Perfect Dovetails – Jig Method: Workshop reference sheet

This reference sheet assumes that you have already made a jig and that you have registered on the "Perfect Dovetails" website and saved your jig details.
This is an abbreviated guide – for more details see the Jig "How To" on the website.

A note on units:

You can use whatever units you like so long as you are consistent. However, the design tool is set up to use decimals, not fractions, so metric units work best - mm unless you are making giant furniture (with a giant bandsaw).

Preparation

1. Always use a good quality and sharp bandsaw blade - 4tpi for thick boards or 6tpi for thin ones.
2. To check the kerf, the best way is to cut a piece of timber with parallel sides. Measure the width accurately, then make 4 (or more) lengthways cuts. Put the pieces back together, clamp well and re-measure the width. Divide the difference by 4 (or whatever) to get the kerf.
3. Make sure that the edges of the boards to be joined are square and straight. Measure the width and thickness accurately. Allow sufficient length for trimming after joining (say 0.5mm each end) – the "trim tolerance".
4. In this guide "Edge A" will always refer to the reference edge that is placed against the fence.
5. Label your boards clearly – "Pins" or "Tails" as appropriate – and "Edge A" or "Edge B" against the edges, to match up around the joint(s). Put the labels on the outside face of the pins board(s) and on the inside face of the tail(s) board. Label the ends of the boards as well, if more than one joint design is being used (e.g. drawers may have a different joint at the front from the back).
6. Mark the shoulders of the joints (including the trim allowance). Take particular care to mark accurately the ends which will have tails.

Design the joint and make the pegboard

1. Decide on the dovetail angle (8 degrees [1:7] is a good all-purpose angle) and the rough layout of the joint.
2. Enter the joint details and jig details into the web-based design tool / calculator. If you want different sized tails, then use the "tail tweak" feature after the initial layout is done.
3. Review the joint diagram and make sure it looks correct. Make any adjustments and/or tail tweaks you require. If you are logged in, then all the details will be saved when you click the submit button. Also the last saved details will auto-load into the calculator the next time you visit the site and log in. (The jig details are also separately modifiable). Otherwise, no details will be saved if you are not logged in and if you navigate away from the page, you will lose them.
4. Review the large-scale version of the pegboard (to see it, click the button on the pegboard design) and follow the instructions to print it at full scale, or (much better) download the .dxf file into a CAD application. Print the template and paste it to a suitable board (e.g. 18mm ply). Alternatively, draw the pegboard at full scale from the dimensions given in the design tool (best to do it on paper first, then paste it onto the board).
5. Cut out and accurately drill the pegboard.

Cut the joint(s)

The following description assumes that you are making two joints at either end of a pins board (e.g. the back of a drawer). If you are only making one joint, then you only need the first part. If you are only making one joint, but it is the mirror image of the one shown in the design tool, then follow the second part. If you are making multiple identical joints, then do each step for each board before moving on.

Part 1, Fence Left:

This cuts the joint exactly as shown in the design tool.

1. *Anti-clockwise pins*:
    a. Put the moveable fence on the left hand side of the blade.
    b. With the pegboard face up and "anti-clockwise" edge forward, place it on the pivot, locate your pegs (nails or whatever) in the leftmost pair of registration holes and clamp the fence square to the back edge of the jig.
    c. Tilt the table anti-clockwise at the required dovetail angle (it must be what you entered in the design tool). Place your pins board with edge A against the fence and tight to the stop block.
    d. Cut carefully down to the shoulder line and position your fence stop, if you are using one.
    e. Slide the blade out, adjust the fence to the next pair of holes and clamp - see figure 1.
    f. Repeat the above until all of one side of the pins have been cut.
2. *Anti-clockwise tails*:
    a. Remove the pins board and level the table.
    b. Now rotate the pegboard about the pivot point in the anticlockwise direction by the required angle and clamp in place, leaving the fence on the rightmost set of registration holes.
    c. (Note: If you are using a fence stop similar to the one illustrated in the "How To", then leave it in position each time you change the fence setting as it is designed to be consistent).
    d. Place the tails board with edge A against the fence and tight against the stop block.
    e. Cut the tail down to the shoulder line – with any luck the fence stop (if used) should be correct, but go carefully as it may need adjustment.
    f. Slide away from the blade (move the jig, not the board) and locate the fence in the next pair of holes.
    g. Repeat until all of one side of the tails have been cut – see figure 2.
3. *Clockwise tails*:
    a. Remove the pegboard from the pivot and rotate it by 180 degrees so that the "clockwise" edge is now forward.
    b. Place it on the pivot and locate your pegs in the leftmost pair of registration holes and clamp the fence so that it is rotated clockwise by your required angle.
    c. Cut the other side of the tails as for (2) above. See figure 3.
4. *Clockwise pins*:
    a. Remove the tails board and tilt the table clockwise by the required angle.
    b. Now square the pegboard about the pivot point by squaring the fence against the back edge of the jig and clamp in place, leaving the fence on the rightmost set of registration holes.
    c. Put in the pins board (edge A to the fence as usual).
    d. Cut the pins as for (1) above. See figure 4.

Part 2, Fence Right

This cuts the mirror image joint to the one illustrated in the design tool and which was cut in part 1. NB, Edge A must continue to be against the fence throughout.

1. *Clockwise pins*:
    a. Leave the table tilted clockwise.
    b. Remove the pegboard and turn it upside down. Make sure the edges are labelled correctly (the edge labelled anti-clockwise on the face side will be labelled clockwise underneath etc.).

c. Place the pegboard on the pivot with the “clockwise” edge forward.
d. Secure the fence in the rightmost holes, square to the jig back edge.
e. Cut the pins as described in Part 1. See Figure 5.

2. *Clockwise tails*:
    a. Remove the pins board and level the table.
    b. Now rotate the pegboard about the pivot point in the clockwise direction by the required angle and clamp in place, leaving the fence on the leftmost set of registration holes.
    c. Put in your second tails board (edge A to the fence).
    d. Cut the tails as described in Part 1. See Figure 6.
3. *Anti-clockwise tails*:
    a. Remove the pegboard from the pivot and rotate it by 180 degrees so that the “anti-clockwise” edge is now forward.
    b. Place it on the pivot and locate your pegs in the rightmost pair of registration holes and clamp the fence so that it is rotated anti-clockwise by your required angle.
    c. Cut the tails as described in Part 1. See figure 7.
4. *Anti-clockwise pins*:
    a. Remove the tails board and tilt the table anti-clockwise by the required angle.
    b. Now square the pegboard about the pivot point by squaring the fence against the back edge of the jig and clamp in place, leaving the fence on the leftmost set of registration holes.
    c. Cut the pins as described in Part 1. See figure 8.

Now if you have another joint to do (say the front set of a drawer, if you just did the back), then leave the table tilted anticlockwise and start again at Part 1, step 1 with your new pegboard.

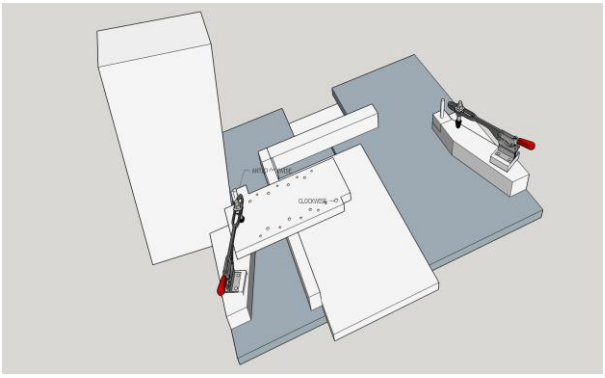

Figure 1: LHS Anti-clockwise Pins

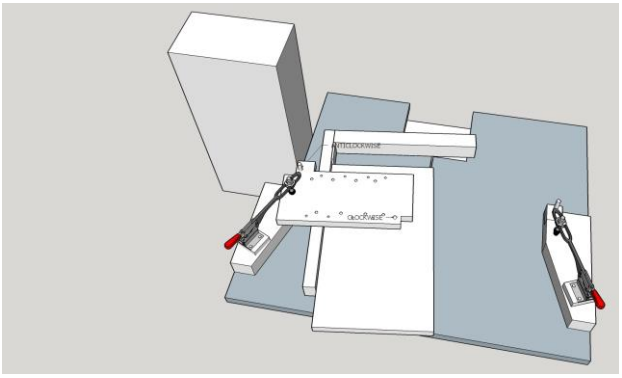

Figure 2: LHS Anti-clockwise Tails

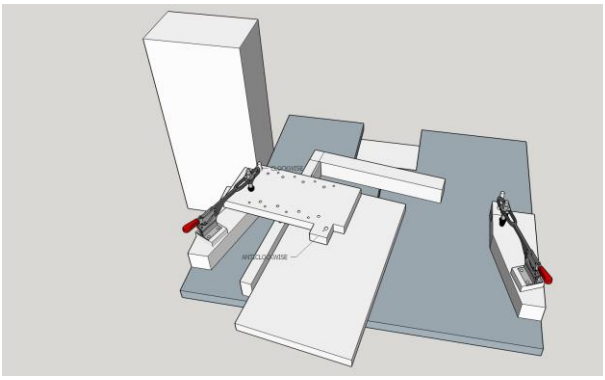

Figure 3: LHS Clockwise Tails

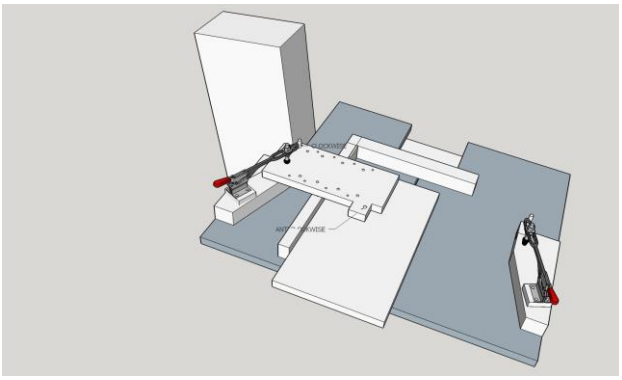

Figure 4: LHS Clockwise Pins

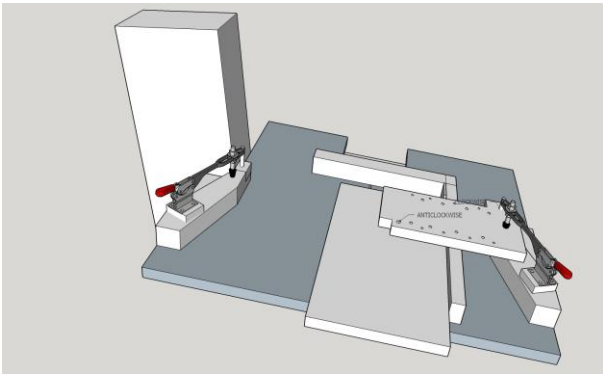

Figure 5: RHS Clockwise Pins

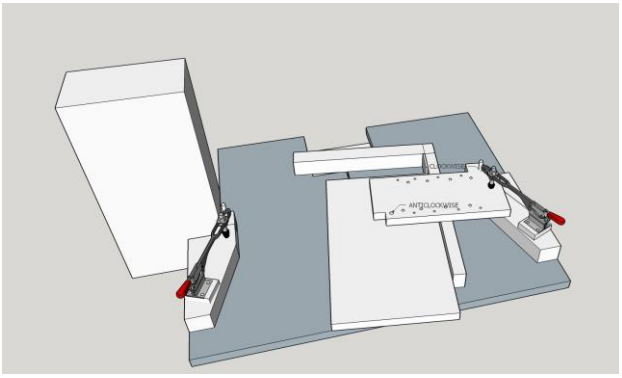

Figure 6: RHS Clockwise Tails

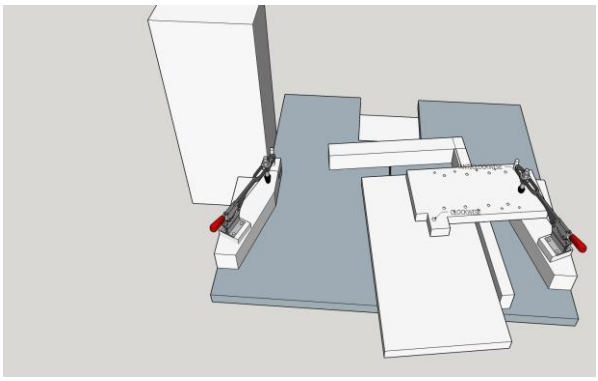

Figure 7: RHS Anti-clockwise Tails

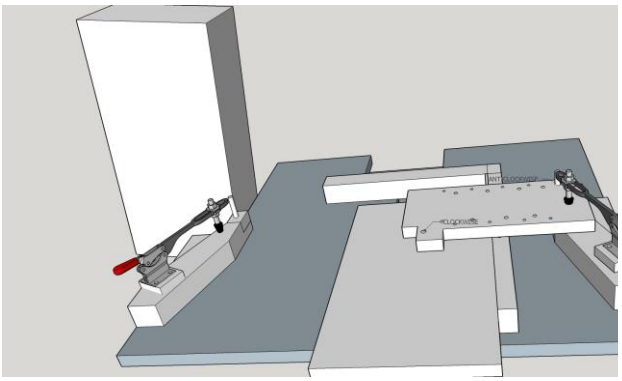

Figure 8: RHS Anti-clockwise Pins