

MODEL 5009

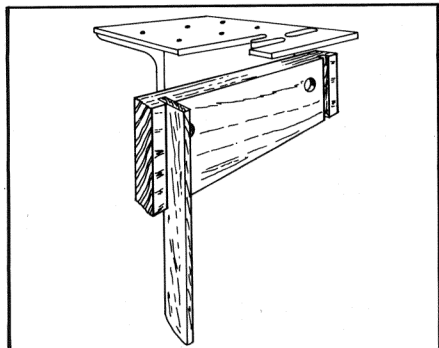
## MORTISE AND TENON TEMPLATE

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### IMPORTANT

Please make certain that the person who is to use this equipment carefully reads and understands these instructions before starting operations.



### INTRODUCTION

In the following pages are outlined the basic applications for the Mortise and Tenon Template. Study them carefully before using your Template. We suggest that you practice making the basic cuts on scrap material to thoroughly acquaint yourself with the manipulation of the router when used with the Mortise and Tenon Template.

### IMPORTANT SAFETY INSTRUCTIONS

**WARNING:** When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following:

READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL  
AND THE MANUAL FOR YOUR ROUTER

There are certain applications for which this tool was designed. Porter-Cable strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written Porter-Cable and we have advised you.

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Porter-Cable Corporation  
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Jackson, TN 38302-2468

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **AVOID DANGEROUS ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep area well lit. Avoid chemical or corrosive environment. Do not use tool in presence of flammable liquids or gases.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.
4. **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
5. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of the reach of children.
6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
7. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy duty tool. Don't use tool for purpose not intended—for example—do not use a circular saw for cutting tree limbs or logs.
8. **DRESS PROPERLY.** Do not wear loose clothing or jewelry. Loose clothing, draw strings and jewelry can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
9. **USE SAFETY GLASSES.** Wear safety glasses or goggles while operating power tools. Also face or dust mask if operation creates dust. All persons in the area where power tools are being operated should also wear safety glasses and face or dust mask.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges. Have damaged or worn power cord and strain reliever replaced immediately. **DO NOT ATTEMPT TO REPAIR POWER CORD.**
11. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Have all worn, broken or lost parts replaced immediately. Keep handles dry, clean and free from oil and grease.
14. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories such as blades, bits, cutters, etc.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
16. **AVOID UNINTENTIONAL STARTING.** Do not carry a plugged-in tool with finger on switch. Be sure switch is off when plugging in. Keep hands, body and clothing clear of blades, bits, cutters, etc. when plugging in the tool.

**17. OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords marked "Suitable for use with outdoor appliances - store indoors when not in use."

**18. STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired or while under the influence of medication, alcohol or drugs.

**19. CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

**20. WEAR EAR PROTECTION** to safeguard against possible hearing loss.

SAVE THESE INSTRUCTIONS

### ADDITIONAL SAFETY RULES

1. **SECURE WORK.** Be sure templet and work is anchored securely to prevent movement.
2. **BE SURE CORD SET IS FREE** and will not hang up during routing operations.
3. **KEEP HANDS CLEAR** of cutter when motor is running to prevent personal injury.
4. **MAINTAIN FIRM GRIP** on router when starting motor to resist starting torque.
5. **STAY ALERT** and keep cutter free, clear of all foreign objects while motor is running.
6. **BE SURE MOTOR HAS COMPLETELY STOPPED** before removing router from templet and setting machine down between operations.
7. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS** in the instruction manual supplied with your router.

### REPLACEMENT PARTS

When servicing use only identical replacement parts.

### FOREWORD

The PORTER-CABLE Mortise and Tenon Template produces mortise and tenon joints that are approximately 13/32" wide by 1-7/32" long with a tenon length of 3/4". Joints may be produced in single or multiple tandem configurations, routable material 3/4" or more in thickness.

## ASSEMBLY/ADJUSTMENTS

1. Assemble the stage (Fig. 1), to the frame assembly (Fig. 1) with the two screws furnished with the template.

**NOTE:** Three pairs of stage mounting holes are provided in the frame. Mount the stage to the center pair of holes.

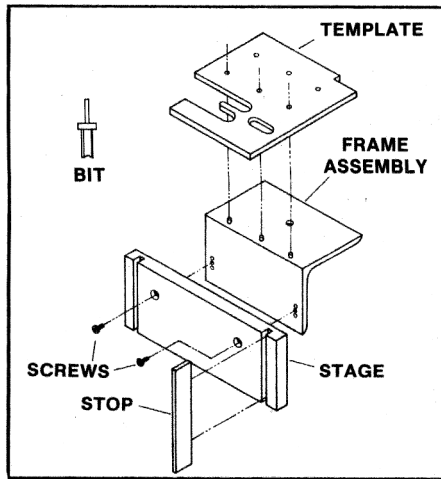


Fig. 1

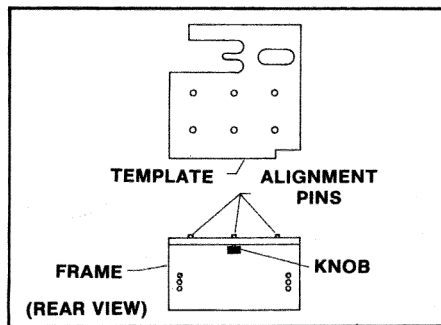
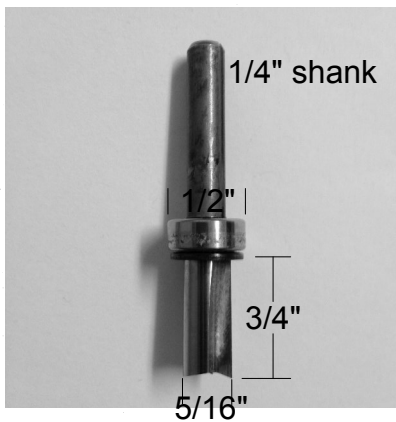


Fig. 2



2. The template may be assembled to the frame assembly in various positions for specific operations as explained in USING THE MORTISE AND TENON TEMPLATE. To assemble: place the template onto at least two of the three alignment pins (see Fig. 2) and hold while pushing up and turning the knob clockwise to secure.

3. The stop is assembled by pressing it into one of the stage slots with your hand. The proper slot for each operation is explained in USING THE MORTISE AND TENON TEMPLATE.

**NOTE:** The top end of the stop should never protrude above the top edge of the stage.

4. A special piloted router bit is supplied with the mortise and tenon template. Following the directions in the owner's manual for your router: install the bit to the router and adjust depth of cut to match notch on template (see Fig. 3).

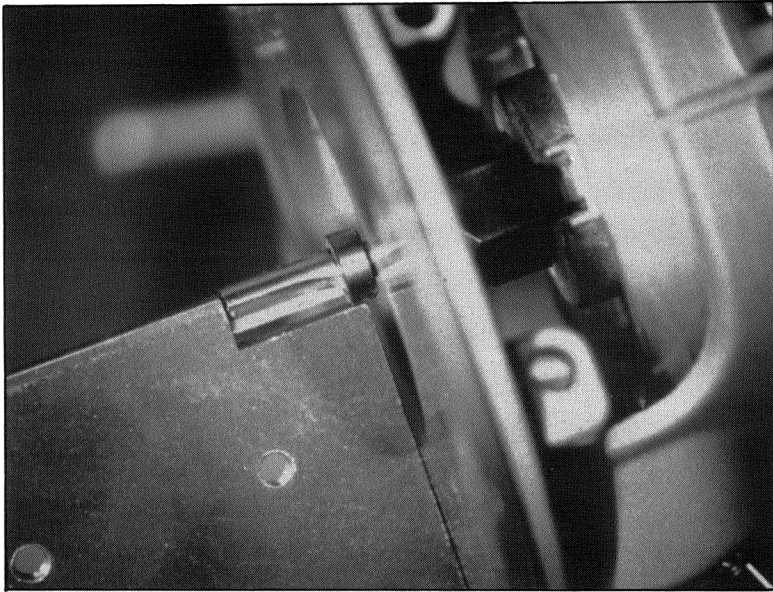


Fig. 3

## **USING THE MORTISE AND TENON TEMPLATE**

### **RULES OF OPERATION**

1. ALWAYS PLACE THE "SHOW SIDE" OF EACH WORKPIECE AGAINST THE STAGE. To avoid confusion, it is suggested the "show side" of each workpiece be penciled "F" or "Face" (See Fig. 4).
2. IF A TENON (OR MORTISE) IS PRODUCED BY POSITIONING THE WORKPIECE AGAINST THE STOP ON THE LEFT END OF THE STAGE, THEN, THE MATING MORTISE (OR TENON) IS PRODUCED BY PLACING THE WORKPIECE AGAINST THE STOP ON THE RIGHT END OF THE STAGE. Choose a surface (other than the "show side") on the mating workpieces whose alignment is critical to the finished joint. This surface on each workpiece will be positioned against the stop. To avoid confusion, it is suggested an "X" be penciled on this surface of each workpiece (see Fig. 4).

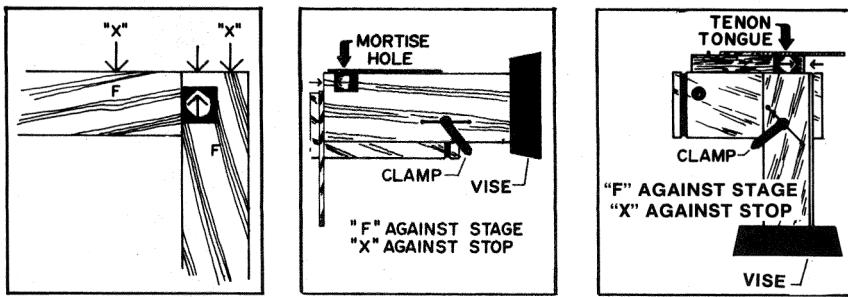


Fig. 4

3. When routing inside a template: ALWAYS MOVE ROUTER IN A CLOCKWISE DIRECTION AROUND THE TEMPLATE.

4. When a cut is completed: TURN ROUTER OFF AND ALLOW BIT TO COMPLETELY STOP BEFORE REMOVING ROUTER FROM TEMPLATE.

5. Before each cut: MAKE SURE THE TEMPLATE AND THE ROUTER BIT BEARING ARE FREE OF CHIPS AND BUILD-UP OF RESIDUE.

**CAUTION:** Disconnect router from power source while cleaning.

6. ALLOW 3/4" OF STOCK FOR EACH TENON: each tenon requires 3/4" of material. You must cut the workpiece to be tenoned, 3/4" (per tenon) longer than the desired finished length.

**NOTE:** The amount of extra stock required for an angled tenon will vary with the angle. Example: A 45° angled tenon will require 1-1/16" of stock. To determine the extra stock required for a tenon at an angle other than 45° or 90°: Make a practice tenon at the desired angle on scrap stock; measure stock length before and after making the tenon to determine the amount of stock required for the tenon.

7. When clamping workpiece to stage: POSITION CLAMP AS NEAR CENTER OF STAGE AS POSSIBLE — DO NOT OVERTIGHTEN CLAMP. Clamping near the edge of the stage, or overtightening the clamp, can cause the workpiece to warp or misalign in the fixture resulting in an unacceptable joint.

## MAKING A 90° BUTT JOINT

Following the RULES OF OPERATION, secure the material to be mortised to the template and the vise.

**WARNING:** Extreme care must be exercised when plunge cutting with the router, make several practice plunges in scrap material without the template to familiarize yourself with this operation.

**NOTE:** While practicing, the depth of cut should be adjusted so that the pilot bearing on the bit does not protrude below the router sub-base.

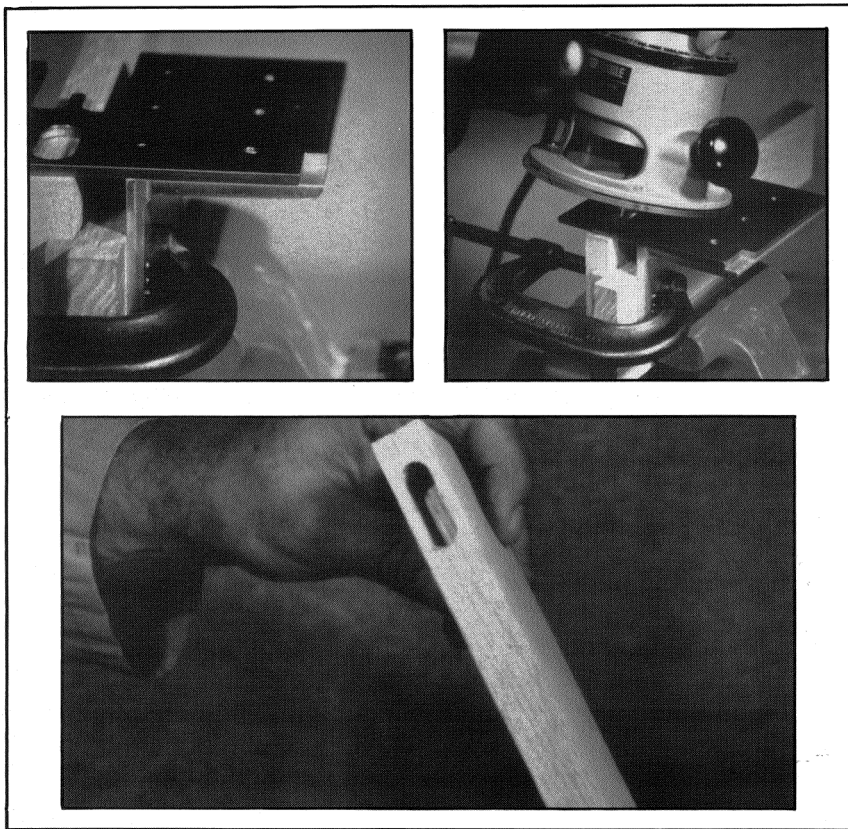


Fig. 5

Adjust depth of cut (see item #4, ASSEMBLY/ADJUSTMENTS). Place router base on fixture (see Fig. 5) with bit raised above template. Hold router securely and turn ON.

Using a "ROLL-IN" technique, make plunge cut through the mortise hole in the template and bring router base to rest flat on template. Move router in a clockwise direction around template to cut mortise. Turn router OFF and allow bit to come to a complete stop. Remove router from template.

**CAUTION:** Always allow router bit to come to a complete stop before removing router from template. Failure to do so could result in personal injury and/or equipment damage.

Thoroughly clean chips from mortise and template. It is recommended a vacuum cleaner be used.

Repeat the mortise cut to "clean up".

Following the RULES OF OPERATION, secure the material to be tenoned to the template and the vise. Unscrew the template knob and move the template one step toward the stop (see Fig. 6).

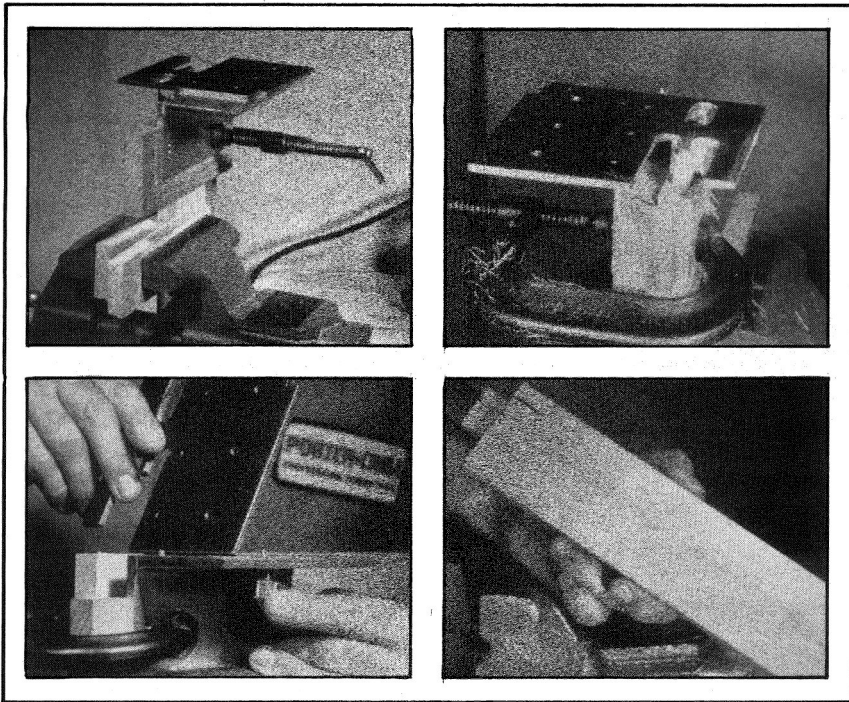


Fig. 6

Place router on template. With bit clear of template and work, start router and rout first half of tenon, moving router around template in a clockwise direction.

Turn router OFF and allow bit to come to a complete stop. Remove router from template. Unscrew the template knob and flip template over. Place template back onto the same alignment pins it was removed from. Tighten knob.

Rout second half of tenon moving router around the template in a clockwise direction. Turn router OFF and allow bit to come to a complete stop before removing router from template.

Material which is too large or too small to be placed against the STOP may be mortised and tenoned as follows:

Mark the centerlines of the proposed mortise and tenon on the material. These centerlines are then aligned with the appropriate centerlines scribed on the template and the cuts made as previously described. The "F" and "X" surface orientations (as previously described) must be observed. Care must be taken to assure stock is clamped perpendicular to the template.



# TANDEM MORTISE AND TENON

Tandem joints may be produced by following the steps outlined in the following sketches.

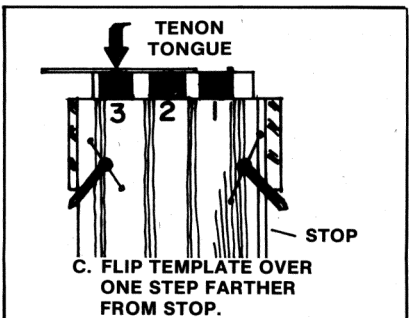
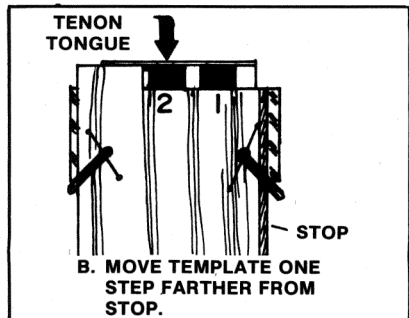
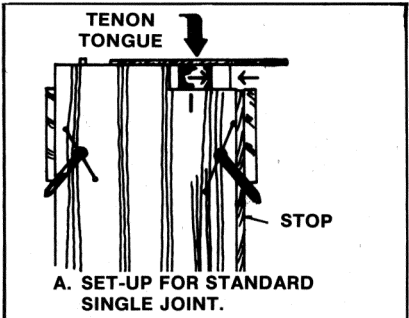
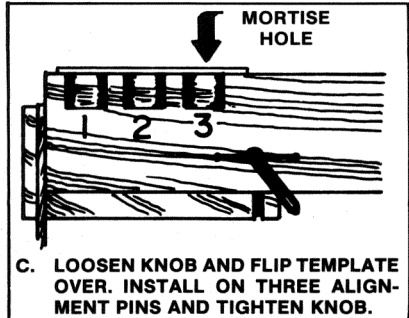
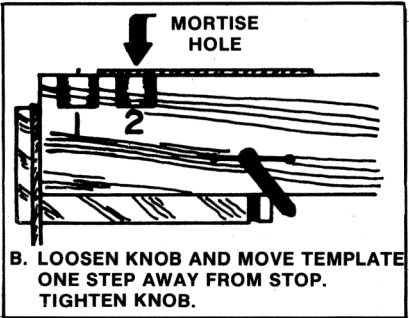
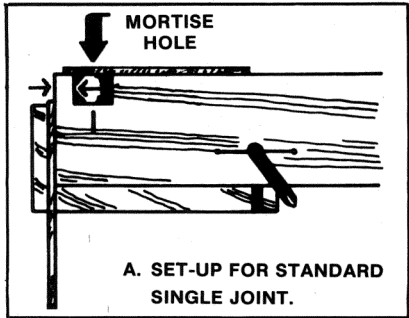


Fig. 7

## SIDE BY SIDE MORTISE AND TENON

For this joint, both pieces to be joined must be of the same thickness (1-1/2" min.) and have ends cut square. Mark the "X" side of both pieces.

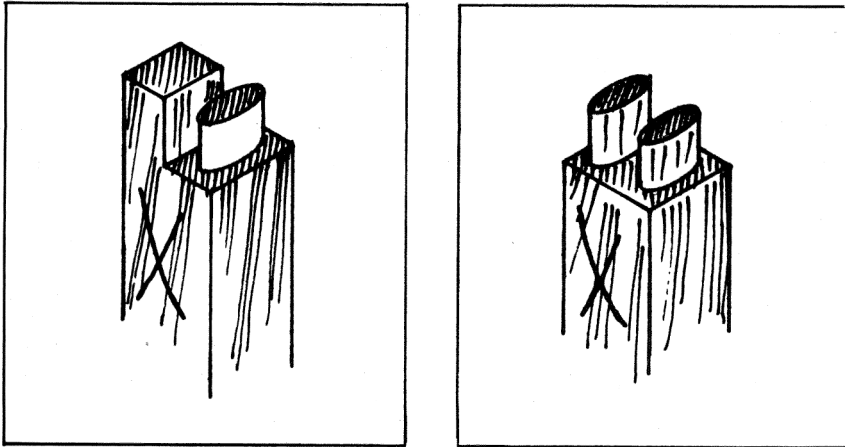


Fig. 8

Clamp the mortise stock to the template with the "X" against the STOP. Make mortise as previously described. Move STOP to other end of STAGE. Reclamp stock with "X" against the repositioned STOP. Unscrew the template knob and flip template over. Tighten knob. Make mortise cut as previously described.

Clamp the tenon stock to the template with the "X" against the STOP. Unscrew template knob and move template one step toward STOP. Tighten knob. Make first half of template cut as previously described. Loosen knob, flip template over replacing it onto the same alignment pins it was removed from, tighten knob and complete first tenon cut. Move STOP to other end of the STAGE. Reclamp stock with "X" against the repositioned STOP. Loosen knob, move template two steps toward STOP and retighten knob. Make tenon cut. Loosen knob, flip template over replacing it onto the same alignment pins it was removed from, tighten knob and complete tenon cut.

## ANGLED MORTISE AND TENON

Dado a scrap board so that it press-fits onto the STOP of the mortise and tenon template. With your saw set at the desired angle, cut all of the workpieces (remember rule 6, RULES OF OPERATION) and the dadoed scrap (see Fig. 9). Make the first cut, then flip the scrap piece over and make the second cut leaving the dado exactly in the center of the angles.

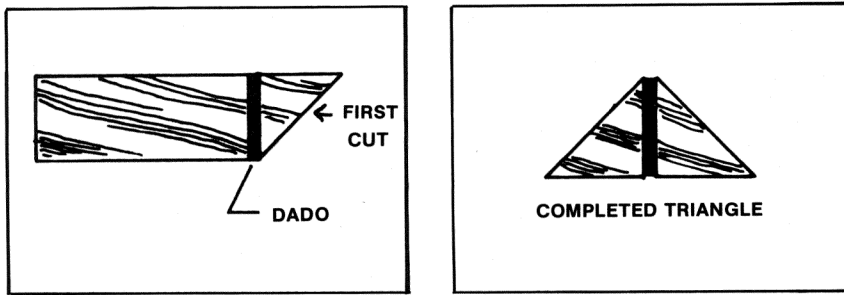


Fig. 9

Place the dadoed triangle onto the STOP. Move the triangle up or down until the workpiece snugs into position for placing the mortise (see Fig. 10). Before clamping the workpiece into position, cut a piece of scrap to fit the space between the top of the triangle and the bottom of the template. This MEMORY CHIP will be needed for positioning the mating workpiece to cut the tenon. The MEMORY CHIP is also used to easily reposition the triangle if the same joint is to be reproduced later.

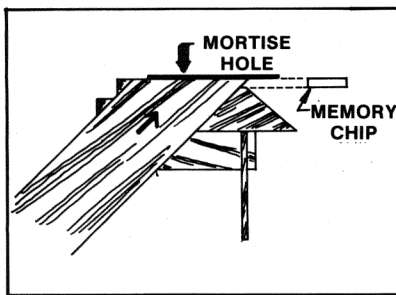


Fig. 10

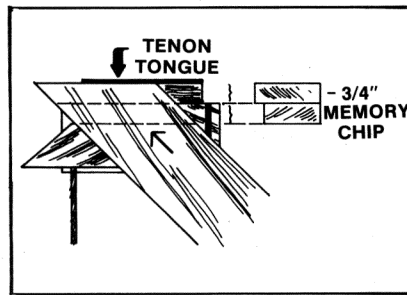


Fig. 11

After completing the mortise cut, move the STOP and TRIANGLE to the opposite end of the STAGE. Place the top of the TRIANGLE down from the bottom of the template a distance equal to the MEMORY CHIP plus 3/4" (length of tenon - see Fig. 11). Clamp the TRIANGLE in this position, snug in the workpiece, clamp, and cut tenon.

## ACCESSORIES

The testing of this tool has been accomplished with the following accessories. For safest operation, it is recommended that only these accessories be used with this product.

**WARNING:** Since accessories other than those listed have not been tested with this product, use of such accessories could be hazardous.

43450 - Mortise and Tenon Bit

## PORTER-CABLE SERVICE CENTERS

Parts and Repair Service for Porter-Cable Power Tools are Available at These Locations

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Fax: (818) 330-5900

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Porter-Cable warrants its Professional Power Tools for a period of one year from the date of original purchase. We will repair or replace at our option, any part or parts of the product and accessories covered under this warranty which examination proves to be defective in workmanship or material during the warranty period. For repair or replacement return the complete tool or accessory, transportation prepaid, to your nearest Porter-Cable Service Center or Authorized Service Station as listed under "TOOLS-ELECTRIC" in the Yellow Pages of your telephone directory. Proof of purchase may be required. This warranty does not apply to repair or replacement required due to misuse, abuse, normal wear and tear or repairs attempted or made by other than our Service Centers or Authorized Service Stations.

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