

EQUILIBRIUM frame construction NO PLANS NEEDED

Simplicity of construction makes EQUILIBRIUM a joy to build and experiment on. These are speed techniques that will make the work finish early. One of the aids is the use of two aluminum yard sticks,

Start with the FUSELAGE, on a flat table, lay a two by four feet sheet of acoustic board covered with the usual waxed paper. Secure one straight edge with pins and one 28 ½ inch longeron. This is followed by the "spacers" on both ends and the other 28 ½ inch longeron pressed firmly by the second straight edge and pins. The diagonals are laid into the frame firmly pressed end to end, one diagonal after the other. It makes life easier if you can dab the thin cyanoacrylate (cya) glue for every 4 pieces to firm up the pieces in place. By the time you have dabbed cya on the last diagonal the first side is a few minutes from done. A 5" or so of .025 mw will detach the completed frame from the papered acoustic board. You now have one completed fuselage side. Lift it off.

Repeat the procedure for the opposite side making sure that the diagonals are in the same position as the first side. To line up the diagonals properly for the second side the first completed side is laid alongside (or simply marked w/ pen).

When the two sides are complete they are propped on one edge facing each other and continue the same way as making the first side. There is now less finger space to lay down the pieces so a twisser will help a lot in putting the diagonals in place. Check the alignment often and be always aware that the frame is square and keep it from getting skewed. Lift the 3 connected sides and then do the fourth bottom side.

The WING and STABILIZER are done in a similar way like the fuselage. But first the trailing edge is marked with a pen to show where the position of the ribs are located. This is followed by copying these markings to the trailing edge. Here again the LE and TE are pinned down on the waxed board between the two straight edges. The ribs are filled in first and glued. Note that both tip ribs are slanted for the vertical winglets later. After the cya has dried the spars are glued in. The next part of the wing construction is the filling in of the gussets and webbing of the front spars. Then the wing is cut at the dihedral break and sand mitered and then glued. The outer wing panels are raised 1 ½ inches for the dihedrals. Check for the final positions of the two wing posts on the wing. The front one is beefed up with 3/16 square from bottom to top (rib height) by the RHS of the center rib. The rear one is positioned on the RHS gusset also by the center rib. These are both pre-drilled for the 1/16 Al tubing posts later. (The DT line and a No.8 rubber band unhooks from these posts to detach wing wholly for storage).