Assembly Instructions

Your XC-3 plane kit includes:

1 Ea. Fuselage
1 Ea. 4 3/4" X 16" Coroplast sheets
2 Ea. Green wire 18" inches long.
1 Ea. Control Surface Template sheet
1 Ea. Front tip/ Canard Holder
1 Ea. Tail Holder
1 Ea. Canard Adjuster
1 Ea. Wing Clip

Tools required:

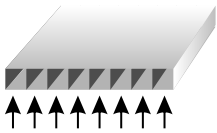
Pencil
Scissors or Xacto Knife
Ruler or Square

Additional Items purchased separately:

Super glue
Launch Pole (Purchased from Lowe's, Tractor Supply Company, etc.)
scissors xacto style knife or utility knife with hook blade

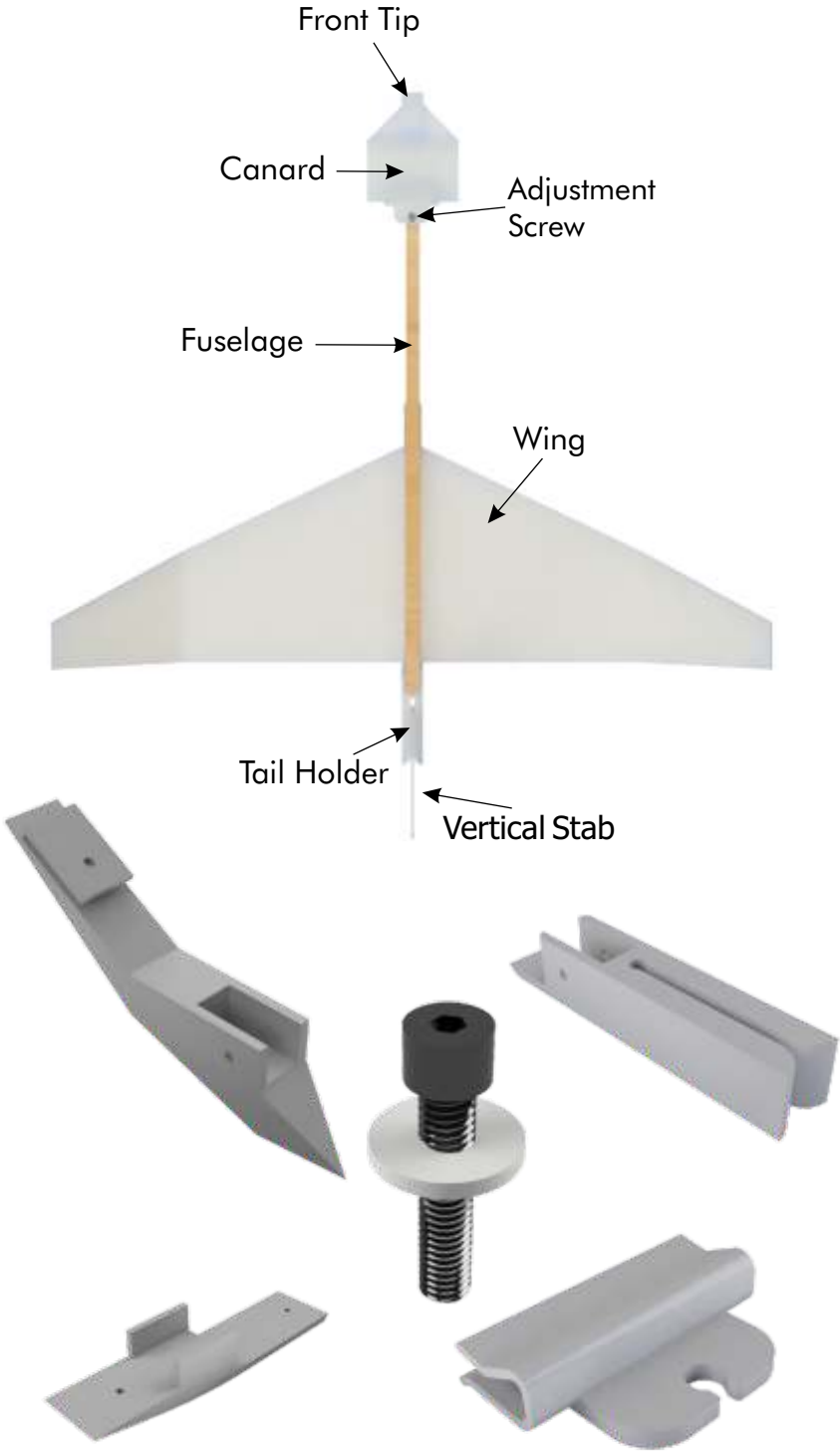
Additional Terms used in this manual.

- Fuselage - This means the body of the airplane. In this case it's the wood.
- Substrate - This is the term in manufacturing used for the material you make things from. We will be using it to make the wing, canard, and vertical stab.
- Canard - In aeronautics, a canard is a wing configuration in which a small forewing or foreplane.
- Vertical Stabilizer - Sometimes called a tail fin, Provides stability to the flight.

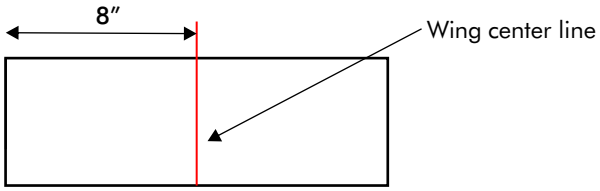


The flutes are the holes that run along the length of wing material.

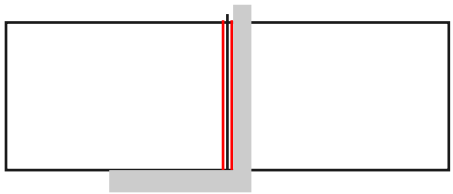
Each 4 3/4" x 16" Coroplast sheet will have enough material to make one complete set of control surfaces for the XC-3 glider. Control surfaces are the tail fin, canard and wing.


Front Tip
Canard
Adjustment Screw
Fuselage
Wing
Tail Holder
Vertical Stab

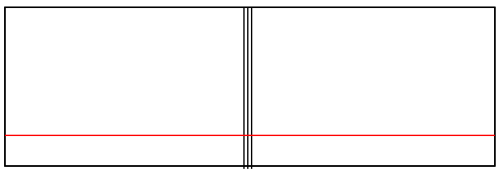
1. From the left hand side of the Coroplast sheet measure 8″ to mark the center of the sheet. Lightly draw a line down the center of the sheet.



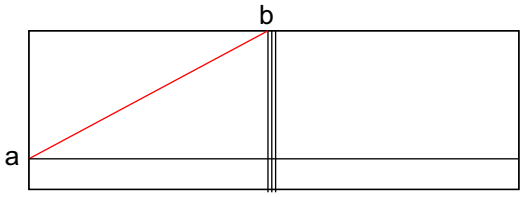
2. Using a square, draw lines .125″ on both sides of the original line.



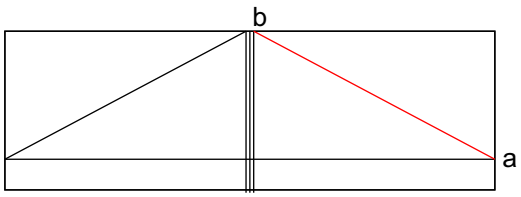
3. Using a straight edge, draw a line 1″ from the bottom of the substrate.



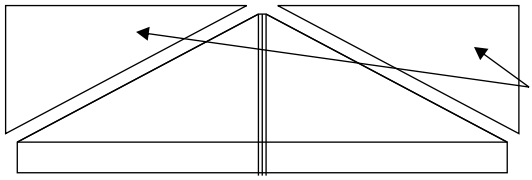
4. Using a straight edge, draw an angled line between point a and point b.



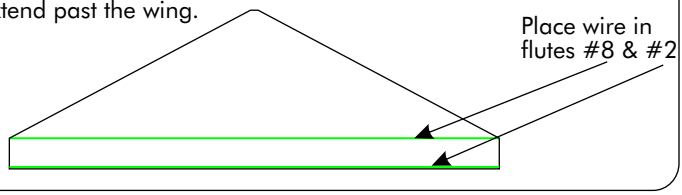
5. repeat on the other side



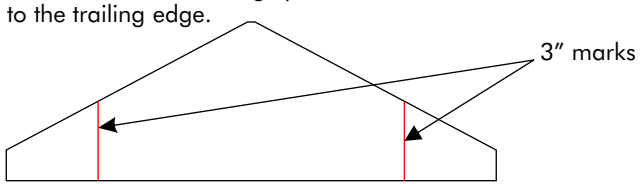
6. With a pair of scissors cut along the diagonal lines. Remove and save the smaller pieces for the vertical stab and canard.



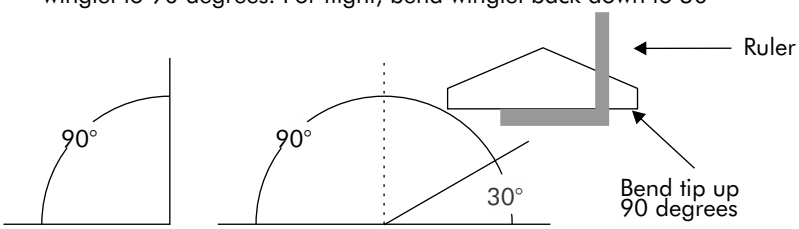
7. Insert two 18" pieces of wire in the wing flutes #2 and #8, counting from the trailing edge of the wing. Cut the wire to ensure the wire will not to extend past the wing.



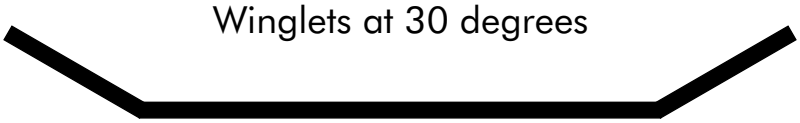
8. Measure in 3" from each wing tip and draw a line from the leading edge to the trailing edge.



9. Now it is time to bend the winglets. Lay the wing on a table and extend the wing tip past the table edge about 3". Lay a square or a ruler along the same pencil line from the above step. Pushing down on the ruler with one hand and bending the wing tip up with the other. Bend each winglet to 90 degrees. For flight, bend winglet back down to 30



Winglets at 30 degrees

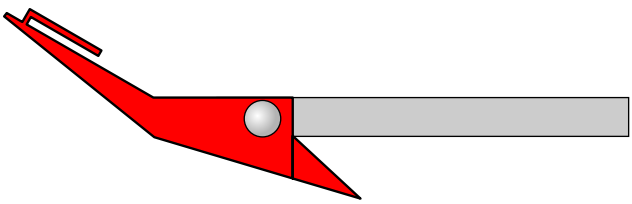


10. Attach the tail to the fuselage. There will be a slight gap to put the wing in. Put a thumbtack into the hole on the side.

11. Place the wing into the gap

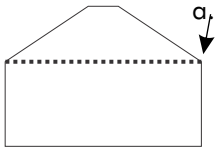
11. Attach Wing Support. Secure with thumbtacks. Add two more tacs to secure wing to fuselage.

12. Place front tip on fuselage and secure with thumbtacks

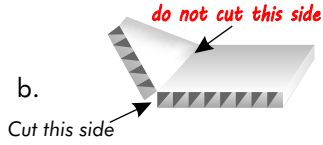


It should look like this now

12. From the Template cut out the canard. *Position both control surfaces so the flutes run left to right just like the wings.*

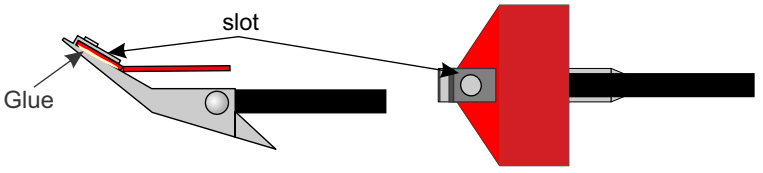


Now we need to make the hinge in the canard. If you look at the canard, find where the angle meets the vertical side. (a)What we are going to do is cut the material on one side of the canard at this point, leaving the other side as a hinge as in b.

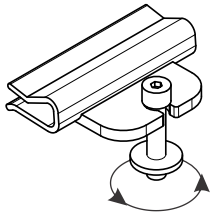


Cut only one side of Canard to make hinge

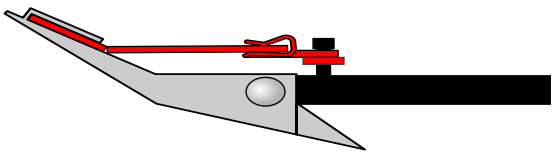
13. Insert the Canard into the slot on the front tip with the hinge cut facing down, lining it so it's centered. Put the adjustment Clip on the Canard. Screw the canard with the adjustment screw in the fuselage hole just above the base of the nose. Put a thumbtack in the slot and glue on the base to secure the canard.
Line up the Canard so the point is in about the center of the nose.



13. screw the washer onto the adjustment bolt. Note the location of the canard clip.



14. Put the canard clip onto the edge of the canard and screw the bolt into its hole in the fuselage



15. Use the template to cut out the vertical stabilizer. Set the fuselage on a table with the nose pointing up. Insert the tail fin in the slot provided at the end of the fuselage. Inspect the tail fin for a good fit. Remove the tail fin and place a small amount of super glue on each side of fin that is covered by the fuselage. Insert tail fin until it is flush with bottom of fuselage; let the glue dry.