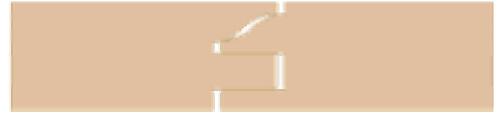


Making Rail and Stile Cutters Fit. Shim for Fit

Rail and stile router bits and shaper cutters must occasionally be shimmed for proper fit. Many Woodline USA router bits can be shimmed for a proper fit or to adjust the bit after sharpening or for a tighter fit in a specific wood.

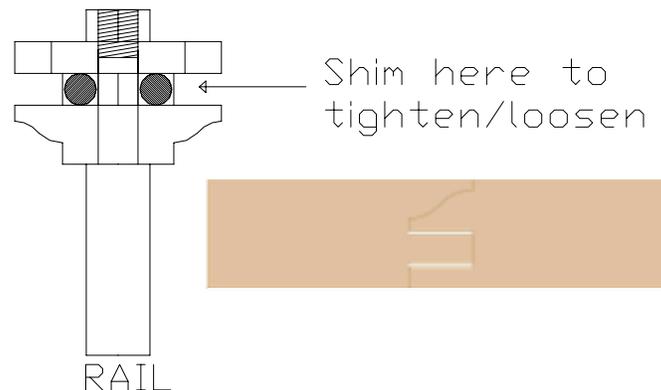
Not all fit errors are caused by shims or cutter alignment. Depth of cut errors will produce a gap on the surface of the rail and stile or a cut that is too shallow not allowing full mesh of the joint and are generally caused by errors in fence position. Both rail and stile boards **MUST** contact the bearing firmly when cuts are made.



Two areas can be shimmed.

Tongue:

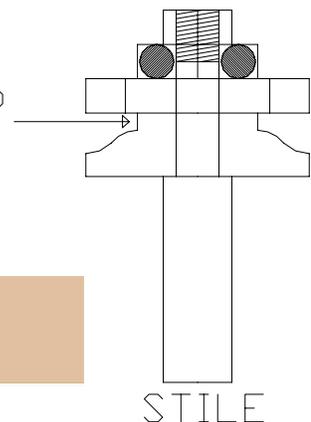
The tongue is produced by the rail bit. The rail bit has a bearing between the profile and the slot cutter. The gap of the bearing produces the thickness of the tongue and determines more than any other factor the tightness of the fit. Add shim(s) between the bearing and the slot cutter to produce a tighter fit. Remove shim(s) to make the tongue thinner and thus a looser fit. **DO NOT** shim the stile bit in an attempt to make the joint tight.



Profile:

If a gap exists in the profile, when viewed from the end, shim(s) can be added or removed to the space between the stile slot cutter and the profile cutter of the stile bit.

Shim here to move profile



When shimming bits, be sure they are reassembled correctly and the retainer nuts tightened properly before turning on the router. If the nut is not tight and the bit spins on the shaft, the fit of the bit can change due to wear on the brass shims.



If the bit spins on the shaft recheck for fit and shim as necessary before proceeding.

Shaper cutters are shimmed using the same principals as router bits.