

# LEIGH FRAME MORTISE AND TENON JIG

**LEIGH**

Joining Tradition With Today

**2005**





*Front Cover: Workbench in cherry 36"H x 85" W x 28"D Back Cover: Arts and Crafts Style Writing Desk and Chair in white oak (Desk: 30 1/2"H x 45"W x 22"D, Chair: 41 1/2"H x 20"W x 20"D)  
Photos opposite page, top to bottom: Coat Rack in maple 72"H x 21"W x 21"D; Display Unit in white oak 72"H x 48"W x 16 1/2"D; End Table in walnut 26"H x 18"W x 16"D; Shaker-inspired Bed in cherry 48"H x 82"W x 87"D (headboard: 48"H, footboard: 36"H)*





## The Leigh Frame Mortise and Tenon Jig



Now in its third year, the outstanding Leigh FMT Jig is appearing more and more in workshops around the world. After all, it is mortise & tenon joinery that holds most of the world's fine furniture and cabinetry together. There are tenoning jigs on the market, and mortising jigs too, but only the FMT uses a single guide and bit to cut both mortises and tenons, with speed and precision that you have to see to believe. The FMT is so easy to use and so efficient that it brings professional quality joinery within reach of any shop, from basement to custom studio to factory floor. Here's what woodworkers are saying about the FMT:

### Ease of Use

*"...the Leigh Jig is really simple to use."* –Andy King *"It is also one of the few power-tool devices that I have actually found pleasure in using, as opposed to just being grateful for something to get the job done...the FMT is very much easier to use than to describe."* –Ron Fox *"With two micro-adjust guide pins and interchangeable joint guides this jig offers great accuracy and ease of use."* –Randy Johnson *"The FMT is surprisingly easy to use."* –Carl Dugay

### Versatility

*"Spot on accuracy and utmost flexibility...the Leigh Jig (FMT) makes perfect straight and angled mortise and tenon joints in a huge variety of sizes..."* –Randy Johnson *"I cut a number of offset, wide, twin, quadruple and bridle joints without a hitch."* –Carl Dugay *"...it's in a different league altogether."* –Andy King

### Speed and Convenience

*"I know of no better or faster way to cut mortises and tenons..."* –Christopher Schwarz *"...bespoke furniture or cabinetmakers could well find it an invaluable piece of kit."* –Andy King *"The sub-base comes with mounting hardware and can be attached to any currently available plunge router...those who want a dedicated mortise and tenon machine will find it well worth the investment."* –Randy Johnson

### User Guide

*"...the user guide...is superbly written and illustrated."* –Carl Dugay *"...the 126-page manual is easy to follow with excellent text and diagrams."* –Andy King *"The manual (a paragon of clarity)...every single question or objection I had was addressed.."* –Christopher Schwarz

### Precision Engineering

*"Everything looks and feels first class. The parts that move, do so smoothly, while the clamping mechanisms hold stock securely without requiring you to exert a lot of torque."* –Carl Dugay *"Its complex capabilities and astounding accuracy make this new Leigh Jig a fantastic tool."* –Andy King

### Value and Performance

*"...the FMT is without doubt the best affordable Mortise and Tenon Jig available...this jig is one special animal."* –Christopher Schwarz *"...for the small professional cabinet-making or fine furniture business it is likely to pay for itself in speed, versatility and accuracy in a fairly short time."* –Ron Fox *"Leigh's Canadian-built Frame Mortise and Tenon Jig puts an end to jig making."* –Andy King *"The FMT is spectacular for furniture, especially joined chairs where tremendous loads are placed on the tenons."* –Ernie Conover

**Quotes above:** Randy Johnson, American Woodworker Magazine; Carl Dugay, Canadian Woodworking Magazine; Ernie Conover, Conover Workshops; Andy King, Good Woodworking Magazine (UK); Christopher Schwarz, Popular Woodworking Magazine; Ron Fox, Routing Magazine (UK).

\*The FMT is patented in the USA, Canada and Europe.



## How the Leigh FMT Works

The basic concept is very simple. Mount your plunge router on Leigh's sub-base. The sub base is positioned by two hardened steel guide pins projecting from the bottom of the base. The right side guide pin always runs in the track to the right of the bit opening. The left side guide pin steers the router, traveling within the joint guide groove for mortising or around the guide's perimeter for tenoning. One bit, a spiral upcut matching the guide size, cuts both mortise and tenon.

### Routing Tenons

The first step is creating layout lines on the end of the tenon stock. Then, clamp the tenon piece in the jig and using the table movements, center the retractable site over the layout lines. Next, place the router/sub-base on jig table and set the left side guide pin to track around the outside of the joint guide. While gently easing the bit into the tenon piece, rout the tenon at full depth in a clockwise direction (climb-cut) to cut sharp, clean shoulders. Next, reverse the direction of the cut (counter clockwise) and continue to feed the bit into the tenon stock until the tenon is fully formed. The tenon is done.

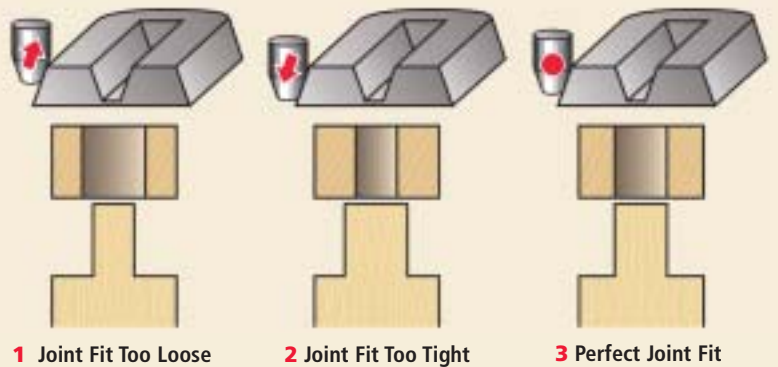
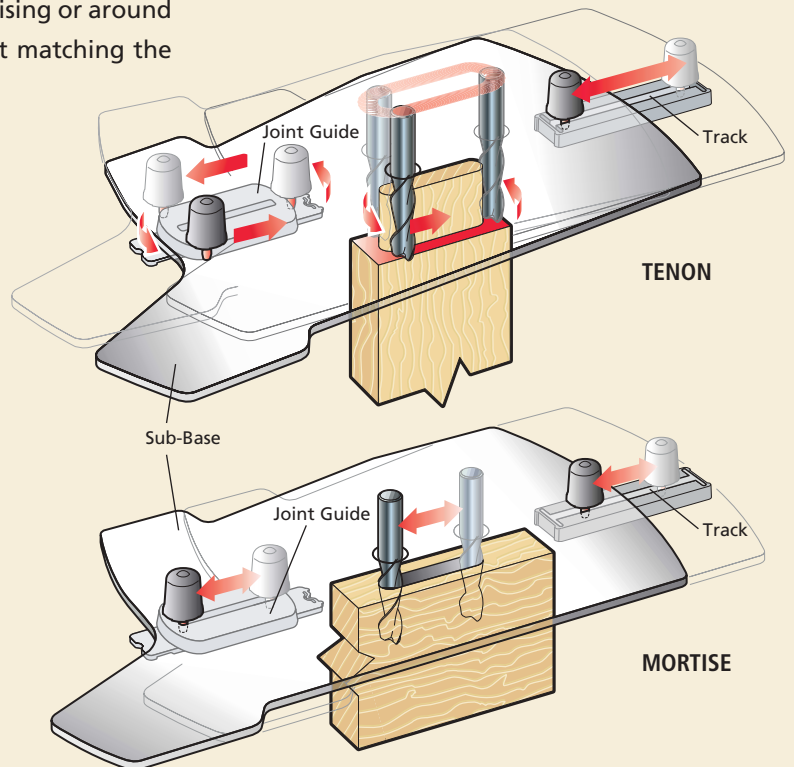
### Routing Mortises

Routing mortises is equally as simple. Create layout marks for the mortise and clamp the mortise piece horizontally in the jig. Place the router/sub base on the jig's table with the left guide pin running in the center slot of the joint guide. Set the depth to approximately 1/16" deeper than the tenon length. Make successive full depth plunges from one side of the mortise to the other and then follow up with a clockwise cleanup cut. That's it, the mortise is done.

### Adjusting Joint Tightness

The FMT's adjustable guide pins allow precise adjustment of joint fit, so precise in fact that adjustments can be made in increments of .001" on the glue line. A graduated knob (4) turns the tapered guide pin (5) up or down. A simple height washer (6) indicates the number of full turns of adjustment and the markings on the top of the graduated knob indicate 1/8 increments.

The right hand guide pin is adjusted *only once* to allow smooth movement along the track. The left guide pin is adjusted up or down in .001" increments until the desired fit is achieved. Adjusting the left guide pin up produces a smaller tenon and larger mortise. Conversely, a downward adjustment produces a larger tenon and smaller mortise. The reference marks allow you to record and return to the same settings for any given guide/bit combination.



1 Joint Fit Too Loose

2 Joint Fit Too Tight

3 Perfect Joint Fit



4 Graduated Knob



5 Guide Pin



6 Height Washer

***"...a test cut establishes the exact settings of the adjustable pins, after which either mortise or tenon can be cut with extreme accuracy...the positions of the adjusting knobs can be recorded so that for each guide the setting can be dialled straight away."*** –Ron Fox, Routing Magazine (UK)

# How to Rout Mortises and Tenons

Measure once, cut a hundred times

## The Tenons



1. Mark layout lines for the center of the tenon on one end of a single work piece.



2. Select the joint guide and matching bit to the desired mortise and tenon size. Simply snap the joint guide into the guide recess.



3. Extend the table sight.



4. Clamp the tenon piece flush up under the table sight and against the side stop fence.



5. Move the table to position the table sight over the layout lines.



6. Once the sight is centered over the layout lines...



7. ...lock the table and retract the table sight.



8. Place the router/sub-base on the table and plunge the router bit to the tenon length.



9. Rout the tenon. **All other similar tenons may now be routed without having to mark or sight the tenons, or remove the router from the jig.**

## The Mortises



1. Mark the mortise center positions on **one mortise work-piece only.**



2. Remove the router and extend the sight. Move the mortise piece left and right to sight for center and clamp it in place.



3. Place the router/sub-base (not shown) on the jig and plunge the router bit to the mortise. See sidebar for positioning the workpieces for the remaining mortises.

***“The FMT allows precise adjustment of fit and the cutting of mortise and tenons and any angle. Once a precise fit is obtained, the joint can be repeated indefinitely independent of stock thickness.”*** –Ernie Conover, Conover Workshops

## Outrigger Bars



The FMT comes with two outrigger bars which can be mounted in slots in the edges of the clamp plate.



Simple shop-made outriggers of 1/4" plywood are attached to the bars with nuts & bolts provided.



When routing multiple mortises on the same work piece, you can clamp stop blocks on the outriggers or simply make reference marks along the top edge. Now you can rout all work pieces with similar mortises without having to mark them, reposition the table or even remove the router/sub-base from the jig.

As you've seen, you can rout one joint or a hundred alike by making a few layout marks and installing just a single bit. Mortise and tenon joinery has never been simpler.



## Anatomy of a Precision Jig

It took five years to complete the design and testing of the Leigh FMT. As we worked through the process, it became clear the new jig would be mechanically demanding to produce. The final version incorporates 88 extruded, die cast or injection molded parts, each requiring a custom die or mold. Another 18 components are CNC machined to very precise tolerances. The jig that took us five years to develop takes you only five minutes to understand well enough produce a perfect mortise and tenon joint. At a cost which is less than half of its nearest serious competitor, the FMT is clearly the best value on the market today.

- The clamp plate (1) is a rugged 5-hollow 6063-T5 aluminum extrusion, CNC machined with a totally reliable non-slip, non-marring textured surface. The plate is aligned parallel to the work table with adjustments for router variances. The clamp plate can be tilted upward from 0° to 30° for angled or compound angled cuts (2), and it features a positive 90° return stop.
- Two powerful 3" clamps (3) feature Leigh's Cam-Action Speed Clamp levers and die cast ZA12 alloy rocking arms. T-slots in the clamp plate provide plenty of mounting options for holding both mortise and tenon work pieces.
- A die-cast aluminum side stop fence (4) has a positive 90° stop and can be set at any angle up to 45° left or right.
- Dust collection is handled by a die-cast aluminum dust collection vacuum box (5) behind the clamp plate. The hose port has a 1-1/2" connection.
- The table (6) is made of 1/2" Mic 6® plate, a special proprietary brand of continuously-cast aluminum plate that is rigid, stress free, and machined flat on both sides to thickness tolerances of +.005". Channels, recesses and openings are all CNC milled.
- The table moves side to side, front to back, and locks in any position with the flip of a clamp lever (7). The lever operates a sophisticated system incorporating five CNC turned brass and steel parts, making it highly effective and easy to engage with a soft touch.
- Under the table, two 6005A-T5 aluminum extrusions (9) provide both jig structure and table movement. UHMW strips serve as slide bearings between these two plates, and between the plates and the table. Delrin V-blocks on ground steel pins in machined V-grooves ensure true table alignment in both X and Y axes.
- A retractable sight (10) made of Fortron PPS, a high-tech ultra rigid resin, is used to center the bit opening over the layout marks on mortise or tenon work pieces. Table limit stops (11) can be set for precisely controlled re-positioning of the table as needed for double, triple or quadruple joints.
- Joint guides (12) snap into a recess perfectly aligned with the bit center-line and right side pin track (13). Both guides and track are injection molded Delrin for smooth, durable operation.
- The router sub-base (14) is CNC-machined 6061-T6 tempered aluminum. Its two stainless steel tapered guide pins (15), threaded through brass bushings with neoprene o-rings, ride in the pin track on the right and either within or around a joint guide on the left. Adjusting the left guide pins up or down provides extremely fine adjustment for joint fit; i.e. .001" on the glue line per increment.
- Teflon bearing pads (16) on the table and router sub-base make routing very smooth and stable regardless of the dimensions of the joint or the size of your router.
- The FMT's sub-base mounting system (17) works with virtually any plunge router. In most cases, the router can be removed or refitted to the base in less than a minute, making a dedicated router unnecessary.

**"Leigh's new Frame Mortise and Tenon Jig is a tour de force of design."** –Ernie Conover, Conover Workshops



*"...an impressive and well thought-out piece of engineering."*

—Christopher Schwarz, Popular Woodworking Magazine



router not supplied



## The Leigh FMT Combines Beauty and Strength

The traditional mortise and tenon joint is indisputably the strongest way to assemble frames for fine furniture and cabinetry. No other jig or machine method can match the speed and accuracy with which the FMT produced the 92 mortise & tenon joints used to build the four pieces shown on these pages.



*End Table in walnut 26"H x 18"W x 16"D*

*Shaker-inspired Bed in cherry 48"H headboard 36"H footboard x 82"W x 87"D*  
*Shaker-inspired Bedside Tables in cherry 27"H x 18"W x 15"D*





**"Perfect joints every time. Performance: 5/5."**

–Andy King, Good Woodworking Magazine (UK)



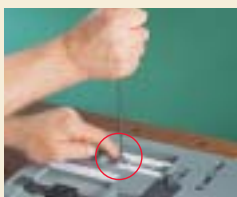
*Coat Rack in maple 72"H x 21"W x 21"D*



*Display Unit in white oak 72"H x 48"W x 16 1/2"D*



# Innovative Features



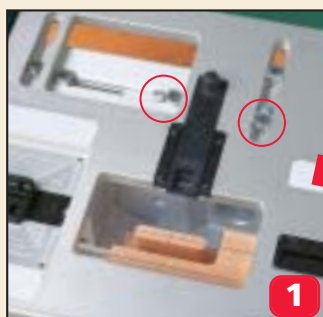
## Perfect Multiple Joints

It's remarkably easy to set up perfectly aligned multiple mortises and tenons on the FMT. Precision and repeatability are made possible by adjustable table limit stops (circled here and below) that control the

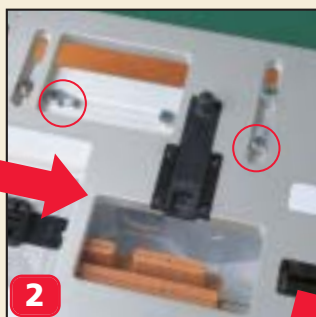
table's range of motion in both X and Y axes. With each mortise or tenon position sighted and limit stops set, you're ready to rout double, quadruple, or even triple joints with the same ease and precision as a single mortise and tenon.

## Double and Quadruple Joints

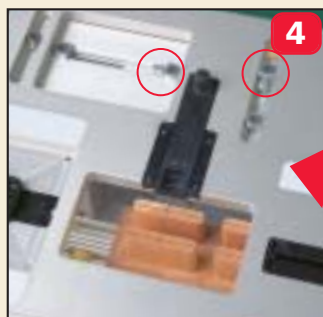
The sequence below shows each step in making double and quadruple joints. In steps 1 & 2, the side-to-side limit stops are set to produce double inline tenons. Steps 2 & 3 set the front-to-back limit stops which are used to produce side by side tenons.



1 Rout the rear left tenon.



2 Move table to the right; rout rear right tenon.



4 Move table to the left; rout front left tenon.



3 Move table forward; rout front right tenon.

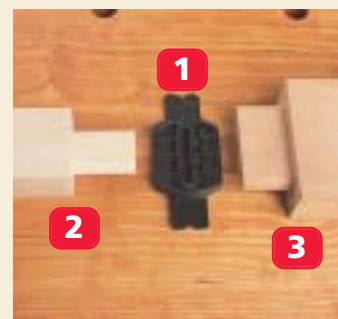


## Triple Joints

Triple joints are set up just like quads. Make a small stop block to fit between the front-to-back limit stop and post (circled), to position the table for routing the third mortise and tenon.

## Wider or Narrower Joints

It's always faster and easier to use a joint guide made to cut the exact mortise and tenon size you want. However, if you don't have the right guide on hand, or if you want to cut a joint that's wider or narrower than the nearest guide size, you can use the table limit stops to change what any given joint guide allows you to do.



In the photo above, a single 1-1/2" joint guide (1) has been used in simple two-step procedures to cut a 1" wide tenon (2) and a 2" wide tenon (3). You can cut tenons as short as twice the diameter of your bit, or up to almost twice the guide length.

## Bonus Feature: Floating Tenons and Doweling

Traditional mortise and tenon joinery isn't practical on miter joints, though often they need all the strength that tenons provide. The FMT makes it easy to mortise both sides of a miter then glue in a shop-made floating tenon for the strongest possible joint. Doweling, though not as strong, is just as easy to set up and is faster overall when you don't have time to prepare floating tenon stock.



Above: Doweled bracket feet and base frame for corner of blanket chest, right.



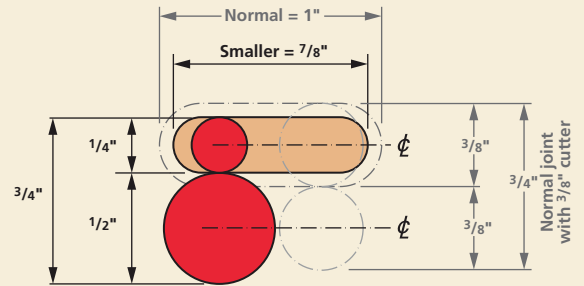
## Production Routing and Smaller Joints

When you're engaged in a high-volume production job, you can speed up the process considerably by using the largest bit possible to cut tenons smoothly and quickly in one pass. Using a tenon bit larger than the joint guide size will make tenons that are smaller than the guide, so you'll have to use a bit smaller than the guide to cut matching mortises. The principle is simple: any two bit diameters which add up to twice a given joint guide size can be used to make joints the size of the smaller bit. (See drawing at right.)

In the extreme, this technique lets you cut joints much smaller than the FMT's smallest 1/4" joint guides. Delicate furniture parts such as small cabinet door frames, doll house architecture and furniture, and very accurate miniatures all call for mortises and tenons as narrow as 1/8" or even less. The charts on pages 12 (inch measurements) and 14 (metric) show how different bit combinations can crank out such extraordinary joints just as quickly and precisely as larger ones.

**"The jig is capable of cutting just about any mortise and tenon you can think of."**

—Christopher Schwarz, Popular Woodworking Magazine



*This diagram shows how a 3/8" x 1" joint guide can be used for rapid production of 1/4" x 7/8" mortises and tenons. A strong 1/2" bit quickly mills tenons 1/8" narrower and shorter than the guide; a 1/4" bit cuts mortises correspondingly narrower and shorter as well.*



## Incredible Miniature Joints are Easy

The FMT can rout joints not just smaller than 1/4" but so tiny they're almost beyond belief — all with the same easy setup and adjustable fit you expect in larger joints. These examples of miniature joints show the extreme versatility of the FMT. The 7-1/2" ebony and holly ladder leaning against a 1/2" X 5" tenon has ebony wedged tenons 1/16" X 1/8".

The matches have progressively smaller tenons mortised through other tenons, featuring joints .040" X .095", .023" X .068" and .013" X .053" respectively. The smallest mortise and tenon was routed with .010" mortise and 31/64" tenon machine tool bits. These matchstick joints actually creak when assembling!



And if you're wondering how pieces such as the matches, miniature table parts and some of the curved workpieces are held in place, here's how: there are twelve through-holes in the clamp plate with which shop-made auxiliary plywood plates, blocks, and work-holding fixtures can be attached and used together with the Leigh cam clamps. It's all in the easy-to-follow Leigh User Guide.

*Left: Whether it's a 27" tall walnut night table or a twelfth-scale miniature replica, all of these mortise and tenons were routed on the FMT.*



# Pricing and Specifications



## Leigh FMT Frame Mortise & Tenon Jig Inch Measure (see page 14 for metric guide and bit selection)

### Features:

- Over 70 sizes of mortises and tenons; joint guides available in 1/4", 5/16" (standard), 3/8" and 1/2" sizes
- Maximum 1/2" x 5" joint size
- Double, triple and quadruple joints
- Easily recorded, repeatable joint tightness adjustment
- Angled and compound angled joints
- Works with virtually any plunge router

### Standard equipment:

- Universal sub-base that attaches to virtually any plunge router
- Five 5/16" joint guides (5/16" by 1/2", 3/4", 1", 1-1/4" and 1-1/2"), which can make over 21 sizes of mortises and tenons
- Joint guide stand
- 5/16" HSS spiral upcut bit w/1/2" shank (Leigh No.s 170-500)
- Two cam-action speed clamps
- Adjustable side stop fence for tenoning
- Two outrigger support bars
- Screwdrivers and mounting hardware
- Fully illustrated Leigh FMT User Guide

**"If you do even a small run of mortise and tenon joints, say for 4 or 5 cabinet doors, you'll experience a significant time (and cost!) savings. Imagine your savings over a year's worth of work..."**

—Carl Dugay, Canadian Woodworking Magazine

A 1/2" (12mm) plunge router is essential to achieve the full potential of the FMT. See router selection on page 14.

**Item FMT Leigh Frame Mortise & Tenon Jig.....US\$899 .....CDN\$1,239**  
Shipping weight 30 lb.

## Inch Guides and Bit Selection

A 5/16" bit and the complete set of 5/16" joint guides comes standard with the FMT. As you select bits, remember that each joint guide produces both mortise and tenon in the same size as the guide when you use a single bit matched to the guide size. A 1/4" bit used with 1/4" guides makes 1/4" joints, 5/16" bit and guides make 5/16" joints, and so on through 3/8" and 1/2" sizes, for a total of 21 standard joints. **Green, orange, blue** and **yellow** boxes in the chart below identify these sizes.

You can more than triple the number of joint sizes by using two bits of different diameters with any of the guides (except 1/2" sizes), as detailed in *Production Routing and Smaller Joints* on page 11 of this brochure. A total of 47 two-bit optional sizes are shown in **gray** boxes in the selection chart. The bit used for mortising is identified in the column heading. The bit used for tenoning is shown in **red** next to the joint size. The colored box at the right end of each row shows which joint guide to use with each pair of bits. For instance, if you want to cut a 1/8" x 1/2"

joint, find that size five rows down in the second column. You'll use a 1/8" bit for the mortise and a **3/8"** bit to cut the tenon, working with a **1/4" x 5/8"** joint guide.

It's easy to cut mortise length and tenon width up to twice the guide length, using the limit stops for controlled movement of the table (see page 10, Wider or Narrower Joints.) Further, by using combinations of small machine tool bits you can cut even more sizes of small and miniature joints (see page 11).

INCH GUIDES AND BIT SELECTION																					
TENON BIT SIZE	1/16" MORTISE BIT	MORTISE X MORTISE LENGTH	TENON BIT SIZE	1/8" MORTISE BIT	MORTISE X MORTISE LENGTH	TENON BIT SIZE	3/16" MORTISE BIT	MORTISE X MORTISE LENGTH	TENON BIT SIZE	1/4" MORTISE BIT	MORTISE X MORTISE LENGTH	TENON BIT SIZE	5/16" MORTISE BIT	MORTISE X MORTISE LENGTH	TENON BIT SIZE	3/8" MORTISE BIT	MORTISE X MORTISE LENGTH	TENON BIT SIZE	1/2" MORTISE BIT	MORTISE X MORTISE LENGTH	
7/16	1/16"	1/8"	3/8	1/8"	3/16"	5/16	3/16"	1/4"	1/4	1/4"	5/16"								1/2	1/2"	1"
7/16	1/16"	3/16"	3/8	1/8"	1/4"	5/16	3/16"	5/16"	1/4	1/4"	3/8"								1/2	1/2"	1-1/2"
			1/2	1/8"	5/16"	7/16	3/16"	3/8"	3/8	1/4"	7/16"	5/16	5/16"	1/2"					1/2	1/2"	2"
7/16	1/16"	5/16"	3/8	1/8"	3/8"	5/16	3/16"	7/16"	1/4	1/4"	1/2"								1/2	1/2"	2-1/2"
7/16	1/16"	7/16"	3/8	1/8"	1/2"	5/16	3/16"	9/16"	1/4	1/4"	5/8"										
			1/2	1/8"	9/16"	7/16	3/16"	5/8"	3/8	1/4"	11/16"	5/16	5/16"	3/4"							
7/16	1/16"	9/16"	3/8	1/8"	5/8"	5/16	3/16"	11/16"	1/4	1/4"	3/4"										
									1/2	1/4"	7/8"	7/16	5/16"	15/16"	3/8	3/8"	1"				
			1/2	1/8"	13/16"	7/16	3/16"	7/8"	3/8	1/4"	15/16"	5/16	5/16"	1"							
7/16	1/16"	13/16"	3/8	1/8"	7/8"	5/16	3/16"	15/16"	1/4	1/4"	1"										
			1/2	1/8"	1-1/16"	7/16	3/16"	1-1/8"	3/8	1/4"	1-3/16"	5/16	5/16"	1-1/4"							
7/16	1/16"	1-1/16"	3/8	1/8"	1-1/8"	5/16	3/16"	1-3/16"	1/4	1/4"	1-1/4"										
									1/2	1/4"	1-3/8"	7/16	5/16"	1-7/16"	3/8	3/8"	1/2"				
			1/2	1/8"	1-5/16"	7/16	3/16"	1-3/8"	3/8	1/4"	1-7/16"	5/16	5/16"	1-1/2"							
7/16	1/16"	1-5/16"	3/8	1/8"	1-3/8"	5/16	3/16"	1-7/16"	1/4	1/4"	1-1/2"										
									1/2	1/4"	1-7/8"	7/16	5/16"	1-15/16"	3/8	3/8"	2"				
									1/2	1/4"	2-3/8"	7/16	5/16"	2-7/16"	3/8	3/8"	2-1/2"				





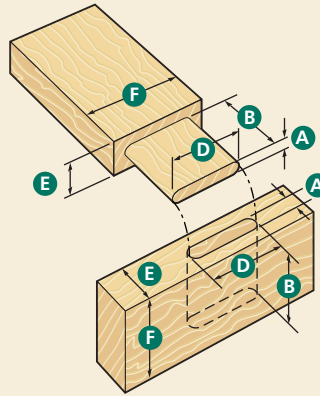
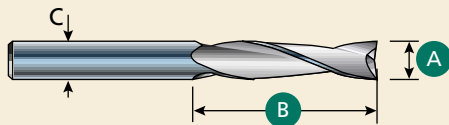
### Optional Inch Joint Guides

The 5/16" guide set and stand are standard with the FMT

- Item No. 6704** 1/4" FMT guide set (includes 8 guides and 1 stand)  
SAVE us\$16 or CDN\$22! .....US\$38 .....CDN\$59
  - Item No. 6705** 5/16" FMT guide set (includes 5 guides and 1 stand, not shown)  
**NOTE – This set is included with FMT** .....US\$25 .....CDN\$39
  - Item No. 6706** 3/8" FMT guide set (includes 4 guides and 1 stand)  
SAVE us\$9 or CDN\$13! .....US\$21 .....CDN\$32
  - Item No. 6708** 1/2" FMT guide set (includes 4 guides and 1 stand)  
SAVE us\$9 or CDN\$13! .....US\$21 .....CDN\$32
  - Item No. 6720** combines the three optional FMT guide sets above 1/4", 3/8" and 1/2"  
(includes 16 guides and 3 stands) SAVE us\$46 or CDN\$72! .....US\$68 .....CDN\$99
- Individual guides or stands are available at us\$6 or CDN\$9 each

### Inch Joint and Bit Specifications

These diagrams are designed to give you a clearer picture of the bits you'll require from the chart below.



- A** MORTISE WIDTH & TENON THICKNESS: max. 1/2"
- B** MORTISE DEPTH & TENON LENGTH: up to 2 1/2" (depending on router construction)
- D** MORTISE LENGTH & TENON WIDTH: max. 2 1/2" - 5"
- E** MORTISE & TENON BOARDS, THICKNESS: max 3"
- F** MORTISE & TENON BOARD WIDTH: max. 5 1/2"

### INCH BIT SPECIFICATIONS AND PRICES

LEIGH BIT NO.		A	B	B	C	PRICE					
HSS Spiral Upcut	Solid Carbide Spiral Upcut	Bit Diameter	Cutting Depth HSS	Cutting Depth Solid Carbide	Shank Diameter	Overall Length HSS	Overall Length Solid Carbide	HSS \$US	HSS \$CAN	Solid Carbide \$US	Solid Carbide \$CAN
162	—	1/16"	3/16"	—	1/4"	2"	—	\$12	\$16	—	—
164	164C	1/8"	3/8"	1/2"	1/4"	2-5/8"	2"	\$12	\$16	\$20	\$27
166	166C	3/16"	5/8"	3/4"	1/4"	2-7/8"	2-1/2"	\$12	\$16	\$20	\$27
168	168C	1/4"	1"	1-1/8"	1/4"	3"	3"	\$12	\$16	\$24	\$32
170-500	170-500C	5/16"	1"	1-1/8"	1/2"	3-1/2"	3"	\$18	\$24	\$59	\$79
173-500	173-500C	3/8"	1-1/4"	1-1/4"	1/2"	3-3/4"	3"	\$18	\$24	\$60	\$79
177	177C	7/16"	1-3/4"	1-3/4"	1/2"	4"	4"	\$35	\$46	\$90	\$119
180	180CL	1/2"	1-1/2"	2-1/8"	1/2"	3-1/2"	4"	\$18	\$24	\$65	\$87



### Inch Bit Sets

The Solid Carbide Spiral Upcut bit set includes all the standard bits for the FMT, Carbide keeps an edge for a lot longer, but it is more expensive. Boxed set includes No.'s 162, 164C, 166C, 168C, 170-500C, 173-500C, 177C and 180CL. Note: No.162 is high speed steel.

**Item 162-180C** SAVE us\$61 or CDN\$87!\* .....US\$289 .....CDN\$379

The High Speed Steel bit set includes all the standard bits for the FMT. HSS does not keep an edge as long as carbide, but it is less expensive. Boxed set includes No.'s 162, 164, 166, 168, 170-500, 173-500, 177 and 180.

**Item 162-180** SAVE us\$22 or CDN\$29!\* .....US\$115 .....CDN\$153

\*and you get the box as well!



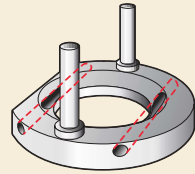
## Router Selection

The FMT is made for use with plunge routers only and will not work with fixed base routers. You need a 1/2" collet to realize the jig's potential. A 1/4" collet can produce only 1/4" joints and an 8mm collet can produce only 8mm and some 4mm joints.

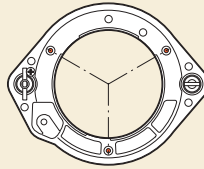
The list to the right shows all the plunge routers we know of that fit the FMT. Even if your router isn't listed, it's very likely that you can attach it to the FMT's sub-base if it has either two fence rod holes at least 5/16" (8mm) in diameter through the base, or a removable sub-base attached by screws into the router base casting.

Routers lacking two guide rod holes all the way through the base must be attached directly to the FMT sub-base with mounting screws that come with the jig.

For an up-to-date list visit our Web site at [www.leighjigs.com/support](http://www.leighjigs.com/support)



Most routers attach using the two fence rod holes



Some routers attach with special Leigh screws

## Routers That Currently Fit The Leigh FMT

For an up-to-date list visit our Web site at [www.leighjigs.com/support](http://www.leighjigs.com/support)

**BOSCH** – 1611, 1611EVS, 1613, 1613EVS, 1613AEVS, 1614, 1614EVS, 1615, 1615EVS, 1617 Plunge Base, 1619EVS, B1450, B1550, GOF1600, GPF1700ACE  
**DEWALT** – DW614, DW615, 616 Plunge Base, 618 Plunge Base, DW621, DW621K, DW624, DW625, DW625EK  
**ELU** – OF97, OF97E, MOF96, MOF96E, MOF131, MOF177, MOF177EK, 3303, 3304, 3337, 3338, 3339  
**FEIN** – RT1800  
**FESTOOL** – 900, 1000, 1010, OF1400, OF2000, OF2000E  
**FLEX** – OFT2926V\*, OFT3121VV  
**FREUD** – FT2000  
**HITACHI** – TR8, TR12, M8, M12 Series

**HOLZ-HER** – 2355, 2356  
**JEPSON** – 7412  
**MAKITA** – 3600, 3612, 3612B, 3612BR, 3612C, RP1100\*, RP1101\*, RP0910\*, RP1110C\*  
**METABO** – OFE728, OF1028, OFE1028, OFE1229  
**PORTER CABLE (ROCKWELL)** – 7538, 7539, 693\*, 694\*, 7529\*, 8529\*  
**RYOBI** – R150, R151, R500, R501, R502, R600, R601, RE600, RE601  
**TRITON** – TRC001\*\*

\* attaches directly to Leigh sub-base with Leigh screws included with jig.  
 \*\* contact Leigh or Leigh distributor for mounting screws.

## Metric Guide and Bit Selection

This information is for FMT users in countries where metric bits and router collets are available through Leigh distributors. In North America, metric bits and routers with 12mm collets are virtually non-existent. Leigh does not stock metric bits.

When selecting bits, note that each guide will produce a mortise and tenon the same size as the guide when using a *single bit* of that same size. For example, a 6mm guide and bit will make a 6mm joint, a 10mm guide and bit will make a 10mm joint and so on for each of the four guide series for a total of 24 joint sizes.

You can increase the number of joint sizes that can be routed by using *two bits* with the guide (as described in *Production Routing and Smaller Joints* on page 11). This gives you a total of 55 further joint sizes!

Note that in addition to the joint sizes listed in the chart above, any mortise length (tenon width) up to twice the guide length can be easily achieved by using the jig's quick acting table movement and limit stops (see page 10, *Wider or Narrower Joints*). And, by using combinations of machine tool bits, even more sizes of small and miniature joints may be routed (see page 11).

METRIC GUIDE AND BIT SELECTION																		
TENON BIT SIZE	2 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	3 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	4 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	5 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	6 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	7 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	8 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	10 mm MORTISE BIT X MORTISE LENGTH	TENON BIT SIZE	12 mm MORTISE BIT X MORTISE LENGTH	
10	2 x 4	9	3 x 5	8	4 x 6	7	5 x 7	6	6 x 8								12	12 x 25
10	2 x 6	9	3 x 7	8	4 x 8	7	5 x 9	6	6 x 10								12	12 x 35
				12	4 x 11			10	6 x 13	9	7 x 14	8	8 x 15				12	12 x 45
10	2 x 11	9	3 x 12	8	4 x 13	7	5 x 14	6	6 x 15								12	12 x 55
				12	4 x 16			10	6 x 18	9	7 x 19	8	8 x 20				12	12 x 65
												12	8 x 23	10	10 x 25			
10	2 x 16	9	3 x 17	8	4 x 18	7	5 x 19	6	6 x 20									
				12	4 x 21			10	6 x 23	9	7 x 24	8	8 x 25					
10	2 x 21	9	3 x 22	8	4 x 23	7	5 x 24	6	6 x 25									
				12	4 x 26			10	6 x 28	9	7 x 29	8	8 x 30					
												12	8 x 33	10	10 x 35			
10	2 x 26	9	3 x 27	8	4 x 28	7	5 x 29	6	6 x 30									
				12	4 x 31			10	6 x 33	9	7 x 34	8	8 x 35					
10	2 x 31	9	3 x 32	8	4 x 33	7	5 x 34	6	6 x 35									
				12	4 x 36			10	6 x 38	9	7 x 39	8	8 x 40					
10	2 x 36	9	3 x 37	8	4 x 38	7	5 x 39	6	6 x 40									
														12	8 x 43	10	10 x 45	
														12	8 x 53	10	10 x 55	
														12	8 x 63	10	10 x 65	

12mm guides cannot be used to rout smaller joints

### How to Use the Chart Above

The six standard 8mm guides and the eighteen optional guides are color coded in solid color blocks: eight 6mm, six 8mm, five 10mm and five 12mm guides. Further joint sizes are listed along the line to the left of each guide. Tenon bits are featured in red.

**Example:** To rout a 4 x 20mm joint, go down the 4mm column to 4 x 21mm (the nearest joint size). The mortise bit is 4mm and the tenon bit is 12mm. Look along the line to the right to find the 8 x 25mm guide.

## Leigh Metric FMT Frame Mortise and Tenon jig and Metric Guides

The Leigh Metric FMT-M model has the same specifications as the Inch FMT, except it comes with six 8mm guides instead of five 5/16" and does not include a bit. Shipping weight 30 lb.



Item FMT-M Leigh Metric Frame Mortise and Tenon Jig .....us\$899 .....cdn\$1,239

Individual Guides or stands are available at us\$6 or cdn\$9 each

Item No. 6806 6mm FMT guide set – 8 guides and 1 stand .....us\$38 .....cdn\$59

Item No. 6808 8mm FMT guide set – 6 guides and 1 stand (inc. with jig) ....us\$29 .....cdn\$45

Item No. 6810 10mm FMT guide set – 5 guides and 1 stand .....us\$25 .....cdn\$39

Item No. 6812 12mm FMT guide set – 5 guides and 1 stand .....us\$25 .....cdn\$39

Item No. 6820 Three optional FMT guide sets above and three stands.....us\$75 .....cdn\$115





## How to Order Your Leigh FMT

Leigh products are available direct from Leigh or from one of our dealers.

### Order Direct From Leigh

You can order Leigh jigs and accessories anytime through our toll-free customer service line, 800-663-8932, 8 AM– 4:30 PM Pacific Time, Monday through Friday, or through our secure server at [www.leighjigs.com](http://www.leighjigs.com). In addition to taking your order, our staff will answer questions you have about Leigh products and help you get the most out of your jigs and accessories.

You can also fax your order to us at 604-464-7404, or mail it to Leigh Industries Ltd., P.O. Box 357, Port Coquitlam, B.C., Canada V3C 4K6. Especially if you order by mail, don't forget to include shipping and handling charges, and if you live in B.C. add the local sales tax on the total. Canadian residents must add GST and NB, NF and NS residents must add HST to the total as well.

For shipping charges outside North America, call, fax or email us.

### SHIPPING AND HANDLING CHARGES

Orders up to \$25.00 .....	\$6.00
Orders from \$25.01 to \$50.00 .....	\$8.00
Orders from \$50.01 to \$100.00 .....	\$10.00
Orders over \$100.00 .....	\$12.00

Canadian orders sent via mail. USA (Lower 48) orders shipped via UPS Ground. Alaska and Hawaii orders sent via Air Mail. 2nd and Next Day Air available at extra cost.

### ORDER BY:



**Phone or Fax**  
**800-663-8932** 24 Hr Toll-free line  
Fax 604-464-7404



**Online** [www.leighjigs.com](http://www.leighjigs.com)



**Mail**  
Leigh Industries Ltd., P.O. Box 357,  
Port Coquitlam, BC Canada V3C 4K6



### Warranty and Satisfaction Guarantee

You can buy Leigh jigs and attachments with total confidence because they are warranted for 5 years, and even carry a 90-day customer satisfaction guarantee (if purchased directly from us, and at least a 30-day guarantee if purchased from one of our dealers).

### Woodworking Shows

Leigh jigs will be demonstrated at Woodworking shows throughout North America in 2004-2005. For dates and venues log on to our Web site at [www.leighjigs.com](http://www.leighjigs.com) or The Woodworking Shows site at [www.thewoodworkingshows.com](http://www.thewoodworkingshows.com) or call us toll free at 800-663-8932.

Prices in effect through August 2005. Leigh Industries reserves the right to change prices and specifications without prior notice. E & OE



### Order From Our Dealers

You can also buy Leigh Jigs from these better wood-working tool catalog houses and stores. Call them to order or to locate their nearest store:

#### Highland Hardware (GA, USA) (1 Store)

Mail Order 1 800 241-6748  
[www.highlandhardware.com](http://www.highlandhardware.com)

#### Langevin & Forest (PQ, Canada) (1 Store)

Mail Order 1 800 889 2060  
[www.langevinforest.com](http://www.langevinforest.com)

#### Lee Valley Tools (Canada) (11 Stores)

Mail Order 1 800 267-8767  
[www.leevalley.com](http://www.leevalley.com)

#### Lee Valley Tools (USA) (Mail Order Only)

Mail Order 1 800 871-8158  
[www.leevalley.com](http://www.leevalley.com)

#### Rockler Woodworking & Hardware (USA) (35 Stores)

Mail Order 1 800 279-4441  
[www.rockler.com](http://www.rockler.com)

#### The Woodsmith Store (IA, USA) (1 Store)

Mail Order 1 800 444-7002  
[www.woodsmithstore.com](http://www.woodsmithstore.com)

#### Woodcraft Supply (USA) (61 Stores)

Mail Order 1 800 225-1153  
[www.woodcraft.com](http://www.woodcraft.com)

#### Woodworkers Supply (USA) (3 Stores)

Mail Order 1 800 645-9292  
[www.woodworker.com](http://www.woodworker.com)

### Available from Distributors Worldwide

- Australia
- Austria
- Canada
- Germany
- Ireland
- Israel
- Italy
- New Zealand
- South Africa
- Sweden
- Switzerland
- United Kingdom
- United States



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