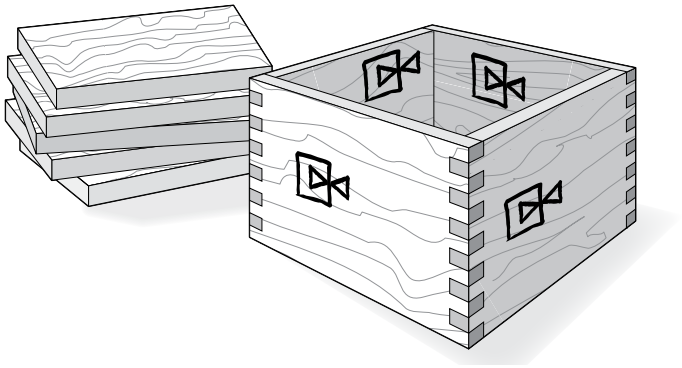
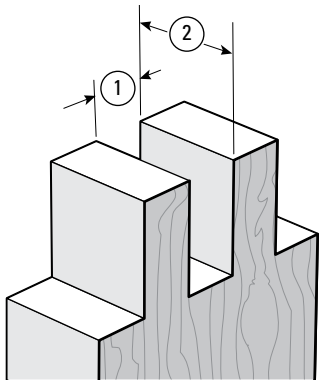
CHAPTER 6

Box Joint Procedures

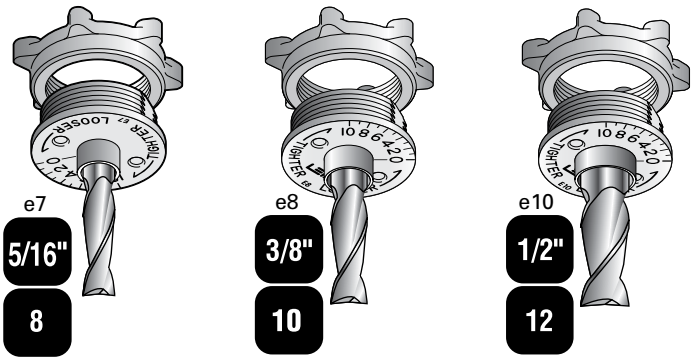


6-1 Always use scrap boards to test for fit. Scrap width and thickness is not critical. Let's rout some simple box joints. These general instructions apply to any of the comb sizes. Rout single corners to test joint fit. *Note: This chapter combines instruction for joint procedures and joint fit. Follow through step by step the first time, but there is also a "quick fit test" method; see 9-2.*



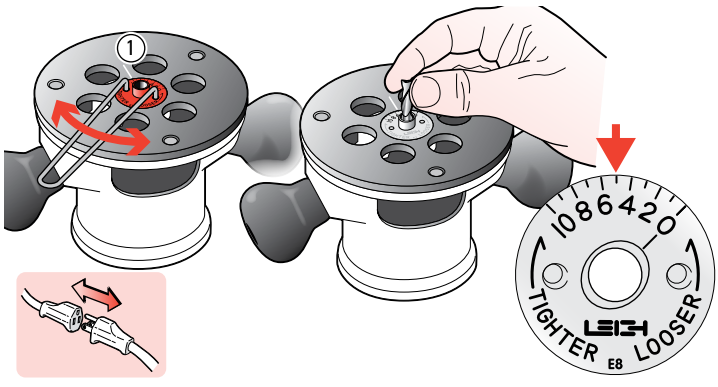
6-2 Bit and e-Bush Selection

There are no hard and fast rules for sizing of pins and sockets for box joints; but typically the sockets ① are one half to one quarter of the board thickness ②. Generally, the smaller the bit, the greater the strength because of the greater gluing area.

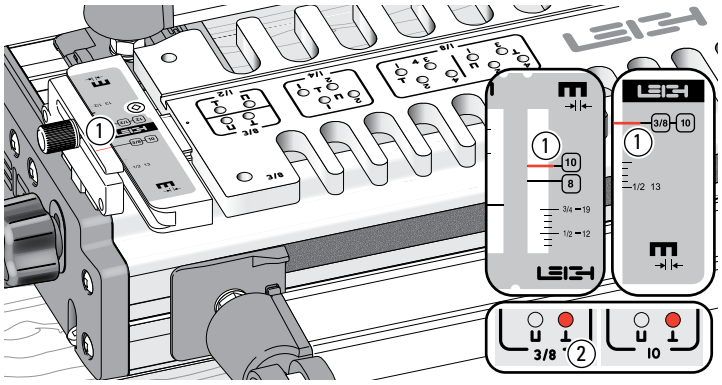


6-3 Select the correct **e-Bush** and bit combination for the comb size to be used. The bit size is the same as the designated comb size.

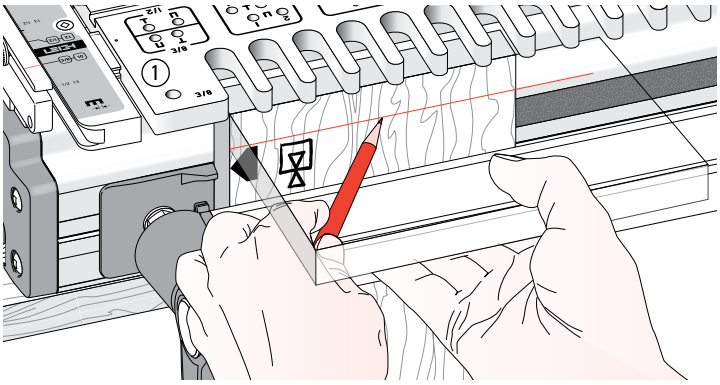
For smaller and larger size box joints see chapter 8.



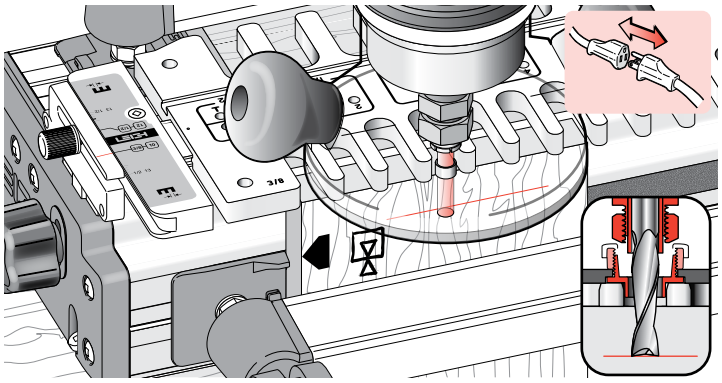
6-4 Always start test routing with the **e-Bush** ① set on "5". Fit the selected bit (that matches the **e-Bush** and comb size) to the router and tighten securely.



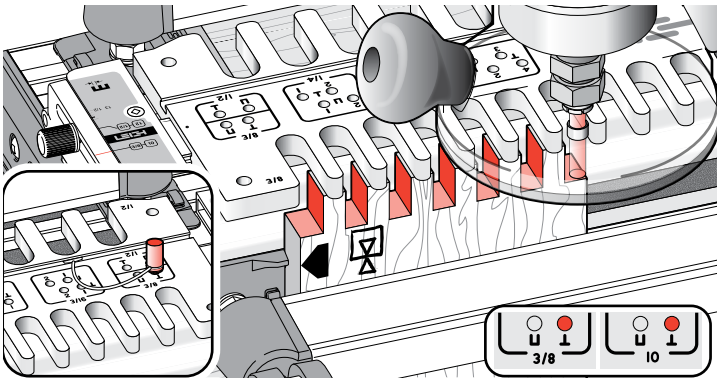
6-5 Set the scale on the comb size to be used (example here; ⅜"[10mm] comb ①. Position the template with the template pin in position ⊥ ②. *Remember, position the template pin at the opposite end of the template out of the way of the router.*



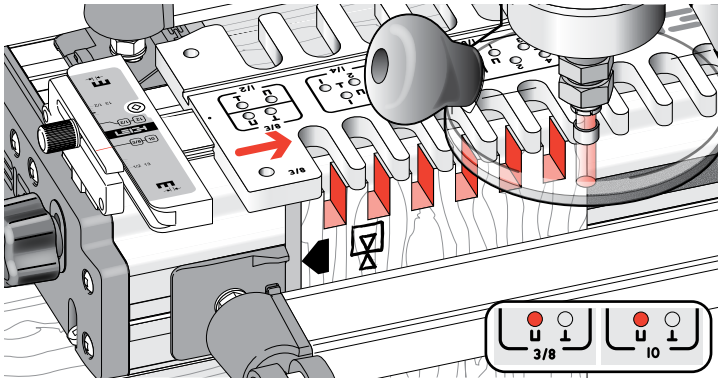
6-6 Clamp the workpiece against the left-hand side stop; end edge flush under the template. Either face can be out ⊡. Mark and adjust depth of cut to suit the board's thickness. Use the board to be joined to mark the depth of cut. Templates have pin holes ① on the left end to allow routing wide boards at the right hand end or a different comb size.



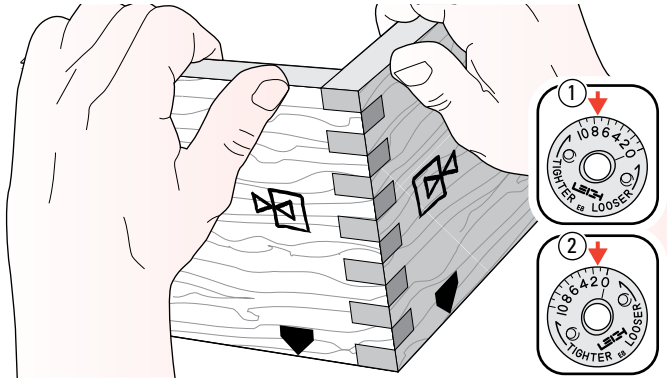
6-7 Adjust the bit to cut at the centre of the pencil line. Make sure the collet will not rub on the guidebush.



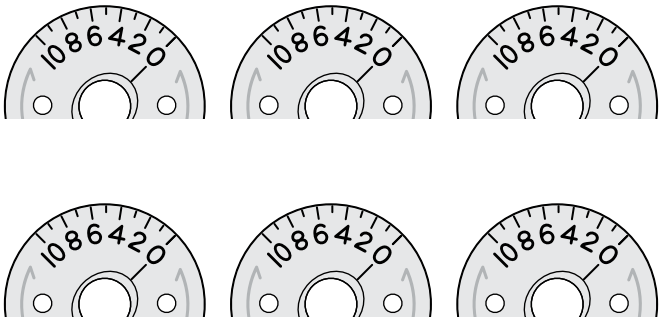
6-8 Rout one end of a scrap board. Make sure to touch the guidebush on both sides of each template opening.



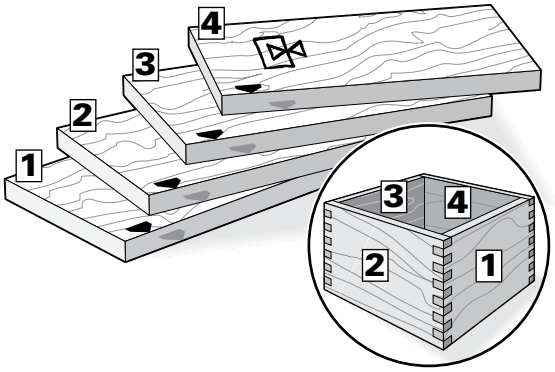
6-9 Remove the template pin and move the template to position **U**, then refit the pin. Rout the mating board.



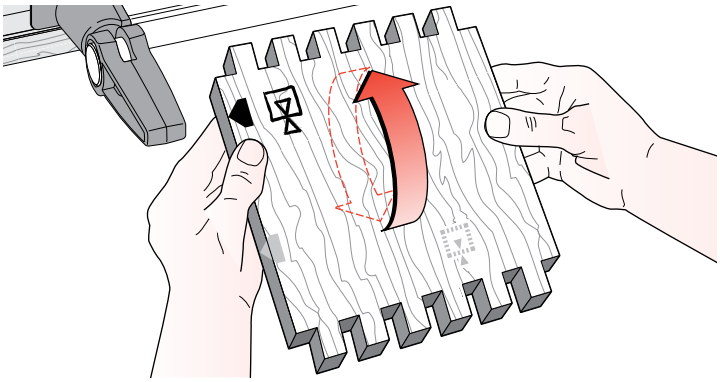
6-10 Test the two boards for fit. Adjust the **e-Bush** by trial and error and rout more pairs of test boards to achieve the desired fit. Remember, turn the **e-Bush** "up" to a higher number for a tighter joint ① and "down" for a looser joint ②.



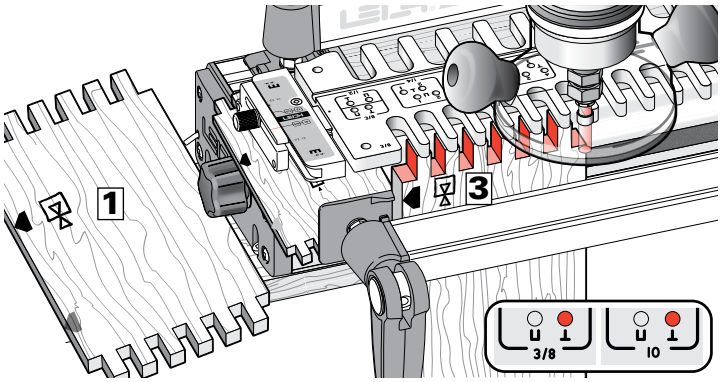
6-11 When the fit is just right, mark the **e-Bush** setting here or on page 10 for future reference.



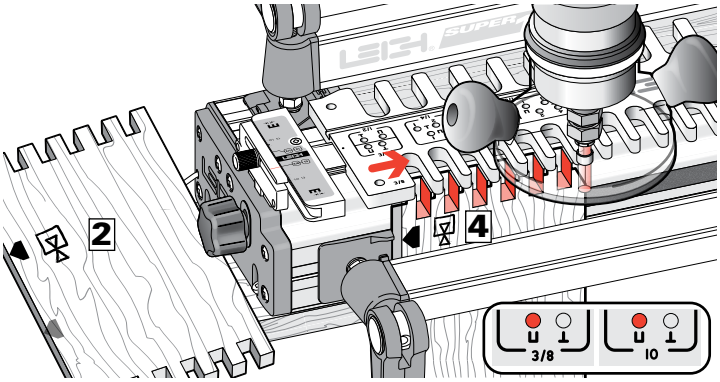
6-12 Let's make a box.
Prepare four boards and mark them ***1***, ***2***, ***3***, and ***4***. Then select the grain alignment and mark the common top (or bottom) edge. Don't worry about face side selection, this can be done after routing.



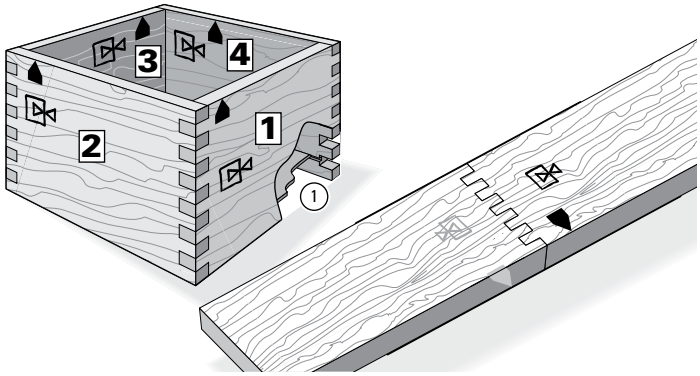
6-13 All square box joint boards (for boxes or end-on-end joints) are clamped alternately face in and face out ⊡, always with the same side edge against the side stop.



6-14 Rout both ends of boards ***1*** and ***3*** in position ⊥. Be sure to keep the same edges to the side stop.



6-15 Rout both ends of boards ***2*** and ***4*** in position ⊔. Keep the same edges to the side stop.



6-16 Keeping the marked side stop edges of all boards toward the top (or bottom) of the box, select the preferred outside faces before marking and routing the grooves ① for the box bottom. Remember, box joint corners need clamping from both directions, or use strap clamps and blocks.
The same method will produce square end-on-end joints. ■