ZODIAC CH 601XL WING INSTALL Nov., 2008

While it probably can be done by a single person, It is **much** easier with two.

Before you start, have on hand a set of steel drift pins, both tapered and straight. I got a fairly inexpensive set from Sears.

Support the wing in a manner that it can be moved in and out and up and down; and the dihedral angle adjusted as needed. See attached drawing and photos.

I used a shop crane with a suspended wood spreader beam and a nylon strap to support the root of the wing. One end of the nylon strap is fastened with wing nuts so it can be removed more easily. Out near the tip, I had a furniture dolly with a sawhorse on top. The top of the sawhorse was padded with foam blocks to prevent damage to the wing. Moving this rig inward or outward will adjust the dihedral angle easily.

Insert the Wing spar stub into the spar center section. As you move it inward, check to assure that the rear attach plate 6B5-4 is forward of the rear spar and roughly centered on the spar. Move the wing in as far as it will go. You will not be able to completely seat it because there is some trimming to do on the bottom skin.

Get under the wing and mark a line for trimming. There may be a need to fine tune to edge to the fuselage, but there will definitely be a notch for the gear attach plate and bolts, with clearance for the brake line. Make sure you have cut the notch at the rear edge to get access to the rear spar attach bolt for tightening. You may also need to fine tune the cut line on the top skin. I trimmed the skins far enough away from the fuselage to be able to get the rubber fairing in place later.

Remove the wing and trim to your fine tune lines. This may require a couple of iterations to get it right.

Insert the wing spar stub into the spar center section and push the wing home, taking care to properly locate the rear spar attach plate. This may require wiggling the wing tip up and down and front to back to get it to go. More wiggling will be necessary to locate the bolt holes. Be aware that whom ever is in the cockpit using the alignment pins and inserting the bolts must be very limber and does not minding standing on their head to get the holes lined up.

Use the drift pins to align the bolt holes in at least three holes, preferably the most inboard and the most outboard ones. Use the tapered ones first, then 5/16" straight ones. You may need to slightly bevel the end of the drift pin for easier insertion. Again, this will probably require wiggling the wing tip.

Once at least three of the 5/16" straight drift pins are in place, begin placing bolts (AN5) into the empty holes. Remember, there are two different lengths of bolts. Make sure and get the proper length bolts for the location. Because the bolts will be torqued, I found that some of them had to be inserted from the front and some from the back. If you plan to torque the head of the bolt instead of the nut, remember to have a washer under the head of the bolt.

Once the empty holes have bolts in them, remove the drift pins, one at a time and insert bolts. When all of the bolts are in place, the support rig can be removed.

Now it is time to set the wing angle of incidence. The drawing at the upper right corner of 6-S-3 shows how to do this. When the angle has been set, the hole for the rear spar attach bolt can be drilled, the bolt inserted and the nut torqued. You will want to put the bolt in from the front of the spar so that it only requires holding the bolt head with a wrench while torqing the nut.

Once the wing is installed, the rubber fairing can be trimmed to size and inserted.

It is great to see the airplane with wings! Have Fun!