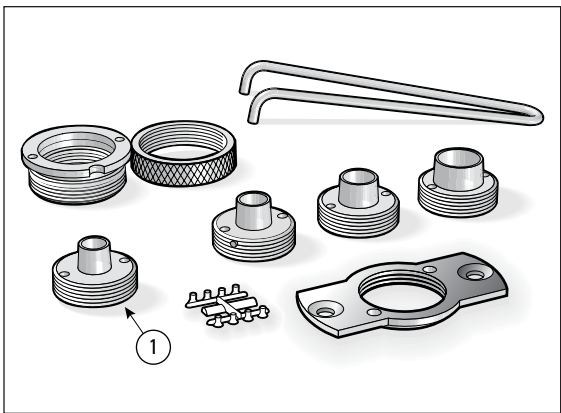


The Variable Guidebush System (VGS)



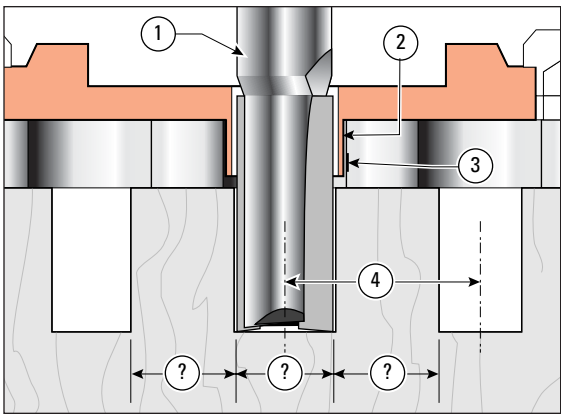


4-1
The F1 Template comes complete with the Variable Guidebush System (VGS).

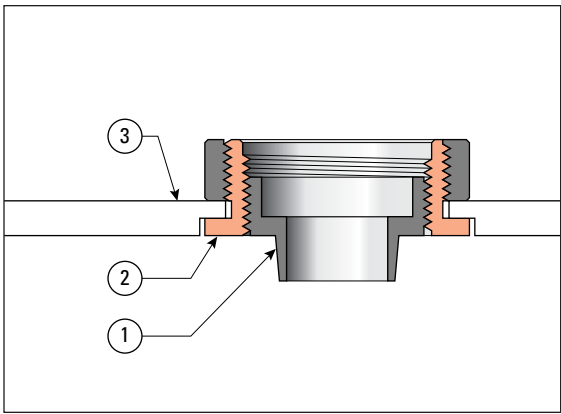
Note: One bush ① 709V is not in the metric set. Each of the tapered bushings is drilled to accept one of the nylon thread-inserts (eight of them on a “tree”). See 4-7 to fit.

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

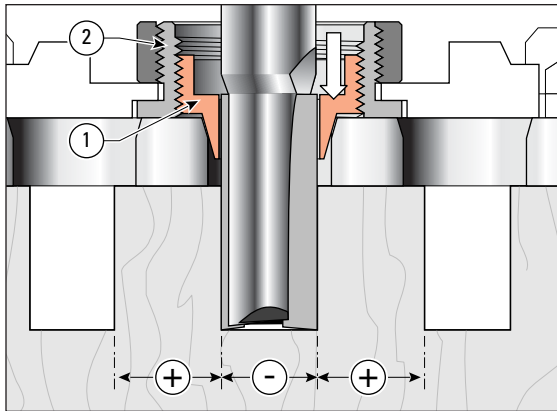
Here’s why the VGS is necessary...



4-2
Generally box joints or finger joints are routed with nominal-size straight cutters ① and nominal-size guidebushes ② against straight guide surfaces ③ on nominal pitch centres ④. There are no angles to use for fit adjustment as there are with dovetails, so manufacturing tolerances for cutters, guidebushes, templates and routers give an “average” fit which is rarely correct.

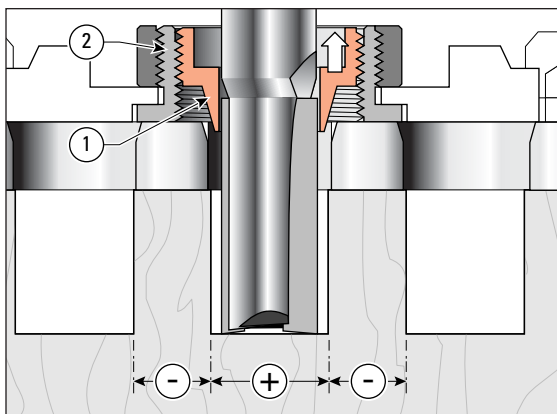


4-3
However, the Leigh VGS bush has a tapered barrel ① threaded into a holder ② which in turn attaches to an adaptor or directly to the router ③.



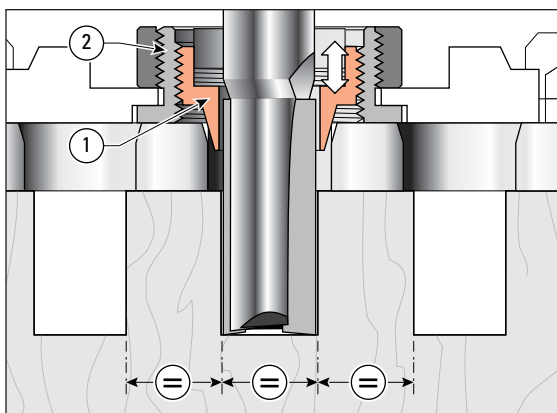
4-4

With the VGS tapered bush ① screwed down in the holder (away from the router) ② the active bush diameter is increased, allowing no 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.*



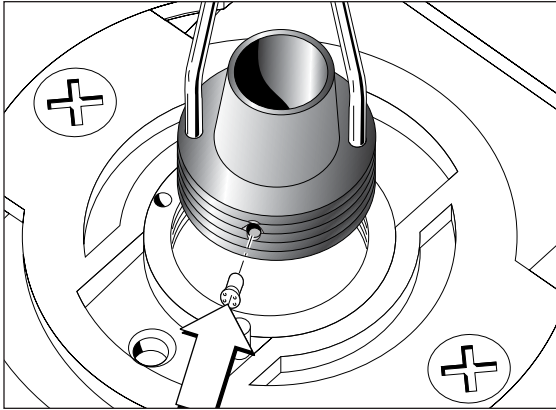
4-5

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

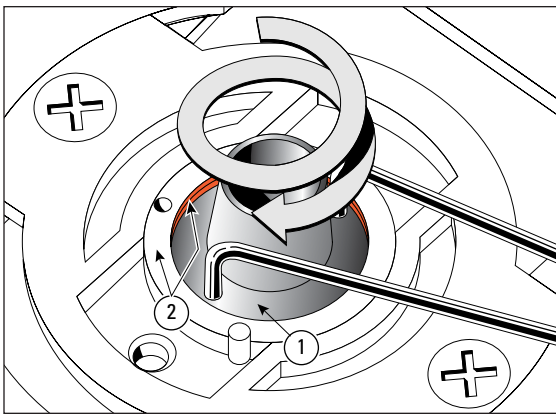


4-6

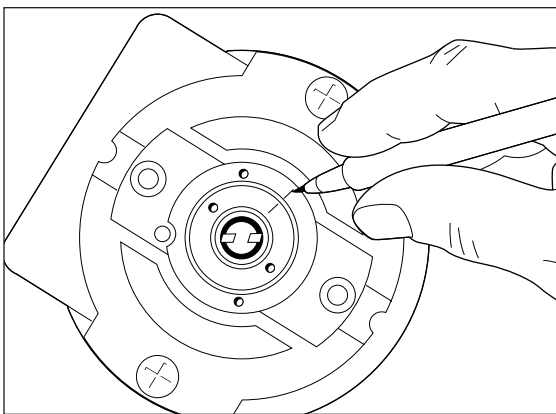
A few trial-and-error test cuts and VGS adjustments will allow you to establish the right pin and socket sizes for a perfect fit. **Note:** One eighth of a turn of the variable bush changes the joint glue-line interface by one thousandth of an inch, that is, 0.001" or 0,025mm.

**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 removed. However, wrap some scotch tape around the bush to prevent this. The four inserts and two 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.

