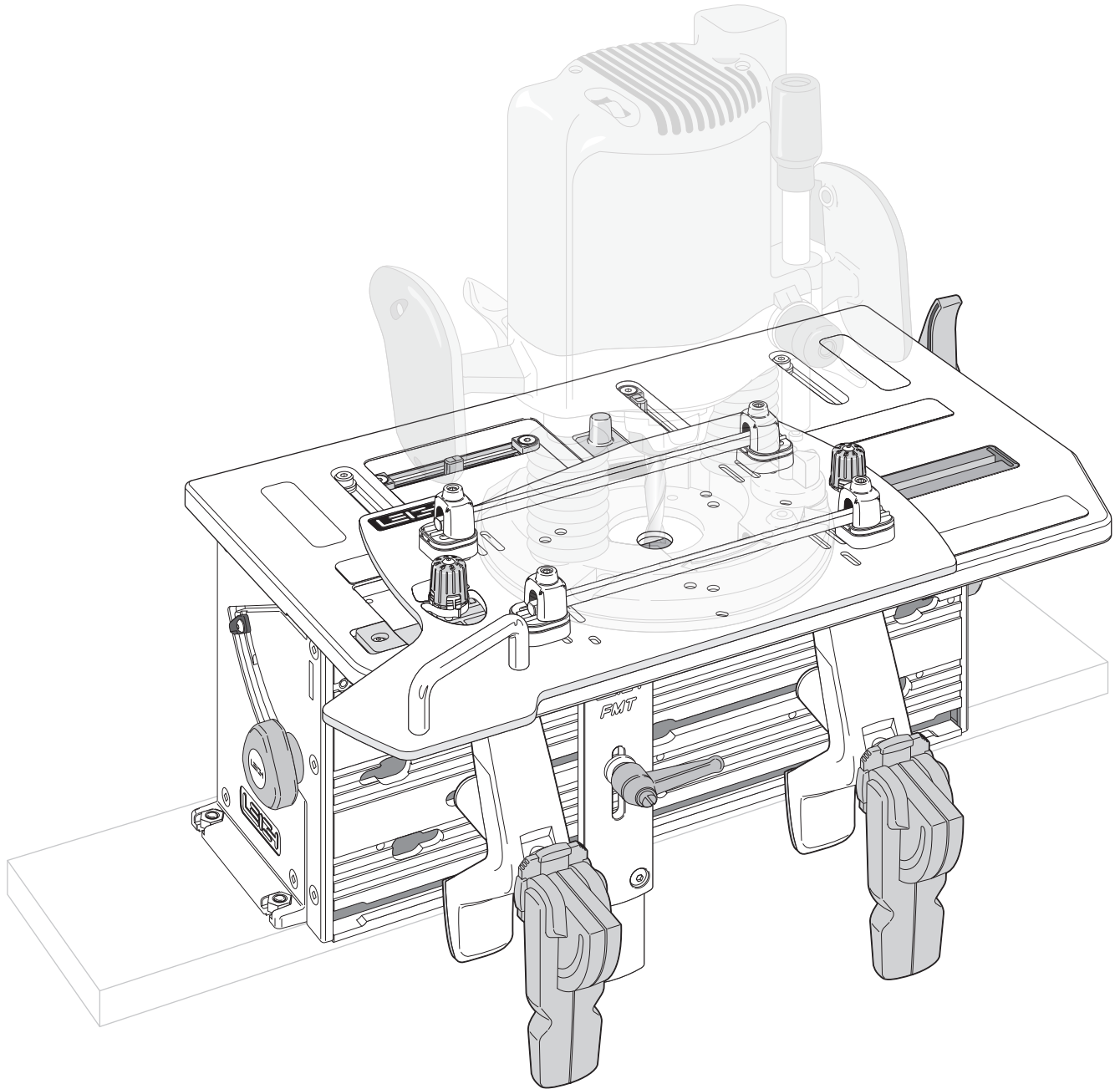


LEIGH FMT PRO
Frame Mortise & Tenon Jig
User Guide



Dedicated Customer Support
1-800-663-8932

LEIGH[®]
Joining Tradition with Today

Your New Leigh Frame Mortise & Tenon Jig (FMT Pro)

Congratulations for selecting the unique Leigh FMT Pro, the best mortising and tenoning jig available. The FMT Pro will allow you to rout a large range of sizes of mortise and tenon joints with total control over joint fit.

To gain the most advantage from this unique tool, please read all of this User Guide; carefully set up the jig following the simple set-up directions, and thoroughly familiarize yourself with the basic functions and principles of operation. Use scrap wood before attempting any actual projects with valuable hardwood.

If you have any questions that are not answered in this 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 Millimeters.

The Leigh FMT Pro is available in two models; Inch or Metric. The only difference is in the guides and bits used, otherwise the jig itself is identical. Text and illustrations in this English language User Guide indicate dimensions in both inches and millimeters, with "inches" first, followed by "millimeters" in square brackets, i.e. ½"x2"[12x50mm].

Do not be concerned that the inch/millimeter equivalents are not mathematically "correct". Just use the dimensions that apply to your guides and bits.

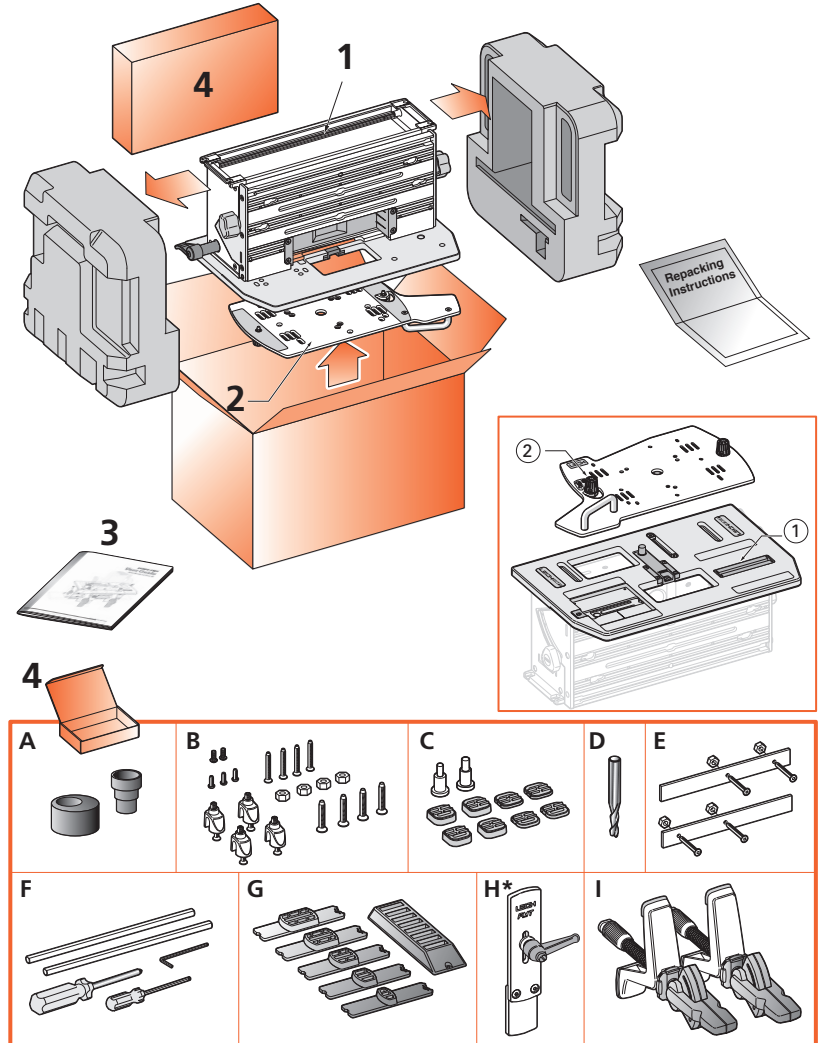
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Mounting the FMT Pro

Jig Assembly and Mounting

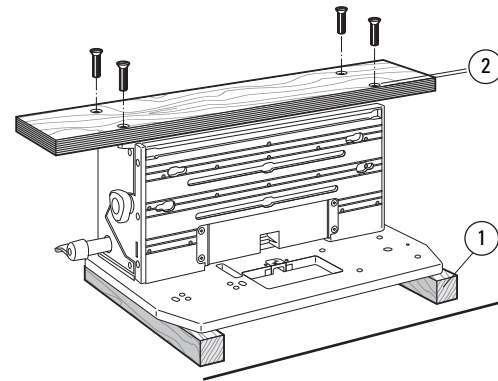
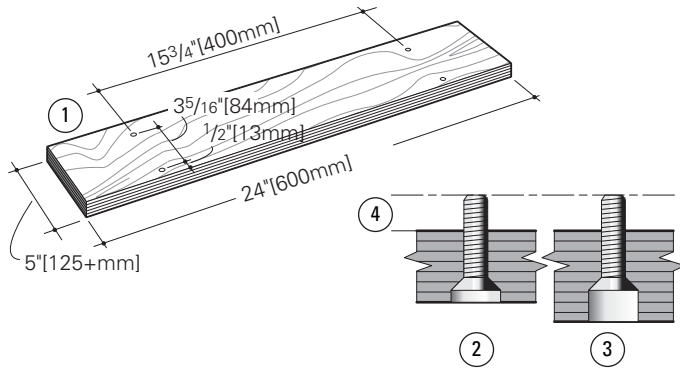
The Leigh FMT Pro comes almost fully assembled with all adjustments factory set, but...
Before you start to set up your Leigh FMT Pro Jig, make sure you have received all the required parts.

1. The main **Jig Body**, complete with:
 - 1 Guide Track ①
2. **Router Sub-Plate** complete with:
 - 2 Guide Pins ②
3. 1 User Guide
4. 1 Box Containing:
 - A 2 Vacuum Hose Adaptors
 - B 4 Jig Hold-down Nuts and Bolts 1/4"-20
 - B 4 U-Posts with 4 set-screws and four 3/4" c/sink Screws
 - B 4 1" c/sink Screws
 - B 6 Hex Socket Button Head Screws 10x24 x 3/8"
 - B 2 Hex Socket Button Head Screws M6
 - C 4 High Shim Spacers
 - C 4 Low Shim Spacers
 - C 1 1/4" - 1/2" Centering Mandrel
 - C 1 8-12mm Centering Mandrel
 - D 1 5/16" HSS Spiral Upcut 1/2" shank
 - E 2 Outrigger Bars with 4 screws and nuts
 - F 1 Leigh Square Drive Screwdriver
 - F 1 Leigh 1/8" Hex Ball Screwdriver
 - F 1 5/64" Hex Key
 - F 2 Router Hold-down Rods
 - G 5 5/16" guides (or 6x8mm with FMT Pro-M) & 1 Guide stand
 - H* 1 Sidestop Fence with lever*
 - I 2 Clamp assemblies



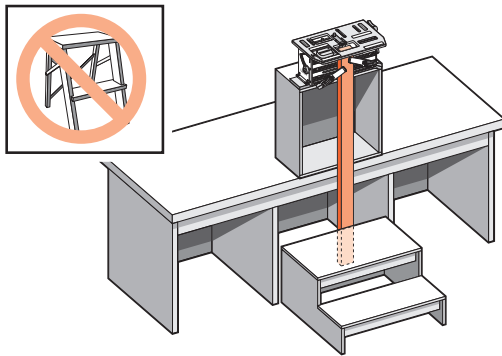
***IMPORTANT:** Some illustrations show the side stop fence with a “knob”. All FMT Pro jigs are shipped with a sidestop fence with a “lever”, (see H, above right).

Note: Any optional accessories that you ordered may also be inside the parts box, or packaged inside the main carton.
If any of these items are missing from your order, please notify your supplier or Leigh Industries immediately.



1-1 Mounting the FMT Pro: Prepare a flat board at least $\frac{3}{4}$ " [20mm] thick, a **minimum** of 24"x5" [600x125mm]. Drill four $\frac{7}{32}$ " [7mm] holes on 15 $\frac{3}{4}$ "x3 $\frac{5}{16}$ " [400x84mm] centers, $\frac{1}{2}$ " [13mm] in from the front edge of the board ①. Countersink ②, or counter-bore ③ if board is thicker, the underside so that the four $\frac{1}{4}$ -20 x 1" long machine screws will project above the top surface by $\frac{3}{8}$ " [9,5mm] ④.

1-2 Turn the jig upside-down on two padded blocks ① (to protect the table and sight-knob). Using the four nuts and four countersunk machine screws, bolt the base board to the jig using the two nut recesses in each end housings. **The $\frac{1}{2}$ " [13mm] front edge ② to the front of the jig (of course).** Now you can clamp your FMT Pro to any bench.



1-3 For routing long vertical rails 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 as shown here to stand on. **Do not use a collapsible step stool, these are unstable and unsafe.** ■

FMT PRO CHAPTER 2

Mounting the Router

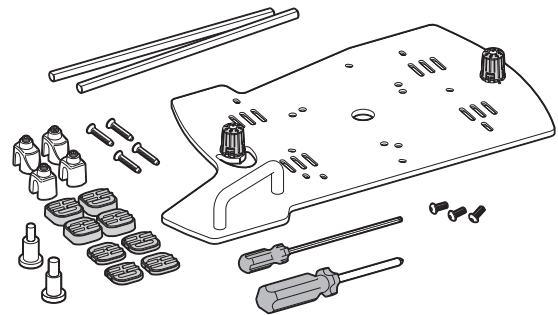
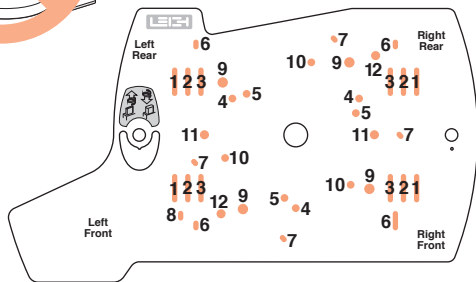
Fence Rod Mounting Screw Mounting

Foreword The threaded sub-base mounting holes on many routers are not strong enough for the stresses produced when routing joints with the FMT Pro, so Leigh developed the Universal Fence Rod Mounting System. The Leigh FMT Pro Sub-Base provides great attachment strength and lateral anchoring. Depending on your router model, fitting the Sub-Base to your router may take up to an hour...**the first time only**. Once fitted, the router can be removed and re-attached in about a minute. Mounting the Sub-Base correctly is critical to the accuracy of the jig, so take your time and get it right the first time. Here's how...

Fence Rod Mounting

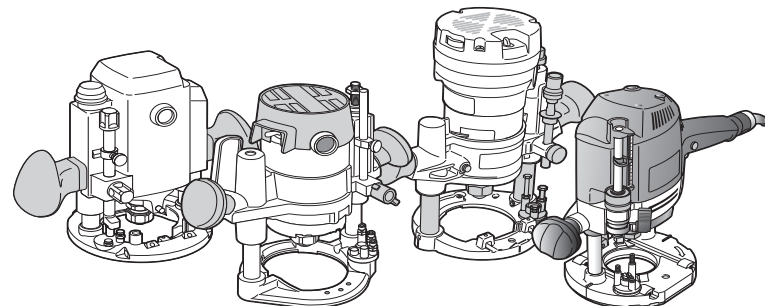


⚠ The FMT Pro must only be used with a plunge router. Never, ever use a fixed base router!



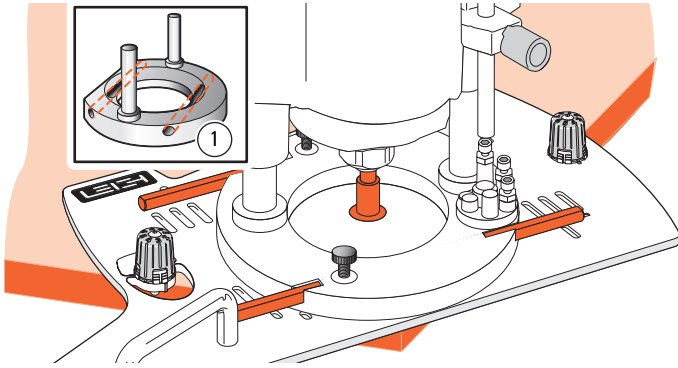
2-1 The Leigh FMT Pro Sub-Base Place your router, the FMT Pro Sub-Base and all the mounting parts on a clear bench. From the Sub-Base diagram and chart on this page, find the make and model of your router.

ROUTER MAKE	HOLES				NOTES
	LR	RR	LF	RF	
AEG OFS 50					2
BOSCH 1450, 1611EVS, 1613EVS, 1617EVS					2
BOSCH 1619 EVS	1	*1	1	1	*File notch in U-Post if req'd to avoid Turret
CRAFTSMAN					2
DEWALT 616/618					3
DEWALT 621	1	3	1	3	
DEWALT 625					Requires 1/16" packing shim. See 2-9
ELU 97	1	3	1	3	
ELU MOF 131					2
ELU MOF 177/02					2
ELU 3304					3
ELU 3338					2
FESTOOL 900E, 1010					7
FESTOOL OF1400					11
FESTOOL OF2000					2
FESTOOL OF2200					Use 2 #5130 screws provided. See 2-30
FLEX OFT2926VV					12
FREUD FT2000E					Use 2 #5130 screws provided. See 2-30
HITACHI M12V					5
HITACHI M12VC					Use 3 #6410 screws provided. See 2-30
HITACHI TR12	2	**8	2	2	**To avoid Turret
MAKITA 3600B					1
MAKITA 3612BR					3
MAKITA 3612C					**To avoid Turret
MAKITA RP 0910					3
MAKITA RP 1100 Series					4
METABO OFE728					Use 3 screws from router base. See 2-30
METABO OFE1028					3
METABO OFE1229					3
MILWAUKEE 5616					4
RIDGID					Use 3 screws from router base. See 2-30
RYOBI R-150					10
RYOBI RE180PL					3
RYOBI R-500					2
RYOBI R-E600					2
PORTER CABLE 693					4
PORTER CABLE 890, 893					Use 3 #6410 screws provided. See 2-30
PORTER CABLE 893 Type 2					10
PORTER CABLE 7529, 8529					4
PORTER CABLE 7539					5
TRITON, TRC001 3 1/4hp					*2
TRITON, MOF 001 2 1/4hp					Use 3 #6410 screws provided. See 2-30
					9
					Use 4 No.6677 1/4-20 x 3/8" button head socket screws

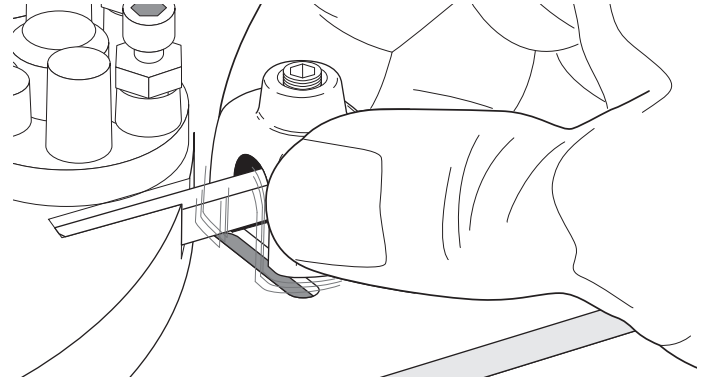


2-2 Mark the appropriate mounting holes on the Sub-Base. Use a non permanent medium e.g. chalk, sticky tape (ink will permanently stain the anodized surface).

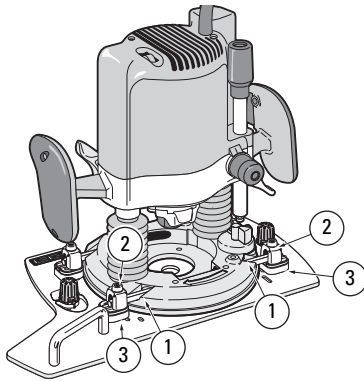
Note: If the chart at left indicates your router is a "Screw mount" (routers in shaded rows) go directly to 2-30. If your router is not listed here, proceed to 2-3. For the most up-to-date list of routers, go to www.leighjigs.com.



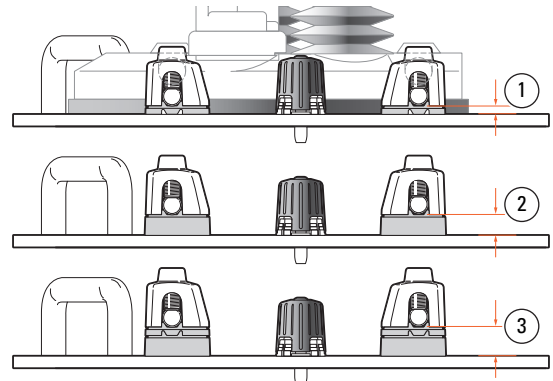
2-3 If you have a plunge router that is not listed in the Sub-Base list, it is essential that your router have two parallel fence rod holes through the router base. These must be at least $\frac{5}{16}$ [8mm] in diameter ①. Fit the correct shank sized centering mandrel to your router, place it on the Sub-Base and plunge the mandrel into the base hole. Place the fence rods through the rod holes with an equal amount protruding at each end.



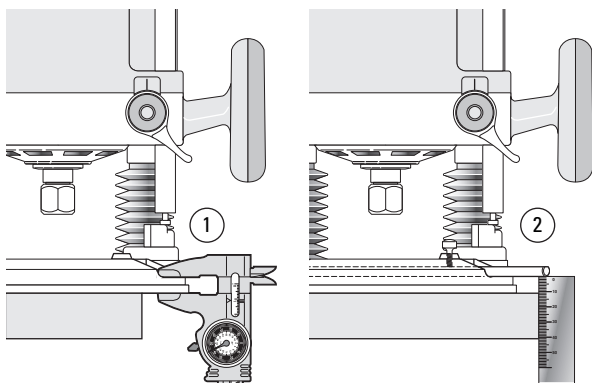
2-4 Take the four U-Posts and by trial, establish which four Sub-Base slots or holes will serve to attach the U-Posts. Mark these with chalk or sticky tape and follow instructions 2-5 through 2-29.



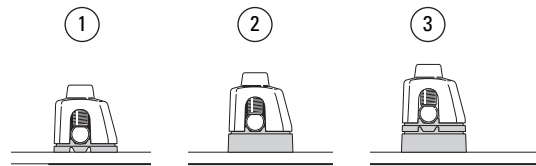
2-5 Most plunge routers will be mounted to the Sub-Base like this, with rods through the fence rod holes ① and clamped down with the U-Posts ②, but it is essential that the correct shim spacers ③ are selected.



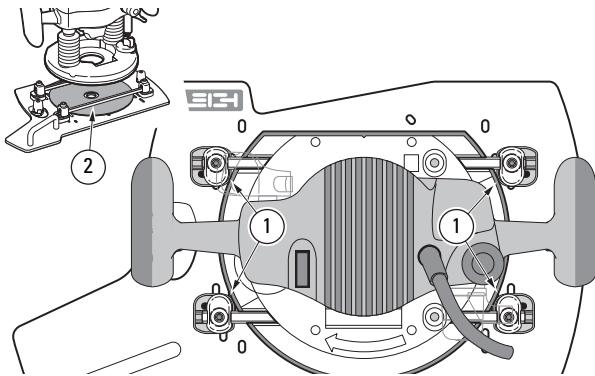
2-6 Depending on the make and model of your router, the height between the underside of your router and the bottom of the rod hole ① will vary. This dimension will determine if you need to use low ① or high ② shim spacers, or possibly both together ③.



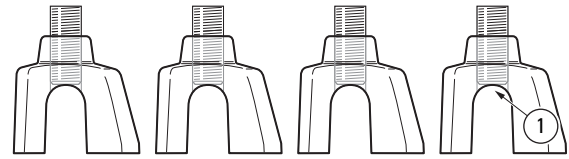
2-7 To measure the “rod height”, place the router on a bench. Either use a calliper ①, or insert a rod (flat side up) and use a good rule to measure between the bench top and the bottom of the rod ②.



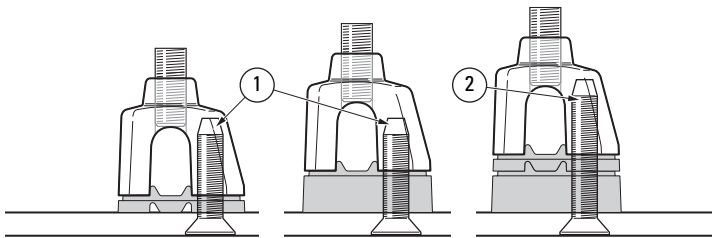
2-8 If rod height is between $\frac{3}{16}$ "[4,5mm] and $\frac{3}{8}$ "[9,5mm], use low shim spacers ①. If rod height is between $\frac{3}{8}$ "[9,5mm] and $\frac{17}{32}$ "[13,5mm], use high shim spacers ②. If rod height is between $\frac{17}{32}$ "[13,5mm] and $\frac{3}{4}$ "[19,5mm], use both shim spacers ③, with the high one on the bottom. Note: If the rod height is less than $\frac{3}{16}$ "[4,5mm], see 2-9.



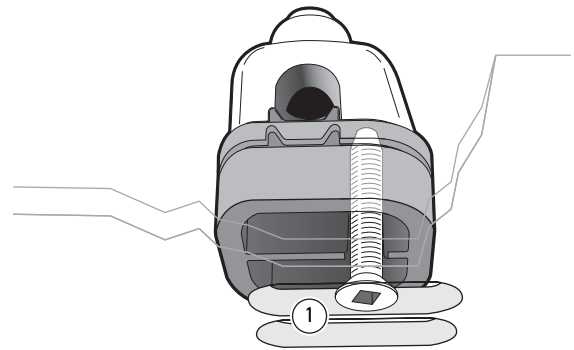
2-9 Note: Use of the shim stops is essential, not only to provide the correct rod height but to also act as side-to-side stops for the router ①. If the rod height of your router is less than $\frac{3}{16}$ " [4,5mm] you must provide a shop-made packing shim between the router and Sub-Base. We suggest one or more sheets of sandpaper ②, rough side up. Don't forget the center hole.



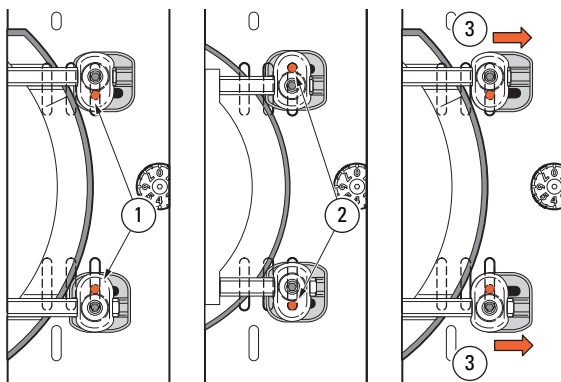
2-10 Adjust the four U-Post set-screws with the set-screw end flush inside the arch of the posts ①.



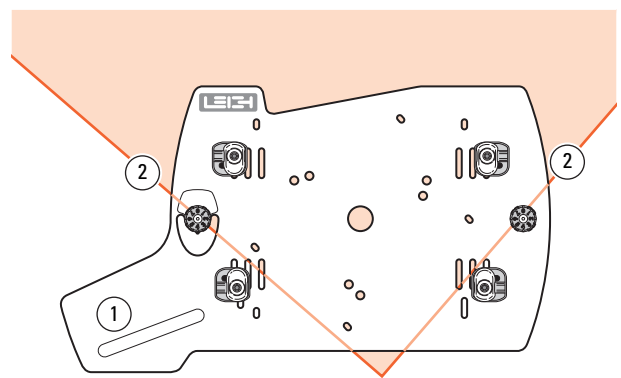
2-11 There are two lengths of U-Post screws; $\frac{3}{4}$ " [19mm] and 1" [25mm]. The $\frac{3}{4}$ " [19mm] are factory fitted as a quality control measure. Use these for either the low or high shim spacers ①. Change them for the 1" [25mm] screws if both shim spacers are used ②.



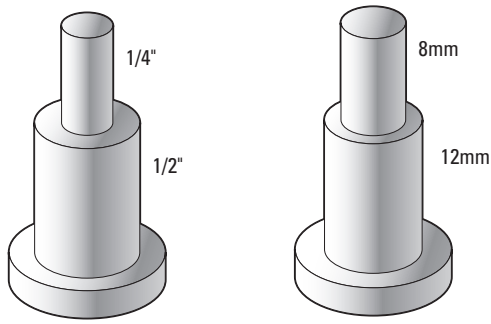
2-12 Using the four selected screws, lightly attach the four U-Posts and correct shim-stop combination through the previously marked slots or holes in the Sub-Base. The screws must enter from below ①. **Only very lightly tighten; you will need to move the U-Posts and the shim-stops during setup.**



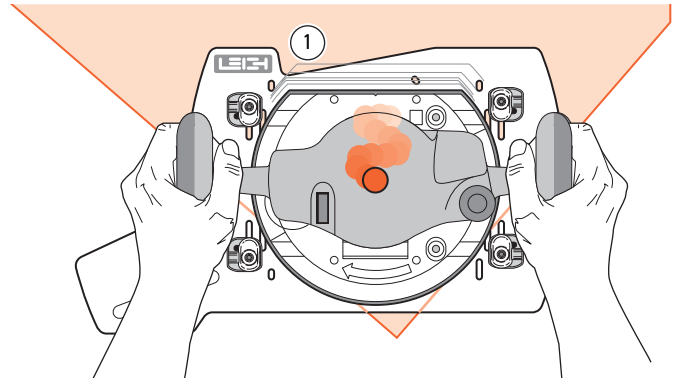
2-13 In most cases, position the U-Post screw leg to the inside of the rod ① or depending on the size and shape of the router base, to the outside ②. Slide the shim-stops away from the router position ③. These will be repositioned against the router later.



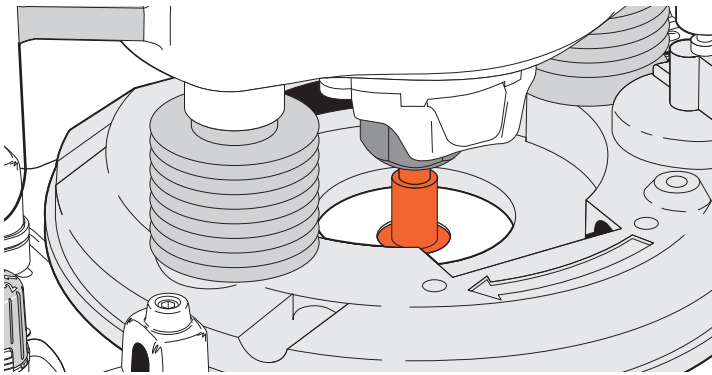
2-14 Place the Sub-Base flat down on the corner of a smooth bench, **the handle to your near left** ① and the guide pins touching the adjacent edges of the bench ②.



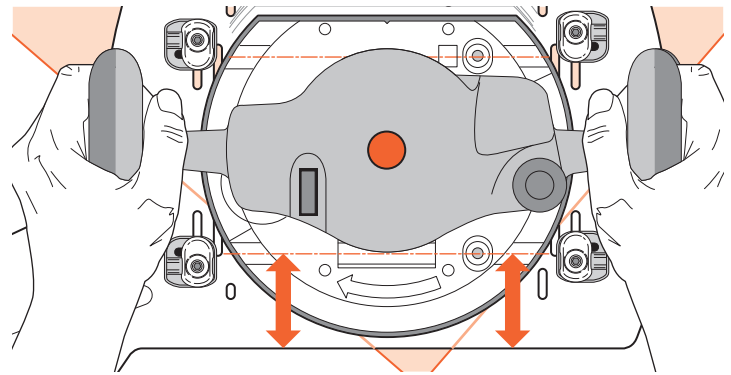
2-15 Unplug the router. Note the collet size of the router. Choose the matching size centering mandrel and fit it into the router collet.



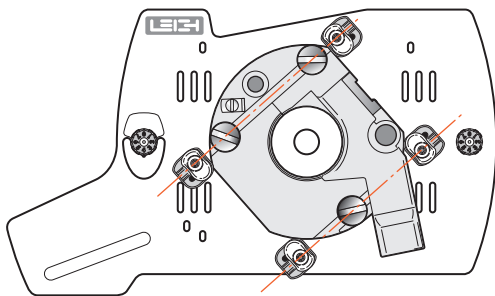
2-16 Holding the router as you would in normal use, place it base down onto the Sub-Base; the rear of the router toward the rear of the Sub-Base and large notch ①. Plunge and move the router so that the large diameter of the centering mandrel fits through the Sub-Base center hole...



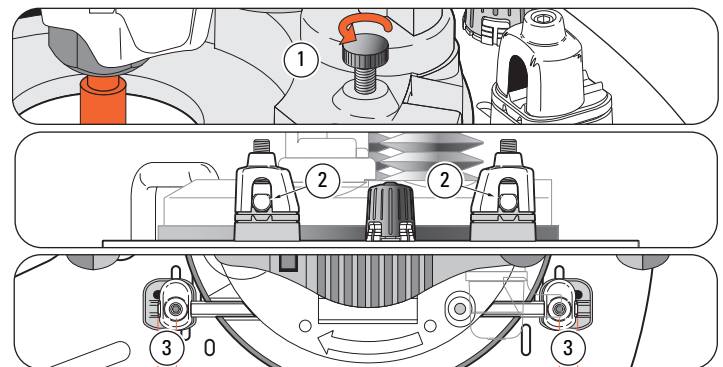
2-17 ...and touches flush to the bench. Lock the plunge. **⚠** Concentricity of bit to Sub-Base bit hole is essential to FMT Pro accuracy, so never mount the router without using the centering mandrel.



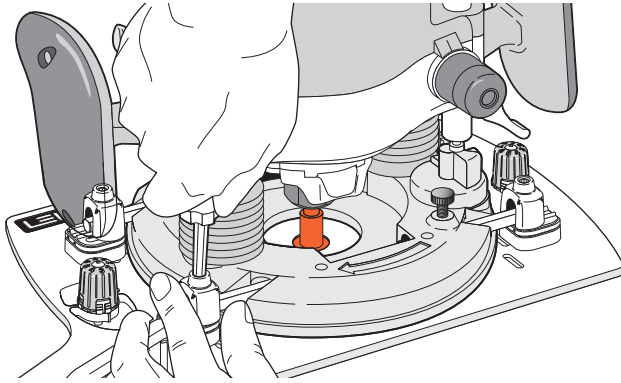
2-18 Align the router so that the fence rod holes are parallel to the front edge of the Sub-Base (except Festool 900 and 1000 Series, see 2-19).



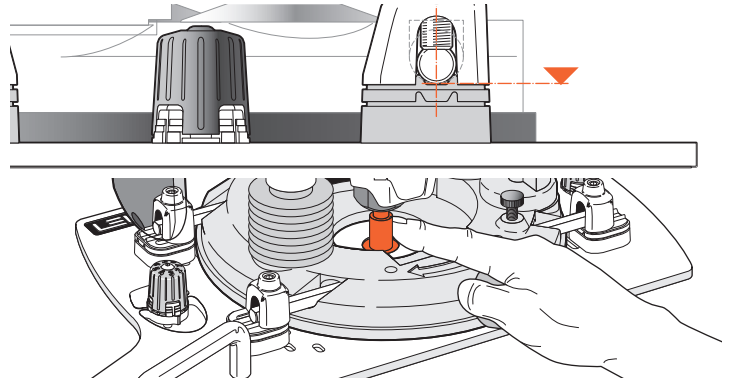
2-19 Festool 900 and 1000 Series: Align the fence rod holes to the previously positioned U-Posts.



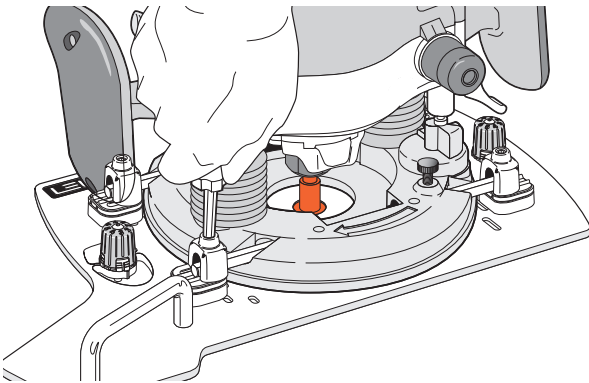
2-20 Loosen and raise any router fence rod knobs ①. Move the U-Posts and adjust as necessary to slide the two hold-down rods through the U-Posts and router fence rod holes, **flat side of rods on top** ②. Leave an equal amount of rod projecting through each U-Post ③. **⚠** Never use the router's fence rod knobs ① to "help" secure the router. This places uneven pressure and could damage the router base.



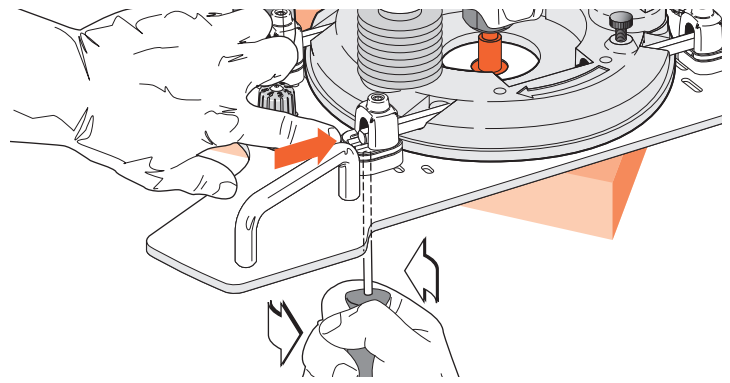
2-21 Using the hex screwdriver, turn down the four U-Post set-screws **until there is only very slight and even pressure** on each end of both rods. Leave the shim stops in the outer position.



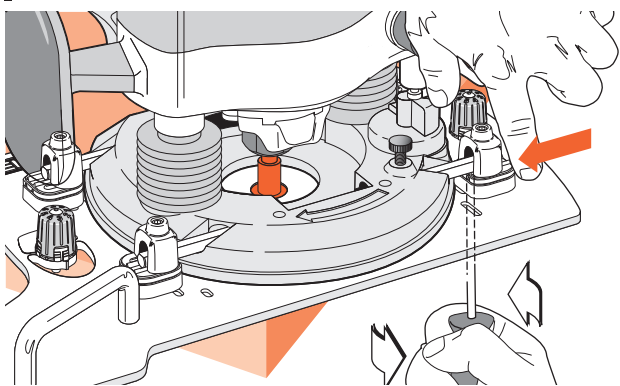
2-22 Check that the rods are still centered in the rod holes ① and check that the router collet can rotate without excessive binding in the Sub-Base hole. Mandrel touching side of hole is OK; mandrel binding tight is not! Move the router if required to allow mandrel to rotate.



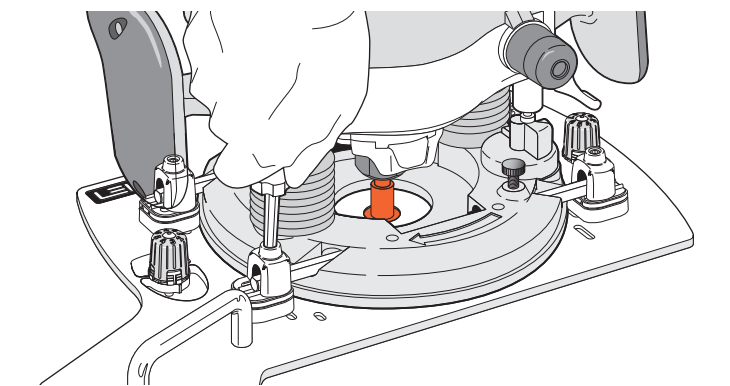
2-23 Tighten the top U-Post set-screws a little more securely to hold the bars and router.



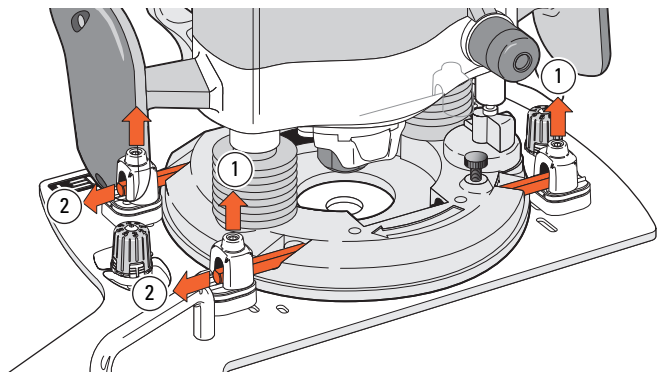
2-24 Slide the router/Sub-Base assembly on the corner of the bench so that one U-Post bottom screw is overhanging the edge. Loosen this screw just slightly (if necessary) to take any pressure off the shim spacer above. Push the Shim spacer in to touch the router base and, holding it in position against the router base, firmly tighten this bottom screw.



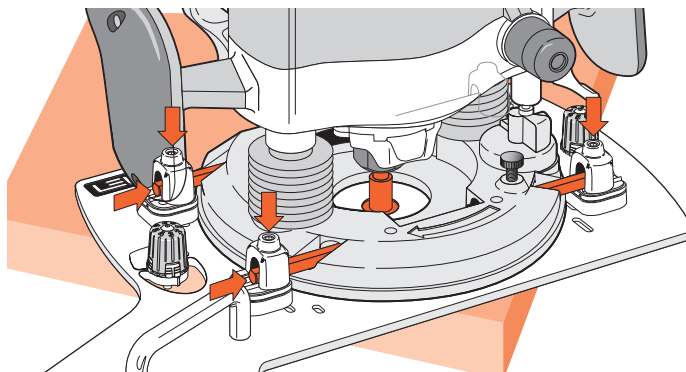
2-25 Repeat this procedure at the other end of the same rod to position the shim stop against the router base. Re-check the collet/mandrel for relatively free rotation. Turn the router around on the corner of the bench and repeat this procedure on the two U-Post assemblies on the second rod.



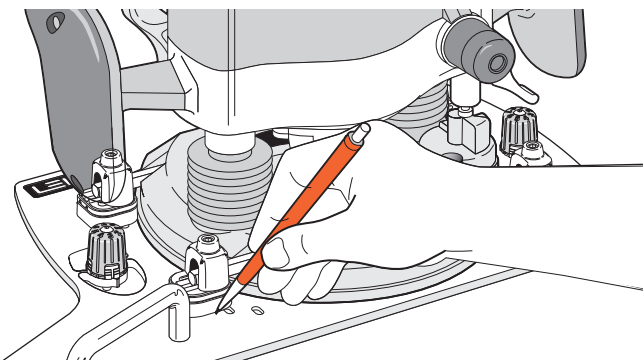
2-26 Tighten the four U-Post set-screws to the rods. **The hex driver has high leverage so use common sense when tightening.** The rods will bow slightly. Objective: have the collet concentric to the bit hole; the four shim stops providing secure side thrust security, and the U-Posts clamping the rods which hold the router against the Leigh Sub-Base. Router /Sub-Base are now a unit. Release the plunge; remove and store the mandrel. You're set to go.



2-27 Here's how to remove the router for use elsewhere: Loosen the four top U-Post set-screws ① Slide out the two rods ②. **Do not remove the U-Posts.** In about a minute, the router is free to be used for other tasks.

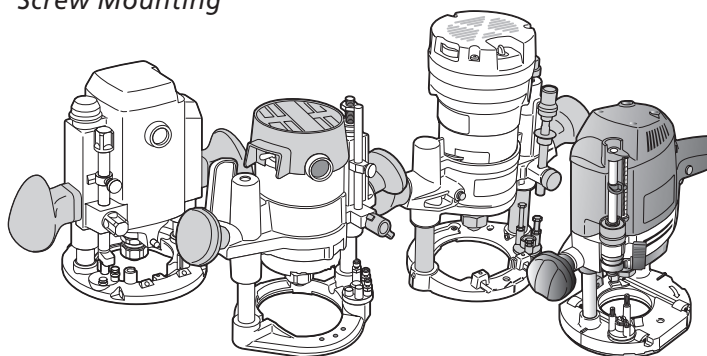


2-28 To re-mount the router: place the Sub-Base over the corner of the bench. Make sure surfaces are clean. Place the router on the Sub-Base with the centering mandrel in the center hole. Insert the fence rods. Evenly tighten the four U-Post set-screws. Check that the mandrel rotates freely. In about two minutes the router/Sub-Base assembly is ready for making mortises and tenons.

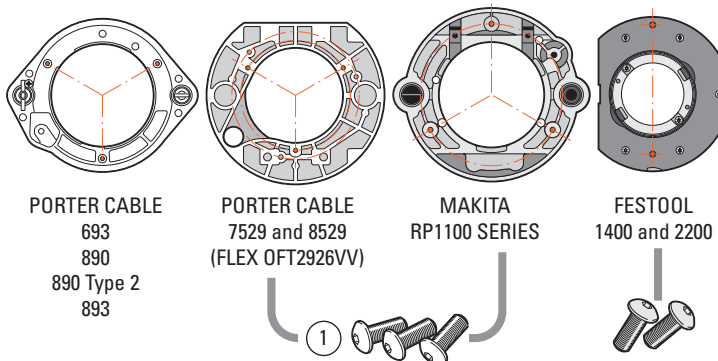


2-29 Hint: If you plan to fit a different make/model router and later use the current one again, you can greatly speed up the re-installation of the first router by marking around the original four U-Post/shim-stop positions. ■

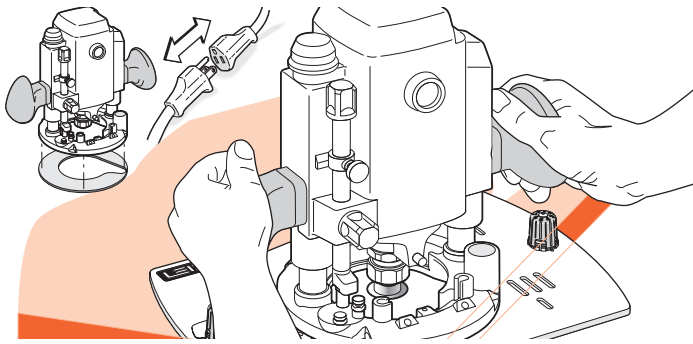
Screw Mounting



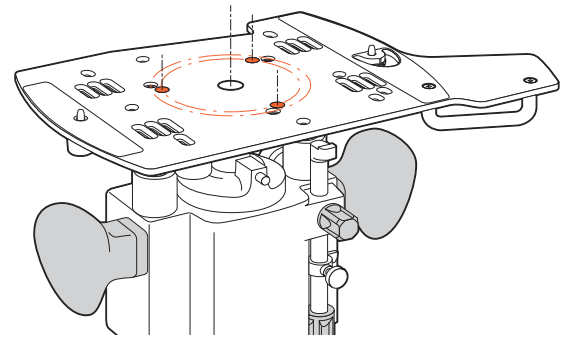
2-30 These routers do not have suitable through fence rod holes: Porter Cable 693, 890, 890 Type 2, 893, 7529, 8529; Flex OFT 2926VV; Festool 1400, 2200; Makita RP0910, Makita RP1100 series; Triton TRC001, MOF001. We've provided Sub-Base holes and screws to mount these directly to the Sub-Base. Using Porter Cable 7529 and 8529 as examples, here's how.



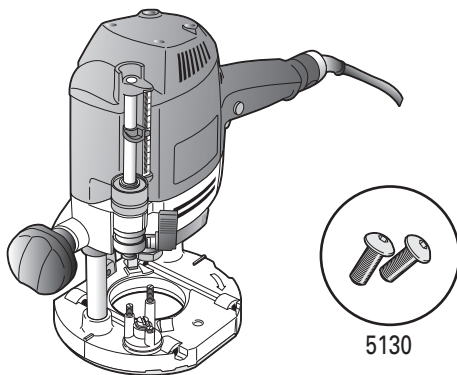
2-31 Note: Porter Cable 7529 & 8529 (Flex OFT2926VV) have two sets of 3 threaded holes. Use the inner circle of FMT Pro Sub-Base holes. The outer circle holes align with threaded holes, but are not deep enough for the screws. For Porter Cable (Flex) 693 & Makita RP1100 series routers use the outer circle of Sub-Base holes. Firmly attach the Sub-Base using the three 6410 hex socket button head screws provided ①. Do not use the router's Sub-Base screws. See 2-32.



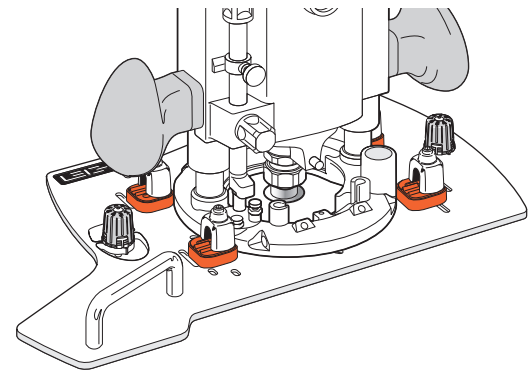
2-32 Unplug the router. Remove the router's plastic Sub-Base (except Festool 1400) and template guidebush adaptor from 7529 or 8529. Remove the clear plastic dust cover from 8529 router base top (screw holes are used to attach Leigh FMT Pro Sub Base). Store removed parts for future use. Fit the correct shank sized centering mandrel to collet. With the Leigh Sub-Base on a flat bench corner, place router on top and plunge mandrel through to bench and **lock the plunge**.



2-33 Remove the router and stand it upside down on the bench. Depending on the router design, you may need to support it in a soft-padded vise. Place the Sub-Base upside down onto the router's metal base with the mandrel centering the router to the base through the bit hole. Rotate the Sub-Base until the correct threaded screw holes in the router base align with the counter-bored holes in the Sub-Base.



2-34 Festool 1400 series routers attach using the two No. 5130 screws provided, through base holes No. 11. Festool 2200 series routers attach using the two No. 5130 screws in the No. 12 holes.



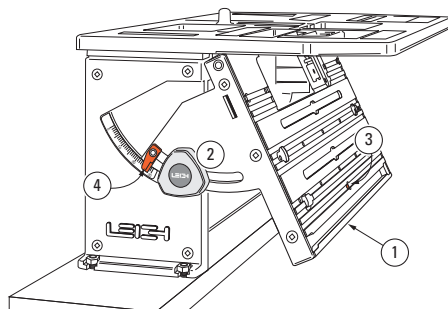
2-35 **⚠** In addition to the base screws it is vital to attach the four U-Posts and four of the shim stops (either size) and position and tighten these against the edge of the router base to prevent lateral router movement. For correct positioning, see 2-16 through 2-18, 2-24 and 2-25. Note: Porter Cable 7529 and 8529 handles will be slightly angled (not parallel) to the FMT Pro Sub-Base. ■

FMT PRO CHAPTER 3

The FMT Pro Jig

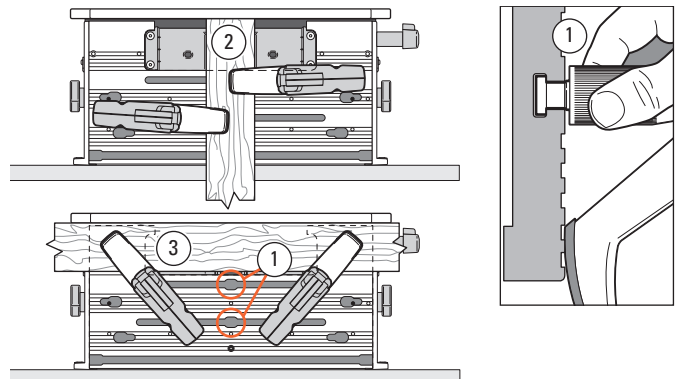
*The Clamp Plate and Clamping
The Table
Jig Operation Concept
Safety and Router Operation
Wood Preparation*

The Clamp Plate and Clamping

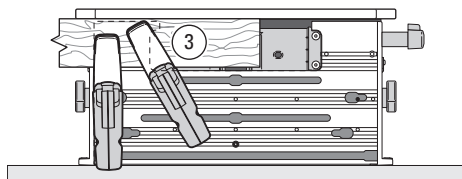


3-1 The clamp plate ① is adjustable up to 30° from vertical and is held securely by two quadrant knobs ②. A set-screw ③ allows for positive return to 90°. To ensure flush and in-plane joints, it may be necessary to adjust the clamp-plate angle. See Appendix II, Jig Adjustments. An angle scale is provided, with an indicator adjustable to zero ④.

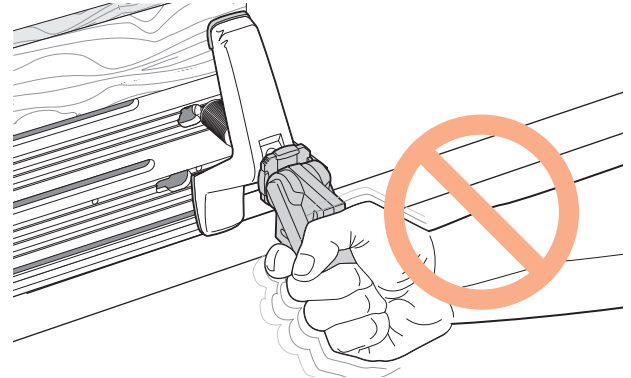
⚠ The clamp plate and cam-clamps are a self contained clamping area. Under no circumstances should any other jig component be used for clamping and no auxiliary clamping method used, other than as illustrated in this guide.



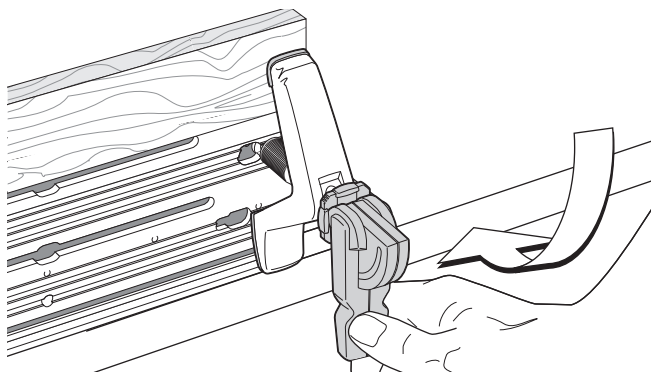
3-2 The two clamps are powerful cam-action rocking-arm clamps with capacity from zero to 3" [76mm]. The T-bolt is inserted directly into the T-slot opening ①, moved to desired position and brass thumb nut lightly tightened. Normally tenon workpieces will be clamped vertically ②, and mortise workpieces horizontally like this ③, or...



3-3 ...like this ③. For clamping very small workpieces see Chapter 4, Small Joints.



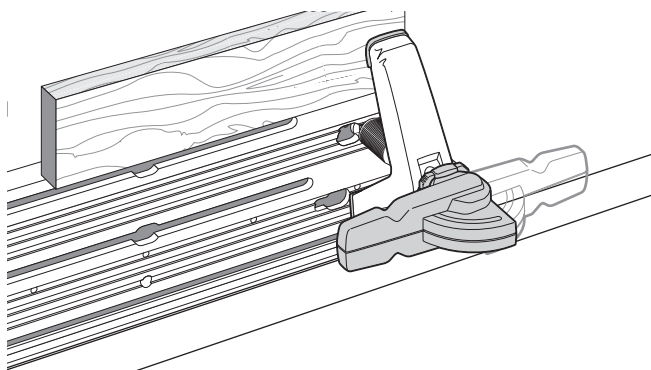
3-4 Never force a cam-action clamp. It has great leverage, and using excessive force may damage the workpiece. The powerful clamp, combined with a non-slip clamping surface, requires only moderate clamping pressure to hold the workpiece securely in place.



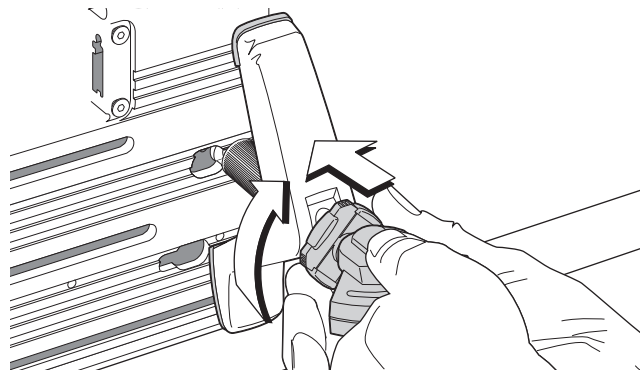
3-5 A smooth, firm action is enough to engage the clamp. Rule of thumb: if you can't throw the lever comfortably by strong thumb pressure, reduce the tension. A few minutes of trial and error testing will soon give you the feel for the correct clamp tension.



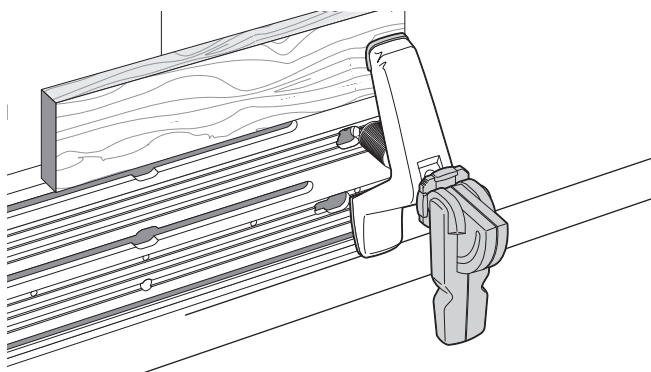
3-6 Do not use the lever as a torque arm! Adjust the clamp pressure only with the clamp disengaged.



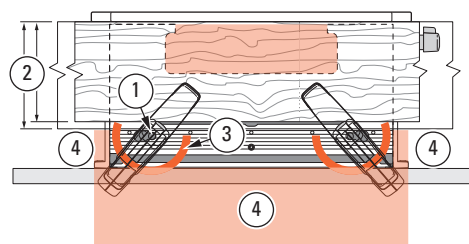
3-7 The clamping pressure is the same whichever of the two directions the lever is thrown. But if the lever is uncomfortably positioned at the correct clamping pressure...



3-8 ...release the clamp, remove the workpiece and turn the step-washer a quarter turn. The step height in the step-washer is one quarter of the thread pitch.

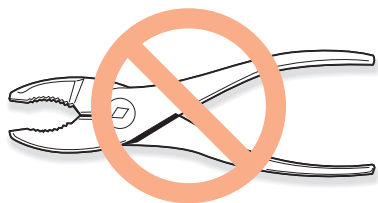


3-9 Then adjust the clamp until the lever is in the correct position at the required pressure.

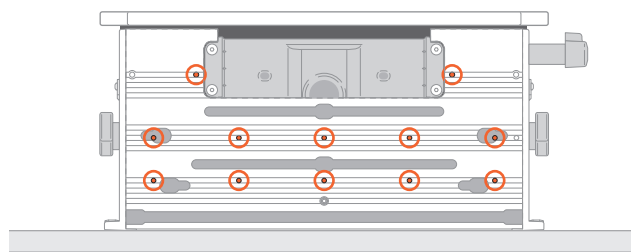


3-10 The clamp T-Bolt Slots and “keyholes” allow for full clamping coverage. The two lower keyholes ① are for the rare requirement to clamp mortise boards between 4¾" [120mm] and 5½" [140mm] wide ②. Always clamp with the heel and toe of the clamp over the surface area of the clamp plate ③.

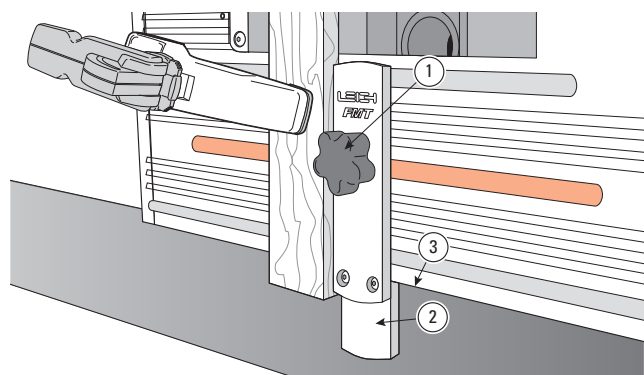
⚠ Never allow the clamp arm heel pad in these red shaded areas ④, even if (particularly if) the mounting board or bench is there.



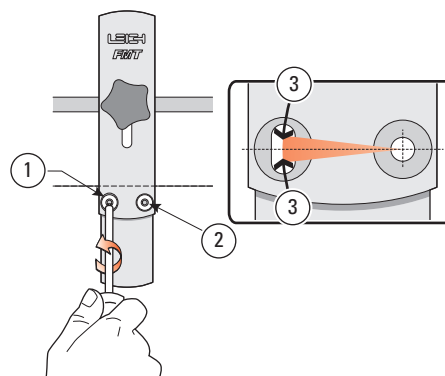
3-11 The clamp T-bolts nuts need only be lightly finger tightened to prevent accidental clamp movement. The nuts are knurled to provide a good finger grip. **Never use a tool to tighten these nuts!**



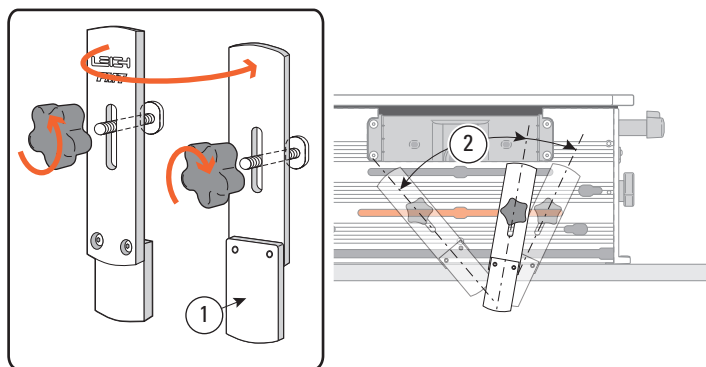
3-12 The clamp plate is provided with twelve through-holes. If for any reason a facing board is required to be attached to the clamp plate, No.8 or M4 wood screws (not supplied) may be used from the rear. See chapter 4, Small Joints.



3-13 The FMT Pro's sidestop fence is attached in all modes by a single knob and T-bolt inserted to the **center clamp plate slot** ①. Most tenon pieces are routed vertically, and for that purpose the short part of the fence ② acts as a T-square against the edge of the clamp plate ③. In this mode the Leigh logo faces toward you.

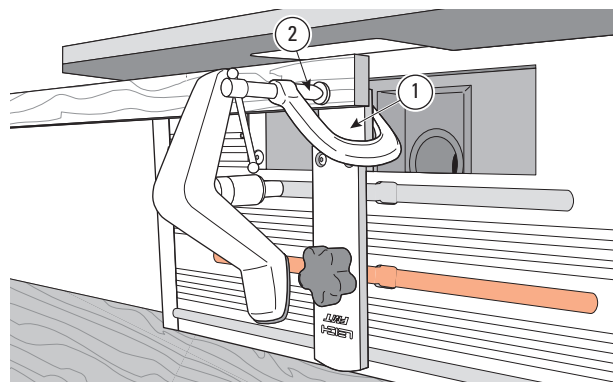


3-14 The sidestop fence is squared at the factory, but check your first test joints. If your router/bit is not perfectly perpendicular to the table adjust the sidestop fence: slightly loosen the 'pivot' screw ① and the 'lock' screw ②. Adjust the angle ③ to match the bit and retighten. Rout test joints to confirm correct setting. Once locked in this position it should never need adjusting when used with that same router.

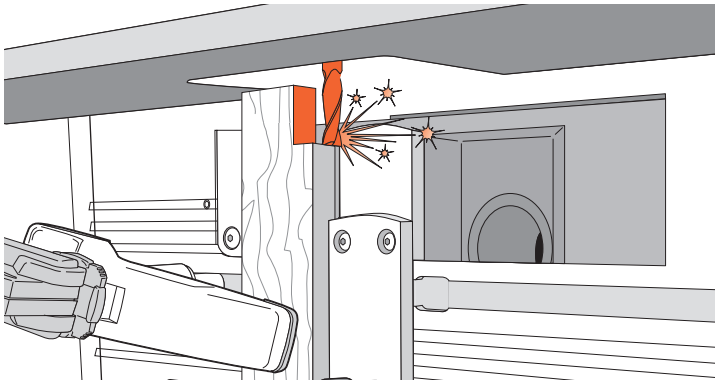


3-15 Angled Joints: Remove the knob and T-bolt. Reverse the fence so the short end faces toward you ①. The fence may now be set at any angle along the center clamp plate slot ② by tightening the knob.

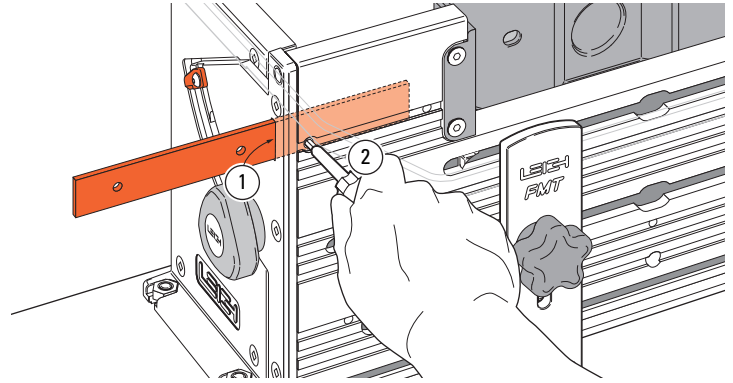
⚠ NOTE: *Never rout tenons with the short part of the fence to the top, in the bit opening.*



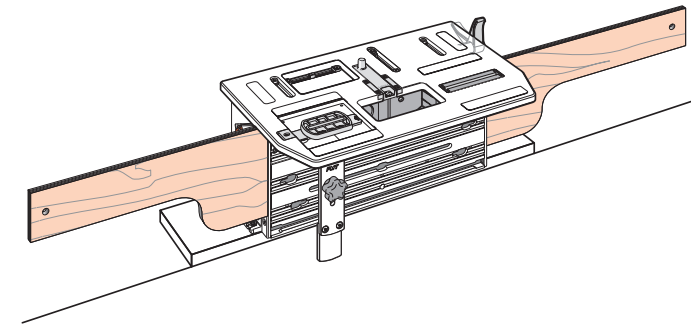
3-16 'Mortise steady': When routing mortises in small stock the piece may 'flutter' causing poor joint fit. Invert the fence with the short end up in the bit opening ①. Clamp the mortise piece against the face of the short fence ② which is perfectly flush with the clamp plate face ①. When routing mortises at the end of a board, always move the table as far as possible left or right to minimize the length of unsupported workpiece.



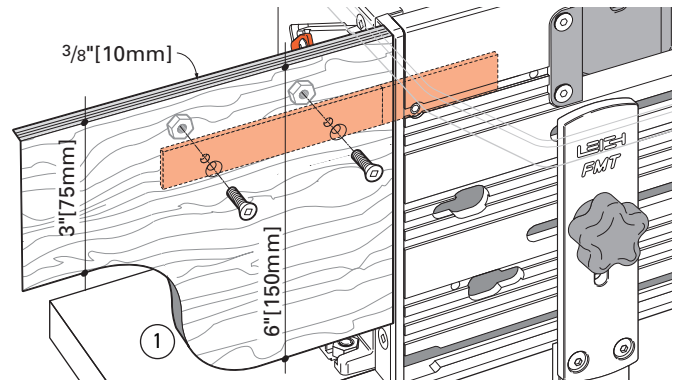
3-17 ⚠ **WARNING:** Never rout tenons with the sidestop fence in the inverted position (with the short end up in the bit opening). The inverted fence mode is only used to support small mortise stock.



3-18 The jig clamp plate has an opening on each outer edge in which to fit the included “outrigger bars” ①. The bars are retained by set-screws ② tightened with the hex driver.

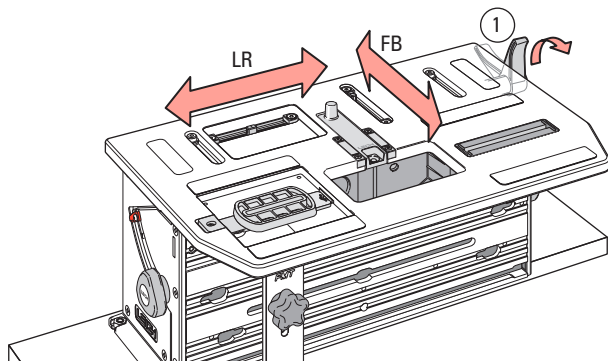


3-19 The outrigger bars allow for attachment of shop-made outrigger beams on which to mount sidestops or add pencil marks. This makes for efficient routing of multiple mortises. See Chapter 4, Production Procedures.

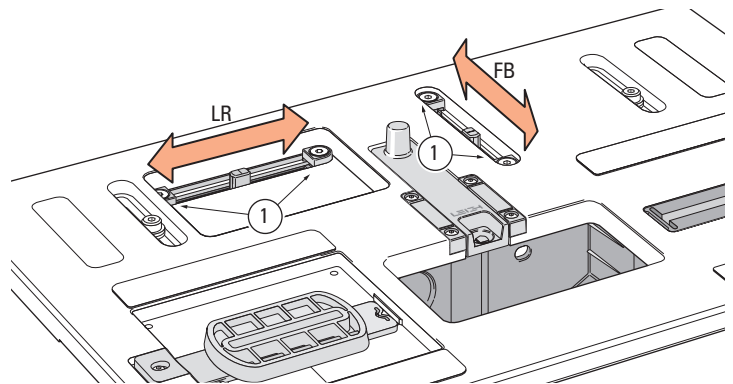


3-20 The outrigger beams should be 3/8" [10mm] plywood, shaped as suggested to minimize weight. Drill as shown and attach with the small nuts and bolts provided. The top edge should just clear the underside of the locked table. Store the outriggers on a wall hanger when not in use. The deep shoulder ① provides cantilever support against the end of the clamp plate assembly. ■

The Table

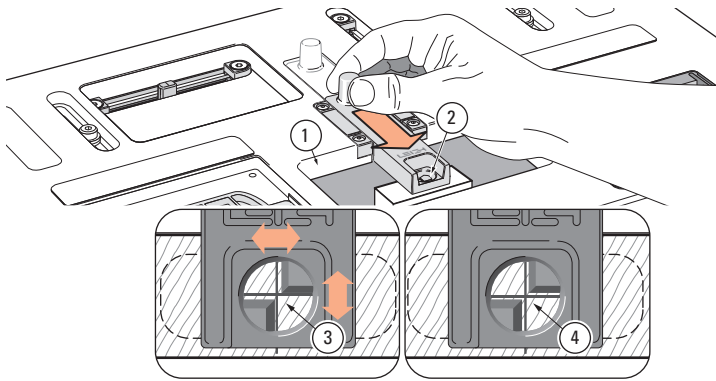


3-21 The table is clamped in any desired position by the Table Clamp ①. Turning the clamp lever up 90° releases the table, which can then be moved in any direction to any position within its range. Clamp tension is factory preset. See Appendix II, Jig Adjustments.

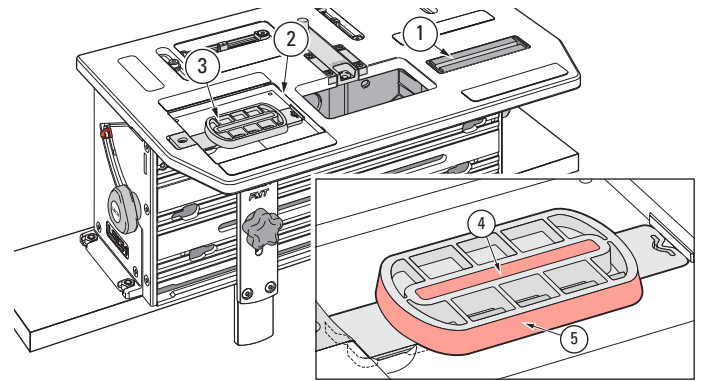


3-22 Adjustable Limit Stops ① are used to limit or prevent table movement left to right (X-axis) and front to back (Y-axis), and to precisely align double and quadruple mortises and tenons (see Chapter 4). Use Limit stops when you see these icons:

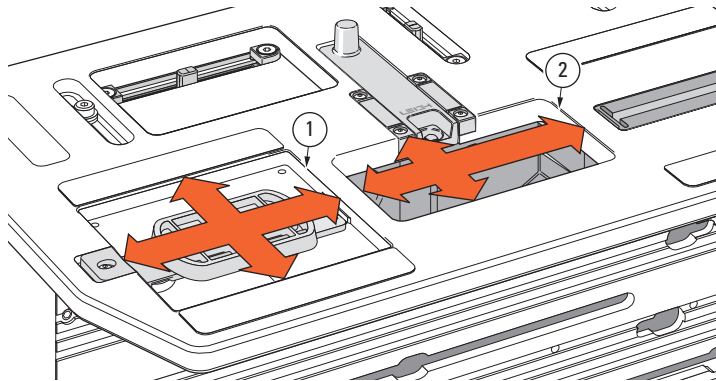
- ◄◄ **LR** for left-to-right table movement
- ◄◄ **FB** for front-to-back table movement.



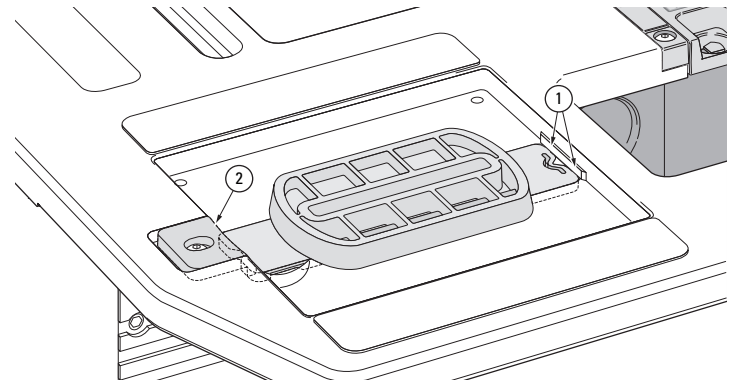
3-23 The table has a bit opening ① and Joint Aligning Sight ②. Pulling the sight fully forward to its detent provides precise table positioning over joint cross-marks ③. Because the human eye excels at comparisons, we can perceive differences as small as .004 in the space between the edges of the line and the triangles ③. That's .002 off center! You can readily center the sight using slight table movements until the spaces appear the same ④.



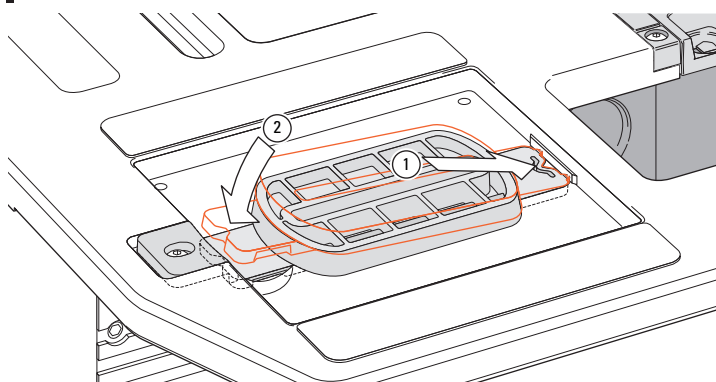
3-24 To the right front is the right-hand "Pin Track" ①. The right-hand router sub-base Guide Pin runs in this track in **all** routing operations. To the left front is the Guide Recess ②, in which all Joint Guides ③ are placed. The left hand router sub-base Guide Pin runs in the guide slot ④ for cutting mortises or around the outside of the Guides ⑤, for cutting tenons.



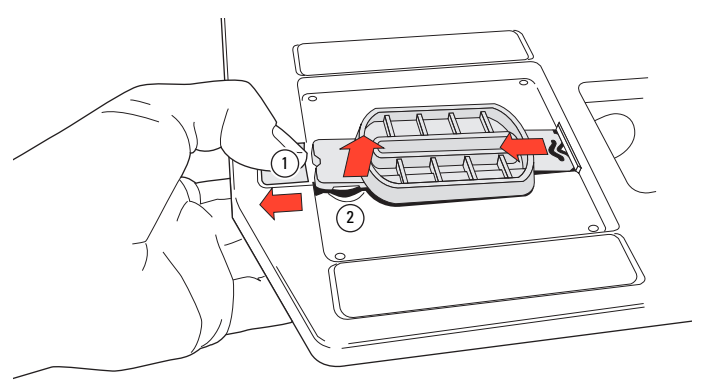
3-25 The Guide Pin cannot move horizontally outside the recess ①, and prevents the bit from touching the sides of the bit opening ②.



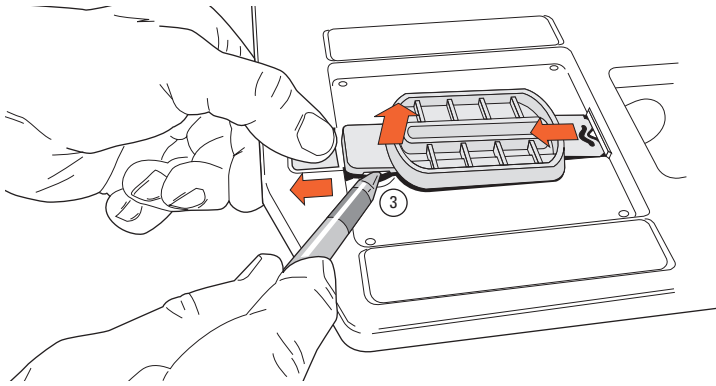
3-26 Two small projections on the Guide fit into undercuts on the right side of the guide recess ①. The left end of the Guide is pushed down and retained by the spring-loaded Guide Latch ②. **⚠ Note: the guide end shapes are not identical. Guides can only be installed one way as shown here.**



3-27 Snap the Guides in like this. Use firm pressure just next to the guide latch. Note: The guides are injection molded acetal and the guide bases may vary slightly in tolerance. **Some may require more pressure to insert.** The tighter guides will become easier after a few insertions.

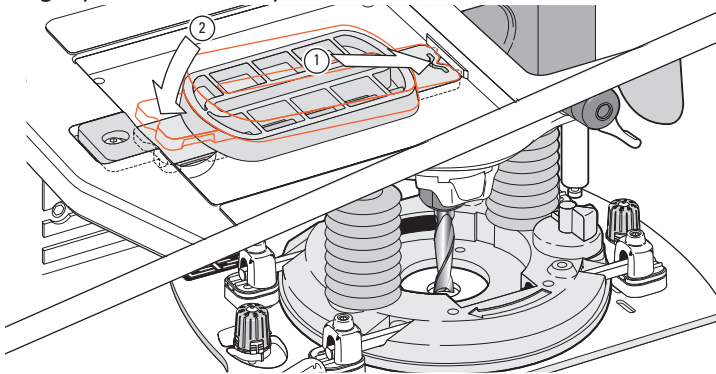


3-28 To remove a Guide, pull back the latch ① and push through the finger-hole from below with your fingertip ②.

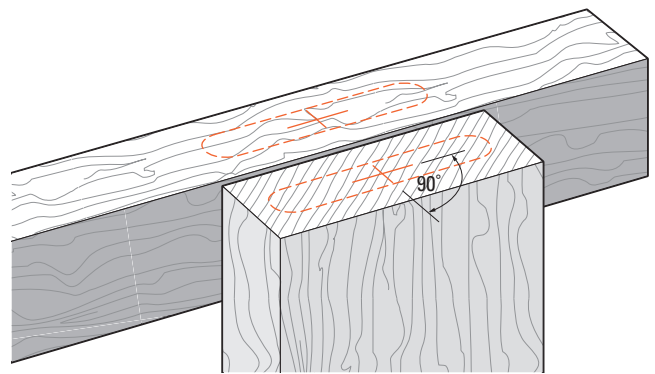


3-29 If the finger-hole is not accessible from below, use your fingernail or a small **non-metallic** pry to lift the Guide up ③. ■

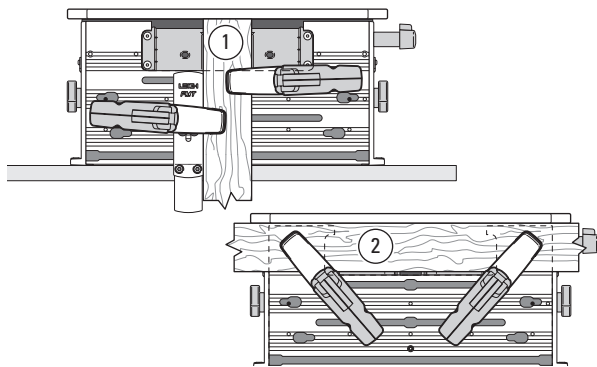
Jig Operation Concept



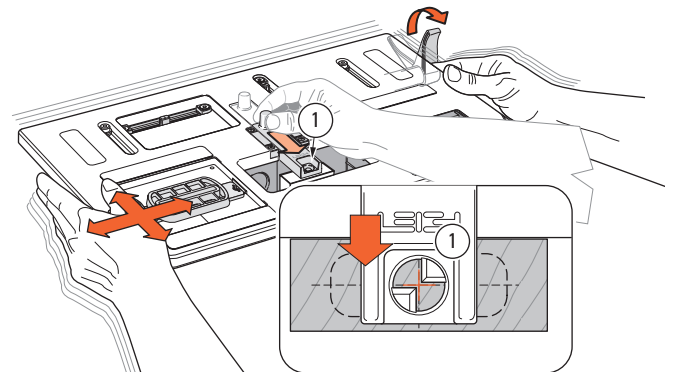
3-30 The selected guide is placed into the guide recess and the matching bit fitted to the router.



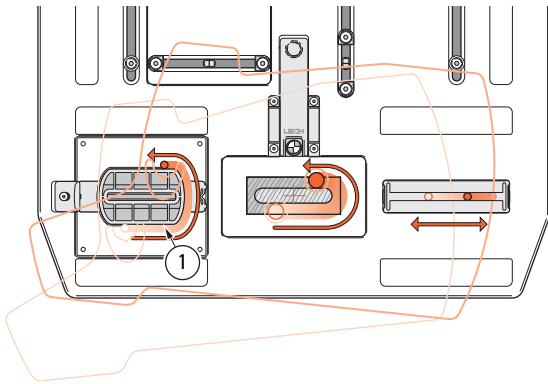
3-31 The centers of a mortise and tenon are marked with a cross.



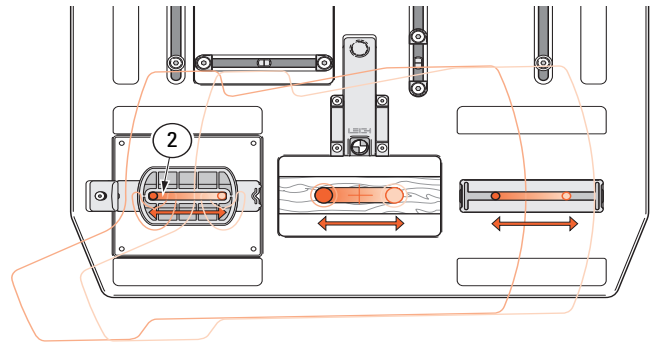
3-32 Tenon workpieces are usually clamped vertically ①. Mortise workpieces are always clamped horizontally ②.



3-33 The jig table is centered over the marked workpiece with the extended sight ①.



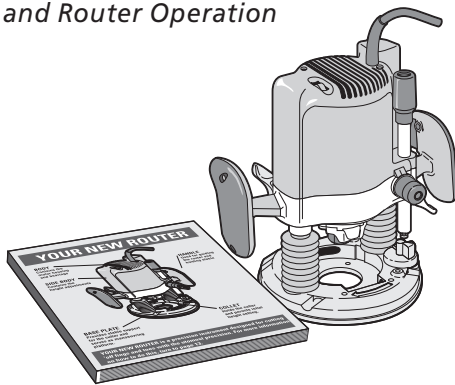
3-34 Tenons are routed with the guide pin running around the outside (tenon) part of the guide ①. See Chapter 4 for routing techniques.



3-35 Mortises are routed with the guide pin running in the inside mortise part of the guide ②. Always rout the mortise slightly deeper than the tenon length

Note: in most constructions, only one tenon and perhaps two mortises require to be cross marked and sighted. Please read all of the procedural chapters to gain the utmost efficiency from your FMT Pro. ■

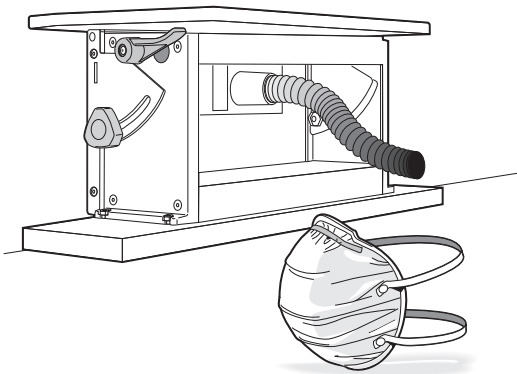
Safety and Router Operation



3-36 Read the owner's manual that came with your router. It is essential to understand the router manufacturer's instructions completely.



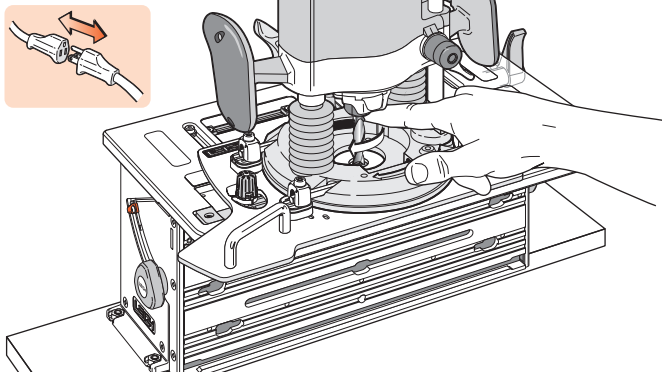
3-37 Always wear approved safety glasses. Always wear hearing protection.



3-38 Protect yourself from harmful dust by wearing a face mask. Connect your shop vacuum or dust collection system to the FMT Pro whenever possible.

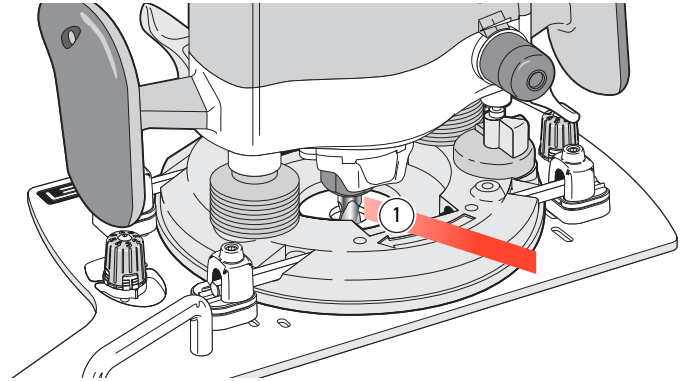


3-39 ⚠️ Never drink alcohol or take medications that may cause drowsiness when you will be operating a router.

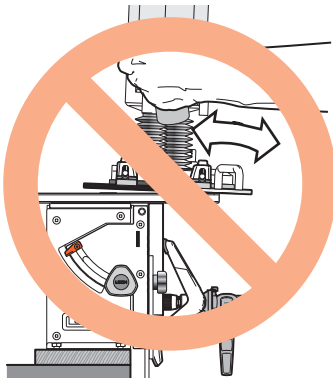


3-40 Always disconnect the power source from the router when fitting bits, or making adjustments.

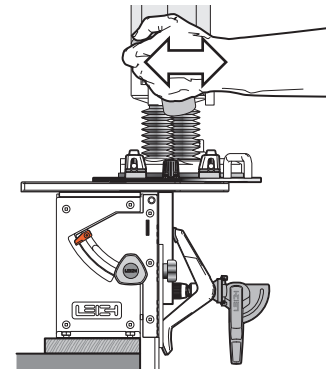
Before connecting the router to the power source, make sure the bit revolves freely through the Sub-Base bit hole, and table and clamp plate bit openings in all extreme guide pin positions and preset bit depths.



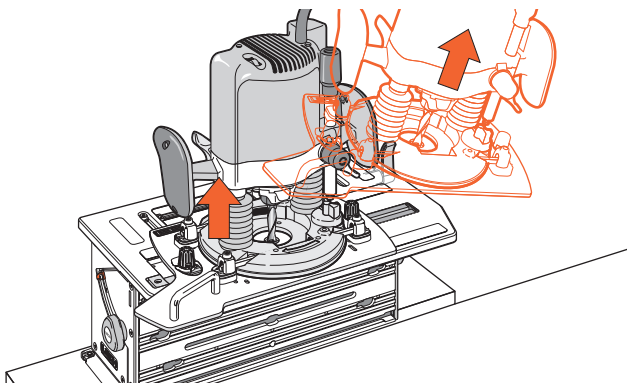
3-41 Make sure the router collet does not contact the FMT Pro Sub-Base at full plunge cuts. Set the router plunge stop rod as necessary to prevent this ①.



3-42 Do not tilt the router on the jig.



3-43 Keep the router flat on the jig assembly.



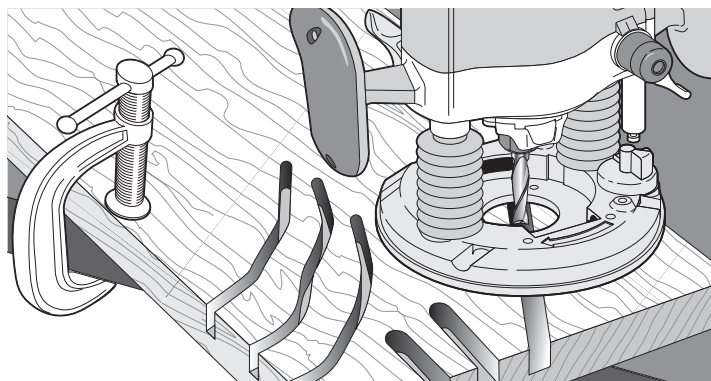
3-44 Always raise the plunge router mechanism before removing the router assembly from the jig.



3-45 Never, never, use a non-plunge fixed base router on the FMT Pro.

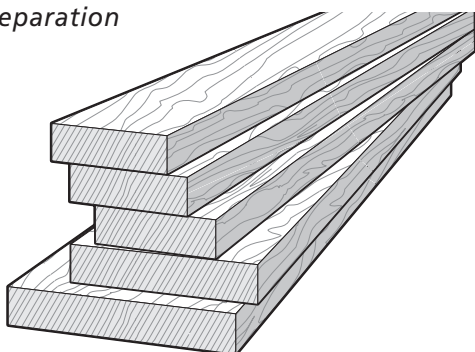


3-46 Do not rout at face level.



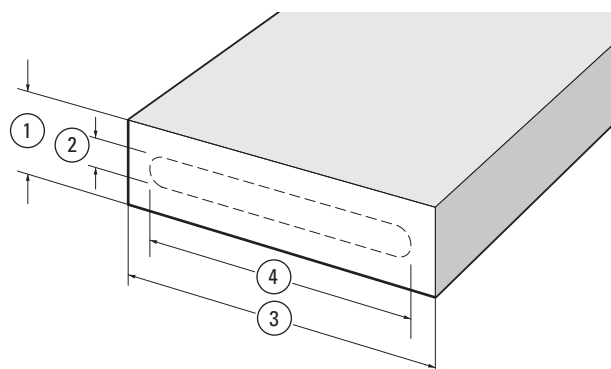
3-47 If you have never used your router before, be sure to follow the router manufacturer's instructions for its use. Make plenty of simple open-face practice cuts before you try to use the router on the Leigh FMT Pro. ■

Wood Preparation



3-48 Stock for use on the Leigh FMT Pro should generally be straight, flat, of even thickness and width with square ends and edges, except where design issues dictate otherwise.

Please note that even small ridges (caused by damaged planer blades) can cause noticeable misalignment of "flush" joint faces.



3-49 You will want to test the jig, so prepare some stock with a thickness ① of about 2½ to 3 times the bit diameter ②,

For example:

¼" [6mm] bit ⅝" to ¾" [15-19mm]

⅝" [8mm] bit ¾" to 1⅝" [20-24mm]

⅜" [10mm] bit 1⅝" to 1⅞" [25-30mm]

½" [12mm] bit 1¼" to 1½" [30-36mm]

and a stock width ③ of say, 1½ bit diameters greater than the selected guide length ④. ■

