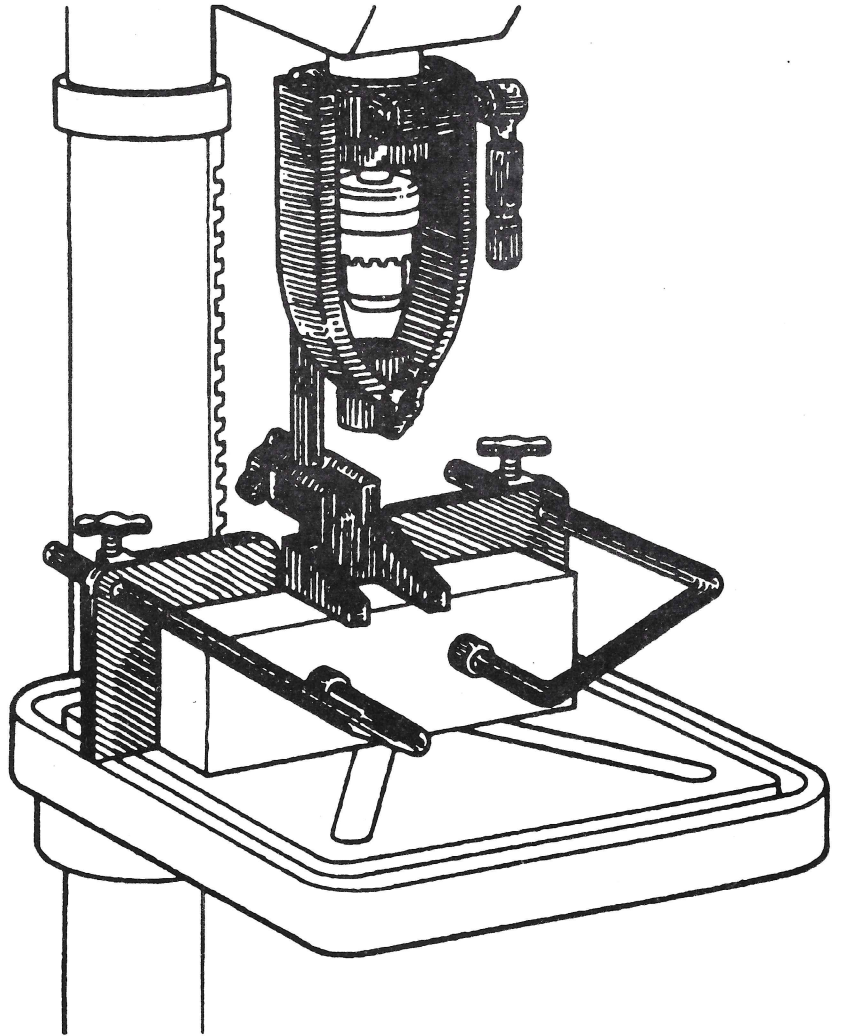


# MORTISING KIT

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## OWNER'S MANUAL



**For Your Safety:  
Read all instructions carefully**

## **General Safety Instructions for Power Tools**

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### **1. Know Your Power Tool**

Read and understand the owner's manual and labels affixed to the tool. Learn its application and limitations as well as the specific potential hazards peculiar to this tool.

### **2. Ground Your Tool**

If your tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. Never connect the green wire to a live terminal.

### **3. Keep Guards in place**

In working order, and in proper adjustment and alignment.

### **4. Remove Adjusting Keys And Wrenches**

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

### **5. Keep Work Area Clean**

Cluttered areas and benches invite accidents. Floor must not be slippery due to wax or sawdust.

### **6. To Reduce The Risk Of Dangerous Environment**

Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit. Provide adequate surrounding work space.

### **7. Keep Children Away**

All visitors should be kept a safe distance from work area.

### **8. Make Workshop Child-proof**

With padlocks, master switches, or by removing starter keys.

### **9. Don't Force Tool**

It will do the job better and safer at the rate for which it was designed.

### **10. Use Right Tool**

Don't force tool or attachment to do a job it was not designed for.

### **11. Wear Proper Apparel**

No loose clothing, gloves, neckties or jewelry (rings, wristwatches), to get caught in moving parts. NON-SLIP footwear is recommended. Wear protective hair covering to contain long hair. Roll long sleeves above the elbow.

### **12. Use Safety Goggles (Head Protections)**

The operation of any power tool can result in foreign objects being blown into the eyes, which can result in severe eye damage. Always wear safety goggles, not glasses. Everyday eyeglasses only have impact resistant lenses. They are NOT safety glasses.

Also, use face or dust mask if cutting operation is dusty, and ear protectors (plugs or muffs) during extended periods of operation.

### **13. Secure Work**

Use clamps or a vise to hold work when practical. It's safer than using your hand, frees both hands to operate tool.

### **14. Don't Overreach**

Keep proper footing and balance at all times.

### **15. Maintain Tools With Care**

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

### **16. Disconnect Tools**

Before servicing; when changing accessories such as blades, bits, cutters, etc.

### **17. To Reduce The Risk Of Accidental Starting**

Make sure switch is in "OFF" position before plugging in. Turn switch "OFF" in the event of a power failure.

### **18. Use Recommended Accessories**

Consult the owner's manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

### **19. Never Stand On Tool**

Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

Do not store material above or near the tool such that it is necessary to stand on the tool to reach them.

### **20. Check Damaged Parts**

Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure 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. If power cord is worn or cut, or damaged in any way, have it replaced immediately.

### **21. Direction Of Feed**

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

### **22. Never Leave Tool Running Unattended**

Turn power off. Don't leave tool until it comes to a complete stop.

## Introduction

The Mortising Kit will turn your existing drill press into an accurate mortising machine. Use it to cut square holes for various mortise and tenon joints. The Mortising Kit includes a chisel holder, solid and split-ring bushings, fence, hold down bracket, hold down bar, hold down arm, hold down rods, and assorted mounting hardware. However, mortising chisels and bit are not

included with this kit but are available in the following sizes and must be purchased separately:

- 1/4" Chisel and Bit Set
- 5/16" Chisel and Bit Set
- 3/8" Chisel and Bit Set
- 1/2" Chisel and Bit Set

## Unpacking and Checking Contents

### Unpacking

**Warning: To reduce the risk of injury from unexpected starting, unplug the drill press before attaching any accessory.**

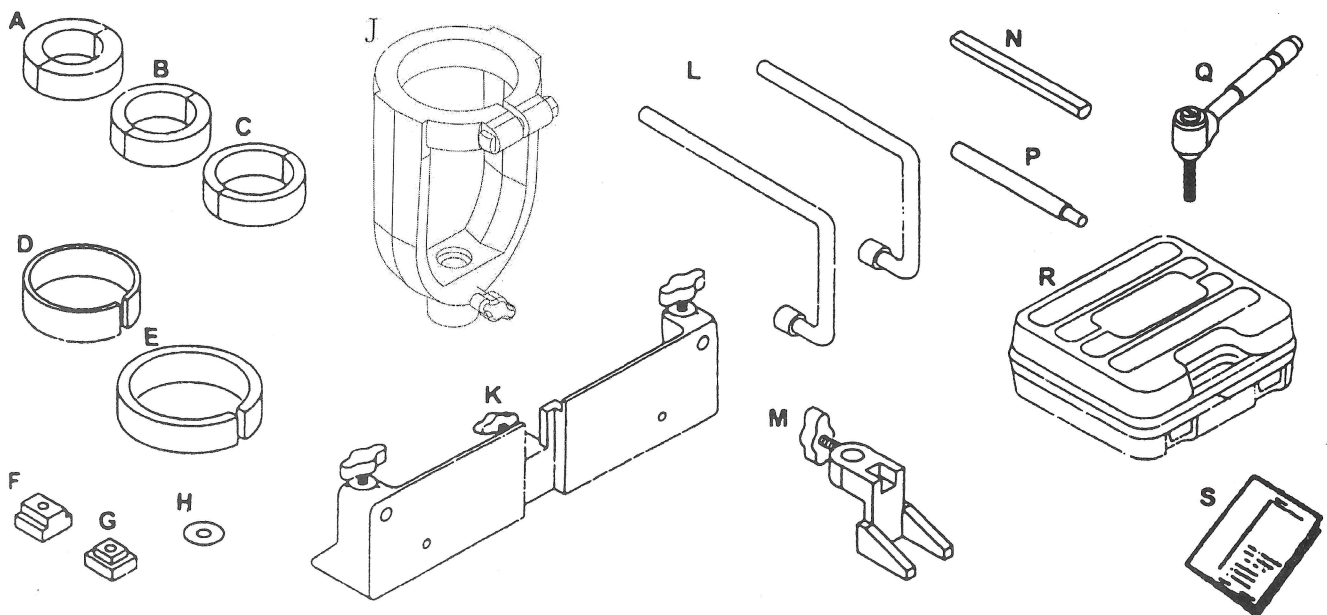
1. Separate all parts from packing materials and check each one with the illustration and the "List of Loose Parts" to make certain all items are accounted for, before discarding and packing material.

NOTE: Before beginning assembly:

- \* Check that all parts are included. If you are missing any part, do not assemble the accessory to the drill press.
- \* For convenient storage, all the parts fit in the carrying case as shown.
- \* Sometimes small parts can get lost in packaging material. Do not throw away any packaging until the accessory is completely assembled. You may want to keep the box to store parts of the accessory that are not used on a daily basis.

### List of Loose Parts

Item	Part Name	Qty.	Item	Part Name	Qty.
A	Two Piece Bushing, Small ID.....	2	K	Fence.....	1
B	Two Piece Bushing, Medium ID.....	2	L	Guide Rods.....	2
C	Two Piece Bushing, Large ID.....	2	M	Hold down bracket.....	1
D	Split Bushing, Small.....	1	N	Hold down shaft.....	1
E	Split Bushing, Large.....	1	P	Quill Alignment Pin.....	1
F	Large T-Nuts.....	2	Q	Locking Levers.....	2
G	Small T-Nuts.....	2	R	Carrying Case.....	1
H	Flat Washers.....	2	S	Owners Manual.....	1
J	Chisel holder.....	1			





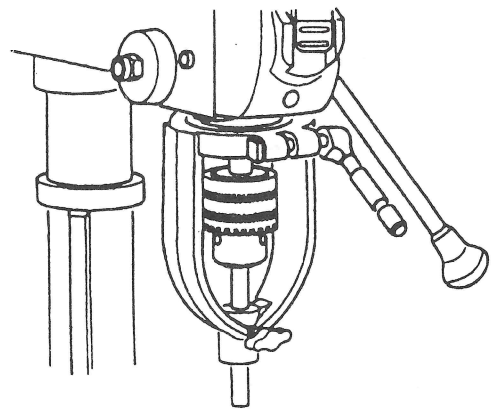
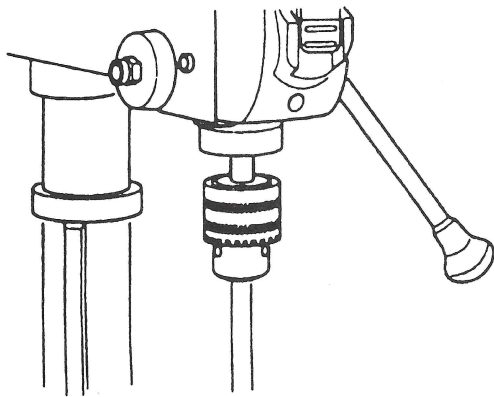
## Assembly

**WARNING** For your own safety, never connect plug to power source outlet until all assembly steps are complete, and you have read and understood the drill press safety and operational instructions.

The Mortising Kit is designed to fit several different models and sizes of drill presses. There are five different sets of bushings supplied with the mortising kit. The two piece bushing sets are labeled with A, B and C for identification. The correct size bushing(s) must be selected to use on the appropriate drill press.

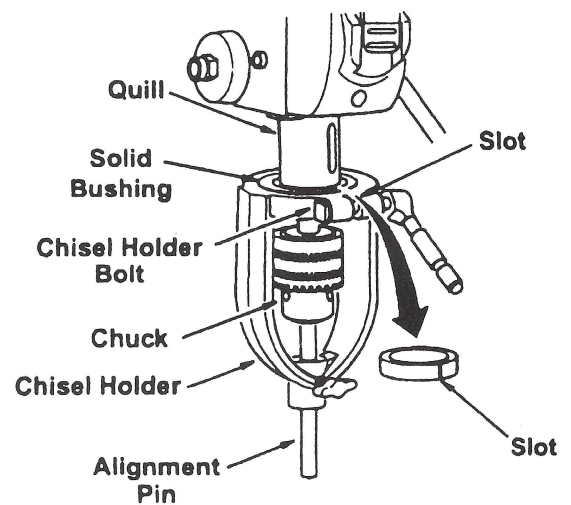
### For All Drill Presses

Install and lock the smaller diameter end of quill alignment pin into chuck.



### For Using J+E, J+E+D Only

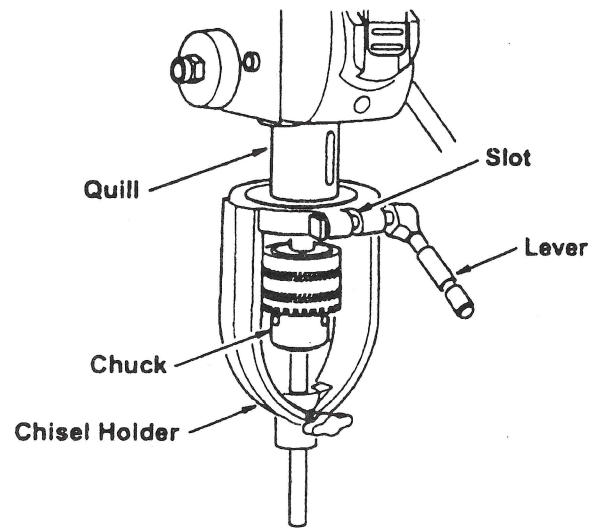
1. Lower the drill press spindle approximately two to three inches. Lock the spindle.
2. Locate the correct bushings.
3. Insert the bushings completely into the chisel holder with the slots in the bushings lined up with the slot in the chisel holder as shown.
4. Raise the chisel holder (with adapter) over the chuck and slide onto the quill.
5. Tighten the chisel holder lock lever securely to prevent the chisel holder from coming loose during use.
6. Remove the quill alignment pin.
7. Unlock the spindle.
8. Install the bit and chisel (see "Installation of Bit and Chisel" section).





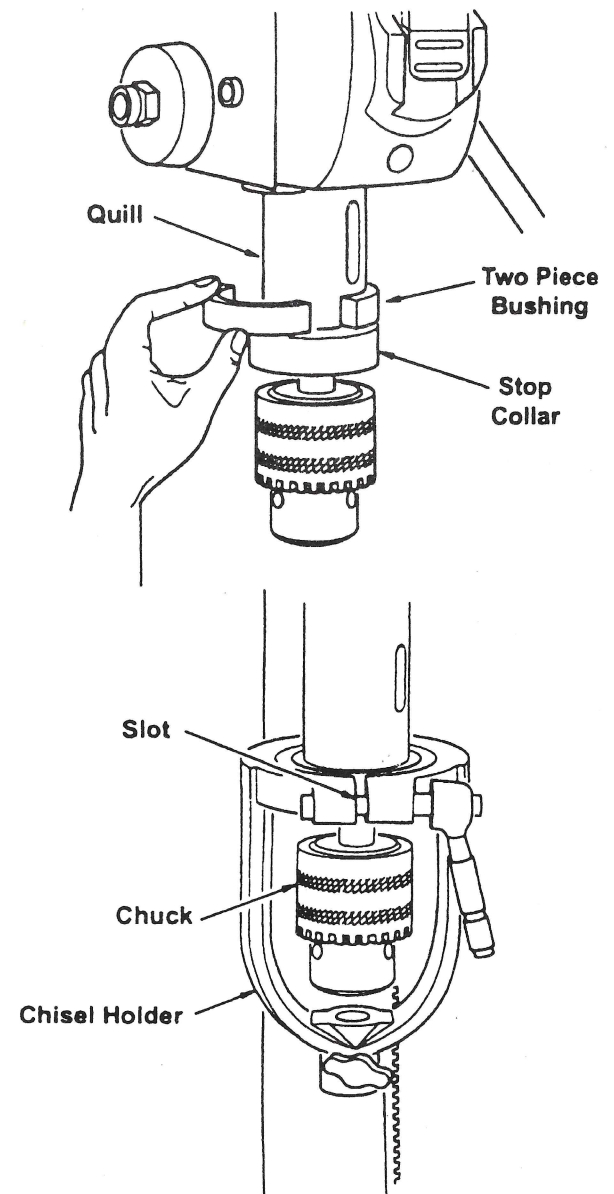
### For Using J Only

1. Lower the drill press spindle approximately two to three inches. Lock the spindle.
2. Raise the chisel holder(no bushing required) over the chuck and slide it onto the quill.
3. Tighten the chisel holder lock lever securely to prevent the chisel holder from coming loose during use.
4. Remove the quill alignment pin.
5. Unlock the spindle.
6. Install the bit and chisel (see "Installation of Bit and Chisel" section).



### For Using J+E+A, J+E+B, J+E+C Only

1. Lower the drill press spindle approximately two to three inches. Lock the spindle.
2. Depending on the size of the drill press, assemble the correct two piece bushings around the quill and on top of the stop collar. **NOTE:**Make certain the slot formed the two piece bushing is pointing toward the front of the machine.
3. Locate bushing E and position inside the chisel holder. **NOTE:**Make certain the slot in the bushing is pointing toward the front of the machine.
4. Place the chisel holder(with bushing in place) over the two two piece bushings that were assembled in step 2.
5. Tighten the chisel holder lock lever securely to prevent the chisel holder from coming loose during use.
6. Remove the quill alignment pin.
7. Install the bit and chisel (see "Installation of Bit and Chisel" section).



## Assembly (continued)

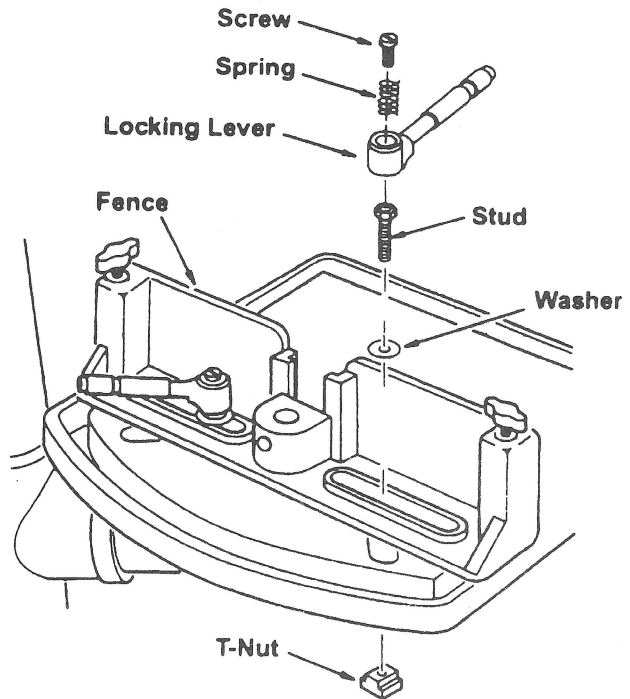
### Assemble Fence to Table

#### For All Drill Presses

1. Assemble the fence to the drill press table using the two locking levers, flat washers and correct size T-nuts.

**NOTE:** For ease of assembly, locking levers can be disassembled from stud if necessary, by removing screw and spring as shown. The stud can be assembled first; then reassemble lever to stud. Also, locking levers can be repositioned by lifting upward and rotating it on the stud in either direction.

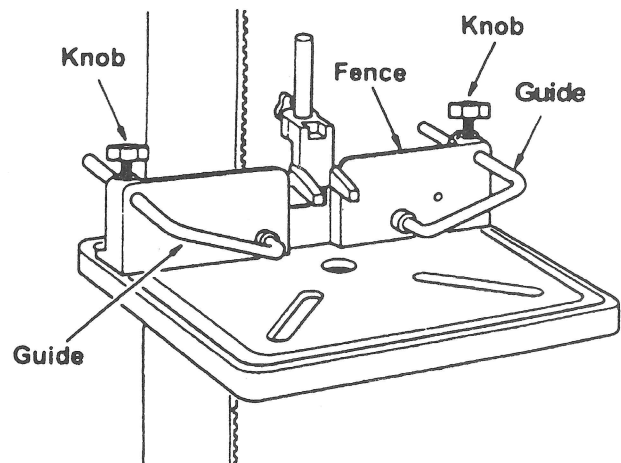
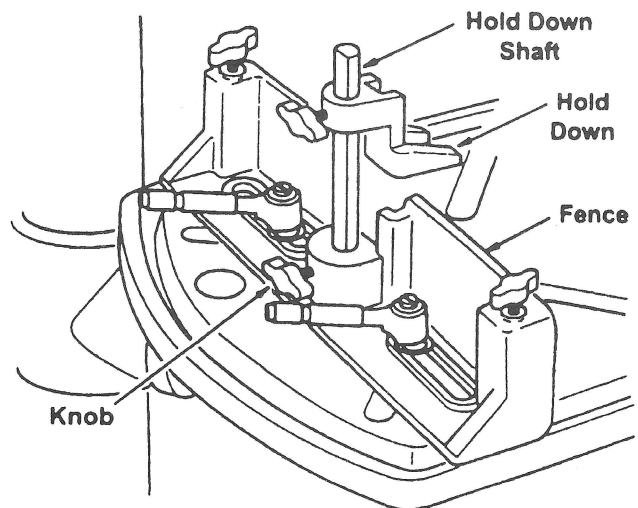
2. Place the hold down bracketed onto the hold down bar and lock in place.
3. Assemble the two hold down rods to the fence and tighten the two knobs.



### Assemble Work Hold-Down

#### For all Drill Presses

1. Assemble vertical hold-down shaft to fence using supplied knob. **NOTE:** Make certain the flat on shaft is facing toward the rear of the drill press.
2. Position work hold-down over shaft and tighten knob.
3. Insert two guides into predrilled holes in fence as shown, secure in place using two knobs.

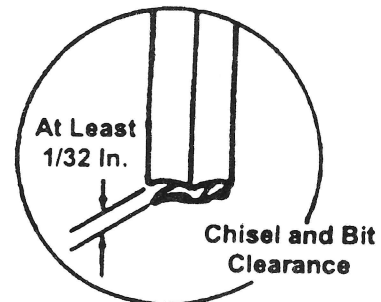
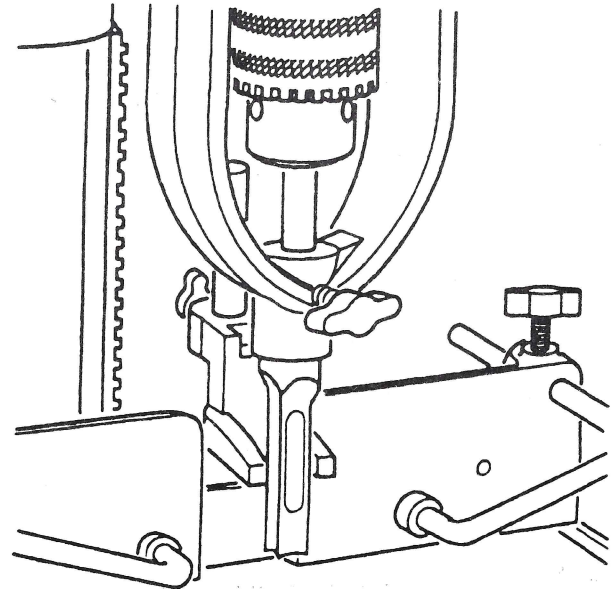
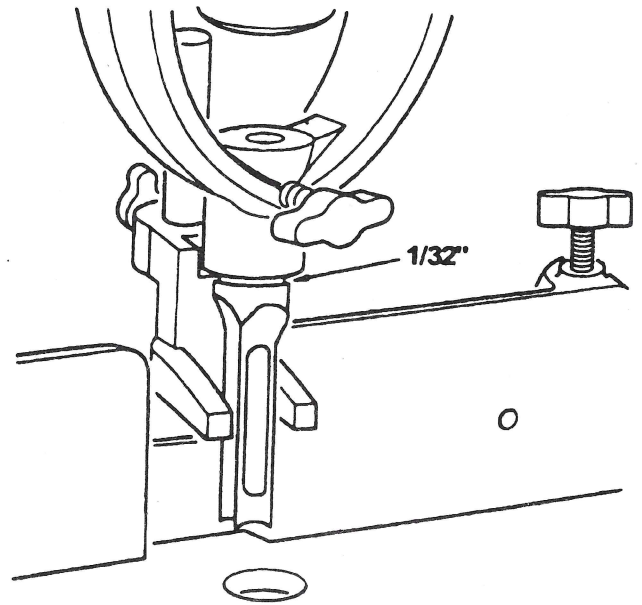


### Installation of Bit and Chisel

1. Disconnect machine from power source.
2. Cover the drill press with a piece of wood to prevent damage to the bit and chisel if accidentally dropped during future handling.
3. Open the chuck jaws to accommodate the bit shank.
4. Insert chisel into holder as shown, and fasten with knob. **NOTE:** Position chisel into chisel holder so that the upper face of chisel is approximately  $1/32''$  below the bottom edge of the chisel holder and tighten.

**NOTE:** Position the chisel so that the chip ejection slot faces toward the left or right of the drill press.

5. Push bit up through chisel as far as it will go and tighten drill press chuck.
6. **IMPORTANT:** Loosen knob and push chisel upward to take up the  $1/32''$  space previously left between bottom edge of chisel holder and chisel as described in step 4 and tighten. This method assures having the proper clearance between the cutting lips of the bit and the points of the chisel.





## Operation

### For all Drill Presses

Place the workpiece on the drill press table and adjust the height of the table so the point of the mortise chisel clears the workpiece by approximately 1/2". Determine the depth of the mortise and set the depth stop on the drill press.

Adjust the guide rods to secure the workpiece against the fence, tilting them if necessary. Lower the hold-down arm against the top of the work. The guide rods and arm must be adjusted to hold the workpiece in place yet allow the workpiece to slide along the table. Readjust if necessary and then tighten all knobs.

Release the levers which hold the mortising kit base to the drill press table and shift the fence as required to bring the workpiece into the desired position under the mortising chisel.

Slide the workpiece along the fence to make sure that the cut will be along the required line. Turn the chisel in the chisel holder, if necessary, to make its faces square with the cut. Tighten the levers on the base. You are now ready to begin cutting the mortise(s).

When cutting a mortise, the outside cuts should be made first; for example, first make the cut on the far left side and then on the right side. Then make overlapping cuts between these first two cuts. This method will ensure that all four sides of the chisel are cutting when

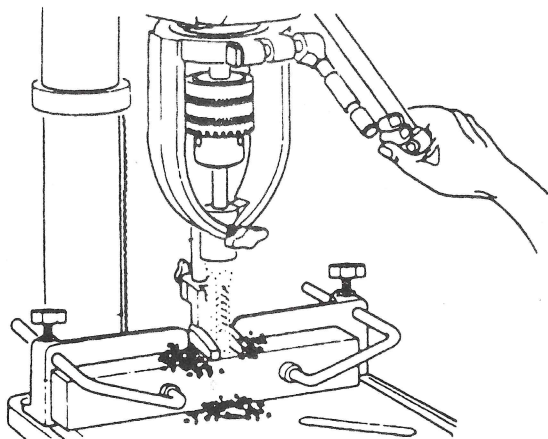
making the end cuts and will produce a true vertical cut at each end.

### Speed

1. High speed should never be employed, as it will cause overheating and quickly dull the edges of both chisel and bit. Best results are obtained by using speeds ranging from 650 to 1900 rpm, depending upon the type of stock to be cut. It is recommended that lower speeds be used for hard wood and higher speeds for soft wood.
2. Care should be exercised when feeding the tool into the work. It is advisable to feed slower in hard woods and other woods that are more difficult to machine.

### Operating Tips

1. Always make a trial cut on a scrap piece of material to check the set-up before proceeding on your project.
2. Raise the chisel frequently during operation to allow free discharge of chips and prevent clogging the bit.
3. To insure a clean joint, each successive cut should overlap the previous cut end wide approximately 1/8".
4. Mortise cuts wider than the chisel may be made by overlapping laterally.
5. Depth capacity for chisel and bit sets:
  - 1/4 - 1-7/8 In.
  - 5/16 - 1-7/8 In.
  - 3/8 - 3 In.
  - 1/2 - 3 In.



## Maintenance

### Sharpening the Chisel

Chisel must be sharpened with a file(s) by hand. Using cone shaped grinding stones will cause the edges of the chisel to become too thin and allow it to split during operation.

Use a 4" half round and square files. The objective is to sharpen the cutting edges while preserving the factory ground angles. Use the half round file for sharpening the curved edge and the square file for forming the double inner angle and to groove the four corners. Do not sharpen the outside of the chisel.

### Sharpening the Bits

Also use a small file to sharpen the bit.

File from below, allowing the file to pass over the top surface of the cutting lips into the channel through which the chips pass. The cutting lips should be of equal length after filing.

File the inside lips only and make sure they are equal in length when filing is completed.

Never file the outside circumference of the bit. It is purposely larger in diameter at its point to minimize the chisel cut, and thus reduce the drill press feeding force required.