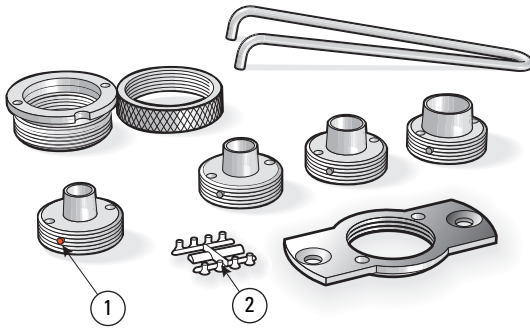


F2, F1600 **CHAPTER 4**

The Variable Guidebush System (VGS)

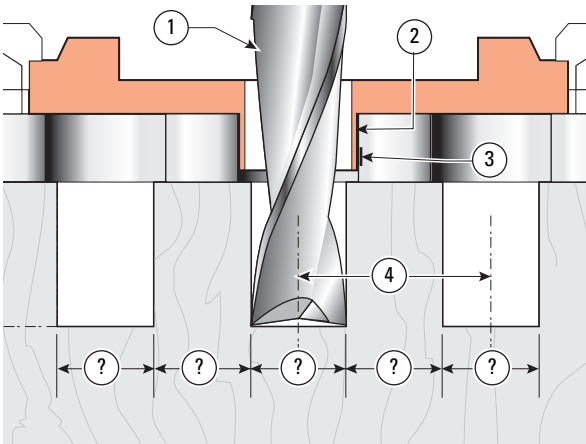


**4-1**

The F series Templates come complete with the Variable Guidebush System (VGS), with one bush for each comb size of your chosen template, i.e. either three or four bushes. Each of the tapered bushes is drilled ① to accept a nylon thread-insert ② (eight of them on a “tree”). See 4-7 to fit.

⚠ Do not use the VGS on Leigh Dovetail Jigs or M2 Mortise Guide Finger accessories; they are only for templates.

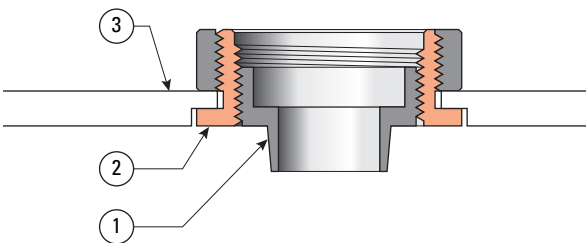
Here’s why the VGS is necessary...

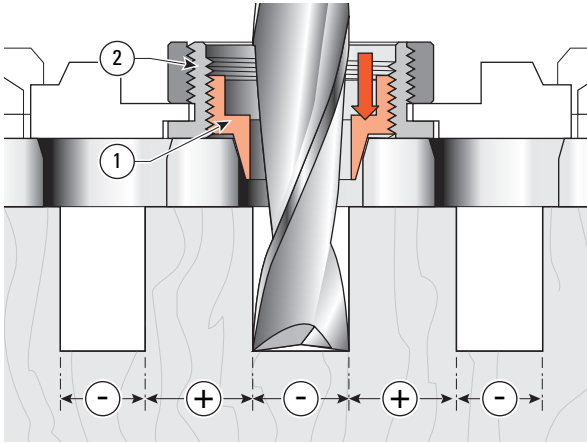
**4-2 Joint Fit and Joint Pitch**

Box joints routed with standard sized straight cutters ① and standard sized guidebushes ② against straight guide surfaces ③ and on pitch centres exactly two times the cutter diameter ④ can be guaranteed to result in a loose fitting joint. Cutters, guidebushes and templates are all manufactured with necessary plus/minus tolerances and the router will have some degree of run-out, or “wobble”.

4-3

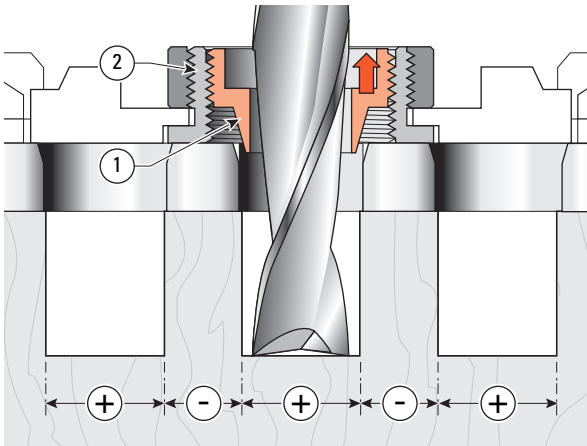
However, the Leigh VGS bush has a tapered barrel ① threaded into a holder ② which in turn attaches to an adaptor or directly to the router ③.





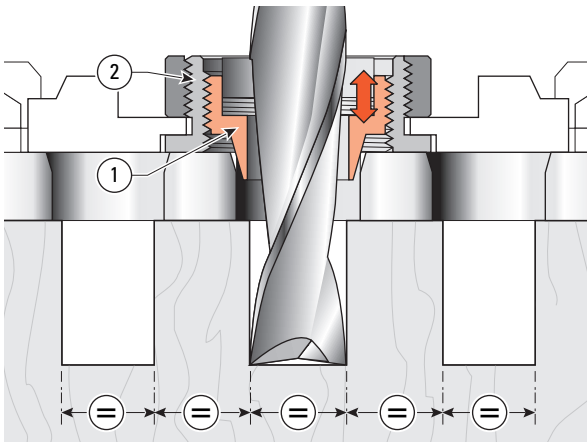
4-4

With the VGS tapered bush ① screwed down in the holder (away from the router) ② the active bush diameter is increased, allowing less side-to-side movement, and resulting in smaller sockets and larger pins. A tight fit! *Guidebush angle, scale and movement are exaggerated in this sequence of illustrations.*



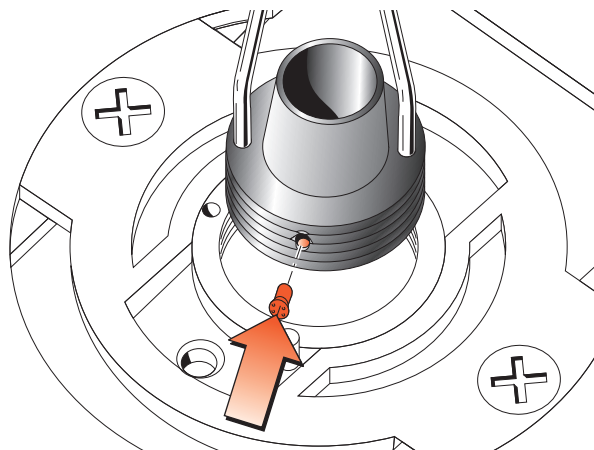
4-5

Raising the bush (screwing the bush into the holder) allows more side-to-side router/cutter movement, and more wood removal, producing larger sockets and smaller pins, and thus a loose fit.

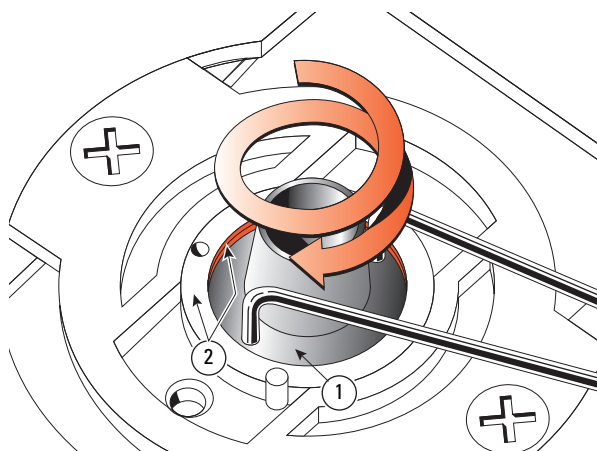


4-6

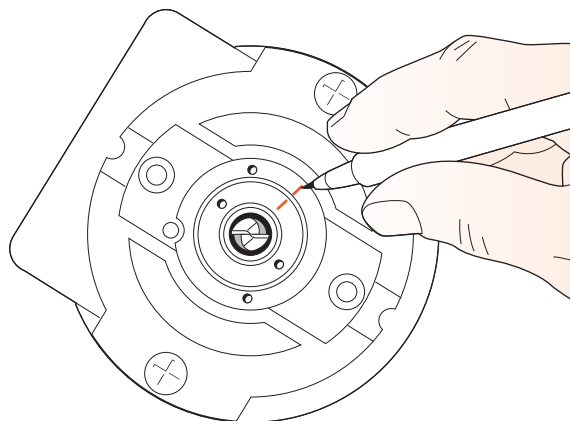
A few trial-and-error test cuts and VGS adjustments will allow you to establish the right pin and socket sizes for a perfect fit. **Note: One eighth of a turn of the variable bush changes the joint glue-line interface by one thousandth of an inch, that is, 0.001" or 0,025mm.**

**4-7**

Fit the holder to the router first. Before fitting a variable bush to a holder, fit one of the small nylon thread inserts to the hole in the side of the thread. Leave the insert on its “tree” and push into the hole. Then snap off the “tree”. Once threaded into a holder, the insert will become trapped and should not fall out when the bush is removed. However, wrap some scotch tape around the bush whenever it is removed to prevent this. The four inserts and four spares will last a long time.

**4-8**

Always start test routing with the bush flange ① turned one to one-and-a-half turns farther into the router than the holder flange ②.

**4-9**

When you have the best joint fit, mark the bush and holder with permanent ink for future reference. Use the same cutter next time. ■