

SANDING FLAT

Don't just reach for the glass-paper - use this simple guide to ensure more accurate sanding

Sanding a surface to make it flat should be a simple process, but it's sometimes difficult to know when it's finished. Wing roots are notoriously problematical, where balsa ribs are often bowed to begin with, and it's quite hard to see whether a foam root is completely flat or not. Too often have I glued two wing panels together only to find, too late, that there is a gap along the top or at the trailing edge. Good mating surfaces are essential to maximize the strength of the glue joint, especially at the wing root, so it is worth taking a little time to get them dead flat.

To facilitate the process, I use a fine-point felt-tip pen to draw straight lines across the surface spaced about 3/8" - 1/2" apart, in a colour which contrasts well with the root material (Fig.1).

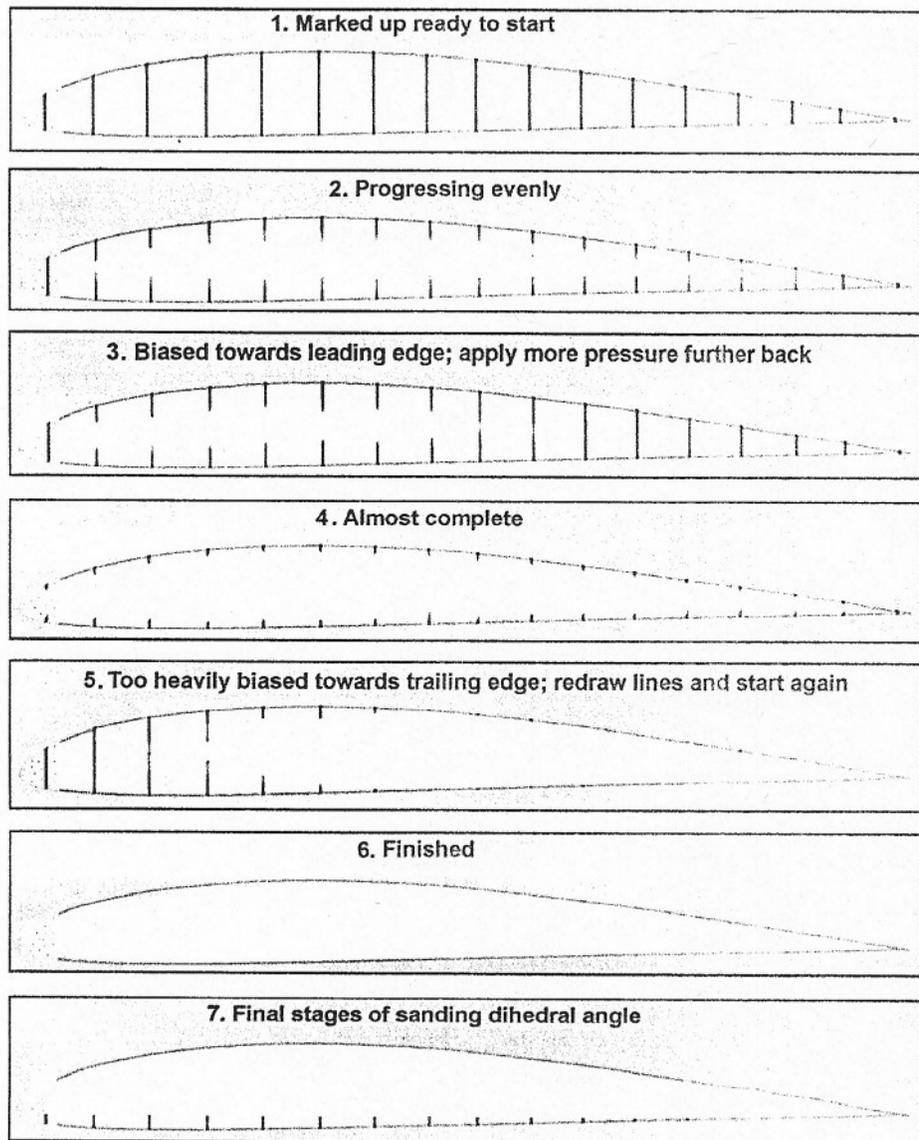
As the sanding progresses, these lines are gradually abraded away, leaving remnants in the as yet unsanded areas (Fig.2).

The residual lines show whether I need to bias my sanding towards one edge or one end (Fig.3), and when all are completely gone - hopefully all together - I know the surface is as flat as I am likely to get it (Fig.4).

When the remaining lines are not equally distributed around the surface, particularly if they are all towards one end or edge (Fig.5), it is sometimes a good idea to redraw the parts that have been sanded off.

This helps to avoid sanding only the area on which the lines remain, and so finishing up with a surface that might consist of several flats rather than just one. It is likely to happen when a change to the angle of the surface in plan view is needed, when of course it is necessary to remove more material from one end. If this can be cut or sawn off first, it will reduce the sanding needed, and minimize the number of times the lines need to be redrawn. Alternatively, if the flattened part is now at the correct angle, then it is a good guide for the sanding block during the remainder of the task, and when the last line has disappeared (Fig.6), the surface should be both flat and correct in plan.

A similar situation arises when the dihedral angle is being sanded in; then the lines will disappear from the top first (Fig.7), but this is not a case for redrawing them.



What should happen is that the remaining lines will eventually be only at the very bottom edge, and when the last of these has gone, the job is done.

It can be worthwhile at this stage to redraw the lines and go over them briefly with the sanding block just to check that

now they all abrade equally, thus confirming the flatness of the surface.

Surfaces that are very rough to begin with should be sanded almost smooth before the lines are drawn. Re-draw any lines affected as the remaining high points are removed.