

17-905 MORTISING ATTACHMENT

FOR USE WITH THE 11-980 10" DRILL PRESS; 11-990 12" DRILL PRESS; 14-040 14" DRILL PRESS;
11-090 32" RADIAL DRILL PRESS; DELTA 15" DRILL PRESS; AND THE 17-900 16 1/2" DRILL PRESS.

INTRODUCTION

The 17-905 Mortising Attachment converts your drill press into an accurate mortising machine. It includes a chisel holder, base, split-ring bushings, fence and holddown bracket. Hollow chisels and bits are not included with the mortising attachment as these items are available in various sizes and must be ordered separately.

INSTALLATION

IMPORTANT: There are three different sets of split-ring bushings supplied with the mortising attachment. The smallest inside diameter split-ring bushings are used on the 10" Drill Press, 12" Drill Press and the 32" Drill Press. The largest inside diameter split-ring bushings are used on the 15" Drill Press. The intermediate sized bushings are used on the 14" Drill Press.

FOR DELTA 11-980 10" DRILL PRESSES; 11-990 12" DRILL PRESSES; 14-040 14" DRILL PRESSES; AND 11-090 32" RADIAL DRILL PRESSES ONLY.

1. Lower the drill press spindle approximately two to three inches and lock the spindle in this position.
2. Slide rubber ring (A) Fig. 2, up on the quill, and depending on the size of the drill press, assemble the smallest or intermediate size split-ring bushings (B) supplied, around the quill between rubber ring (A) and stop collar (C). **NOTE:** Make certain the slot of the split-ring bushing is pointing toward the front of the machine.
3. Return the spindle to the upmost position.
4. Assemble chisel holder (D) Fig. 3, to the drill press as shown making sure the top of the chisel holder is located over the two split ring bushings that were assembled in Step 2. **NOTE:** Before tightening hex nut (E) make certain the slot in split-ring bushing lines up with slot (G) of chisel holder (D).

**FOR DELTA 15" UTILITY DRILL PRESSES ONLY.
MODELS 15-069, 15-081, 15-091 ETC.**

1. Lower spindle (A) Fig. 4, approximately three inches and lock quill (B) in position by turning locking lever (C) clockwise.

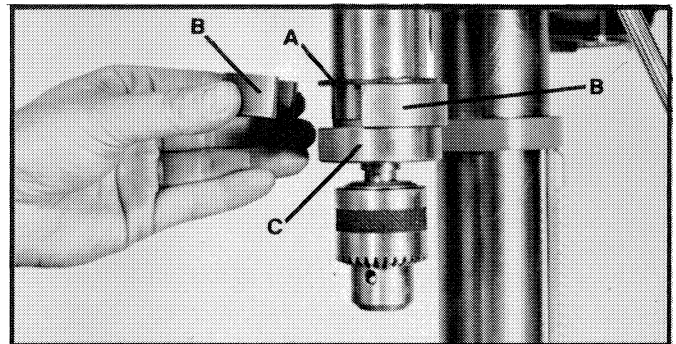


Fig. 2

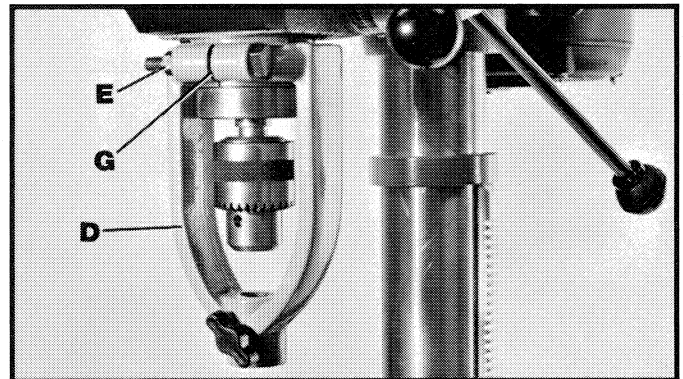


Fig. 3

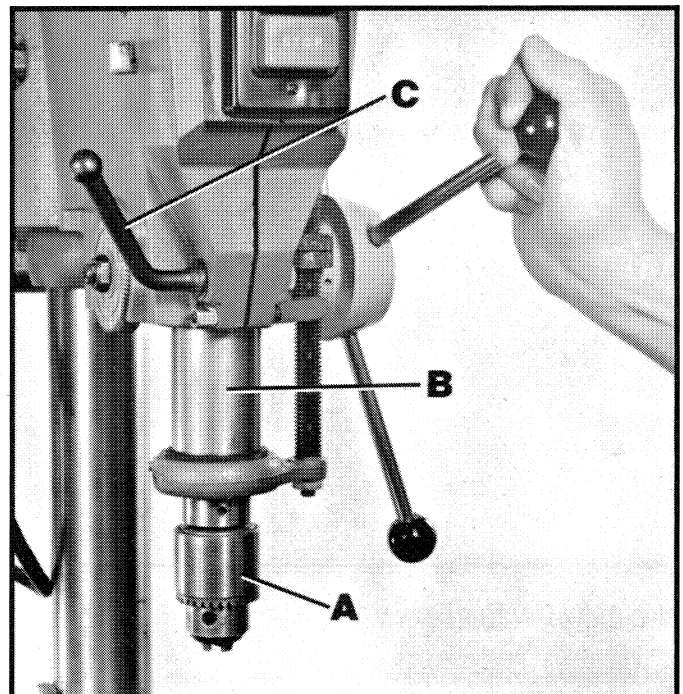


Fig. 4

2. Loosen set screw (D) Fig. 5, and hex nut (E).

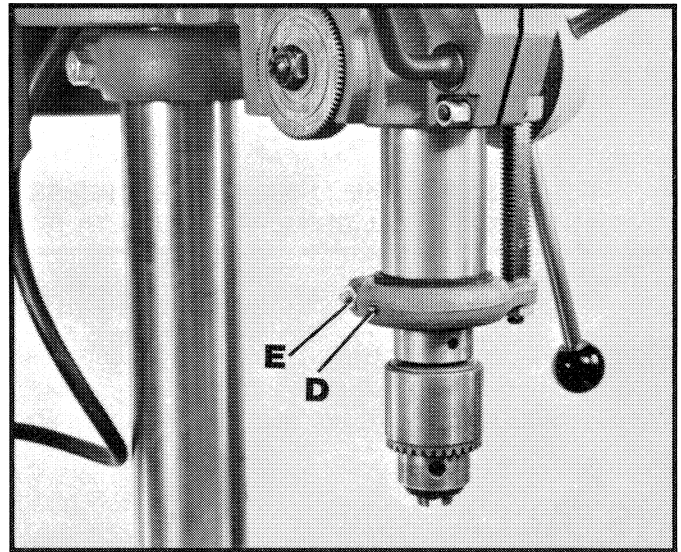


Fig. 5

3. Slide rubber ring (F) Fig. 6, up on the quill (B) as shown and raise stop collar (G) approximately $7/8$ ". Tighten set screw (D) and hex nut (E) just enough to hold stop collar (G) in position.

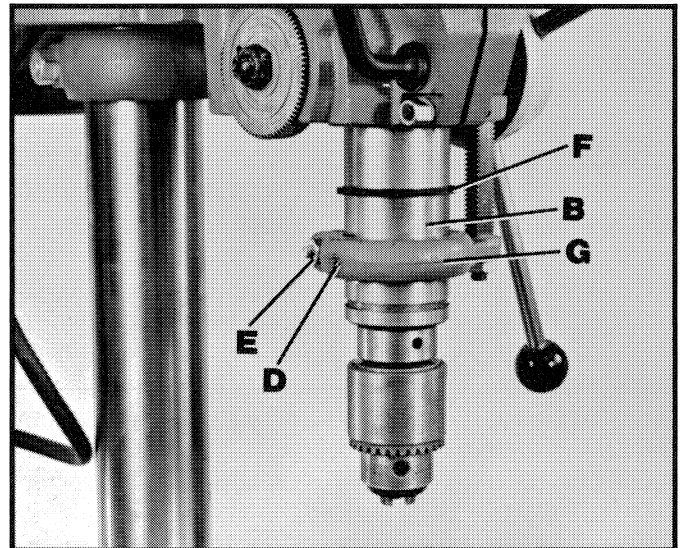


Fig. 6

4. Assemble the largest inside diameter split-ring bushing (H) Fig. 7, supplied, around the quill (B) as shown.

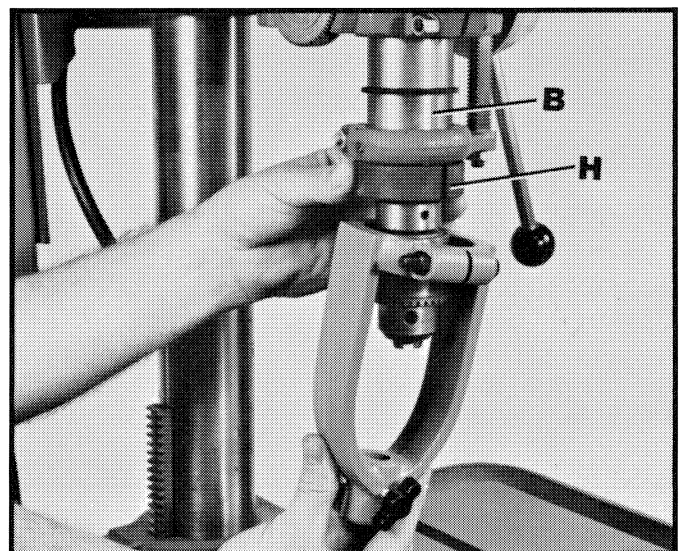


Fig. 7

5. Slide chisel holder (J) Fig. 8, over spindle (A) and over split-ring bushing (H). **NOTE:** Before tightening hex nut (K) Fig. 8, make certain the slot in split-ring bushing (H), lines up with slot in chisel holder (J) as shown.

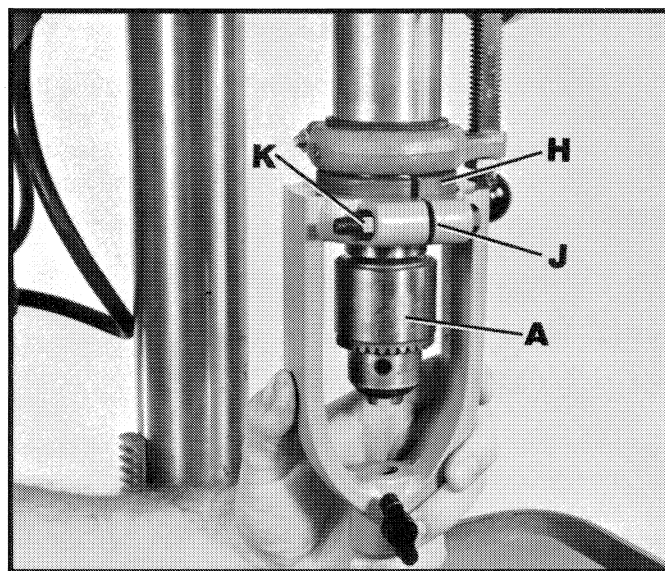


Fig. 8

6. Tighten nut (K) Fig. 9. Make certain stop collar (G) and rubber ring (F) are flush against chisel holder (J). Tighten set screw (D) and hex nut (E). Return spindle to the up-most position.

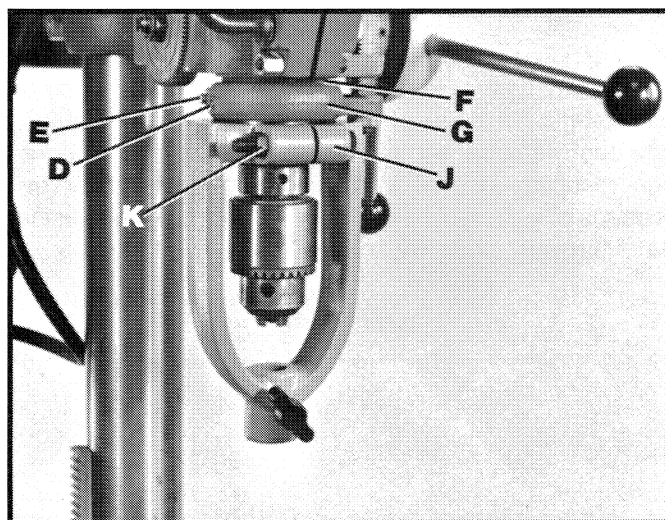


Fig. 9

FOR DELTA 17-900 16" DRILL PRESSES ONLY

1. Assemble the chisel holder (A) Fig. 10, to the drill press making sure the top of the chisel holder is located over the collar on the bottom of the spindle and tighten nut (B).

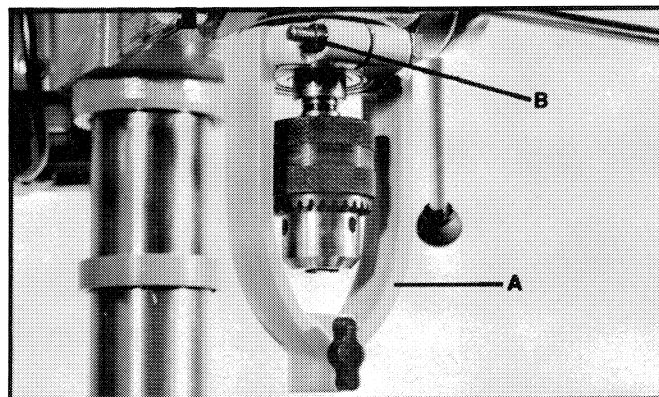


Fig. 10

FOR ALL LISTED DELTA DRILL PRESSES

1. Assemble the fence (A) and hold-down bracket (B) to the drill press table using the two screws (C), four flat washers and two wing nuts (D), as shown in Fig. 11.

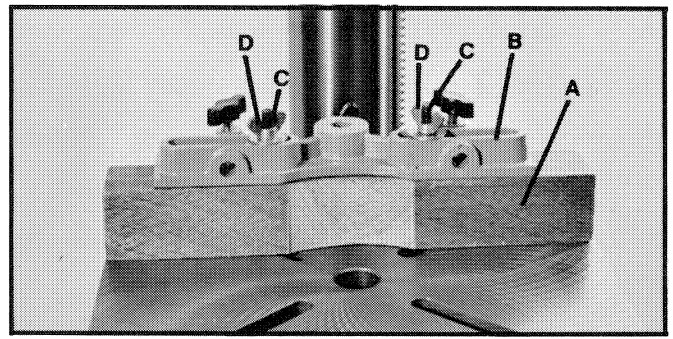


Fig. 11

2. Assemble the vertical bar (E) to the hole in the hold-down bracket (B) and assemble the hold-down arm (F) to the vertical bar, as shown in Fig. 12. Lock in place with the two thumb screws (G).

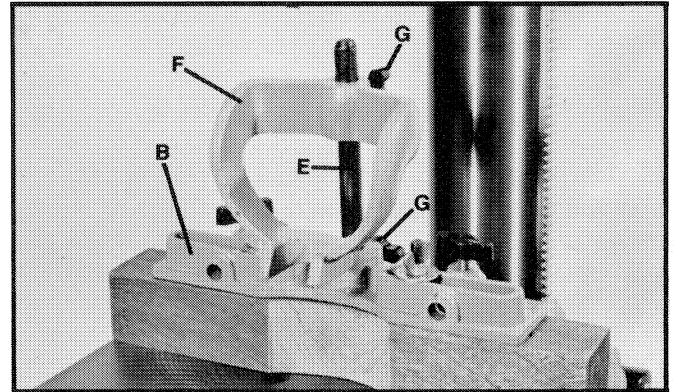


Fig. 12

3. Assemble the two hold-down rods (H) to the hold-down bracket, as shown in Fig. 13, and tighten the two lock screws (J).

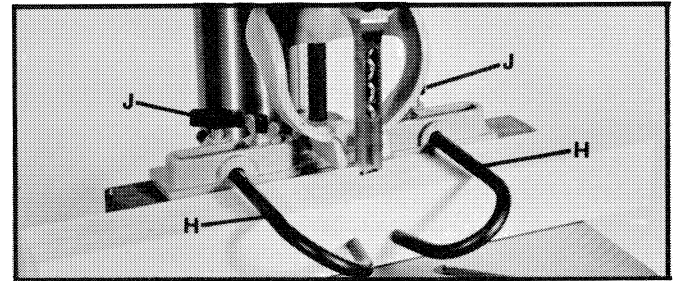
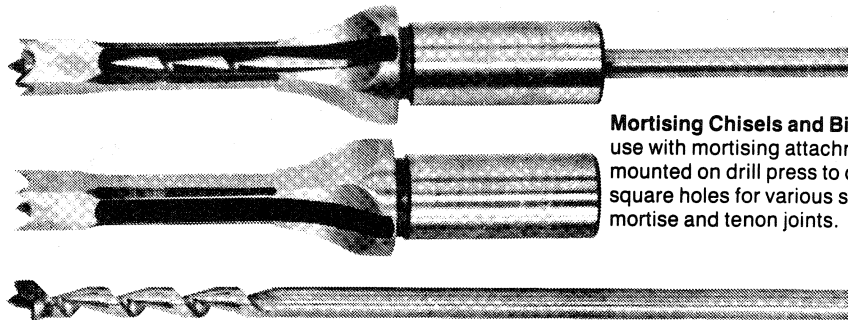


Fig. 13

MORTISING CHISEL AND BIT COMBINATIONS



Mortising Chisels and Bits for use with mortising attachment mounted on drill press to cut square holes for various sized mortise and tenon joints.

Mortising Chisels with 5/8" x 1 1/2" Shank			Mortising Bits (Package of 2)		Mortising Chisel & Bit Sets (Includes 1 bit)
Cat. No.	Size	Depth Capacity	Cat. No.	Shank Size	Cat. No.
17-912	1/4" x 1/4"	1 7/8"	17-916	1 1/64"	17-908
17-913	5/16" x 5/16"	1 7/8"	17-917	1 5/64"	17-909
17-914	3/8" x 3/8"	3"	17-918	1 7/64"	17-910
17-915	1/2" x 1/2"	3"	17-919	2 5/64"	17-911

Fig. 14

INSTALLING THE BIT AND CHISEL

1. DISCONNECT MACHINE FROM THE POWER SOURCE.

2. Insert the chisel (A) into the chisel holder (B) as shown in Fig. 15. **NOTE: Position the chisel (A) into the chisel holder so that the upper face (C) of the chisel is about 1/32" below the bottom (D) of the holder and tighten lockscrew (E).**

3. Push the bit (F) Fig. 16, up through the chisel (A) as far as it will go and fasten in chuck securely.

4. **IMPORTANT: Loosen lockscrew (E) Fig. 16, and push the chisel (A) upward to take up the 1/32" space previously left in STEP 2, and tighten lockscrew (E).** This method assures having the proper clearance between the cutting lips of the bit and the points of the chisel.

MOUNTING ON DRILL PRESS TABLE

We recommend installing a 1/2" plywood panel on the drill press table. It can be held in place by inserting it under the mortising fence. Drill the mounting holes in the plywood to match the slots in the table. The plywood panel prevents damage to the mortising chisel if it should strike the table by accident and also is a simple method of increasing the size of the table. The bolts furnished with this attachment are long enough to hold the plywood panel as well as the fence and base.

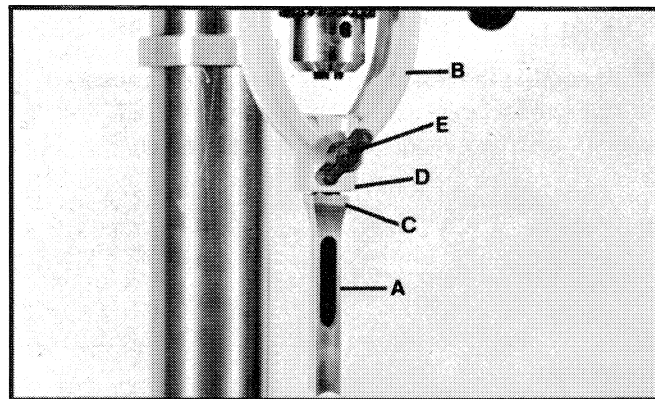


Fig. 15

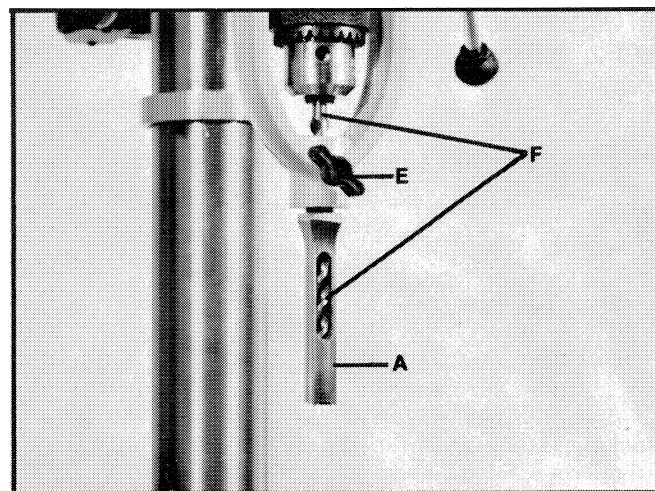


Fig. 16

OPERATING THE MORTISER

Place the work on the table and adjust the height of the table so that the point of the chisel clears the work about 1/2 inch. Run the chisel down along the side of the work to gage the depth of the mortise; adjust the depth stop to control the depth of the mortise.

Adjust the holddown rods to hold the work against the fence, tilting them if necessary. Lower the holddown arm against the top of the work. These contacts must hold the work in line with light pressure which will permit sliding the piece across the table. They are independently adjustable to the height and thickness of the work. Tighten all screws and lock bolts when the holddowns have been adjusted.

Release the wing nuts which hold the mortising attachment base to the drill press table, and shift the fence forward or toward the column as permitted by the table slots to bring the work piece into the desired position under the mortising chisel.

Slide the work piece along the fence to make sure that the cut will be along the required line. Turn the chisel in

the holder, if necessary, to make its faces square with the cut. If the fence and chisel are not exactly square the cuts will become staggered. Having completed these adjustments tighten the wing nuts on the base and continue with the work.

When cutting a mortise, the extreme cuts should be made first; that is, first make the cut on the left side and then the cut on the right side, and then the subsequent cuts between these holes. The cuts may be overlapped.

The reason for cutting the mortise in this manner is that all four sides of the chisel are cutting when making the end cuts first, producing a true vertical cut for each end.

Do not attempt to mortise deeper than maximum depth listed for each chisel as indicated in Fig. 14. Beyond these limits the wood chips will not clear through the hole in the chisel and the tools will be damaged.

It is good practice to make a trial cut on scrap material, to check the set-up, before mortising the work at hand.

SPINDLE SPEEDS

The correct spindle speed depends upon the size of the bit and the hardness of the wood. Best results will be obtained in the range from 650 to 2500 rpm. Use the slower speed for the larger bit diameters and the harder woods.

SHARPENING HOLLOW CHISELS

The hand filing method for sharpening hollow chisels is recommended. To do the work properly, use 4" half-round and square files, No. 0 or No. 1 cut. Examine a new tool for guidance. Be sure to maintain the curved cutting edges and preserve the inner double angle of the edges. Use the half-round file for shaping 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.

Cone grinding stones are not suitable for sharpening tools of this kind, as they leave thin single edges which do not have sufficient body of metal to give proper service. Improperly sharpened hollow chisels easily split in operation resulting in total loss. Sharpening these chisels requires considerable skill and it is generally cheapest to have the work done by an expert.

SHARPENING MORTISING BITS

The bit does most of the work in mortising. For best results this tool must be in first class condition.

Cutting edges must be sharp and shaped properly. Only the hand filing method can be recommended. Use half-round or taper warding files No. 0 or No. 1 cut, 4 or 5 inches long.

Sharpen the cutting edges with the flat side of the file, stroking through the throat. File the spurs on the inside only, with the taper warding pattern. Use a new tool as a guide; keep the spurs of equal height and evenly lined up with the cutting edges.

A new bit will overcut the hollow chisel to a certain extent. After repeated sharpening the diameter of the bit is decreased due to its taper, and it will no longer do its share of the work. Excessive strain is then carried by the hollow chisel often resulting in breakage. Since the hollow chisel is by far the more expensive of these tools it is best to discard the old bit and use a new one.

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