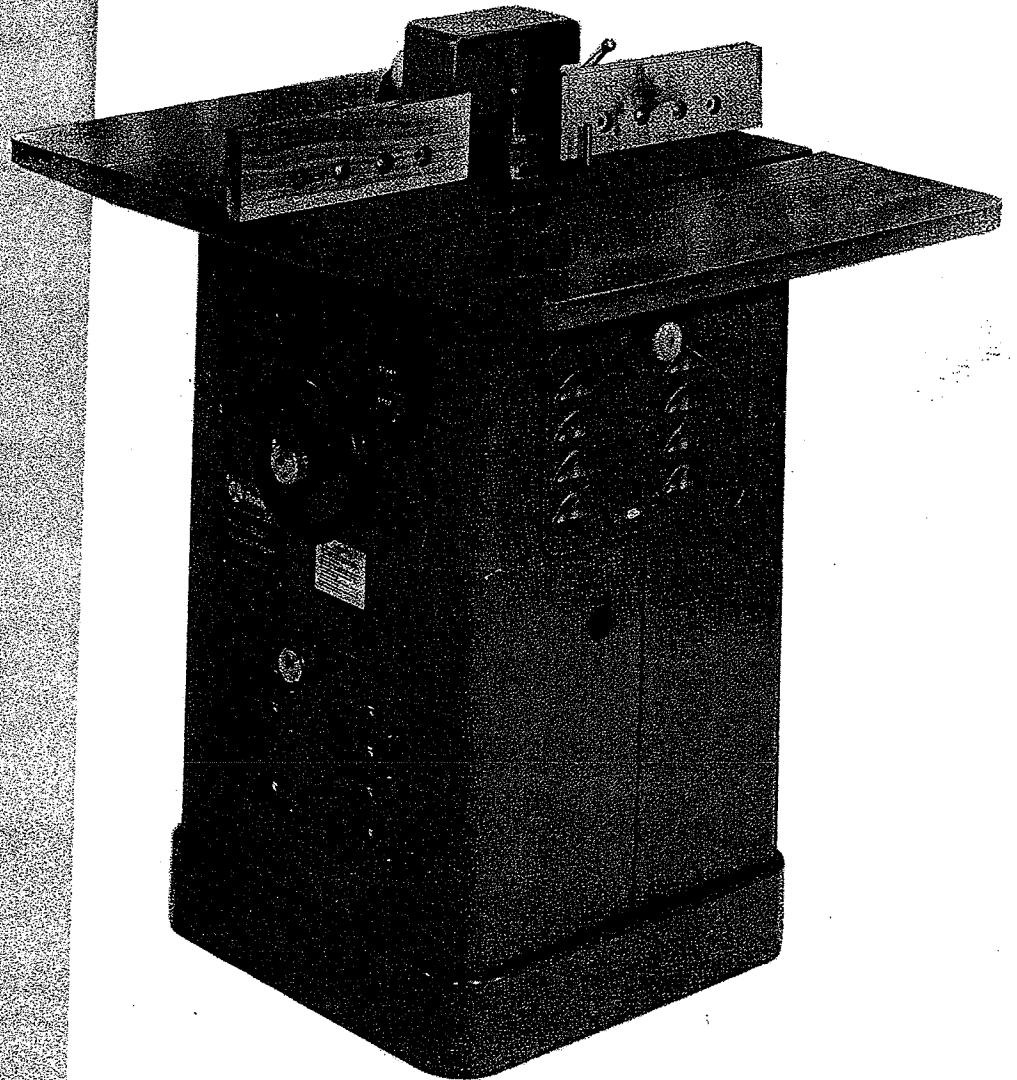


March 20, 1985

**instruction  
manual**

# 2 — Speed Heavy Duty Wood Shaper



 **Rockwell**

Part No. 432-02-651-0002

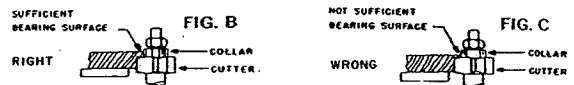
Dated 12-20-81

# SAFETY SUGGESTIONS FOR ROCKWELL WOOD SHAPERS

1. READ the instruction manual before operating your machine.
2. IF YOU ARE NOT thoroughly familiar with the operation of Wood Shapers obtain advice from your supervisor, instructor or other qualified person.
3. REMOVE tie, rings, watch and other jewelry, and roll up sleeves.
4. ALWAYS wear safety glasses or a face shield.
5. MAKE SURE wiring codes and recommended electrical connections are followed and that machine is properly grounded.
6. MAKE all adjustments with the power off.
7. KEEP cutters sharp and free of all rust and pitch.
8. NEVER run the stock between the fence and the cutter.
9. ALWAYS feed against the cutter rotation, as shown in Fig. A.



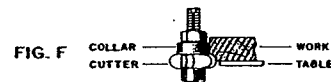
10. WHEN SHAPING with collars and starting pin, the collar MUST have sufficient bearing surface, as shown in Fig. B. Fig. C illustrates the wrong way for this operation as the collar DOES NOT have sufficient bearing surface.



11. WHEN SHAPING with collars and starting pin, the work must be fairly heavy in proportion to the cut being made as shown in Fig. D. UNDER NO CIRCUMSTANCES should short work of light body be shaped against the collars as shown in Fig. E.



12. WHEN SHAPING with collars and starting pin, the cutter should be positioned below the collar whenever possible, as shown in Fig. F.



13. THE FENCE should be adjusted endwise so the opening is never more than is required to clear the cutter.
14. ALWAYS use a miter gage and clamp attachment when edge shaping work less than 6" wide. Fence should be removed during this operation.
15. DISCONNECT machine from power source when making repairs.
16. BEFORE LEAVING the machine, make sure the work area is clean.

# ASSEMBLING AND CHANGING SPINDLES (FOR MACHINES EQUIPPED WITH 1/2" AND 3/4" INTERCHANGEABLE SPINDLES ONLY)

If you purchased your machine with the 1" solid spindle, disregard these instructions as the spindle is an integral part of the spindle cartridge and is assembled to the machine.

To assemble either the 1/2" or 3/4" spindle, proceed as follows:

1. Thread one end of the tie rod (A) Fig. 9, into the threaded hole in the bottom of the spindle (B).

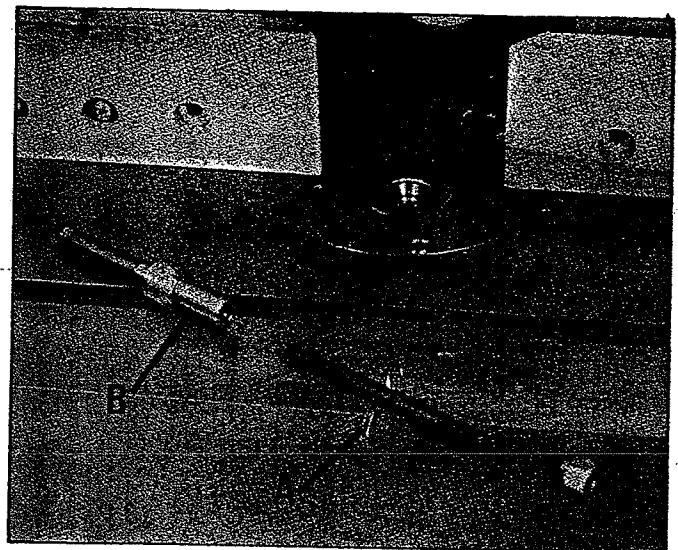


Fig. 9

2. Insert tie rod and spindle into the spindle cartridge making sure the pin (C) Fig. 10, in the spindle cartridge is engaged with notch (D) in the spindle.

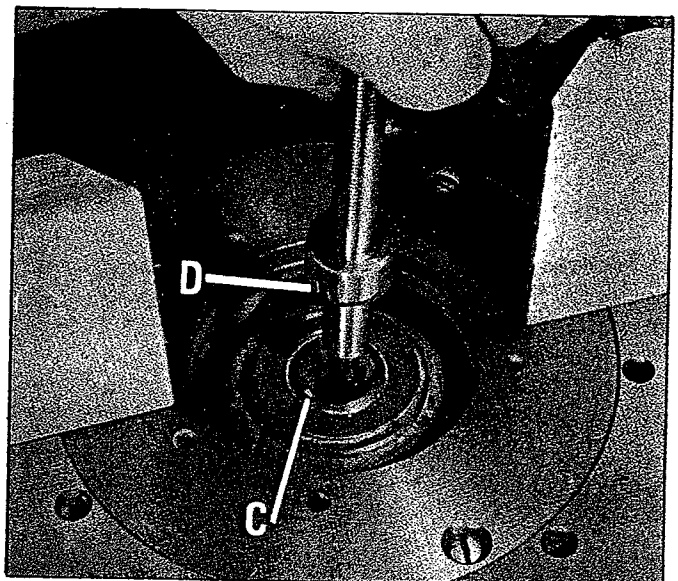


Fig. 10

3. Fig. 11, illustrates the spindle (B) inserted into the spindle cartridge.

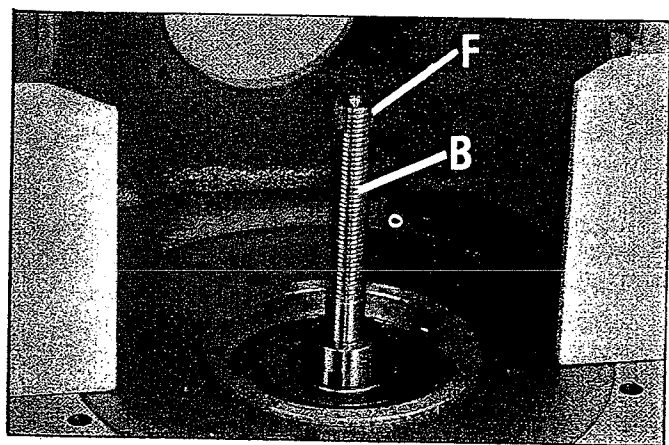


Fig. 11

4. Thread nut (E) Fig. 12, onto bottom end of tie rod (A).

5. Place wrench on flats (F) Fig. 11, on top of spindle and tighten nut (E) Fig. 12, on bottom of tie rod to fasten spindle to spindle cartridge.

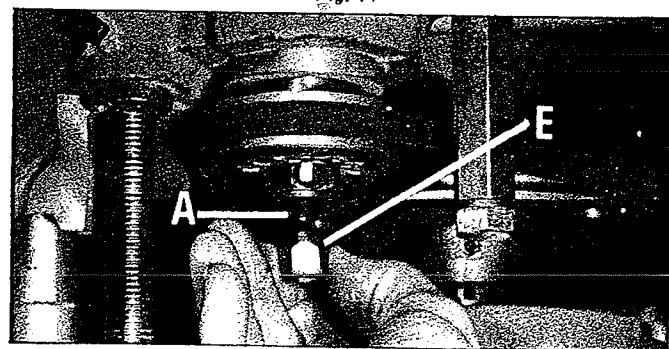


Fig. 12

NOTE: When changing from 1/2" to 3/4" or 3/4" to 1/2" spindles, the above procedure is followed for removing and installing the spindle.

## ASSEMBLING TABLE INSERTS

Three table inserts are provided for various size cutters, as shown in Fig. 14. The large insert is adjustable and should be set flush with the table as follows:

1. Remove the three slotted head screws (A) Fig. 14.
2. Using a screwdriver, turn the three adjusting screws (B) Fig. 14, until insert is flush with table. Then replace the slotted head screws (A).

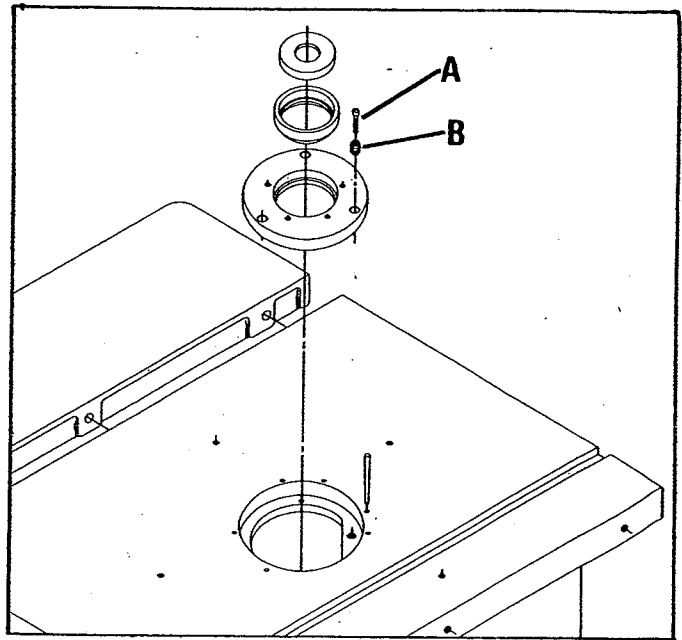


Fig. 14

## ASSEMBLING SPINDLE GUARD

A 4-1/2" diameter spindle guard is supplied as standard equipment on shapers with 1/2" and 3/4" interchangeable spindles and a 6-1/2" diameter spindle guard is supplied on shapers with a 1" solid spindle.

The 4-1/2" diameter spindle guard is supplied with a 1/2" bushing which enables the guard to be used with both the 1/2" and 3/4" spindles.

The 6-1/2" spindle guard is supplied with a 1" bushing which enables the guard to be used on 1" and 1-1/4" spindles.

The diameter of the spindle guard should be at least 1" larger than the maximum cutting circle of the shaper cutter and the height of the guard should not exceed 1/4" above material.

To assemble the spindle guard, proceed as follows:

1. Two 1/2" I.D. and 3/4" I.D. washers are supplied with the 4-1/2" diameter spindle guard and two 1" I.D. and 1-1/4" I.D. washers are supplied with the 6-1/2" diameter spindle guard to accommodate different size spindles. These washers are to be positioned directly above and below the spindle guard. Place one of the washers (A) on the spindle, over either the cutter or collar, as shown in Fig. 15.
2. Place the spindle guard (B) Fig. 15, on the spindle. The bushing (C) shown in Fig. 15, would be used for 1/2" spindles. Washer (D) is placed on the spindle directly over spindle guard (B).
3. Always place "keyed" washer (E) Fig. 15, on spindle before screwing on nut (F). The "keyed" washer (E) prevents the nut (F) from loosening when spindle turns counterclockwise.
4. Fig. 16, illustrates the 4-1/2" diameter spindle guard assembled to the spindle.

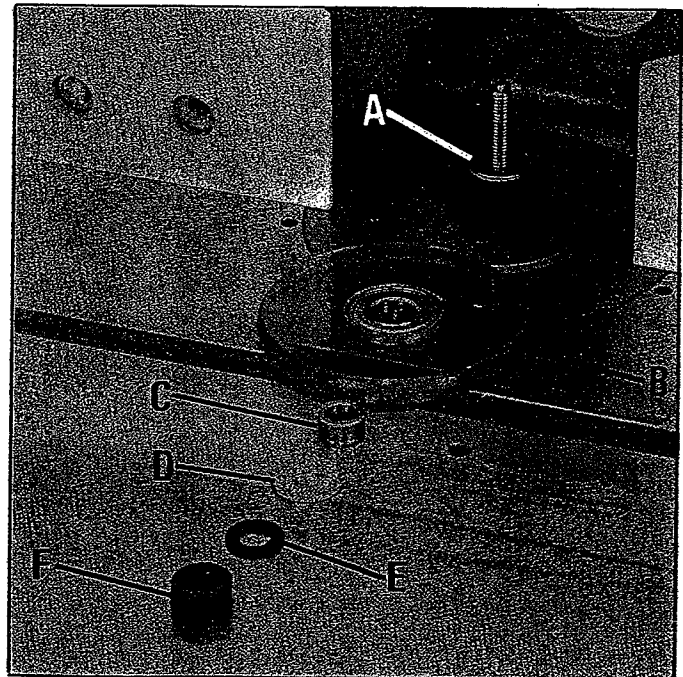


Fig. 15

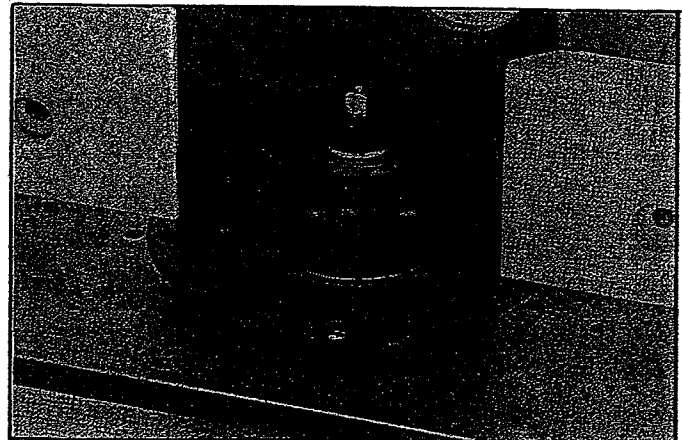


Fig. 16

# CONNECTING SHAPER TO POWER SOURCE

## SINGLE PHASE

If you purchased the 2 H.P., 230 Volt, single phase machine, the power cord is equipped with a plug that has two flat, current-carrying prongs in tandem and one round or "U"-shaped longer ground prong. This is used only with the proper mating 3-conductor grounding type receptacle as shown in Fig. 17.

When the three-prong plug is plugged into a grounded 3-conductor receptacle, as shown in Fig. 17, the long ground prong on the plug contacts first so the machine is properly grounded before electricity reaches it.

**IMPORTANT: MAKE SURE THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE HAVE A CERTIFIED ELECTRICIAN CHECK THE RECEPTACLE.**

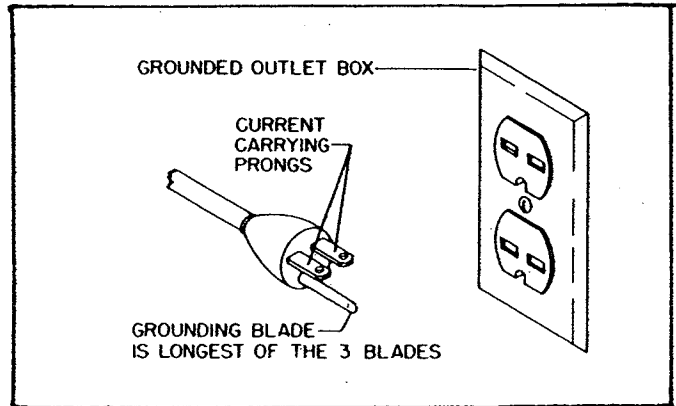


Fig. 17

## THREE PHASE

If you purchased the 3 H.P., 200, 230 or 460 Volt, three phase machine, the necessary wiring from the starter to the power source should be completed by a competent electrician.

## OPERATING CONTROLS

### RAISING AND LOWERING SPINDLE

The spindle can be raised or lowered by loosening lock knob (A) Fig. 18, and turning handwheel (B). Always tighten lock knob (A) after raising or lowering spindle.

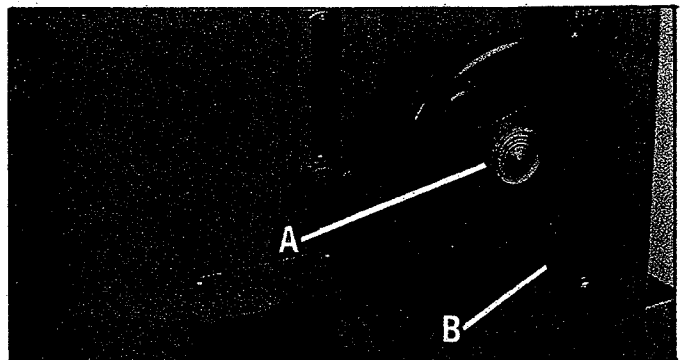


Fig. 18

### CHANGING SPEEDS AND ADJUSTING BELT TENSION

Your machine is supplied with a 2-speed motor pulley and a 2-speed spindle pulley that provides spindle speeds of 7,000 and 10,000 R.P.M. When the belt is on the largest step of the motor pulley and the smallest step of the spindle pulley, the spindle speed will be 10,000 R.P.M. When the belt is on the smallest step of the motor pulley and the largest step of the spindle pulley, the spindle speed will be 7,000 R.P.M.

To change speeds and adjust belt tension, proceed as follows:

1. Disconnect machine from the power source.
2. Loosen lock knob (A) Fig. 19. Release tension on belt by pulling hand lever (B) to the left. Position belt (C) on the desired steps of the spindle pulley (D) and motor pulley (E) and apply belt tension by pushing hand lever (B) to the right. When desired belt tension is applied to belt, tighten lock knob (A) to hold motor plate in position.

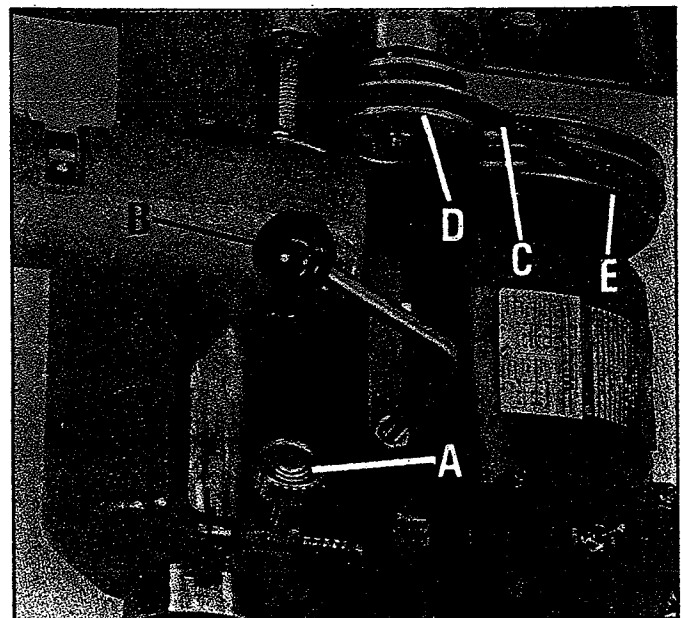


Fig. 19

## REVERSING SPINDLE ROTATION

If you purchased your machine complete with motor, the motor is equipped with a reversing switch (A) Fig. 20, located in the motor junction box. **CAUTION:** Never attempt to reverse the rotation of the spindle with the motor running.

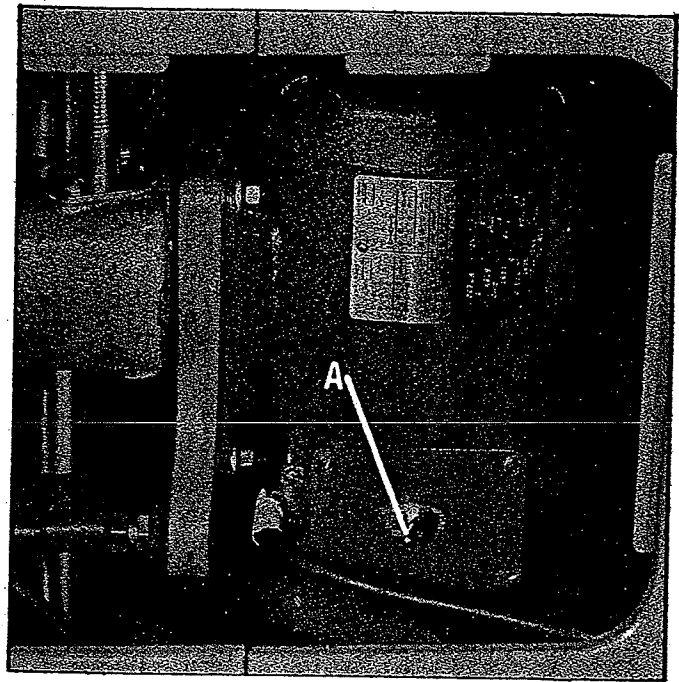


Fig. 20

## FENCE ADJUSTMENTS

The wood fence should be adjusted endwise so the opening is never more than is required to clear the spindle guard. To adjust the fence endwise, loosen the four screws (A) Fig. 21, move the fences to the required positions and tighten the four screws (A). If further adjustment is required, remove the four screws (A) and reposition them in different holes in the fence until the desired setting is obtained.

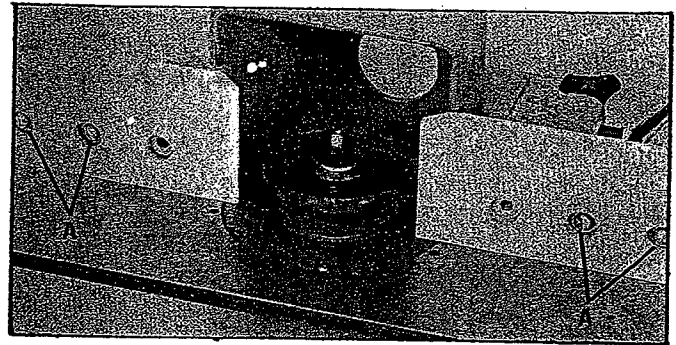


Fig. 21

Either half of the fence can be moved independently depending on the type of work you are doing. To move the fence, loosen lock handle (A) Fig. 22, and loosen one of the nuts (B) depending on which fence half is to be moved. Turn the knob (C) until the correct setting is obtained. Then tighten the nut (B) and lock handle (A).

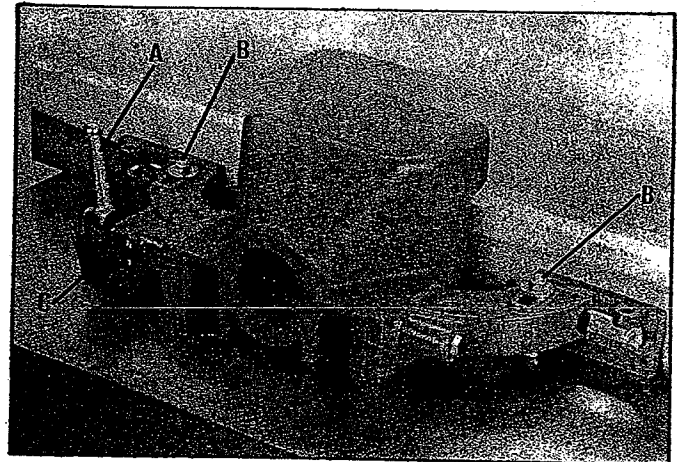


Fig. 22

## OPERATION

The following is an explanation of the setting up and operational procedure when using the fence, collars and starting pin. Please study this information carefully before turning on the power to avoid damage to the machine or injury to yourself.

## SHAPING WHEN USING THE FENCE AS A GUIDE

Shaping with the fence is the safest and most satisfactory method of working, and this method should always be used when the work permits. Almost all straight work can be used with the fence.

1. For average work, where a portion of the original edge of the work is not touched by the cutter, both the front and rear fences are in a straight line, as shown in Fig. 24.

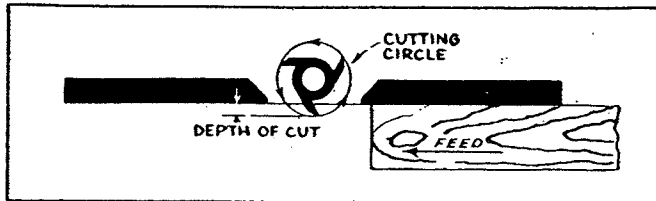


Fig. 24

2. When the shaping operation removes the entire edge of the work, e.g., in jointing or making a full bead, the shaped edge will not be supported by the rear fence when both fences are in line, as shown in Fig. 25. In this case, the work should be advanced to the position shown in Fig. 26, and stopped.

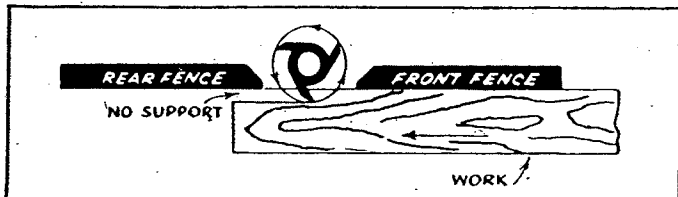


Fig. 25

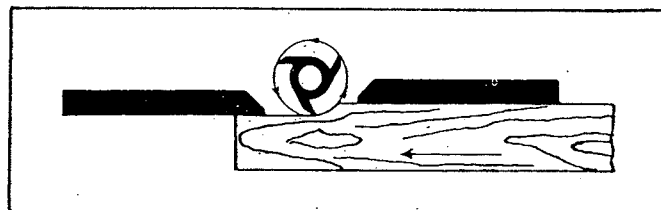


Fig. 26

3. The rear fence should then be advanced to contact the work, as shown in Fig. 26. The rear fence will then be in line with the cutting circle.

## SHAPING WITH COLLARS AND STARTING PIN

When shaping with collars and starting pin, the following rules must always be followed for good work and safety in operation:

1. Collars **MUST** be smooth and free from all gum or other substances.
2. The edge of the work to be shaped **MUST** be smooth, as any irregularity in the surface which rides against the collar will be duplicated on the moulded surface.
3. A portion of the edge of the work **MUST** remain untouched by the cutters in order that the collar will have sufficient bearing surface. Fig. 27 illustrates the wrong way for this operation while Fig. 28 illustrates the right way.

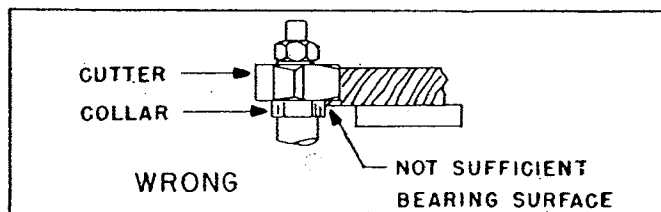


Fig. 27

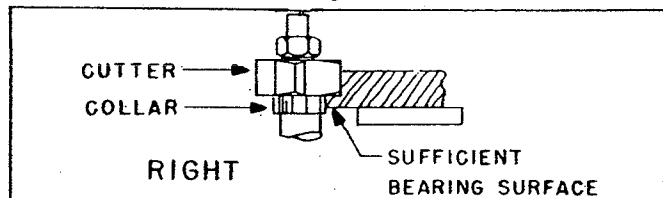


Fig. 28

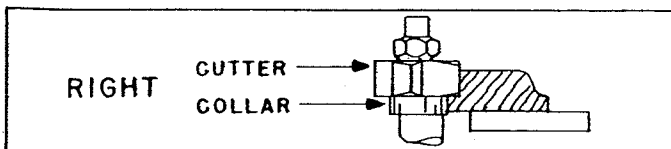


Fig. 29

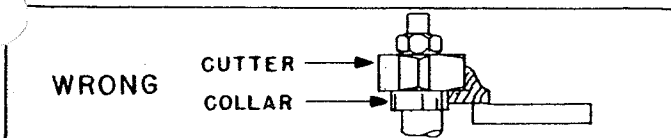


Fig. 30

4. The work **MUST** be fairly heavy, in proportion to the cut being made as shown in Fig. 29. Under **NO** circumstances should short work of light body be shaped against the collars as shown in Fig. 30.

5. When shaping with collars and starting pin, we suggest the accessory #43-348 Ring Guard always be used.

## POSITION OF COLLARS

1. The collars may be used in any of the following positions: above, below or between two cutters.

2. When the collar is used below the cutter, as shown in Fig. 31, the progress of the cut can be observed at all times. However, any accidental lifting of the work will gouge the wood and ruin the workpiece.

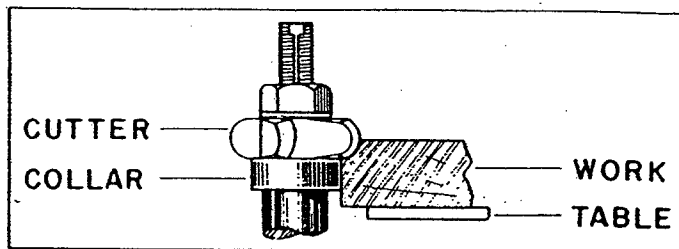


Fig. 31

3. When the collar is used above the cutter as shown in Fig. 32, the cut cannot be seen, yet this method offers some advantage in that the cut is not affected by slight variations in the thickness of the stock. Also, accidental lifting of the work will not gouge the workpiece. Simply correct the mistake by repeating the operation.

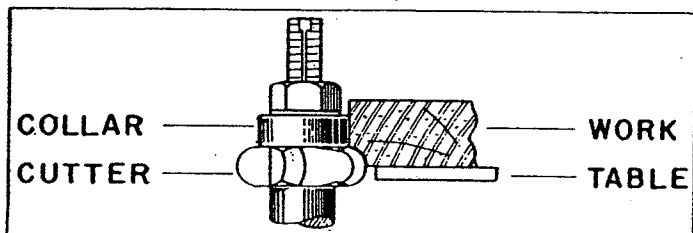


Fig. 32

4. The collar between cutters method, as shown in Fig. 33, has both the advantages and disadvantages of the first two methods and is frequently used where both edges of the work are to be moulded.

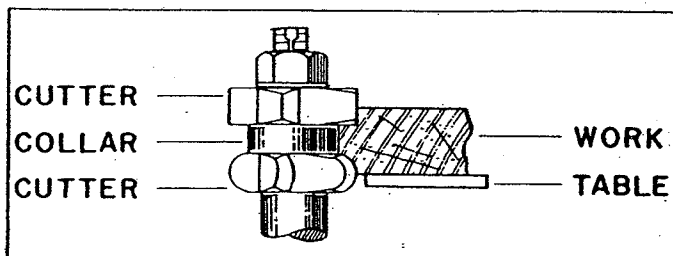


Fig. 33

## STARTING PIN

1. Your machine is supplied with a tapered starting pin which is used as a support when starting the cut. The starting pin is placed in one of the tapered holes in the table.

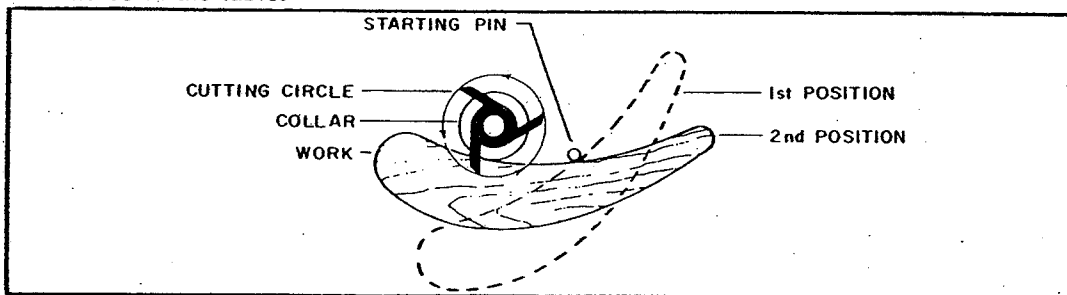


Fig. 34

2. The work should be placed in the first position using the guide pin as a support, as shown in Fig. 34. Then swing the work into the cutter as shown in the second position. The work will now be supported by the collar and starting pin as shown in Fig. 34.

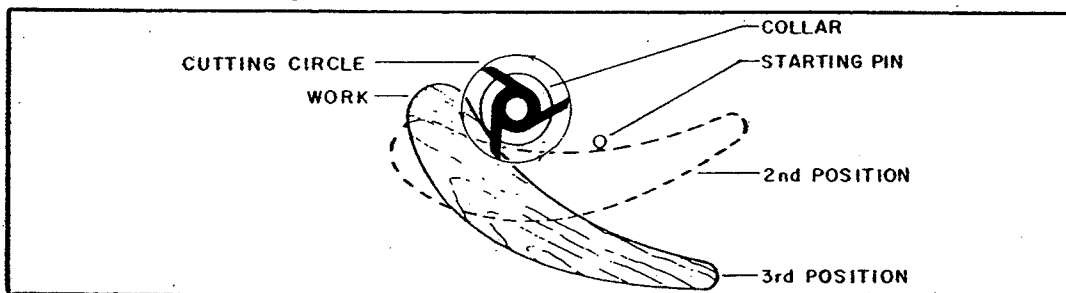


Fig. 35

3. After the cut has been started, the work is swung free of the starting pin and rides only against the collar as shown in the third position in Fig. 35. ALWAYS FEED AGAINST THE ACTION OF THE CUTTER.

**IMPORTANT:** If the work would be advanced to the cutter without the side support of the starting pin, it would invariably be kicked back.