

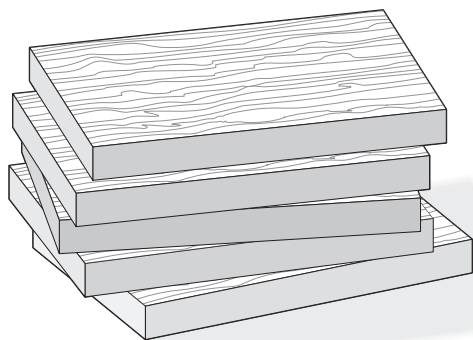
Box Joint Procedures

Throughout this user guide, jointing procedures are illustrated with the F2 template mounted on the D4R jig.

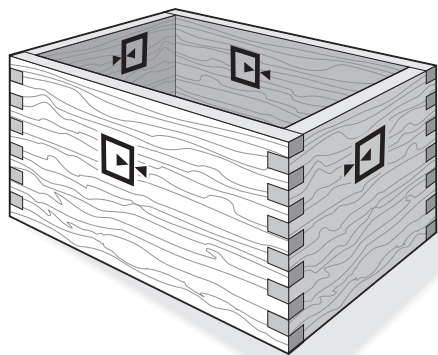
The procedures for using the F1600 are the same. Movements and settings illustrated in each step are identical, whether performed on the F2, F2M, F1600, or F1600M.

See page 4 for the physical differences between the F2 and F1600 series' jigs.

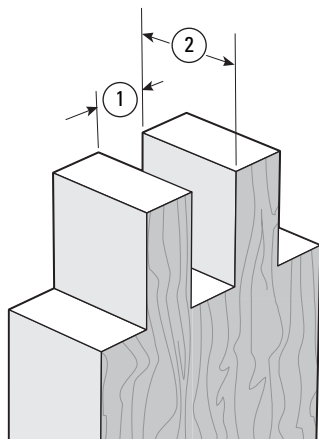


**6-1**

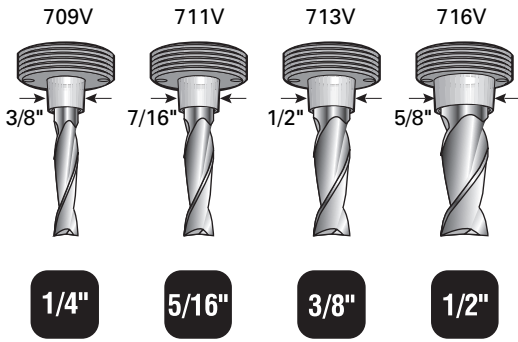
Always use scrap boards to test for fit. Width and thickness of the scrap boards is not critical.

**6-2**

Let's rout some simple box joints. These general instructions are the same for any of the four comb sizes. Because the templates fit two types of Leigh jig, the illustrations show the left-hand side of a "generic" Leigh jig; you could be working on the right-hand side. Rout only single corners to adjust the 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 11-3.*

**6-3 Cutter and Guidebush 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 cutter, the greater the strength because of the greater gluing area.



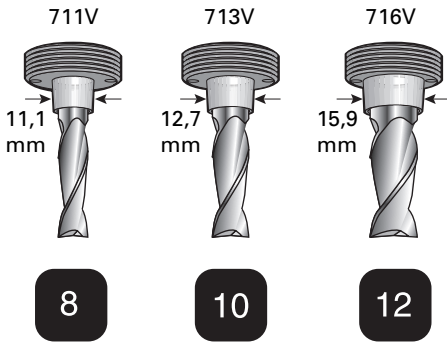
6-4

Select the correct variable bush and cutter combination for the comb size to be used. The cutter size is the same as the designated comb size.

For smaller size box joints see chapter 10.

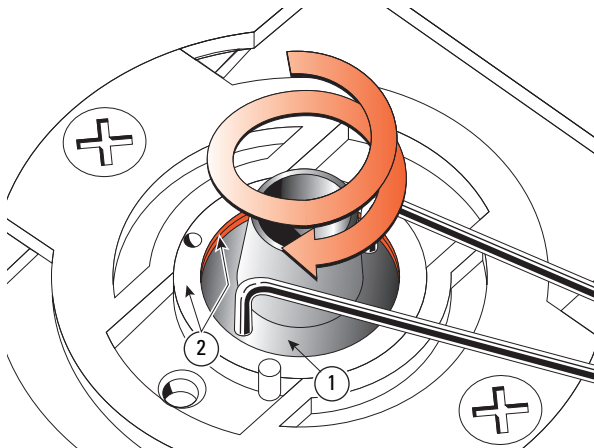
Depending on the model, the inch template can use up to four sizes of cutter and guidebush.

The nominal (mean) diameter of each bush is shown for reference.



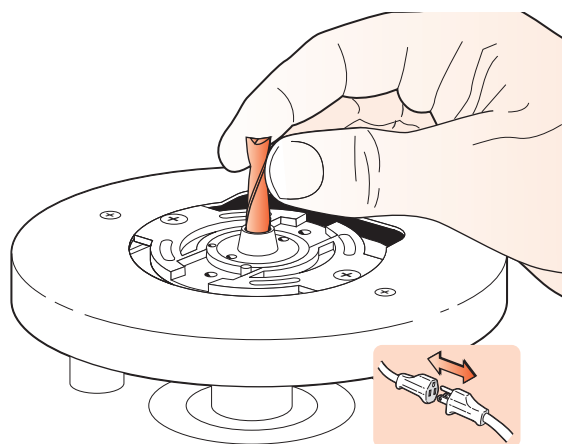
6-5

The millimetre template can use three sizes of cutter and comes with three guidebushes.



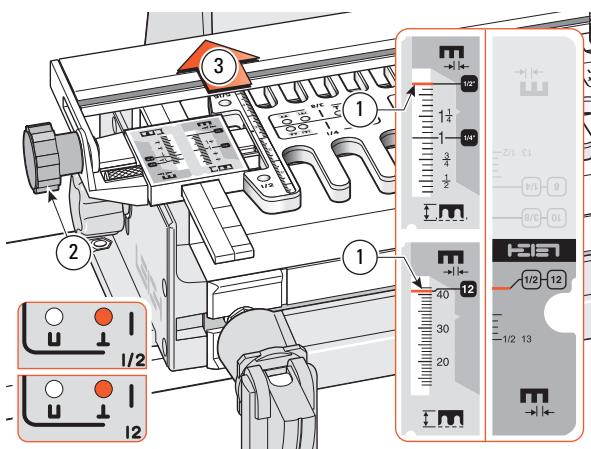
6-6

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



6-7

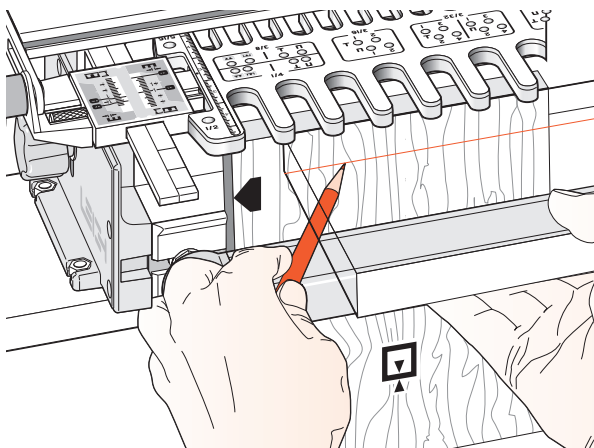
Fit the selected cutter (that matches the bush) to the router and tighten securely.



6-8

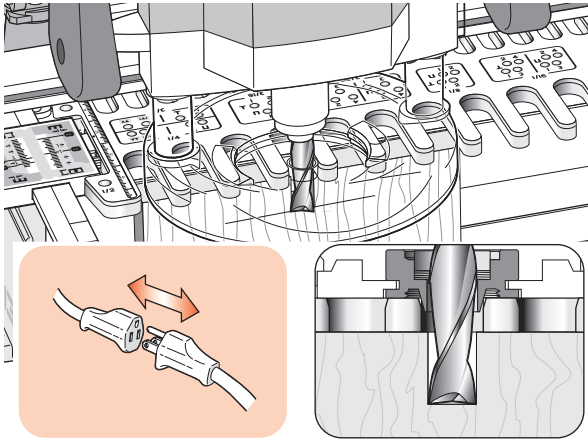
F2: Loosen fence knobs ② and move fence ③ to rear and re-tighten knobs ②. Note: The fence is only used for rounded finger joints. If the fence is in the way of a large router base, simply lift and lock the fence so the router base can slide under it.

F2/F1600: Set the scale on the comb size to be used (example here; 1/2" [12mm] comb ①). Position the template with the template pin in the ↓ position. Remember, the template pin is always positioned at the opposite end of the template.



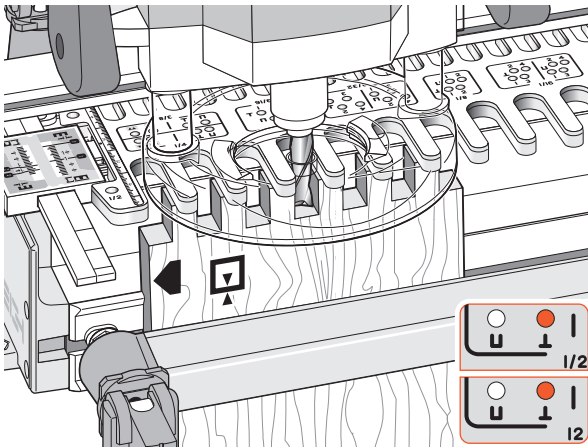
6-9

Clamp the workpiece against the side stop, with the end edge flush under the template. The board may be clamped face side in or out □. Mark and adjust the depth of cut to suit the thickness of the boards. Use the board to be joined to mark the depth of cut.



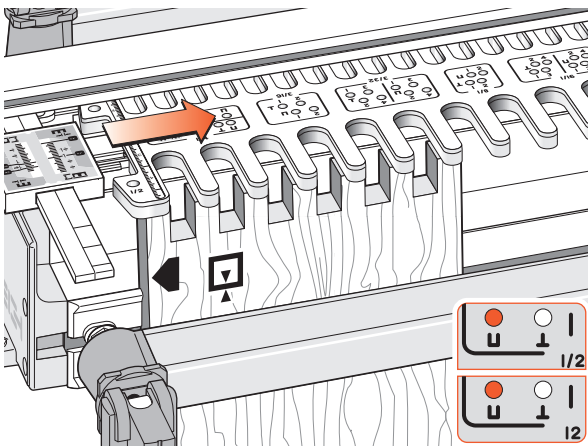
6-10

Adjust the cutter to cut down to the centre of the pencil line. Make sure the collet will not rub on the guidebush.



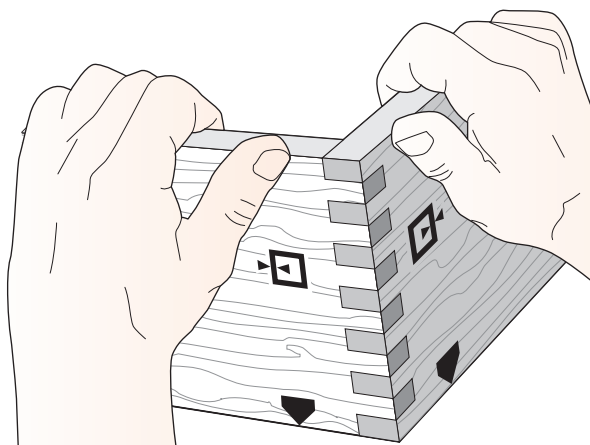
6-11

Route one end of a scrap board. Make sure to touch the guidebush on both sides of each template opening.

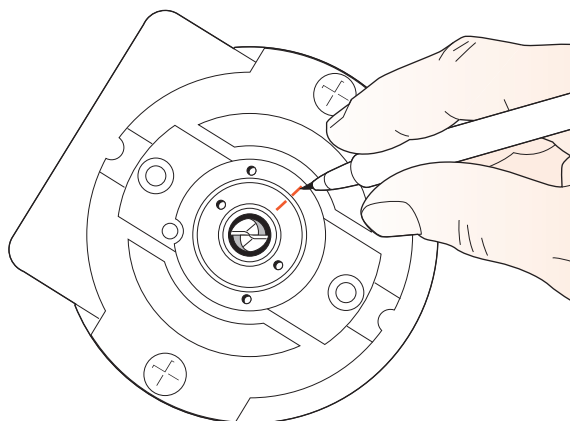


6-12

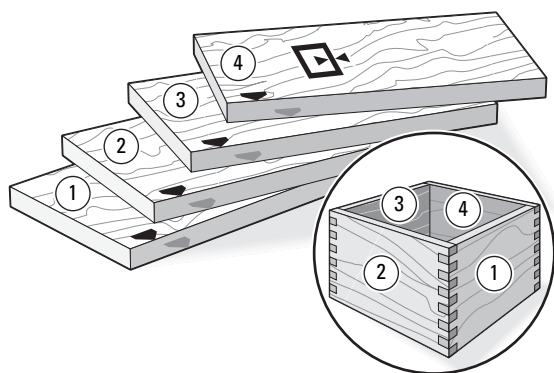
Remove the template pin and move the template to the **U** position, then refit the pin. Route the mating board.

**6-13**

Test the two boards for fit. Adjust the height of the variable guidebush by trial and error and rout more pairs of test boards to achieve the desired fit. Remember, turn the variable bush out for a tighter joint and turn it in for a looser joint.

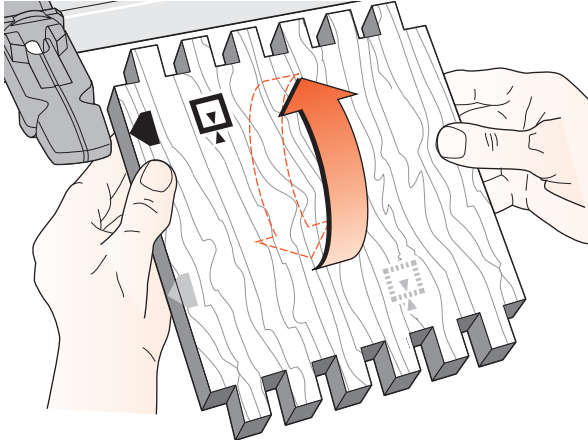
**6-14**

When the fit is just right, mark the bush and holder with permanent ink for future reference.

**6-15**

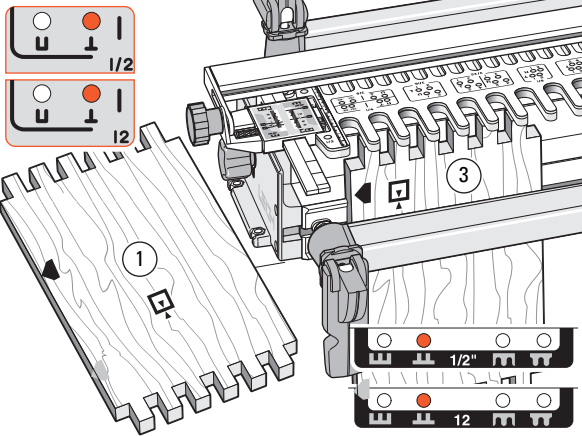
Let's make a box.

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.



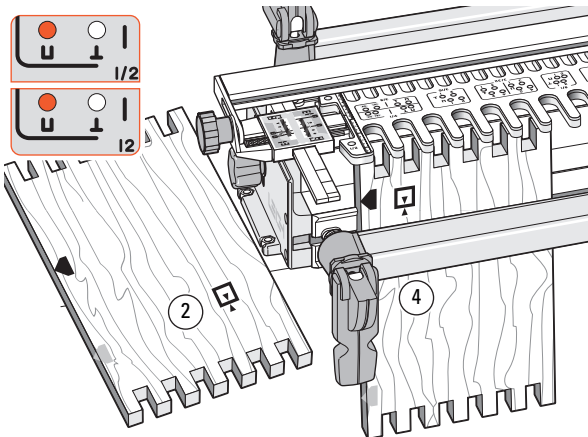
6-16

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



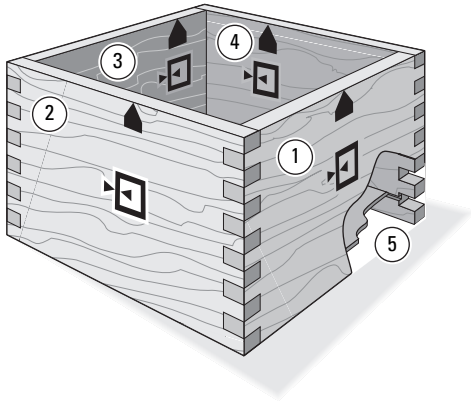
6-17

Rout both ends of boards 1 and 3 in position \downarrow . Be sure to keep the same edges to the side stop.

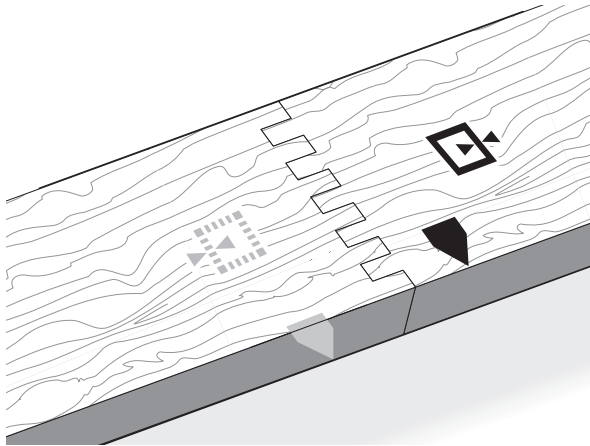


6-18

Rout both ends of boards 2 and 4 in position \uparrow . Keep the same edges to the side stop.

**6-19**

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 ⑤ for the box bottom. Remember, box joint corners need clamping from both directions, or use strap clamps and blocks.

**6-20**

The same method will produce square end-on-end joints. ■