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D4R Pro - CHAPTER 1

Jig Assembly, Mounting, and Using the Clamps

Make Sure You Have All the Parts.

Before you start to assemble your Leigh D4R Pro, check to make sure you have received all the required parts.

The small carton you removed from the end of the main carton contains:

1. 1 Leigh e7 eBush (elliptical guide bushing) and pin wrench, 2 spacers
2. 2 dovetail bits, 1 straight bit, 1 collet reducer
3. 2 scale assemblies
4. 2 support brackets
5. 2 support bracket knobs
6. Square-head guide finger screwdriver
7. 4 clamp springs
4 clamp T-bolts
4 flat washers
4 T-bolt nuts
2 square nuts
1 $\frac{5}{64}$ " hex key
1/4"-20 x $\frac{3}{4}$ " Machine Screw (Accessory Attachment)
- 1 Leigh wrench/gauge
4 jig hold-down nuts & machine screws 1/4"-20
8. 4 cam-action speed clamps
4 cam clamp step washers

...and any other small optional items you may have ordered with your new jig. Check the packing slip for this information.

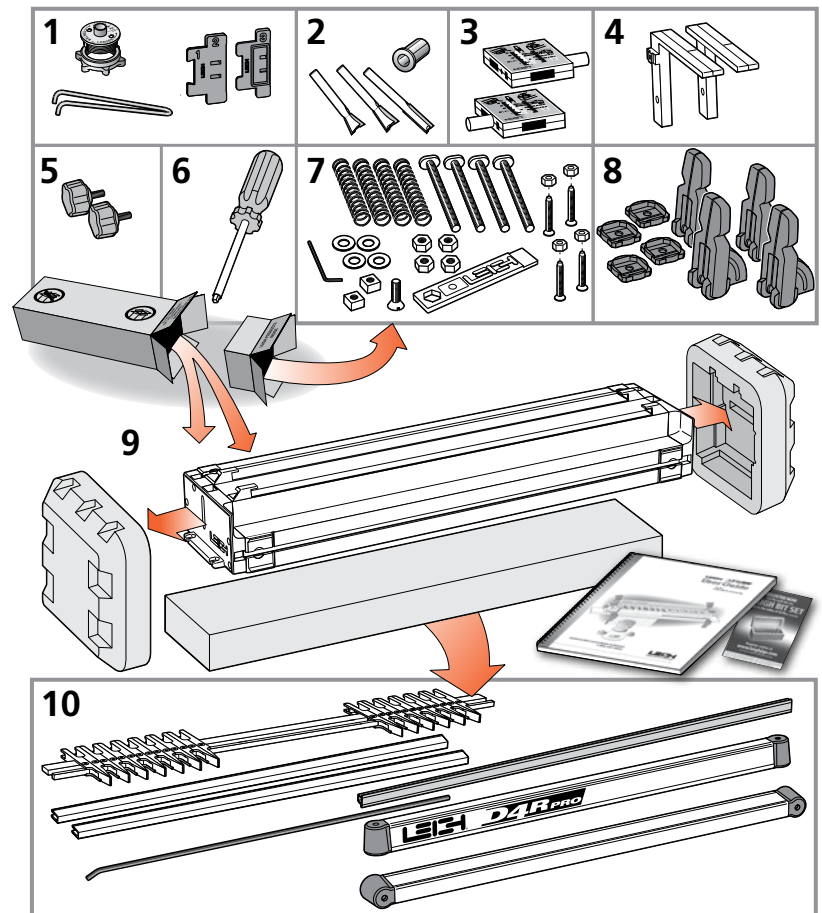
The main carton contains:

9. 1 main jig body
1 Leigh jig user guide
1 warranty/registration card

The large inner box contains:

10. 1 finger assembly on 2 bars
D4R Pro has 26 guide fingers (13 pairs)
2 lengths bridge extrusion
1 sliding dovetail fence (cross cut fence)
1 nylon stop rod
2 clamp bars

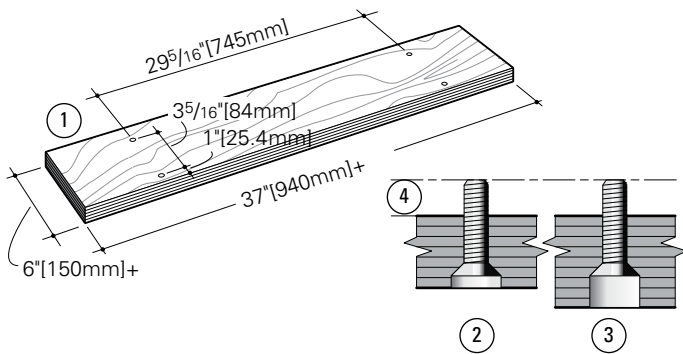
If any items are missing from your jig, contact your supplier or Leigh Industries immediately. See Appendix IV, Customer Support.



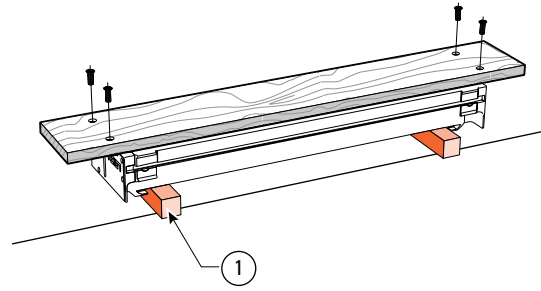
Important Note

Mount your jig securely and assemble it completely before you try to use it.

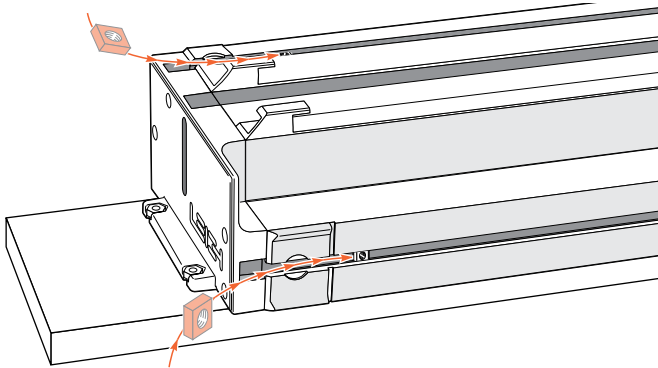
Make sure you have read and understood all the material in the Safety section of this user guide before using the jig.



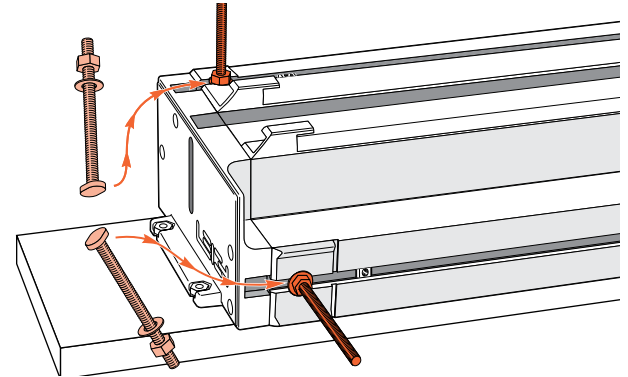
1-1 Prepare a flat board at least $\frac{3}{4}$ " [20mm] thick, and a minimum of 37" x 6" [940 x 150mm]. Drill four $\frac{9}{32}$ " [7mm] holes on 29 $\frac{5}{16}$ " x 3 $\frac{5}{16}$ " [745 x 84,2mm] centers, 1" [25.4mm] in from the front edge of the board ①. Countersink ② or counterbore the underside ③ if the board is thicker, so that the four $\frac{1}{4}$ -20 x 1" long machine screws will project above the top surface by $\frac{3}{8}$ " [9,5mm] ④.



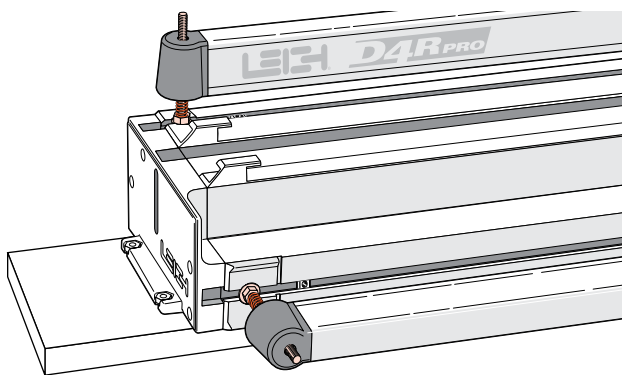
1-2 Turn the jig body upside-down on two blocks ① (to protect the side stops). Using the four nuts and four countersunk machine screws, bolt the base board to the jig using the two nut recesses in each end housing. Holes drilled 1" [24mm] from the front edge of the board go to the front of the jig. Now you can clamp your D4R to any bench.



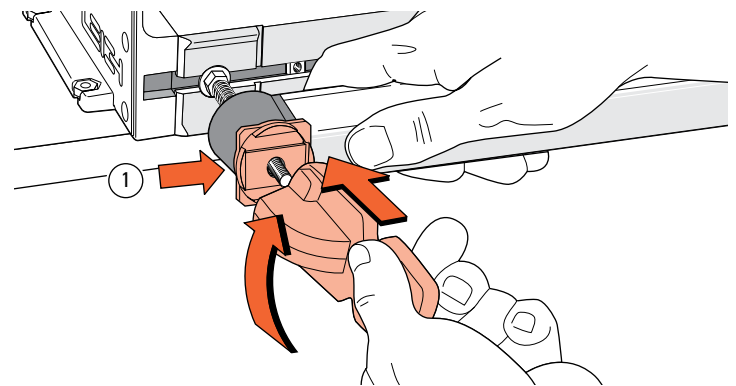
1-3 With the jig right side up, insert one square nut (part #284) into each of the channels in the main extrusion. These nuts are for possible future attachment of accessories. See Chapter 9.



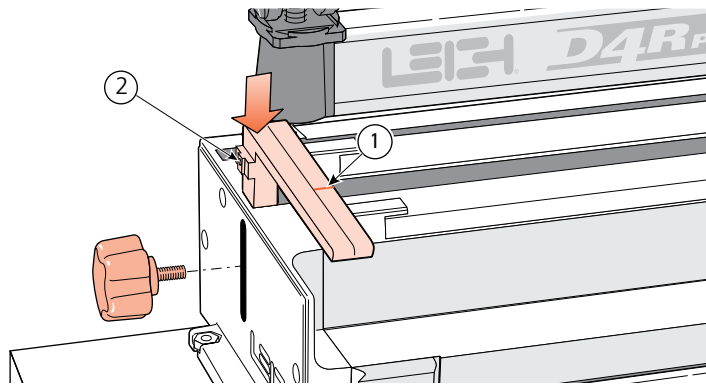
1-4 Insert the four clamp T-bolts into the T-slots (two at each end of the jig). Position so that the washers seat into the round milled recesses. Tighten the four clamp bolt nuts with the Leigh wrench.



1-5 Place four springs and two clamp bars on the T-bolts. Make sure the clamp bars move freely on the T-bolts.

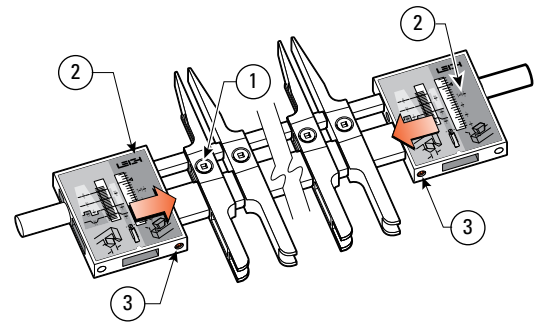


1-6 Place one black step washer ① on each T-bolt with the flat side against the clamp bar. Screw a clamp lever assembly onto each T-bolt, making sure the cam lobes are between the step washer sidewalls.

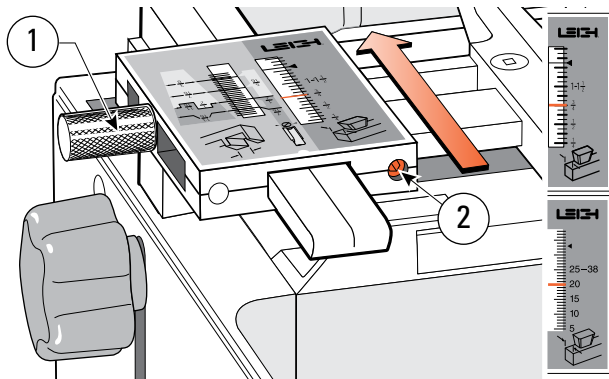


1-7 Insert the finger assembly support brackets. **Note: The right and left support brackets are NOT interchangeable.** Ensure the raised lug ② faces outwards when the bracket is installed. For clarity, the set line ① is drawn in red. The actual lines are black.

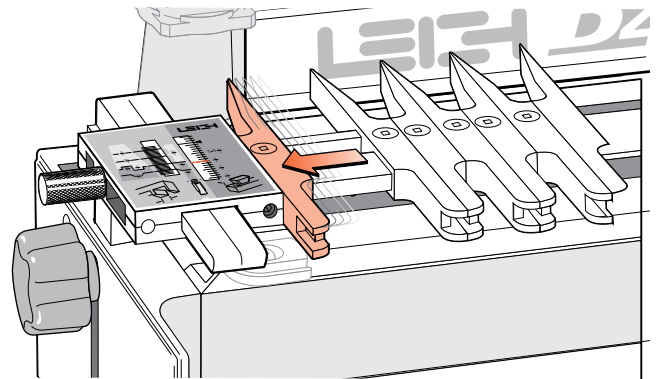
IMPORTANT



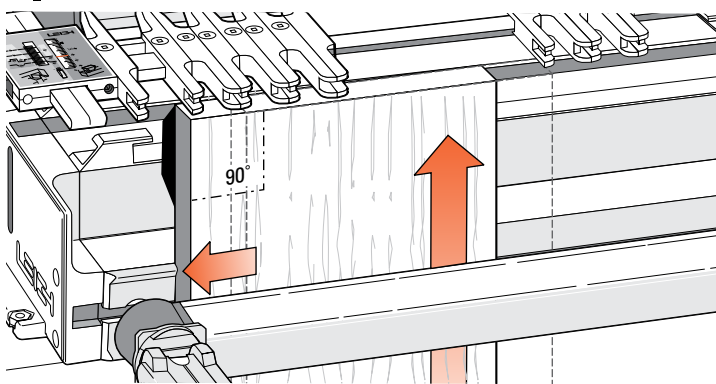
1-8 Place the finger assembly on your bench with the guidefinger screws ① on top and the pointed ends of the guidefingers away from you. Fit the scales onto the finger assembly, placing the HB TAILS scale ② to the right at both ends. **Do not tighten the scale set screws ③ yet.** **Note:** The 1/4" square half-blind pin bar is supposed to be shorter than the finger bar. It is not intended to fit in the scales at both ends.



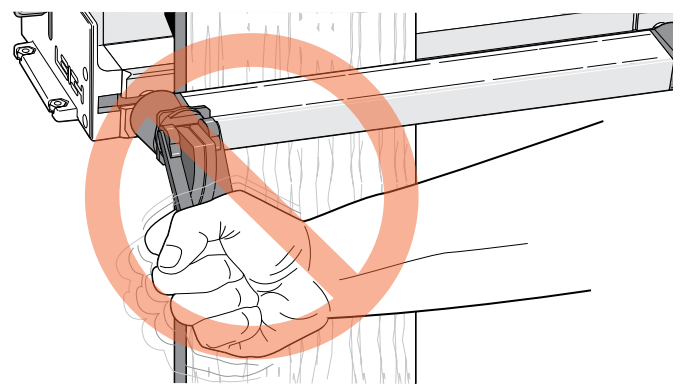
1-9 Slide the complete finger assembly with loose scales onto the support brackets. Set the bracket index line at 3/4" [20mm] on the HB TAILS scale and tighten the thumbscrews ①. Tighten the scale screws ② firmly with the hex key provided. **If the scales are removed from the finger bar for any reason, follow this procedure to re-attach them.**



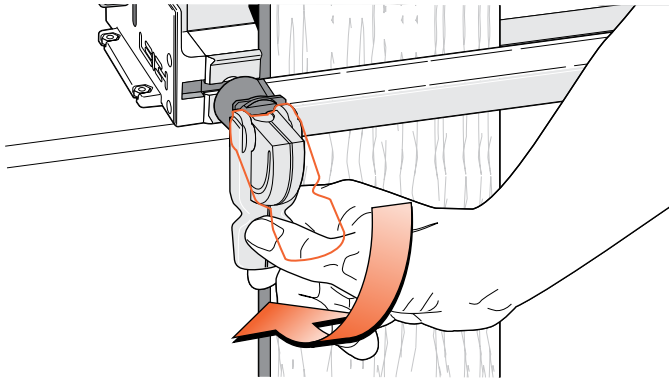
1-10 Loosen the thumbscrews and make sure the finger assembly slides on and off the support brackets smoothly, in both the tail and pin modes. Move the outermost guidefinger at each end of the finger assembly outward to touch the scales, and tighten. **If fingers do not slide easily, see note on page 7.** This finger acts as an end support for the router and is not generally used as a guide.



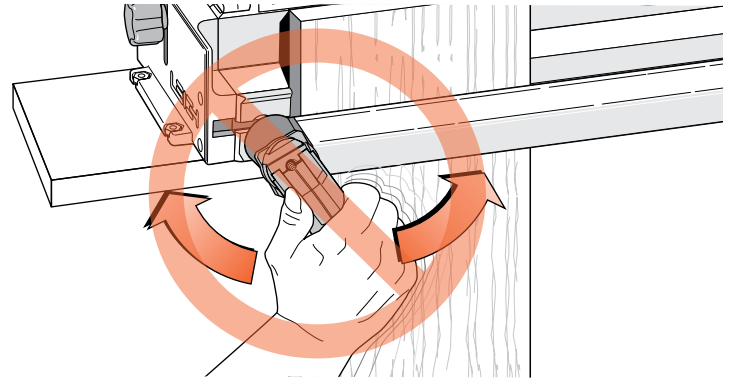
1-11 You will operate the cam-action speed-clamps every time you use the jig, so get used to the feel of the clamps first. Use some square ended boards for practice. Make sure the end of the board is touching the underside of the guidefingers. Then slide the board over against the side stop.



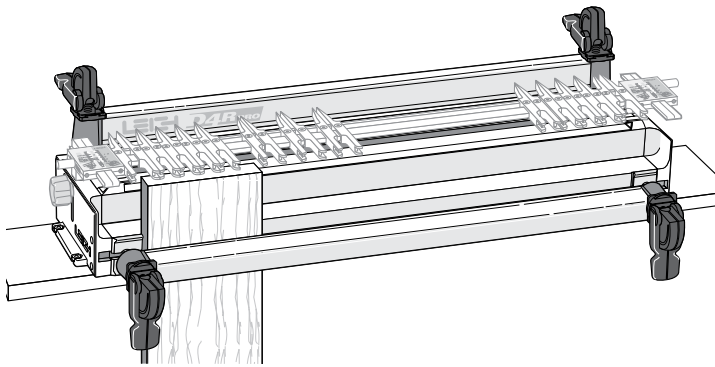
1-12 Do Not force the cam-action speed-clamp. It has great leverage, and excessive force may damage the workpiece or the jig.



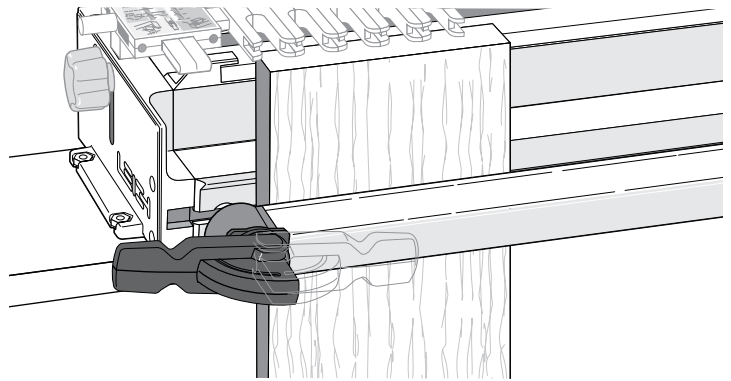
1-13 A smooth, firm action is enough to engage the clamp.
Rule of thumb: If you can't throw the lever comfortably by pressing the end of it with your thumb, reduce the tension. A few minutes of trial and error will help you feel the right clamp tension. **Firm thumb pressure is about right.**



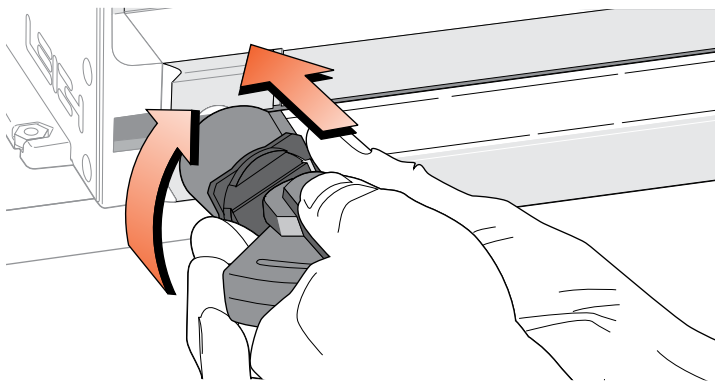
1-14 Do Not use the lever as a torque arm. Adjust the clamp tension only with the clamp disengaged.



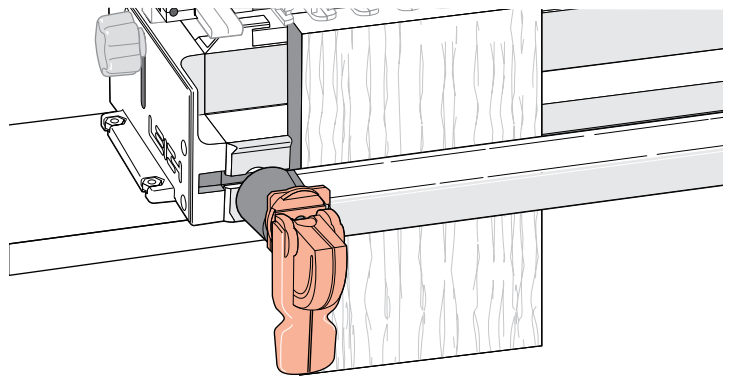
1-15 When engaged, the front clamp levers should point down and the rear clamp levers should point away from the operator.



1-16 If the lever is badly positioned at the correct clamping pressure...



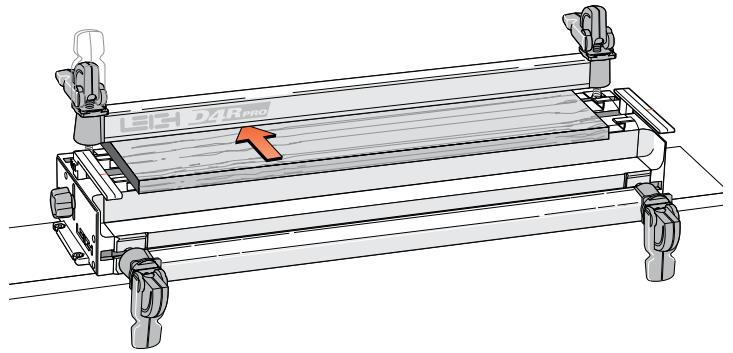
1-17 Release the clamp, remove the board and turn the step washer a quarter turn (the step height inside the step washer is one quarter of the thread pitch).



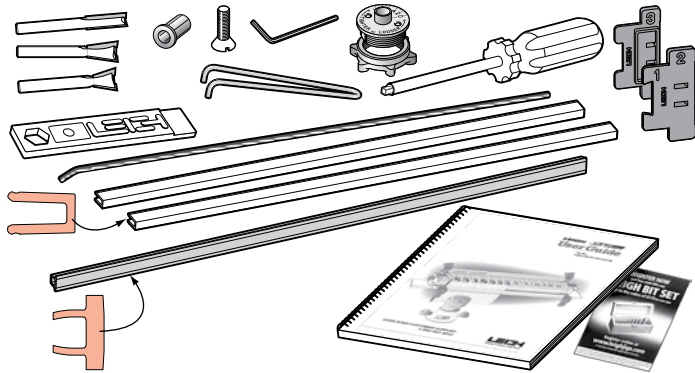
1-18 Then adjust the clamp until the clamp lever is in the right position at the right pressure.



1-19 For all but the wider workpieces, you need only operate the clamp on the workpiece end ① of the jig to release the board. For narrower boards, the clamp at the free end ② should be just tight enough to bow the clamp bar about $\frac{1}{8}$ " [3mm] ③ *greatly exaggerated in this view.*

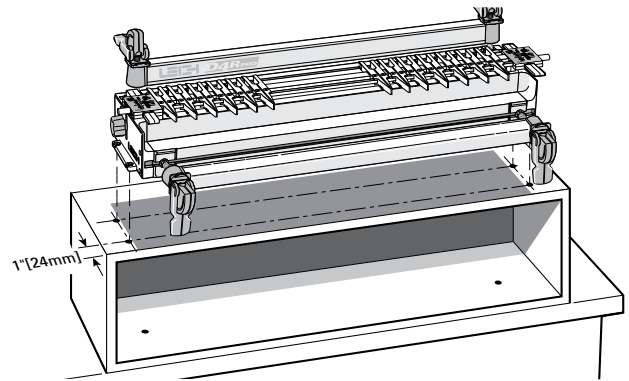


1-20 Make up a spacer board. This board will be used to support the finger assembly in **all front-clamping vertical board modes**. The spacer board should be flat, straight and of even thickness. We suggest $\frac{3}{4}$ " x6" [20x150mm] by approximately 23" [580mm] long. **Note:** the thickness of the spacer board has no relationship to the thickness of the vertical board being routed.



1-21 After you have assembled and mounted the jig, you will have some items left over:

- 1 straight router bit Leigh No.140-8
 - 1 dovetail router bit Leigh No.80-8
 - 1 dovetail router bit Leigh No.120-8
 - 1 collet reducer
 - 1 Leigh wrench/gauge (*gauge: Ch.9*)
 - 1 accessory attachment screw (*Ch.9*)
 - 1 hex key, allen wrench
 - 1 Leigh e7 eBush (elliptical guide bushing)
 - 1 pin wrench (eBush adjustment wrench)
 - 1 Leigh guide finger adjustment screwdriver
 - 2 spacers, one for single pass half-blind dovetails (*Ch.11*), and one for box joints (*Ch.15*)
 - 2 lengths of bridge piece extrusion (*Ch.10*)
 - 1 sliding dovetail fence (cross cut fence) (*Ch.16*)
 - 1 nylon stop rod (*Ch.11*)
 - 1 fully illustrated user guide (this user guide)
- Please keep all these items ready for use.*
- 1 warranty card. **Please register your warranty.** You will automatically be entered in Leigh's Warranty Registration Contest.



1-22 To gain height for a more comfortable working position or for routing longer boards, mount the jig to a box that can be bolted securely to a bench. *See also fig. 17-15.* ■