I was fascinated by this curious model, and asked him if I could borrow the plan. At his suggestion, the span was increased by 3" and the wing fixing changed from dowels, to tongue and box as the wooden dowels readily broke. I had the model part-built when my father's job took the family to Bristol where the Chad was finished and flew well for several years. I have no recollection of it's ending. A couple of years ago, I tried to get in touch with Roger via Tom Chambers but sadly Roger had died a few years previously.
Chad Mk 2 is virtually the same as my original with only detail changes. If you wish to make improvements, go ahead. Let us know how you get on, but you will find that built as shown, a stable model results which can be taken from the box and flown every time with no adjustments after initial trimming.

Fuselage

Build from medium grade wood and the bends in the longerons should not need soaking. If your wood is a little hard slice into 3 laminations at the more acute bends and force balsa cement between the layers before bending. To join the sides, pin them down upright by the straight portion of the lower longeron with the front 1/4" overhanging the edge of the board. The front former, and the first spacers can then be glued in. Remove from the board, and the other spacers and top & bottom formers can be fitted.

If the sides are reluctant to bend in and meet at the tail, crack the longerons where shown. I like to avoid this if possible. Fit the wing box, and then the top & bottom stringers. I found the best way to do this was to glue them all in place at each end only, then adjust their positions on each former until they looked equally spaced. Fix with a drop of cyano.

Wing

I still had a pair of ply templates from my original! These were laminating badly in places, but a few drops of cyano soon had them together again, and it took only five minutes with a scalpel to remove one from my left thumb. Medium grade wood is used again, the wing spar is shown as 1/4 x 3/8", but on trying to buy it, I was told it is no longer available. No use protesting that I bought some in 1952 or '3. You can strip some out of 1/4" sheet or make from two pieces of 1/8 x 3/8". Note that the T.E. has to be raised up from the plan on triangular wedges, check the alignment with a rib at each end of the panel.

Make sure that the angle of the T.E. is the same on all four panels. The tips were formed round a template cut from thick corrugated cardboard. I find balsa cement still the best glue for this, as it sands down more easily than other glues. Make four separate panels tilting the dihedral break ribs on each inwards to the angle shown. The tips can be butt-joined, and should end up at the correct dihedral. No ply braces were used in my model.

Cut the two tongues from 1/8" ply and add the ply spacer to one. Weigh the two wings down on a flat board, clamp the tongues together to ensure equal incidence and glue them into the wing roots using EVA or epoxy glue. Fit the root sheeting, carve and sand the L.E. to shape, and you are ready for the real fun bit – covering.

Covering

We have in effect a wing with undercamber on both sides – great fun! John Pool suggested the following method which works quite well. Give all parts of the wing which will touch the covering a coat of good thick clear dope, and allow to dry. Rub off the fuzz with worn sandpaper. If your tissue has creases, iron with a cool iron, between sheets of newspaper if necessary, and lay over the wing. Attach with very thin dope, 75% thinners is about right. Work out from the middle of the wing, smoothing wrinkles as you go. The low aspect ratio does not help in this. If large wrinkles appear lift the tissue off using thinners if necessary and try again. My wing was covered in lightweight Modelspan which is quite forgiving. Make sure that there is a good bond to the undercambered portions of the ribs. Steam or water shrink, and you should have a nice smooth wing. Give two coats of 50/50 dope. The fuselage was covered with some heavy Modelspan, but any other similar material will do.

Trimming

Not much to adjust is there? Add weight at either end until the CG is in the position shown. My model came out slightly nose heavy with a PAW 100 diesel. The glide is quite fast, so do not be too gentle in test gliding. Try to find some longish grass as you will find the U/C makes an excellent noseover device. Most landings are an end-over-end tumble. I fitted an U/C to my model for old times sake and it does look nice, but it could be replaced with a skid just to protect the “chin” nose block.

With correct CG and no warps, the glide should be fine, so try a short power flight, with no offsets. A steady climbing left turn should result which is quite safe. If power stalling occurs, increase the down thrust a little. The glide should go into a natural turn which may be in either direction. If necessary cut a trim tab into the TE of the fin, but adjust with care as it can be more sensitive than you think. So far, both of my Chads have not needed any rudder offset, and have flown virtually straight from the board. If your’s will not turn try left side thrust/right rudder to give left climb. Right

The PAW 100 provides more than enough power and a Mills .75 would also be ideal. If Chad Mk2 is built lightly a .5 Dart could also be used.

A proposed improvement

I have not yet tried this, but other plank fliers have found that if the first 2 or 3 root ribs have their rear half reversed to make a more “normal” looking section, the looping tendency under power is greatly reduced with little effect on the glide. I think the span could be further increased by 4" or so, it may be worth trying a plug-in section at each root with reversed section. Should anyone try this I would like to hear about it.

Happy flying, and if you are unfortunate enough to lose it then it will be – “Wot, no Chad?”