

Assembly order for bi-planes (as well as many others). Fuselage and nose section; wings; tail section; landing gear; propeller. This keeps you from damaging the fragile stuff. If the plane has a separate cowl and radial or rotary engine, attach these last. Here is a good technique for building bi-plane wings:

Once the lower wing is glued to the fuselage, cut two soft foam blocks to the exact height that you want the top wing to be. Lay them on top of the bottom wing (one on each side of fuselage) and secure with a few wraps of string. Now lay the top wing to complete the "sandwich." Secure this with a few more wraps of string. Now you have a solid, stable unit with which to work. Cutting your outside wing struts to the exact-right length is now easy. Now glue these outside struts in place. You can use the CA for a quick bond. Once the glue has dried, cut away the string and carefully compress the foam blocks to remove them from between the wings. Now you can focus on the cabanes (the struts that connect the fuselage to the top wing). For them it's almost always best to start from scratch with flat toothpicks.

Bi-plane landing gear. The most tricky part of all (to me). Forming the small airfoil of the landing plane symmetrically is essential. If you don't, you'll spend a lot of time cutting the gear struts to custom lengths to compensate. One method:

Make axle plane. Pre-fit everything as accurately as possible. Cut out the axle openings and get the axle (toothpick) and wheels all figured out, but don't attach them yet. Take the plunge and glue the struts to the axle plane (without wheels), working your best to get the angles correct. Use CA here because of its quick dry time, or gooey Elmer's. Now make a little foam block to support the tail section at the correct attitude and place the gear assembly under the front at the locating marks. Sight the plane straight on as well as from the side and see if everything is lined-up right. Refer to the profile drawings of the plane. If the length of the gear struts (or maybe just one of them) needs trimming, remove the assembly and carefully make the adjustments with your hobby knife or a carefully-operated fingernail file. Be very careful while making these corrections, or you'll have to start the gear all over. Now use Elmer's glue (because it gives you repositioning time) on top of the gear strut-s and place them back under the plane. Once it's good and dry, congratulate yourself.

Use O-rings for tires. I tried Cheerios on the Aeronca, but a small colony of ants tried to carry the plane away. It takes some work, but here is how I do it:

First, out of an assorted pack of plumbing or automotive o-rings, find the size that matches the tire on the printed design. Cut out a cardboard disk for the wheel. It is difficult to trace a perfect circle of the right size without help. This will sound a bit rednecky but heck; I am an Arkansas redneck! Using my collection of brass shell-casings, I find one that the o-ring will just slip over. I then trace around that shell onto the cardboard for a perfect-fitting wheel for my o-ring tire. For you non-rednecks, find a friend who hunts and ask for some of the spent casings. Even going to the local gun shop might score you a few.

Finally, don't be afraid to fly your finished model around the house, making machine gun noises. Don't be afraid to do this for longer than you think you should. Cats make good strafing targets as long as you stay above the anti-aircraft claws. My cat is terrified at the sight of Ernst Udet's triplane bearing down on him. Yes, a good wife eventually gives up telling you it's silly.



Jason has done a real cute thing here. You see the Whitehead 1899 Flying Machine flying over and checking out the Wright Flyer as it prepared for it's historic first flight at Kitty Hawk.