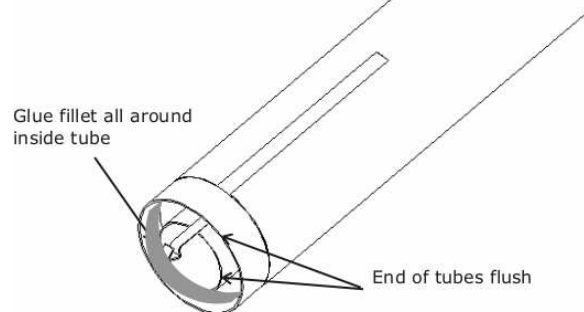
Step 1 – Loop the shock cord thru the inside front and out the inside rear of the motor mount.

Step 2 – Apply glue all around the inside of the lower body tube partway into the end of the body tube with the marked tube fin alignment ring.

Step 3 – Insert the motor mount and push in until the bottom end of the motor mount tube is flush with the bottom end of the lower body tube. Make sure the motor hook is oriented on the same side as the launch lug location marks on the tube. Set aside to dry.

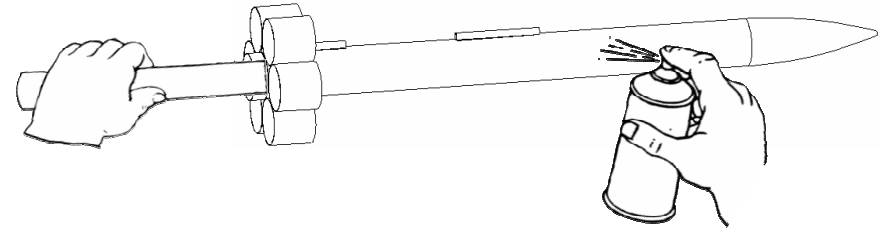


Step 4 – Pull the shock cord back thru the body tube and out the top of the body tube. Apply a glue fillet at the centering ring and body tube attachment joint. Set aside to dry with the motor mount side of the airframe tube facing up.



Finishing Your Rocket Before Final Assembly

Step 1 – Insert a dowel into the bottom of the rocket body tube to hold your rocket, apply a thin coat of gray primer spray enamel using even back and forth movements. Let the primer dry and sand using 240 grit sandpaper. Re-coat and sand as necessary.



Step 5 – Apply a first thin color coat of gloss white spray enamel using even back and forth movements. Let the first coat tack up for a few minutes. Then follow up with a heavier coat. Do not coat too heavily or the paint will sag. The best results are obtained when the color coat is just thick enough to gloss.

Let dry for 24 hours.

Step 6 – Remove the pressure sensitive decals from the backing paper and apply to the fins and body tube. Use the picture on the cover of this manual or the kit color card for a guide to decal placement.

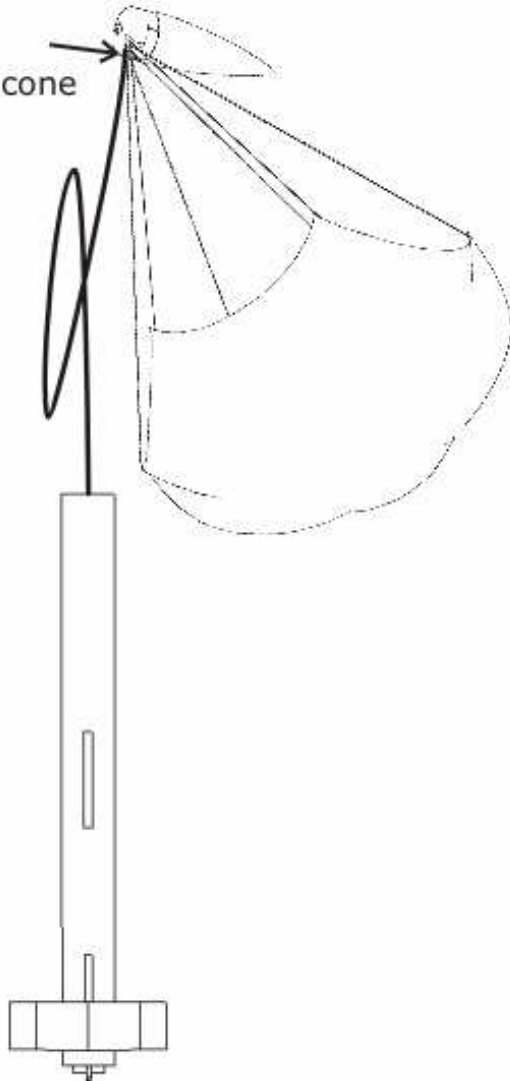
Assembling the Parachute and Nose Cone

Step 1 – Cut out and assemble the parachute kit according to the instructions printed on the parachute.

Step 2 – Tie the elastic shock cord to the nose cone with a double overhand knot.

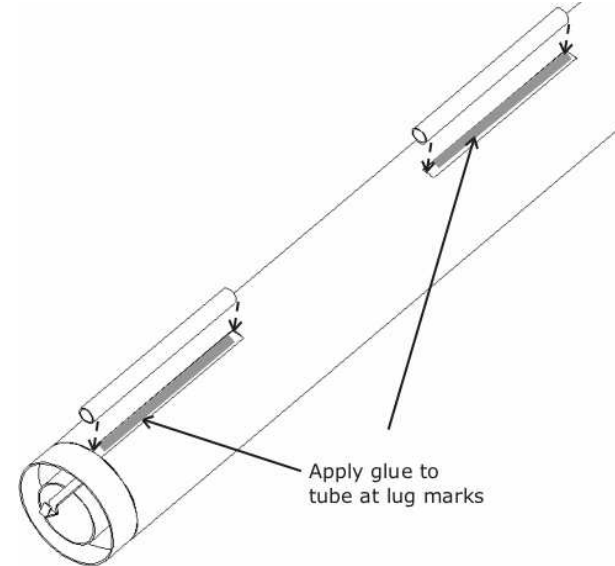
Step 3 – Tie the parachute to the nose cone with a double overhand knot.

Tie parachute and shock cord to nose cone

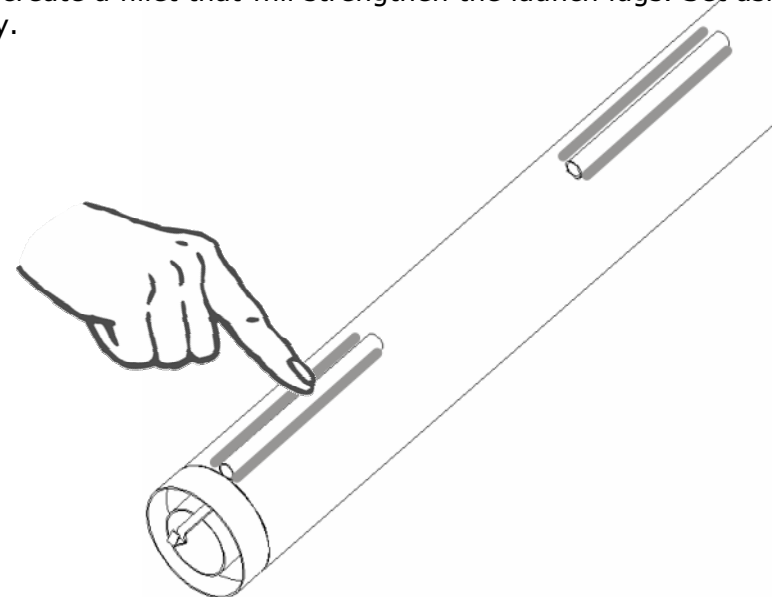


Attaching the Launch Lugs

Step 1 – Apply glue to the to the marked areas on the body tube where the launch lugs will attach. Attach the launch lugs at the locations marked on the body tube. Sight thru both launch lugs to make sure they are aligned to each other. Set aside to dry.

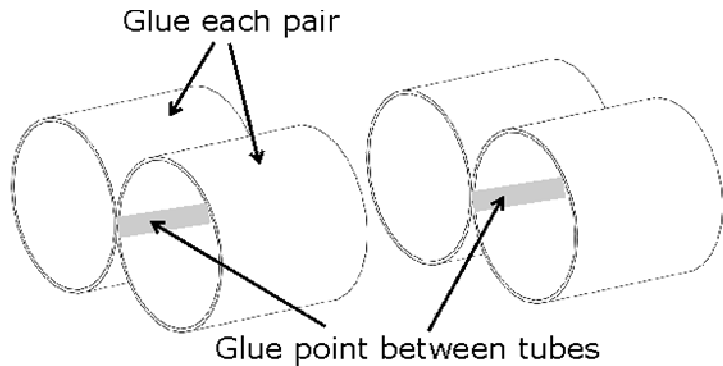


Step 2 – After the launch lugs have dried, apply a thin layer of glue between the body tube and both launch lugs with your finger to create a fillet that will strengthen the launch lugs. Set aside to dry.

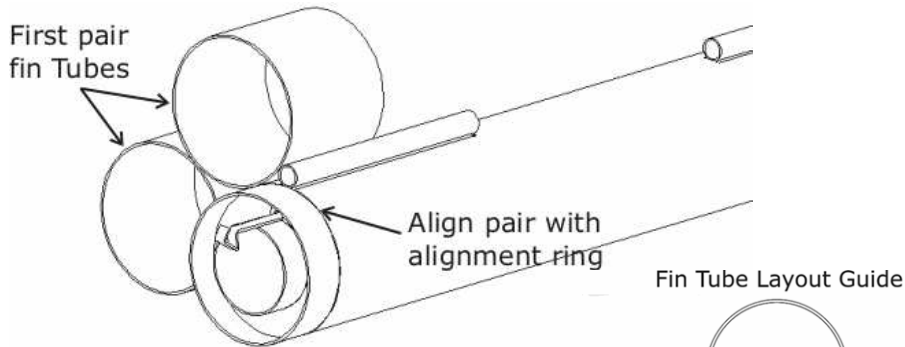


Attaching the Tube Fins

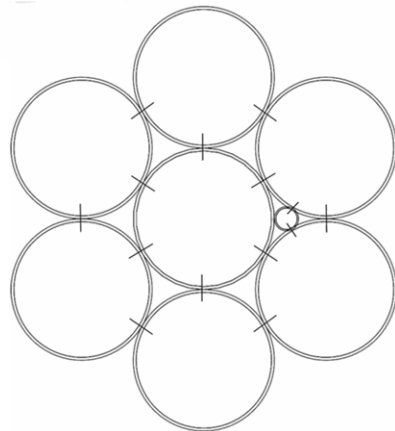
Step 3 – Apply a thin line of glue to the outside of one of the fin tubes along the length. Attach 2 fin tubes together and set aside to dry for a few minutes on a flat surface to keep them aligned parallel to each other. Do this for 3 pairs of fin tubes.



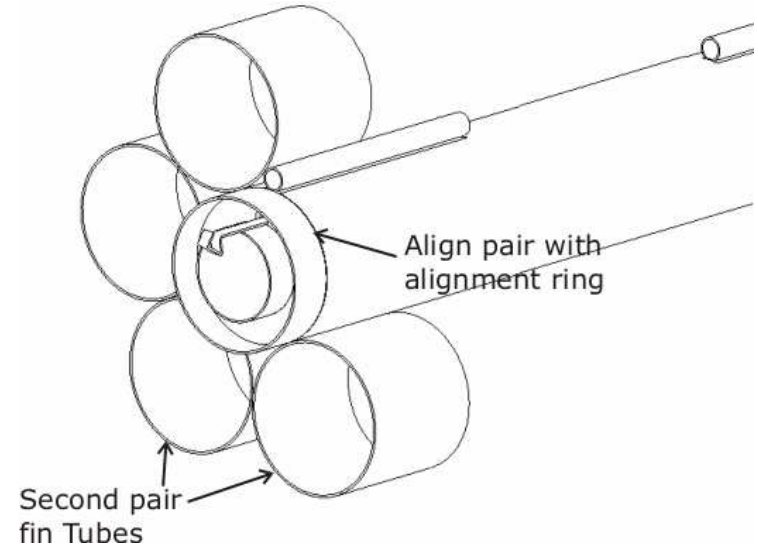
Step 3 – Apply glue in a thin line along the length of the first fin tube pair in 2 places and the launch lug. Refer to the fin tube layout guide on this page for glue locations between the lower body tube, fin tubes, and the launch lug. Attach the first fin tube pair to lower body tube and launch lug while aligning with the line around the tube as shown.



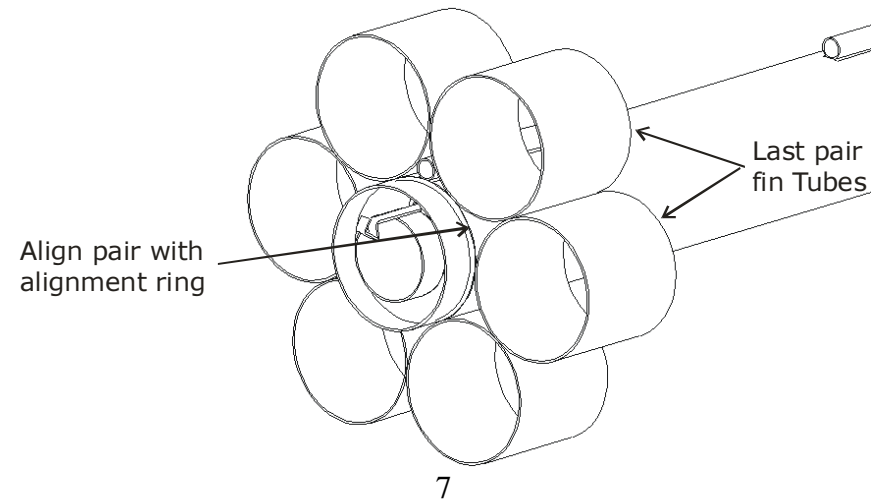
6



Step 4 – Apply glue in a thin line along the length of the second fin tube pair in 3 places. Refer to the fin tube layout guide on previous page for glue locations between the lower body tube and the fin tubes. Attach second fin tube pair to the lower body tube and first fin tube pair while aligning with the line around the tube as shown.



Step 5 – Apply glue in a thin line along the length of the last fin tube pair in 2 places and the launch lug. Refer to the fin tube layout guide on previous page for glue locations between the lower body tube, fin tubes, and the launch lug. Attach the last fin tube pair to the body tube, second tube pair, and launch lug while aligning with the line around the tube as shown. Set to dry.



7