

The Veritas® Dowelling Jig is unique in that it does off-center (or reference-face) dowelling as well as the more common center dowelling. Either way, the dowel holes drilled with this jig are referenced from the surface of your choice, a significant advantage that will become apparent as you understand the operation of this jig. Dowel holes may be drilled as close as 16mm ($\frac{5}{8}$ ") apart, or any multiple thereof.

Principles of Dowelling

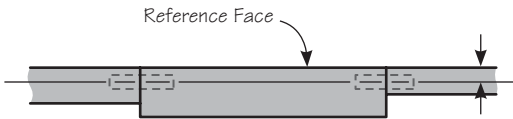
In almost all situations, dowels used to reinforce or position boards to be edge-glued should not be placed in the center of the board's thickness. Slight material thickness variations, which are common, will manifest themselves on both sides. This will always force you to joint, thickness and/or sand both sides of your glued-up panel.



One-half of any material thickness variations will show up on *each* side.

Figure 1: Dowel holes centered on board thickness.

If, on the other hand, dowel holes can be drilled at a selected distance from one reference face, any difference in material thickness will all be on the same side of your glued-up panel. This means that only one side will need to be sanded flat. In some instances, such as the underside of a tabletop, even this need not be done.



With dowel hole center line a constant distance from reference face, material thickness variations show up only on one side.

Figure 2: Dowel holes at a selected distance from one reference face.

Principle of the Veritas® Dowelling Jig

The basic principle of this dowelling jig is the use of fence screws that have an M8x1 thread. This means that one full turn of the screw will move the fence pad 1mm (0.040"). A quarter turn would be 0.010", etc. Using this principle, you can set the fences at any chosen distance from the center line. You measure the thickness of your stock and then set the fences accordingly. If your stock is of consistent thickness, you can set the fences for center dowelling. Only do this if you are absolutely certain that your stock is of a consistent thickness; otherwise, use the jig in reference to one face, setting it so that the dowel holes are approximately in the center of your work. This will ensure one dead-flat surface with all thickness variation showing up on the other face.

Figure 3 identifies all the components of the dowelling jig. We suggest that you familiarize yourself with the parts for reference as you read further.

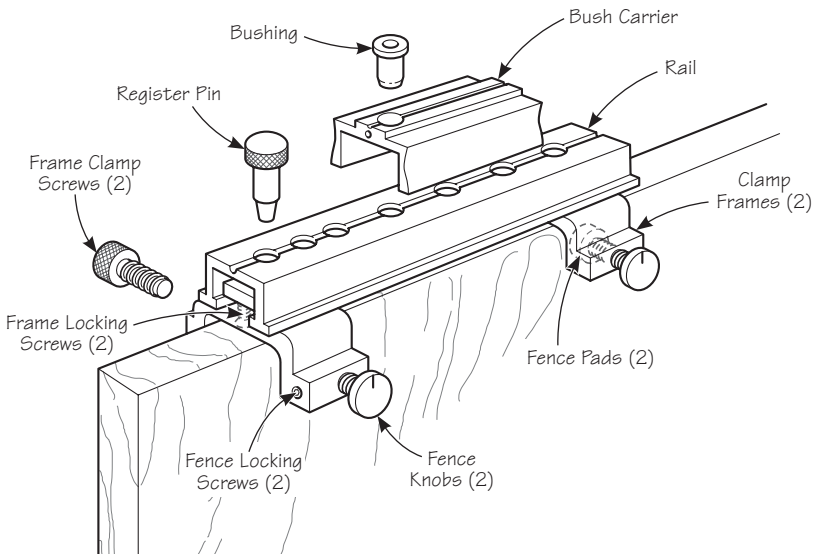


Figure 3: Dowelling jig components.

Edge Dowelling Long Boards

Step 1. Adjusting the Micrometer Fences

Using the $\frac{3}{32}$ " hex key provided, slacken the fence locking screws. Now unscrew the fence knobs as far as they will go. In this position, the distance from the fence pads to the center line of the jig is exactly 13mm. Turning the fence knobs clockwise will reduce this distance by 1mm with each revolution (common Imperial distances are shown at the end of these instructions). Once the desired distance is set, lightly tighten the fence locking screws.

Step 2. Positioning the Clamp Frames on the Rail

Using the hex key, slacken the frame locking screws. Position each clamp frame at either end of the rail, directly below one of the holes in the rail. This can be readily achieved by inserting the brass register pin through one hole in the rail and into each clamp frame. Lock each frame locking screw as each clamp frame is positioned.

Step 3. Positioning the Jig on the Boards

Before you place the jig on each board, make a mark on each piece to identify the reference face. With the frame clamp screws retracted, position the jig so it straddles the edge of the board, whose reference face should be on the same side as the jig's micrometer fences.

Now turn the frame clamp screws clockwise until they just contact the board, while still allowing the jig to slide along its length. The jig should now be slid along the board to its intended position and the frame clamp screws tightened to lock the jig in place.

To help position the jig, there are some things you should know about the rail. The holes are spaced 32mm (approximately $1\frac{1}{4}$ ") apart. There is also one intermediate hole centered between the last two holes on one end of the rail. One end of the rail has the distance from the last hole to the rail end being 16mm ($\frac{5}{8}$ "), the other 32mm (approx. $1\frac{1}{4}$ "), both common measurements when making European cabinets based on the 32mm cabinetmaking system. Since the rail is accurately milled at each end, you can use either of these set distances as starting references for a series of dowel holes.

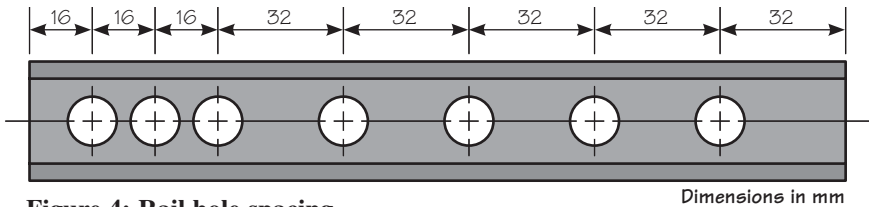


Figure 4: Rail hole spacing.

Step 4. Drilling the Holes

You are now ready to drill the dowel holes. Select the bushing you want and fix it in the bush carrier using the hex key. The bush carrier straddles the rail, with the bushing in the hole in the rail where the first hole is to be drilled. Drill the holes required, hopping the bush carrier along the rail.

Loosen the frame clamp screws and slide the rail along to the last drilled hole. Insert the register pin to accurately reposition the jig, lock the frame clamp screws, and continue drilling. Depending on which hole in the rail is used for repositioning, the jig may be advanced 16mm or 32mm from the last drilled hole.

Repeat *steps 3 and 4* for each board to be dowelled.

Dowelling Ends of Boards

Dowelling of the ends of narrow boards is done in the same manner, except that in *step 2*, the clamp frames must be positioned so they are closer together, allowing both frames to straddle the end of the board. The clamp frames can be locked below two of the 16mm ($\frac{5}{8}$ ") spaced holes, allowing dowel holes to be drilled this close to one another. Depending upon the dowel size being used, the minimum stock width will vary from 26mm ($1\frac{3}{32}$ ") for 5mm dowels, to 36mm ($1\frac{7}{16}$ ") for 10mm dowels.

Common Imperial Settings of Fence Knobs

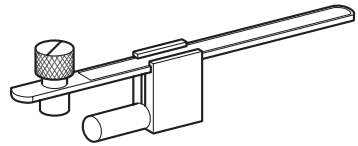
At the maximum open setting, the micrometer fence pads are 13mm from the center line. If you are working in inches, you can use the following table to set the fences.

Fence Knob Position	Fence Pad Dist. to Center Line		
	mm	inches	fraction
Fully retracted	13.00	0.512	—
1/4 turn	12.70	0.500	1/2"
2 turns*	11.11	0.438	7/16"
3 1/2 turns	9.53	0.375	3/8"
5 turns	7.94	0.313	5/16"
6 2/3 turns	6.35	0.250	1/4"

* This is actually 1.9 turns. If you are using the jig in reference to a face, the difference is immaterial. For centered dowelling (no face reference) it is best to use 1.9 turns.

Accessories

Gauge Head (05J06.10): This gauge pops into either end of any of the Veritas® rails, and has an integral rule and stop, allowing the jig to be repeatedly and accurately repositioned. The rule has both Imperial and metric graduations to 6" (15cm).



Spare Bushings: This jig comes with 1/4", 5/16" (8mm) and 3/8" hardened steel bushings. The following sizes are sold separately:

05J03.08	5mm	05J03.09	6mm
05J03.11	6.75mm (17/64")	05J03.12	7mm
05J03.13	7.5mm	05J03.18	8mm (5/16")
05J03.21	9mm	05J03.20	10mm
05J03.22	3/32" *	05J03.17	1/4"
05J03.10	7/32"	05J03.19	3/8"

* The 3/32" bushing is the only unhardened bushing and while locked in the bush carrier, may be drilled to any size not offered.

05J06.12	Spare Bush Carrier
05J06.06	Spare Register Pin

Veritas® Tools Inc.

814 Proctor Avenue
Ogdensburg, New York
13669-2205 USA

1090 Morrison Drive
Ottawa, Ontario
K2H 1C2 Canada