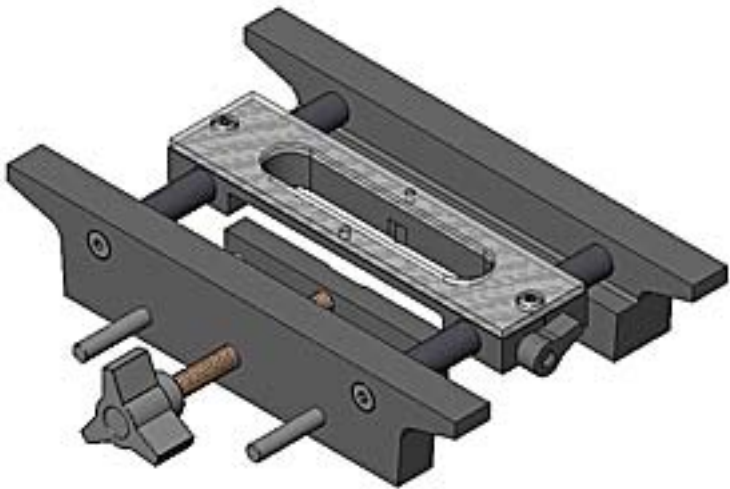


Mortise Pal™

PRECISION MORTISING JIG
AND LOOSE TENON JOINERY SYSTEM



User's Manual

Revision-F

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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
OR FORM WITHOUT THE WRITTEN APPROVAL**

Mortise Pal™ Mortising Jig User's Manual

Mortise Pal™ is a precision mortising jig that allows you to use your plunge router for mortising with ease and accuracy. Use the jig together with Mortise Pal Loose Tenon Stock and you have a complete system for true mortise and tenon furniture construction. Please take the time to thoroughly read this manual and familiarize yourself with how the jig is used as well as the pertinent safety precautions.

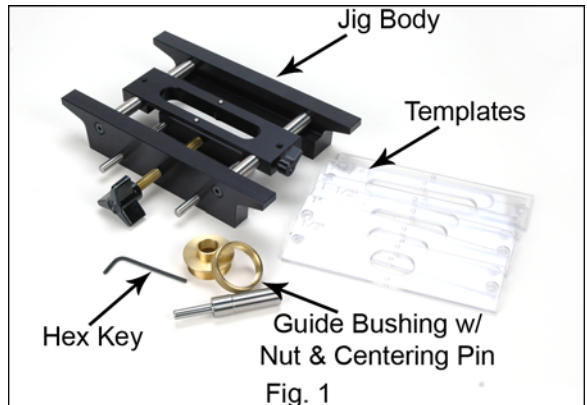
Usage:

Use Mortise Pal™ for all of your **frame-type** joinery: table aprons to legs, rails to stiles for face frames and doors, chair legs to chair rails and more.

Kit Contents:

Fig. 1, the jig is supplied with:

- (1) Jig Body
- (6) Mortising Templates
- (1) 11/16" OD Template Guide Bushing with Nut and Centering Pin
- (1) 3/32" Hex Key



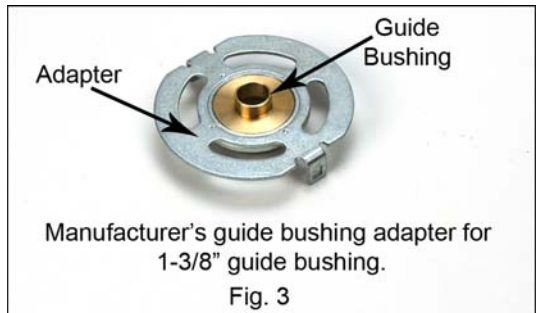
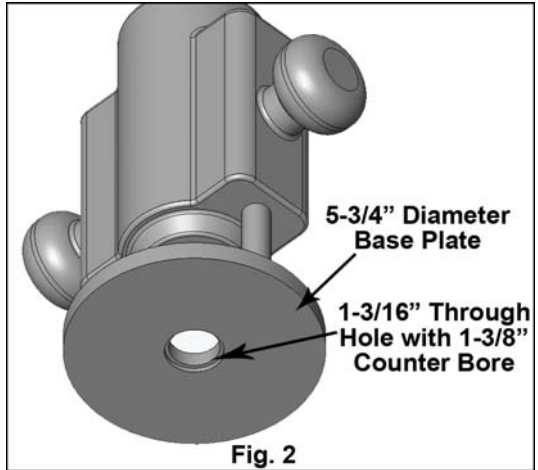
Mortise Pal™ Mortising Jig User's Manual

Router Compatibility:

Mortise Pal™ works with virtually any plunge router. Your plunge router needs to have a base plate that is at least 5-3/4" in diameter so that it can be properly supported by the jig, Fig. 2.

The template guide bushing fits router base plates with a 1-3/8" counter bored through hole. Other models will require a guide bushing adapter.

Most manufacturers offer a guide bushing adapter for their routers, Fig. 3. Check your users manual. Additionally, there are after market sub-bases for adapting the guide bushing, Fig. 4. Check your local woodworking retailer or catalog.



Mortise Pal™ Mortising Jig User's Manual

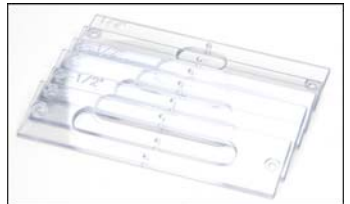
Mortise Pal™ “Long Reach” Router Bits - Mortise Pal™ Long Reach router bits are solid carbide spiral up-cut bits that have a longer **Overall Length (OAL)** than standard router bits and are specially made for use with the jig. Mortise Pal™



Router Bits are made with a 3-1/2” **OAL**, allowing enough length for chucking the **shank** into your plunge router's **collet** while leaving enough of the **shank** to “reach through” the **jig** and the template guide **bushing**. This will allow you to get the full **Cut Length** of the router bit into your work piece. Mortise Pal™ Router Bits have 1/2” shanks and come in 5 **Cut Diameters**: 1/4”, 5/16”, 3/8”, 7/16” and 1/2”.

Mortise Pal™ Templates:

Mortise Pal uses interchangeable templates to define the mortise length. The Basic Template kit includes 6 mortising templates allowing mortise lengths



graduated in 1/2” increments. Additional templates are available allowing mortise lengths graduated in 1/8” increments. The number on the template defines the distance your router bit travels. To determine the **finished mortise length**, add the distance traveled to the router bit diameter. For example, the 1” template used with a 3/8” router bit

Mortise Pal™ Mortising Jig User's Manual

produces a 1-3/8" long mortise. The same template used with a 1/4" router bit produces a 1-1/4" long mortise.

Mortise Pal™ Loose Tenon Stock:

Mortise Pal Loose Tenon Stock is milled to tight tolerances from Hard Maple for a perfect fit and comes in 5 sizes: 1/4" x 1-1/4", 5/16" x 1-5/16, 3/8" x 1-3/8", 7/16"

x 1-7/16, 1/2" x 1-1/2". Each size is sold in 12 lengths. Simply cut to length based on mortise depth.



Specifications:

Maximum Mortise Width: 1/2"

Maximum Mortise Length: 3-1/2"

Maximum Stock Thickness: 3"

Minimum Stock Thickness: 3/4"

Minimum Edge to Mortise Center: 3/8"

Mortise Pal™ Mortising Jig User's Manual

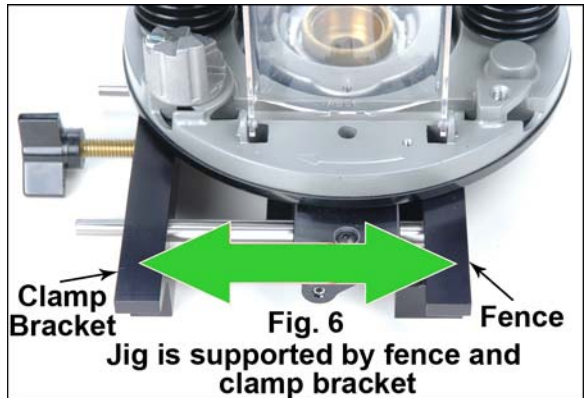
Safety:

Read, understand, and follow all of the safety instructions that were included with your plunge router.

Mortise Pal™ should only be used with a plunge router. Never use the jig with a fixed base router.

Never remove your plunge router from the jig without first retracting the router bit. Removing your plunge router without first retracting the router bit can seriously damage the jig.

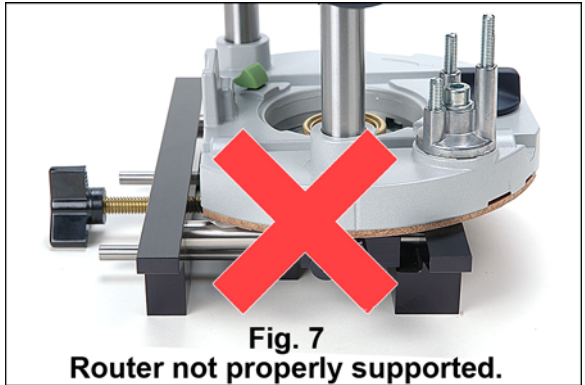
As noted, the jig is designed to be used with plunge router's with base plates that measure at least 5-3/4" in diameter. Your plunge router's base plate spans, and is



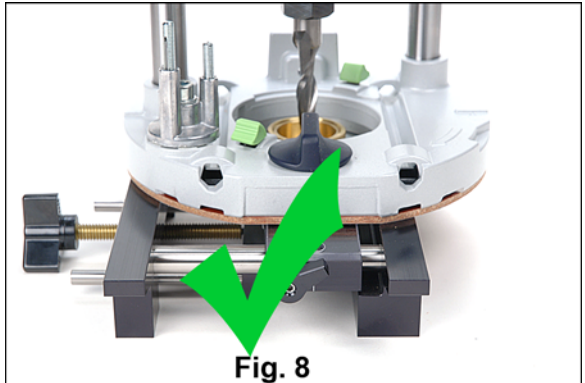
supported by, the jig's **fence** and the jig's **clamping bracket** Fig. 6.

Mortise Pal™ Mortising Jig User's Manual

Some base plates are not completely circular, Fig. 7, and if not oriented properly will not be supported by the jig's fence and clamping bracket.



Care must be taken when using these plunge routers to ensure that the **widest portion of the base plate** spans the **jig fence** and **clamping bracket** at all times, Fig. 8.



A properly secured work piece essential for the safe use of the jig. Your work piece must be held securely with clamps, Fig 9, in a woodworker's vise, Fig. 10, or by other suitable means. A work piece

Mortise Pal™ Mortising Jig User's Manual

that is not properly secured could move while routing, creating an unsafe situation.

When using a woodworker's vise avoid clamping the jig to your work piece such that it is cantilevered over the side of the vise, Fig. 11. Forces generated from routing could leverage the work piece and cause it to move. This could cause you to react by removing your router without the router bit retracted, possibly causing serious damage to the jig or causing personal injury.

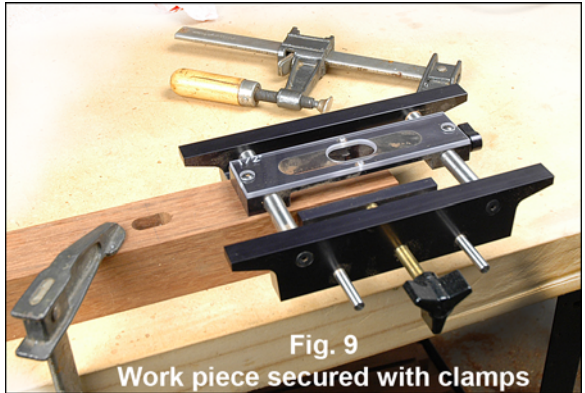


Fig. 9
Work piece secured with clamps



Work piece properly secured in woodworker's vise so that it is close to, and preferably over the top of vise jaws

Fig. 10



Fig. 11
Avoid clamping jig to stock cantilevered over vise as shown

Mortise Pal™ Mortising Jig User's Manual

Using the Jig:

Step 1: Install the template guide bushing into the base plate of your plunge router either directly or with the use of an adapter,

Fig 12. Secure the bushing with the nut included. You can use the centering pin to ensure that the bushing is installed concentric with your collet.

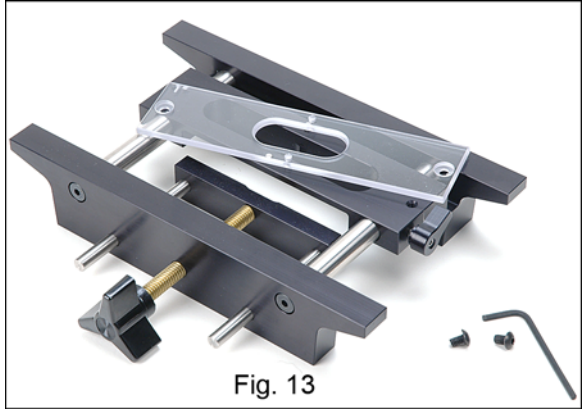


Step 2: Choose a router bit do define the width of your mortise. A generally accepted rule in woodworking is to size your mortise so that its width is approximately $1/3^{\text{rd}}$ of your stock thickness.

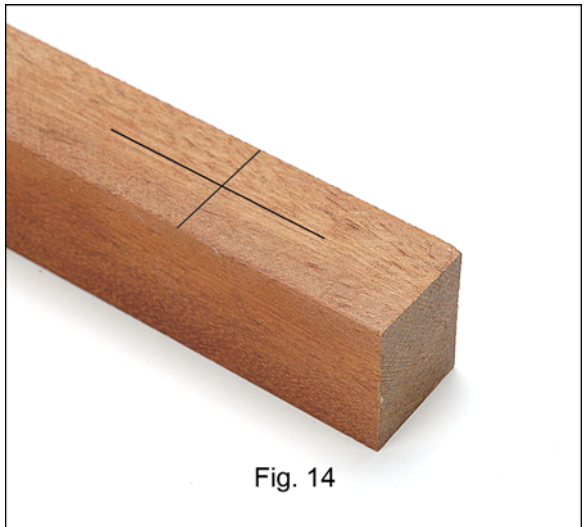
Mortise Pal™ Mortising Jig User's Manual

Step 3: Choose a template to define the mortise length, Fig. 13.

When making mortises for use with Mortise Pal Loose Tenon Stock use the 1" template. Use the 3/32" hex key to remove and replace the template screws that secure the template.

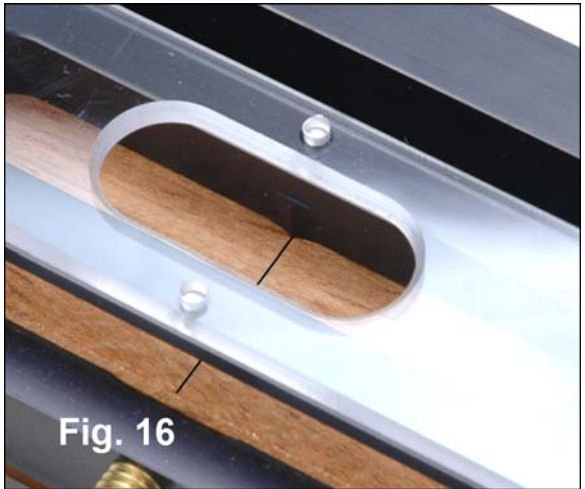
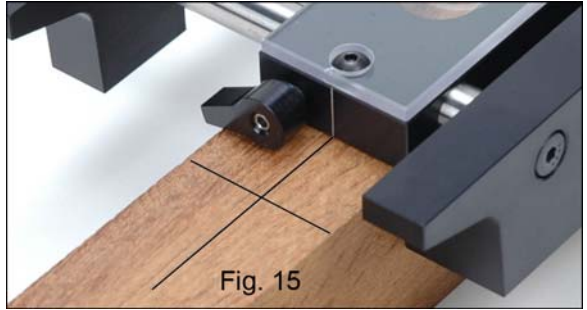


Step 4. Make layout lines on your stock that mark the center of the mortise, Fig. 14.



Mortise Pal™ Mortising Jig User's Manual

Step 5. Clamp the jig to your work piece with the template centered over layout lines. Center the template over your layout lines using the **center line mark** on the side of the jig, Fig. 15, and the **centerline indicator** in the center of the jig, Fig. 16. The **Thumb Knob** locks the template in place.



Step 6: Rout the mortise.

Step 7: Rout a mortise on the mating workpiece. Glue together with Mortise Pal Loose Tenon Stock cut to length to match the mortise depth.

Mortise Pal™ Mortising Jig User's Manual

Warranty:

This product is warranted to be free of defects in factory workmanship and materials during normal use for a period of 3 years. If this product fails during normal use because of such a defect the product will be repaired or replaced, free of charge, any part or parts shown to be so defective.

Excluded from Coverage:

Failure resulting from alteration, modification, misuse, abuse or neglect or after repairs have been attempted or made by others.

Contact:

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