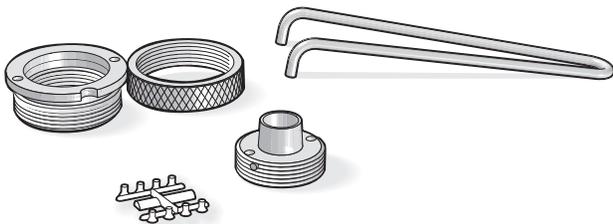
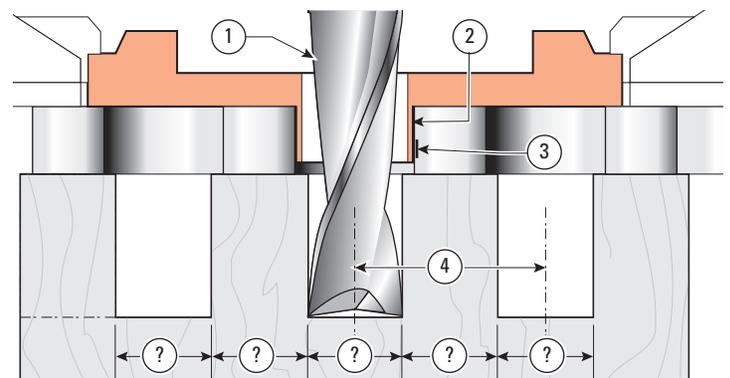


The Variable Guidebush System (VGS)

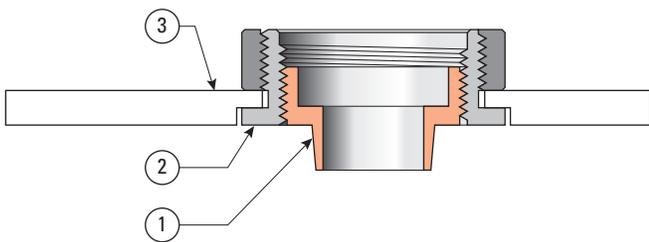


4-1 The Isoloc template comes complete with the Leigh Variable Guidebush System (VGS). The tapered bush is drilled to accept a nylon thread insert (eight of them on a “tree”). See 4-7 to fit.

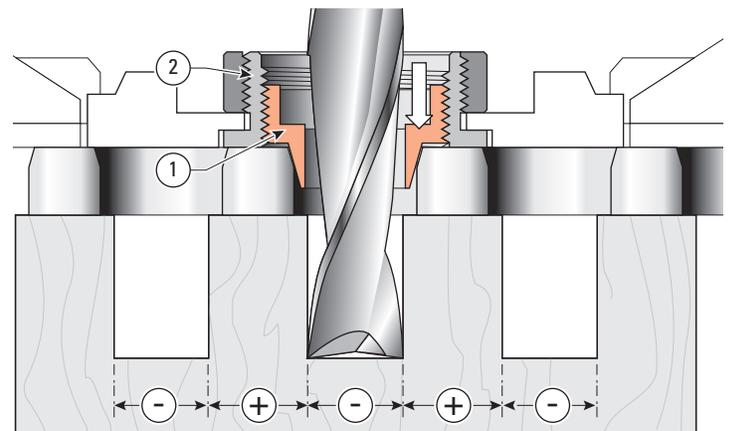
⚠ Do not use the VGS on Leigh Dovetail Jigs or M2 Mortise Guide Finger accessories; they are only for templates. Here’s why the VGS is necessary...



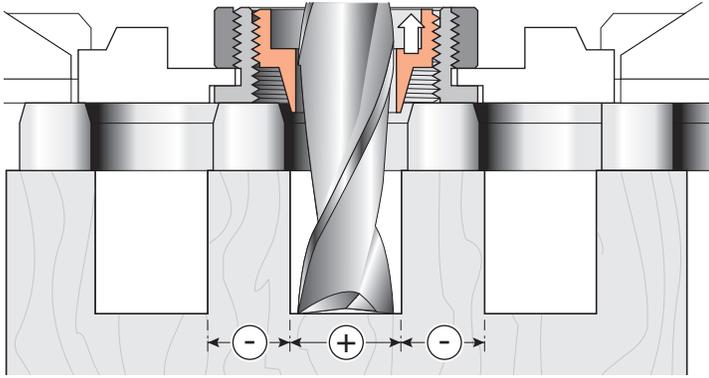
4-2 If Isoloc joints were routed with nominal-size straight bits ① and nominal-size guidebushes ② against straight guide surfaces ③ on nominal pitch centres ④, there would be no possibility of guaranteeing a good fit. There are no angles to use for fit adjustment as there are with dovetails, so manufacturing tolerances for bits, guidebushes, templates and routers give an “average” fit which is rarely correct. *To illustrate, we have used a simple box joint in this series of drawings.*



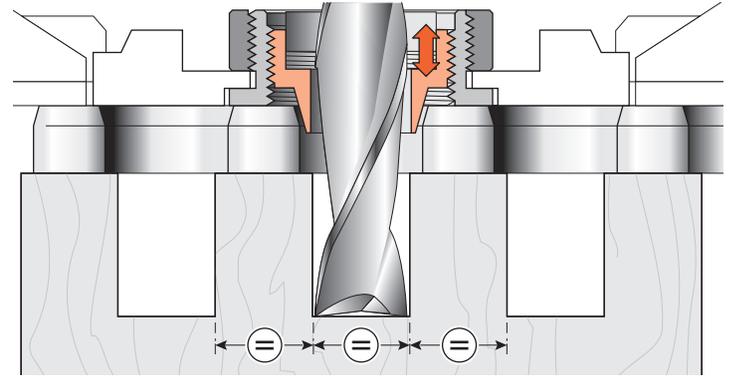
4-3 The Leigh VGS bush has a tapered barrel ① threaded into a holder ② which in turn attaches to an adaptor or directly to the router ③.



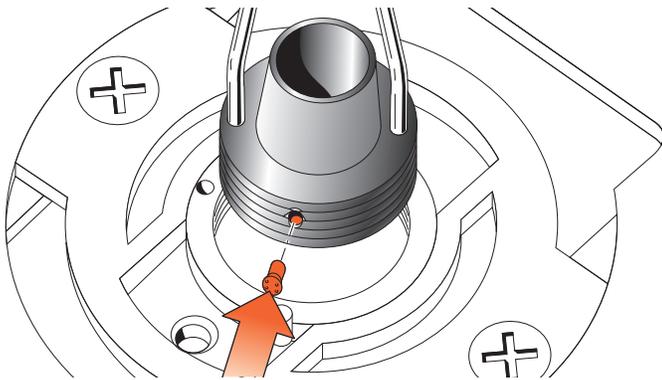
4-4 With the VGS tapered bush ① screwed down in the holder (away from the router) ② the active bush diameter is increased, allowing no side-to-side movement, and resulting in smaller sockets and larger pins. A tight fit! *Guidebush angle, scale and movement are exaggerated in this sequence of illustrations.*



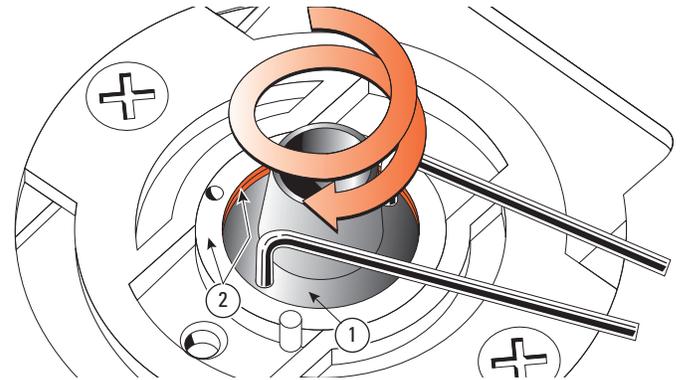
4-5 Raising the bush (screwing the bush up into the holder) allows more side-to-side router/bit movement, producing larger sockets and smaller pins, and thus a loose fit. ⚠ Do not rotate VGS more than three full turns above flush.



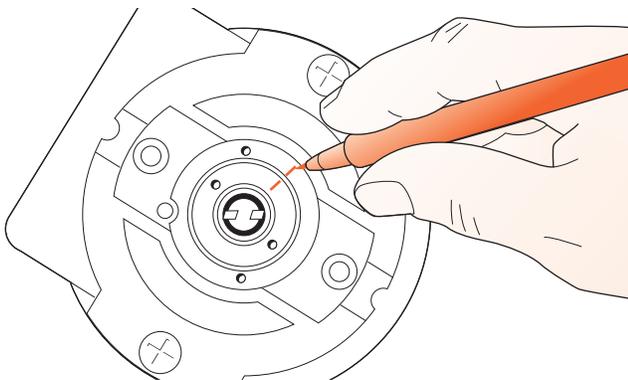
4-6 A few trial-and-error test cuts and VGS adjustments will allow you to establish the right pin and socket sizes for a perfect fit. **Note:** One eighth of a turn of the variable bush changes the joint glue-line interface by one thousandth of an inch (.001" [.025mm]).



4-7 Fit the holder to the router first. Before fitting a variable bush to a holder, fit a nylon thread insert in the hole in the thread. Leave the insert on its "tree" and push into the hole. Then snap off the "tree". The insert will become trapped and should not fall out when removed. However, if you remove the bush from its holder, wrap some scotch tape around the bush to prevent this. The spare inserts 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 in 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 bit next time. ■