

How to Rout Jumbo Half-Blind Dovetails On a D4R Pro

or D1258(R), D3, D4 & D4R



These instructions are based on the assumption you are fully conversant with half-blind dovetailing instructions.

Please review the Half-blind Dovetail chapter in your User Guide before attempting Jumbo Joints.

Set up, marking and routing procedures for Jumbo Joints are identical to regular Half-blind Dovetails except:

- Use the Leigh No. 90 bit, 11/16" [17,5mm] diameter
- Use the Leigh e10 Guide Bushing OR Leigh 716TP 5/8" [15,9mm] Guide Bushing
- Nominal depth of cut with the eBush will be ~1" [25,4mm]
- Nominal depth of cut with the 716TP will be ~15/16" [23,8mm]

Procedure Overview

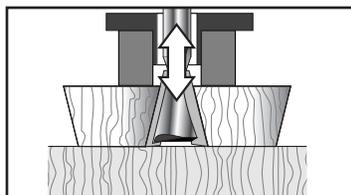
Tails: Arrange the fingers in the desired joint pattern.
Route the tails.



Pins: Flip the finger assembly to the Half-blind Pin mode.
Route the pins.



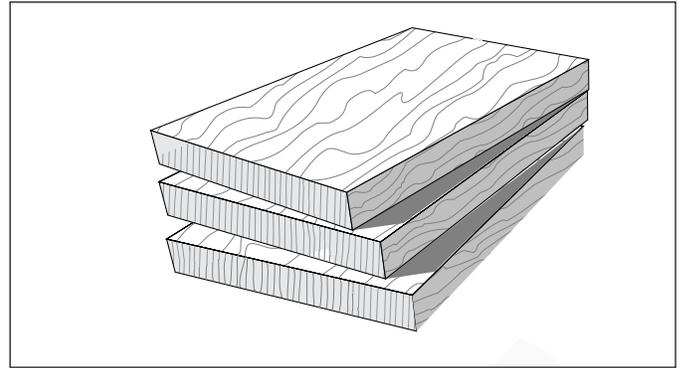
Adjust the depth of cut for perfect joint fit.



Jumbo Half-blind Dovetails



1 Use the No. 90 dovetail bit with the e10 guidebush or the 716TP 5/8" [15,9mm] guidebush. The e10 guide bush set on the 5 mark will give a 1" [25,4mm] depth of cut. The 716TP will give a 15/16" [23,8mm] depth. Choose the combination that best suits your project. Trial and error will produce actual cutting depths.



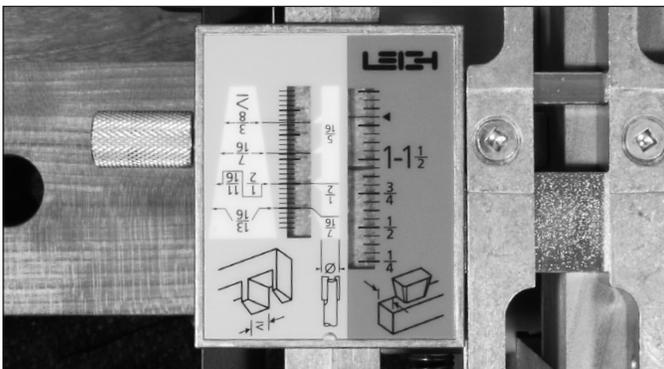
2 For this test, prepare a few boards of equal thickness (1-1/8" to 1-1/2" thick) [28.5mm to 38mm], and equal width.



3 Mount a tail board, **minimum 1/2" thick**, in the front of the jig and be sure to use a backer board mounted horizontally, butting up against the back of the tail board. The backer board should be at least as thick as the depth of cut.

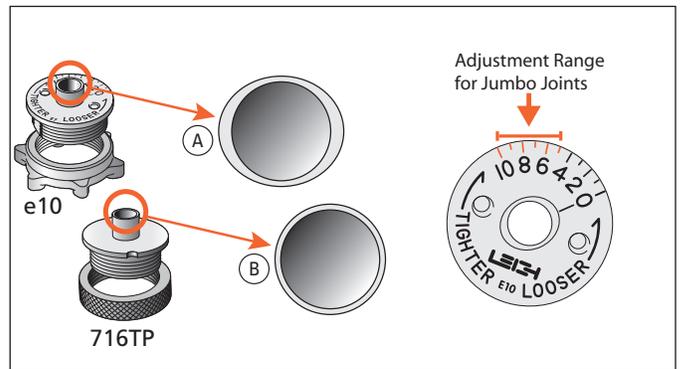


4 Arrange the fingers in the desired joint pattern being sure to allow for a half pin at each edge of the board. **Note:** Finger pairs must be separated by at least 3/16" [4,75mm] to allow the e10 or 716TP guide bush to pass through.



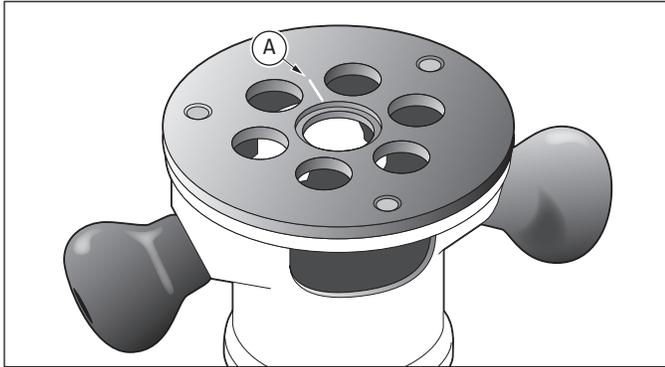
5 Scale Settings: Note: The scales were not designed for this Jumbo Joint feature so a little adaptation is required. Set the scales to the thickness of the tail board up to a maximum of 15/16" [23,8mm]. Although Tail boards may be up to 1-1/2" [38mm], the actual maximum thickness of the tail is 15/16" [23,8mm].

Using the e10 Elliptical Guidebush

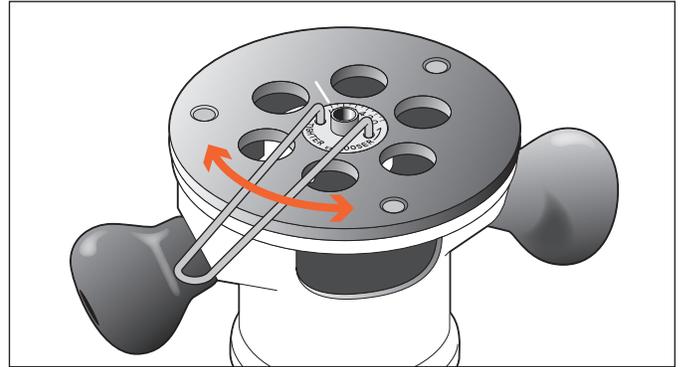


6 The barrel of the e10 guidebush (A) is elliptical, not round like normal guidebushes (B). The elliptical shape of the e10 barrel allows depth of cut adjustments for Jumbo Half-blind joints. Set at 5, the depth of cut will be ~1". Set at 10, the depth of cut will be ~15/16".

Jumbo Half-blind Dovetails

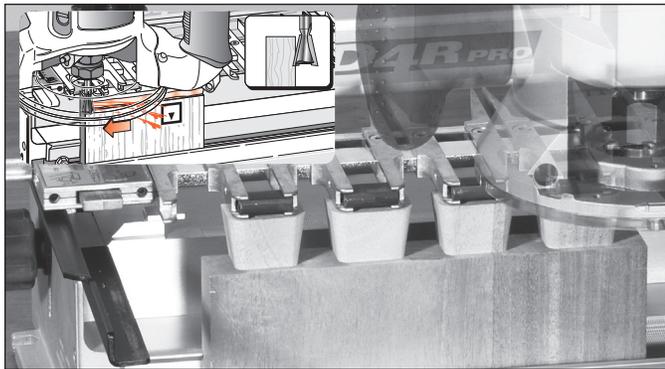


7 The markings on the e10 e bush must be set to an index mark scribed on the router base plate. To create the index mark, hold the router in the operating position (handles at 3 o'clock & 9 o'clock). Now, upend the router, keeping the handles in the same position. Scribe a line at the 12 o'clock position. This is the index mark for all e10 settings.



8 Adjust the e10 ebush with the pin wrench. Set the ebush to the No. 5 position. The adjustment range is between the 10 and 5 marks.

Caution: Do not set the ebush lower than the No. 5 mark. Setting the ebush to a lower number will exceed the cutting depth of the No. 90 bit.



9 Rout out the tails by first making a very light right-to-left climb cut. Be sure to control the router firmly during the climb cut. Rout in and around all fingers, from left-to-right, to form the tails.

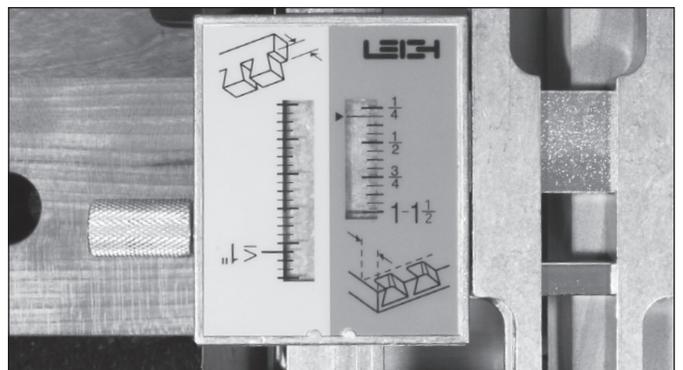


10 Mount a pin board horizontally under the top clamp bar and bring it forward butting up against a scrap board mounted in the front of the jig.

Recommended pin board thickness for the e10 guide-bush is $\geq 1\text{-}1/4"$ [31mm] and $\geq 1\text{-}1/8"$ [28mm] when using the 716TP guidebush, up to a maximum of $1\text{-}1/2"$ [38mm]



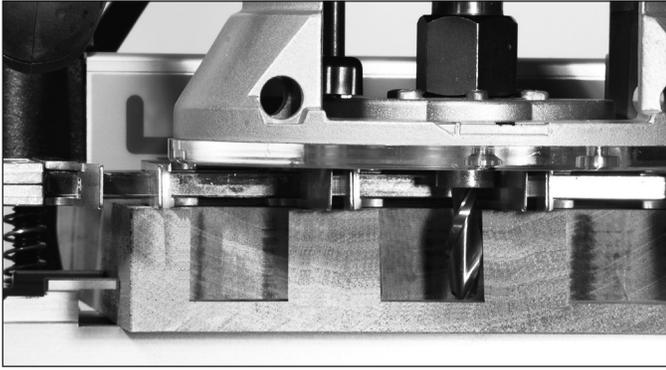
11 Flip the finger assembly to the Half-blind Pin mode.



12 Always set the pin scale to $1/16"$ [1,6mm] greater than the thickness of the tail board up to a maximum of $15/16"$ [23,8mm].

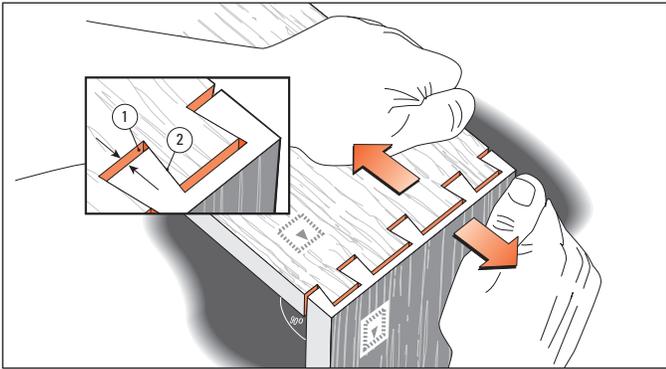
⚠ Routing into end grain of hardwood to form half-blind pins with large dovetail bits requires great care. The bit must be sharp.

Jumbo Half-blind Dovetails

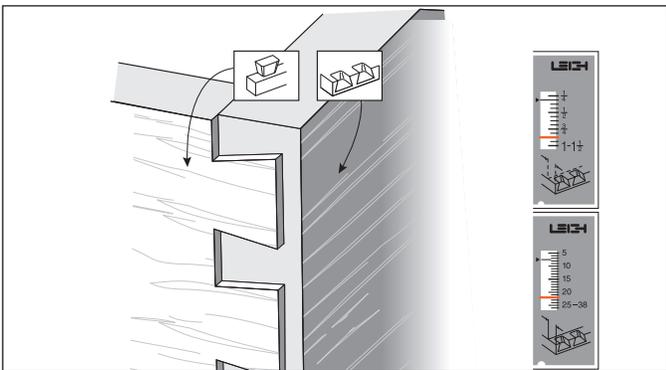


13 Remove the scrap board in front and rout the pins. **Note:** We recommend “roughing out” most of the sockets with a 3/8" [9,5mm] straight bit*, set at slightly less than the desired depth of cut. A second router fitted with the straight bit will make this process much easier.

* Use Leigh bit No. 173 or 173C with Leigh collet reducer No. 172-375



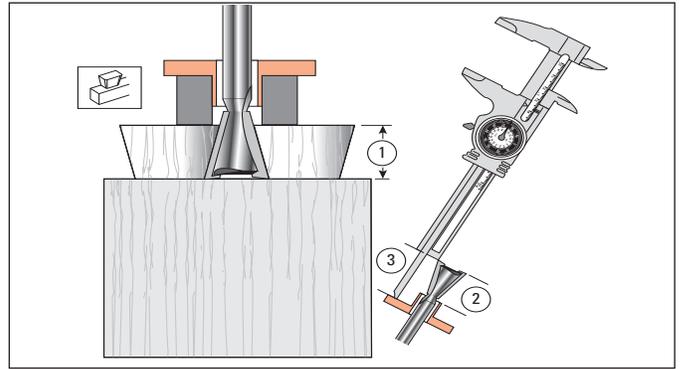
15 If the joint is loose, lower the bit (cut deeper) by the same amount as the gap at the bottom of the pins (1) (when the pins are pulled against the socket sides (2)). If the joint is too tight, raise the bit (cut less deep). Rout two new boards and check fit again. Trial and error will quickly produce a good fit.



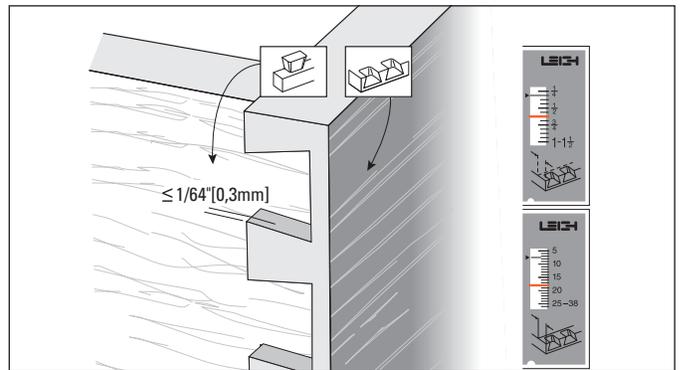
17 If the tails stand out from the pins, set the HB PINS scale away from the operator by the amount required.



14 Then, proceed to rout the pin board with the dovetail bit set at the correct depth. Remove the pin board and test the joint for fit. See sections 15, 16, 17 & 18 for fit and flushness adjustments.



16 Keep the test tail board that fits well, and mark it with the number of the bit you used, NO. 90. For quick set-up next time, clamp this tail board in the jig as a depth-of-cut gauge (1) to show how far to lower the bit. Better yet, measure the bit projection from the end of the guidebush (2) or guidebush flange (3) and record this for fast set-ups in future.



18 If the tails fit in too far past the pins ends, set the HB PINS scale toward the operator by the amount required. These adjustments for “flushness” are made only in the HB PINS mode.