LEIGH INDUSTRIES BULLETIN TIPS AND TECHNIQUES

Joining Tradition with Today

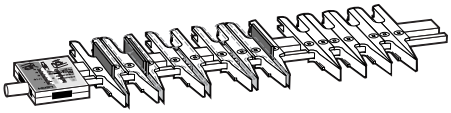
How To Rout Inlaid Through and Half-Blind Dovetails On Your Leigh Jig

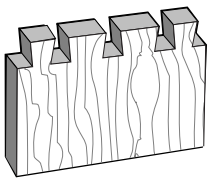
These instructions are based on the assumption that you are fully conversant with the dovetailing instructions in the Leigh Jig User Guide. Do not attempt the following procedures until you are.

INLAID THROUGH DOVETAILS

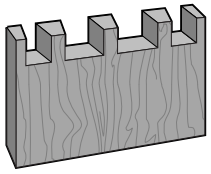
Procedure Overview

1. Lay out joint design and open each pair of fingers by two shim thicknesses. See formula, Fig. 1-3.

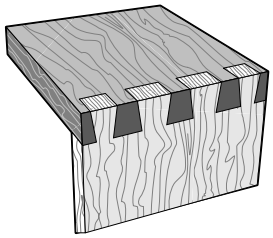




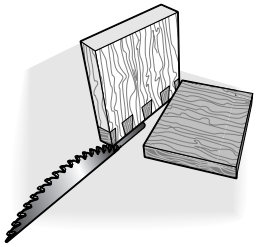
2. Rout the tails (Pin Sockets).



3. Rout Inlay Pin Board vertically in TD Pin Mode.

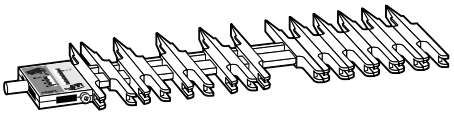


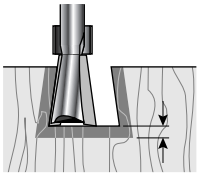
4. Glue/join inlay pins to tails.



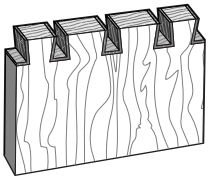
5. Saw off inlay pins.

6. Close pin guides together.

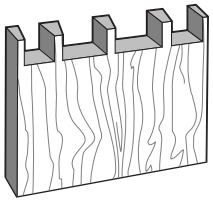




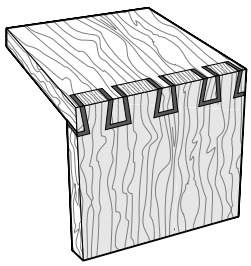
7. Raise dovetail cutter by inlay stripe thickness.



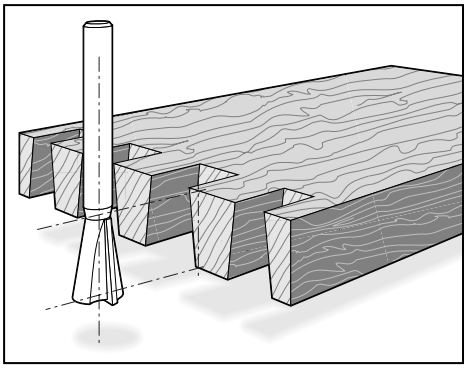
8. Re-rout tails (pin sockets).



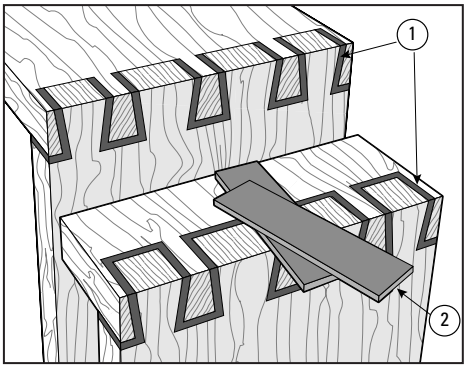
9. Rout the Pins.



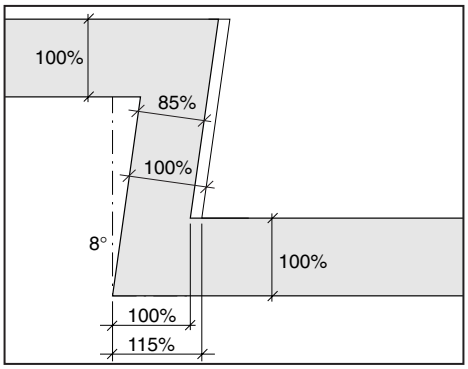
10. Glue/assemble as usual.



1 Select the dovetail cutter which comes closest to the maximum depth of cut required, which is the thickness of the **first** pin board or inlay board.
Note: The inlay board must also be thicker than the final pin board by the inlay "band" thickness.



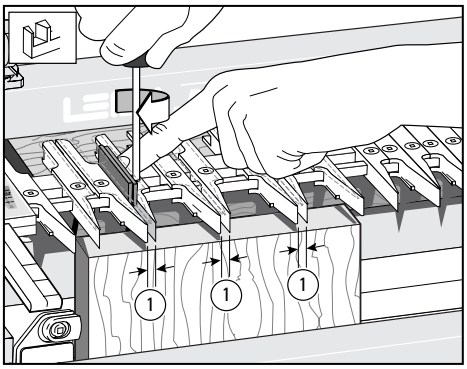
2 This procedure requires precise movement of the guide fingers between two of the routing steps. First determine the thickness of the inlay band you want ①. Make up two "shims" about 1"[25mm] x 4"[100mm] by the thickness of the inlay band required ② **multiplied by the offset factor described below.**



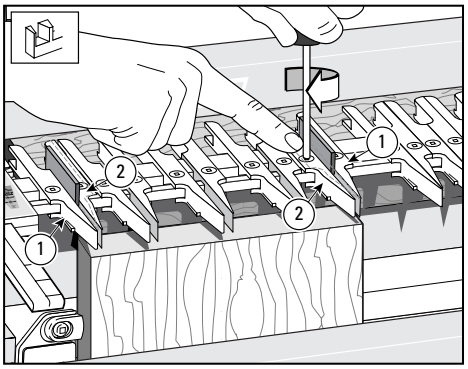
3 To achieve the correct inlay thickness along the angled cuts, **the shims must be thicker than the desired inlay thickness.** This is to compensate for the geometry of the angled cut and changing cutter depth. Multiply the inlay thickness as follows:

8° cutter: inlay thickness x 1.15

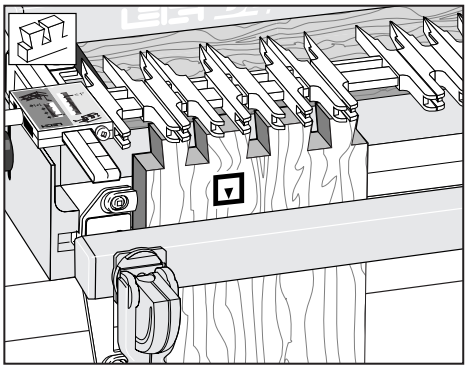
This illustration shows why the compensation is necessary.



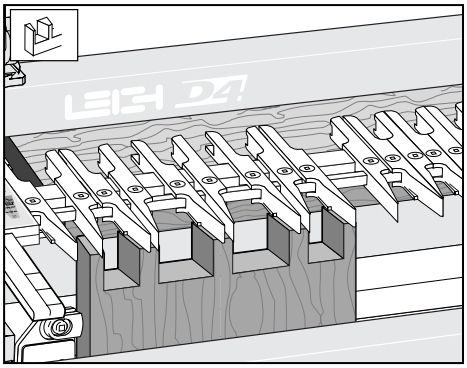
4 For full pins, open up each pair of guides by **two** shim thicknesses ①.



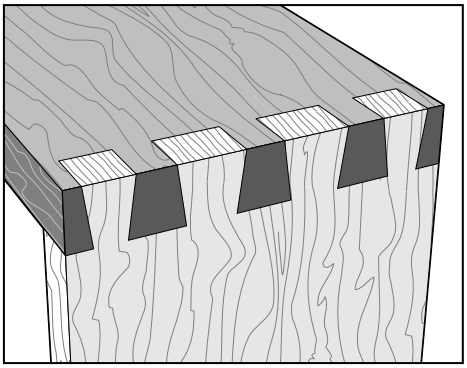
5 Move both half pin fingers in by **one** shim width. An easy way to do this is temporarily position the pair's "spare" finger ① against the half pin finger and lock. Unlock the half pin finger ②, insert the shim, and lock. Then unlock and reposition the spare fingers ① securely out of the way.



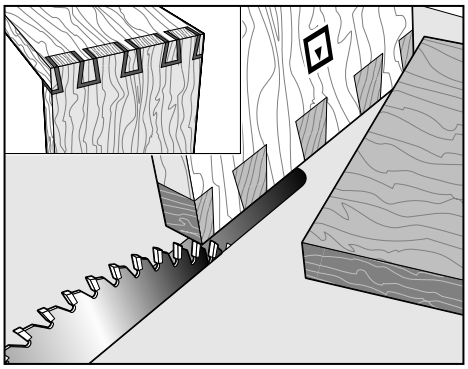
6 Rotate the finger assembly to TD TAILS mode, and lower the assembly to touch the horizontal spacer board and tail board. Rout all the pin and half pin sockets to full depth of inlay pin board thickness.



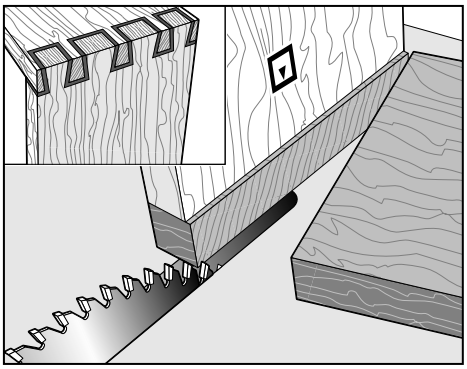
7 Rotate the finger assembly to TD PINS mode. Rout the pins in the dark inlay board.



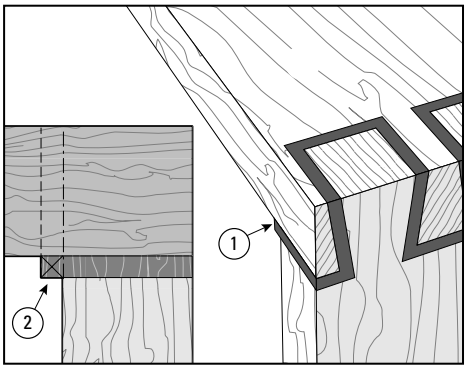
8 Glue pins to sockets and allow to fully cure.



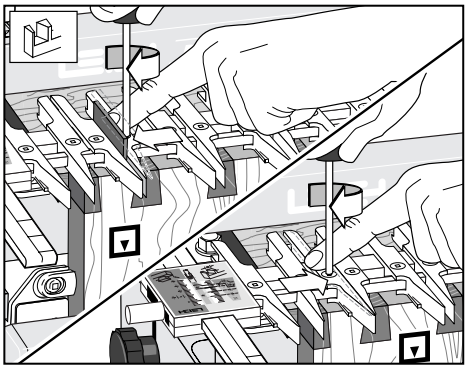
9 Saw off the pin pieces either flush to the back of the tails, which looks like this (Type 1)...



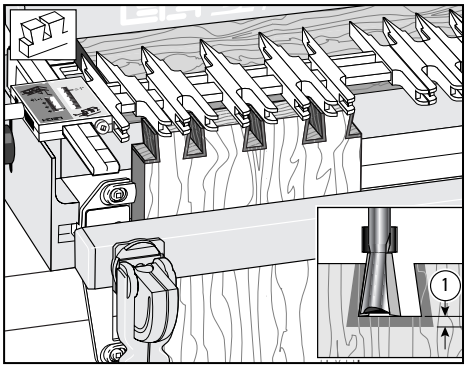
10 ... or further back by the thickness of the inlay, which looks like this (Type 2).



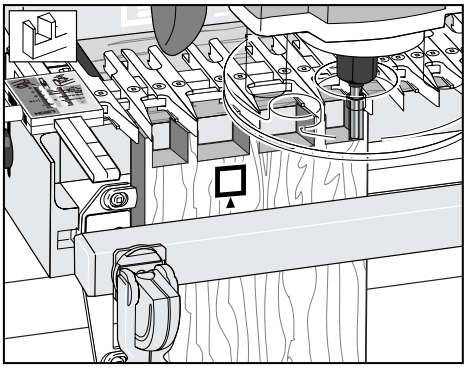
11 The latter, Type 2 method leaves a fillet on the inside corner ①. This is best removed before gluing the pins ②.



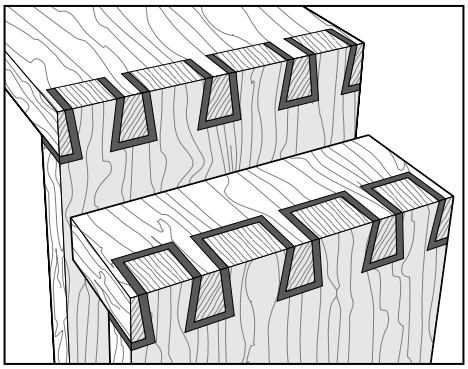
12 Close the guide fingers together in this sequence: Place **one** shim between pairs of fingers. Loosen one finger and move it toward the other, and against the shim. Lock it, remove the shim, and move the other finger to the first finger and lock. Move the half-pin guides out by the shim thickness, using the spare fingers and shim as described in 1-5.



13 Raise the dovetail cutter by the thickness of the inlay ①. Rotate fingers to TD TAILS mode and re-rout all the pin sockets through the inlay (Type 1 shown here).



14 Rotate fingers to TD PINS mode. Rout all the pin boards. Adjust the straight cutter depth of cut to suit either Type 1 or Type 2.

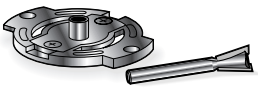


15 Glue and assemble in the usual way.

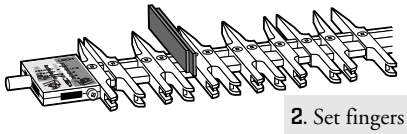
INLAID HALF-BLIND DOVETAILS

These instructions are based on the assumption that you are fully conversant with the dovetailing instructions in the Leigh Jig User Guide. Do not attempt the following procedures until you are.

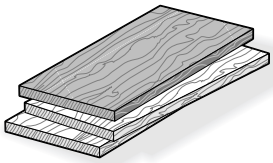
Procedure Overview



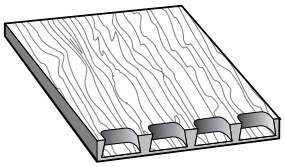
1. Use one dovetail cutter and 7/16" bush.



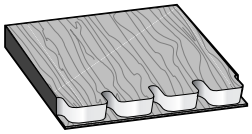
2. Set fingers with at least 2 shim thicknesses between each pair.



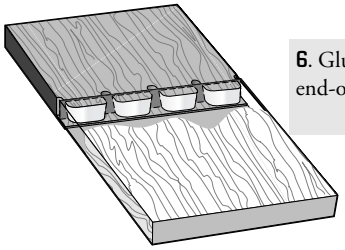
3.
1 Pin board
1 Inlay board
1 Tail board



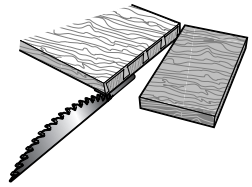
4. Rout pin board horizontally.



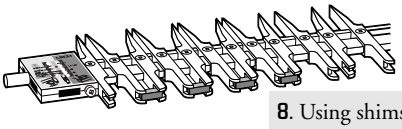
5. Rout inlay board **also horizontally.**



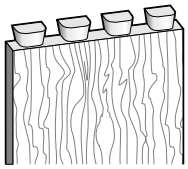
6. Glue pins and inlay end-on-end.



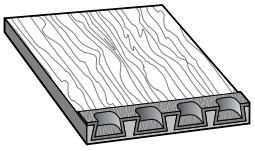
7. Saw inlay board off flush with pin board.



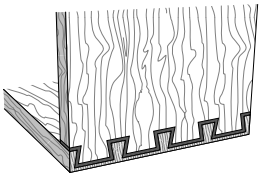
8. Using shims, reset guide fingers apart by 2 times the inlay width.
See formula, Fig 2-3.



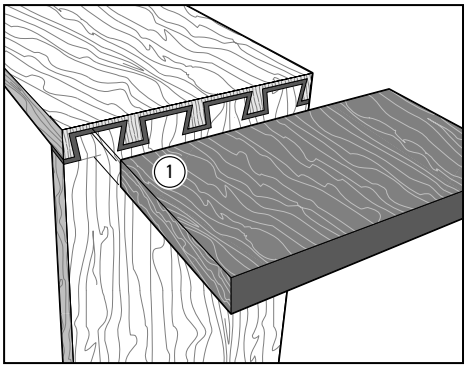
9. Rout the tail board vertically.



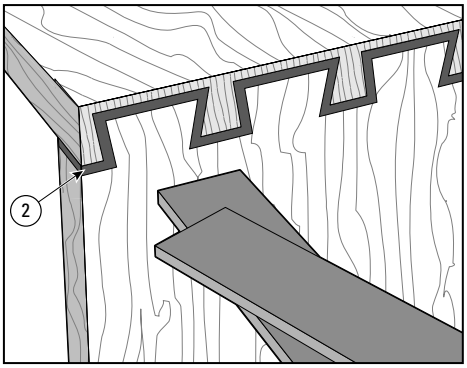
10. Re-rout the pin board horizontally.



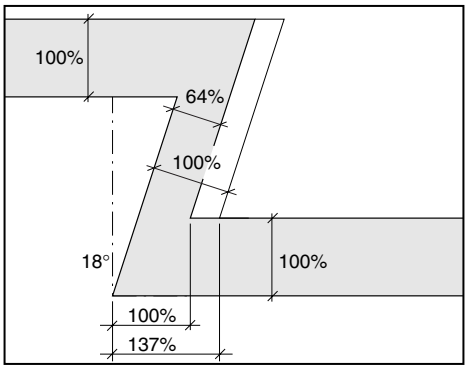
11. Glue & assemble in the usual way.



1 For these instructions we're showing white pin and tail boards and a dark inlay board. First, establish the precise cutting depth of the chosen dovetail cutter for perfect joint fit. The dark inlay board thickness ① should equal: Cutting Depth + Inlay Thickness required.

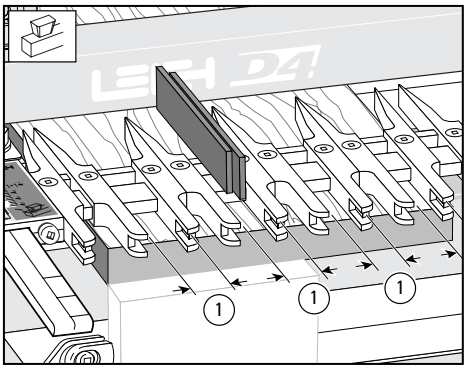


2 This procedure requires precise movement of the guide fingers between two of the routing steps. Make up two "shims" about 1"[25mm] x 4"[100mm] by the thickness of the inlay band required ② **multiplied by the factor described below.**

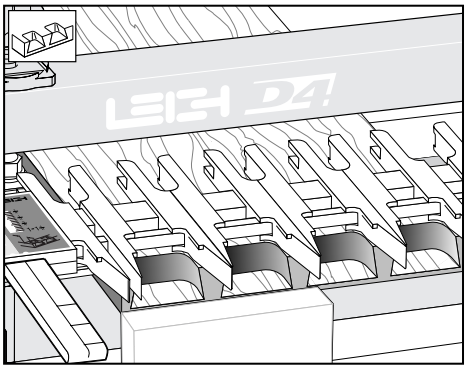


3 For correct inlay thickness along the angled cuts, **the shims must be thicker than the desired inlay thickness.** This illustration shows why the compensation is necessary.
Shim multiplication factor is:

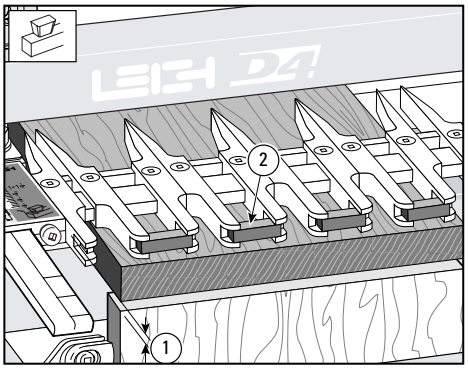
18° cutter: inlay thickness x 1.37
14° cutter: inlay thickness x 1.28
10° cutter: inlay thickness x 1.19
8° cutter: inlay thickness x 1.15



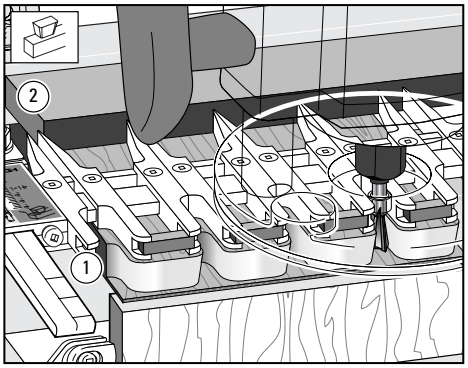
4 When first laying out the guide fingers make sure there is room for at least two shims between each pair of fingers ①. This ensures room for repositioning later.



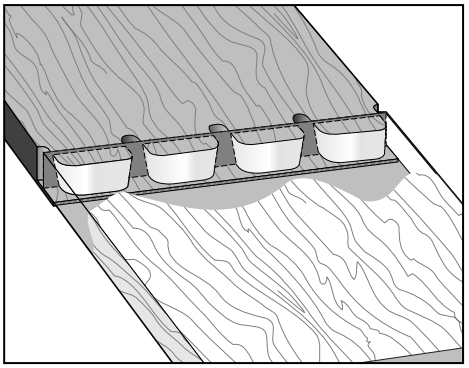
5 Rotate the assembly to the HB PINS mode. Set the pin scale on the thickness of the final tail board as usual.
Rout the pin board first (this is opposite to the normal procedure in your jig guide). Remove the pin board and the stop block.



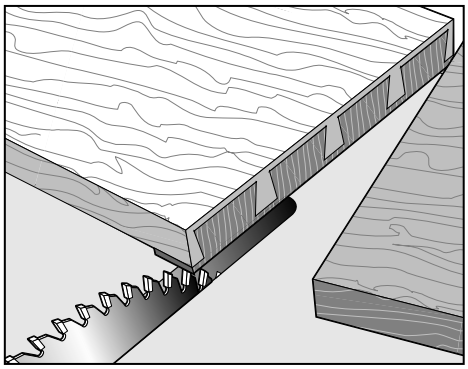
6 Clamp a final tail board in the front clamp, the top edge slightly below the top of the jig body ①. Rotate the finger assembly to the HB TAILS mode, flush onto the inlay board. Set the scale on the thickness of the tail board. Mount the inlay board in the rear clamp, the end edge flush with the outer edge of the vertical tail board. Insert bridge pieces if required ②.



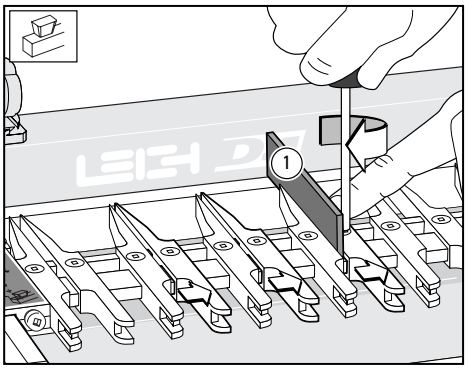
7 Rout around the tail guides. ⚠ There is no horizontal rear stop for the router. Rout back far enough to ensure there is enough "tail" to fill the tail sockets ①. If you are routing a lot of precious inlay wood, and want to avoid waste, make up a stop block to fit between the rear clamp bar and router base ②.



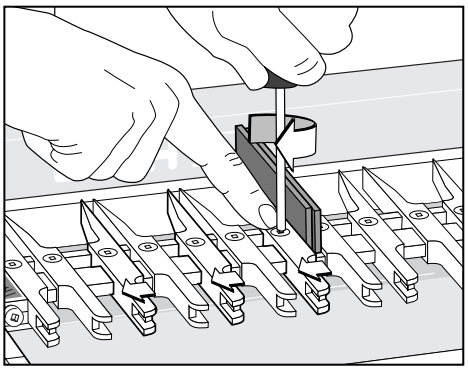
8 Glue the pin board and inlay board together end on end and allow to cure.



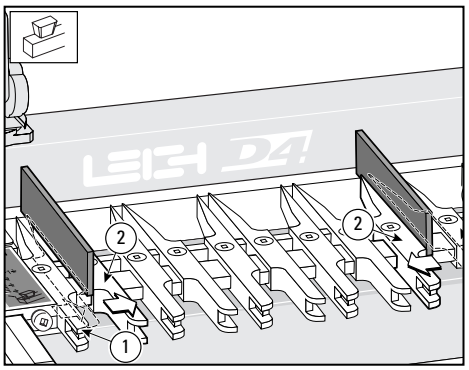
9 Saw off the inlay board flush with the end of the pin board.



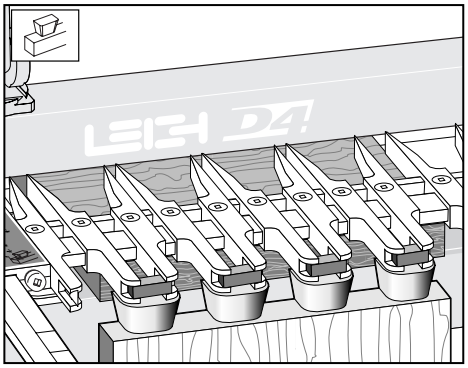
10 The jig is still in the HB TAILS mode. Remove any bridge pieces. Loosen the finger lock screw on all right hand fingers only. Leave the half pin guides for now. Move the loosened fingers to the right. Insert one of the "inlay" shims ① between a right and left hand finger. Trap the shim with the right finger and tighten its lock screw. Repeat with each pair.



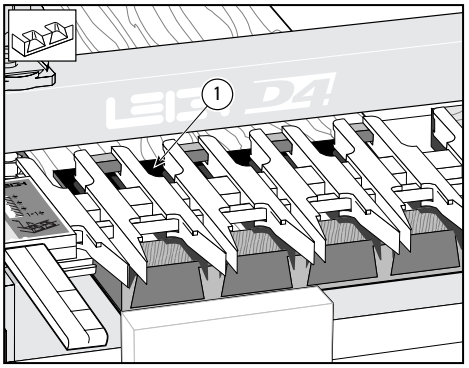
11 Loosen each left hand finger and move them to the left. Insert **both** "inlay" shims between right and left fingers. Move left finger to trap the pair of shims and tighten finger lock screw. Repeat for each finger.



12 Move the half pin guides in by one shim thickness. An easy way to do this is temporarily position the pair's "spare" finger ① against the half pin finger and lock. Unlock the half pin finger ②, insert the shim, and lock. Then unlock and reposition the spare fingers securely out of the way.

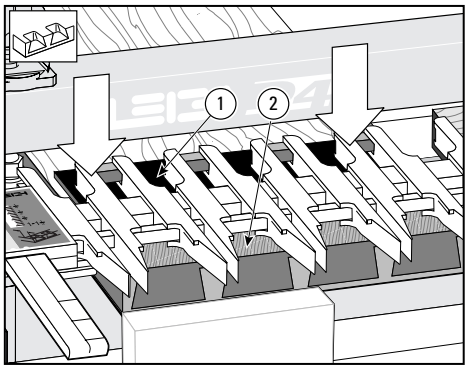


13 Fit new shorter bridge pieces if required. Confirm the HB TAILS scale is still set on the tail board thickness. With the finger assembly on the spacer board, mount and rout the tail board.

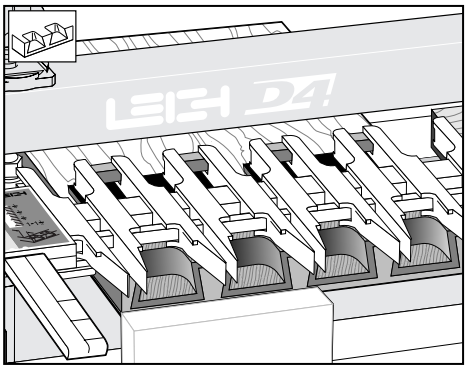


14 Rotate the finger assembly to the HB PINS mode and raise the finger assembly. Clamp the pin board with inlay in the rear clamp, front inlay end against a scrap block in the front clamp.

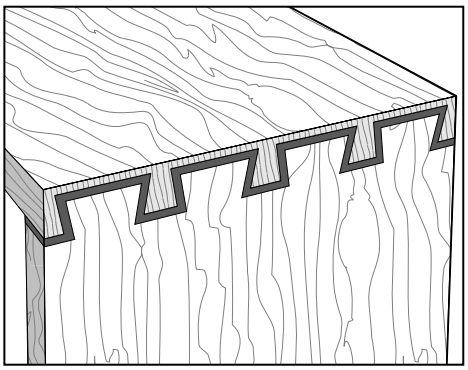
⚠ The top of the inlay wood is above the pinboard surface by the inlay thickness. Make up a spacer ① the same thickness to support the rear ends of the fingers.



15 Lower the finger assembly flush onto the spacer ① and inlay wood ②. Level the assembly and tighten support bracket knobs. **Make sure the fingers are touching the actual inlay material** ②.
Set the scale on tailboard thickness.



16 Rout the tail sockets out of the dark inlay.



17 Glue and assemble in the usual way.

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