D1600 USER GUIDE

Leigh Dovetail Jig

Joining Tradition with Today

Your New Leigh Dovetail Jig

Congratulations! You now own a most useful and versatile dovetailing tool. The Leigh D1600 Dovetail Jig will help you cut an infinite variety of joints, and all of its major functions are described in detail in this manual. A very helpful DVD is also included, but the manual is essential reading.

We recommend that you first assemble and mount the jig, carefully following the instructions in the first section of the manual. Then read the rest of the manual, following along with the basic functions and principles of operation, before you try to do any actual joinery routing. By all means, cut a few practice joints in scrap boards before you use the jig to rout a precious hardwood work piece!

If you have any questions that are not answered in the manual, please call the Leigh customer support line*.

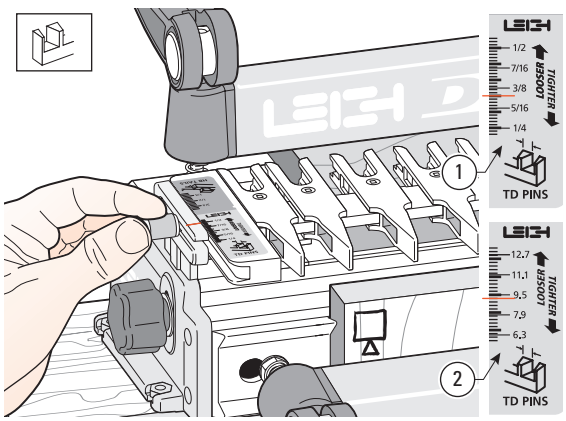
But remember: "If at first you don't succeed, read the instructions!"

*See Appendix IV – Customer Support

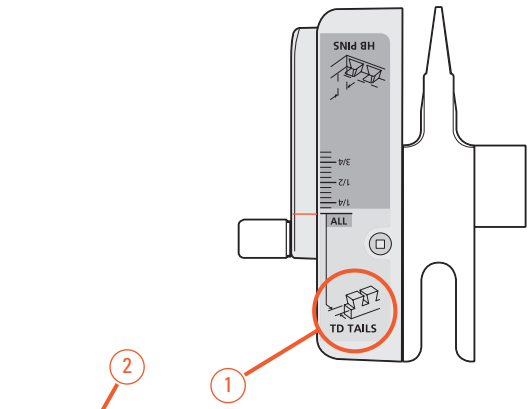
Important! Inches and Millimetres

Leigh makes the D1600 jig in two models; inch and metric. The two models are identical except for scales. Text and illustrations in this Leigh English-language user guide indicate dimensions in both inches and millimetres, with "inches" first, followed by "millimetres" in square brackets.
Example: ¾"x 5½"x 8" [20 x 140 x 200mm]

Do not be concerned if the inch/millimetre equivalents are not exact. Just use the dimensions which apply to your jig.

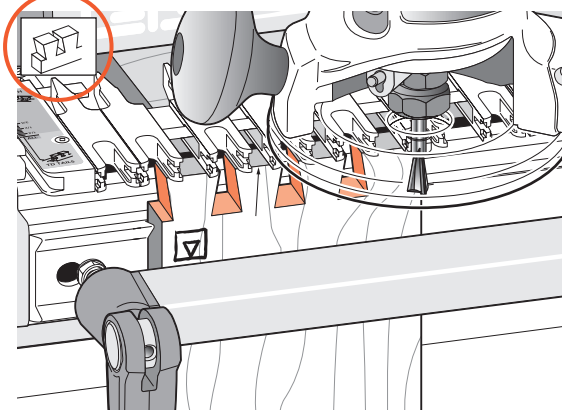


Where finger assembly scales overlay an illustration, the "inches" scale ① will be at the top, the "millimetres" scale ② will be at the bottom. Only the front "active" half of the scales are illustrated. For clarity, setting positions are indicated with a red line in the manual only. **On the jig, the lines are black.**



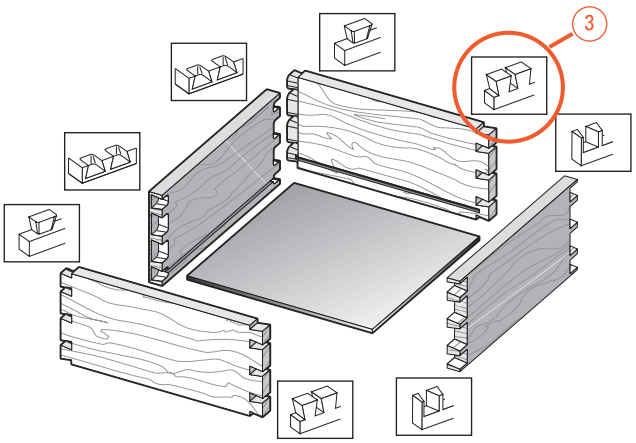
Glossary of Symbols

To help you understand the instructions and illustrations in this manual, we have used a number of international symbols, plus a few special ones of our own. They are all explained below. **You needn't worry about memorizing these symbols now,** because they are repeated quite frequently in the manual, and you will soon get used to them.



The Leigh jig's guidefinger assembly can be in any one of four joint modes, depending on what type of joint and which part of the joint you are cutting. Each finger assembly scale has it's own mode icon①, identifying that joint part. You will also find the joint mode icon in the top left corner of most illustrations②, indicating which finger assembly mode to use.

Sometimes a joint mode icon will be used to identify a board③.



These are the four joint mode icons:

TD Tails
(tails for through dovetail joints)

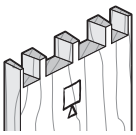
TD Pins
(pins for through dovetail joints)

HB Tails
(tails for half-blind dovetail joints)

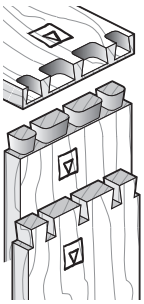
HB Pins
(pins for half-blind dovetail joints)

Which Way Round Should the Board Go?

As virtually all dovetail joinery is used to make boxes, drawers and chests etc., we devised these simple (and hopefully intuitive) icons to indicate which side of a board faces inwards or outwards on the finished "box", and which side of the board faces outward (toward you, the operator), when it is clamped in the jig.

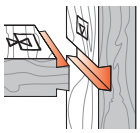


This icon indicates the "outside" of a board. All through dovetail pin boards are mounted in the jig with this "outside" face away from the jig (toward you, the operator).

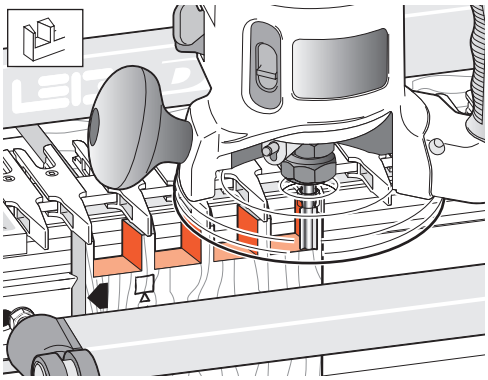


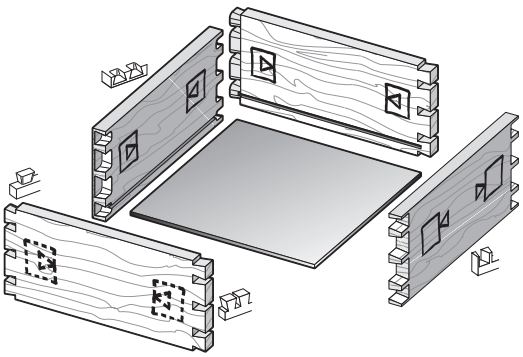
This icon indicates the "inside" of a board. All half-blind pin and half-blind tail boards, and through dovetail tail boards, are mounted in the jig with the "inside" face away from the jig toward you, the operator.

This icon indicates boards that are mounted both ways e.g. sliding dovetails.



Dotted line icons indicate the "other" side of the board in the illustrations.





The following symbols indicate:

This edge against sidestop

This edge against sidestop

Sawcut allowance

Caution: use special care for this operation

①②③ **Numbered References in text**

Centreline of board or layout

Equals

Does not equal

Approximately

D1600 CHAPTER 1

Jig Assembly, Mounting and Using The Clamps

Make Sure You Have All the Parts!

Before you start to assemble your Leigh D1600 jig, 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 DVD instructional video (English only)
2. Cutters:
   2 Dovetail, 1 straight, 1 Collet Reducer, 1 Guidebush
3. 2 scale thumbscrews and nylon washers
4. 2 support brackets
5. 2 knobs
   2 nylon washers
6. 1 square-head guidefinger screwdriver
7. 4 clamp springs
   4 clamp T-bolts
   4 flat washers
   4 T-bolt nuts
   4 Jig Hold-down Nuts & Machine Screws ¼"-20
8. 4 cam-action speed clamps
   4 cam clamp pivot nuts
   …and any other small optional items you may have ordered with your new jig. Check the packing slip for this information.

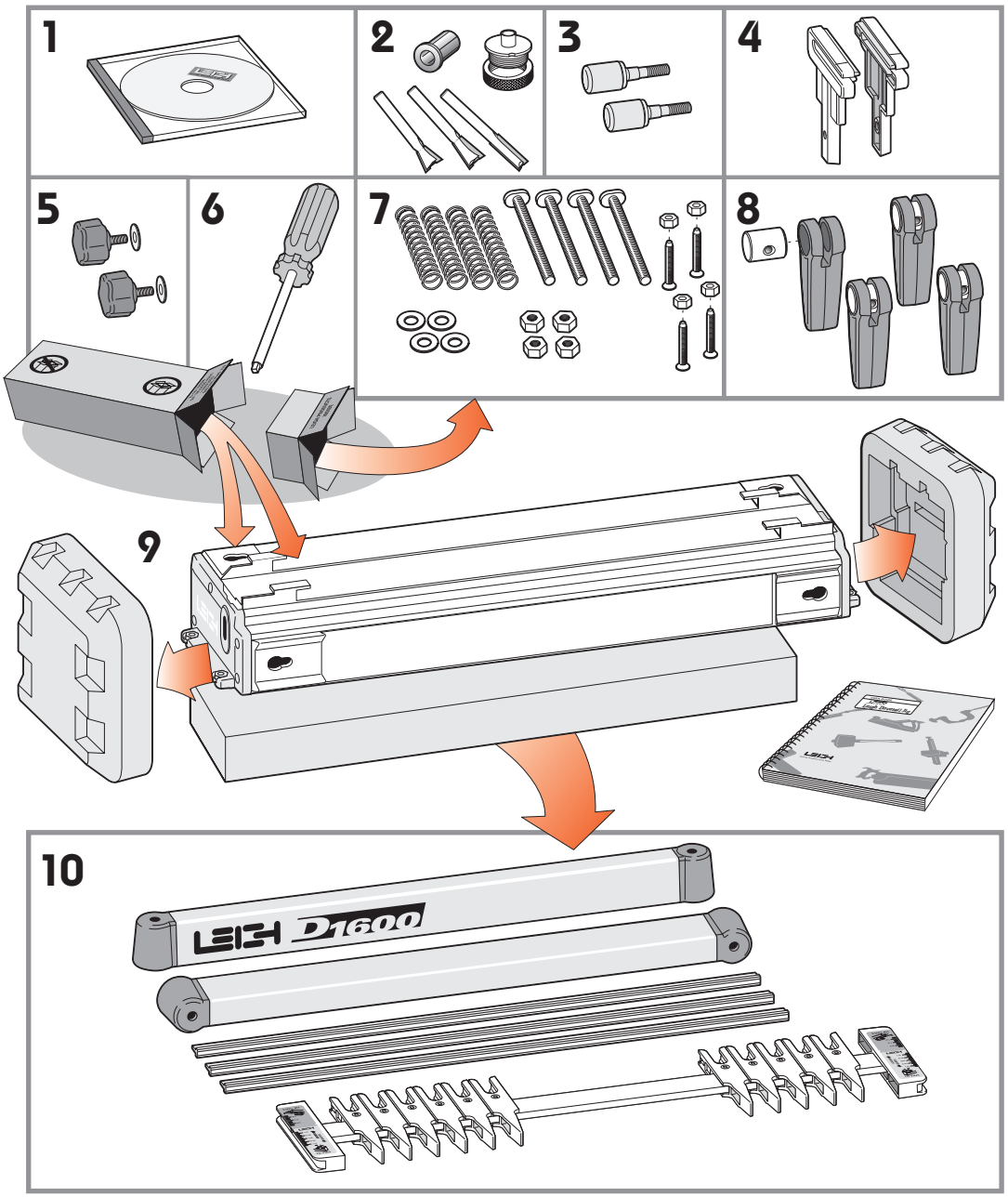
The main carton contains:

9. 1 main jig body
   1 Leigh jig user guide

The large inner box contains:

10. 1 finger assembly on a bar, complete with scales
    (D1600 jig has 11 guidefingers)
    2 lengths bridge material
    1 cross cut fence (identical to bridge)
    2 clamp bars c/w end plugs

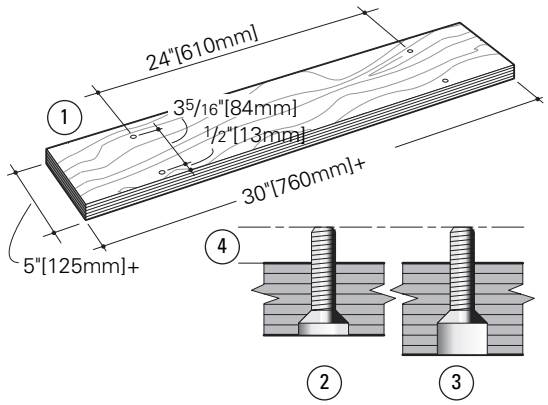
If any of these items are missing from your jig, please notify your supplier or Leigh Industries immediately.



Important Note

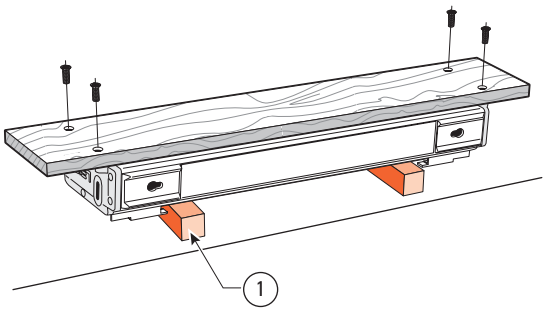
Mount your jig securely and assemble it completely before you try to use it.

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



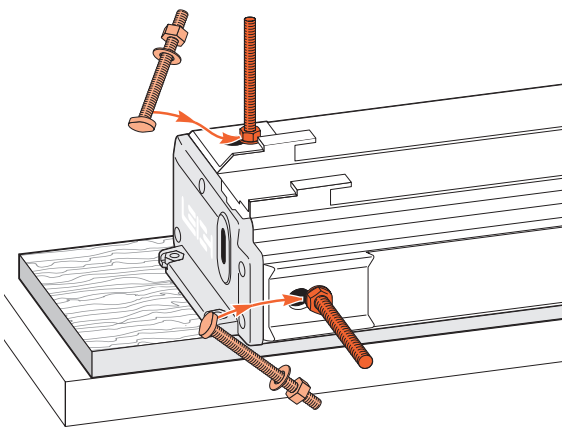
1-1

Prepare a flat board at least ¾"[20mm] thick, a minimum of 30"x5"[760x125mm]. Drill four 9/32"[7mm] holes on 24"x 3 5/16"[610x84mm] centres, ½"[**13mm**] **in from the front edge of the board** . Countersink ② or counter-bore ③ if the board is thicker, the underside so that the four ¼-20x1" long machine screws will project above the top surface by ⅜"[9,5mm] ④.



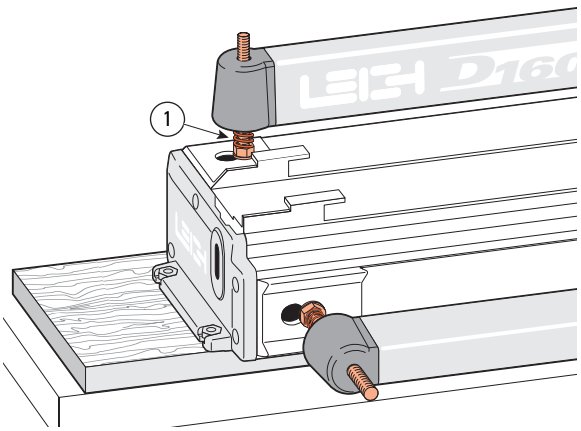
1-2

Turn the jig 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. The ½"[13mm] front edge to the front of the jig (of course).

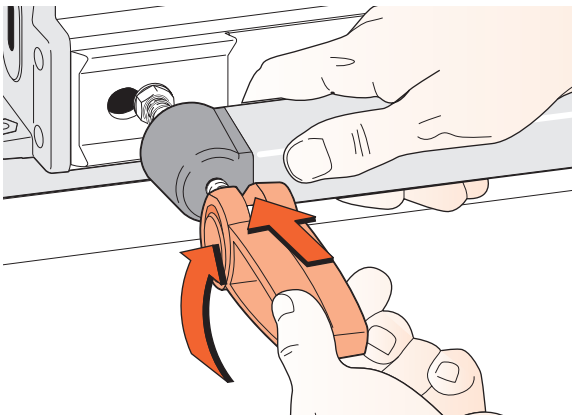


1-3

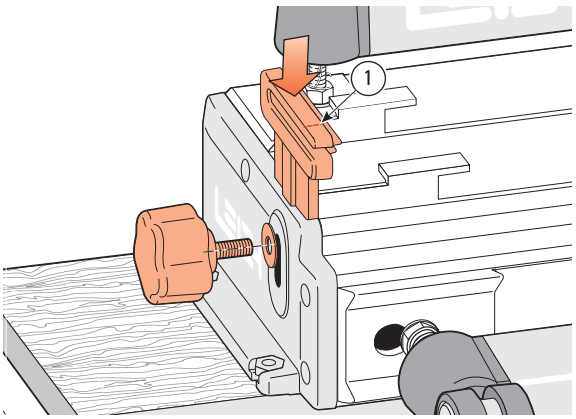
Insert the four clamp T-bolts into the key hole openings (two at each end of the jig). Position so that the T-bolts are at the inner ends of the key holes. Tighten the four clamp bolt nuts with the Leigh wrench.



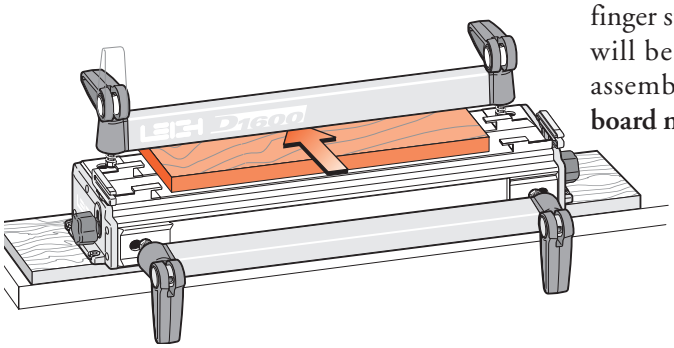
1-4
Place four springs ① and two clamp bars on the T-bolts. Make sure the clamp bars move freely on the T-bolts.



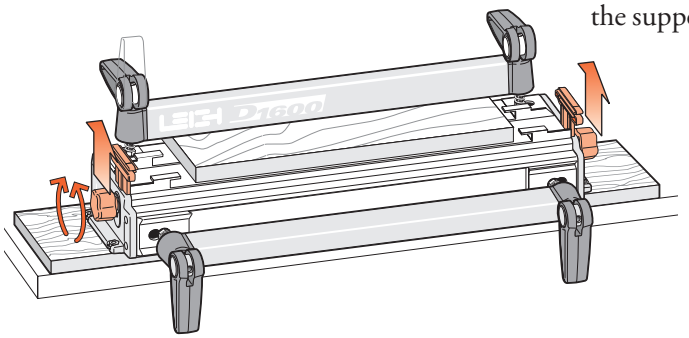
1-5
Screw a clamp lever assembly onto each T-bolt.



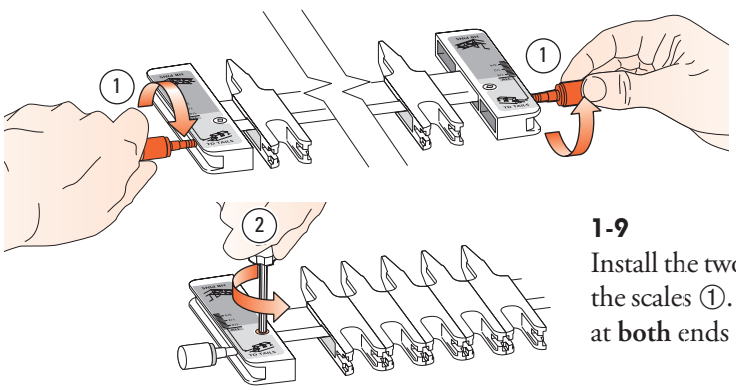
1-6
Insert the right and left support brackets. Attach the knobs and nylon washers, raise them to full height and tighten the knobs.
Note: The set line on this support bracket ① is shown in red for clarity in this manual only. The actual bracket lines are black.



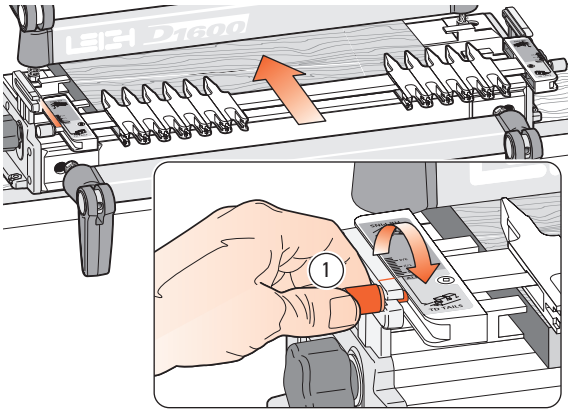
1-7
Make up a ¾" x 6" x 15"[20x150x380mm] finger support board as shown. This board will be used to support the guidefinger assembly in **all front-clamping vertical board modes**.



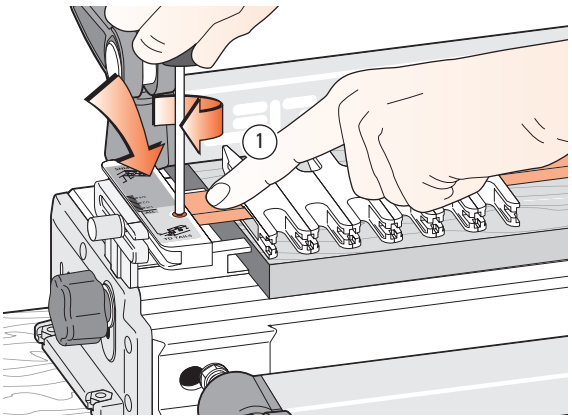
1-8
Raise both end support brackets and tighten the support bracket knobs.



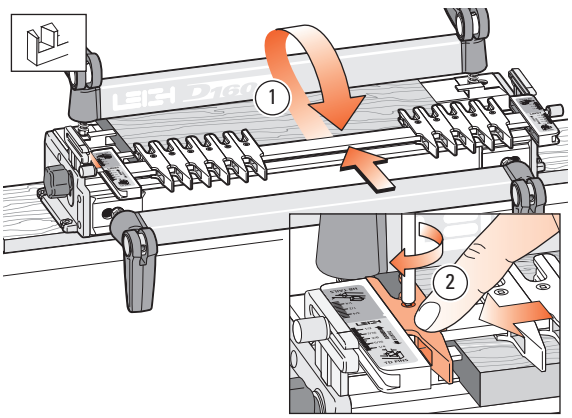
1-9
Install the two thumbscrews a few turns into the scales ①. Loosen the scale lock screw ② at **both** ends (by one turn only).



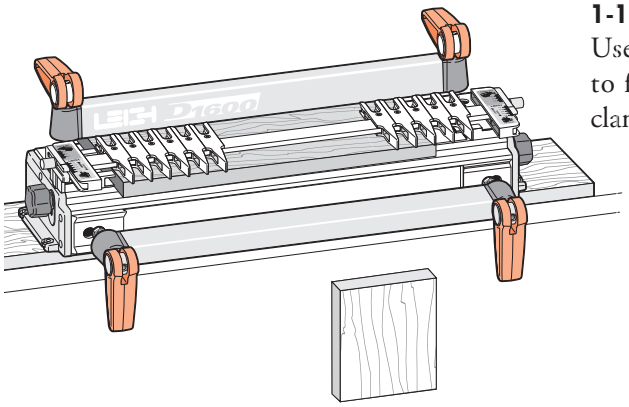
1-10
Slide the finger assembly onto the support brackets, in the TD Tails mode and set on the ALL setting. **Tighten both thumbscrews ①.**
Do not lower the assembly onto the finger support board.



1-11
Now tighten both scale lock screws ①. **Press down on the bar as you do this to ensure proper positioning of the bar in the block.** Now when the thumbscrews are loosened, the finger assembly should easily slide on and off the support brackets.
If they are sticky to move on the support brackets, apply a little candle wax or TopCote® to the mating surfaces. **To ensure correct finger assembly alignment, follow this same procedure whenever you remove the scales from the finger assembly.**

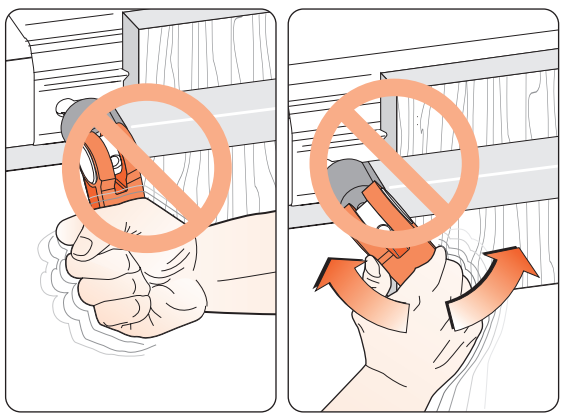


1-12
Rotate the finger assembly to the TD Pins mode ①, and move the outer guidefingers to touch the scale block and lock in position ②.
Note: the outer guidefingers are used for router support only.



1-13 The Jig Clamps

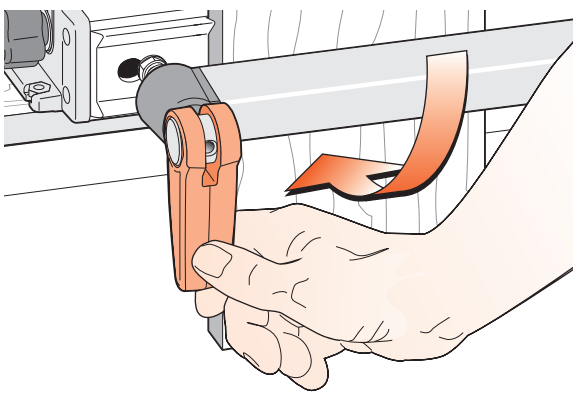
Use a piece of flat, even thickness wood to familiarize yourself with the jig cam clamps.



1-14

You will operate the cam-action speed clamps every time you use the jig, so get used to the feel of the clamps first. **Do not force the cam-action speed-clamp.** It has great leverage, and excessive force may damage the workpiece or the jig.

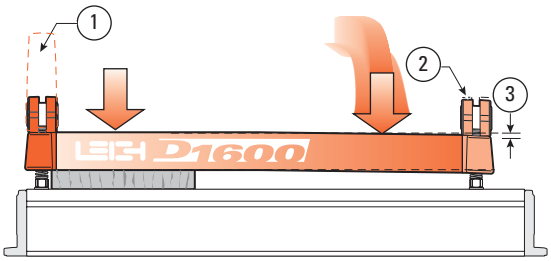
Do not use the lever as a torque arm. Adjust the clamp tension only with the clamp disengaged.



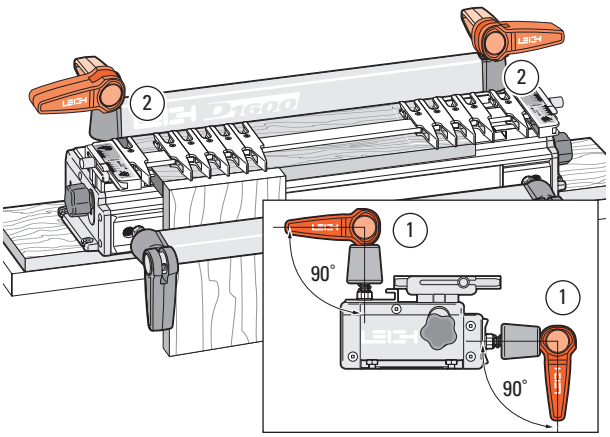
1-15

A smooth, firm action is enough to engage the clamp.

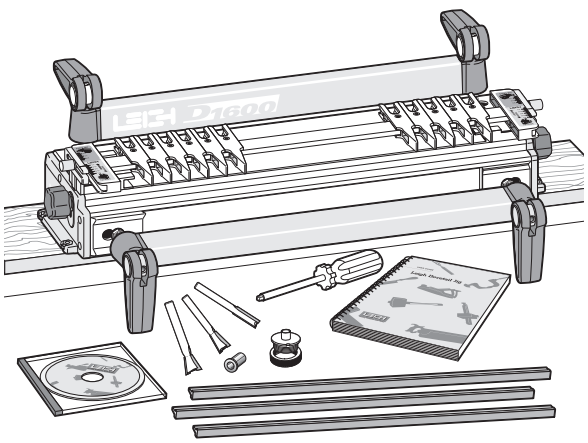
Rule of thumb: If you can't throw the lever by pressing the end of it firmly with your thumb, reduce the tension. **Firm thumb pressure is about right.** A few minutes of trial and error will help you feel the right clamp tension.



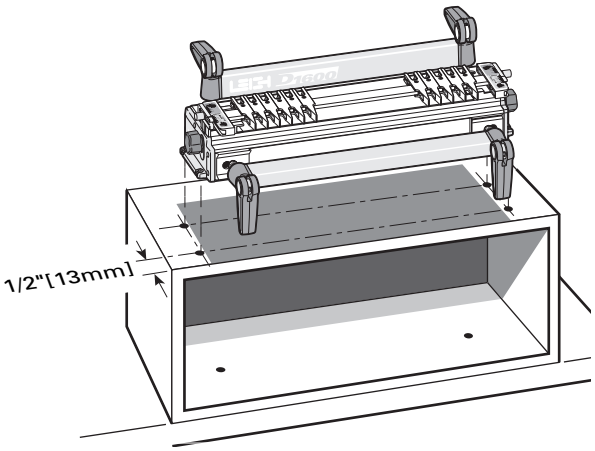
1-16
For all but the wider workpieces, you need only operate the clamp on the workpiece end of the jig to release the board ①. For narrower boards, the clamp at the free end ② should be just tight enough to bow the clamp bar about 1/16"[2mm] ③.



1-17
When engaged, the front clamp levers should normally point down and the rear levers should point away from the operator ① or up to 90° either side ② as required to obtain the optimum clamping pressure.



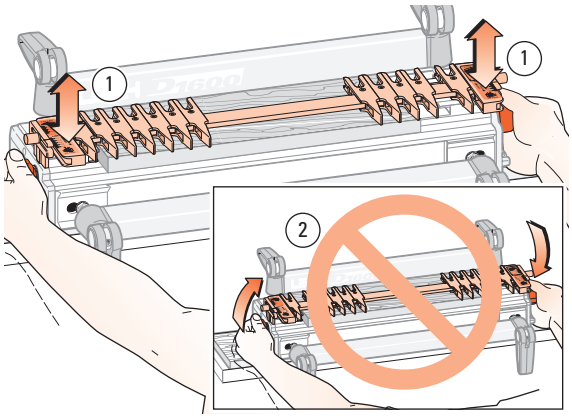
1-18
After you mounted the jig and finger assembly, you should have these items left over:
- 1 DVD instructional video (English only)
- 1 Guidebush and nut
- Cutters: 2 Dovetail, 1 straight
- 1 Collet Reducer
- 1 square-head guidefinger screwdriver
- 1 Leigh jig user guide
- 2 lengths bridge material
- 1 cross cut fence (identical to bridge)



1-19
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 15-13 ■

D1600 CHAPTER 2

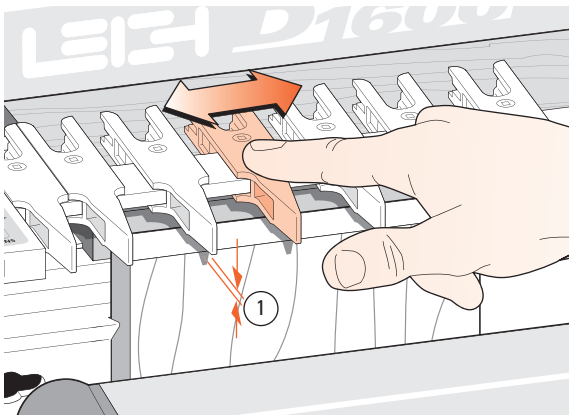
Adjusting the Finger Assembly



2-1

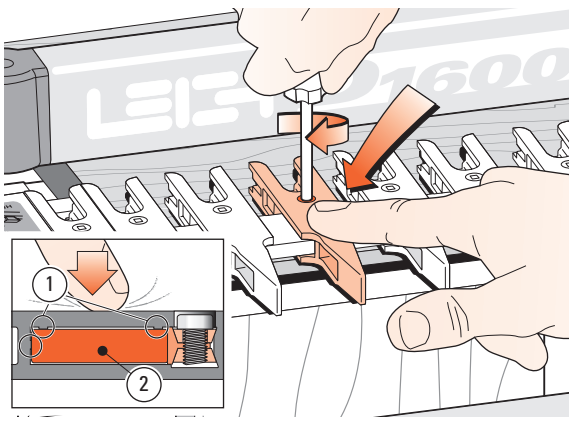
Practice with the finger assembly height adjustment. Loosen the support bracket knobs and hold them firmly. Raise and lower the assembly evenly, **keeping it level** ①, and tighten the knobs to lock it at various heights.

Do not raise or lower one end of the finger assembly at a time ②.



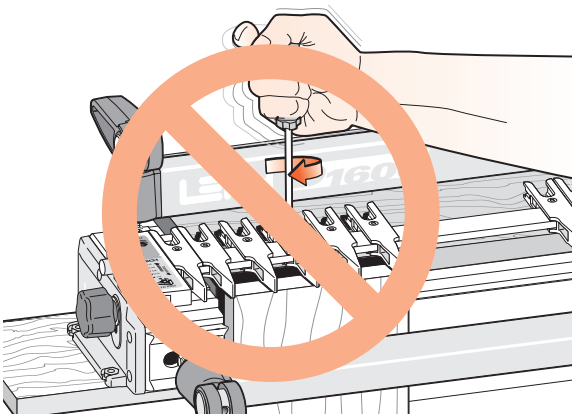
2-2

To practice adjusting the guidefingers, put a board in the front clamp. **Always raise the finger assembly slightly, approximately 1/16"[2mm] above the spacer board and/or workpiece** ①. This is essential to allow the guidefingers to move freely on the guidefinger bar and ensures that the fingers will be level and flush when locked up. Move the guidefingers by pushing on the middle to slide them along the guidefinger bar.

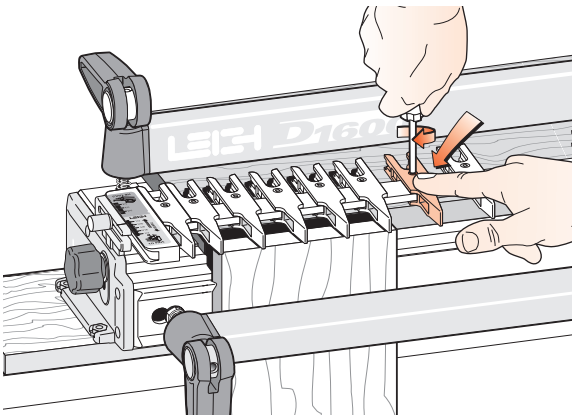


2-3

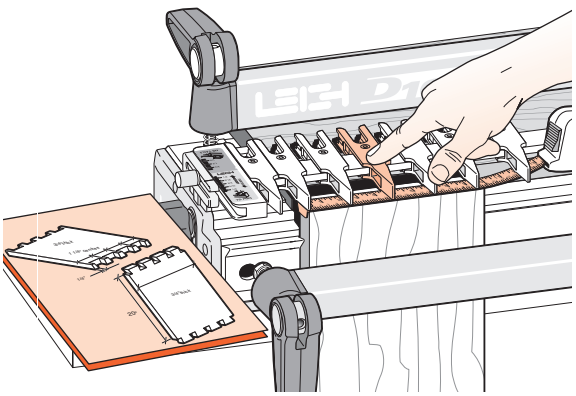
Loosen about half the guidefingers and practice unlocking, moving, positioning and relocking them. **Always press on the centre of the guidefinger when tightening the screws.** This ensures that the small pads ① on the inside of the finger contact the face of the finger bar ② and keeps all the fingers level.



2-4
Do not over-tighten the guidefinger lock screws. The Leigh screwdriver provided will give ample torque for easy lock-up without strain.
Hint: Finger-tip tighten a loose screw until the slightest resistance is felt. Do not tighten the screw more than half a turn (180°) from the first contact.



2-5
Always tighten unused guidefingers before routing, as router vibration may cause loose screws and finger lock parts to fall out and be lost.

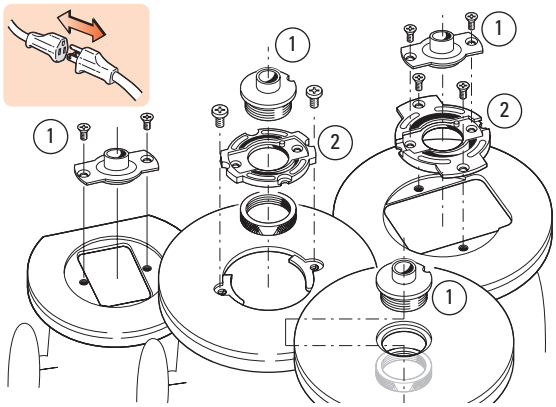


2-6
You can adjust the guidefingers by eye, or by measurement to suit a set of plans. ■

D1600 CHAPTER 3

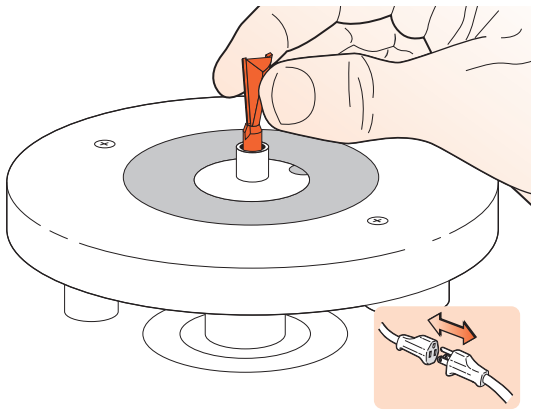
How Routers with Guidebushes Work

The Guidebush is the vital link between router and jig. Here's how it works.

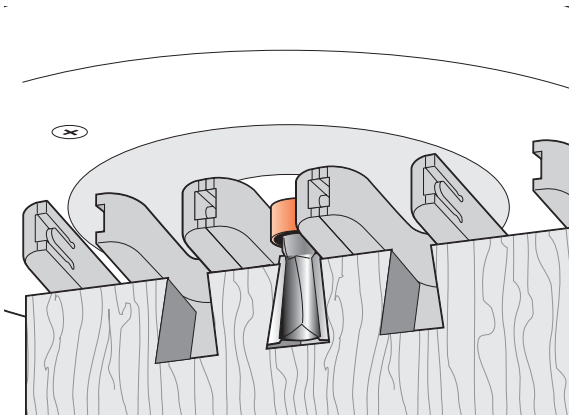


3-1
The guidebush ① attaches to the base of the router and is fixed. It does not rotate. Your router may also require a guidebush adaptor ②.

Only one size of guidebush is used with the Leigh D1600 Jig: 7⁄16"[11,1mm] OD (outside diameter). See page 102 "Guidebush Selection".



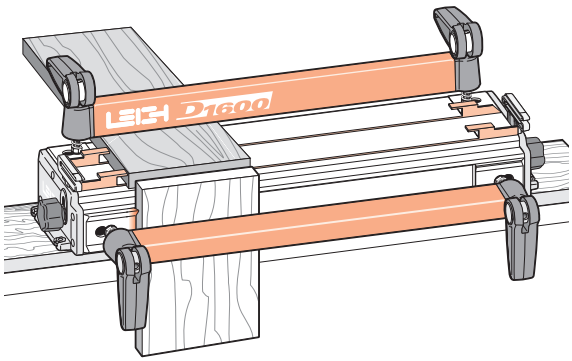
3-2
The cutter or bit goes through the guidebush and fits in the router collet or chuck.



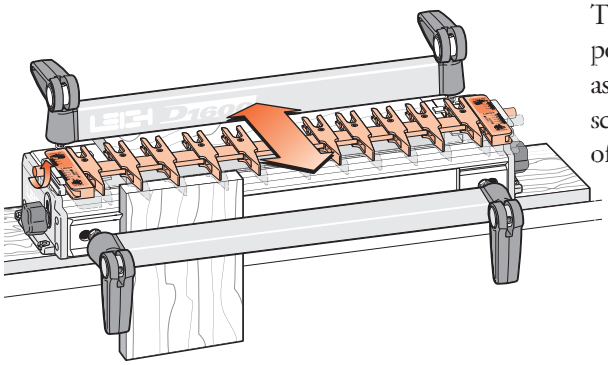
3-3
The projecting part of the guidebush runs along the side edge of a guide. The rotating cutter cuts the wood only, and touches neither the guidebush nor the guide surface. ■

D1600 CHAPTER 4

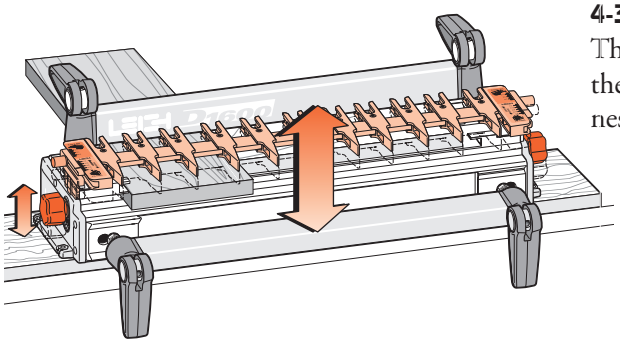
Operation Concepts and Basic Jig Functions



4-1
The two clamp bars hold workpieces horizontally or vertically. The side stops align the boards in the correct position each time.



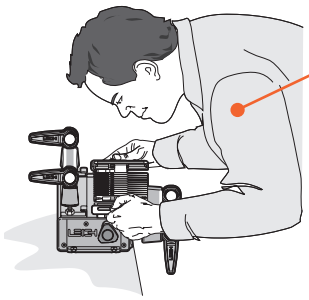
4-2
The guidefinger assembly slides in the support brackets above the workpiece. The finger assembly is adjusted in or out using calibrated scales on each end to suit different thicknesses of vertical boards.



4-3
The finger assembly is raised or lowered using the support brackets to suit different thicknesses of horizontal boards.

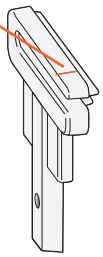
THE FOUR SCALE MODES

The Finger Assembly attaches to the support brackets in four different modes to match the type of joint you are cutting.



Reading scales from directly above helps sight the lines accurately.

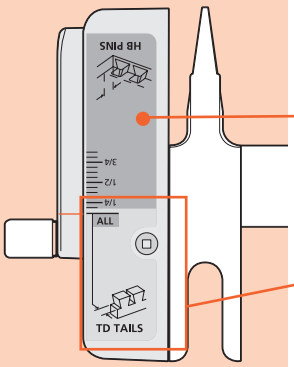
This line is for the finger assembly scales. **The line is illustrated in red for clarity in this manual, but is black on the jig.**



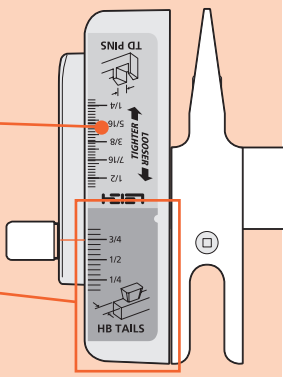
Note: Inch scales are shown here. Millimetre scales have similar layouts.

The **inactive** scale is always on the rear of each scale assembly and is upside-down.

The **active** scale is always on the front of each scale assembly.



1. TD TAILS



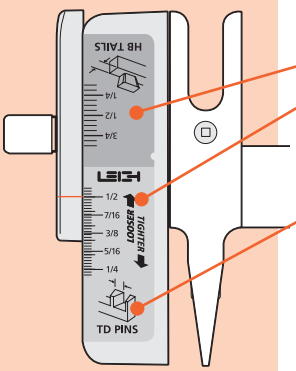
3. HB TAILS

Scales are colour coded.

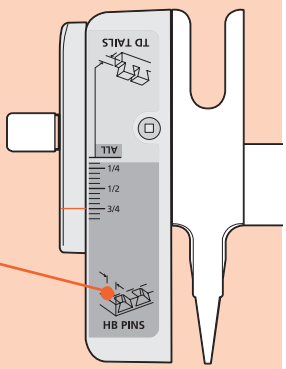
- Green: Half-Blind Dovetails.
- Silver: Through Dovetails.

Each scale has it's own mode icon (a drawing of the joint part made in that mode).

The specific settings for each scale are fully described in the appropriate chapters.



2. TD PINS



4. HB PINS

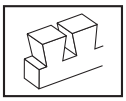
CONCEPT OF JIG OPERATION – THROUGH DOVETAILS

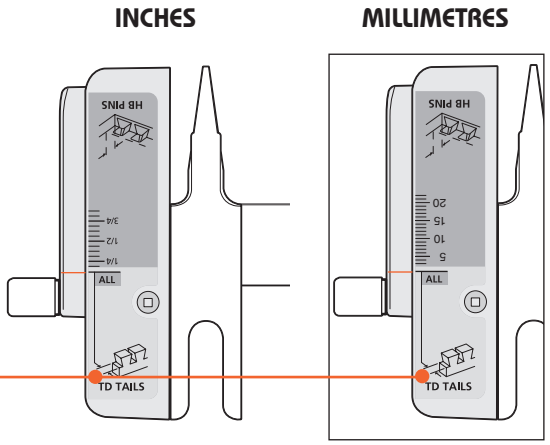
Start with the Finger Assembly in the TD TAIL mode and follow these steps on your jig. Grasping the simple basic concept of operation will now greatly assist you in understanding the instructions. *Note that the active guide surface (against which the guidebush runs) is indicated in red in these illustrations.*

1 Start at
THROUGH DOVETAIL TAILS (TD TAILS) mode

MODE ICONS

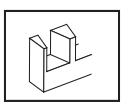
Each illustration in this manual includes the correct *mode* icon for it's current instruction. Icons are also used in the text.

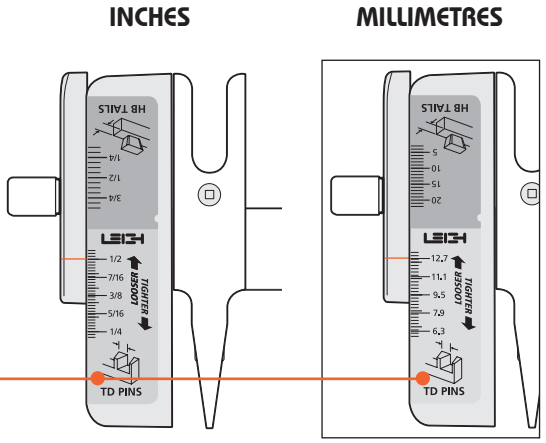




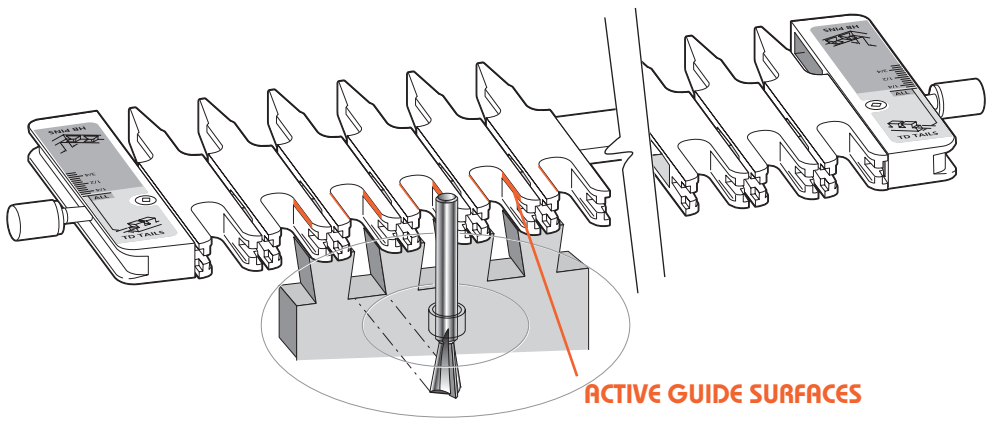
2 **ROTATE** the finger assembly toward you 180°

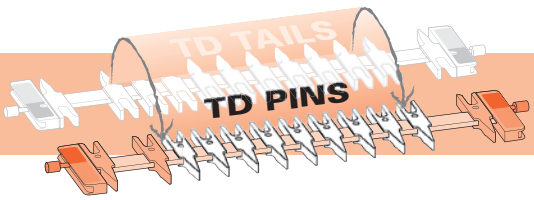
3 Now the Finger Assembly is in
THROUGH DOVETAIL PINS (TD PINS) mode

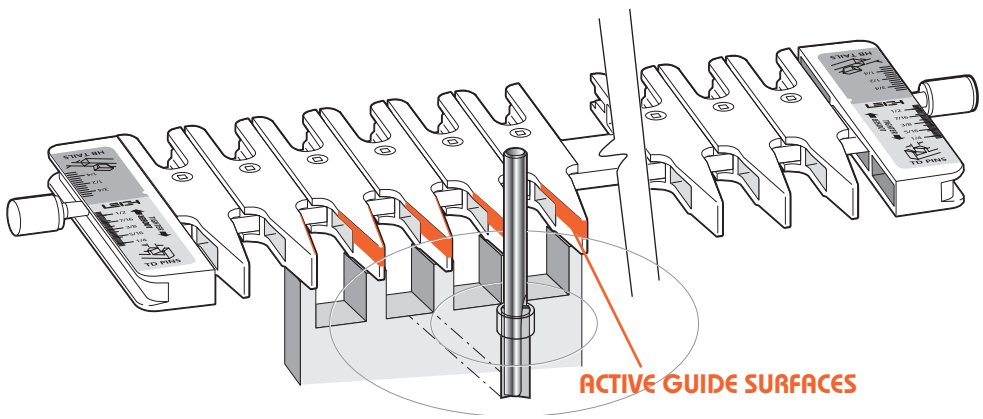


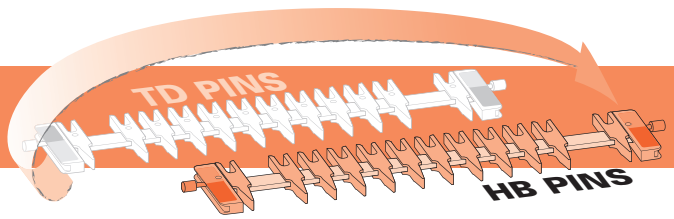


4 **FLIP** the Finger Assembly end-over-end 180° (to Half-Blind Dovetail Pins, overleaf)


ACTIVE GUIDE SURFACES

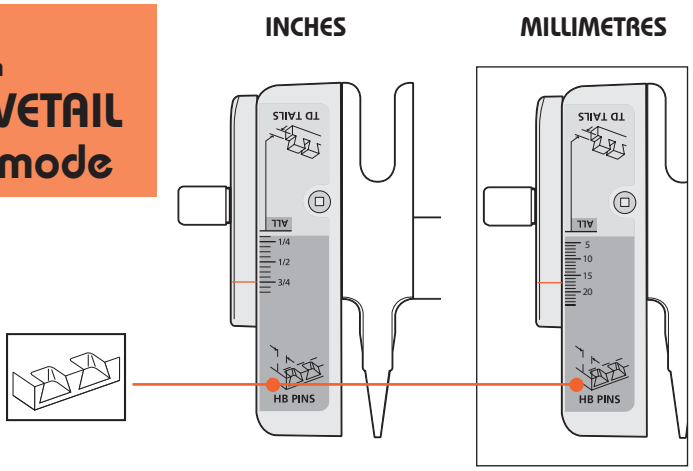

TD TAILS
TD PINS


ACTIVE GUIDE SURFACES


TD PINS
HB PINS

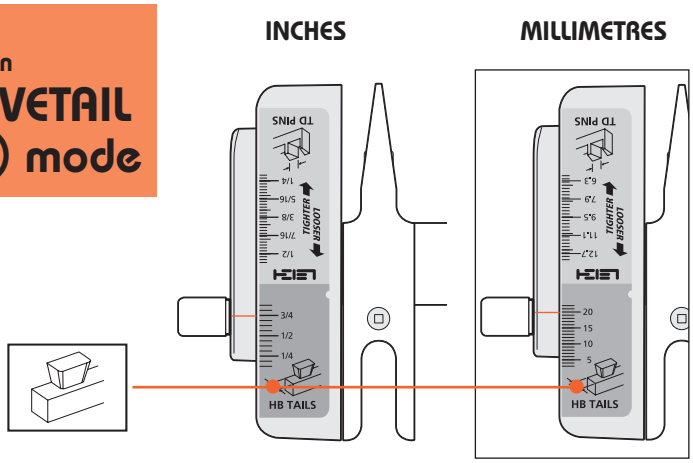
CONCEPT OF JIG OPERATION – HALF-BLIND DOVETAILS

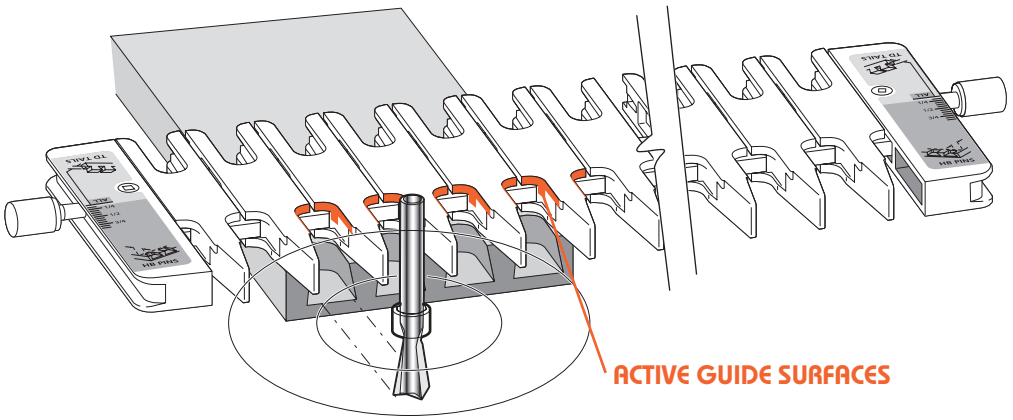
5 Now the Finger Assembly is in
HALF-BLIND DOVETAIL PINS (HB PINS) mode

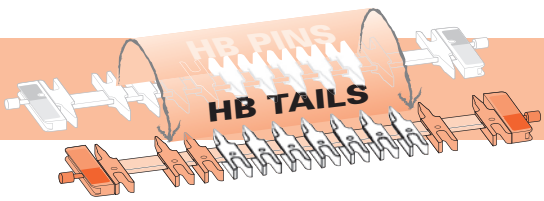


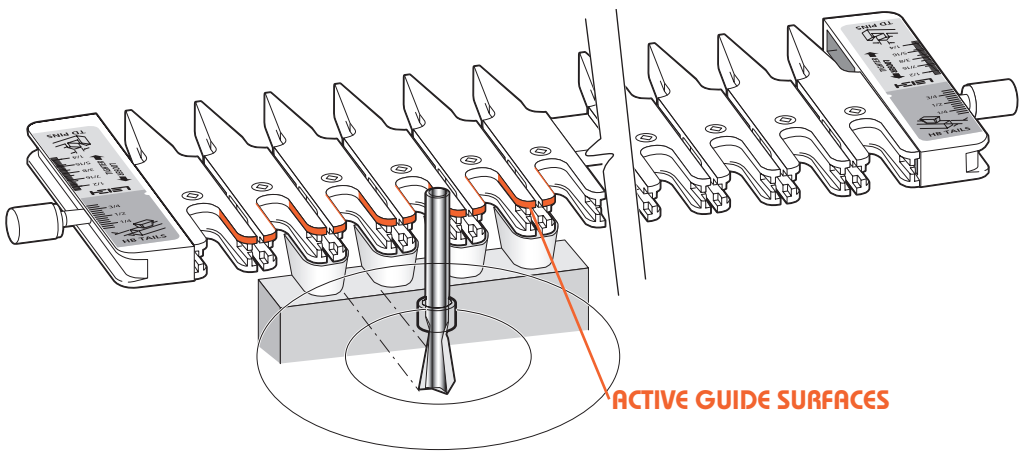
6 **ROTATE** the finger assembly toward you 180°

7 Now the Finger Assembly is in
HALF-BLIND DOVETAIL TAILS (HB TAILS) mode




ACTIVE GUIDE SURFACES


HB PINS
HB TAILS

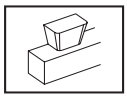

ACTIVE GUIDE SURFACES

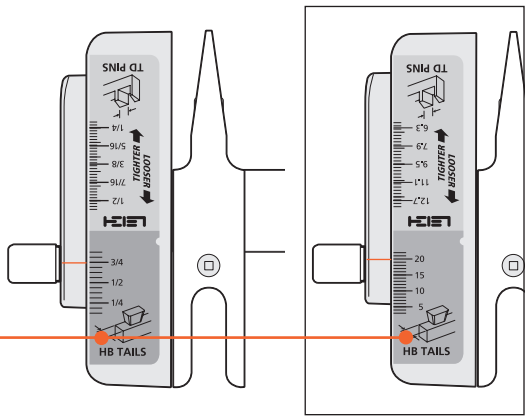
CONCEPT OF JIG OPERATION - SLIDING DOVETAIL JOINTS

The HB TAILS mode is also used with the cross-cut fence to cut sliding dovetail joints.

8 With the Finger Assembly in **HALF-BLIND DOVETAIL TAILS (HB TAILS) mode, install the cross-cut fence**

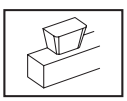
Sliding Dovetail slots are cut across the board face.

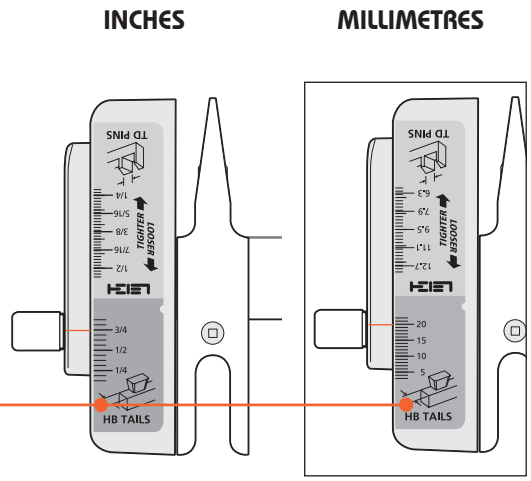


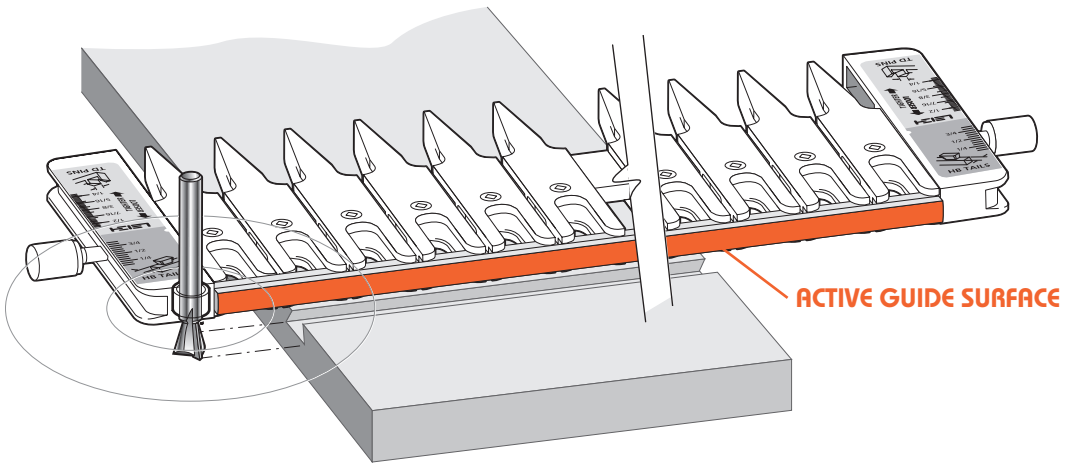


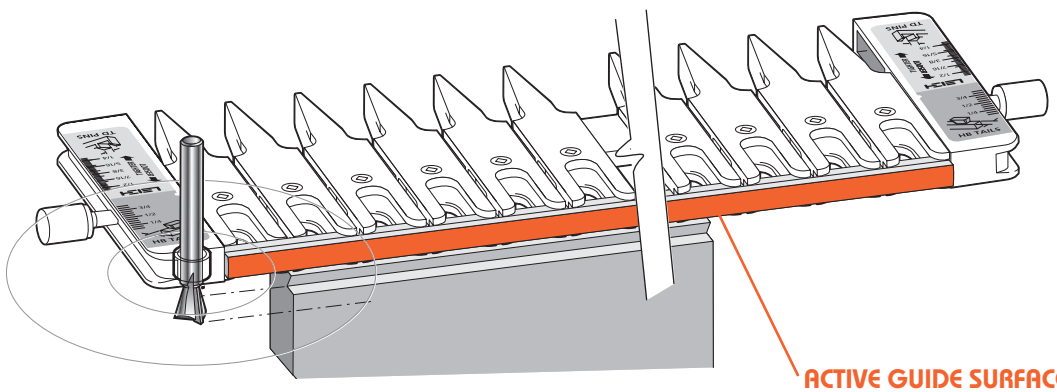
9 **KEEP** the finger assembly in the same mode

10 **Sliding Dovetail tails are cut across the board end edge**





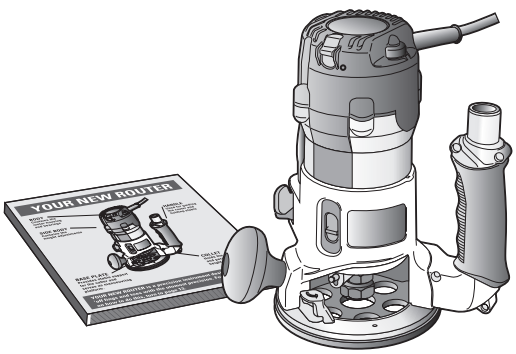

ACTIVE GUIDE SURFACE


ACTIVE GUIDE SURFACE

D1600 CHAPTER 5

Using Your Jig Safely

Safety is not optional.
Read and follow the recommendations in this chapter.



5-1

Read the owner's manual that came with your router. It is essential to understand the router manufacturer's instructions completely.

5-2

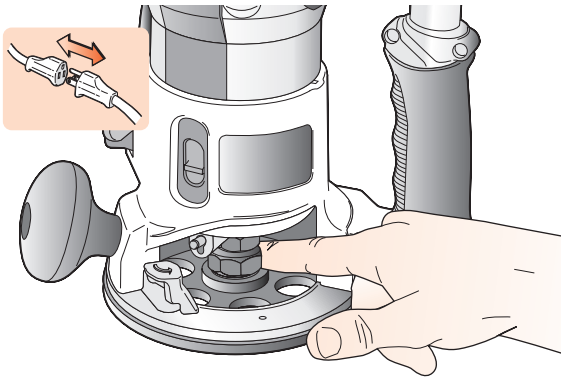
Most importantly, always wear approved safety glasses when using a router.

Always wear hearing protection when using a router.

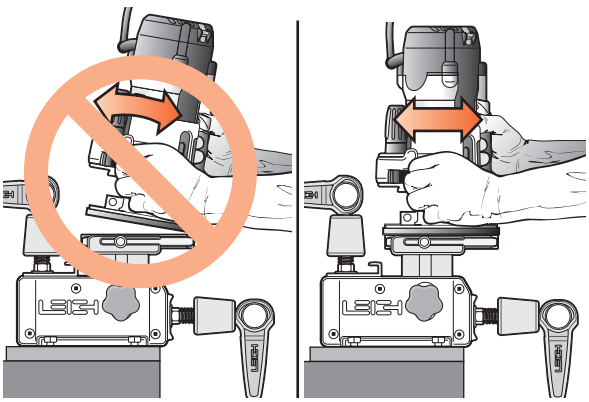
Protect yourself from harmful dust by wearing a face mask.

5-3

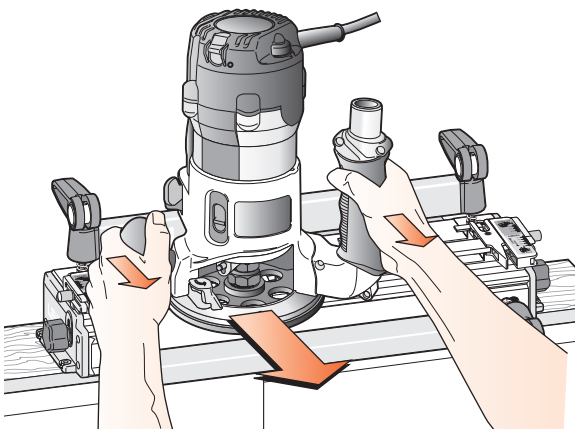
Never drink alcohol or take medications that may cause drowsiness when you will be operating a router.



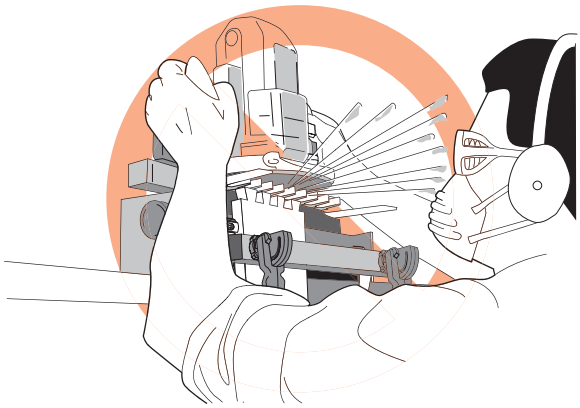
5-4
Always disconnect the power source from the router when fitting cutters or guidebushes, or making adjustments.
Before connecting the router to the power source, make sure the cutter and collet revolve freely in all the areas you plan to rout, and the cutter does not touch the guidebush or jig.



5-5
Do not tilt the router on the jig.
Keep the router flat on the jig assembly.

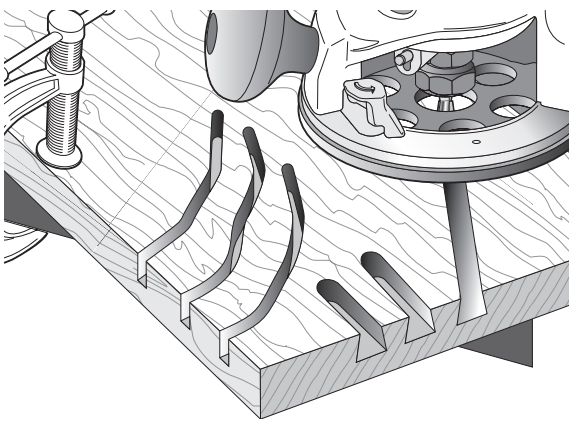


5-6
If you insist on removing the router from the jig while it is still revolving, **always pull it straight off the jig horizontally, and do not raise or lower the router until it is completely clear of the jig.**



5-7
Do not rout at face level.

5-8
Never release the router plunge mechanism when using dovetail cutters. Check if your plunge router has a stop nut to prevent this from happening accidentally.

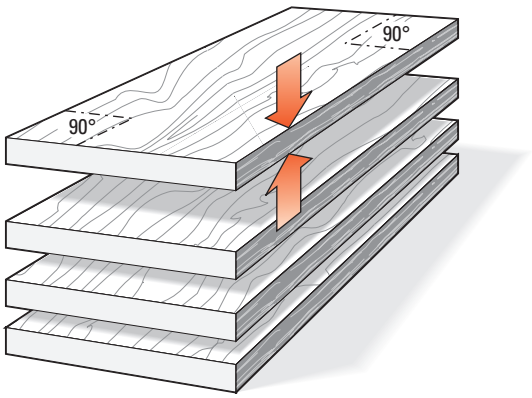


5-9
If you have never used your router before, be sure to follow the router manufacturer's instructions for its use. Make plenty of simple open-face practice cuts *without a guidebush* before you try to use the router on the Leigh jig. You must, of course, **always use a guidebush when routing on the Leigh Jig.** ■

D1600 CHAPTER 6

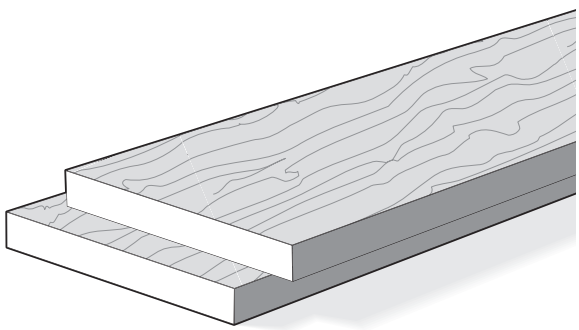
Wood Preparation

"Garbage In - Garbage Out"...
This adage of the computer age stands equally true for dovetail jigs.



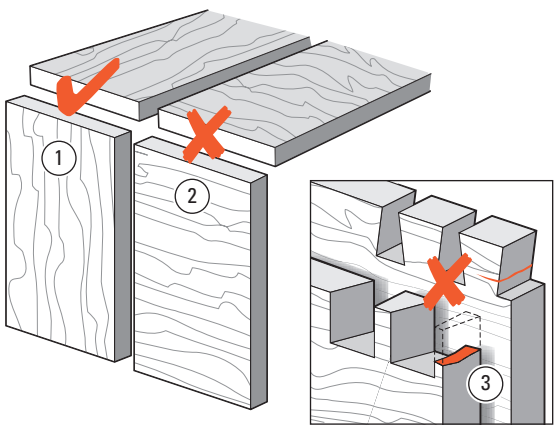
6-1

Stock for use on the Leigh D1600 jig should generally be prepared straight, flat, of even thickness and equal widths, with square ends and edges. The jig will work with boards of many odd shapes, but make sure the jig can function properly with the required shape of board before you try to use it on a project workpiece. **Note that plywood is generally unsuitable for routing because of tearout problems.**



6-2

You will want to test the jig, so prepare some ¾"x 5½"[20x140mm] boards. Cut them to length as you need them for the jig tests you want to perform. Use them for practice with the jig's various joint modes so you can see how the different modes work. **Remember, though, that boards of unequal thicknesses can be joined just as easily.**



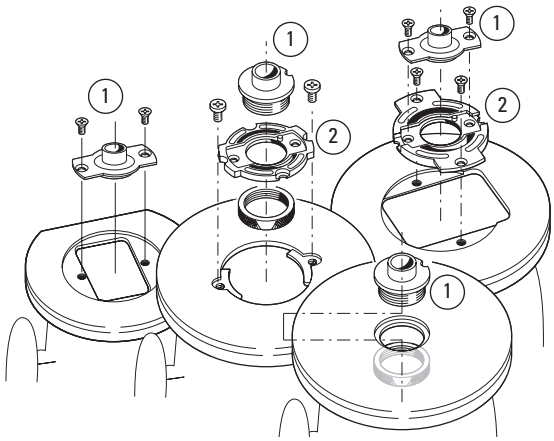
6-3

⚠ Dovetail joints are intended for joining end grain to end grain ①. Attempting to cut dovetails in side grain ② does not work because:

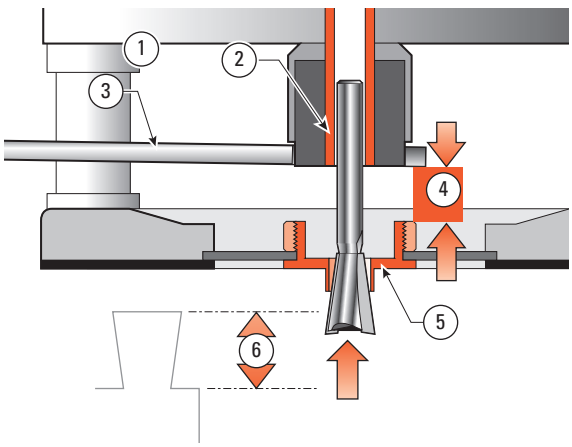
A. The wood will tear out badly when routing.
B. Even if you could rout them, the pins and tails would easily break off across the short grain ③, either during or soon after the assembly when the boards start expanding or contracting at different rates. ■

D1600 CHAPTER 7

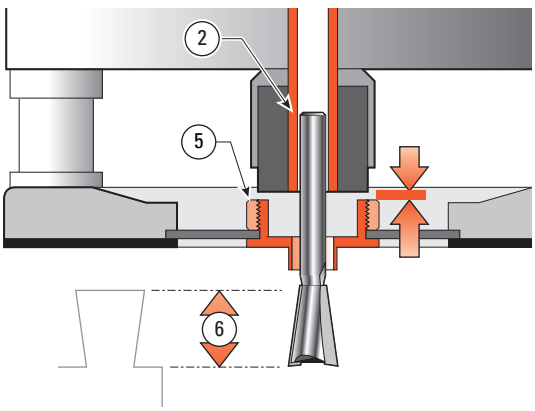
Router Preparation



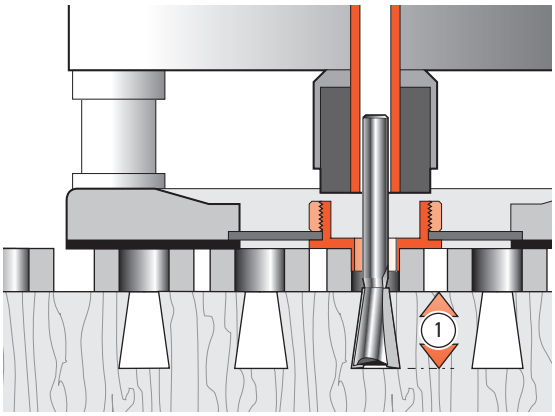
7-1
The router of course, must always have the correct size of Guidebush fitted ①. The D1600 uses only a 7⁄16"[11,1mm] O.D. guidebush for all dovetails. One is included with the D1600 but your router base may also require a guidebush adapter ②. Please see Appendix I "Guidebush Selection".



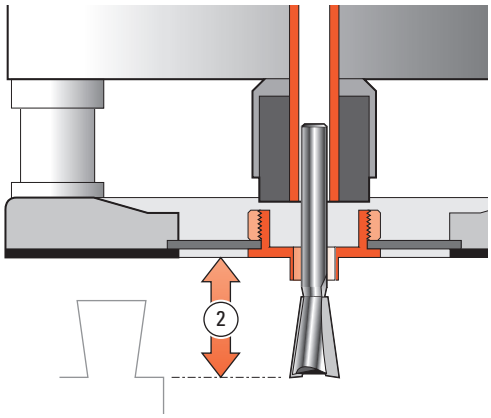
7-2
When fitting a cutter to the router ①, **always fit the cutter shank as deeply into the collet ② as possible.** Always rout with the collet as close to the guidebush as possible. Usually you will not be able to get the collet wrench ③ securely on the collet nut with the collet at its optimum low position, so fit the cutter into the collet so that the remaining travel ④ between the collet and the guidebush ⑤ will let the cutter reach the required depth of cut ⑥.



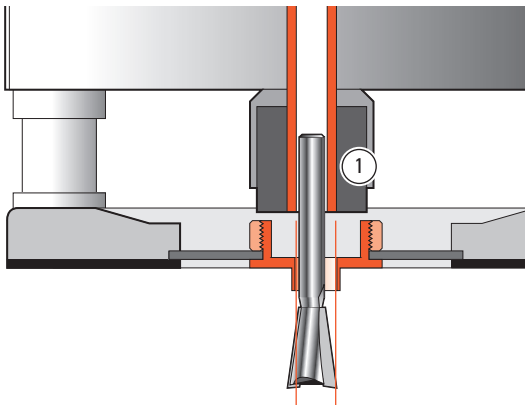
7-3
Tighten the collet ② securely and lower the collet to adjust the depth of cut ⑥, but make sure the collet does not contact the guidebush ⑤.



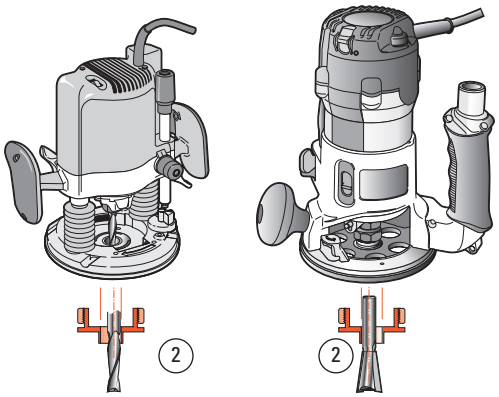
7-4 Depth of Cut:
The depth of cut always refers to the actual depth of the cut into the wood beneath the guidefingers ①.



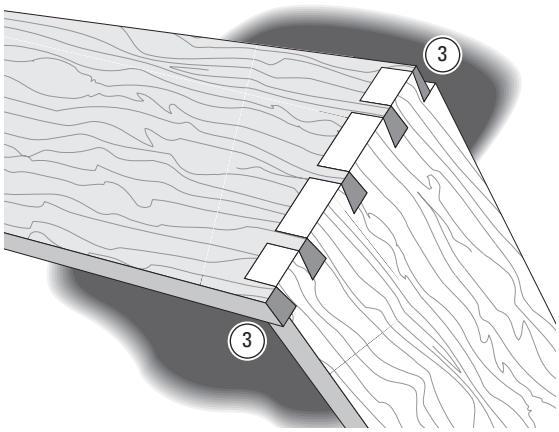
7-5
Depth of cut is not the distance the cutter projects from the router base. This is cutter projection ②. This manual generally refers to depth of cut, with one exception (see 9-7). Cutter projection ② is always .500"[12,7mm] more than depth of cut.



7-6
Ideally, the router collet (and cutter) should be concentric (centred) to the guidebush as in figure 7-5. Regrettably, this is often not the case; the cutter can be off centre (eccentric to) the guidebush ①. The illustration shows the problem highly exaggerated. The good news: cutter to bush alignment doesn't affect joint fit or flushness; both are "adjusted out" in normal jig setup.



7-7
Concentricity problems can only arise if two routers are used for through dovetails, (one for pins; one for tails). Routers with different cutter to guidebush offsets ② (misalignment shown highly exaggerated)…

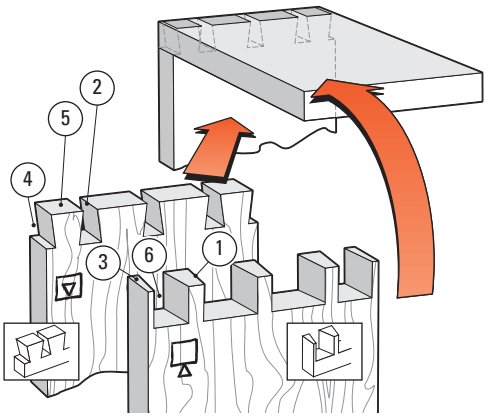


7-8
…will cause pin to tailboard ③ misalignment (again, shown highly exaggerated).
Fortunately, some newer routers have sub-bases that can adjust for concentricity. If you don't have this type, it might pay to stick to a single router for through dovetails. ■

D1600 CHAPTER 8

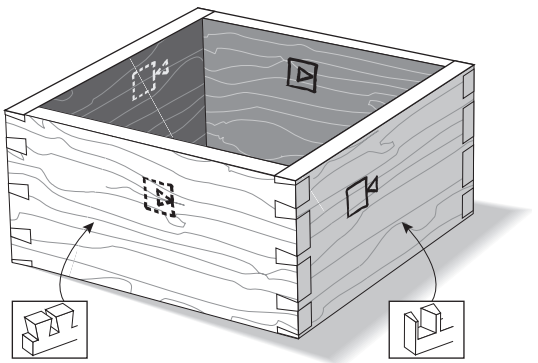
Through Dovetail Procedures

In these instructions for using the Leigh Dovetail Jig, we have recommended using certain cutters and board sizes just because they are easy to work with. When you have cut some practice joints and gained confidence in your ability to get the results you want, feel free to use the cutter selection charts in Appendix II to plan whatever dovetail routing you need for your own projects.



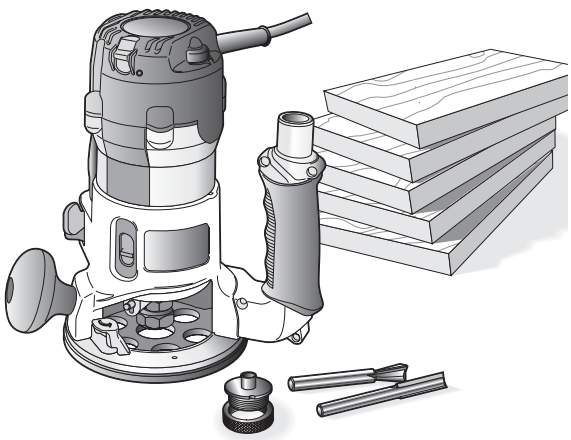
8-1

Through Dovetail Terminology:
① Pins
② Pin sockets
③ Half-pins
④ Half-pin sockets
⑤ Tails
⑥ Tail sockets
The pins fit in the pin sockets. Joints should almost always end each side with half-pins.



8-2

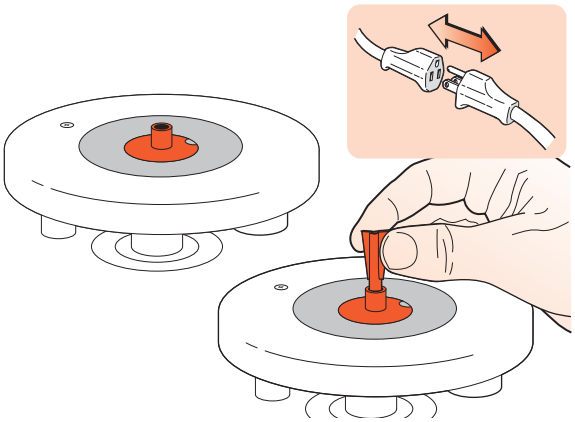
Let's look at how to make a simple square box. When you assemble the finished pieces with the faces properly oriented, then any one of the pin ends will fit any one of the tail ends. In fact, the box can be put together in eight different ways …each of the four corners will fit two ways!



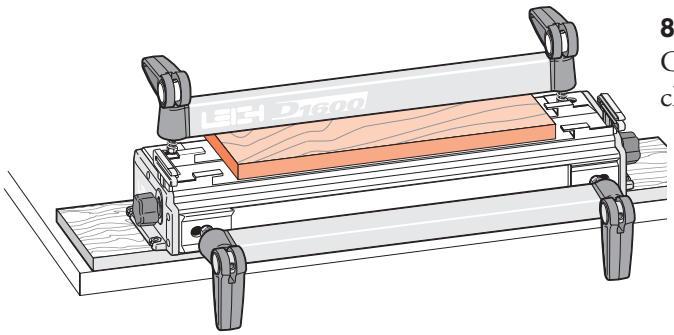
8-3

For this trial you will need five identical boards ¾"x 5-½"[20x140mm] x 8"[200mm] or so long. Make sure that you mark the inside faces of the two tailboards and the outside faces of the three pinboards (you may not need to use one of the pinboards). Use a router with a 7⁄16"[11,1mm] O.D. guidebush and a No. 80-8* or 80 ½"[12,7mm]x 8° dovetail cutter and a No.140-8* or 140 5⁄16"[7,9mm] straight cutter (see the cutter and guidebush selection charts in the appendices).

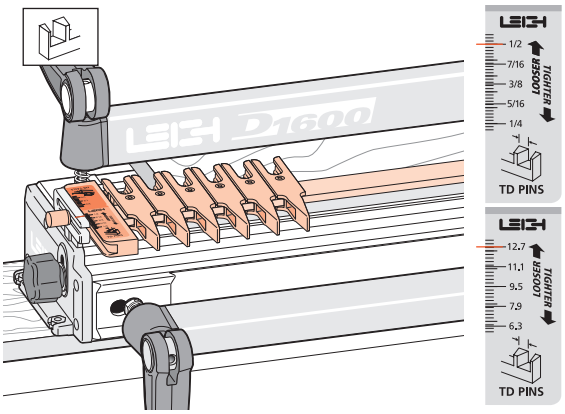
**included with the D1600*



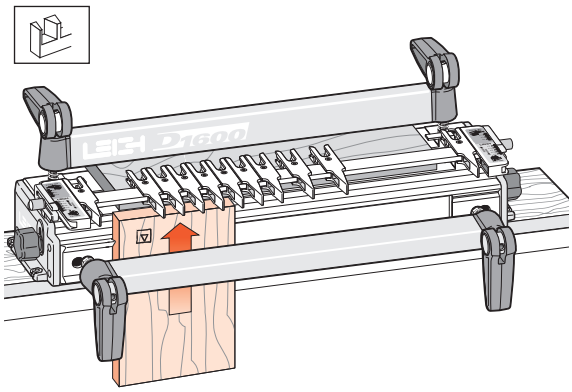
8-4
Fit the 7⁄16"[11,1mm] guidebush securely to the router.
Then fit the 80-8 or 80 dovetail cutter to the router.



8-5
Clamp the finger support board in the rear clamp.



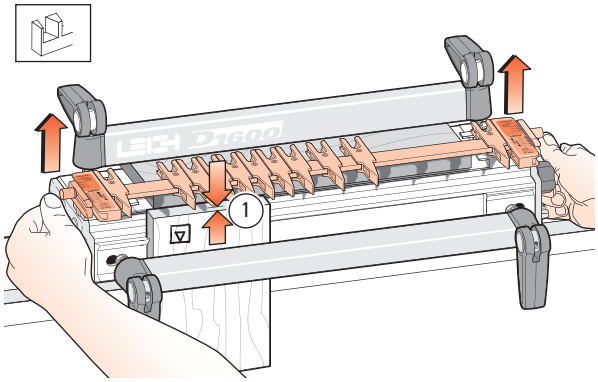
8-6
Place the finger assembly on the support brackets in the TD PINS mode, flat on the spacer board, and with the scale set on the ½"[12,7mm] setting for now. Don't worry about the scale's specific meaning now. Each scale's use will be fully explained in the appropriate section.



8-7

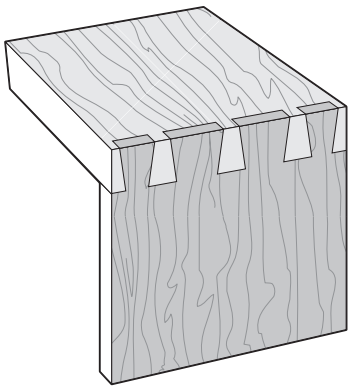
Clamp one of the tail boards in the left side of the front clamp, against the side stop, with the top edge flush under and touching the guidefingers, and the inside face ⊓ away from the jig body.

Although you will cut the tails first, adjust the guidefinger layout in the TD PINS mode. The adjustment screws are on top in this mode, and it is easier to visualize the finished joint pattern.



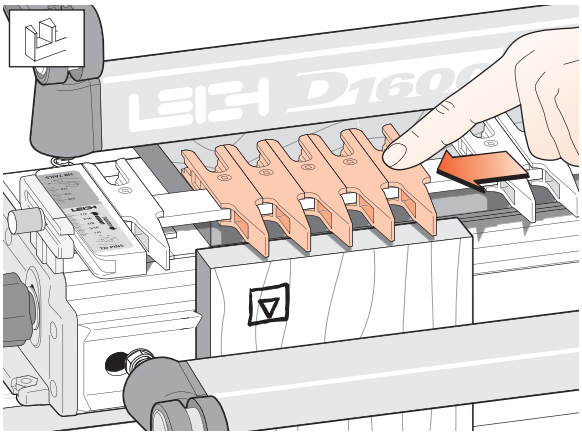
8-8

Loosen the support bracket knobs and raise the finger assembly about 1/16"[2mm] ① above the boards and re-tighten the knobs. This will allow easy and accurate guidefinger adjustment.

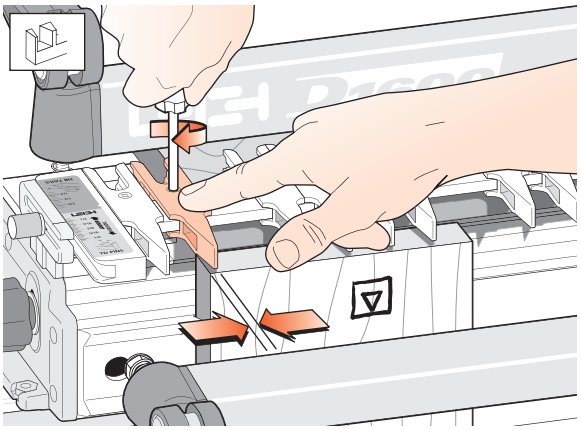


8-9

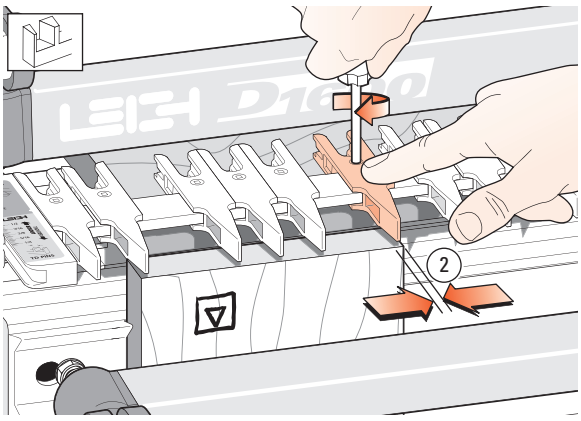
This joint layout is only a suggestion for this trial. It has a typical, traditional **symmetrical** layout of pins, with half-pins at each edge. The Leigh D1600 jig, however, allows for an infinite variety of dovetail spacing, and boards of different thicknesses can also be joined to each other as shown in this illustration. Before attempting joints of **asymmetrical** layout, please see chapter 11.



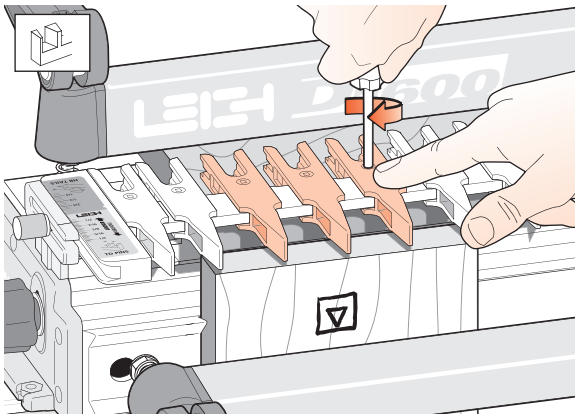
8-10
Ignoring the extreme outer guidefinger next to the scale (it just supports the router), loosen the next five guidefingers and slide them over the top of the workpiece.



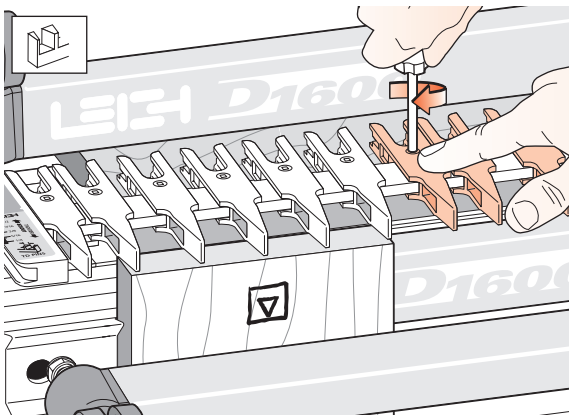
8-11
Lock the left-most guidefinger with its centreline about ⅛"[3mm] ① in from the left edge of the board to form a half-pin.



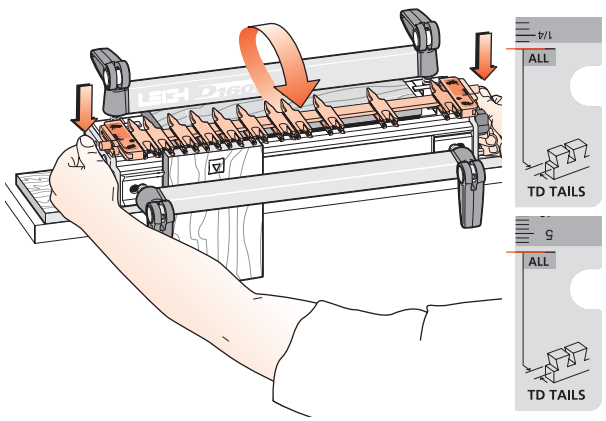
8-12
Leave three guidefingers over the board and lock the right-most guidefinger with its centreline about ⅛"[3mm] ② in from the right edge of the board to form the other half-pin. Judge this distance by eye: it need not be exact. The sockets and pins will align automatically.



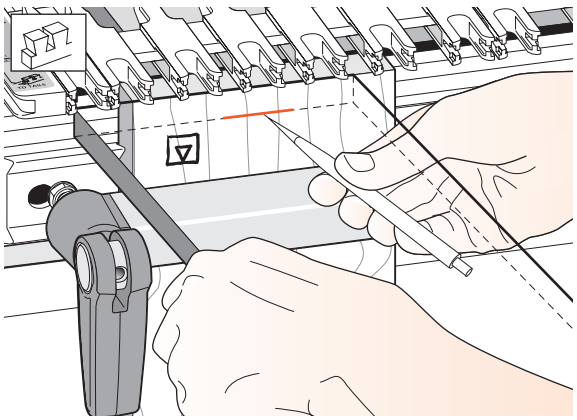
8-13
Space and lock the three remaining guidefingers as shown. Again, judge it by eye. If it looks right on the jig, the finished joint will look right.



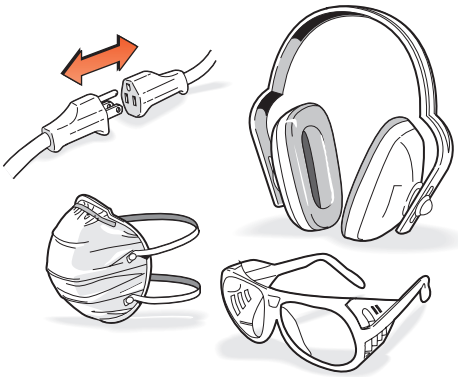
8-14
Tighten any other loose guidefingers.



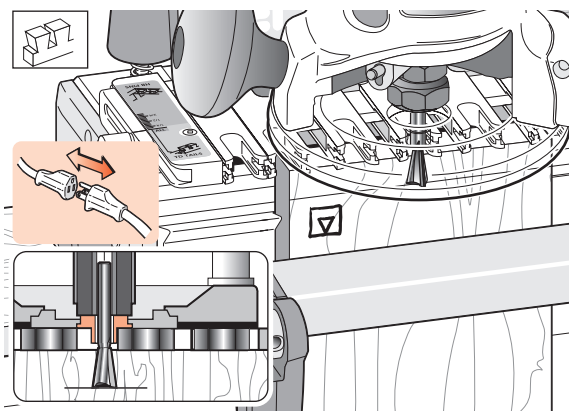
8-15
Rotate the finger assembly to the TD TAILS mode, and set it to the "ALL" position on the scale. Lower the finger assembly onto the spacer board. **All TD tails are routed at this** "ALL" **setting. (This setting allows the dovetail cutter to pass completely through all tail boards.)**



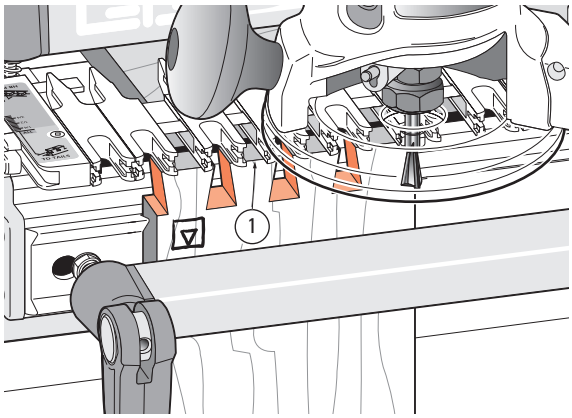
8-16
Place the end of a *pin board* horizontally flush under the guidefingers and mark a thin pencil line partly across the tail board.



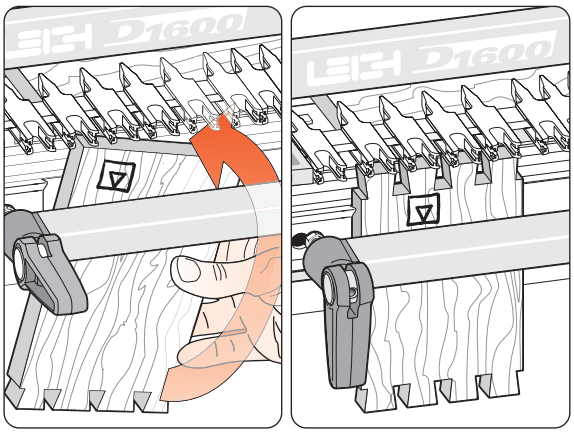
8-17
Remember to follow all safety precautions when routing.



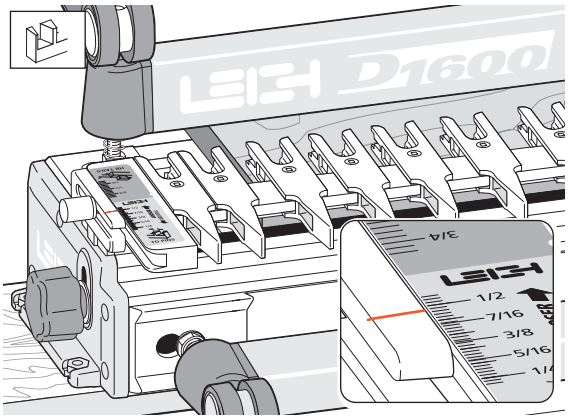
8-18
Place the router on the finger assembly and adjust the router until the dovetail cutter tip is level with the centre of the pencil line.
Note: This means the pin socket will be half a thin pencil line deeper than the thickness of the pin board, leaving minimal clean-up after assembly.
Check to make sure the cutter rotates freely.



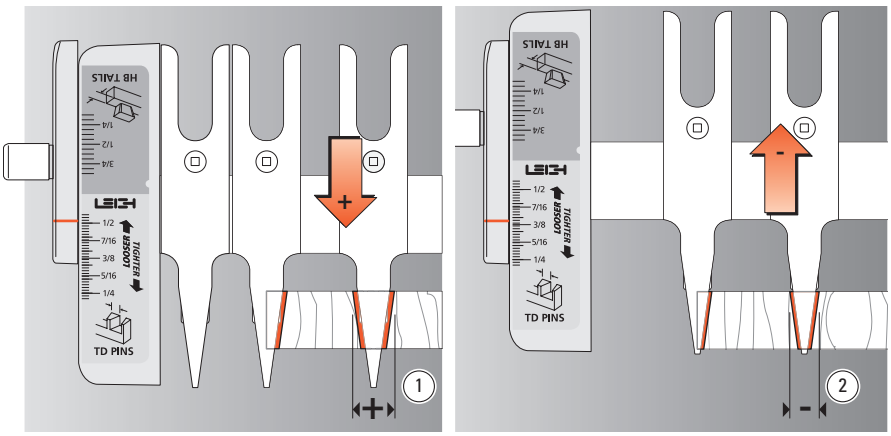
8-19
Plug in the router and rout out the half-pin and pin sockets. **Use only light side pressure on the guide fingers.** Go in against the right side of the finger opening and out on the left side. Take care not to rout unwanted sockets where there are gaps between the pairs of fingers ①. Rout only between the rounded guidefinger tips. *See Hints and Tips Chapter 15.*



8-20
Before removing the routed board from the jig, check by eye and touch to make sure no parts have been missed. Release the clamp and reverse the tail board in the jig, keeping the same inside face ⊡ away from the jig body.
Rout the other end of this tail board and both ends of the second tail board in the same fashion.

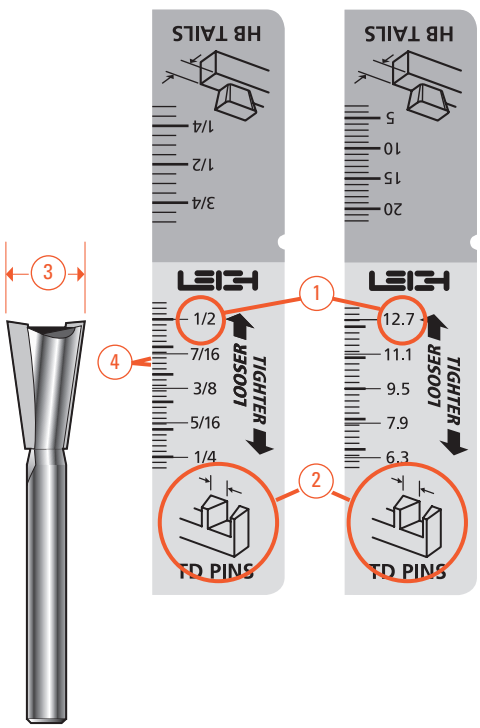


8-21
Rotate the finger assembly to the TD PINS mode and set it on the ½"[12,7mm] mark ①. **Do not change the guidefinger layout.**



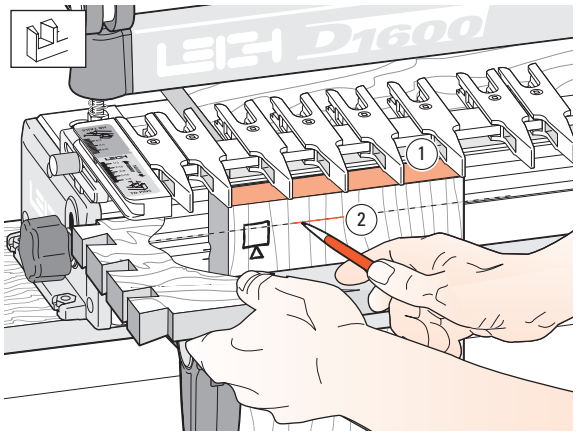
8-22 Finished Joint Tightness

The tightness of the finished joint is determined in the TD PINS mode. The farther out toward the operator the finger assembly is set, the larger the pins will be ①. Moving the finger assembly in will make the pins smaller ②.

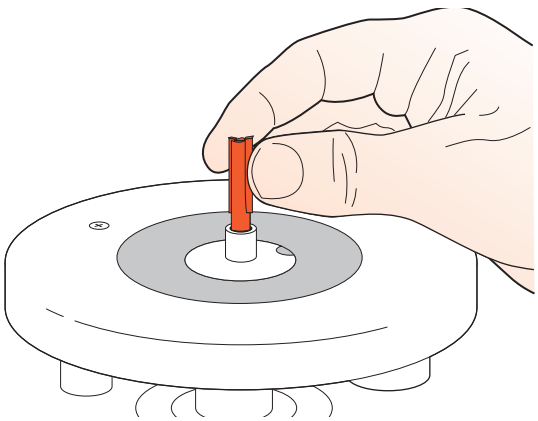


8-23 How the TD PIN Scales Work

The dimensions on the TD Pin scale ① indicate the major width of the pin to be routed ②. This matches the size of dovetail cutter just used to rout the tails ③. The increment lines on the scale ④ have two important functions. First, the lines are spaced so that moving the finger assembly by one increment changes the joint glue-line gap by just 0.005"[0,125mm]. Even better, a one quarter division movement changes the fit by 0.00125"[0,03mm], a tiny one and a quarter thousandth of an inch! Second, once you achieve the desired joint fit, simply record the setting using the illustrations at the end of this chapter.

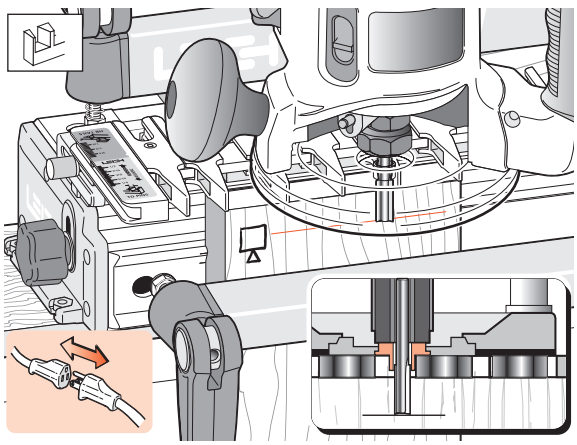


8-24
Clamp a test pin board against the left hand side stop, outside face ⊓ away from the jig, with the top end flush under the guides ①.
Place the side edge of one of the finished *tail boards* horizontally flush under the guidefingers and mark a thin pencil line part way across the pin board ②.

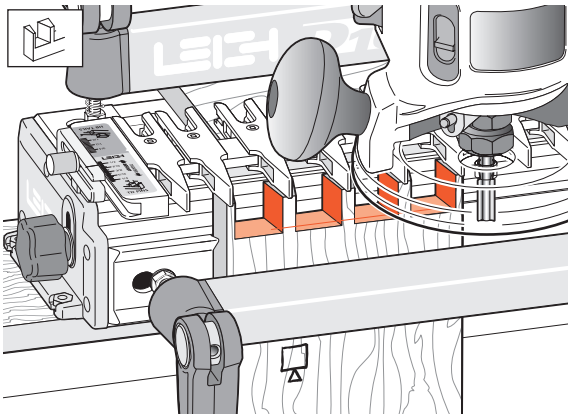


8-25
Unplug the router and remove the dovetail cutter. Mount the No.140-8* or 140 straight cutter to the router.

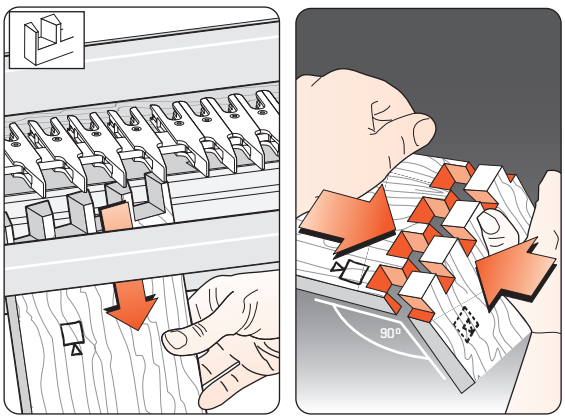
**included with the D1600.*



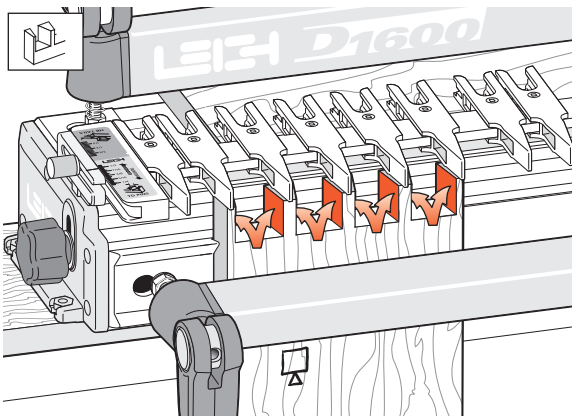
8-26
Place the router on the finger assembly and adjust the router until the cutter tip is level with the centre of the pencil line. Check to make sure the cutter rotates freely.



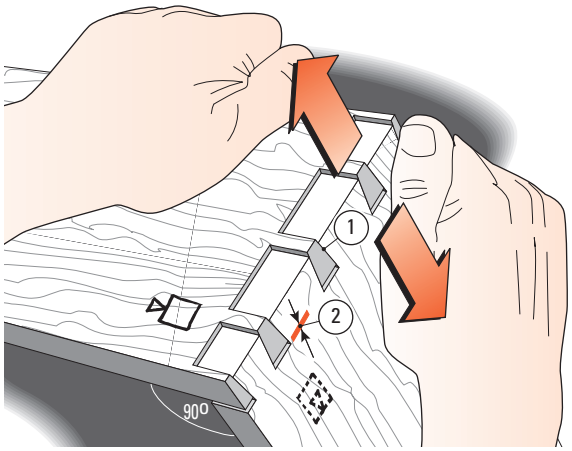
8-27
Rout out the waste between the pins. Check to make sure no parts have been missed. *See Chapter 15 "Hints and Tips" on how to minimize tearout.*



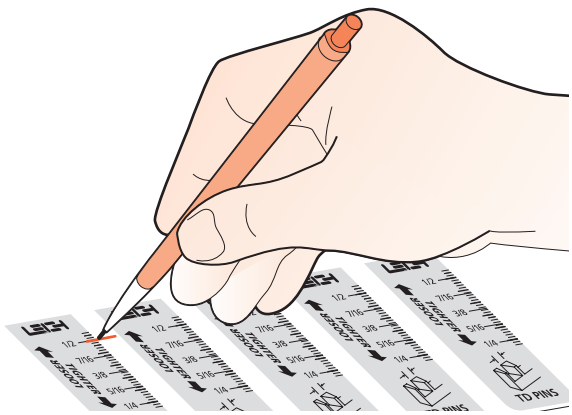
8-28
Remove the test pin board from the jig and test it for fit in one of the tail boards. *Make sure the outside faces ⊓ face outward on both pieces.* A firm push fit is perfect, perhaps a tap with the heel of your hand. Having to use a mallet means the joint is too tight to take glue.



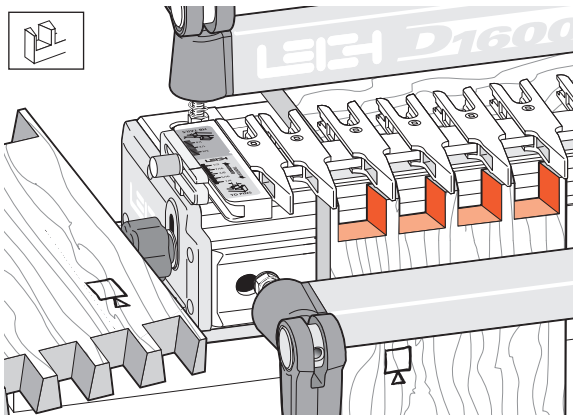
8-29
If it is too tight, move the finger assembly in (away from you) by one division on the scale. If it is only a little tight, adjust the scale by only half a division. Replace the same pin board back in the jig, carefully aligned against the same side stop. Rout off the sides of the pins and test it again for fit. Repeat as necessary to get a good fit.



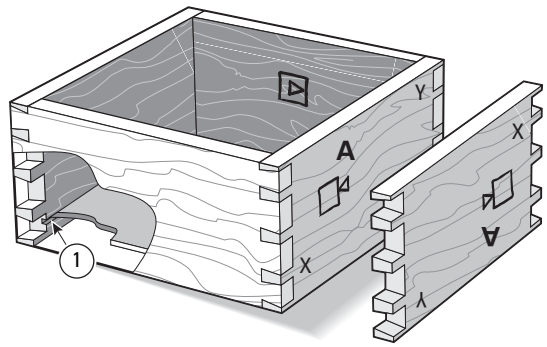
8-30
If the joint is loose or you routed too much off the pins (in 8-29), pull the pin board so that the angled sides of the pins and sockets jam tight together ①. The gap at the bottom of the pins ② is the amount you will have to move the finger assembly out (toward you). Reset the finger assembly and test again on the other end of this (fifth) board.



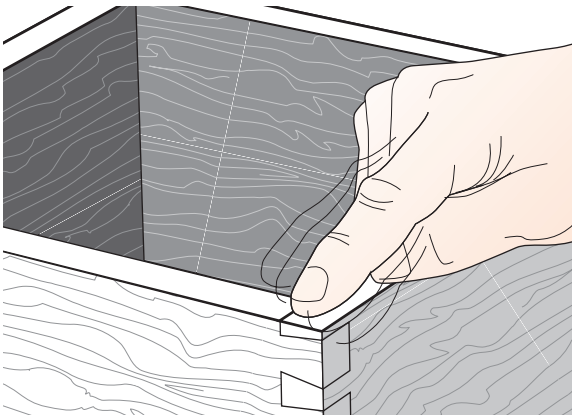
8-31
Once the correct fit is achieved, mark the final TD PINS scale setting on one of the scale prints (at the end of this chapter) for future reference. Very slight variations to the scale setting may be necessary with different wood species or hardness.



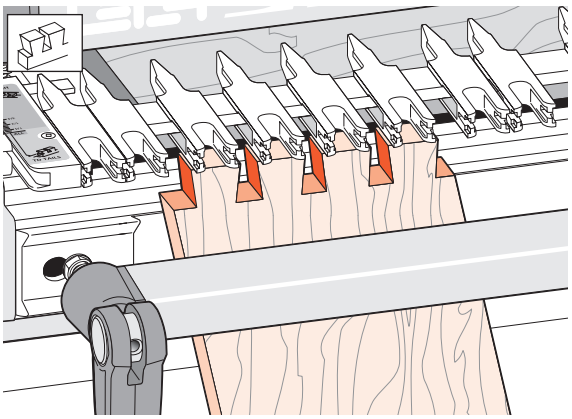
8-32
Rout all four ends of the pin boards, keeping the outside face ⊓ outwards. (With luck you may not have used the fifth board.)



8-33
Assemble the box, making sure the tail boards face the proper way, i.e. tail boards inside face **in** ⊡; pin boards outside face **out** ⊏. Provided you haven't already routed out the drawer bottom grooves ①, it doesn't matter which edge of any of the boards are at the top or bottom, the box will still fit together i.e. pin board "A" can be up either way.

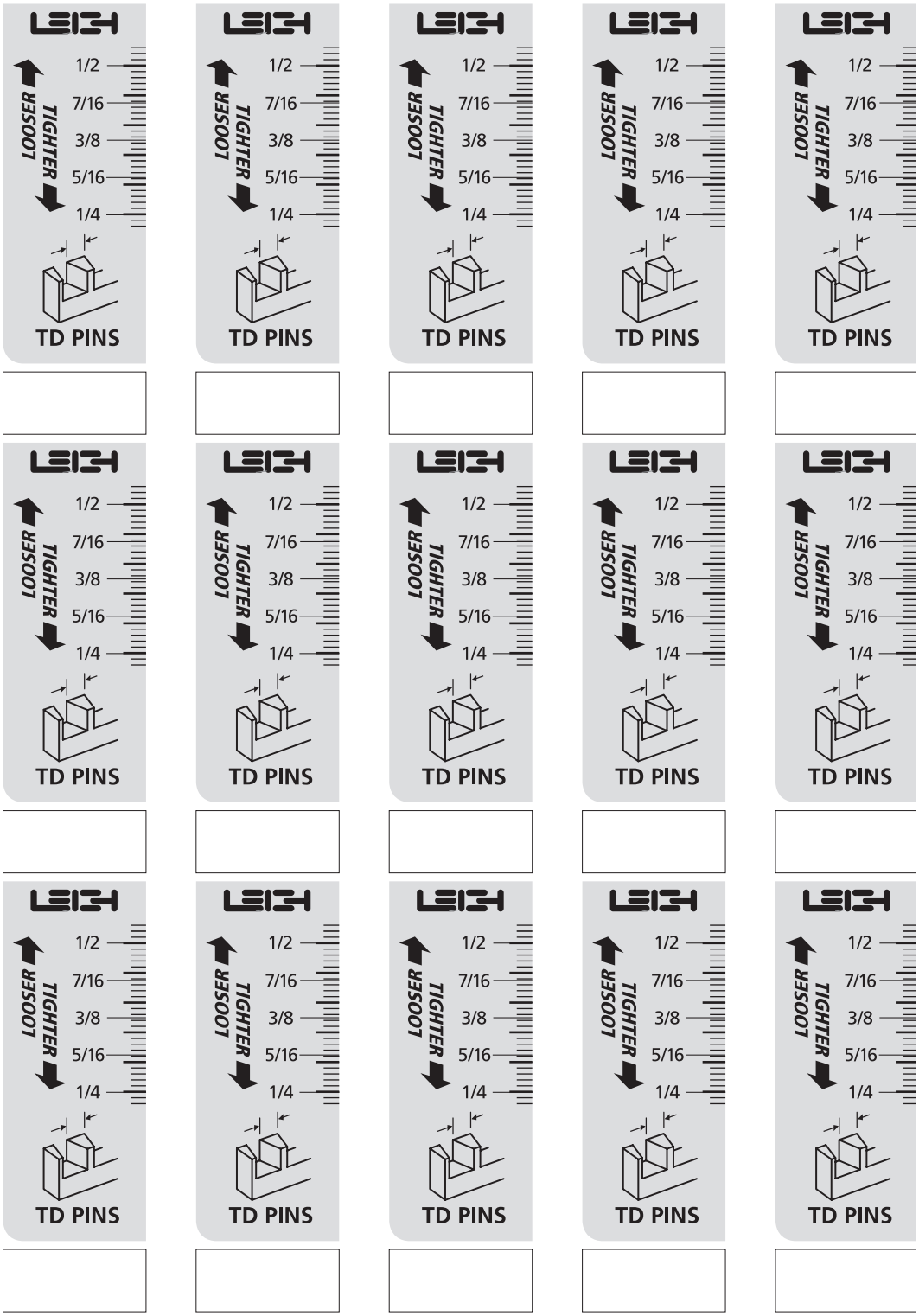


8-34
The box should be square and in plane. If it is not in plane (i.e., the side edges of each board are not in line), then either the ends of the boards are not square, the board widths are not exactly equal, or there is a concentricity problem (see 7-6 to 7-7).



8-35
To form angled dovetails, refer to the Tips & Techniques bulletin "How to Rout Angled Through Dovetails on your Leigh Jig". You can download a printable file of the bulletin from our website: www.leighjigs.com. ■

Project Settings - Inch Scales



D1600 CHAPTER 9

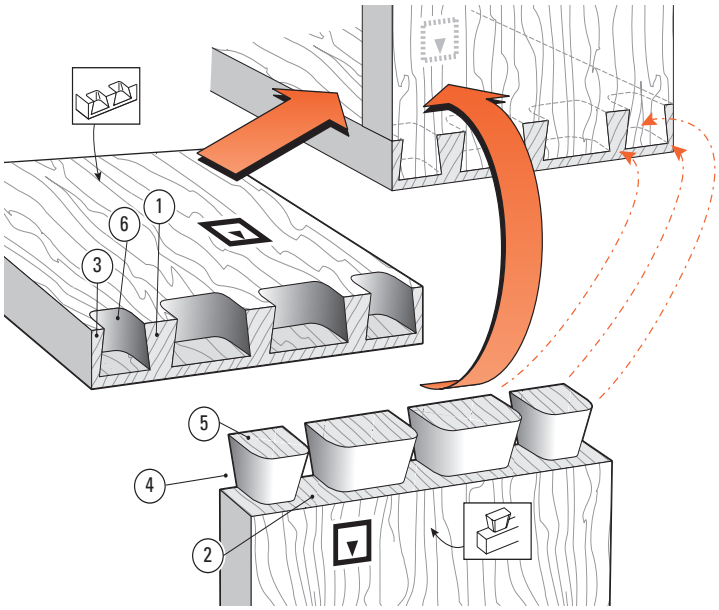
Half-Blind Dovetail Procedures

Chapter Foreword.

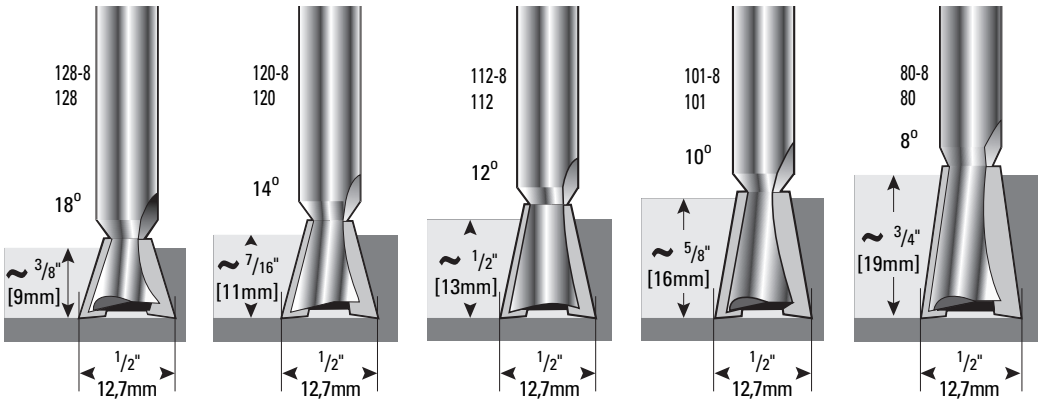
IMPORTANT!

The most commonly misunderstood aspect of routing half-blind dovetails is how the dovetail cutter's depth of cut is used to adjust the joint fit, and how the angle of the cutter affects that depth of cut. Reviewing the instructions and illustrations in this chapter will make this concept clear.

Note: Only a 7/16" OD guidebush and the five cutters listed on the next page may be used for half-blind dovetails. See "Half Blind Cutter Selection" in Appendix II for a full description on how to select the appropriate cutter.

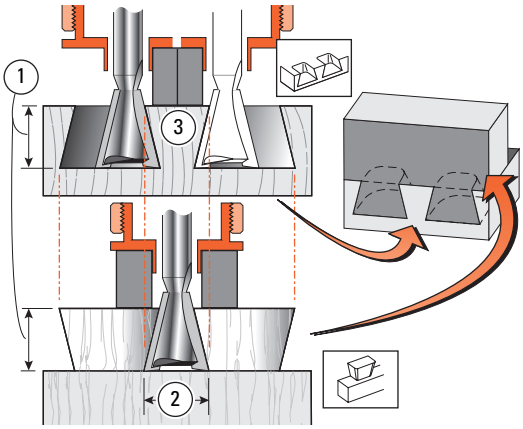


9-1
Half-blind Dovetails:
① Pins
② Pin sockets
③ Half-pins
④ Half-pin sockets
⑤ Tails
⑥ Tail Sockets
The pins fit in the pin sockets. Joints should almost always end each side with half-pins.

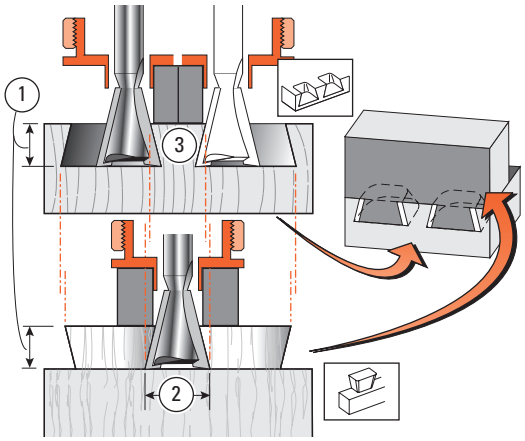


9-2 ⚠ Important! Read This About Depth of Cut

- Depth of cut must be as specified for each of the five cutters illustrated above.
- Raising the cutter above its specified cutting depth will result in loose joints and may damage the jig, cutter and/or guidebush. A lower setting will result in tighter joints that may not fit together.
- Small Depth of Cut adjustments will change joint fit tightness. See 9-3 to 9-5 for why.
- Half-blind PINS and TAILS are routed with the same dovetail cutter and must be at the same Depth of Cut.
- Choose one of the five ½" [12,7 mm] diameter dovetail cutters shown above, and check cutter selection in Appendix II.
- Use only 7⁄16" [11,1 mm] outside diameter guidebushes.

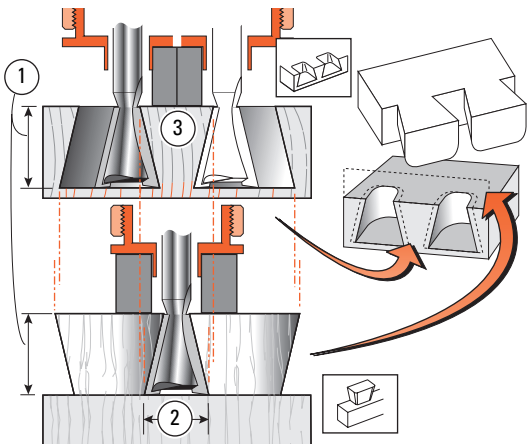


9-3 Joint Fit and Depth of Cut
Here's why the depth of cut ① changes the fit in half-blind dovetails. Increasing or decreasing the depth of cut does not affect the pin socket width ②, but does affect the width of the pin ③ that goes into the socket ②.



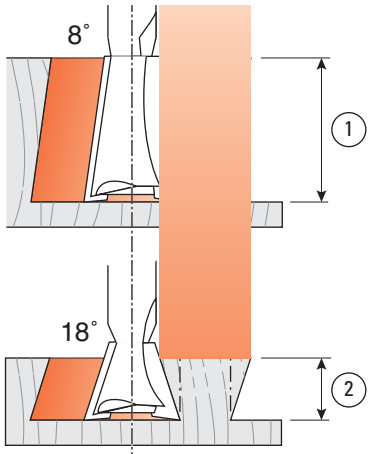
9-4
Note that decreasing the cutter depth ① makes the pin ③ narrower while the pin socket ② stays the same width, producing a loose fit.

Decreasing the cutter depth (i.e. raise the cutter into the router) produces a looser fit.



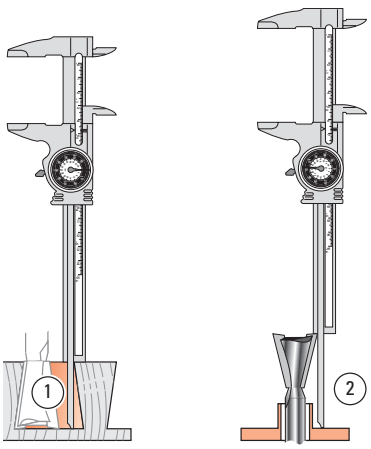
9-5
Increasing the cutter depth ① makes the pin ③ larger while the pin socket ② stays the same width, producing too tight a fit.

Increasing the cutter depth (i.e. lower the cutter) produces a tighter fit.

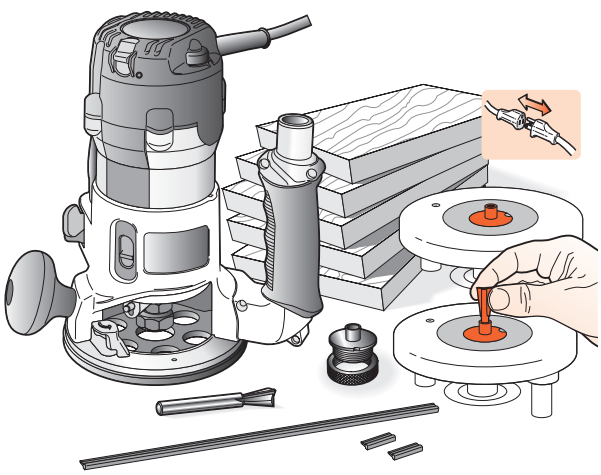


9-6 Cutter Angle and Depth of Cut.
Both the pins and tails of a half-blind joint are routed using the **same** dovetail cutter, with the **same** guidebush and at the **same** depth of cut.

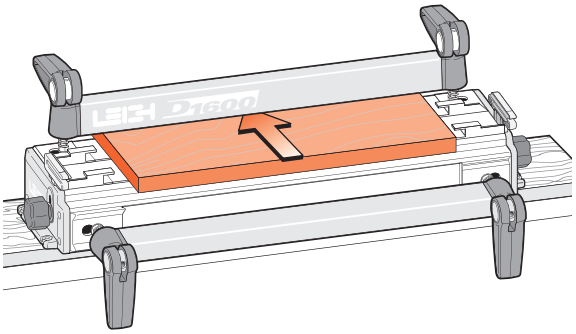
The only way to select a different depth of cut is to use a different angled cutter. Leigh provides five different angled dovetail cutters for a range of cut depths. The lesser the angle, say 8°, the deeper the cut ①; the greater the angle, say 18°, the shallower the cut ②.



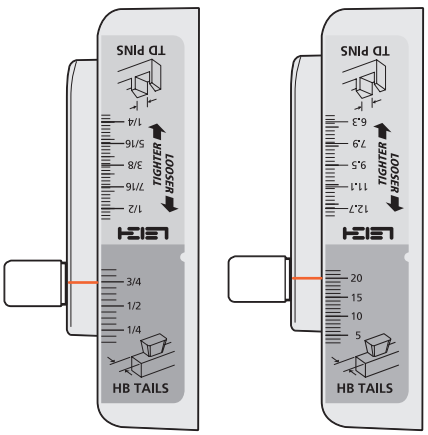
9-7
Just as with through dovetails, the cumulative plus and minus tolerances in the manufacturing processes of routers, cutters and guidebushes, makes it impossible to provide the exact cutter depth setting to provide a first-time precision fit. It is only by trial and error test cuts that a fine fitting joint can be attained. This trial-and-error testing is common to all dovetail jigs. The good news; we provide you with the starting depth for each cutter and the 'best fit depth' is measurable and recordable for all future first-time fits, by measuring either the successful depth of cut ① or the cutter projection ②.



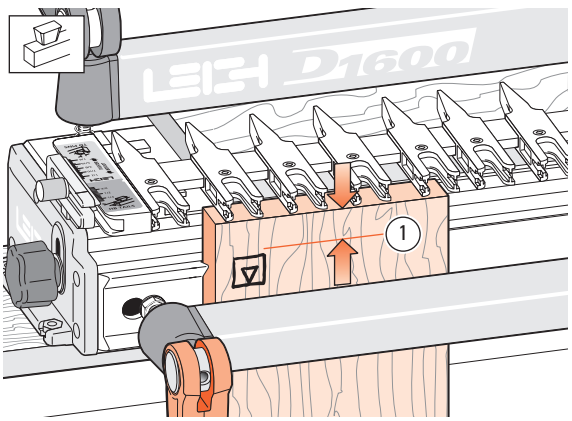
9-8 CUTTING A TEST JOINT
You will need one router, a 7/16"[11,1mm] guidebush, either the provided No.120 - 8 ½"[12,7mm] 14° dovetail cutter or equivalent. The 80 series cutters cut too deep for ¾"[20mm] boards (see the HB cutter selection charts in Appendix II). You will also need several pieces of ¾"x 5 ½"[20x140mm] x 8"[200mm] or so long, and the plastic bridge piece extrusion. *Note: Half-blind pin boards must be a minimum ½"(13mm) thickness for clamping. Thinner boards must be packed up from the jig body; see 9-22.*



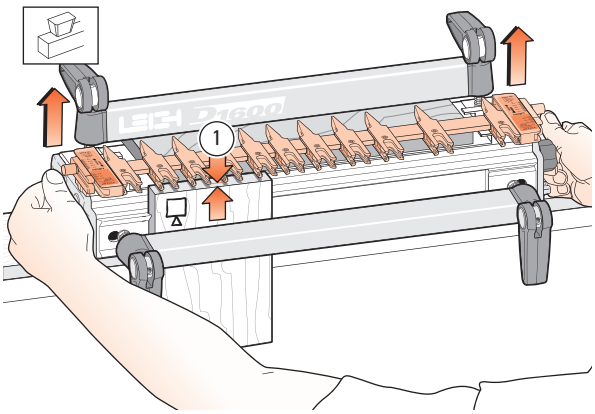
9-9
Clamp the spacer board in the rear clamp.



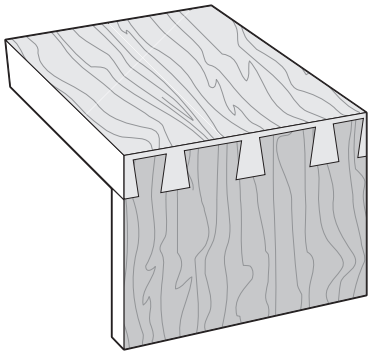
9-10
Mount the finger assembly on the support brackets in the HB TAILS mode, **flat on the spacer board**, *scales set on the thickness of the tail board* (¾"[20mm] in this instance). **The** HB TAILS **scale is always set at the tail board thickness.**



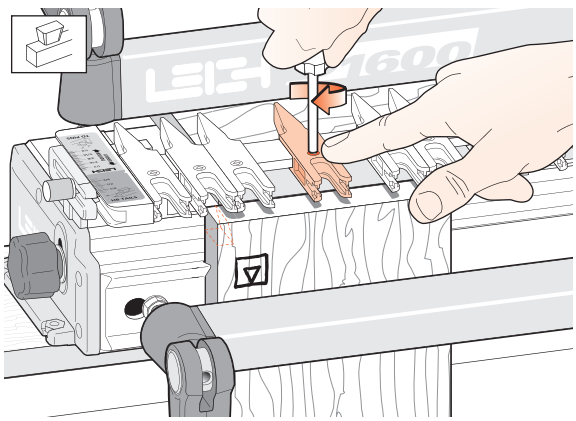
9-11
Measure and mark a line on the inside face of the tail board ① to the working depth of the cutter to be used as in 9-2. Clamp this test tail board in the left front clamp, against the side stop with the top edge flush under the guidefingers, and the inside face ⊡ of the drawer side away from the jig.



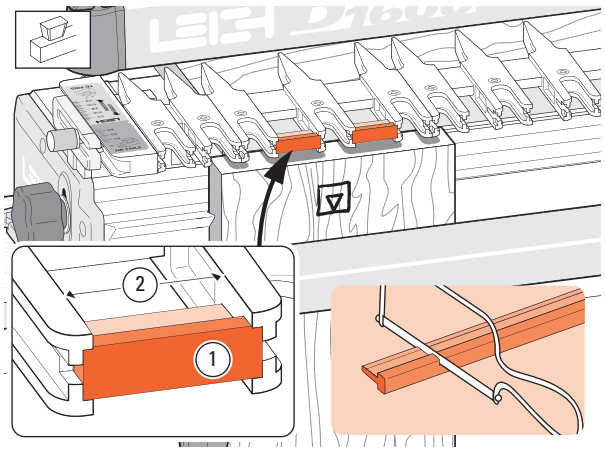
9-12
Unlock and raise the finger assembly support brackets slightly so that the finger assembly is about 1/16"[2mm] ① above the boards. This will allow easy movement of the guidefingers.



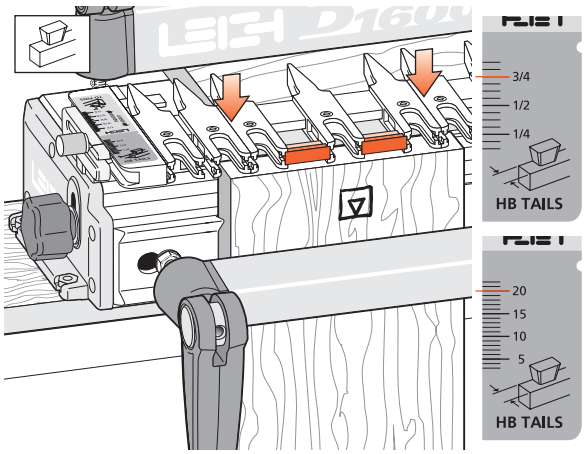
9-13
The following joint design is only a suggestion for this trial. It has a typical and traditional even layout of pins, with half-pins at each edge. The Leigh jig, however, allows for an infinite variety of joint designs, and boards of different thicknesses can be joined to each other as shown in this illustration. Before attempting joints of asymmetrical design, please see chapter 14.



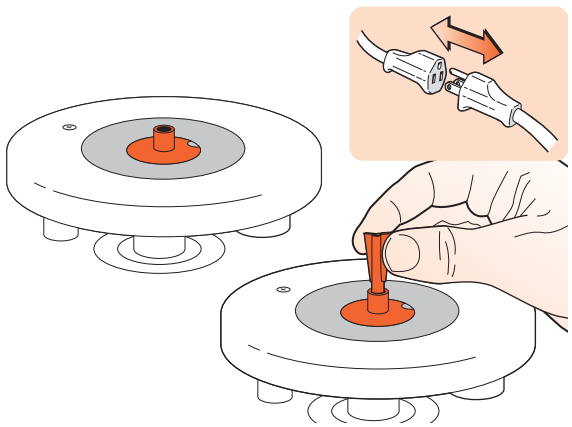
9-14
Ignoring the extreme outer guidefinger next to the scale (which just supports the router), loosen enough of the adjacent guides to give the required pin socket layout. The half-pin guidefinger position illustrated will give a half-pin socket profile like that shown (dotted lines).



9-15
If the gaps between the guidefinger tails are wider than about ⅛"[3mm], mark off and cut some pieces of bridge extrusion ① to fit into the slots in the ends of the guidefinger tails. Cut the pieces a "bare" ⅛"[3mm] more than the distance between the fingers ②. They are a firm friction fit.
After completing a project, save the bridge pieces for future use.



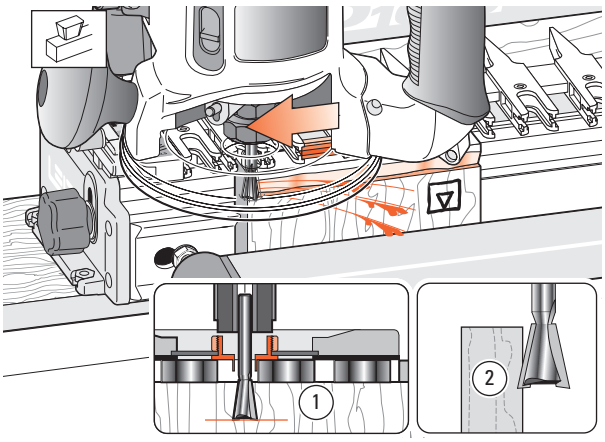
9-16
Remember to tighten any loose guidefingers. **Lower the finger assembly back onto the spacer board and workpiece. It must touch the workpiece or the depth of cut will vary and the joint won't fit.** The scale should be set on the tailboard thickness, in this case ¾"[20mm].



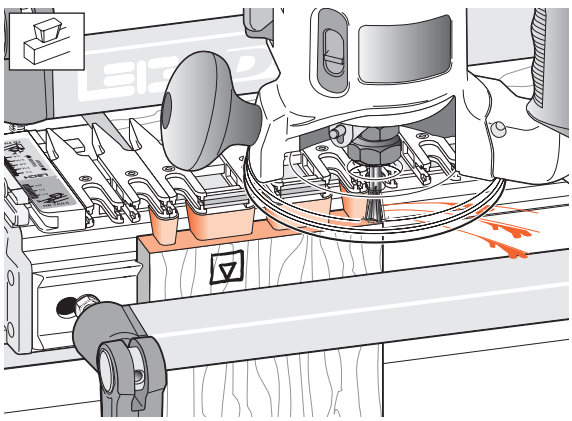
9-17
Attach the provided 7⁄16"[11,1mm]guidebush (or equivalent) to the router securely.

Mount the selected dovetail cutter to the router.

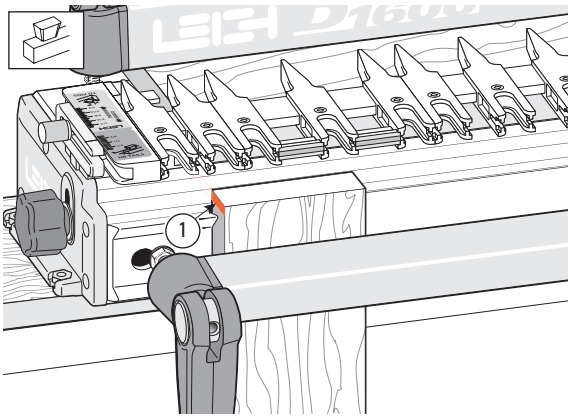
9-18
Remember to follow all safety precautions when routing.



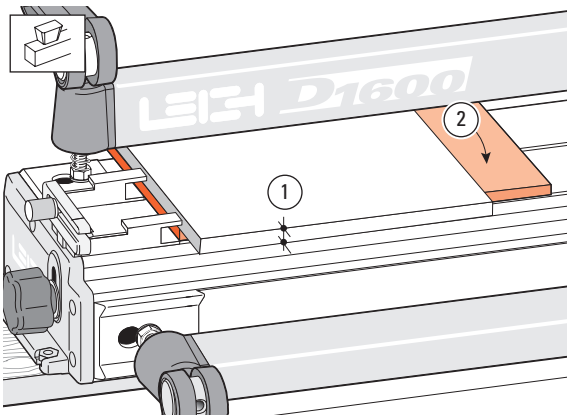
9-19 ⚠
Adjust the cutter height until the cutter tip is level with the marked line ①. For the first light cut move the router from right to left. **Make sure you control it firmly, because it is driven in this direction by the cutter. Only the tip of the cutter should be cutting on the first cut** ②. This *back* or *climb* routing leaves a very clean shoulder in side grain.



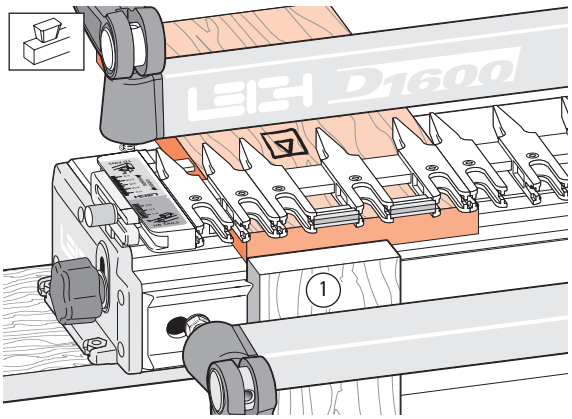
9-20
Now rout in and out from left to right following the guides and bridge pieces to rout out the pin sockets, leaving the tails.
See Hints and Tips 14-11.



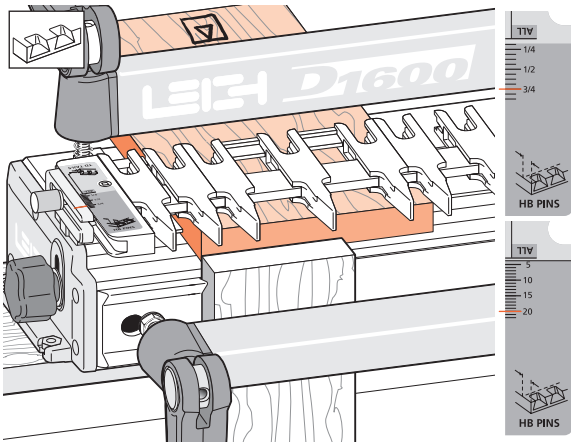
9-21
Remove the test tail board, then clamp a scrap board in the front of the jig so that the top edge projects above the top face of the jig by about ⅛"[3mm]①. This will keep the scrap piece below the path of the cutter when routing the pin board.
Remove the spacer board from the rear clamp.



9-22 If you're mounting Thin Pin Boards:
The minimum recommended pin board thickness is ½"[13mm]. Remember, the No 128 cutters rout at ⅜"[9,5mm] deep. If you wish to rout a pin board less than the minimum thickness ①, it will be necessary to pack the board up from the jig body. We suggest using a piece of ¼" to ⅜"[6 to 9mm] plywood for this purpose ②.



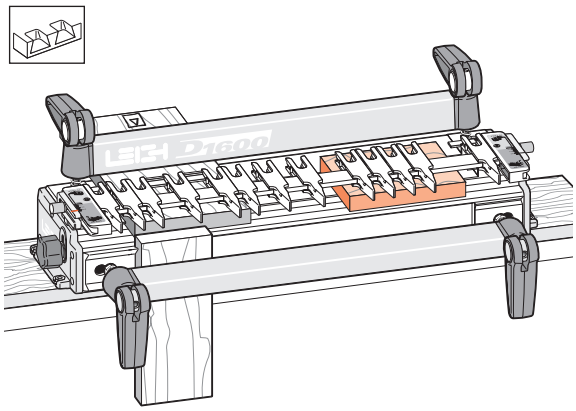
9-23 Flush Drawers
Place a test pin board in the left rear clamp against the side stop, fitting its front end edge flush against the vertical scrap piece, with the inside face ⊡ of the drawer front away from the jig body. The pin board is now positioned with the edge to be routed flush with the jig's front face, correctly registered for the scale readings. **For drawers with rabbeted fronts, see Chapter 10.**



9-24

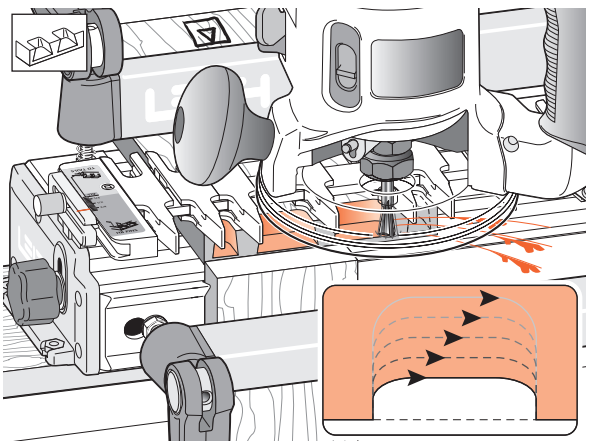
Rotate the finger assembly to the HB PINS mode and set the HB PINS scale *equal to the tail board thickness* (i.e., the same setting as for the tails: in this example, ¾"[20mm]). **Both HB pins and HB tail scales are always set to the tail board thickness.**

Make sure the finger assembly is flush and level on top of the pin board. The guidefingers must be touching the pin board or the depth of cut will vary and cause poor joint fit.



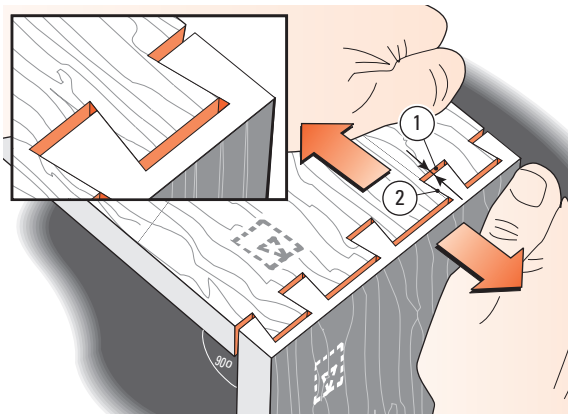
9-25

If you have difficulty leveling the finger assembly on a narrow workpiece, place a board the same thickness as the pin board under the other end of the finger assembly, *but not in the rear clamp.*

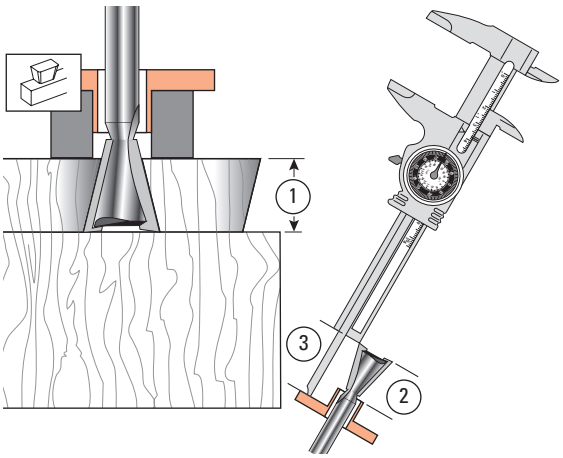


9-26

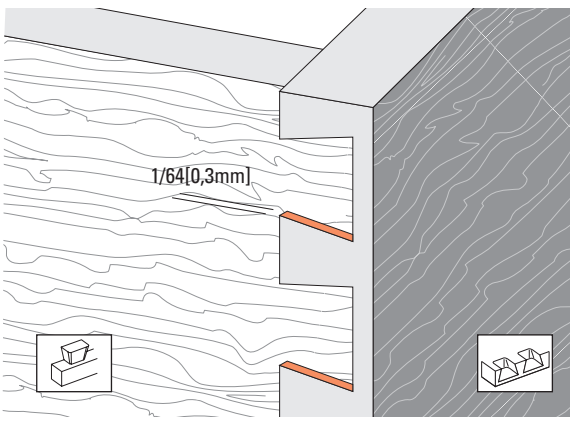
Rout out the waste between the pins. Rout each space from **left to right. Do not back rout on end grain. If the cutter enters on the right side of the opening there will be a very strong pull to the left, so…** rout each opening in at least three or four passes, **left to right.**



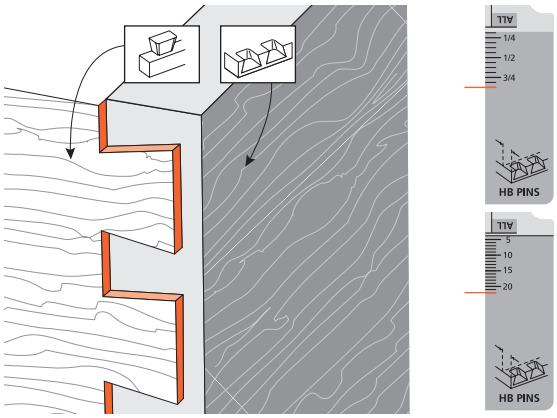
9-27
Remove the pin board and test the joint for fit. If the joint is loose, as shown here, you need to **lower** the cutter by the same amount as the gap at the bottom of the pins ① (when the pins are pulled against the socket sides ②). If the joint is too tight, **raise** the cutter slightly. Test again. You cannot rout the same board twice with a dovetail cutter, so use two fresh board ends for each test.



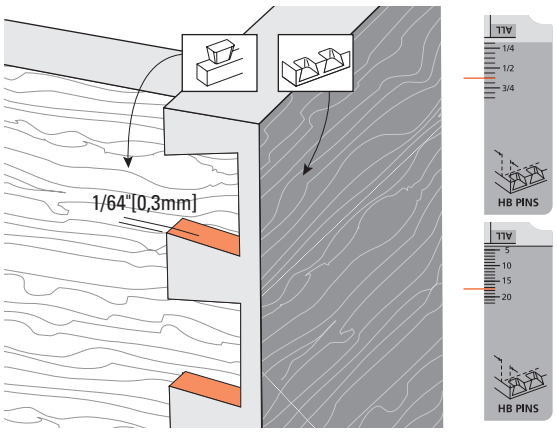
9-28
Keep the test tail board that fits well, and mark it with the number of the cutter you used to rout it. For quick set-up next time, clamp this tail board in the jig as a *depth-of-cut gauge* ① to show how far to lower the cutter. Better yet, measure the cutter projection from the end of the guidebush ② or guidebush flange ③ and record this for fast set-ups in future.



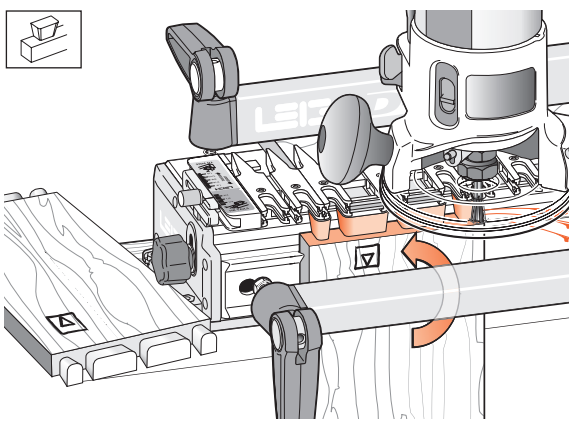
9-29
When you have the proper tightness of fit, check the flushness. The tails should be under flush to the pins by *no more than 1/64"[0,3mm] to allow for cleanup (exaggerated here)*. Any concentricity errors in the collet and guidebush on different routers will affect this tolerance.



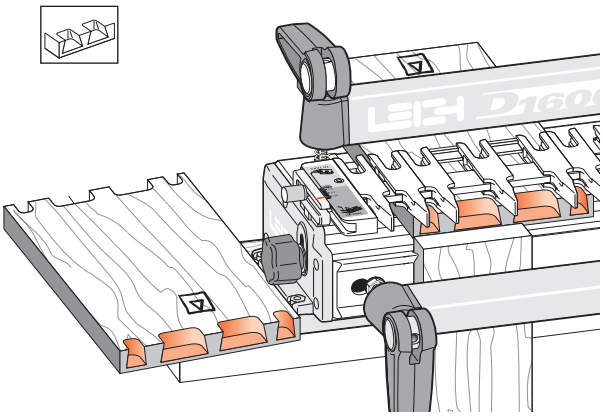
9-30
If the tails stand out from the pins, set the HB PINS scale **away from the operator** by the amount required.



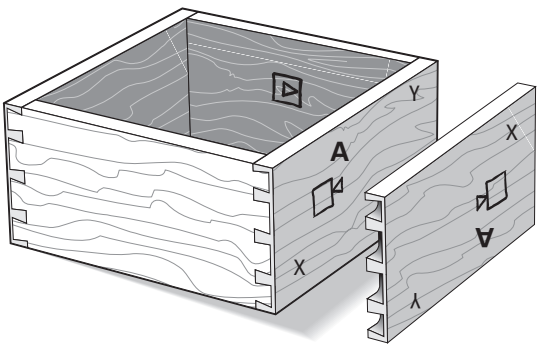
9-31
If the tails fit in too far past the pins ends, set the HB PINS scale **toward the operator** by the amount required. These adjustments for "flushness" are made only in the HB PINS mode.



9-32
To make a box, rout all four ends of the tail boards, keeping the inside face ⊡ of the tail boards away from the jig.



9-33
Rout all four ends of the pin boards keeping the inside face ⊡ of the boards away from the jig.
Note: When making drawers you may prefer to use through dovetails on the rear corners.

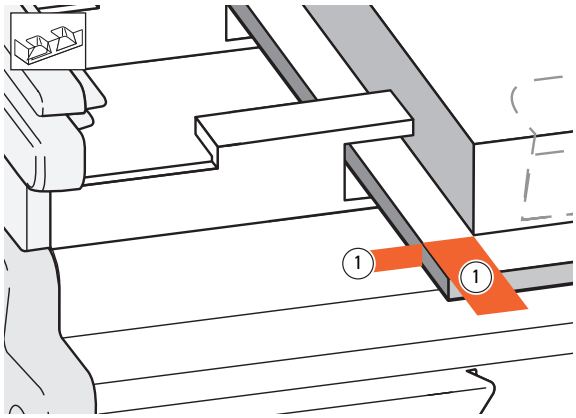


9-34
Assemble the box. As with through dovetails, it doesn't matter which edge of any of the boards are at the top or bottom, the box will still fit together e.g. pin board 'A' can be up either way. ■

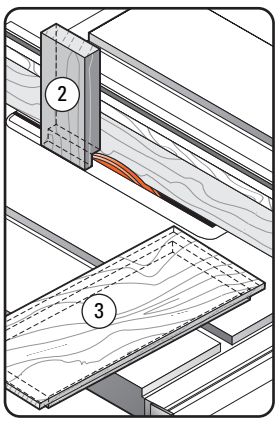
D1600 CHAPTER 10

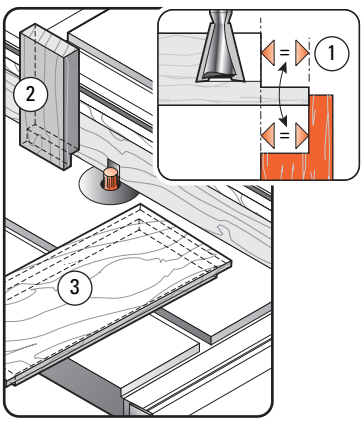
Rabbeted Half-Blind Dovetails

Before attempting rabbeted half-blind dovetails, first master the techniques of flush half-blind dovetails in the previous chapter.



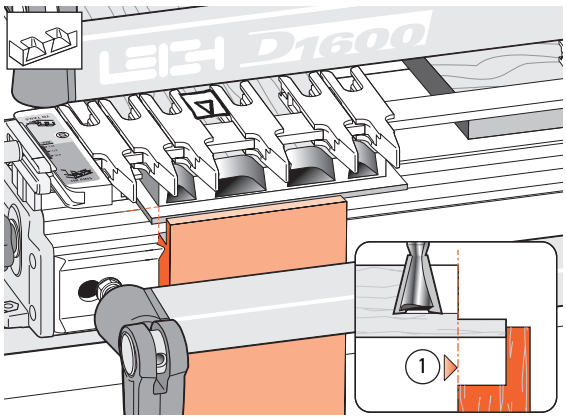
10-1
Provided the drawer front lip is ⅜"[9,5mm] or less in each direction ①, you can mount and rout rabbeted drawer fronts **and sides** exactly the same way as flush drawer fronts, except...



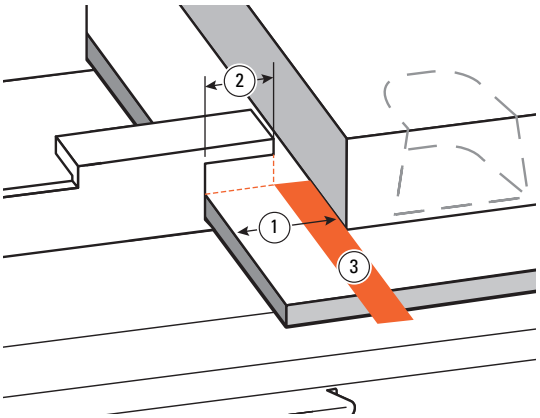


10-2 Rabbeted Pins
You will need to block the scrap stop in the front of the jig out from the jig's front face by exactly the width of the rabbet ①.

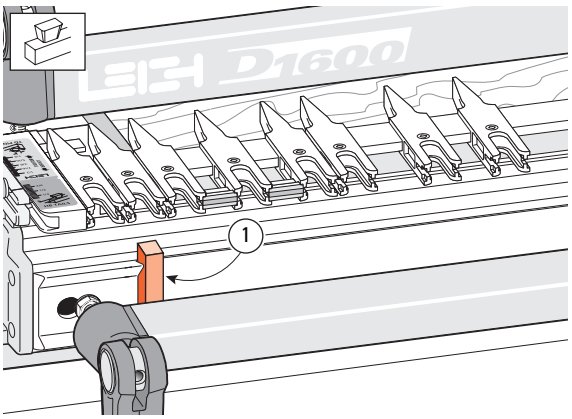
An easy accurate way to do this is to rabbet the end of the scrap piece ② vertically over a dado blade or router cutter at the same time as you rabbet the drawer front (horizontally) ③.



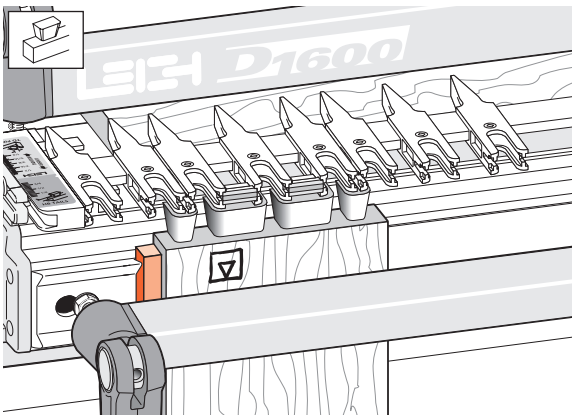
10-3
This brings the pin ends exactly in line with the front jig face ①, ensuring that the scale reading is accurate.



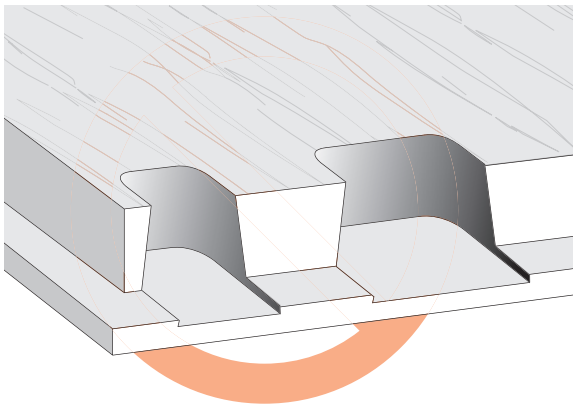
10-4
If the rabbet width ① is greater than the top machined side stop width of ⅜" ②, the drawer side (tailboard) must be blocked away from the front side stop (see 10-5 below) by exactly the width of the rabbet minus ⅜" ③. For example, a ⅝" rabbet ① would require the tailboard to be offset by an additional ¼" ③.
Make a spacer block of the required width and…



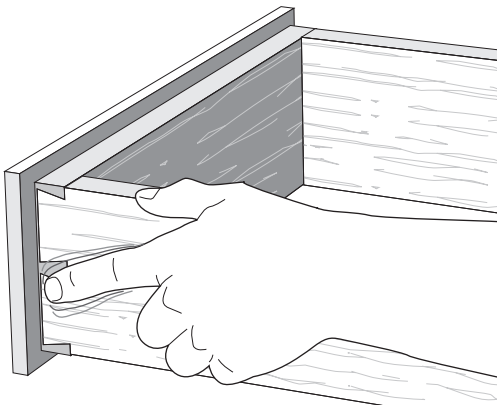
10-5
Stick the block ① to the jig face with double-sided tape, making sure it touches the side stop.



10-6
The drawer side will now be stepped in from the side stop by the width of the rabbet, bringing the sockets in line with the pins.



10-7
Make sure you select a dovetail cutter that has a working depth of cut less than the rabbet height. Otherwise, you will rout into the rabbet.

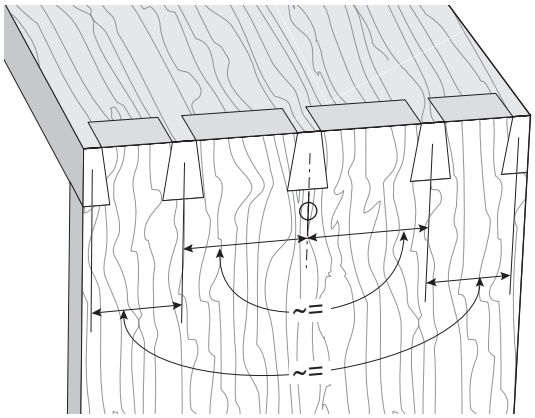


10-8
It is difficult to clean up the drawer sides and front corner after assembling a rabbeted drawer, so make sure the fit is flush before you complete the drawers (see 9-28 to 9-30). ■

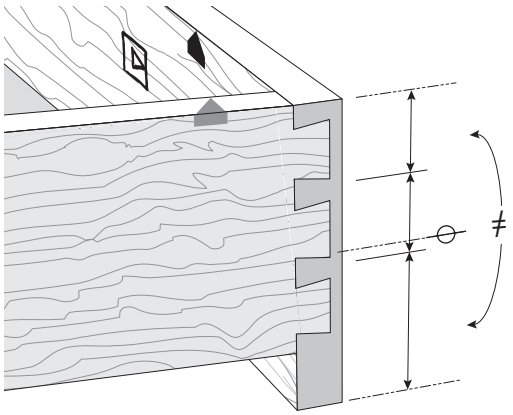
D1600 CHAPTER 11

Asymmetric Dovetails

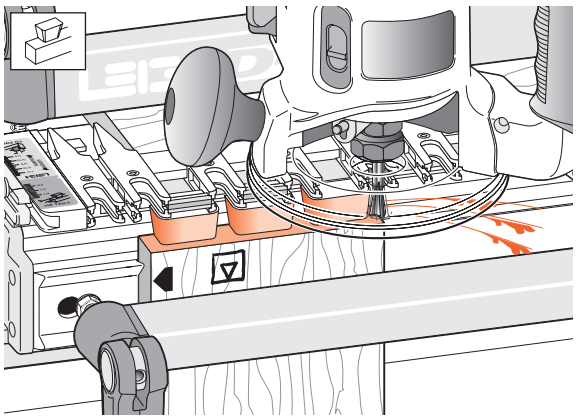
For certain procedures, you will need to use both ends of the Leigh D1600 Jig. Asymmetrical joint layouts are one example. On the Leigh D1600, no joints will be truly symmetrical, but they can ***look*** *symmetrical. Apparent symmetry is only required for aesthetic reasons, and not for strength. Be sure you have read and understood chapters 8 through 10 before attempting these procedures.*



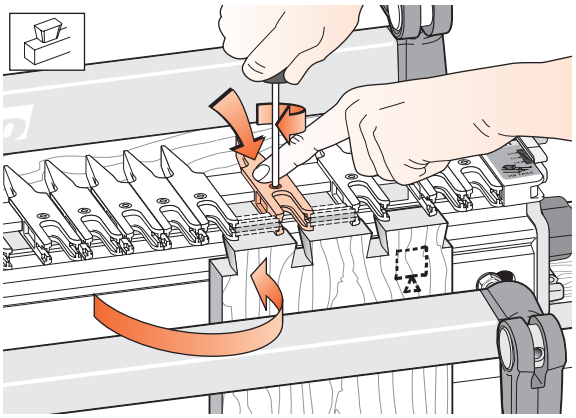
11-1
By *symmetrical* we mean a joint that looks or is approximately symmetrical about its centre line but is probably not, and need not be precisely symmetrical. Using the Leigh jig, it is easy to cut a joint that looks symmetrical; the pins will always align perfectly with the tails cut at the same spacing. Remember, symmetry is only required for appearance, not for joinery reasons.



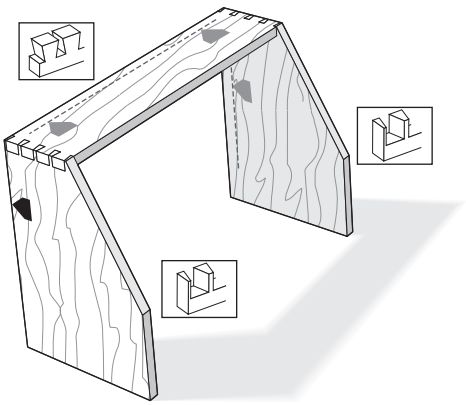
11-2
An *asymmetrical* joint has a deliberately uneven layout of pins and tails desired for a project design; for example, this drop-front drawer. The half-pin at the bottom of the drawer is much wider than the top half-pin. As the top edges of the front and sides are flush, it makes sense to use these edges against the side stops at each end of the jig. Here's how.



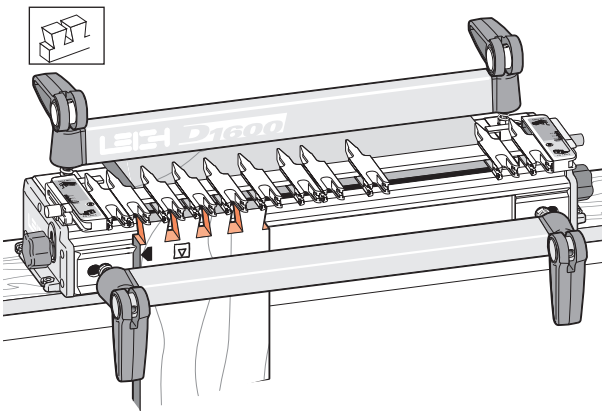
11-3
Mount the right-hand drawer sides and pins on the left end of the jig for routing, and…



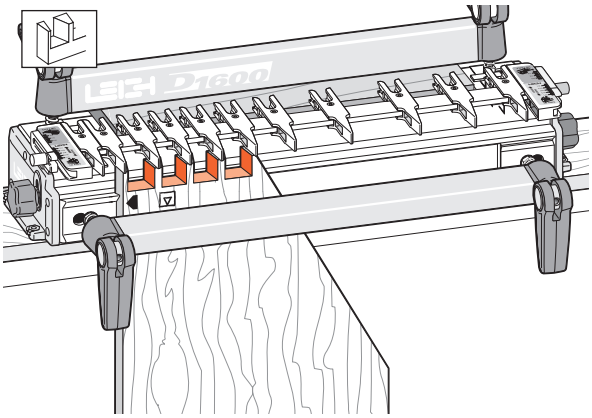
11-4
Turn one tailboard (like turning a page in a book) to the right end of the jig. Now lay out the fingers at the right end to match the sockets already routed. Now simply rout the left front corner (tails and pins) on the right side of the jig.



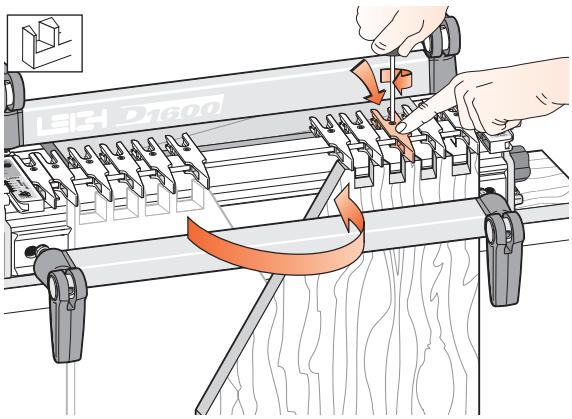
11-5
Another example of asymmetry is the top corners of a slant-front desk. The joints themselves may be symmetrical, but they must be routed on opposite ends of the jig because the sloped front edges will not register accurately against the fixed vertical side stops.



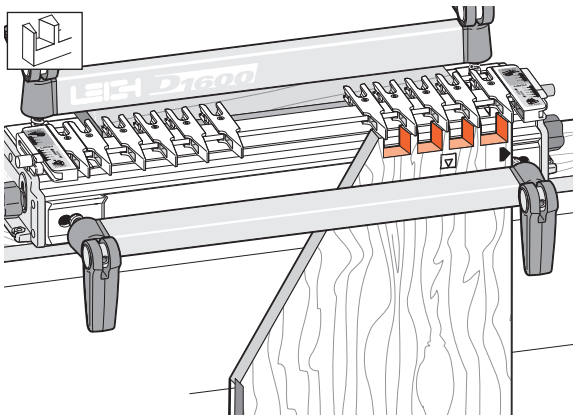
11-6
At the back of the desk both sides and top are flush, so the rear edges are set against the side stops. Place the left end of the top tail board against the left side stop ◀. Rout the tails.



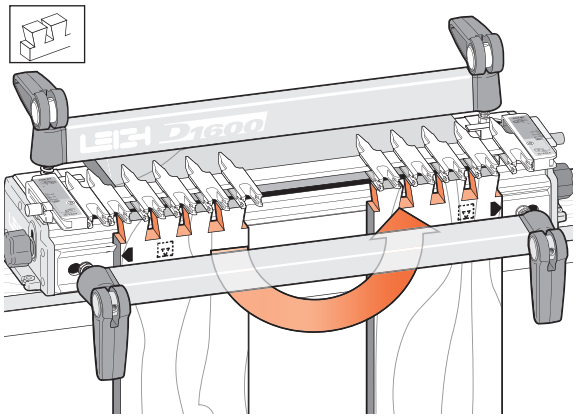
11-7
The left side of the desk goes against the left side stop ◀. Rout the pins.



11-8
To lay out the joint at the right end of the jig, turn the left hand tailboard (like a book page) against the right side stop. Lay out the fingers over the pins you just cut.

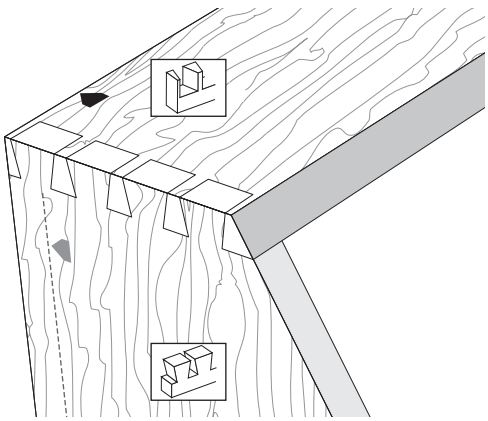


11-9
Place the right side of desk against the right side stop ▶. Rout the pins.



11-10

Rotate the finger assembly to TD Tails mode. Clamp the tailboard in the left side of the jig and rout the tails. Then rotate the board and clamp against the right side stop to rout the tails in the other end.



11-11

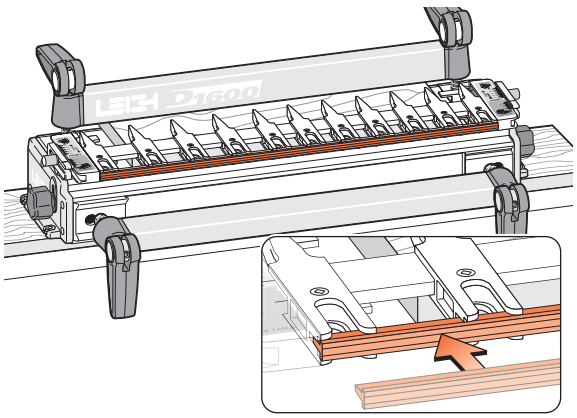
Note: If, in the slant-front desk example, the pins were in the desk top and the tails in the sides, then all the parts would be routed in the opposite ends of the jig to those shown above. ■

D1600 CHAPTER 12

Sliding Dovetails

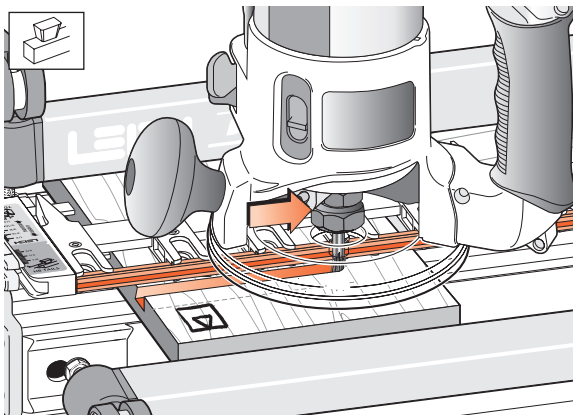
Routing sliding dovetail "slots" across the face grain of horizontal boards is very tough on dovetail cutters. ***Always use the largest shank size available to you.*** *We recommend using 8mm shanks with the 7/16" [11,1mm] guidebush on the D1600.*

If you have to use 1/4" shanks in hardwood, first use a straight cutter to rough out the slot centre .

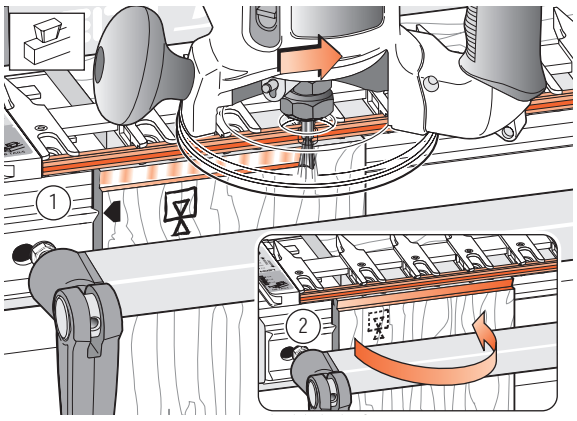


12-1
With the finger assembly in the HB TAILS mode, the cross cut fence fits into the recesses in the ends of the tail guides to allow routing of sliding dovetails.

Space the guides fairly evenly across the jig and firmly seat the fence into end of each guidefinger to ensure a straight cut.

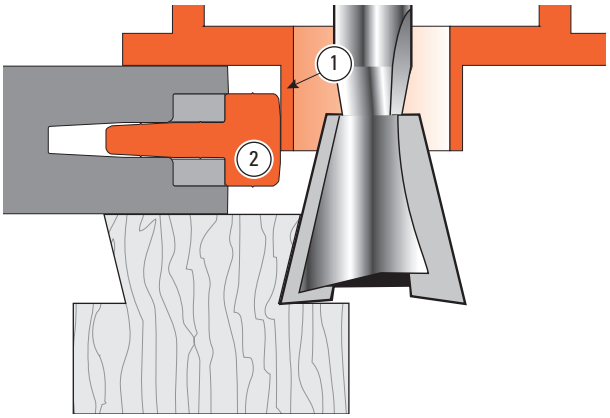


12-2
Using the cross cut fence as a guide surface for the guidebush, you can make lateral router cuts across the faces of horizontal boards (dovetail *slots*), and...

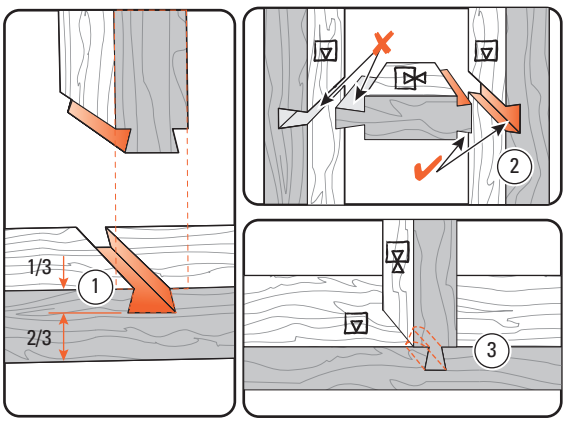


12-3
Across the top ends of vertical boards to cut the tails. First rout one side ①...

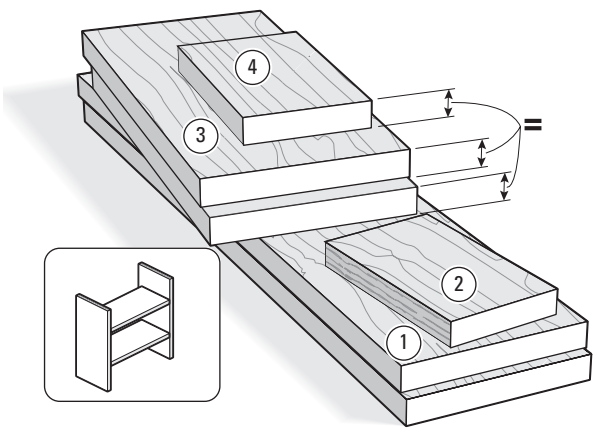
Then turn the board side-over-side to cut the other half of the tail ②.



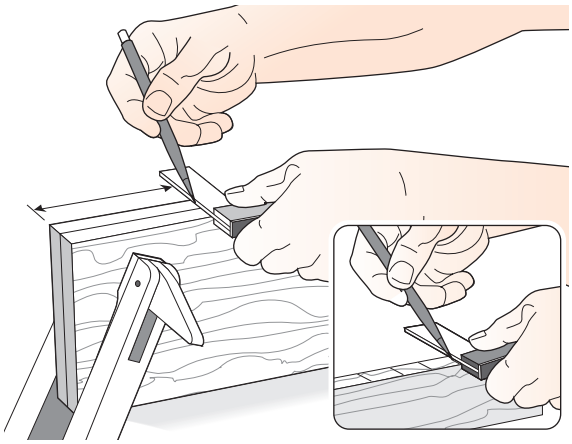
12-4
While virtually any guidebush/dovetail cutter combination can be used for sliding dovetails, the cutter angle should be not less than 12°. We do recommend 8mm shanks over ¼" for greater stiffness routing sliding dovetails. Use your regular 7⁄16" guidebush with the D1600. Make sure the cutter can rotate without touching either the guidebush ① or the jig ②.



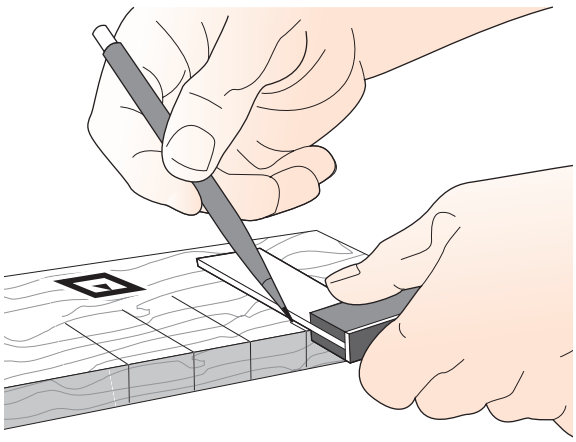
12-5
On a full width joint, *the slot depth-of-cut should be no more than ⅓ of the board thickness* ①. If the tail board is to be a load-bearing horizontal member (e.g., bookshelf or step), then make the tail fairly thick to ensure that the tail neck will be strong ②. Shorter sliding dovetails with fewer structural demands on them may be slightly deeper, with narrower profiles, especially if appearance is important ③ (e.g., where narrow rails join wider boards).



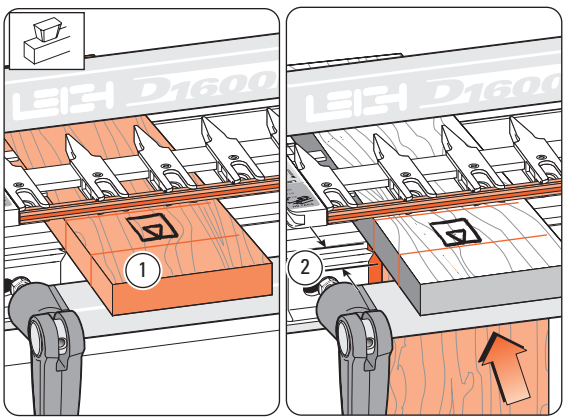
12-6
Use ¾"x5½"[20x140mm] softwood to make two slot boards ①, plus one narrow test slot board ②, two tail boards ③ and one narrow test tail board ④. The tail boards ③ and test tail board ④ must be exactly the same thickness. This will make two uprights and two shelves.



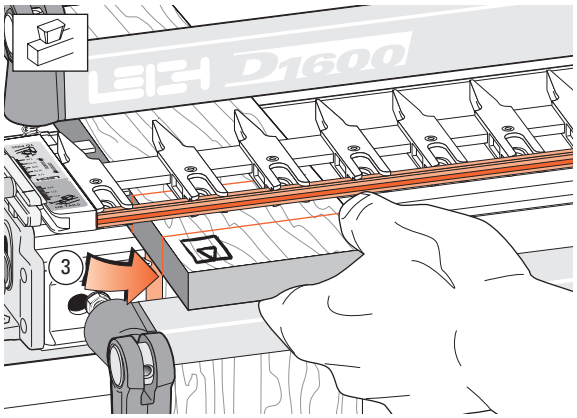
12-7
Marking Out: *Do not mark the slot positions on the board faces,* but mark the edges of both slot boards together for perfectly level shelves. Stay at least 7"[180mm] in from the ends to allow for clamping on this test project. (Instruction 12-25 describes how to rout close to both ends.)
Mark the narrow test slot board in the same way at several closely spaced random spots. This board is used only for setup.



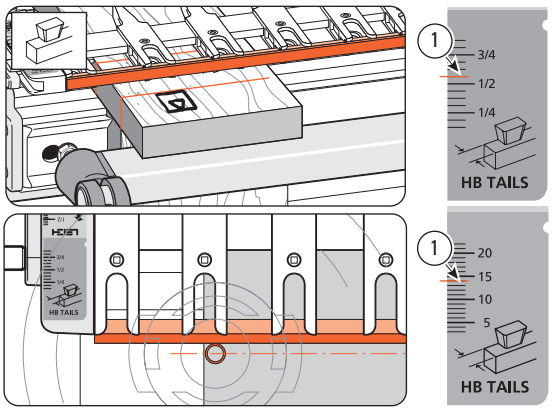
12-8
On the test slot board only, square the marks across the face.



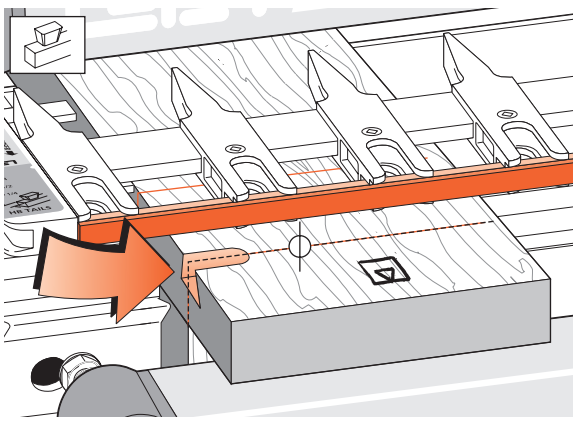
12-9
Mount the test slot board in the rear clamp, markings up ①. Mount a ¾"[20mm] thick ② square-ended board vertically in the front clamp against the side stop, with the top edge butting the underside of the test board *(yes, the ¾"[20mm] thickness is important).*



12-10
Position and clamp the test board so that one of the edge marks is in line with the *outside edge* of the vertical board ③.

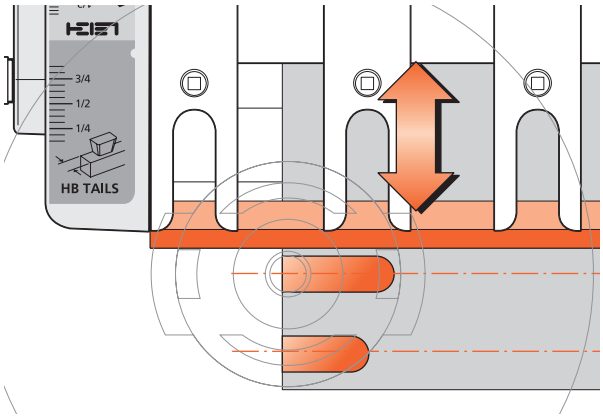


12-11
With the finger assembly (including the cross cut fence) on the support brackets in the HB TAILS mode, set the scale to 9/16"[14mm] ①. The routed slot will be close to centred on the slot line. *Make sure the finger assembly is level and sitting flush on top of the board.*

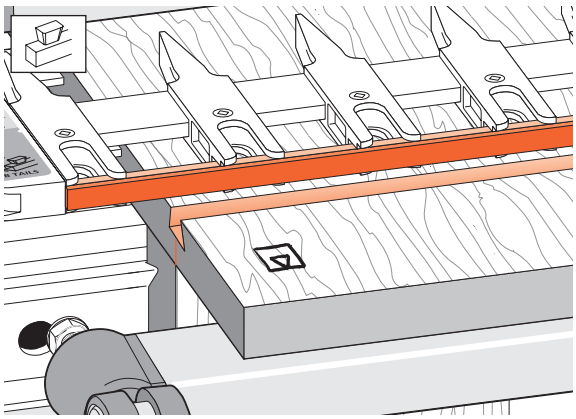


12-12
Adjust the cutter so the cut depth is about 5/16"[8mm]. Rout from left to right maintaining light inward pressure of the guidebush on the fence. Rout in only about 1"[25mm] and back out again.

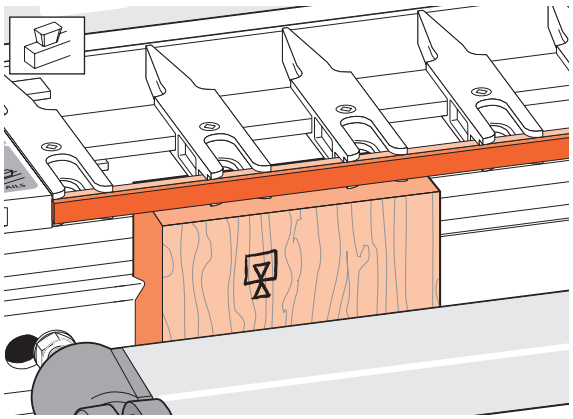
Do not lift the router.



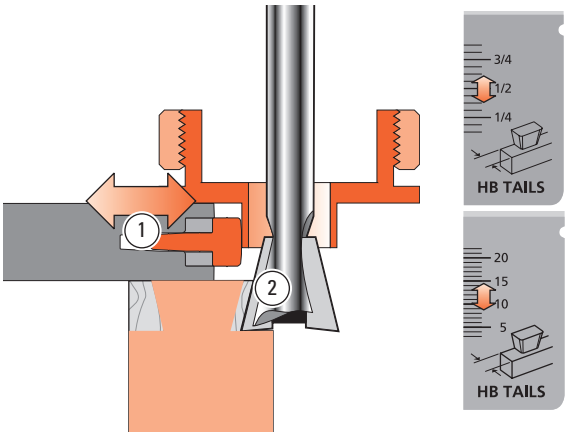
12-13
Check to see if this short slot is centred on the pencil line. If not, adjust the finger assembly in or out and retest on the other lines as necessary until the slot is centred. Lock the finger assembly in this position and record the setting for future reference.



12-14
Now rout sliding dovetail slots in the two main slot boards with the boards in the horizontal position in the rear clamp, slot side, that is inside face ⊡ up.
The guidefingers must be flush on the board.



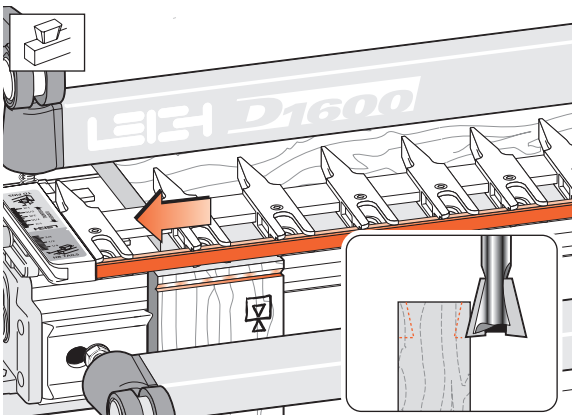
12-15
Replace the spacer board in the rear clamp, and with the finger assembly on the spacer board, mount a test tail board vertically in the front clamp, **flush under the guidefingers**. Either side can face out ⊡.



12-16

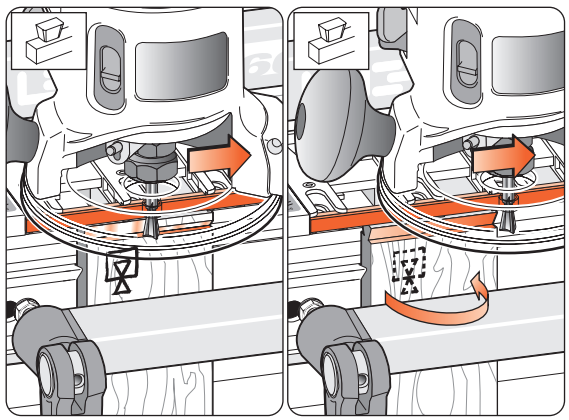
The HB TAILS scale is not designed specifically for this mode, but it does allow you to make precise adjustments for tail size and tightness of fit on sliding dovetails.

Adjust and set the finger assembly ① so it is clear that the routed tail ② will be too large for the slot.



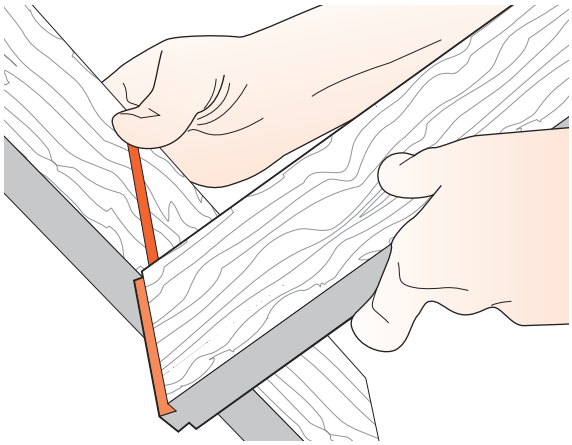
12-17

Rout one side of the test tail board. **Make one light pass from right to left (climb routing). Make sure you control it firmly, because it is driven in this direction by the cutter. Only the tip of the cutter should be cutting on the first cut (see inset).** This *back* or *climb* routing leaves a very clean shoulder in side grain.

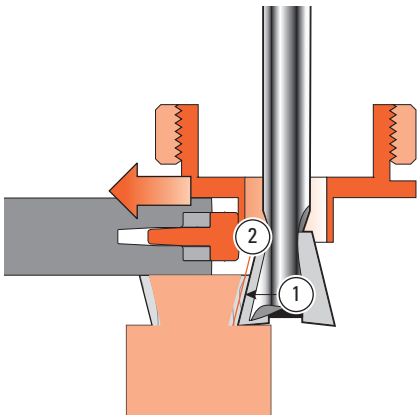


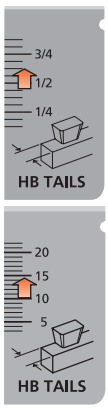
12-18

Finish left to right, with the guidebush touching the fence. Turn the test tail board around in the jig and rout the other side in the same manner.

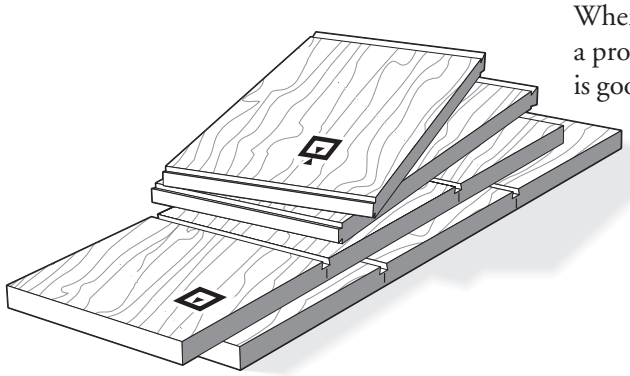


12-19
Test the joint for fit. The tail should be too big. If it is too small, adjust the finger assembly outward by at least half the difference and rout another test tail on the other end of this test board.

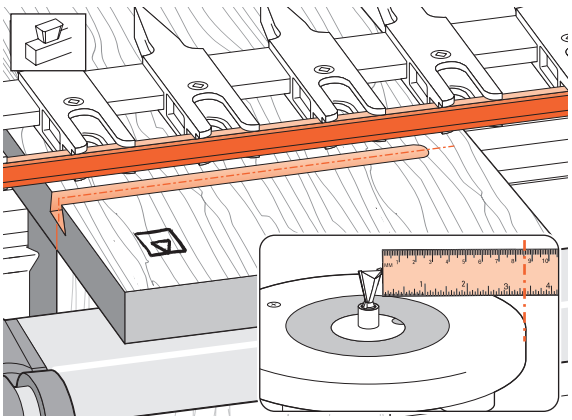




12-20
If the tail is too big ①, move the finger assembly in toward the jig by half the amount the tail is too big ②. Rout the same test board again and keep adjusting and testing until you have a good fit. Note: Variations in board thickness, guidebush diameter, cutter depth, angle, diameter and concentricity, make it impractical to record or chart scale settings for sliding tail size. Use trial and error each time. It doesn't take long, and you get a good fit.

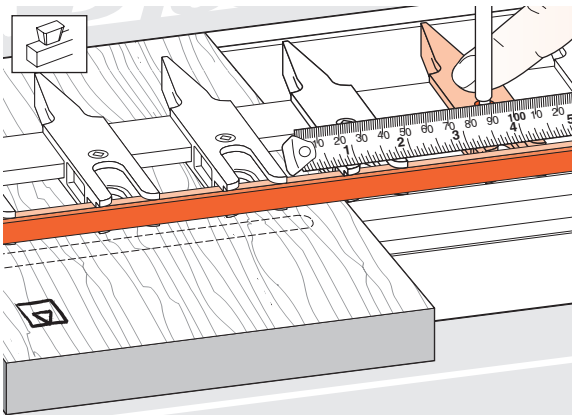


12-21
When the fit is satisfactory, rout one end of a project tail board and test again. If the fit is good, rout all the other ends.

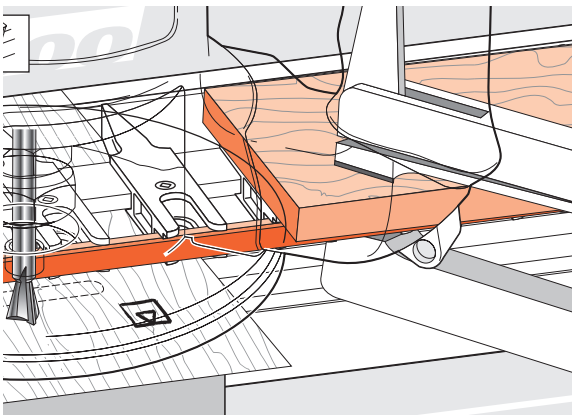


12-22
Stopped Sliding Dovetails
If a stopped sliding dovetail is called for...

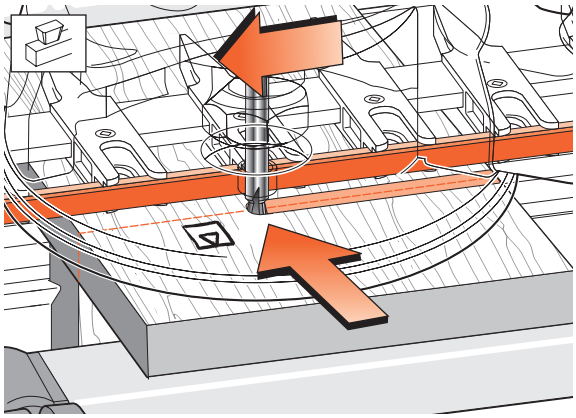
Measure from the outside tip of the dovetail cutter to the edge of the router base.



12-23
Measure the same distance from where you want the slot stopped to a position on the finger assembly. Move a guidefinger to that point and mark the guidefinger with a felt pen as a visual router stop mark…



12-24
Or lightly clamp (**with a soft-jawed clamp**) a short board to the finger assembly to act as a router stop.



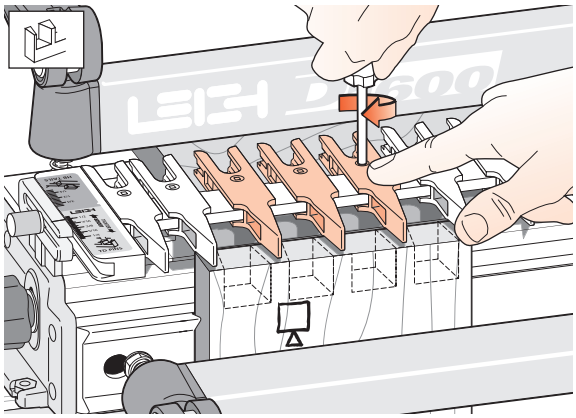
12-25

Dovetail slots are preferably routed from left to right because the cutters clockwise rotation pulls the guidebush against the fence. However; as when routing close to both ends of a board, it is sometimes necessary to rout slots from right to left. If so, **use a slower feed rate and maintain constant pressure of the guidebush on the fence, because now the cutter rotation will tend to pull the router away from the fence.** ■

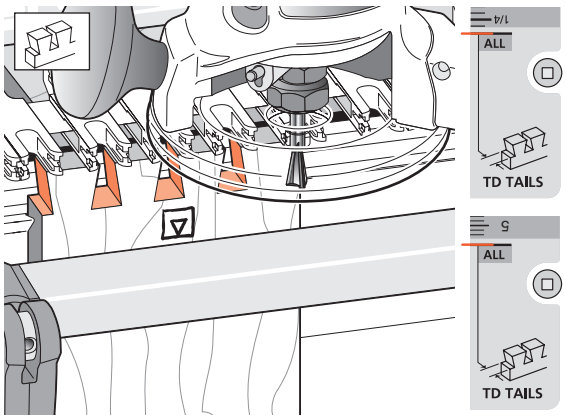
D1600 CHAPTER 13

Quick Reference Through Dovetails

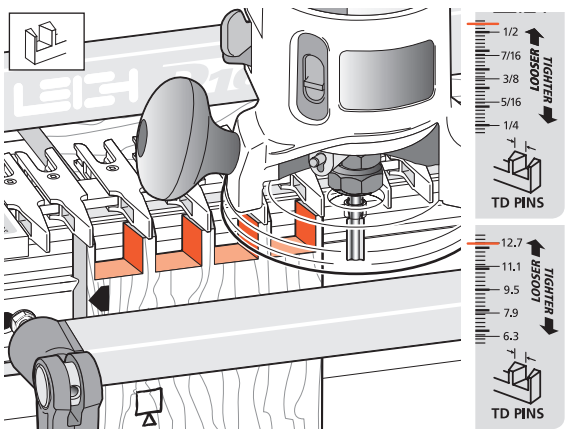
You haven't used the jig for a while and just need reminding of the basics. Here they are for Through Dovetails.



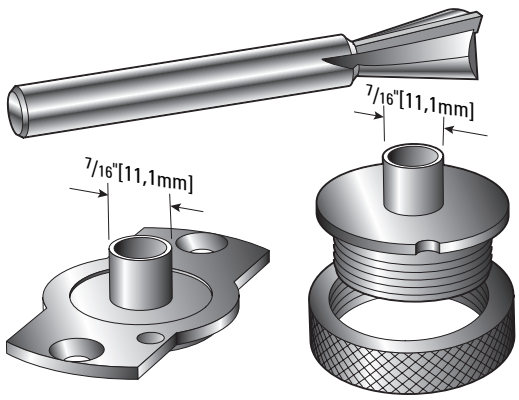
13-1
Through dovetails are laid out in the TD PINS mode with the finger assembly slightly raised above the spacer board and the pin board. The outside face of the TD pins is away from the jig body.



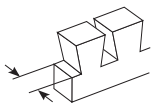
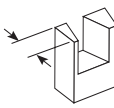
13-2
TD tail boards are clamped vertically in the jig. The inside face of the TD tails is away from the jig body. The finger assembly is in the TD TAILS mode, set on the "ALL" setting. There is only one setting in this mode.



13-3
The finger assembly is in the TD PINS mode, with the scale set to a recorded setting (see detailed instructions to fit on pages 45-48). TD pins are cut with a straight cutter; **the only time a straight cutter is used in dovetailing.**
This is the only one of the four main modes that puts the outside face of the board away from the jig body.



13-4
Through dovetail tails are always cut with an 8° dovetail cutter to match the 8° guide-finger.
All dovetail routing on the D1600 is done with a 7/16"[11,1mm] guidebush.


Thickness of Tail Board	Thickness of Pin Board	Dovetail Cutter	Straight Cutter	Guidebush Diameter
up to 13/16"[21]	1/2" - 13/16" [12-20]	No.80-8	No.140-8	7/16" [11,1]
up to 13/16"[21]	3/8" - 5/8" [10-16]	No.75-8	No.140-8	
up to 13/16"[21]	1/4" - 1/2" [6-13]	No.70-8	No.140-8	
up to 13/16"[21]	up to 3/8" [10]	No.60-8	No.140-8	
up to 13/16"[21]	up to 1/4" [6]	No.50-8	No.140-8	

Numbers in brackets are millimetres

13-5
Here is a quick reference selection chart for through dovetail cutters and guidebushes. Please study the cutter and guidebush selection appendices for a full explanation. ■

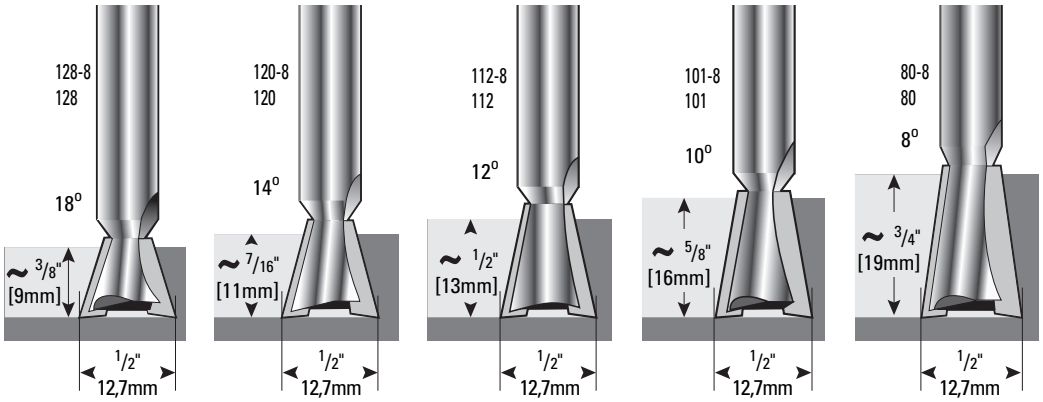
D1600 CHAPTER 14

Quick Reference Half-Blind Dovetails

You haven't used the jig for a while and just need reminding of some of the basics. Here they are for Half-Blind Dovetails.

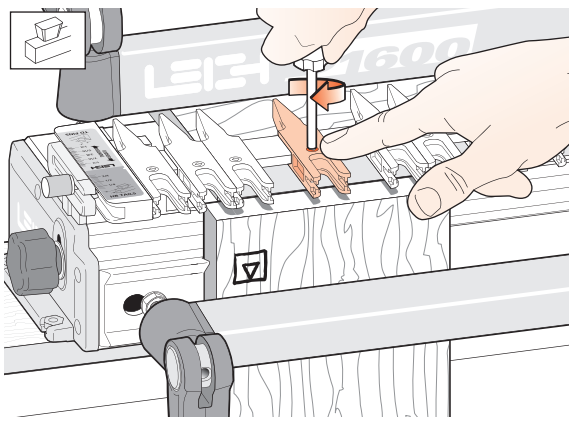
IMPORTANT REMINDER!

The most misunderstood aspect of routing half-blind dovetails is how the cutter angle affects the Depth of Cut setting.
Theoretically, there is only one "perfect" depth of cut for a given cutter that will produce perfectly mating Pins and Sockets. This one depth is determined by the angle of the selected cutter. Any other depth will produce a joint that is either looser or tighter than perfect fit.
This "perfect" depth of cut is discovered by raising or lowering the cutter during trial and error test cuts.
Please read the next page carefully and note the specified Depth of Cut for each of the different cutter angles shown.

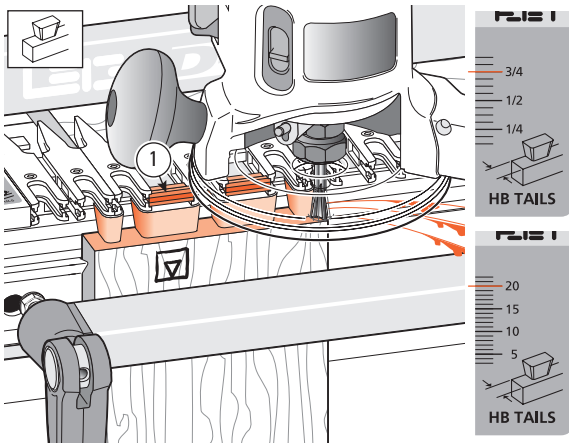


⚠ Important! Read This About Depth of Cut

- Depth of cut must be as specified for each of the five cutters illustrated above.
- Raising the cutter above its specified cutting depth will result in loose joints and may damage the jig, cutter and/or guidebush. A lower setting will result in tighter joints that may not fit together.
- Small Depth of Cut adjustments will change joint fit tightness. See 9-3 to 9-6 for why.
- Half-blind PINS and TAILS are routed with the same dovetail cutter and must be at the same Depth of Cut.
- Choose one of the five ½" [12,7 mm] diameter dovetail cutters shown above, and check cutter selection on page 152.
- Use only 7⁄16" [11,1 mm] outside diameter guidebushes.

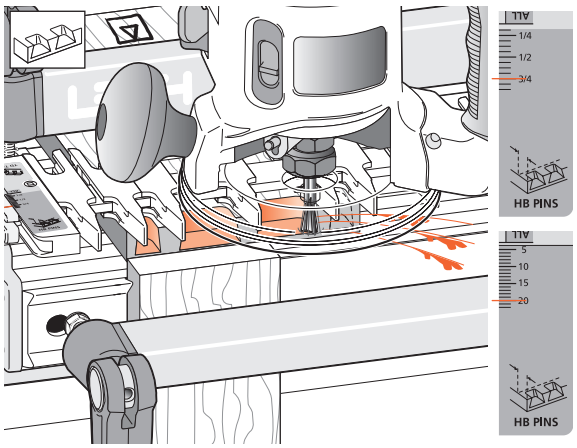


14-1
Half-blind dovetails are laid out in the HB TAILS mode with the finger assembly slightly raised above a tailboard (e.g., drawer side).



14-2

Half-blind (HB) tails: Drawer sides (tailboards) are clamped vertically in the jig. The inside face ⊡ of the drawer side goes away from the jig body. The finger assembly is in the HB TAILS mode, **set to the thickness of the drawer side.** Use bridge pieces where required ①.



14-3

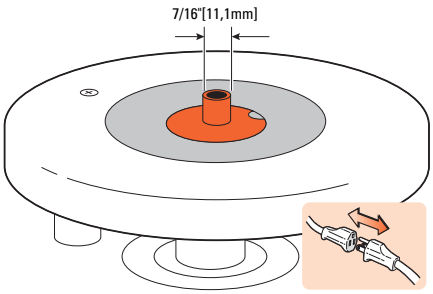
Half-blind (HB) pins: Drawer fronts (pinboards) are cut with the board clamped horizontally in the jig. The inside face ⊡ of the drawer front faces away from the jig body. The finger assembly is in the HB PINS mode, and again **set on the thickness of the drawer side** (but adjusted for a flush fit, see 9-29 to 9-31).

Thickness of Tail Board	Thickness of Pin Board	Dovetail Cutter	Guidebush Diameter
up to 1"[26]	7/8" [22]	No.80-8	7/16" [11,1]
up to 1"[26]	3/4" -up [20]	No.101-8	
up to 1"[26]	5/8" -up [16]	No. 112-8	
up to 1"[26]	9/16" -up [14]	No.120-8	
up to 1"[26]	1/2" -up[12]	No.128-8	

Numbers in brackets are millimetres

14-4

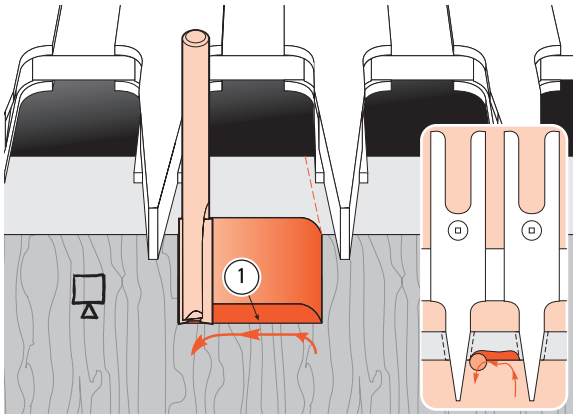
On the Leigh D1600 Jig, all half-blind dovetails are routed using a 7/16"[11,1mm] O.D. guidebush. ■



D1600 CHAPTER 15

Hints and Tips

Here are some special techniques and ideas to help you get the most out of your Leigh D1600 Jig.

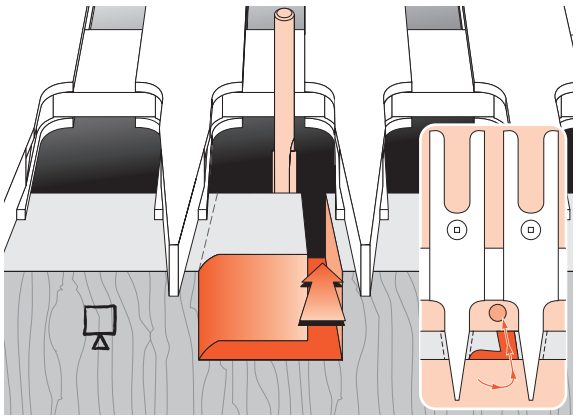


15-1 Through Dovetail Pins

With the straight cutter, **carefully climb-rout from right to left. Make sure you control the router firmly when climb routing.**

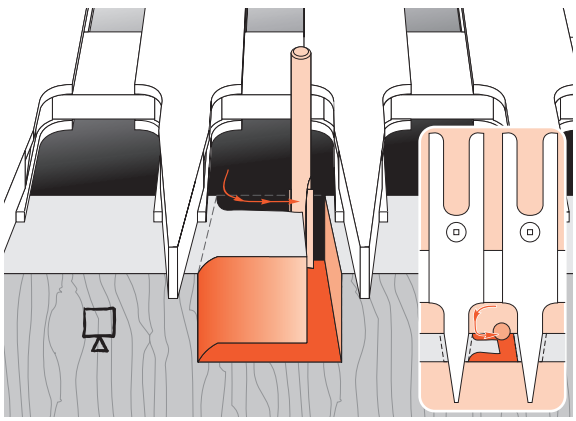
Climb routing produces a nice clean shoulder at ①.

Note: For clarity, the guidebush is not shown in this sequence.



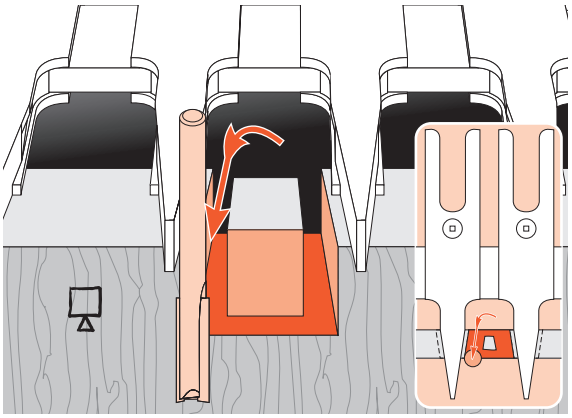
15-2

Rout through on the right side until the cutter is clear of the workpiece. Move the cutter to the left side and climb cut left to right.



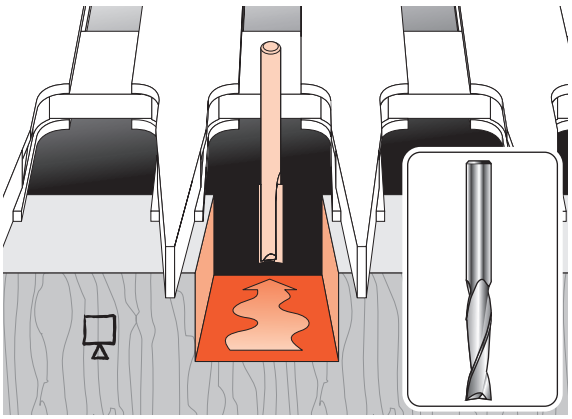
15-3

Climb rout from left to right from the rear of the cut. **Take care to control router.**



15-4

Rout back through towards you on the left side.

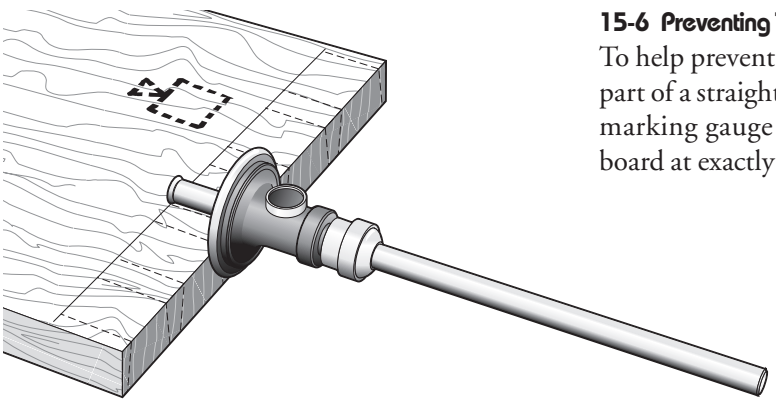


15-5

Rout away the rest of the waste.

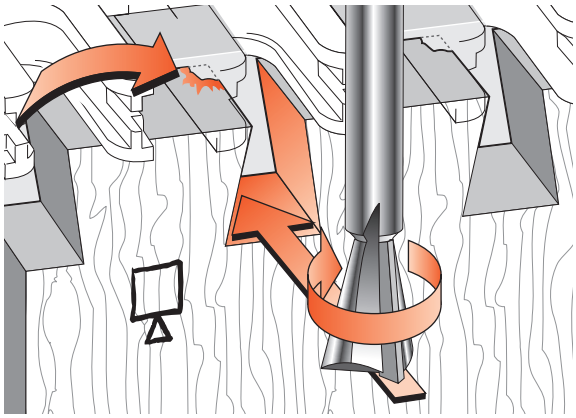
Note: Spiral up-cut straight cutters (inset) generally rout more smoothly than the two-flute carbide-tipped bits.

If you want to try them, you should be aware that while the high-speed steel bits take a better edge, they are much less durable than the more costly solid carbide type.

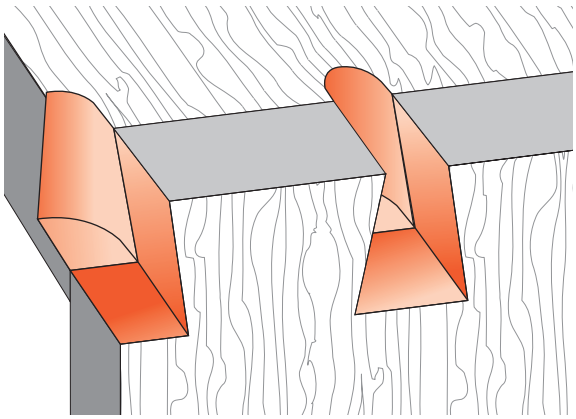


15-6 Preventing TD Pins Tearout

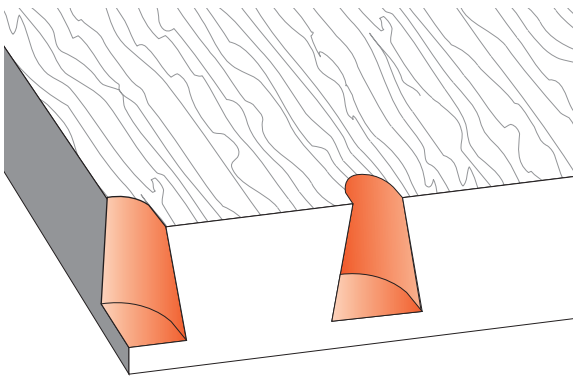
To help prevent tearout at the back bottom part of a straight cut, scribe a line with your marking gauge across the back of the pin board at exactly the depth of cut.



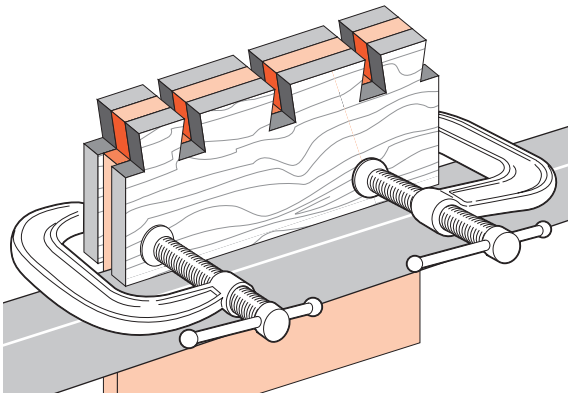
15-7 Dovetail Tails Tearout
With the dovetail cutter, most tearout occurs at the top left exit of the cut.



15-8
To help prevent this, back up the cut with the end-grain of a horizontal board pushed against the back of the workpiece and held in the rear clamp. This board replaces the spacer board.

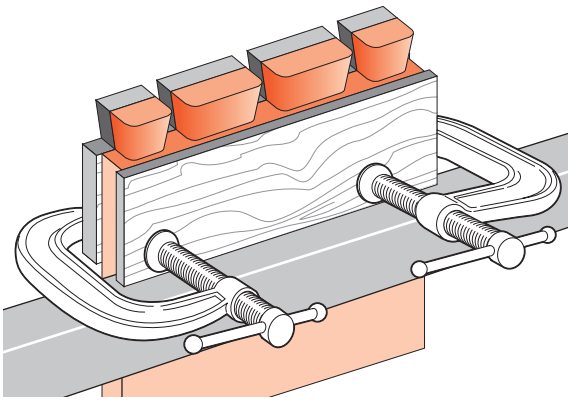


15-9
This same scrap piece can remain in place for successive cuts.

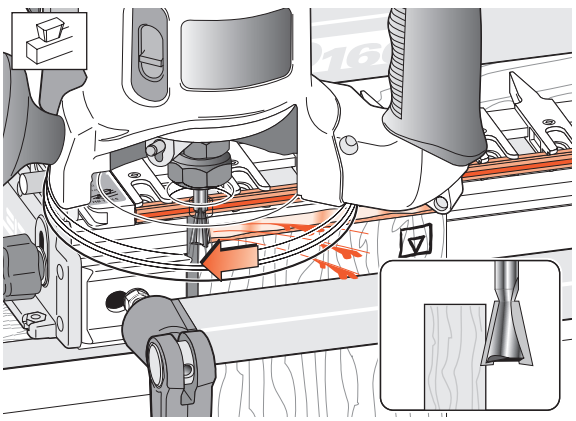


15-10
For particularly vulnerable pieces or that last piece of exotic wood, the best solution is to clamp horizontal scrap pieces to the front and back of the work piece. **Make sure the clamps are below the cutter depth.**

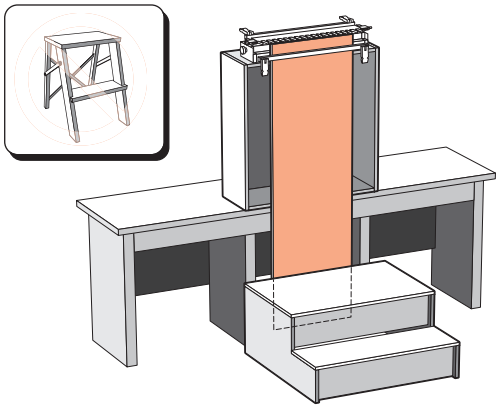
⚠ PLYWOOD
Plywood is not a suitable material for routing; the laminates are very prone to tearout. Either of these two procedures (15-10 or 15-11) are essential for plywood but provide no guarantee of success.



15-11
A single scrap piece can be C-clamped on the back of half-blind tails, *but make sure you protect the workpiece from the clamp pads.*
Note: There is no 100% solution to tearout. It's not the jig's fault, just something that happens when machining, sawing and even chiseling wood. Important pieces fall off from where you least want them to.

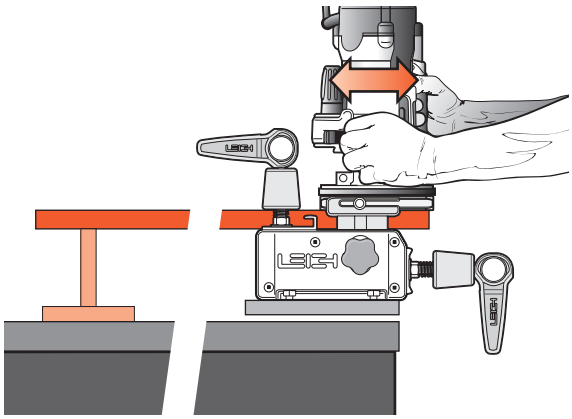


15-12
On face cuts, whether using a straight cutter or a dovetail cutter, climb routing or back routing will leave a clean edge; **but great caution must be exercised in controlling the router's movement from right to left, as the cutter rotation pulls the router in that direction anyway.**



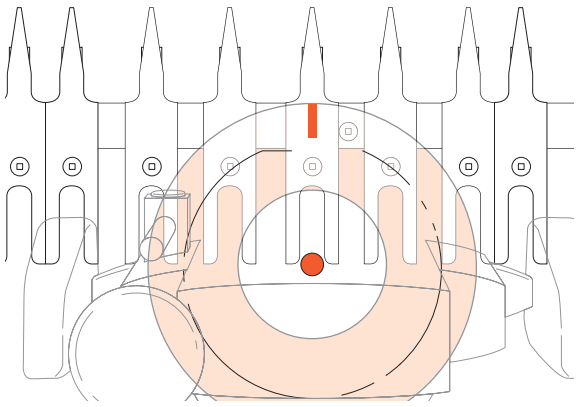
15-13 General Hints

For routing long vertical boards it may be necessary to build a jig stand to mount securely on your bench. Make the stand and bench height combination sufficient to accept the board length you have in mind. *The jig stand should be bolted securely to the bench.* Make up a stable platform to stand on as in the illustration. **Do not use a set of steps. Steps are not stable enough.**



15-14

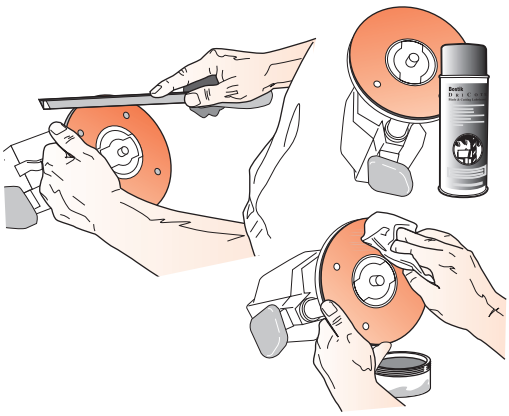
When placing long horizontal boards in the rear clamp, make sure the rear end of the board is supported to prevent unnecessary racking of the jig.



15-15 Using The Router

Mark the router base top edge at the 12 o'clock position with a felt marker pen. Without wood or cutters, try some **dry runs** in each jig mode. This will soon get you used to positioning the guidebush against the correct guide surface without looking under the router.

Do not rout at face level.



15-16
Some router bases have sharp edges on the outside and inside corners. A slight chamfer of the edges with a fine file or sandpaper block will ease router movement on the jig.
An occasional light spray of TopCote® or application of soft wax to the router base makes for smooth, easy router movement on the jig. ■

D1600 APPENDIX I

Guidebush Selection

The correct guidebush is the vital link between the router and your Leigh Jig. It precisely steers the router. Where possible, always use the Leigh system ***to ensure correct bush length and precise diameter for accurate results.***

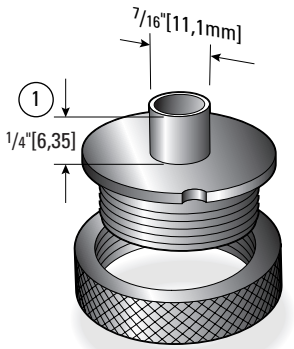
Guidebush Selection

Only one size of guidebush is used with the Leigh D1600 Jig*: 7/16"[11,1mm] O.D. **Bush barrel length① from base of router should be ¼ - 9/32"[6 - 7mm].**

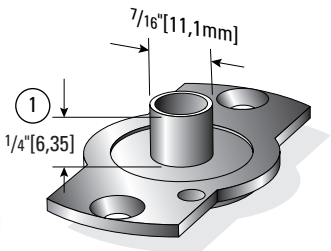
Use the 7/16"[11,1mm] guidebush for all half-blind and through dovetailing with ¼"[6,35mm] or 8mm shank cutters: i.e., dovetail cutter Nos. 50-8, 50, 60-8, 60, 70-8, 70, 75-8, 75, 80-8, 80, 101-8, 101, 112-8, 112, 120-8, 120, 128-8, 128, and straight cutter Nos. 140-8 and 140.

Here are two types of Leigh guidebush and five Leigh adapters. Use the chart on page 104 to select the adaptor and/or guidebush required for your router. **The 711TP comes standard with your D1600.**

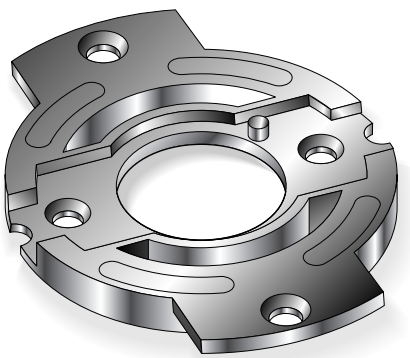
**Except for sliding dovetails (see page 113).*



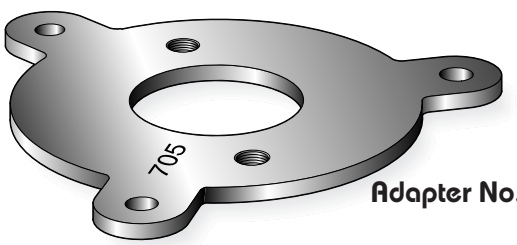
711 TP



711

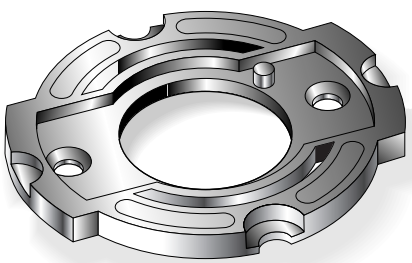


Adapter No. 702

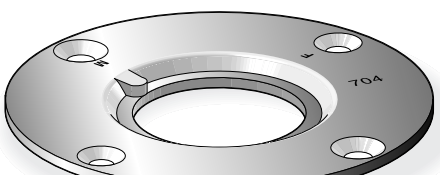


Adapter No. 705

Adapter No. 706

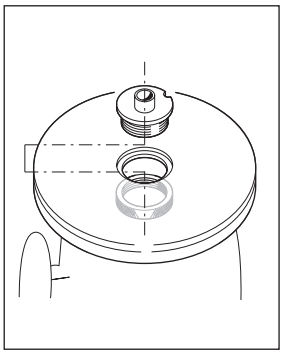


Adapter No. 703

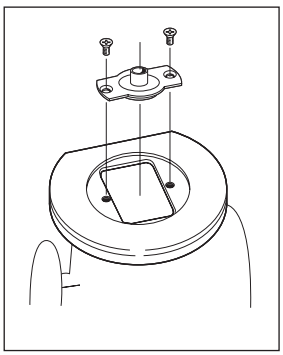


Adapter No. 704

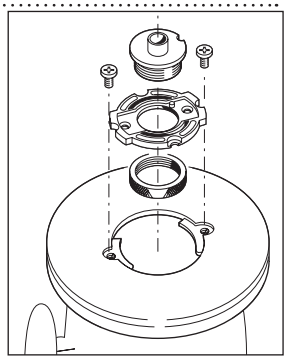
The Leigh 711TP (TP stands for Two Part) fits directly to many routers.

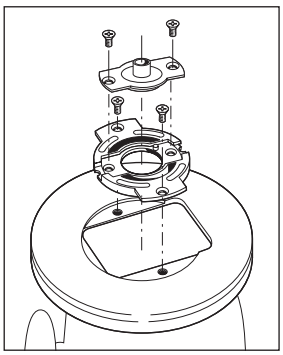


The Leigh 711 guidebush fits directly to some routers using the screws that come with the router.



Leigh universal adapters fit to a wide range of plunge routers and generally accept the Leigh 711 bushes or 711TP bushes.





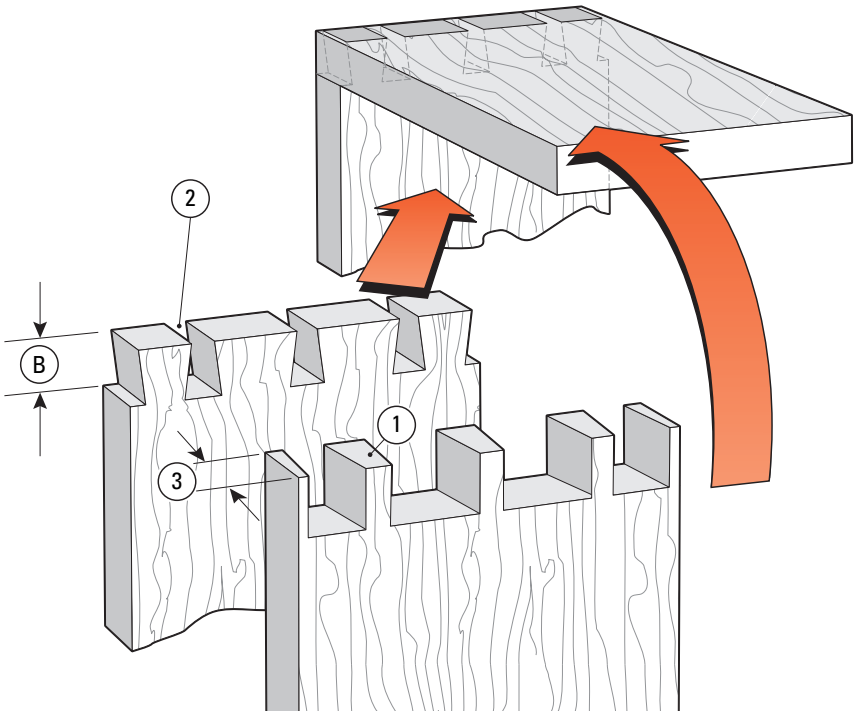
Check the make and model of your router in the left hand column. Where possible always order the Leigh adaptors and guidebushes (in red) which are specially designed for use on Leigh jigs. Other adaptors or guidebushes must be purchased from the manufacturer's own distributor.

ROUTER MAKER	ROUTER MODEL	LEIGH OR ROUTER MAKER'S ADAPTOR NO.	7/16" [11,1mm] OUTSIDE DIA. GUIDEBUSH NO.	METHOD OF ATTACHMENT
AEG	OFE 710 in plunge base	No adaptor required	711	Screws incl. w/router
	OFSE 2000	703	711	◆
ATLAS COPCO	OFE 710 in plunge base, OFE 1000	No adaptor required	711	Screws incl. w/router
	OFSE 2000	703	711	◆
AXMINSTER WHITE	AW635R	No adaptor required	711	Screws incl. w/router
	AW127R	Adapter supplied w/router	711	Screws incl. w/router
BLACK & DECKER	All Professional, HD 1250, RP400K	No adaptor required	711TP	Threaded nut included
	6200	720673-00	711TP	2 screws req'd. 249412-20
	SR100, 7AEE, KW780 series	No adaptor required	711	Screws incl. w/router
BOSCH	90140, 90098, 90088		82855	Screws included
	90085, 90150, 90300, 90303, 90305, 91264	No adaptor required	82859	Screws included
	1600, 1601, 1602, 1603, 1604, 1606, B1350	2 610 906 290	711TP	Threaded nut included
	1613,1613EVS,1613AEVS, 1614, 1614EVS, 1617, 1617EVS, 1618EVS, 1619EVS, B1450, POF800ACE, GOF900ACE,GOF1300ACE, GOF2000CE	No adaptor required (RA1100 required for VGS)	RA1107	No screws required
	1611, 1611 EVS,1615,1615 EVS, B1550 GOF1600, GOF1700ACE	702	711	◆
CASALS	FT750, FT 1000E, FT2000E	703	711	◆
CMT	1E	702R	711	◆
CRAFTSMAN (SEARS)	All non-plunge models	No adaptor required	Set of 3 bushes from Sears USA order no.25082 (stamped steel) or 25090 (plastic). Set of 3 bushes from Sears Canada order no.092-970-704	Screws incl. w/set
	135275070 Plunge	See Skill 1823 or 1835		
	Other plunge models	702	711	◆
DEWALT	DW610	No adaptor required	711TP	Threaded nut included
	DW613	No adaptor required	711	Screws incl. w/router
	DW614, DW615, DW621 DW624, DW625 and DW626	North America Only Adaptor supplied w/router	711TP	Threaded nut included
	DW621K and DW626 outside N. America	706	711	◆
	DW625 Type 1, 2 & 3 outside N. America	702	711	◆
	DW625 Type 4 outside N. America, DW625EK	702R	711	◆
EINHELL	EOF 850 SP, OF-G 1100E	No adaptor required	711	Screws incl. w/router
ELU	OF15, OF15E, OF97, OF97E	706	711	◆
	MOF68, MOF69, MOF96, MOF96E	No adaptor required	711	Screws incl. w/router
	MOF131, MOF177 Type 1, 2 & 3	702	711	◆
	MOF177 Type 4, MOF177EK	702R	711	◆
	2720, 2721, 3328	No adaptor required	711TP	Threaded nut included
	3303, 3304	E09600 or 761 270-00	711TP	Threaded nut included
	3337, 3338, 3339	702	711	◆
FEIN	RT1800	Adapter supplied w/router	711TP	◆
FESTOOL	OF1E, OF2E, OF650, OF900E, OF1000, OF1010E	704	711TP	Threaded nut included
	OF2000, OF2000E	705	711	◆
	OF1400	with Festool Adaptor	711TP	Threaded nut included
FLEX	All	No adaptor required	711TP	Threaded nut included
FREUD	FT2000	703	711	◆
HITACHI	TR8, TR12, FM8, M8, M12 Series	703	711	◆
HOLZ-HER	2355, 2356	No adaptor required	711	Screws incl. w/router
	2365	702		◆
ISKRA	MR808A Series	No adaptor required	711	Screws incl. w/router
JEPSON	7412	703	711	◆
KANGO	OF808	No adaptor required	711	Screws incl. w/router
KRESS	OF690 IE Series	No adaptor required	711	Screws incl. w/router
MAFELL	LO65E	702 ■	711	◆
MAKITA	3600,3606,3608,3612, 3612B, 3612BR 3612C N. America,3620, 3621	703	711	◆
	3612C Europe Qk.Fit Base	Contact your National Leigh distributor		
	3601B	321 493-1	711TP	Threaded nut included
	RP0910, RP1110C	706	711	◆
	RF1100, RF1101, RD1100, RD1101, RP1101	No adaptor required	711TP	Threaded nut included
METABO	OF1612, OFE1812	704	711TP	Threaded nut included
MILWAUKEE	All	No adaptor required	49-54-0520	Screws included
PERLES	OF808 Series, OFE 6990	No adaptor required	711	Screws incl. w/router
PORTERCABLE(Rockwell)	All	No adaptor required	711TP	Threaded nut included
POWER DEVIL	All	No adaptor required	711	Screws incl. w/router
RYOBI	R30, R50, R150, R151, RE155, R161 R500, R501, R502	703	711	◆
	R600, R601, RE600, RE601	702	711	◆
	R160, R165, R170, R175, RE175, R180, R185	706	711	◆
SCHEER	HM9, HM14, HM14-12, HM18, HM18-E	No adaptor required ●	711	Screws incl. w/router
SKIL	1823 or 1835	91803	711TP	Threaded nut included
	All others	No adaptor required	11592	Nut 11587
STANLEY	All	See Bosch Distributor		
STAYER	PR50 Series	No adaptor required	711	Screws incl. w/router
TREND (FELLISATI)	T5	No adaptor required	711	Screws incl. w/router
	T9	Adaptor supplied w/router		
WEGOMA	OF850 Series	No adaptor required	711	Screws incl. w/router

Note: *Ideal barrel depth is 1/4" to 9/32" [6mm to 7mm] below the router base. Other manufacturers' guidebushes may require careful cutting to length.*
◆ Guidebush mounting screws are provided with adaptor and adaptor mounting screws are provided with router.
▶ 5/8"[15,9mm] O.D. guidebushes are used only with 1/2"[12,7mm] shank router bits. ■ MAFELL – Rework the adaptor slightly. ● SCHEER – Rework the router base slightly.

D1600 APPENDIX II

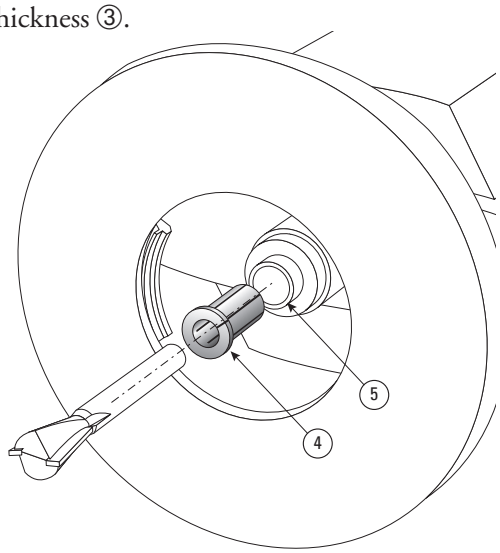
Cutter Selection



Cutter Selection for Through Dovetails

8° Dovetail Cutter for Tails

The pins ① must fit into the sockets ②. So the dovetail cutter's depth of cut Ⓑ must be equal to or a little greater than the pinboard thickness ③.



Measure the pinboard thickness ③ and select the dovetail cutter with the correct depth of cut Ⓑ from the following pages (cutters must be 8° for through dovetails).

Straight Cutter for Pins

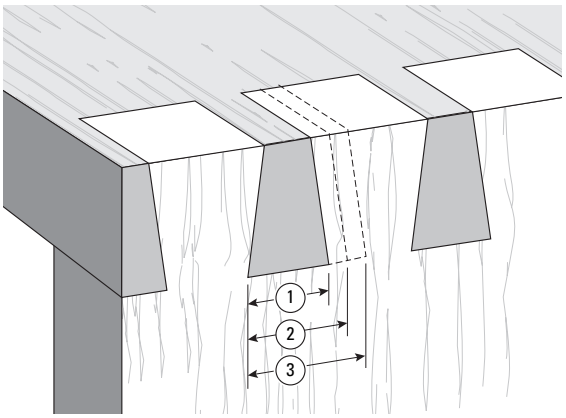
The matching straight cutter is listed just below the dovetail cutters. The 5⁄16" diameter No. 140-8, 8mm shank is the only straight cutter you need with the D1600. The ¼" shank No. 140 is also available.

Guidebush

All through dovetails on the D1600 are routed with a 7⁄16" OD guidebush. See page 102.

Shank Selection

Note: If your router has an 8mm or larger collet, we highly recommend you use our 8mm shank cutters instead of ¼"[6,35mm] shanks. For a ½"[12,7mm] collet you will require our ½"[12,7mm] to 8mm collet reducer No.172-8. Note: This is a collet reducer ④, not a collet ⑤. It does not replace the collet, it slides directly into your ½"collet.



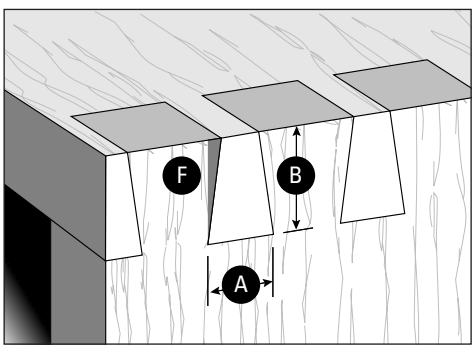
You will note that some of the dovetail cutters' depths of cut overlap. For example:
No.80 cutter (B): ½"–$^{13}/_{16}$"[12 - 20mm]
No.70 cutter (B): ¼"– ½"[6 - 12mm]

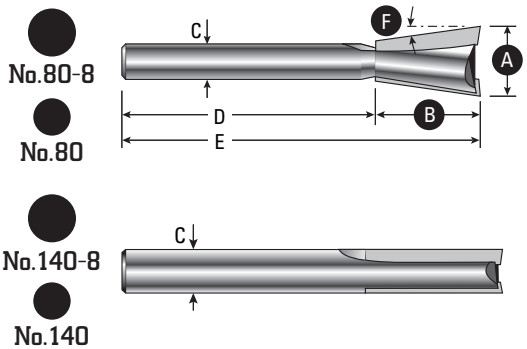
This means that ½" boards can be joined using either the No.80 -140 combination, the No. 75-140 combination, or the No. 70 -140 combination.
The three cutter combinations will produce slightly different-looking joints because each dovetail cutter produces a different size pin:
No. 70 - ⅜" ①
No. 75 - $^{7}/_{16}$" ②
No. 80 - ½" ③.

Do not attempt to rout dovetails at less than the minimum depth of cut specified.

Note: Cutter and joint drawings are about 75% actual size.

Leigh Through Dovetail Cutters



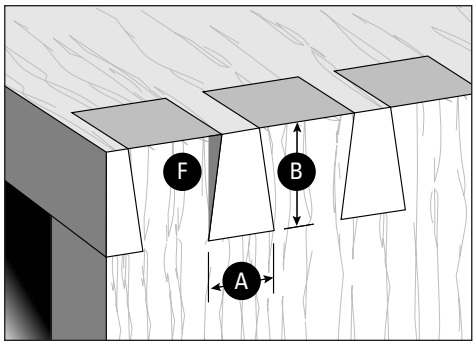


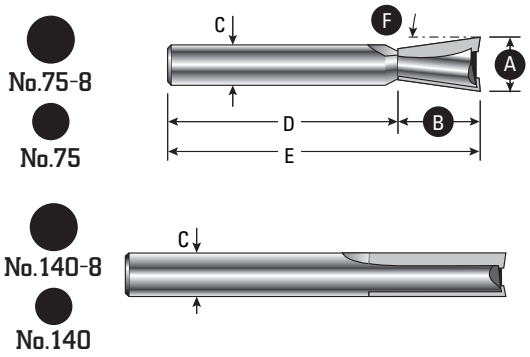
Cutters	A Overall Diameter	B Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
***No. 80-8**	1/2" [12,7]	1/2" to 13/16" [13,0-20,6]	8mm or 1/4"	1-3/4" [45,0]	2-9/16" [65,0]	8°	7/16"[11,1]
***No. 140-8**	5/16" [7,9]	up to 1" [26,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/4" [70,0]	–	7/16"[11,1]

Numbers in brackets are millimetres
No.80-8 and No.140-8 cutters come standard with the Leigh D1600 Jig

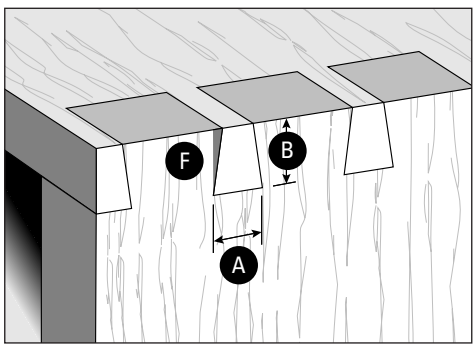
Note: Cutter and joint drawings are about 75% actual size.

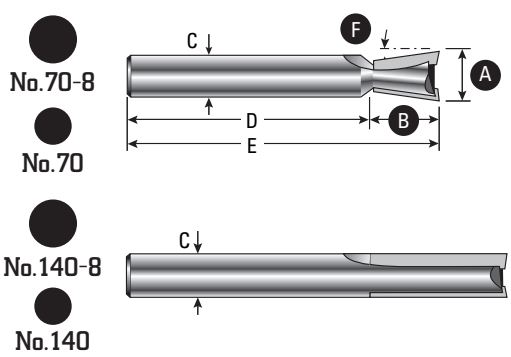
Leigh Through Dovetail Cutters



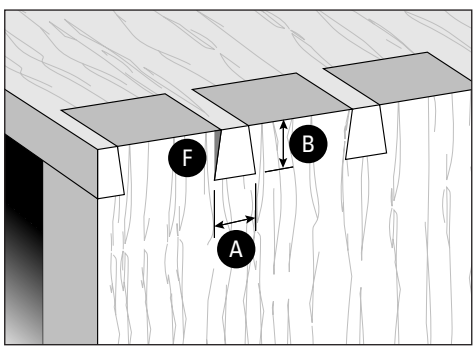


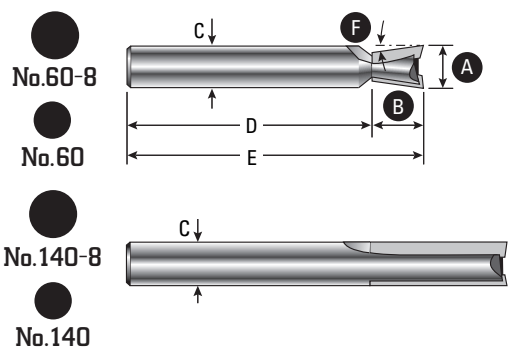
Cutters	A Overall Diameter	B Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 75-8	7/16" [11,1]	3/8" to 5/8" [9,5-16,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/8" [60,0]	8°	7/16"[11,1]
No. 140-8	5/16" [7,9]	up to 1" [26,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/4" [70,0]	–	7/16"[11,1]





Cutters	A Overall Diameter	B Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 70-8	3/8" [9,5]	1/4" to 1/2" [6,0-13,0]	8mm or 1/4"	1-3/4" [45,0]	2-1/4" [57,0]	8°	7/16"[11,1]
No. 140-8	5/16" [7,9]	up to 1" [26,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/4" [70,0]	–	7/16"[11,1]



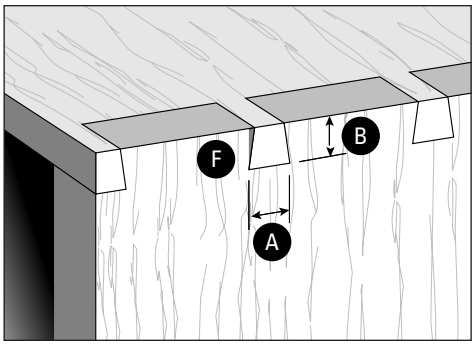


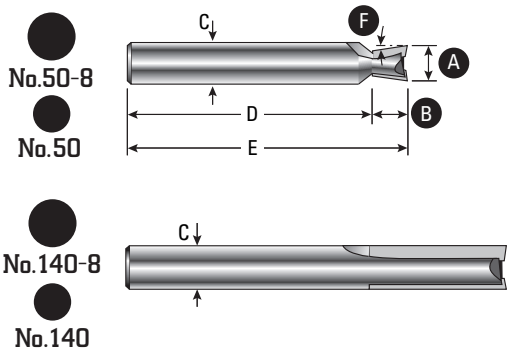
Cutters	A Overall Diameter	B Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 60-8	5/16" [7,9]	up to 3/8" [9,5]	8mm or 1/4"	1-3/4" [45,0]	2-1/8" [54,0]	8°	7/16"[11,1]
No. 140-8	5/16" [7,9]	up to 1" [26,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/4" [70,0]	–	7/16"[11,1]

Numbers in brackets are millimetres

*** No.80-8 and No.140-8 cutters come standard with the Leigh D1600 Jig**

Note: Cutter and joint drawings are about 75% actual size.

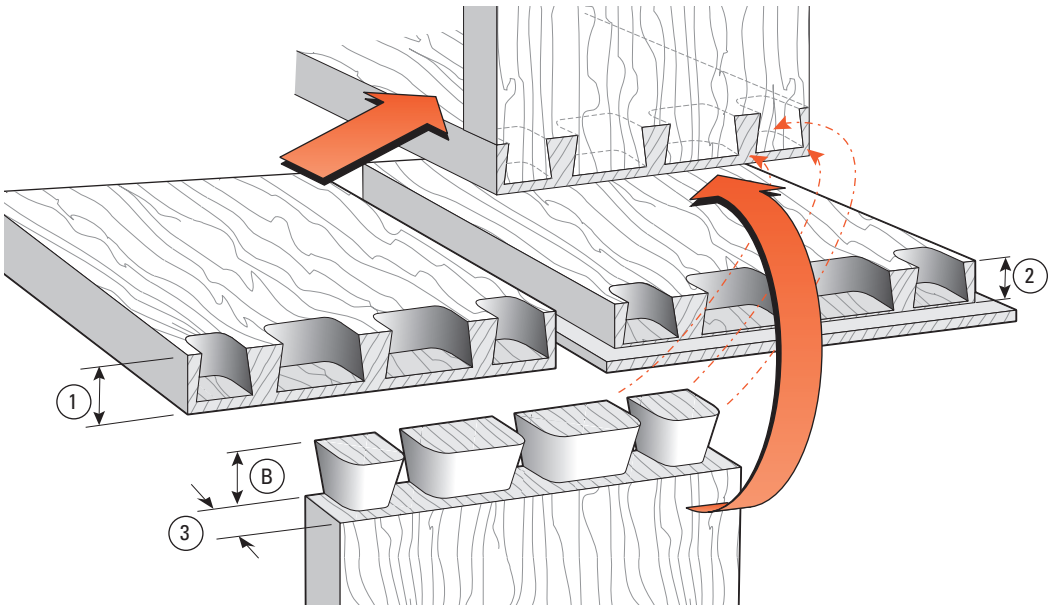




Cutters	A Overall Diameter	B Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 50-8	1/4" [6,35]	up to 1/4" [6,35]	8mm or 1/4"	1-3/4" [45,0]	2" [50,0]	8°	7/16"[11,1]
No. 140-8	5/16" [7,9]	up to 1" [26,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/4" [70,0]	–	7/16"[11,1]

Numbers in brackets are millimetres

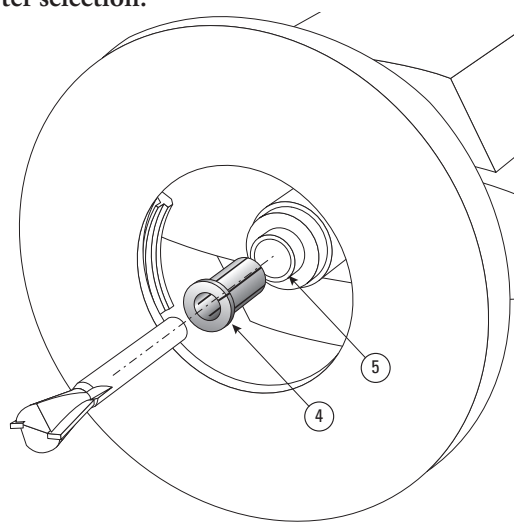
Half-Blind Dovetails



Cutter Selection for Half-Blind Dovetails

Both parts of a half-blind dovetail are cut with the same dovetail cutter. The dovetail cutter's working depth of cut Ⓑ must be less than the pinboard thickness ① for flush drawers by at least ⅛"[2mm], and slightly less than the rabbet depth ② for rabbeted drawer fronts. Minimum pin board (drawer front) thickness is ½"[12mm].

Drawer side thickness③ does not affect cutter selection.



Note: Ⓑ is the nominal working depth for half-blind dovetails, not the maximum depth. Ⓑ must not be varied, except for minor adjustments for joint fit. See page 53.

Measure the drawer front thickness (minimum ½"[12mm]) ① or rabbet depth (minimum 7⁄16"[11,1mm]) ② and select the cutter with the appropriate depth of cut Ⓑ from one of the five cutters on the following pages.

Guidebush

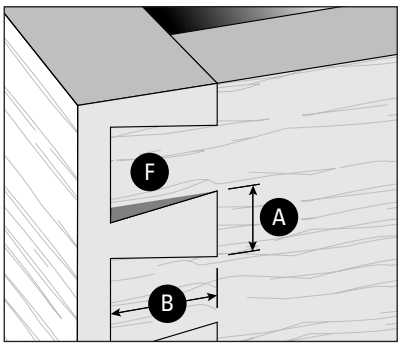
All half-blind dovetails on the D1600 are routed with a 7⁄16" OD guidebush. See page 102.

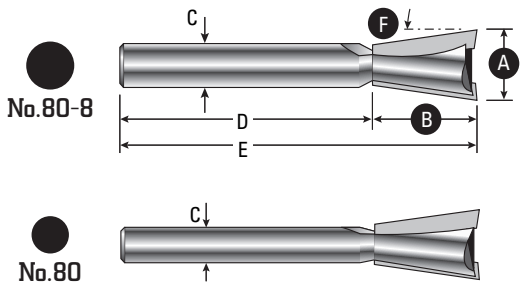
Shank Selection

Note: If your router has an 8mm or larger collet, we highly recommend you use our 8mm shank cutters instead of ¼"[6,35mm] shanks. For a ½"[12,7mm] collet you will require our ½"[12,7mm] to 8mm collet reducer No.172-8. Note: This is a collet reducer ④, not a collet ⑤. It does not replace the collet, it slides directly into your ½"collet.

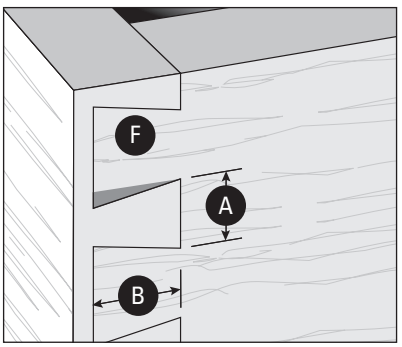
Note: Cutter and joint drawings are about 75% actual size.

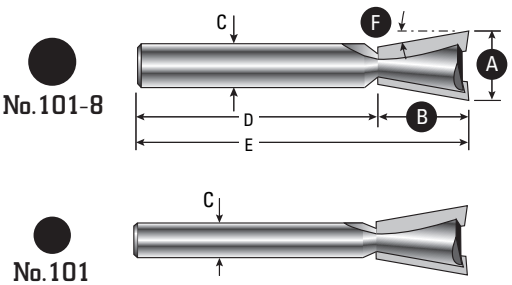
Leigh Half-Blind Dovetail Cutters



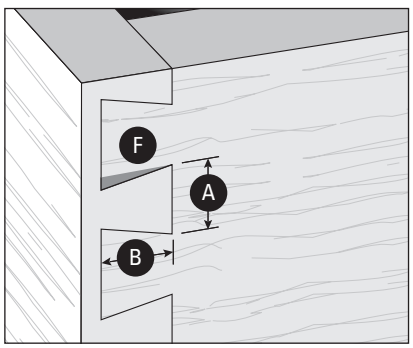


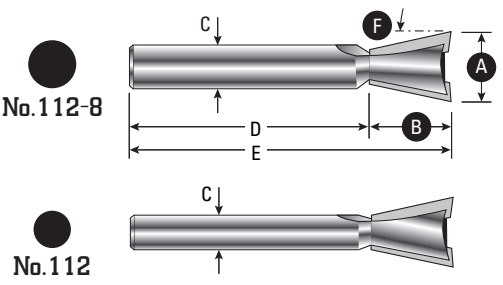
Cutters	A Overall Diameter	B Working Depth	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
***No. 80-8**	1/2" [12,7]	~3/4" [19]	8mm or 1/4"	1-3/4" [45,0]	2-9/16" [65,0]	8°	7/16"[11,1]





Cutters	A Overall Diameter	B Working Depth	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 101-8	1/2" [12,7]	~5/8" [16,0]	8mm or 1/4"	1-3/4" [45,0]	2-3/8" [60,0]	10°	7/16"[11,1]

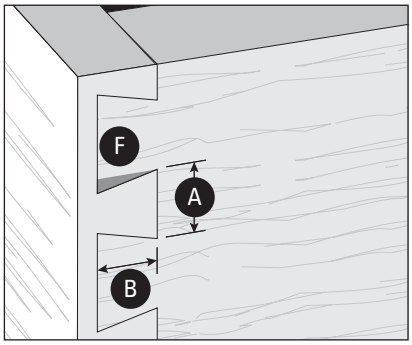


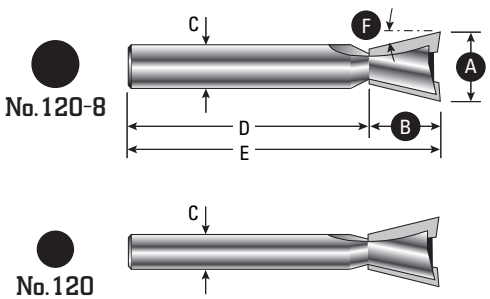


Cutters	A Overall Diameter	B Working Depth	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 112-8	1/2" [12,7]	~1/2" [13,0]	8mm or 1/4"	1-3/4" [44,0]	2-21/64" [59]	12°	7/16"[11,1]

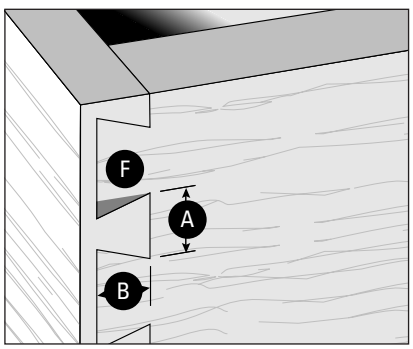
Numbers in brackets are millimetres *** No.80-8 cutter comes standard with the Leigh Jig**

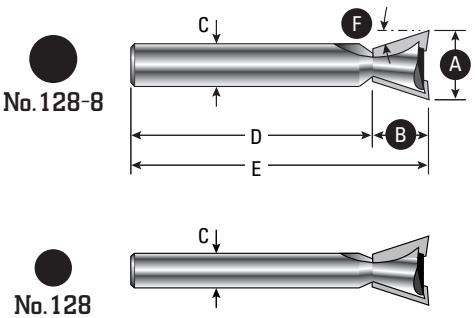
Note: Cutter and joint drawings are about 75% actual size.





Cutters	A Overall Diameter	B Working Depth	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 120-8	1/2" [12,7]	~7/16" [11,0]	8mm or 1/4"	1-3/4" [45,0]	2-1/4" [57]	14°	7/16"[11,1]





Cutters	A Overall Diameter	B Working Depth	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 128-8	1/2" [12,7]	~3/8" [9,5]	8mm or 1/4"	1-3/4" [45,0]	2-1/8" [54,0]	18°	7/16"[11,1]

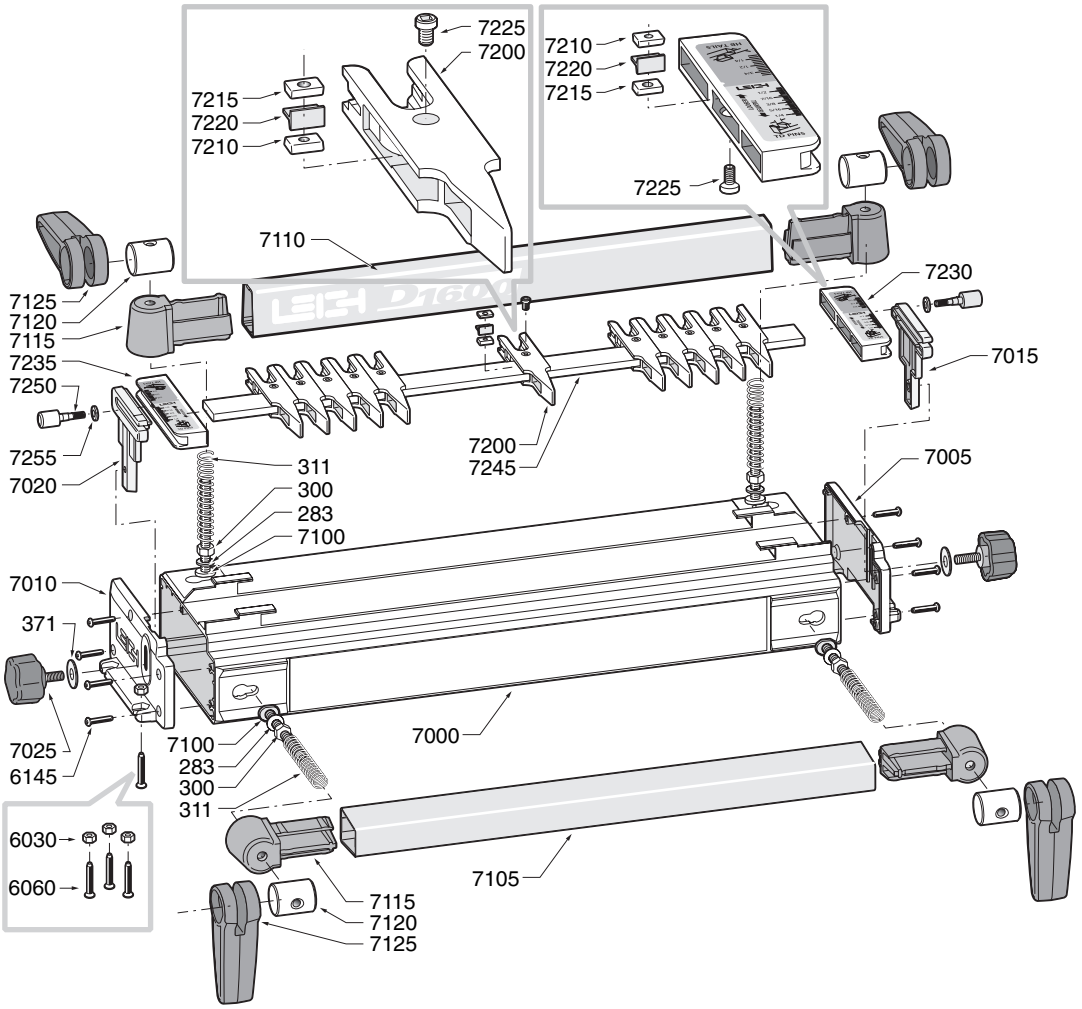
Numbers in brackets are millimetres

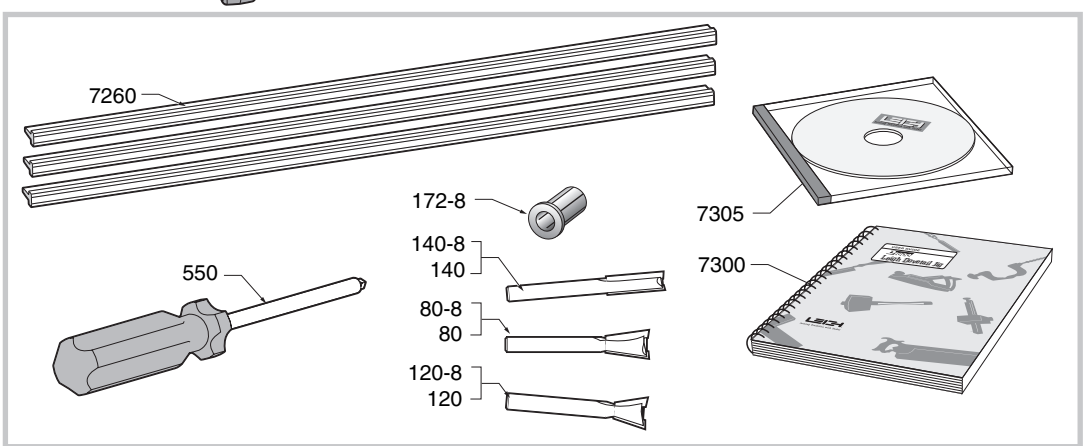
No.80-8 cutter comes standard with the Leigh Jig

D1600 APPENDIX III

Jig Parts List

PART NO.	QUANTITY PER JIG	PART DESCRIPTION
80-8	1	Dovetail Cutter, 8mm shank
or 80	1	Dovetail Cutter, 1/4" shank
120-8	1	Dovetail Cutter, 8mm shank
or 120	1	Dovetail Cutter, 1/4" shank
140-8	1	Straight Cutter, 8mm shank
or 140	1	Straight Cutter,1/4" shank
283	4	15mm x 8.3mm x 1.5mm Steel Washers
300	4	5/16"-18 Clamp T-bolt nuts
311	4	1/2" x 3" Compression Springs
371	2	1/4" x 7/8" x .031" Nylon Washers
550	1	LEIGH No.2 Robertson Screw Driver
6030	4	1/4 - 20 Hex Nuts (for Jig Hold-down)
6060	4	1/4-20 x 1" Flat HD Machine Screws (Jig Hold-down)
6145	8	10- 1 1/4" Self tapping # 2 Robertson Pan HD Screws
7000	1	Body Extrusion
7005	1	R.H. End-Housing
7010	1	L.H. End-Housing
7015	1	R.H. Support Bracket
7020	1	L.H. Support Bracket
7025	2	Quadrant Knobs
7100	4	Clamp T-Bolts 5/16"-18
7105	1	Front Clamp Bar (complete with End Plugs 7115)
7110	1	Rear Clamp Bar (complete with End Plugs 7115)
7120	4	Clamp Pivot nuts
7125	4	Cam Clamps
7200	11	Finger
7210	13	Finger Nuts
7215	13	Finger Washer
7220	13	Finger Wedges
7225	13	Finger Lock Screws #8-32
7230	1	R.H. Inch Scale Assembly, complete (R.H. in H.B. Tail Mode)
or 7230M	1	R.H. Metric Scale Assembly, complete (R.H. in H.B. Tail Mode)
7235	1	L.H. Inch Scale Assembly, complete (L.H. in H.B. Tail Mode)
or 7235M	1	L.H. Metric Scale Assembly, complete (L.H. in H.B. Tail Mode)
7245	1	Aluminum Finger Bar
7250	2	Scale Thumbscrews
7255	2	13/64" x 7/16" x .062" Nylon Flat Washers
7260	3	Bridge Extrusion/Cross Cut Fence
7300	1	D1600 User Guide
7305	1	DVD Instructional Video





NOTE: When ordering parts, please quote the jig model, serial number, part number, part description and quantity required. Pay particular attention to the scale measurement, inch or metric.

D1600 Appendix IV

Customer Support

D1600 Appendix IV

Customer Support

Our Commitment to You Leigh Industries takes pride in its commitment to providing excellence in customer service and support. This user guide is designed to provide you with the answers to any questions you have. However, if you require assistance, please feel free to contact our technical support staff or a distributor listed below.

Manufacturer: Canada/USA

TEL/FAX

Customer Service and Technical Support
1-800-267-8761 (Canada)
1-800-267-8735 (USA)

EMAIL/WEB

Customer Service
customerservice@leevalley.com

NOTE: Email can be useful, but technical queries usually raise queries from us. A phone call is the quickest and most convenient way to get queries answered, either directly to Lee Valley (toll free in N. America) or to your national distributor. –Thanks!

MAILING ADDRESS
Lee Valley Tools Ltd.
P.O. Box 6295, Station J
Ottawa, ON
K2A 1T4

LOCATION
Lee Valley Tools Ltd.
1090 Morrison Dr,
Ottawa, ON
K2H 1C2

Distributors

AUSTRALIA & NEW ZEALAND
Carbatec - The Home of Woodworking
Unit 2, 364 New Cleveland Road
Tingalpa, QLD 4173 Australia
Tel: 07 3569 3205
Tel (Int.): +61 7 3292 0392
Email: Purchasing@carbatec.com.au
Web: carbatec.com.au

CHINA
Nanjing Haiwei Machinery Co., Ltd.
Harvey Woodworking Technology(Nanjing) Co., Ltd.
68-10 Suyuan Avenue, Jiangning District,
Nanjing, 211100 China
Tel: 86-(0)25-8666-8172 / 5792 8021
Fax: 86-(0)25-5792-8826
Email: cassie@harvey.cn
Web: www.harveymachinery.com
Web: www.harveyworks.cn

FRANCE
Ets Bordet
98 Rue Louis Ampère,
Neuilly Sur Marne, 93330 France
Tel: 01 41 53 40 40
Email: info@bordet.fr
Web: www.bordet.fr

GERMANY
Hacker GmbH
Holzbearbeitungsmaschinen
Traberhofstraße 103 D-83026 Rosenheim,
Deutschland
Tel: 08031/68171
Fax: 08031 68221
Email: hacker.rosenheim@t-online.de
Web: www.hacker-rosenheim.de

ITALY
Ferrari Macchine Legno SRL
Via Gallarata 76 Settimo,
20019 Settimo M.se (MI) Italy
Tel: 39 02 335 010 95
Fax: 39 02 335 005 27
Email: info@ferrarimacchine.com
Web: www.ferrarimacchine.com

JAPAN
Off Corporation Inc.
785-1 Hirose, Shimizu-ku, Shizuoka-shi
Shizuoka Ken, 424-0102 Japan
Tel: 81-50-3816-0115
Fax: 81-54-367-6515
Email: info@off.co.jp
Web: www.off.co.jp/category/LEIGH/

KOREA
Leigh Korea
604, 13-1, Gugal-Ro 72beon-gil,
Giheung[1]Youngin-si,
Gyeonggi Republic of Korea ,
16972 South-Korea
Tel: +82-(0)31-281-1141
Fax: +82-0504-192-0629
Email: maengha@leighkorea.com
Web: www.leighkorea.com

SOUTH AFRICA
Hardware Centre, Handico PTY Ltd/A Hardware Centre
Shop 8 Homeworld Centre
CNR. Malibongwe & Rocky ST.
Randburg, Ferndale
South Africa
Tel: +27 011 791-0844/46
Fax: +27 011 791-0850
Email: info@hardwarecentre.co.za
Web: www.hardwarecentre.co.za

SWEDEN
Toolbox Sweden AB
Facetten Kaj 9
Atvidaberg, 59730
Sweden
Tel: 46 120 854 50
Fax: 46 120 854 69
Email: info@toolbox.se
Web: www.toolbox.se

UNITED KINGDOM & IRELAND
Axminster Tools & Machinery
Headquarters,Unit 10. Weycroft Ave.
Millwey Rise Industrial Estate
Axminster, EX13 5PH, United Kingdom
Tel: 011 44-927-630-007
Tel: 01297 630813
Fax: 011 44-870 432-7622
Fax: 01-297-631-224
Email: procurement@axminstertools.com
Web: www.axminster.co.uk/leigh

USA
Rockler
Woodcraft
Infinity Cutting Tools
Highland Hardware

Joining Tradition with Today

LEIGH INDUSTRIES LTD.
Manufacturers of Precision Woodworking Tools

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