

Variable joint spacers (VJS)



COL HOSIE WOODTURNER PTY LTD

GIFKINS DOVETAIL

Instructions for the variable joint spacer (VJS)

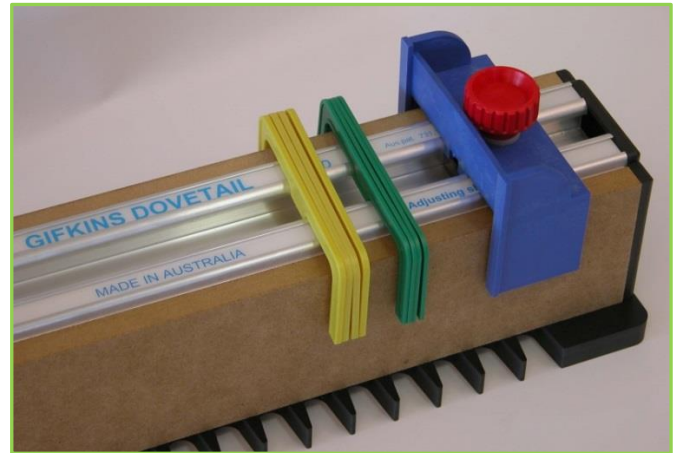
Gifkins Dovetail has a system that makes it possible to cut variable sized dovetails on a fixed template!

With variable joint spacers, you adjust the layout of joints to fit the width of your stock.

It is easy to achieve a symmetrical layout of any width stock, and still have a half pin top and bottom.

The VJS pack contains 4 x 2.0mm green spacers and 4 x 3.0mm yellow spacers, which you use on the top of the jig in any combination.

A symmetrical layout of the joint works best when the width of the stock is a whole multiple of the pin spacing, or a few mm more.



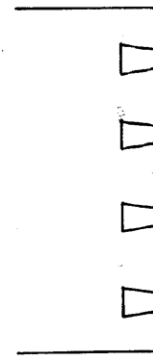
Multiples of the pin spacing for the different templates are:

H10	A10	B10
18	20.5	38
36	41	76
54	62	114
72	82	152
90	103	190
etc.		

Half pin top & bottom



Full pins only

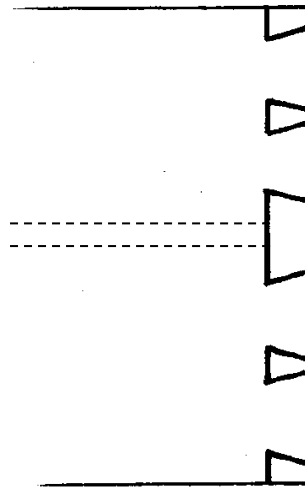
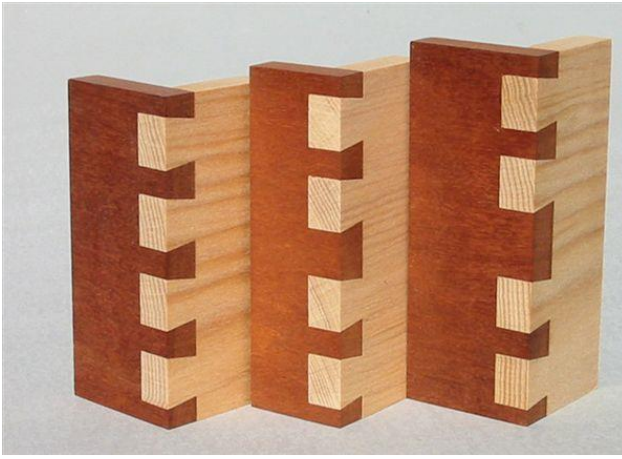


These widths do not have to be exact. If the joint has a half pin top and bottom, make the width a few mm more than given above. If it is any less—the half pins would be too narrow. If the joint has full pins only—the width can be a bit more or a bit less than given above.

A box with a simple expanded centre pin

Let's make a dovetail box with 90mm sides using the A10 template. It will have a half pin top and bottom, with an expanded centre pin. From the table above we see that 82mm works well with this template. If we increase the width of the centre pin by 8mm, then the 90mm stock would work well on the A10 template.

To do this—use an 8.0mm spacer when cutting some of the joint. The spacer could be a few mm LESS than 8.0mm, but should not be any more, or the half pins would be too narrow. The finished joint would look like this:

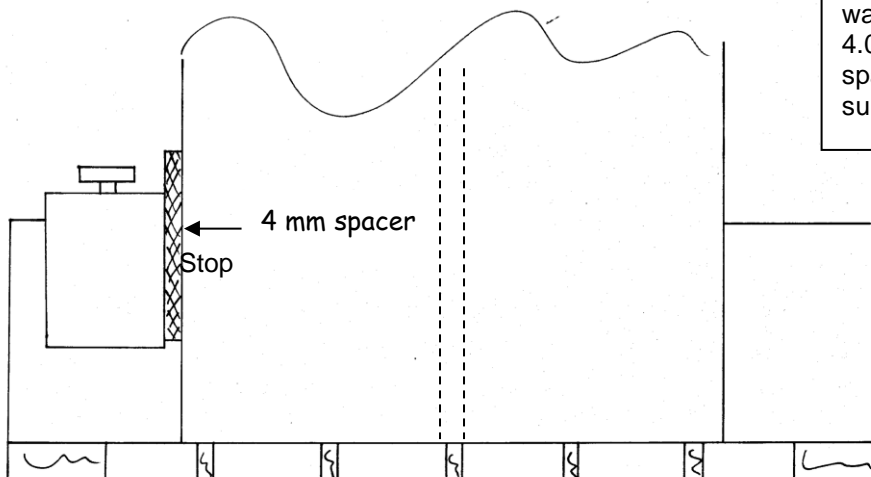
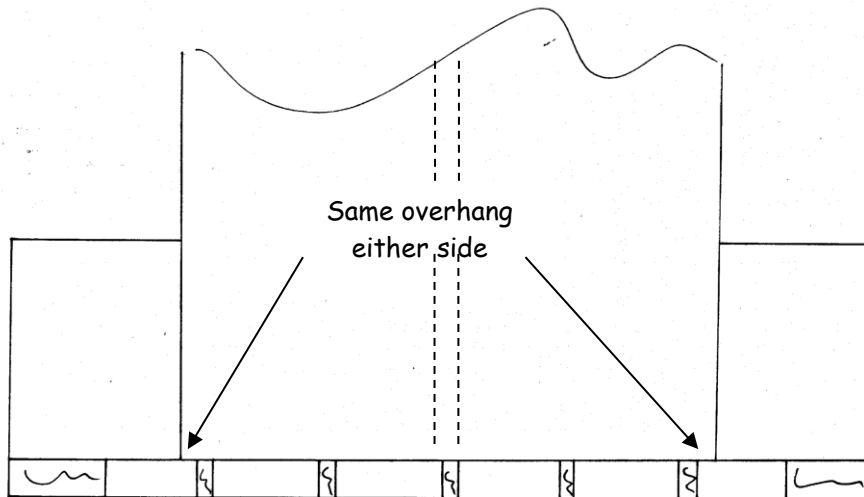


It is very important that you mark a line on the outside face of all four sides to show where you are going to add the extra width.

← Centre pin 8.0mm wider than regular pins

The following is a detailed description on how to increase the width of a joint, using 90mm stock with 8.0mm of spacers on the A10 template. This situation assumes that all four pieces of stock are the same width, so that we can turn the stock end-for-end without moving the stop.

To begin, stand the stock on the jig above the tapered fingers and locate sideways so that the stock is symmetrical across the fingers:

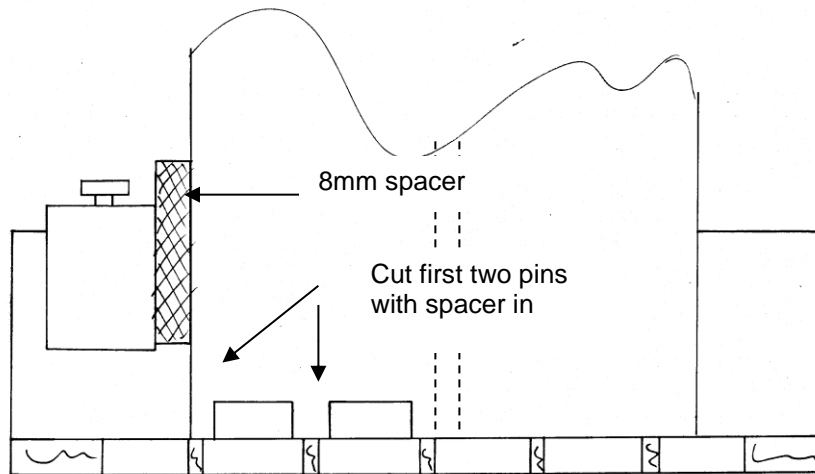


If the thickness of our chosen spacer was 9.0mm, the 4.0mm or 5.0mm spacer would be suitable for this step.

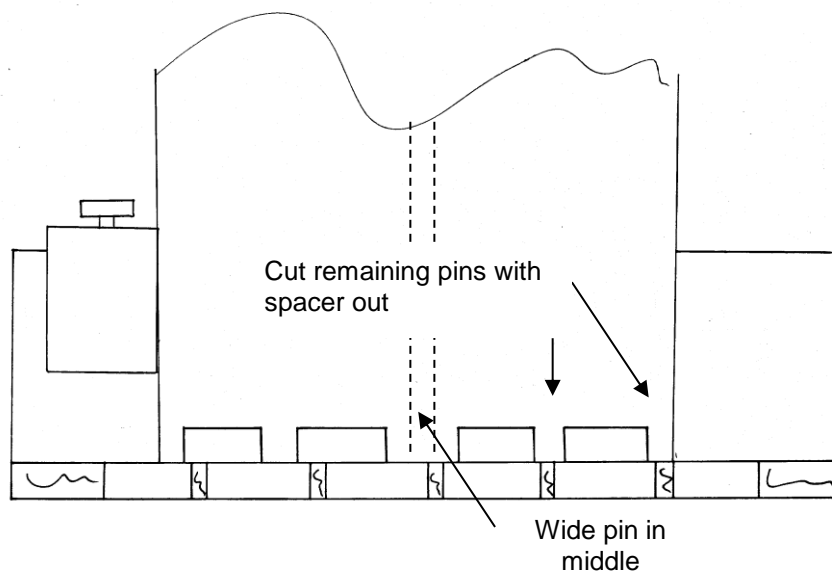
The stop is now accurately positioned and should not be moved until all four joints are finished. It is now necessary to move the work piece sideways and insert the 8.0mm spacer between the stop and the work piece, instead of the 4.0mm spacer. Now bring the second stop up to the other side of the stock and lock it into place.

IMPORTANT—move the stock—not the stop!

Now clamp the work in place and cut the first two pins as shown:



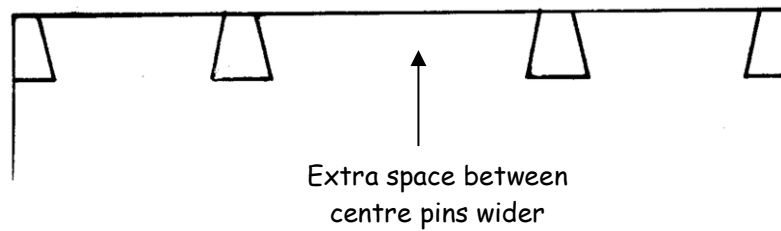
Before cutting the rest of the pins, remove the spacer from the first stop and position it on the other side, between the stock and the second stop. This will leave a wide pin in the middle:



Now change cutters and work on the other side of the jig to cut the dovetail slots. Once again, put the 8.0mm spacer in next to the first stop, to cut the slots from the stop to the middle of the board. To cut the remaining slots, remove the spacer and position it next to the second stop.

In this case, we will make the centre dovetail slot wider to accommodate the wide pin. This means machining the centre slot twice—once with the spacer in one side—and once with the spacer in the other side. All the boards can now be turned end for end to repeat these cutting operations for the remaining joints, following exactly the same procedure.

In the above example there were five pins, so we could make the centre pin wider and still have a symmetrical joint. With an even number of pins, it is possible to make the space between the middle two pins wider to achieve a symmetrical joint:



The procedure is the same, although this time we machine all the dovetail slots once and we machine the space between the centre two pins twice. Practice on some offcuts first so that you fully understand this technique before starting your project.

The method described above was used to make the pins (or the gap between the pins) WIDER. It can also be used to make the gap between the pins NARROWER on some templates. [However, this will not work on the H10 or A10 templates]. To do this you would ADD spacers as you work away from the stop. It is not possible to make the pins narrower (as their size is determined by the size of the dovetail cutter).

Also, it is not possible to make the pins closer together than the diameter of the straight cutter. Much care is needed to make pins closer together, as it would be easy to machine away too much wood when cutting the pins. Try out this technique on offcuts to see how it works.

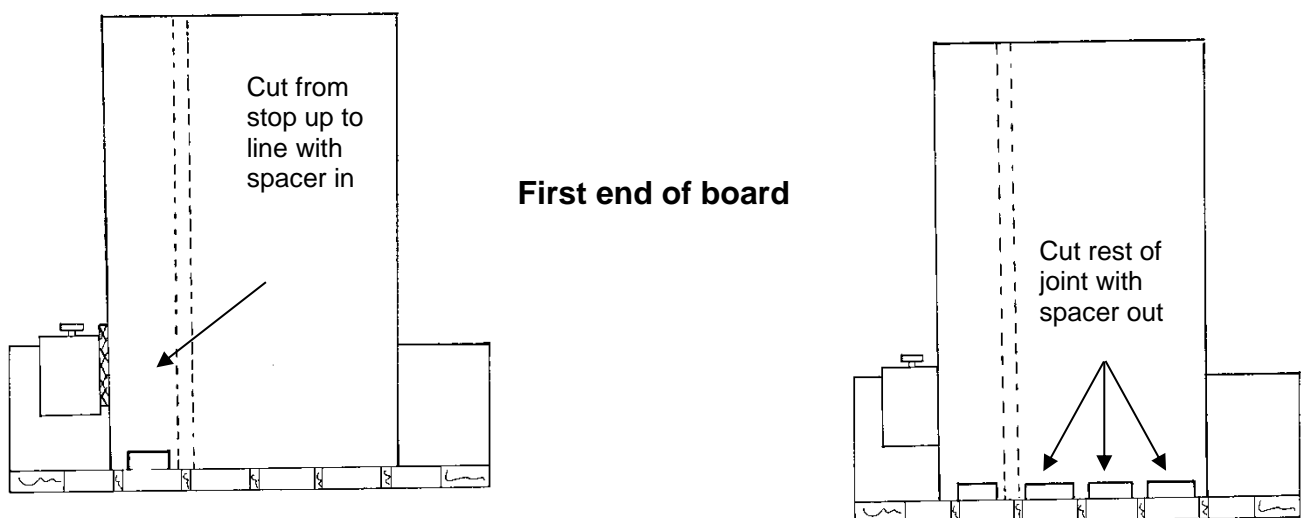
If using these methods, be aware that each time you unclamp and clamp the work in place you introduce small errors in positioning. If you were to vary every spacing across the joint there may be problems with the fit of the joint, as it would be difficult to reposition both halves of the joint in exactly the same way. These methods are best used to vary only one pin (or only one space between the pins).

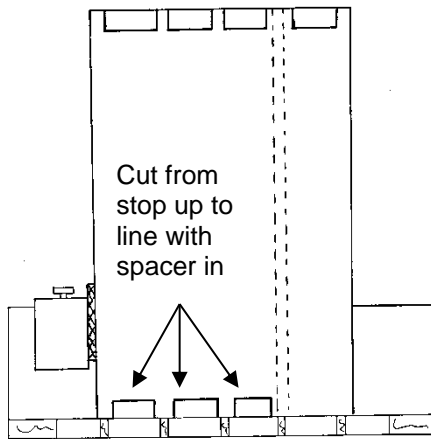
Splitting a box

The above instructions detail using the VJS to make a pin wider in the centre of the board for decorative effect. Making an expanded joint it is also very useful to cut the top off a box to make a fitted or hinged lid.

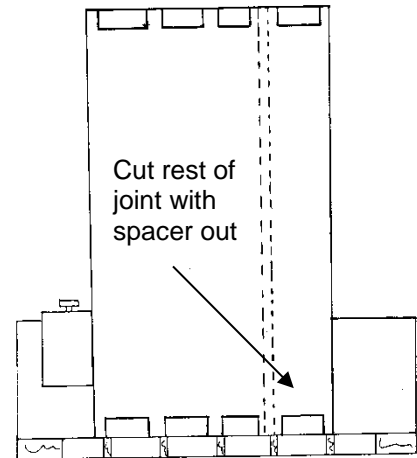
For most situations where you are cutting the top off a box to form the lid, the split would not be in the middle, but approximately a quarter or a third of the way down from the top of the box.

This procedure is slightly different, so here it is again:





Second end of same board



Points to remember:

1. For this procedure to work, you must start by positioning the board symmetrically across the fingers.
2. As described above, to position the stop you use a spacer only half as thick as your saw kerf. You then use a spacer the same thickness as your saw kerf for all the dovetailing.
3. It is vital that you mark a line on all the boards where you are going to add the extra width, to allow for the saw kerf.
4. In all situations you cut from the stop up to the line with the spacer inserted.
5. In all situations you cut the rest of the joint with the spacer out (i.e. from the line up to the edge away from the stop)
6. If you are making the pin wider (as above), then you cut the dovetail slot **TWICE** where the line is: once with the spacer in and once with the spacer out (this is when using the dovetail cutter).
7. If you are making the gap between the pins wider, then you cut the gap between the pins twice: once with the spacer in and once with the spacer out (this is when using the straight cutter).

There are many variations—depending on the size of the project, the template you are using and how far down you want to cut the lid off. So it is important to practice on offcuts to achieve the look you want.

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