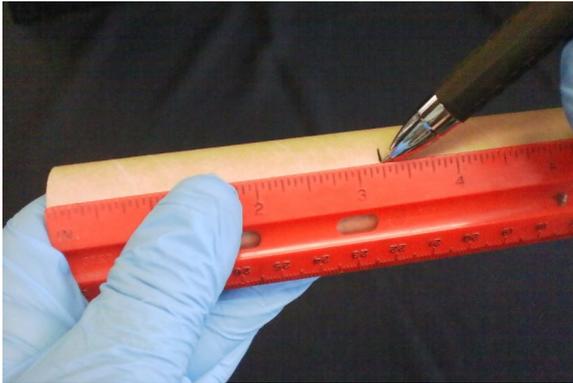


Expert Series 4.0 Crayon Rocket Assembly Instructions

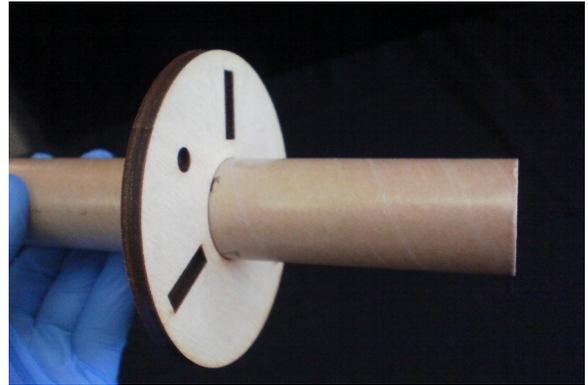


Fin Can Assembly

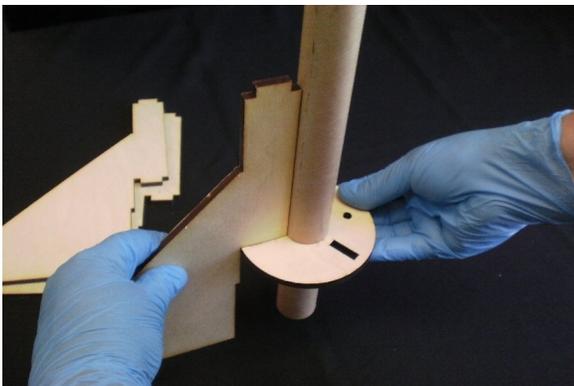
Step 1 - Mark the motor tube 3¼" from one end.



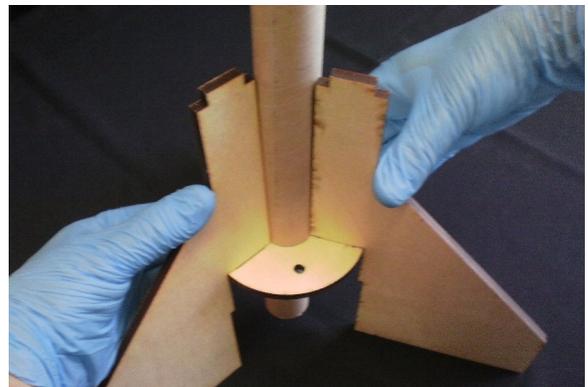
Step 2 - Insert the motor tube into a centering ring until the mark is at the edge of the centering ring.



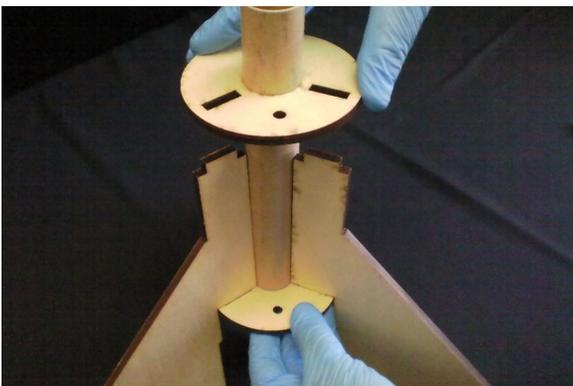
Step 3 - Place marked end down and lock a fin into the slot at the top of the bottom centering ring.



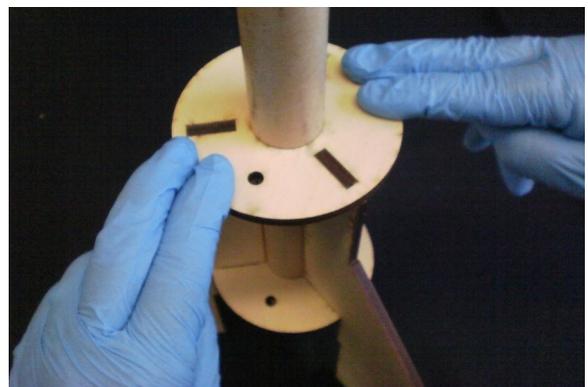
Step 4 - lock all the other fins in the same way.



Step 5 - Slip another centering ring over the top end of the motor tube while holding the assembly together.

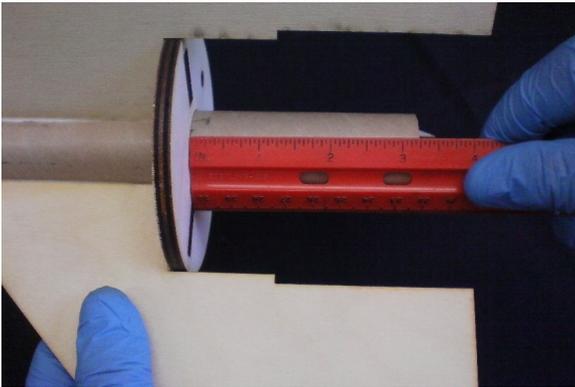


Step 6 - With both shock cord holes of the centering rings aligned, push the top centering ring down and lock all the fins together.

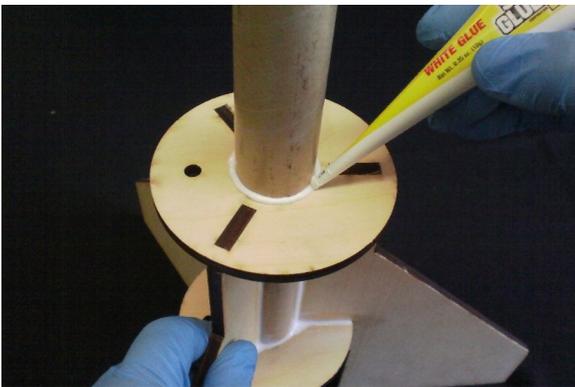


Fin Can Assembly Continued...

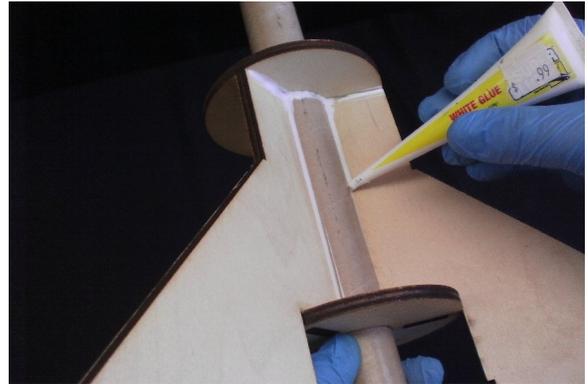
Step 1 – Re-check and adjust the motor tube to 3¼" from end to the edge of the centering ring and tighten all the parts of the assembly together.



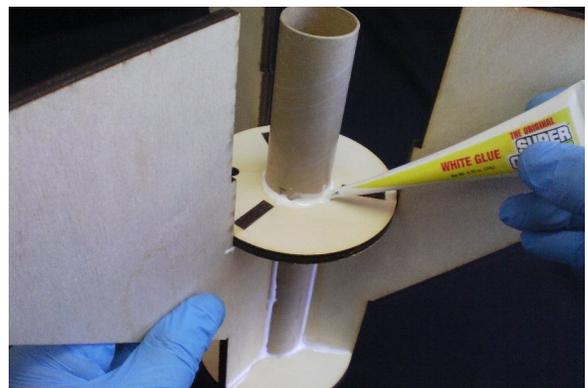
Step 3 - Apply a glue fillet the top centering ring where it contacts the motor tube.



Step 2 – Apply a glue fillet to the inside of each fin where it contacts both the centering rings and the motor tube.

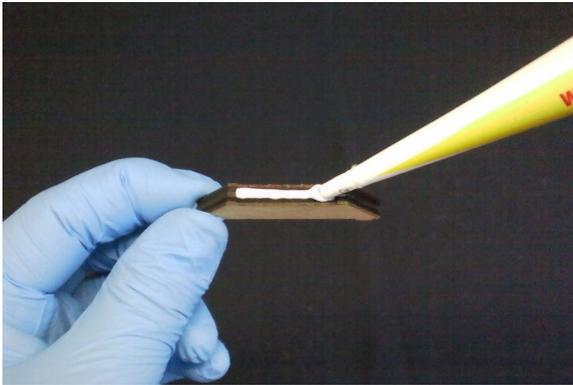


Step 4 - Apply a glue fillet the bottom centering ring where it contacts the motor tube. Set aside to dry.

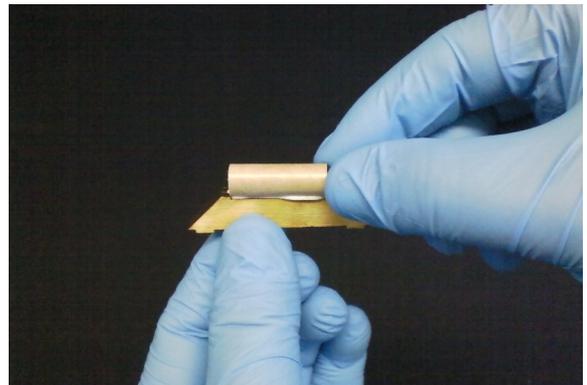


Launch Lug Assembly

Step 1 - Apply a bead of glue on one standoff along the top shorter surface.



Step 2 - Attach the launch lug to the standoff.



Step 3 - Align the launch lug straight to the standoff.

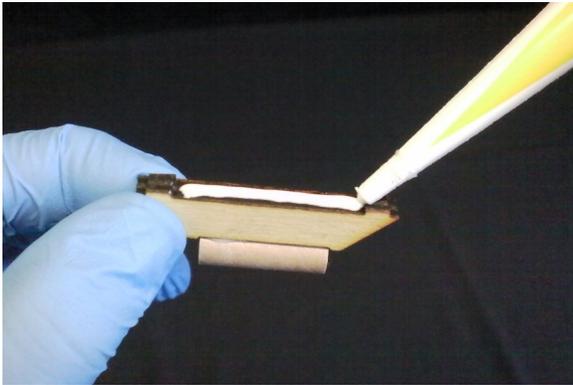


Step 4 - Do this for both launch lug assemblies and set aside to dry.

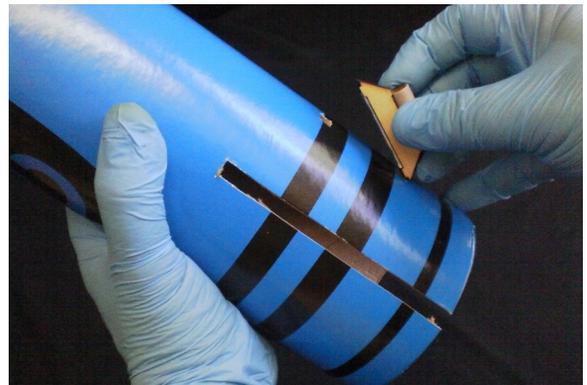


Launch Lug Attachment

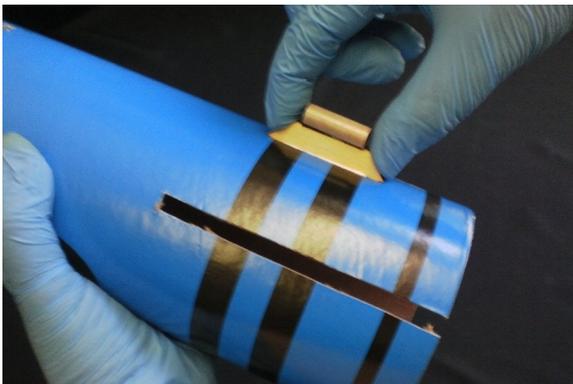
Step 1 - Apply glue to the bottom of the first launch lug assembly.



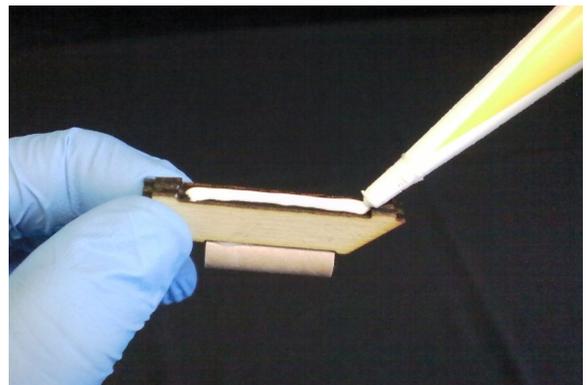
Step 2 - Insert the tabs on the bottom of the launch lug assembly into the bottom alignment holes of the crayon tube.



Step 7 - Press the launch lug assembly firmly onto the crayon tube.



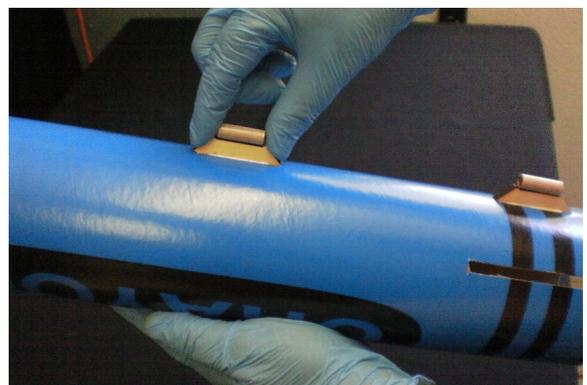
Step 8 - Apply glue to the bottom of the second launch lug assembly.



Step 9 - Insert the tabs on the bottom of the launch lug assembly into the top alignment holes of the crayon tube.

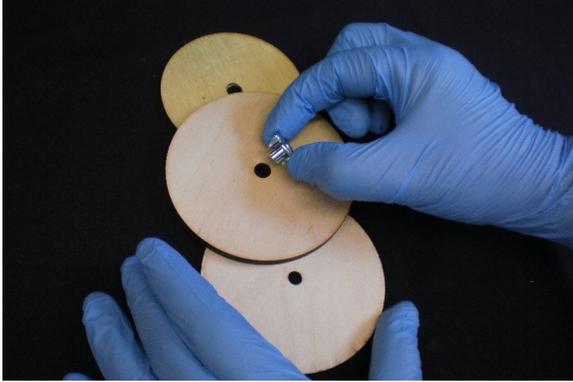


Step 10 - Press the launch lug assembly firmly onto the Crayon tube. Set aside to dry.

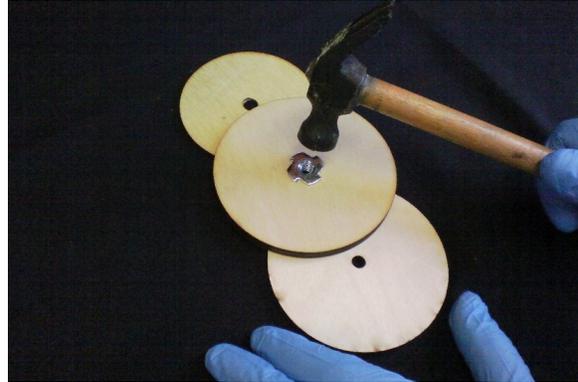


Nose Assembly

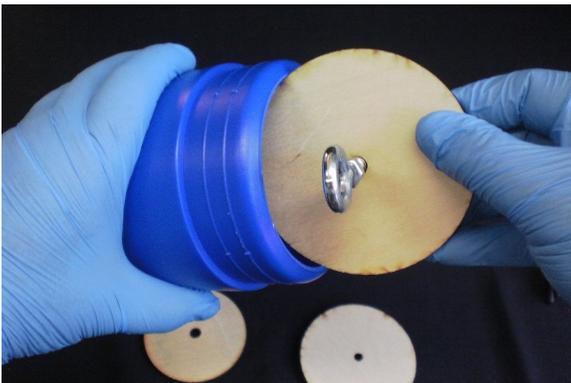
Step 1 - Place the largest bulkhead on top of the smaller bulkheads and insert the t-nut into the center.



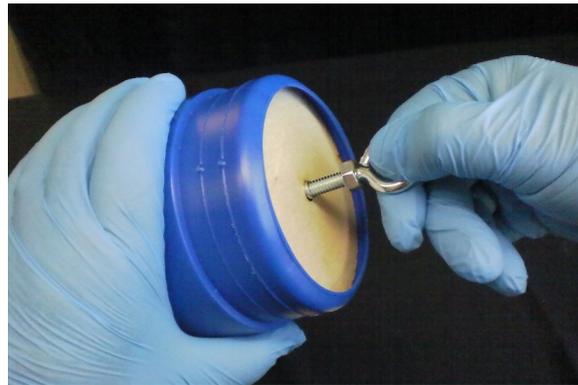
Step 2 - Hammer the t-nut into the forward bulkhead until flush.



Step 3 - Screw the screw eye into the opposite end and insert the bulkhead into the nose cone.



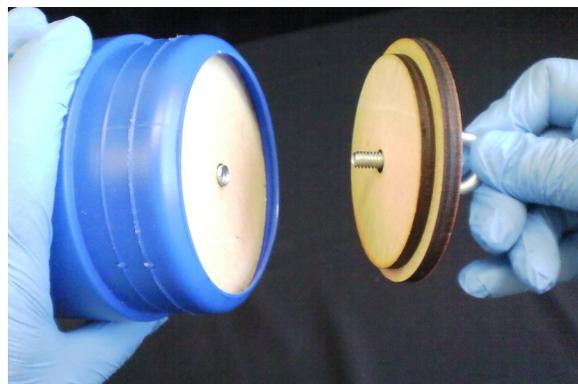
Step 4 - Pull the bulkhead to the rear inside lip of the nose cone and remove the screw eye.



Step 5 - Screw the screw eye all the way through the nut and insert through the flat washer.



Step 6 - Insert the screw eye assembly into the next largest and then the smaller bulk head last.



Nose Assembly Continued...

Step 7 - Screw in the screw eye and bulkhead assembly into the t-nut tightly.



Step 8 – The bulkhead assembly will secure itself onto the rear lip of the nose cone.

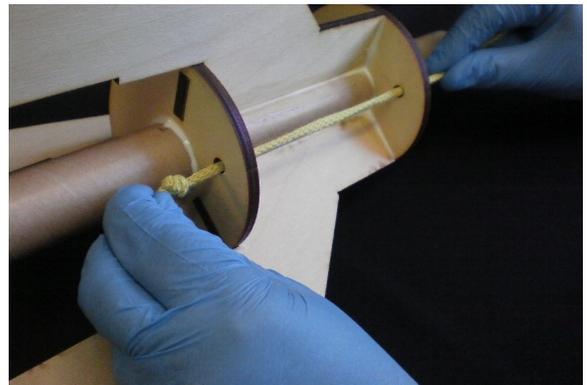


Main Tube Assembly

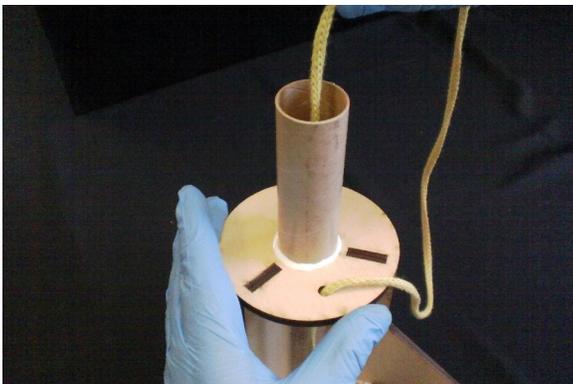
Step 1 - Tie a knot in one end of the kevlar shock cord.



Step 2 - Insert the shock cord through the bottom centering ring and then through the top centering ring.



Step 3 - Insert the other end of the shock cord through the top end of the motor tube.



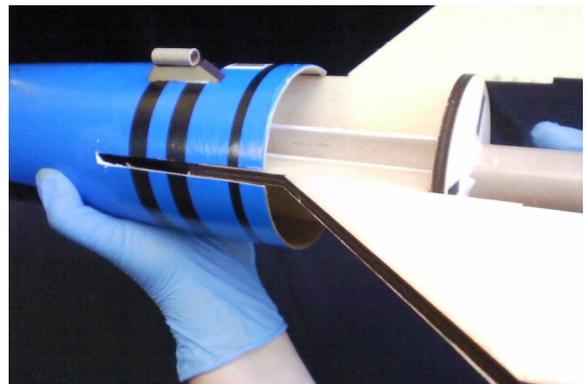
Step 4 - Pull the shock cord through the bottom of the motor tube.



Step 5 - Apply a tick bead of glue to the inside of the crayon tube just below the end of the fin slots.



Step 6 - Push the fin can assembly all the way into the crayon tube until the fins stop at the fin slots.



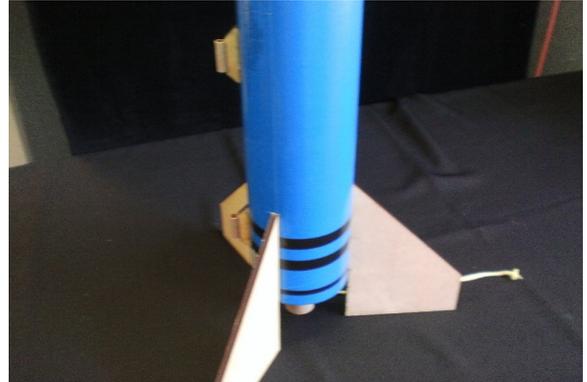
Main Tube Assembly Continued...

**Step 7 - Apply a glue fillet
between the inside of the
crayon tube and the bottom
centering ring.**

**Take care to not apply glue to
the shock cord hole and knot.**

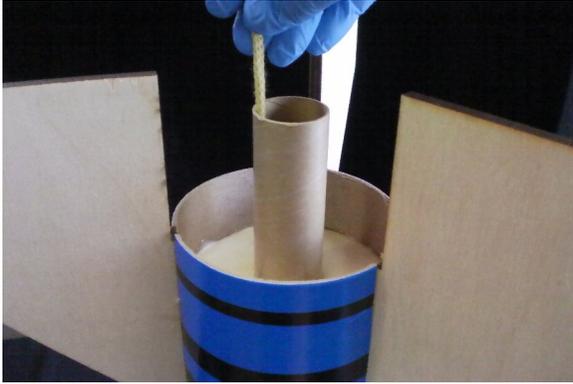


Step 8 – Set aside to dry.



Recovery and Final Assembly

Step 1 - Pass the shock cord back through the bottom of the motor tube and out of the top of the crayon tube.



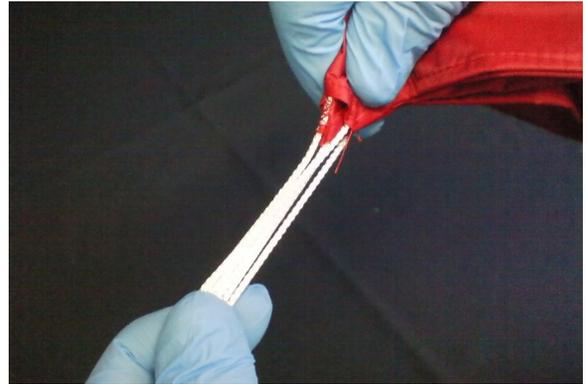
Step 2 - Align the ends of the Kevlar and elastic shock cords and tie a single overhand knot.



Step 3 - Pull and check that the knot is tight.



Step 4 - Align the ends of the parachute at the shroud lines.



Step 5 - Pull the parachute lines straight to the end and tie a single knot in the end of the parachute lines.

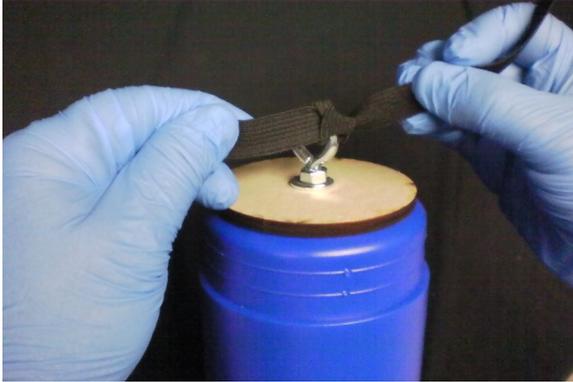


Step 6 - Pass the end of the elastic shock cord through the loop at the end of the parachute lines.



Recovery and Final Assembly Continued...

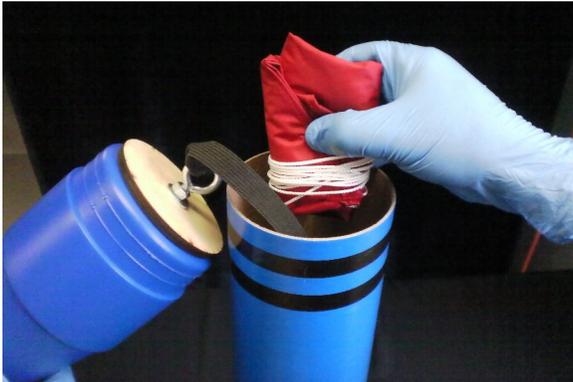
Step 7 - Tie the elastic shock cord to the screw eye on the nose cone with a double knot.



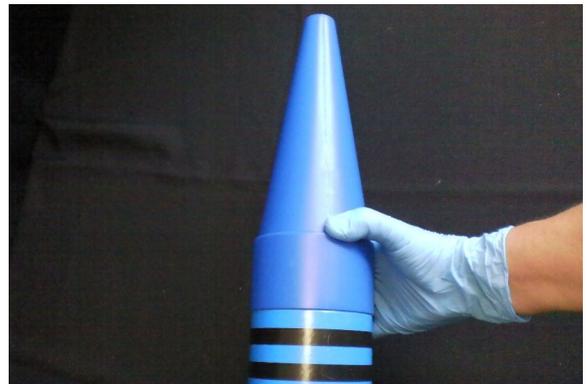
Step 8 - Fold the parachute and roll parachute around the parachute lines. Do not twist the lines while rolling.



Step 9 - Insert the parachute and shock cords in the top end of the crayon body tube.



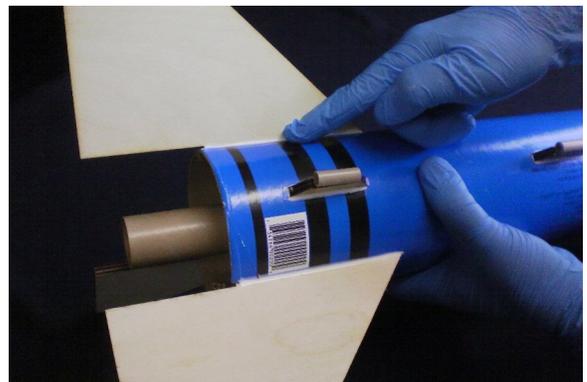
Step 10 - Insert the nose cone in the body tube. Sand the bead on the nose cone shoulder if it is too tight to eject during recovery.



Step 11 - Apply a bead of glue to the fins and launch lug assemblies where they intersect the crayon body tube.

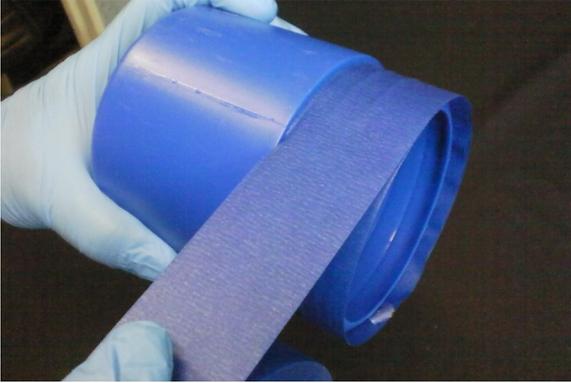


Step 12 - Smooth the glue into a fillet using a clean finger.

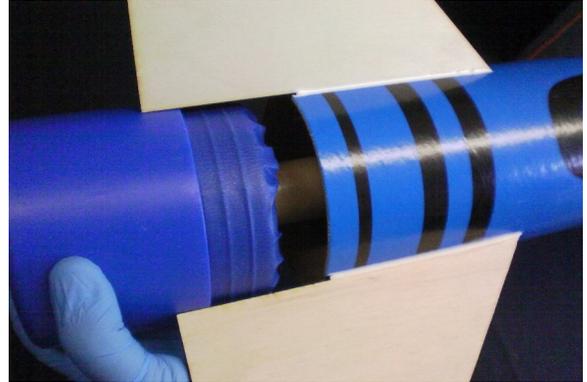


Recovery and Final Assembly Continued...

Step 13 - Wrap some layers of masking tape around the tail cone shoulder.



Step 14 - Press the tail cone into the bottom of the crayon tube.



Step 15 - Test that the fit is tight so that the tail cone does not separate during flight.



Your crayon rocket is complete!

CAUTION: INSERT RECOVERY WADDING INSIDE THE ROCKET BETWEEN THE PARACHUTE AND MOTOR TO PREVENT THE HEAT OF THE EJECTION CHARGE FROM DAMAGING YOUR PARACHUTE WHILE FLYING!!!