

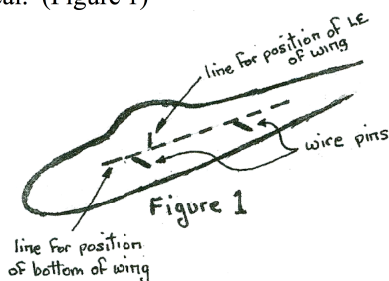
A Simple Jig for Attaching Wings to Jet Catapult Scale Planes

By Gary Morton

I like to build Jet Catapult Scale planes. Most of them have mid-wings or at least the wings are not attached at the top nor at the bottom of the fuselage. Usually I have to cut a hole the shape of the airfoil to insert the wing or if it is close to the top or bottom of the fuselage I can cut out a section of the fuselage and then after inserting the wing reshape the piece to fit back in place. Glueing on the wings either way has been my least favorite part of the building process.

Since I use jigs whenever possible I thought one could be designed to make glueing on the wing enjoyable. I ended up with a jig that is simple and easy to use. It consists of a plywood base that is 8" x 12" x 1.5" with a 3/32" slot cut 2 inches from and parallel to the 8" side. The slot needs to be only wide enough to fit your fuselage and deep enough to hold the fuselage at a level where the bottom of the wings will be at the surface of the base. There also should be enough wood left after cutting the slot to hold the base on either side of the slot together. To get the correct thickness for the base pieces of plywood or other wood can be glued together. I make mostly 12" wingspan jets and a jig that is 1.5" thick meets most of my needs. Larger models will need a thicker base. Once the jig is made the steps of using it are as follows.

1. On one side of the fuselage draw a line where the bottom of the wing should go. Make the line about 0.5" longer on each side. Also mark the position of the LE of the wing. At either end of the line drill a very small hole and insert a 1" piece of music wire half-way through the fuselage. I use 0.025 wire. The hole needs to be the same size so that the wire does not move up or down. Any small size wire will work and the length is not critical. (Figure 1)



2. Insert the fuselage into the slot on the jig, making sure that when it rests on the wire pins it is perpendicular to the surface and flush against the slot on the side the wing will be attached. The line for the bottom of the wing should be at and parallel to the surface of the jig. (Figure 2)

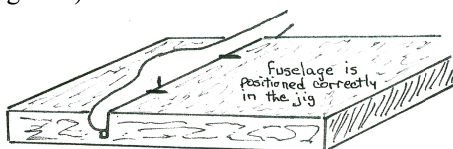


Figure 2

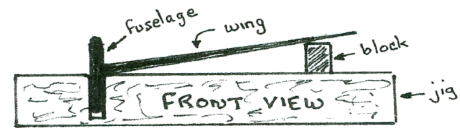


Figure 3

3. Using a block to raise the wing to the proper angle, push the wing against the fuselage and carefully use a very small amount of thin CA to tack the wing in the correct position. (Figure 3) Remove the fuselage and attach the wing firmly with CA.
4. Reverse the fuselage and repeat the process for the other wing. The location of the LE can be found by looking down on the fuselage. A better way would be to draw a line across and perpendicular to the slot. The attached wing can then be lined up on the line and the line on the other side will make positioning the LE of the other wing easy.

The critical parts of this process are the following: 1. the fuselage is perpendicular to the surface of the jig, 2. the fuselage is flush against the side of the slot where the wing is being attached and 3. you do not glue the jet to the jig when tacking the wings to the fuselage. By modifying the width and depth of the slot and the length of the base this jig should be useable with almost any model. The exception is for the jets where the wings are attached very close to the bottom of the fuselage.