

**Sears**

*owners  
manual*

**MODEL NO.  
113.23301**

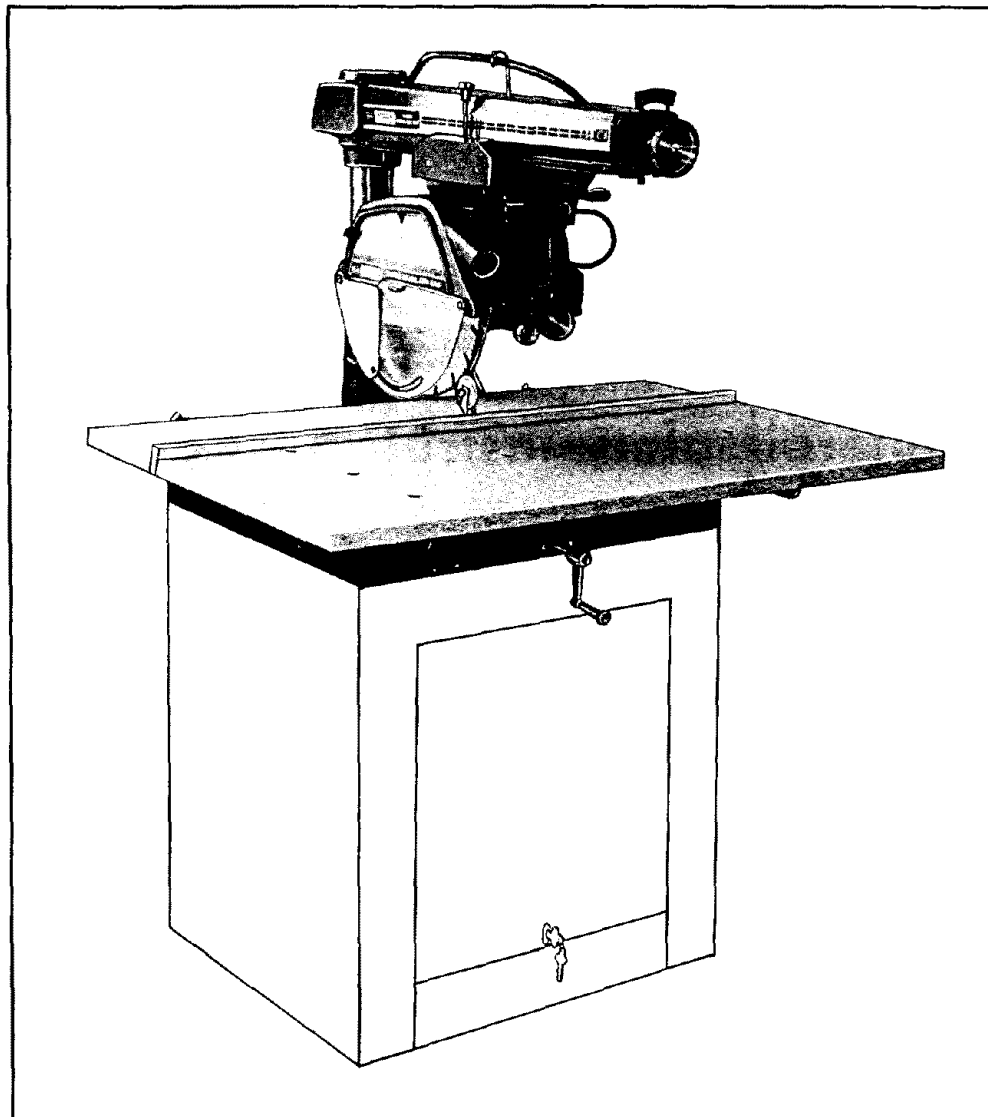
Serial  
Number \_\_\_\_\_

Model and serial  
number may be found  
at the left-hand side  
of the base.

You should record both  
model and serial number  
in a safe place for  
future use.

**CAUTION:**

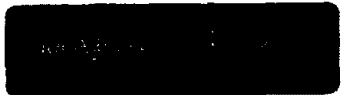
**Read GENERAL  
and ADDITIONAL  
SAFETY  
INSTRUCTIONS  
carefully**



**Sears CRAFTSMAN.**

**12 INCH  
RADIAL SAW**

- *assembly*
- *operating*
- *repair parts*



**Sold by SEARS, ROEBUCK AND CO., Chicago, IL. 60684 U.S.A.**

## FULL ONE YEAR WARRANTY ON CRAFTSMAN RADIAL SAWS

If within one year from the date of purchase, this Craftsman Radial Saw fails due to a defect in material or workmanship, Sears will repair it, free of charge.

Warranty service is available by simply contacting the nearest Sears store or Service Center throughout the United States.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

SEARS, ROEBUCK AND CO.  
BSC 41-3  
SEARS TOWER  
CHICAGO, IL 60684

# general safety instructions for power tools

## 1. KNOW YOUR POWER TOOL

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

## 2. GROUND ALL TOOLS

This 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. AVOID DANGEROUS ENVIRONMENT

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

## 7. KEEP CHILDREN AWAY

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

## 8. MAKE WORKSHOP KID-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

Do not wear loose clothing, gloves, neckties or jewelry (rings, wrist watches) to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair. Roll long sleeves above the elbow.

## 12. USE SAFETY GOGGLES (Head Protection)

Wear Safety goggles (must comply with ANS Z87.1) at all times. 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. AVOID ACCIDENTAL STARTING

Make sure switch is in "OFF" position before plugging in.

## 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 materials 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.

## 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.

# additional safety instructions for radial saws

**CAUTION:** Always disconnect the power cord before removing the guard, changing the cutting tool, changing the set-up or making adjustments. Shut off motor before performing layout work on the saw table.

**WARNING:** DO NOT CONNECT POWER CORD UNTIL THE FOLLOWING STEPS HAVE BEEN SATISFACTORILY COMPLETED:

- I. Assembly and alignment.
- II. Examination and operating familiarity with ON-OFF switch, elevation control, yoke index and lock, bevel index and lock, carriage lock, guard clamp screw, spreader and antikickback device, and miter index and lock.
- III. Review and understanding of all Safety Instructions and Operating Procedures thru-out manual.

## INSTALLATION

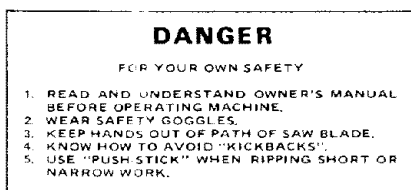
1. Set carriage lock before moving the saw.
2. Bolt the saw to the floor if it tends to slip, walk, or slide during normal operation.
3. Mount the saw so the table
  - is approximately 39" above the floor;
  - slopes slightly downward to the rear so the carriage will not roll forward due to gravity.

## MINIMIZE ACCIDENT POTENTIAL

Most accidents are caused by FAILURE TO FOLLOW setup and operating instructions:

### (A) GENERAL

- Avoid awkward hand positions, where a sudden slip could cause a hand to move into a sawblade or other cutting tool. Never reach in back of or around the cutting tool with either hand to hold down the workpiece, or for any other reason; DO NOT place fingers or hands in the path of the sawblade.
- Never saw, dado, mold, or rabbet unless the proper guard is installed and set up as instructed.
- NOTE THE FOLLOWING DANGER LABELS WHICH APPEAR ON THE FRONT OF THE YOKE AND GUARD:



- Always maintain control of the workpiece – DO NOT "let go" the workpiece until the cutting tool has come to a stop.
- If any part of this radial saw is missing or should break, bend or fail in any way, or any electrical component fail to perform properly, shut off power switch, remove cord from power supply and replace damaged, missing and/or failed parts before resuming operation.
- IF YOUR SAW MAKES AN UNFAMILIAR NOISE OR IF IT VIBRATES EXCESSIVELY CEASE OPERATING IMMEDIATELY UNTIL THE SOURCE HAS BEEN LOCATED AND THE PROBLEM CORRECTED.

– **WARNING:** DO NOT ALLOW FAMILIARITY (GAINED FROM FREQUENT USE OF YOUR SAW) TO BECOME COMMONPLACE. ALWAYS REMEMBER THAT A CARELESS FRACTION OF A SECOND IS SUFFICIENT TO INFLICT SEVERE INJURY.

- Before starting work, verify that no play exists between the column & column support, or in the carriage, and that arm, yoke, and bevel locks/clamps are tight.
- A large proportion of saw accidents is caused by use of the wrong type blade, dull, badly set, improperly sharpened cutting tools, by gum or resin adhering to cutting tools, and by sawblade misalignment with the fence. Such conditions can cause the material to stick, jam (stall the saw) or "KICKBACK". A "KICKBACK" occurs when a part or all of the workpiece is thrown back violently toward the operator. NEVER ATTEMPT TO FREE A STALLED SAW BLADE WITHOUT FIRST TURNING THE SAW "OFF". If the sawblade is stalled or jammed, shut saw "OFF", remove workpiece, and check sawblade squareness to table surface and to the fence, and check for heel. Adjust as indicated.
- **CAUTION:** DO NOT cycle the motor switch "ON" and "OFF" rapidly, as this might cause the sawblade to loosen. In the event this should ever occur, allow the saw blade to come to a complete stop and re-tighten the arbor nut normally, not excessively.
- Do not leave a long board (or other workpiece) unsupported so the spring of the board causes it to shift on the table. Provide proper support for the workpiece, based on its size and the type of operation to be performed. Hold the work firmly against the fence and down against the table surface.
- Never use a length stop on the free end of the workpiece when crosscutting. Never hang onto or touch the free end of workpiece when crosscutting, or a free piece that is cut off when ripping while power is "ON" and/or the saw blade is rotating. In short, the cut-off piece in any "thru-sawing" (cutting completely thru the workpiece) operation must never be confined – it must be allowed to move laterally.
- Make sure your fingers do not contact the terminals when installing or removing the plug to or from a live power source.
- Never climb on the saw, or climb near the saw when power is "ON". Never leave the saw with power "ON", or before the cutting tool has come to a complete stop. Lock the motor switch and put away the key when leaving the saw.
- Do not use any blade or other cutting tool marked for an operating speed lower than 3450 RPM. Never use a cutting tool larger in diameter than the diameter for which the saw was designed. For greatest safety and efficiency when ripping, use the maximum diameter blade for which the saw is designed, since under these conditions the spreader is nearest the blade.
- Never turn your saw "ON" before clearing the table or work surface of all objects (tools, scraps of wood, etc.) except the workpiece and related feed or support devices for the operation planned.
- Never perform any operation "FREE HAND". This term means feeding the sawblade into the workpiece (crosscutting) or feeding the sawblade or other cutting tool (ripping) without using the fence to

# additional safety instructions for radial saws

support or guide the workpiece, to prevent rotating or twisting of the workpiece during the operation. Never "RIP" in the crosscut position. Never make a miter cut with the arm in the 90° crosscut position.

- Never lower a revolving cutting tool into the table or a workpiece without first locking the Carriage Lock Knob. Release the knob only after grasping the Yoke Handle. Otherwise the cutting tool may grab the workpiece and be propelled toward you.
- The sawblade, dado, or other cutting tool must be removed from the saw arbor before using the accessory shaft (rear end of the saw motor). NEVER operate the saw with cutting tools (including sanding accessories) installed on both ends of the saw arbor.

## (B) RIPPING

1. Feed force when ripping must always be applied **BETWEEN THE SAW BLADE AND THE FENCE**. . . use a "PUSH STICK" for narrow or short work.
2. Whenever possible, use the in-rip position - this provides minimum obstruction for feeding by hand or push stick as appropriate.
3. Do not release the workpiece before operation is complete - push the workpiece all the way past the rear (outfeed or exit) of the sawblade.
4. Make sure by trial before starting the cut that the antikickback pawls will stop a kickback once it has started. Points of pawls must be SHARP. Replace when points are dull or rounded.
5. Use a push stick when ripping short (under 12 inches) or narrow (under 6 inches wide) workpieces.
6. **CAUTION: Never reposition the Guard or antikickback with power "ON".**
7. A "KICKBACK" occurs during a rip-type operation. It can occur when the workpiece closes in on the rear (outfeed side) of the sawblade (pinching), binds between the fence and the sawblade (heel), or is grabbed by the sawblade teeth (wrong-way feed) at the outfeed side. "PINCHING" is generally avoided by utilization of the spreader, and a sharp sawblade of the corrective type for the workpiece being cut. "HEEL" can be avoided by maintaining the sawblade exactly parallel to the fence. (see "DANGER" warning on guard) - it can be avoided by maintaining parallelism of sawblade to fence, feeding into the sawblade from the nose of the guard only, and by utilizing the spreader.
8. Position the nose of the guard to just clear the workpiece, and position/adjust the antikickback and spreader devices as instructed.
9. NEVER cut more than one piece at a time by stacking workpieces vertically.
10. NEVER feed a workpiece thru the saw with another piece (butting second piece against trailing edge of piece being cut), even if of the same thickness. Feed each workpiece individually thru the sawblade, and completely beyond the sawblade, before ripping the next workpiece. Use push stick if the rip cut is less than 6" wide.
11. DO NOT pull the workpiece thru the sawblade
  - position your body at the nose (in-feed) side of the guard: start and complete the cut from that same side. This will require added table support for long pieces.
12. Plastic and composition (like styrene and hardboard) materials may be cut on your saw. However, since these are usually quite hard and

slippery, the antikickback pawls may not stop a kickback.

Therefore, rip with the finished side down (next to the table) and be especially attentive to following proper set-up and cutting procedures. Do not stand, or permit anyone else to stand, in line with a potential kickback.

13. When sawing 1/4" or thinner materials, follow all normal ripping procedures except set sawblade into table top at least 1/8". This will minimize the tendency for the sawblade to climb upon top of the workpiece, and possibly cause an accident. DO NOT let go of or stop feeding the workpiece between the blade and fence until you have pushed it completely past the antikickback pawls. Otherwise the workpiece could get into the back of the sawblade and be thrown violently from the saw in the direction opposite to the feed direction. This is the same action that would occur if the instructions of the DANGER warning on the guard is aborted. Do not stand, or permit anyone else to stand, in line with the path of a workpiece that may be thrown from the saw in this manner.
14. Position the saw so neither you, a helper, or a casual observer is forced to stand in line with the sawblade.
15. Use extra care when ripping wood that has a twisted grain or is twisted or bowed - it may rock on the table and/or pinch the sawblade. If bowed across the width, place concave side down against the table.

## (C) CROSSCUTTING

1. ALWAYS RETURN THE CARRIAGE TO THE FULL REARWARD POSITION AT CONCLUSION OF EACH CROSSCUT TYPE OPERATION. Never remove your hand from the Yoke Handle unless the carriage is in this position. Otherwise the cutting tool may climb up on the workpiece and be propelled toward you.
2. Place guard in horizontal position and adjust antikickback pawls to just clear the top of the fence or workpiece, whichever is higher.
3. NEVER gang crosscut - lining up more than one workpiece in front of the fence - stacked vertically, or horizontally outward on the table - and then pulling saw thru: the blade could pick up one or more pieces and cause a binding or loss of control and possible injury.
4. Do not position the Arm so the operation you are performing permits the cutting tool to extend beyond the edges of the Table.

## (D) ACCESSORIES

1. Use only recommended accessories as listed in accessory section of this manual.
2. Never operate this saw when equipped with a dado head or molding head unless the molding head guard is installed - see listing of recommended accessories. The only exception is when "top-side" dadoing or molding, when the sawblade guard must be used. See detailed instructions that accompany the dado head, molding head, and molding head guard.
3. The use of abrasive or cut-off wheels, or wire wheels, can be dangerous and is not recommended. (Abrasive or cut-off wheels are used to saw many different materials including metals, stone, and glass.)

## ADDITIONAL SAFETY INSTRUCTIONS FOR RADIAL SAWS

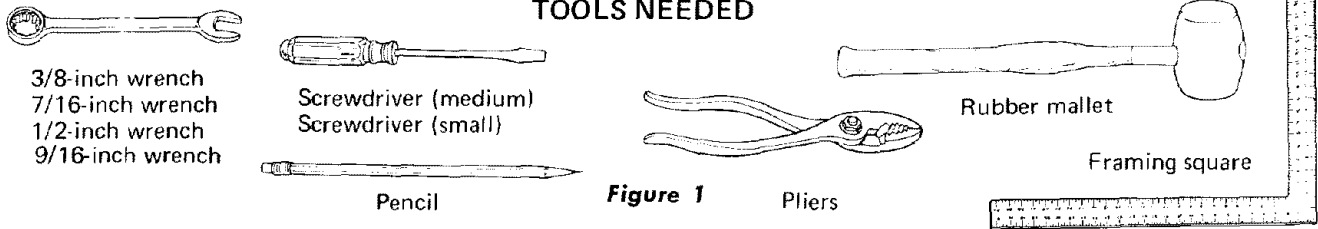


The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety goggles complying with ANSI Z87.1 (shown on Package) before commencing power tool operation. Safety Goggles are available at Sears retail or catalog stores.

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### TOOLS NEEDED



# unpacking and pre-assembly

## 1. Unpacking and Checking Contents

- a. Before proceeding with the assembly of your new Craftsman 12-Inch Radial saw, you should read these instructions and follow them carefully.
- b. This Saw is shipped complete in one carton. However, in order to prevent damage during shipment and facilitate packaging, certain items are removed at the factory and must be reassembled when received by the purchaser. These "loose" parts are shown in figure 2 and listed in the "Table of Loose Parts" below.
- c. Separate all "loose" parts from packaging materials and check each item with figure 2 and "Table of Loose Parts", making sure all items are accounted for before discarding any packing material.

If any parts are missing, Do Not attempt to assemble the Radial Saw, plug in the power cord, or turn the switch on until the missing parts are obtained and installed correctly.

Key No. (Fig. 2)	Table Of Loose Parts	Qty.
1	Table support (left-hand) .....	1
2	Table support No. 2 (center) .....	1
3	Basic saw assembly .....	1
4	Rear table .....	1
5	Table spacer .....	1
6	Rip fence .....	1
7	Front table .....	1
8	Table support (right-hand) .....	1
9	"Owners Manual" .....	1
10	Loose Parts Carton (containing the following items):	
	Hex-"L" wrench (1/8") .....	1
	Hex-"L" wrench (3/16") .....	1
	Hex-"L" wrench (1/4") .....	1
	Elevation crank assembly .....	1
	Knob assembly, pull .....	1
	Screw, hex.-hd., 3/8-16 x 1" .....	4
	Lockwasher, medium, 3/8" .....	4
	Washer, flat (steel), 13/32 x 7/8 x 1/16" .....	4
	Nut, Square, 3/8-16 x 5/8 x 1/4" .....	4
	Rip-scale indicator .....	2
	Twin nut (for attaching rip scale indicator) ..	2
	Machine screw, hex.-hd., 5/16-18 x 3/4" .....	1
	Washer, steel (flat), 11/32 x 7/8 x 1/16" .....	1
	Lockwasher, medium 5/16" .....	1
	Nut, hex., 5/16-18 x 1/2 x 17/64" .....	1
	Machine screw, pan.-hd., 1/4-20 x 1" .....	7
	Washer, steel (flat), 17/64 x 5/8 x 1/32" .....	7
	Lockwasher, medium, 1/4" .....	6
	Nut, hex., 1/4-20 x 7/16 x 3/16" .....	6
	Table clamp .....	3
	Shaft wrench .....	1
	Arbor wrench .....	1
	Switch key .....	2
	Nut, "U" clip .....	1
	Hook, cord .....	1
	Machine screw, pan.-hd., 6-32 x 7/16" .....	4

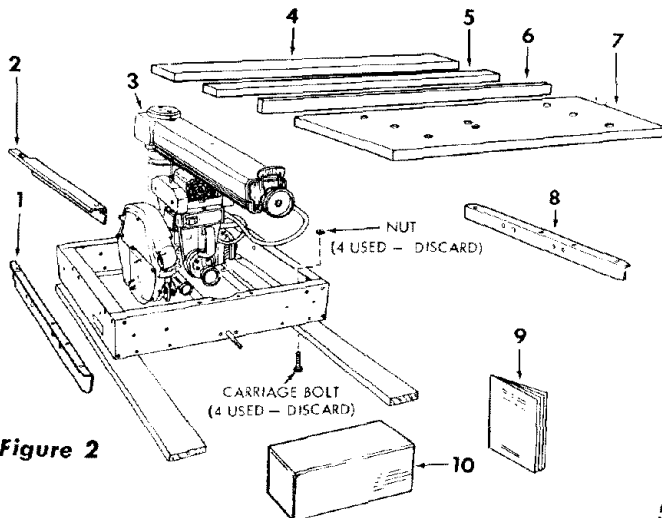
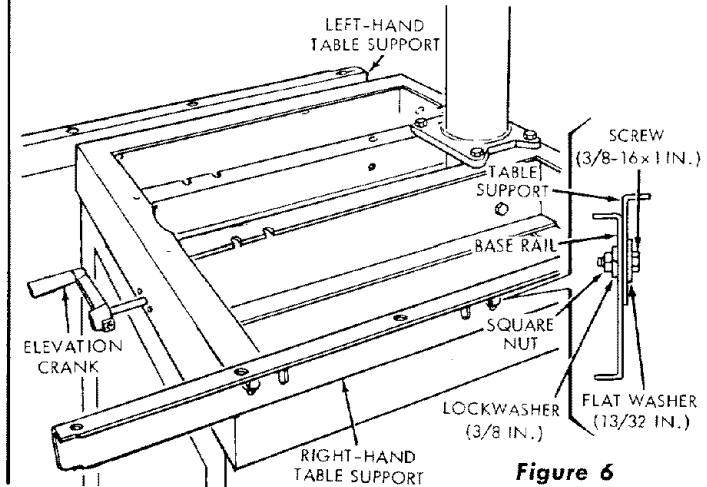
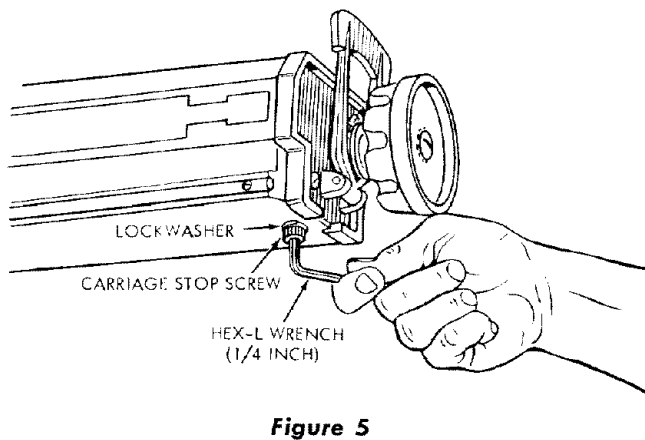
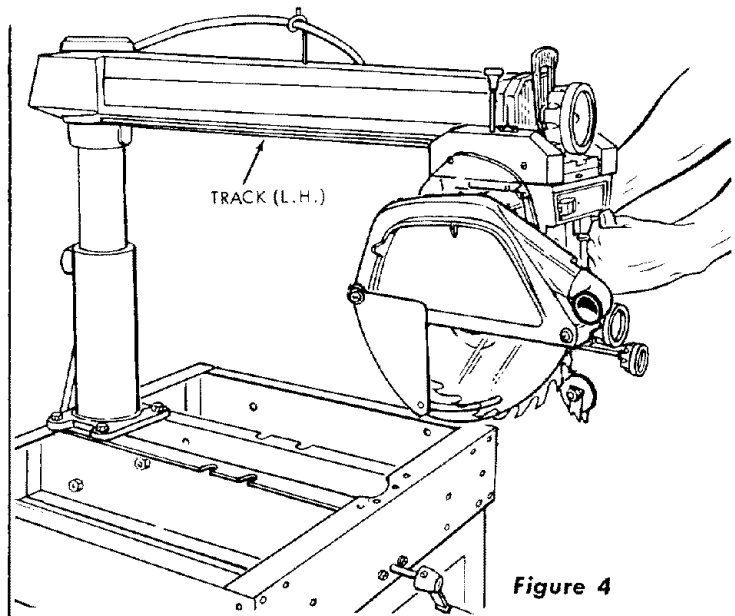
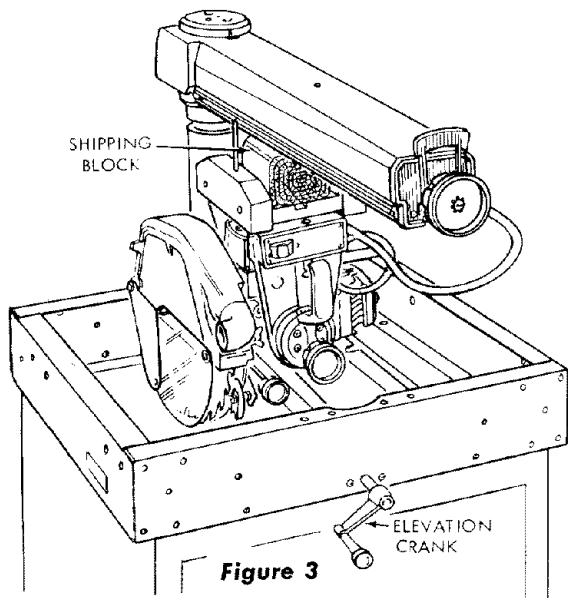


Figure 2

# assembly and adjustments



## 2. Mounting Your Saw

Mount on a Craftsman power tool base, leg set, or flat bench, in such a position that the elevation crank will be free to rotate.

**WARNING: DO NOT CONNECT THE POWER CORD TO A SOURCE OF POWER. THIS CORD MUST REMAIN UNPLUGGED WHENEVER YOU ARE WORKING ON THE SAW.**

## 3. Installing Motor and Carriage Assembly on Radial Arm

- Install the elevation crank (figure 3) on end of elevation shaft and tighten the set screw on flat portion of shaft with a 1/8-inch hex-L wrench.
- Rotate the elevation crank clockwise several turns to free the shipping block (fibre pad), located between the carriage and radial arm. (See figure 3.) Remove and discard the shipping block.
- Refer to figure 5 and, with a 1/4-inch hex-L wrench, remove the carriage stop screw and lockwasher.

- Grasp the carriage with both hands (figure 4) and carefully start the carriage bearings onto the tracks on the radial arm. Be sure to hold the assembly parallel to the arm as it is carefully slipped into position until all four bearings are on the tracks in order to prevent excessive strain on the bearings and tracks.
- Install and tighten the carriage stop screw and lockwasher. (See figure 5.)
- Move the carriage back and forth along the radial arm. It should roll smoothly throughout the entire travel range.

## 4. Installing Table Supports

- Install right- and left-hand table supports (figure 6) with two 3/8-16 x 1-inch, hex-head screws, 13/32 flat washers, 3/8-inch lockwashers and 3/8-16 square nuts in each table support. Refer to inset in figure 6 for correct location of nuts and washers. Tighten these screws just enough to permit the table supports to slip when tapped with a mallet — to facilitate later adjustments. Tap each table support until the screw mounting slots are positioned with screws approximately equal distant from ends of slots.

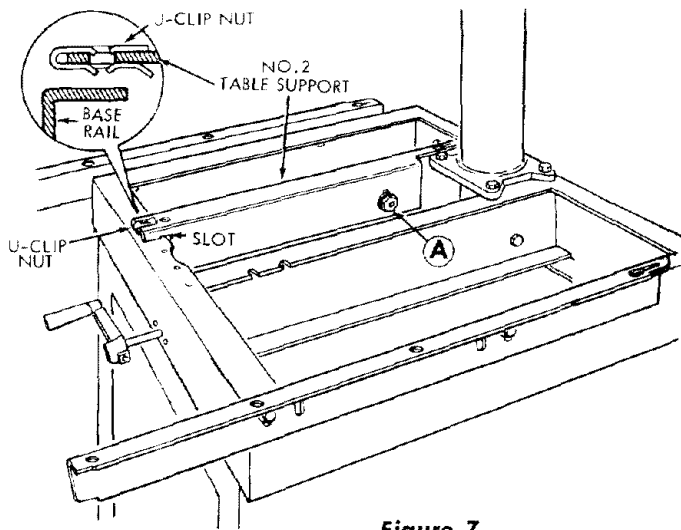


Figure 7

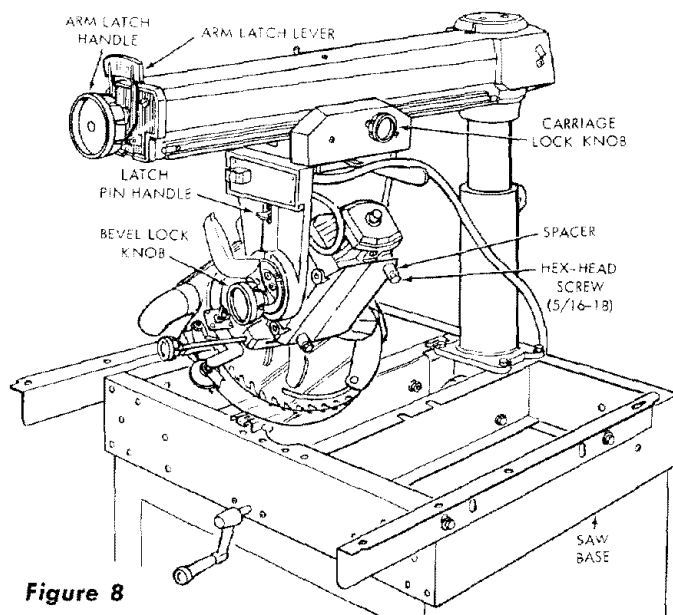


Figure 8

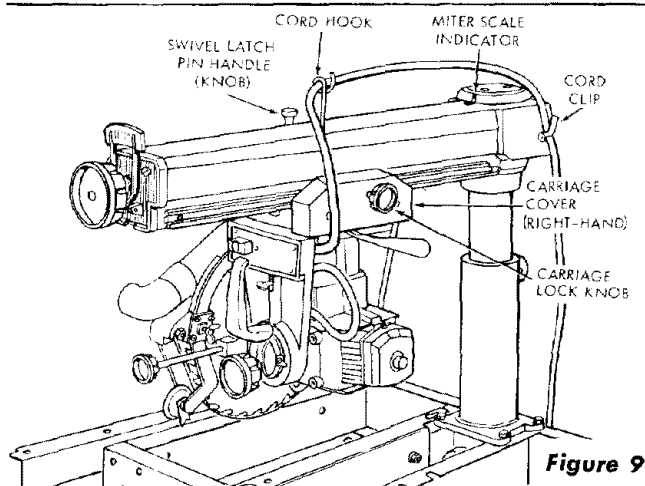


Figure 9

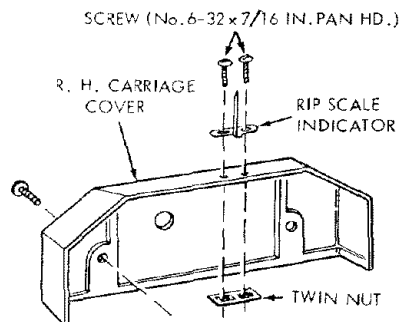


Figure 10

- b. Install the No. 2 table support (figure 7) by "hooking" the forward end over the upper flange of front base rail and attaching the rear of support (at point "A", figure 7) with one 5/16-18 x 3/4-inch, hex-head screw, 11/32-inch flat washer, 5/16-inch lockwasher and hex nut. The nut should be facing toward the right, as shown. Tighten the screw as described in preceding step a.
  - c. Slide the U-clip nut on forward end of No. 2 table support, as shown in inset of figure 7. (The formed portion of the U-clip must be underneath the table support.) Align the hole in the U-clip nut with hole in No. 2 table support.
- 5. Removing Shipping Spacers**
- a. Tighten the carriage lock knob. (See figure 8.)
  - b. Loosen the bevel lock knob.
  - c. Lift the latch pin handle.
  - d. Tilt the motor to the left, as shown in figure 8. The latch pin will drop into a notch when the motor and carriage assembly are rotated to the 45° position.
  - e. Remove and discard two 5/16-inch, hex-head screws and shipping spacers. (See figure 8.)
  - f. Lift the latch pin handle and rotate motor and carriage assembly back to a horizontal position. Tighten the bevel lock knob.
- 6. Installing Remaining "Loose Parts": (See figure 9)**
- a. Install swivel latch pin handle (knob).
  - b. Screw the cord hook into threaded hole and hook the power cord into it.
  - c. Attach the power cord to radial arm by loosening the cord clip attaching screw, placing cord under the clip and tightening the attaching screw.
  - d. Remove the right-hand carriage cover and carriage lock knob.
  - e. Attach one of the two rip-scale indicators to the carriage cover (figure 10) with one twin nut and two No. 6-32 x 7/16-inch, pan-head screws. Tighten the screws lightly as the rip scale indicators will be adjusted later.
  - f. Re-install the carriage cover and carriage lock knob.
  - g. Remove the left-hand carriage cover, attach the rip-scale indicator as described in preceding instructions and re-install the cover.

# assembly and adjustments

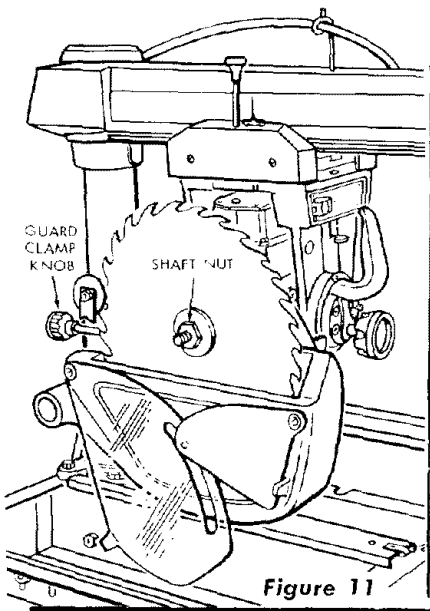


Figure 11

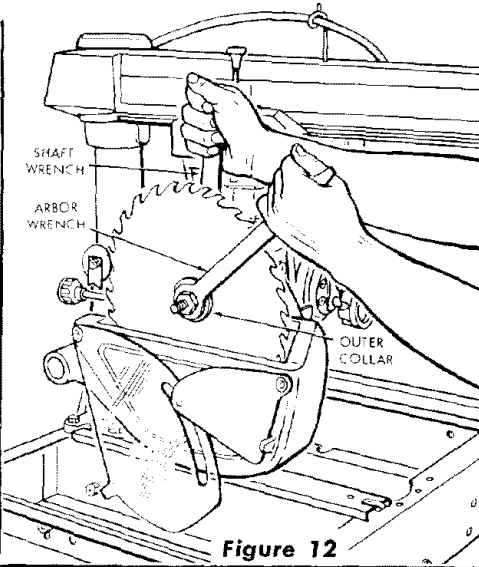


Figure 12

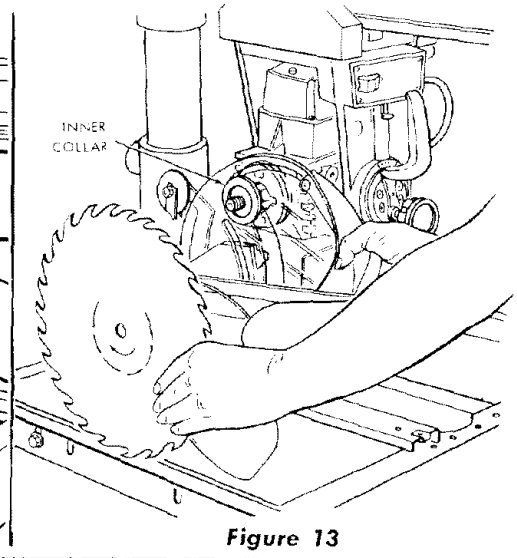


Figure 13

## ALIGNMENT INSTRUCTIONS

Alignment instructions that follow are presented in the most logical order to insure accurate performance of your saw.

**WARNING: MAKE SURE THE POWER CORD IS NOT PLUGGED INTO AN ELECTRICAL OUTLET WHEN WORKING ON THE SAW.**

### 1. Removing Guard and Saw Blade

- a. Loosen the guard clamp knob several turns and rotate the guard to an upside-down position. (See figure 11.) Loosen the knob still further, until indicator groove or the clamp bar is exposed, to allow the guard to drop down far enough to expose the shaft nut.
- b. Place the arbor wrench on the shaft nut and the shaft wrench on the hex portion of motor shaft just inside the saw blade. (See figure 12.)
- c. Hold the shaft wrench and rotate the arbor wrench downward to loosen the shaft nut. The motor shaft has left-hand threads. (See figure 12.)
- d. Remove the shaft nut and outer collar.
- e. Grasp the saw blade, slide it off the shaft and out of the guard. (See figure 13.) Remove the inner collar and guard. Place the guard and blade out of work area.

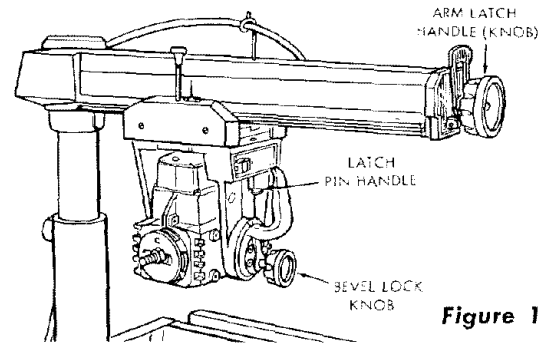


Figure 14

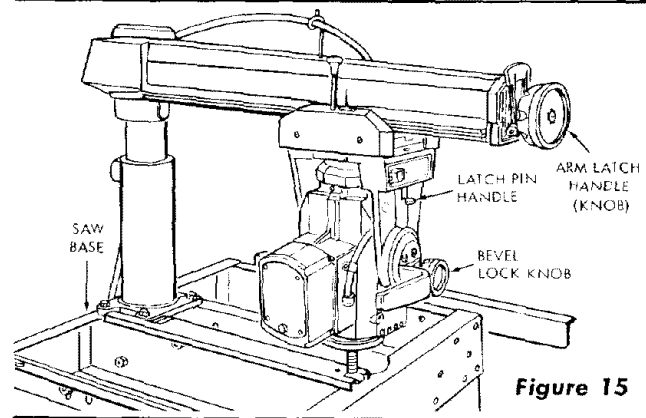


Figure 15

### 2. Adjusting Table Supports Parallel To Radial Arm

- a. Loosen the carriage lock knob and lift up on the latch pin handle. (See figure 14.)
- b. Swivel the motor counterclockwise until the saw end of shaft is pointing straight down and the latch pin handle "snaps" into a detent. (See figure 15.) Tighten the bevel lock knob. If the motor shaft strikes some part of the saw base raise the radial arm enough to clear it by rotating the elevation crank.
- c. Loosen the arm latch knob by rotating it counterclockwise until it stops. (See figure 16.) This will free the radial arm, permitting it to be

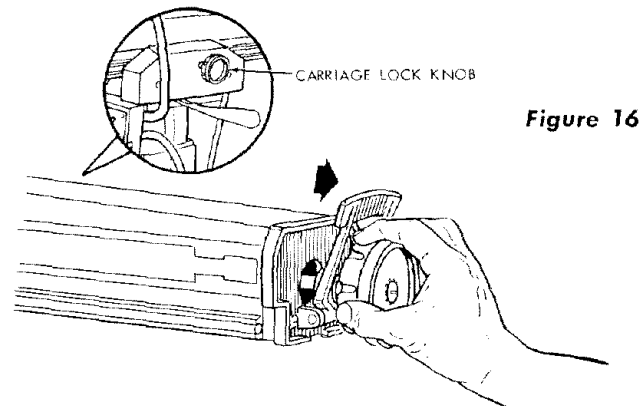


Figure 16



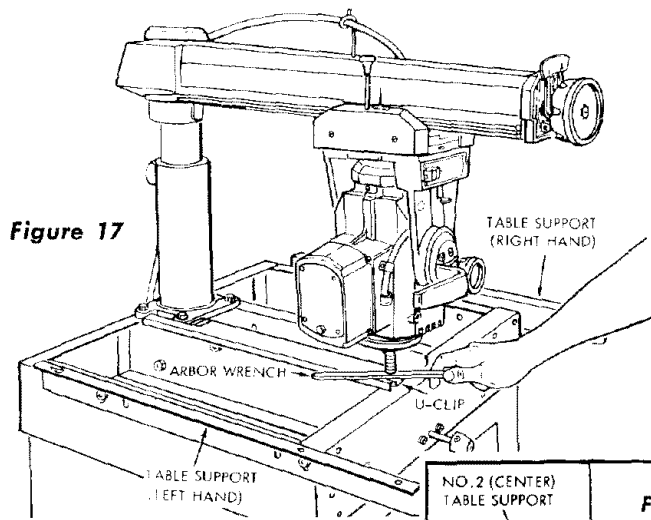


Figure 17

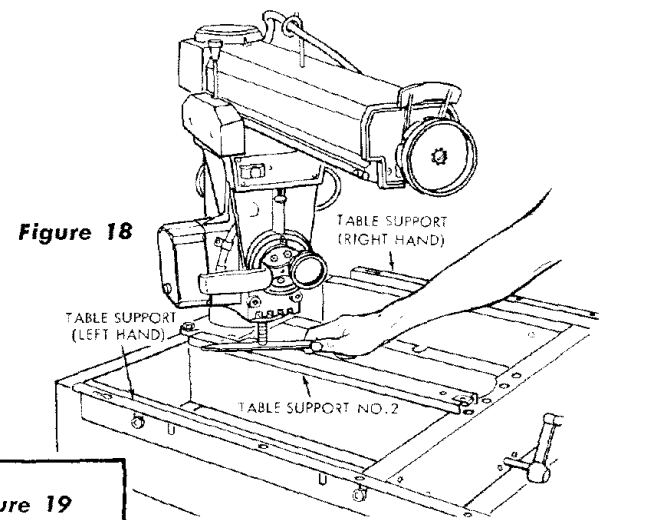


Figure 18

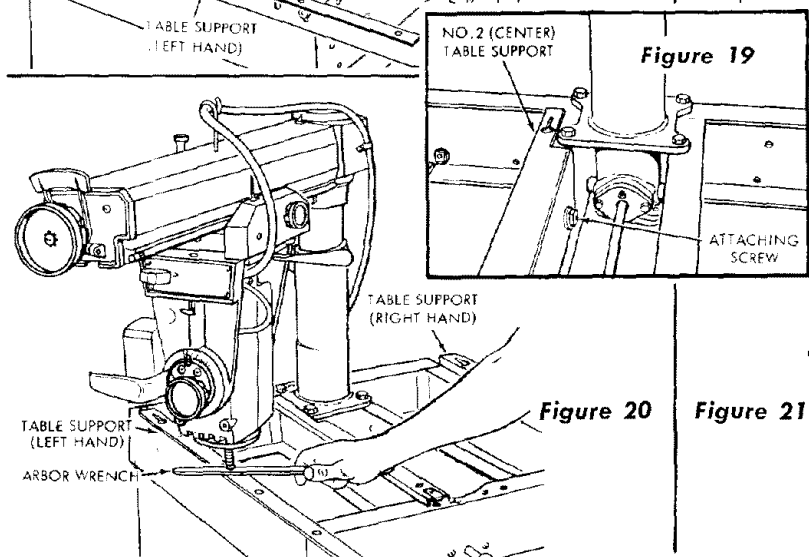


Figure 19

Figure 20

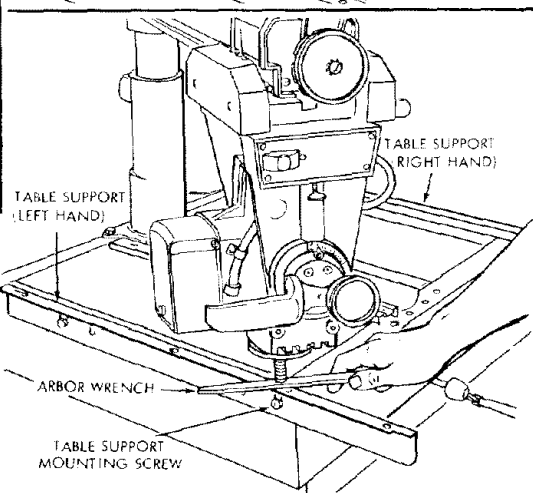


Figure 21

moved from right to left, by hand. Also, make sure the carriage lock knob (figure 16) is loose enough to permit the carriage to move freely back and forth on the arm.

**Note:** In accordance with the UL standard, stops have been provided to prevent 360° rotation of the radial arm.

- d. The forward end of the No. 2 (center) table support is anchored to the saw base with a slot and, consequently is not adjustable. For this reason, this location is the starting point for adjusting all of the table supports. (See figure 17.)
- e. Move the carriage and swing the radial arm until the end of motor shaft is positioned directly over the U-clip, located on the outer end of table support No. 2. Place the arbor wrench near the U-clip, then, with the elevation crank, lower the carriage until the end of the shaft just touches the arbor wrench. (See figure 17.)
- f. Carefully adjust the motor up or down with the elevation crank until the arbor wrench (being used as a "Feeler") slides back and forth with only slight resistance. (See figure 17.)

**NOTE:** Do not change the elevation setting of the motor until all table supports have been adjusted.

- g. Remove the arbor wrench and position the motor

until end of shaft is directly over the rear position of table support No. 2. (See figure 18.) With the attaching screw hand tight, tap the rear of No. 2 table support upward or downward until the end of motor shaft just touches the arbor wrench, held between the end of motor shaft and top of support as in the preceding step.

- h. Recheck the front position (figure 17), since a change at the rear could slightly affect the front setting. Check back and forth until both front and rear positions are exactly the same height. Tighten the attaching screw and nut (figure 19).
- i. Position arm and carriage against stop (approximately 50° miter) directly over the center of left hand table support. Adjust the left hand support in the same manner as the No. 2 support (See Figure 20.)
- j. Move the motor to the forward end of the left-hand table support, over the front mounting screw (figure 21), and adjust the forward position up or down as required.
- k. Recheck both rear and forward positions (figures 20 and 21) until the arbor wrench slides with the same resistance at each position. Several trials may be required to produce an accurate setting.
- l. Tighten two left-hand table support mounting screws.

# assembly and adjustments

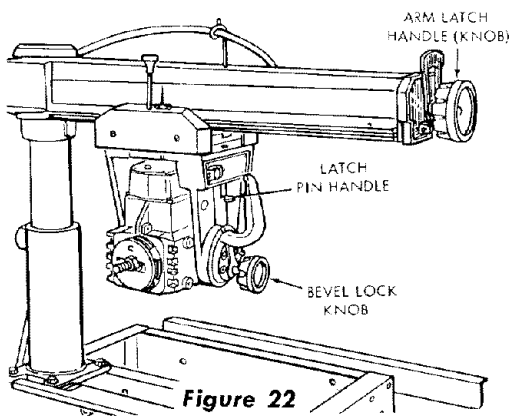


Figure 22

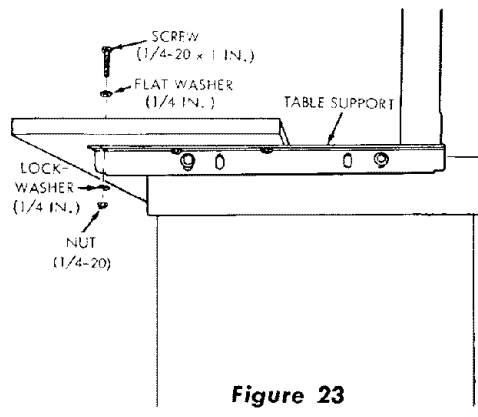


Figure 23

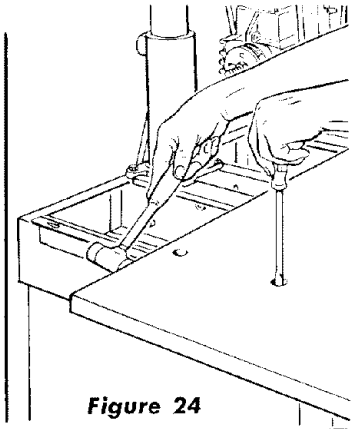


Figure 24

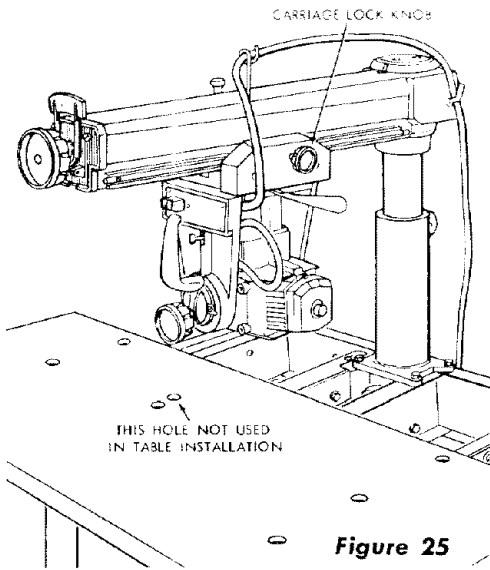


Figure 25

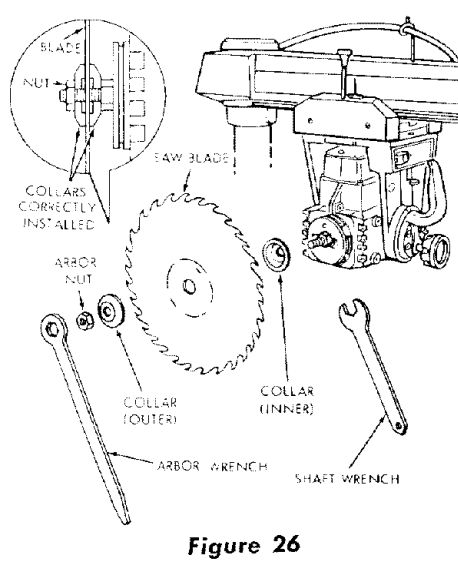


Figure 26

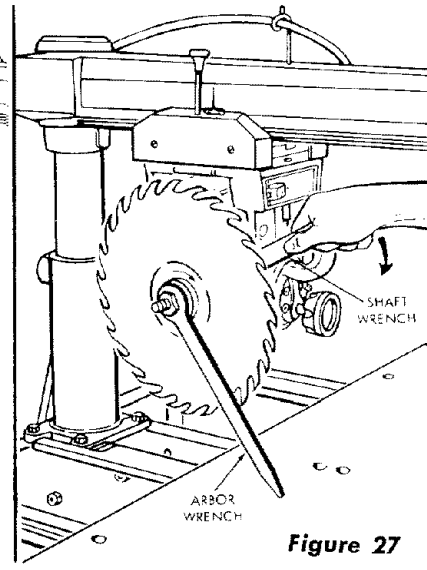


Figure 27

- m. Move the radial arm over to the right-hand table support and adjust it in the same manner, as described for the left-hand support.
  - n. Loosen the bevel lock knob, lift the latch pin handle, and rotate the motor to a horizontal position. (See figure 22.) Tighten the bevel lock knob.
  - o. Move the radial arm to 0° position and lock it by tightening the arm latch handle. Tighten the carriage lock knob.
3. Installing Front Table
- a. Place the large front table board on the table supports, locating it so that counterbored holes in the table match corresponding holes in the table supports. (See figure 23.)
  - b. Place a 1/4-inch flat washer on each of the seven 1/4-20 x 1-inch, pan-head screws and insert a screw (and washer) through each of the seven counterbored holes in the front table (See figure 25) and through holes in table supports. One screw, near the center of the table is threaded into the U-clip nut mounted on the forward end of the No. 2 support.
  - c. Install six 1/4-inch lock washers and 1/4-20 hex

nuts on all screws except the one that threads into the U-clip nut.

- d. Run all nuts up onto the screws firmly but not tight at this time. Tighten the screw into the U-clip lightly.
  - e. In order to facilitate a later adjustment, check for ability to shift the front table on the supports by tapping it along edges with a mallet. (See figure 24.) If it will not slip, loosen the screws just enough to permit it to move slightly when struck with the mallet, yet requiring a firm "tap" to move it.
4. Squaring The Crosscut Travel
- a. Loosen the carriage lock knob, move the motor to approximately center of table and tighten the carriage lock knob. (See figure 25.)
  - b. Install and tighten the saw blade as follows:
 

**NOTE:** Make sure the larger (flange) face of each collar is next to saw blade.

    - (1) Place the inner collar on motor shaft (figure 26) with flange next to saw blade (facing outward).
    - (2) Install the saw blade, outer collar and shaft nut. Tighten the nut as shown in figure 27.

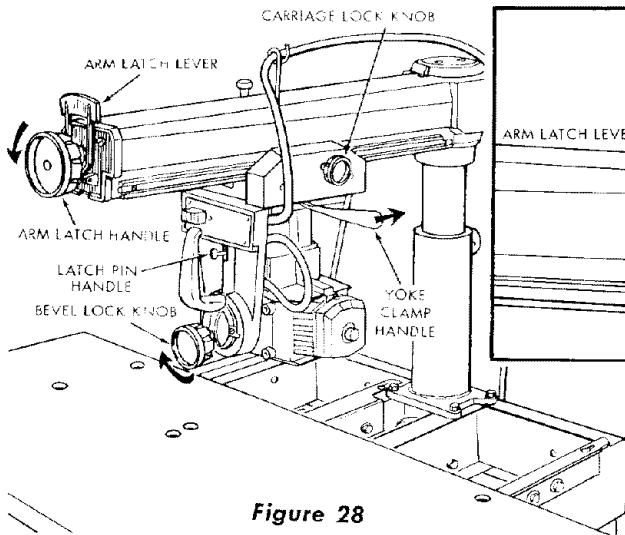


Figure 28

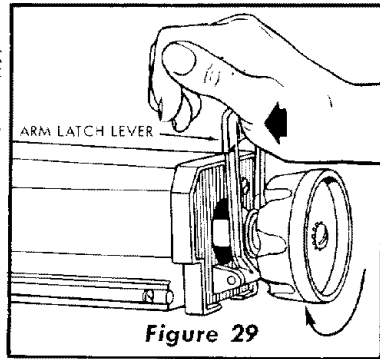


Figure 29

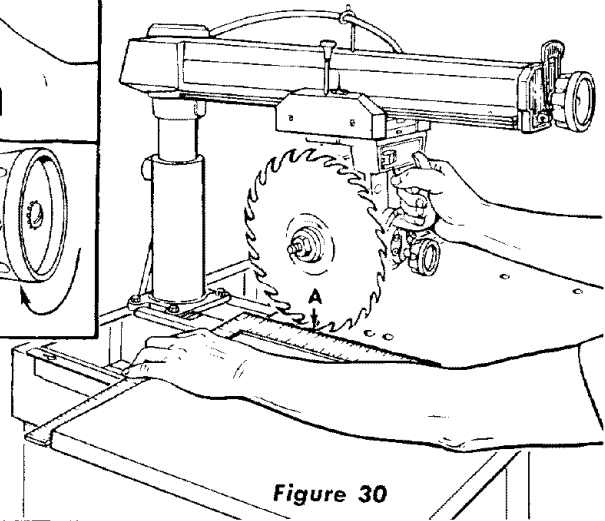


Figure 30

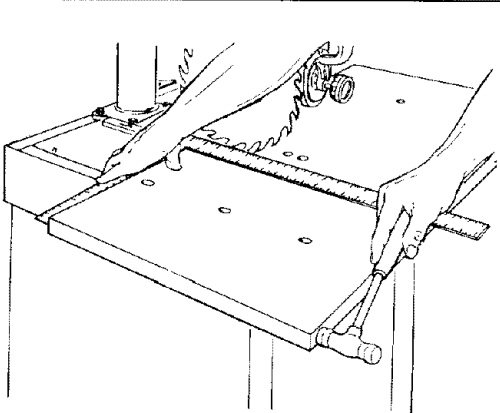


Figure 31

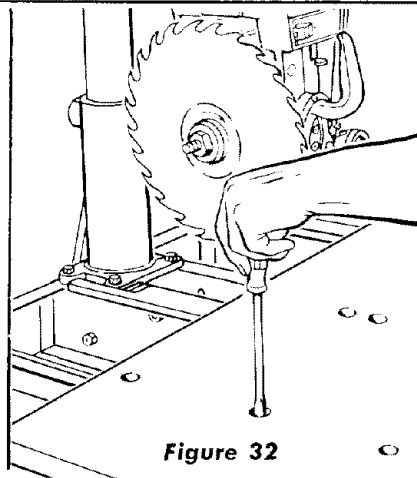


Figure 32

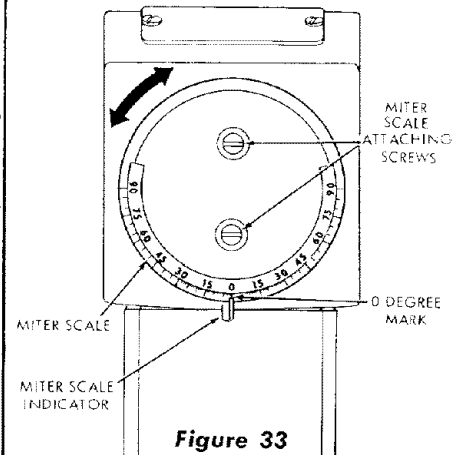


Figure 33

- c. Rotate the arm latch handle (knob) 1/4 turn counterclockwise. (See figure 28.) Make sure the yoke clamp handle and bevel lock knob are tight.
- d. Pull the arm latch lever outward and move radial arm approximately 10° to the right. Release the arm latch lever and move radial arm slowly toward the left until it "indexes". Do not bump or jar the arm. Tap the arm latch lever solidly with palm of the hand (figure 29) in order to seat the arm lock pin firmly in the arm latch.
- e. Tighten the arm latch handle (figure 28). (Refer to paragraph entitled "Precision Indexing" for detailed instructions on indexing the radial arm.)
- f. Lower the blade until it just clears the table.
- g. Place a framing square on the table with the short leg against rear edge of table as shown in figure 30 and the long leg of the square just contacting a tooth of the saw blade. (Position "A", figure 30.) Mark this tooth with a soft pencil.
- h. When the carriage is moved back and forth on the radial arm, the saw tooth "A" should just touch

the square at all positions. If saw tooth "A" does not touch the square at all points, make the following adjustments:

- (1) If the saw tooth ("A", figure 30) moves into the square when moving the blade from the rear to the front of table, tap the left-hand front edge of table (figure 31) with the mallet.
- (2) If saw tooth ("A", figure 30) moves away from the square when moving the blade from the rear toward the front of table, tap the right-hand front edge of table with the mallet.
- (3) Recheck . . . and, if correct, tighten all table holddown screws securely. (See figure 32.)
- i. Loosen the two miter scale attaching screws (figure 33) and rotate the miter scale until the 0° mark is aligned with the indicator. Tighten screws and re-check.

**NOTE:** Adjustment of the crosscut travel will automatically correct the 45° index positions of the radial arm.

# assembly and adjustments

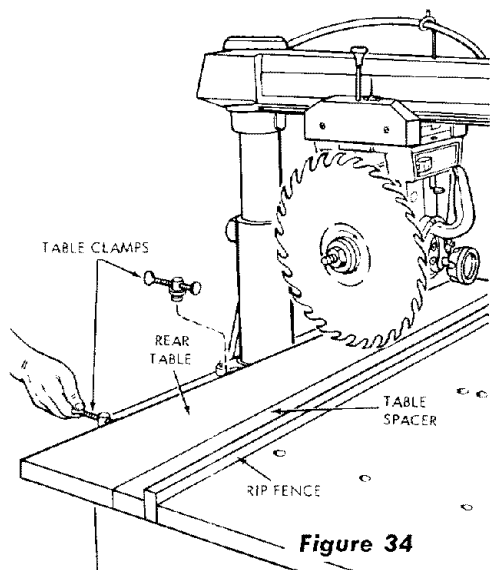


Figure 34

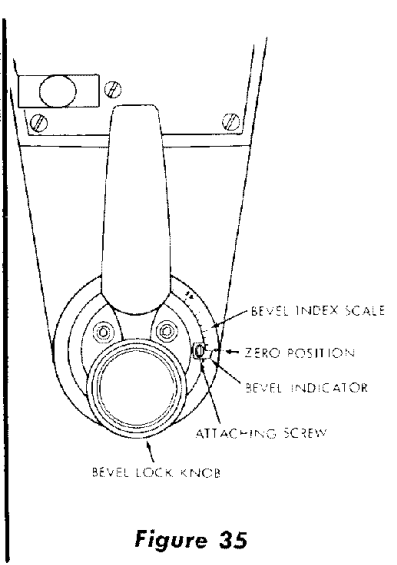


Figure 35

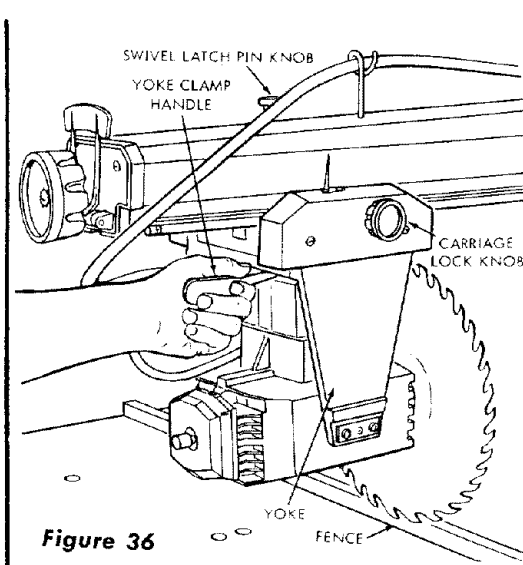


Figure 36

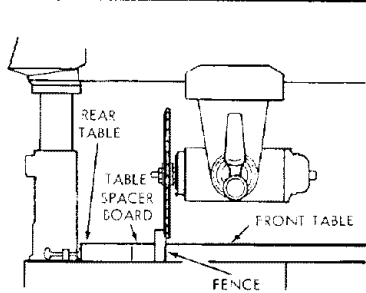


Figure 37

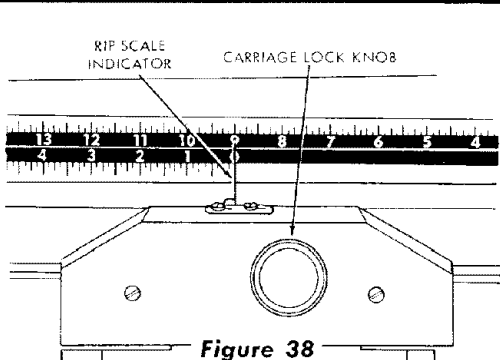


Figure 38

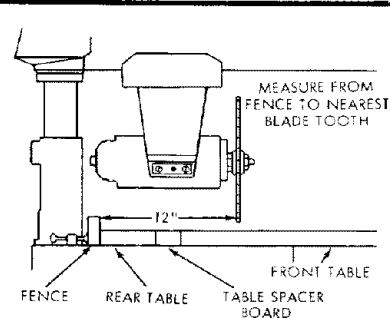


Figure 39

## 5. Installing Remaining Table Boards

- a. Install the fence, rear table, table spacer and three table clamps. (See figure 34.)
- b. Tighten the three table clamps firmly.

**NOTE:** The life of the saw table can be greatly lengthened if a 1/4-inch piece of plywood is tacked to the table top after leveling. Then all cutting can be done in the added piece of plywood instead of the table. It also eliminates the need for changing elevation settings when making right- or left-hand miter cuts.

## 6. Setting Bevel Index Scale

- a. The bevel indicator (figure 35) should read 0° on the bevel index scale.
- b. If not, loosen the indicator attaching screw, adjust the indicator to 0° and tighten the attaching screw.

## 7. Adjusting Rip Scale Indicators

**NOTE:** The rip scales and pointers are intended to be used for quick settings. For greater accuracy, take direct measurement between blade and fence.

- a. With the fence in its normal position (next to the front table), loosen the yoke clamp handle (figure 36), lift up on the swivel latch pin knob and rotate the yoke as shown to index the yoke 90° from the cross-cut position. This will locate the saw blade between the motor and the fence. Lock the yoke by tightening the yoke clamp handle. (See figure 36.)
- b. Loosen the carriage lock knob (figure 36) and move the motor until the edge of the blade, when spun by hand, just touches the front face of the fence. (See figure 37.) The rip-scale indicator (on the right-hand side of radial arm) should now read "0"-inches on lower portion of the "In-Rip" scale. (See figure 38.) If not, loosen screws and shift the indicator until it is aligned with the "0" mark, then tighten the screws.

**NOTE:** With the saw blade and fence in the position shown in figure 37, the lower portion of the "In-Rip" scale is used. If the fence is re-located at the extreme rear position, the upper portion of the "In-Rip" scale would be used.

- c. The "Out-Rip" scale indicator on the left-hand side of radial arm is adjusted in essentially the same manner as the "In-Rip" indicator, except the

fence should be at extreme rear and the blade positioned as shown in figure 39. With 12 inches measured between the fence (when in full rear position) and face of saw blade, the rip-scale indicator should be positioned to read 12 inches on the upper portion of the "Out-Rip" scale.

**NOTE:** With the saw blade and fence in the position shown in figure 39, the upper portion of the "Out-Rip" scale is used. If the fence is moved to normal position (at the rear of front table) the lower portion of the "Out-Rip" scale is used.

- d. Loosen the yoke clamp handle, lift up on the swivel latch pin knob and return the blade to the 90° position.

## 8. Installing the Guard

- a. Remove the saw blade as follows:
  - (1) Move the carriage slightly rearward of mid-position on radial arm and tighten the carriage lock knob.
  - (2) Elevate the saw blade 30 turns of the elevation crank.
  - (3) Position wrenches as shown in figure 40.
  - (4) Remove shaft nut, outer collar, saw blade and inner collar.
- b. Hold the guard in upside-down position and slide it into position on the motor shaft, allowing it to hang by the slot in the inner (clear plastic) assembly. (See figure 41.)
- c. Slide the inner collar on the motor shaft (with the flat side facing outward), then place the saw blade on the shaft. Make sure the teeth are pointed for proper saw rotation.
- d. Place the outer collar on the shaft with the flat side facing the saw blade. Start the shaft nut (left-hand threads) on the shaft and tighten the shaft nut securely. (See figure 42.)
- e. Rotate the guard until the knob is in front and tighten the knob to secure the guard in position.

This lower retractable guard is designed to provide additional protection to the operator in an axial direction

to the sawblade (perpendicular to the plane of the sawblade):

- (a) When **not** in the cut (Guards in full down position (Touching the table) and carriage in full rear position behind fence):
- (b) When performing 90° crosscut operations (sawblade 90° to table surface).

The lower retractable guard will **not** provide protection to the operator, either crosscutting or ripping:

- (a) Axially when in the cut, because the inner and outer blade guards ride on top of the fence or workpiece during the cutting operation;
- (b) Radially (in a direction in line with the cutting teeth, or perpendicular to the plane of the sawblade).

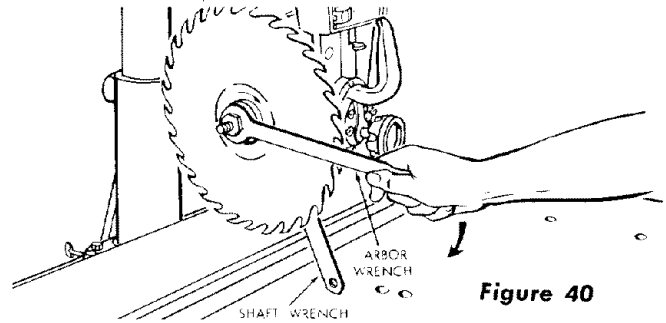


Figure 40

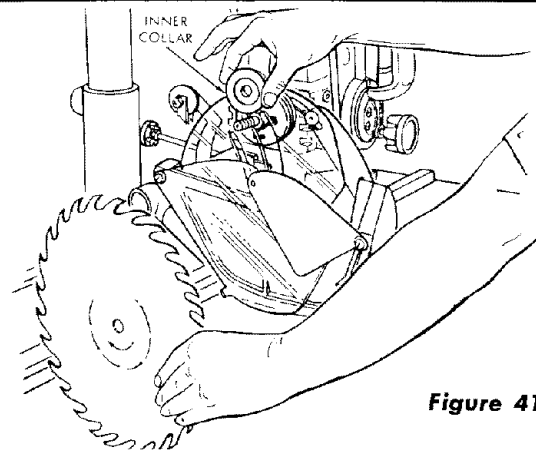


Figure 41

# electrical connections

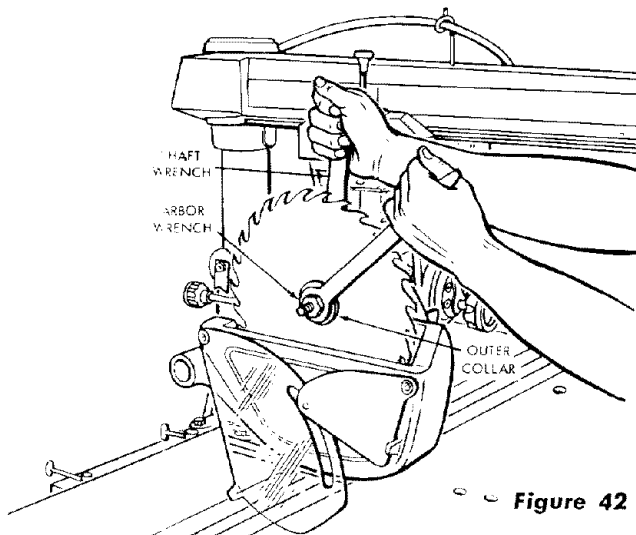


Figure 42

## POWER SUPPLY AND MOTOR DATA

### MOTOR SPECIFICATIONS

The AC motor used in this saw is a capacitor start, capacitor run, non-reversible type, with the following specifications:

Voltage	240
Amperes	7.0
Hertz (cyc.)	60
Phase	Single
RPM	3450
Rotation (viewed from saw blade end)	Clockwise

**CAUTION:** This saw is wired for operation on 240 volts only. Connect to a 15-ampere branch circuit protected by a 15-ampere time delay or circuit saver fuse or circuit breaker.

# electrical connections

**WARNING: DO NOT PERMIT FINGERS TO CONTACT THE TERMINALS OF POWER OR MOTOR PLUGS WHEN INSTALLING OR REMOVING THE PLUG TO OR FROM A LIVE POWER SOURCE. (SEE FIGURE 43.)**

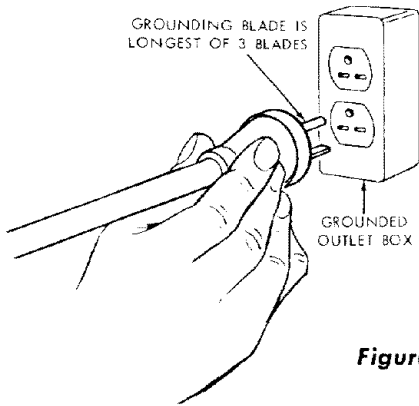


Figure 43

**NO ADAPTER IS AVAILABLE FOR THIS TYPE PLUG.**

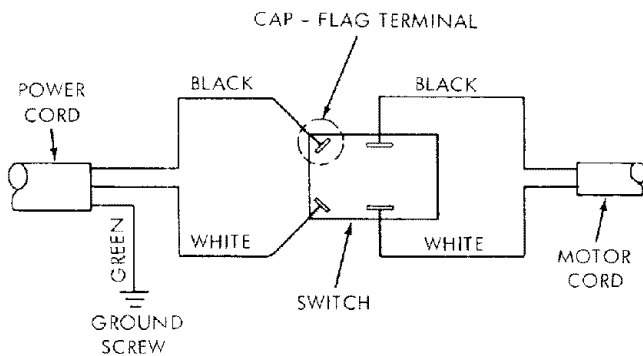


Figure 44

This tool should be grounded while in use to protect the operator from electrical shock.

## MOTOR SAFETY PROTECTION

The saw motor is equipped with a manual-reset thermal overload protector (figure 45), designed to open the power line circuit when the motor temperature exceeds a safe value.

1. If the protector opens the line and stops the saw motor, press the saw switch to the "OFF" position immediately and allow the motor to cool.
2. After cooling to a safe operating temperature, the over-load protector can be closed manually by pushing in the red button on the motor capacitor cover. If the red button will not snap into place immediately, the motor is still too hot and must be allowed to cool for a while longer. (An audible click will indicate protector is closed.)
3. As soon as the red button will snap into running position, the saw may be started and operated normally by pulling out the saw switch to the "ON" position.
4. Frequent opening of fuses or circuit breakers may result if motor is overloaded, or if the motor circuit is fused with other than those recommended. Do not use a fuse of greater capacity without consulting the power company.
5. Although the motor is designed for operation on the voltage and frequency specified on motor nameplate, normal loads will be handled safely on voltages not more than 10% above or below the nameplate voltage. Heavy loads, however, require that voltage at motor terminals equals the voltage specified on nameplate.
6. Most motor troubles may be traced to loose or incorrect connections, overloading, reduced input voltage (such as small size wires in the supply circuit) or when the supply circuit is extremely long. Always check connections, load and supply circuit when the motor fails to perform satisfactorily. Check wire sizes and lengths with the table in the next paragraph.
7. Replace or repair damaged or worn cord immediately.

## WIRE SIZES

The following table lists recommended wire sizes for connecting the motor to the power source. Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the tool's plug.

Length of the Conductor	Wire Size Required
	(American Wire Gauge Number) 240 Volt Lines
50 feet or less	No. 14
100 feet or less	No. 12
100 feet to 150 feet	No. 10
150 feet to 200 feet	No. 8
200 feet to 400 feet	No. 6

**NOTE:** For circuits of greater length, the wire size must be increased proportionately in order to deliver ample voltage to the saw motor.

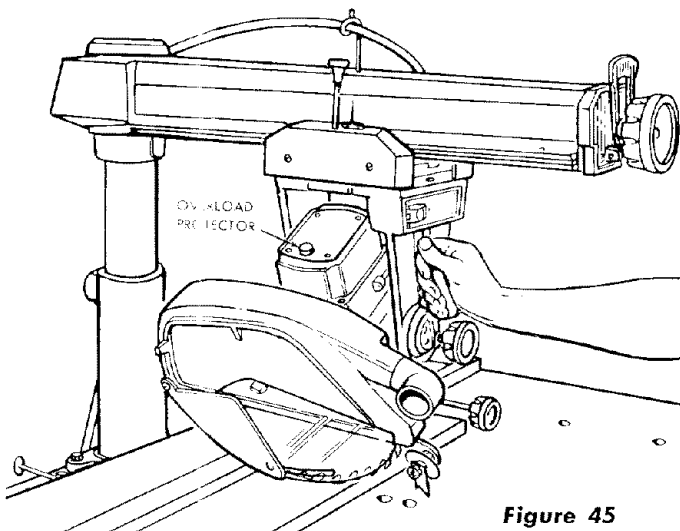
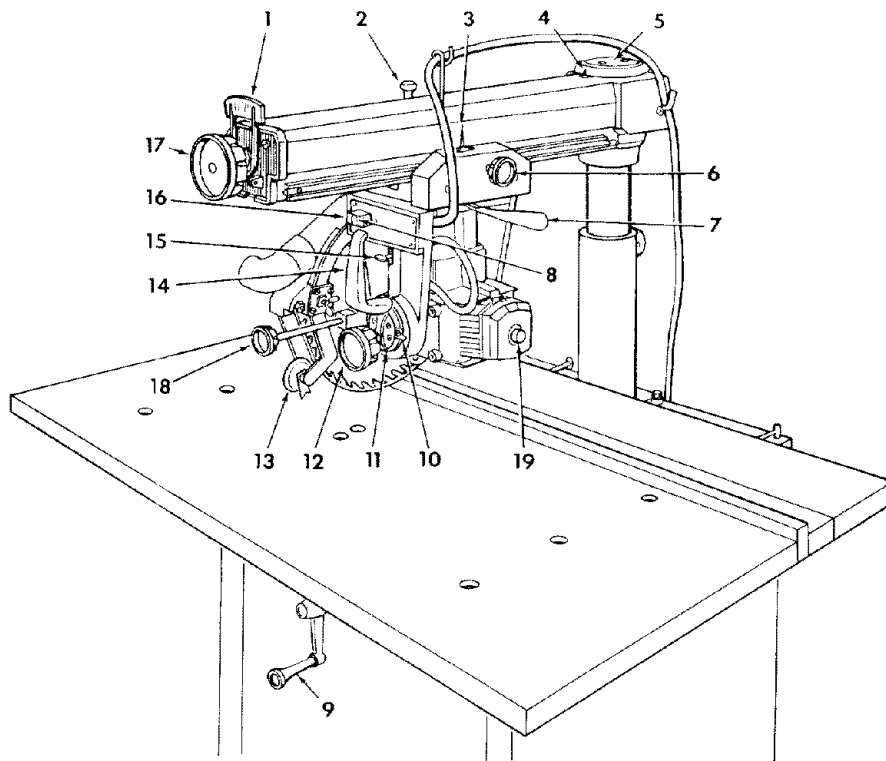


Figure 45

# operating controls



- |                           |   |
|---------------------------|---|
| 1. Arm Latch Lever        | 11. Bevel Index Scale                   |
| 2. Swivel Latch Pin Knob  | 12. Bevel Lock Knob                     |
| 3. Rip Scale Indicator    | 13. Anti-Kickback and Spreader Assembly |
| 4. Radial Arm Indicator   | 14. Bevel Index Handle                  |
| 5. Radial Arm Scale       | 15. Latch Pin Handle                    |
| 6. Carriage Lock Knob     | 16. On-Off Switch                       |
| 7. Yoke Clamp Handle      | 17. Arm Latch Handle                    |
| 8. Switch Key             | 18. Guard Clamp Assembly                |
| 9. Elevation Crank        | 19. Accessory Shaft                     |
| 10. Bevel Index Indicator |   |

Figure 46

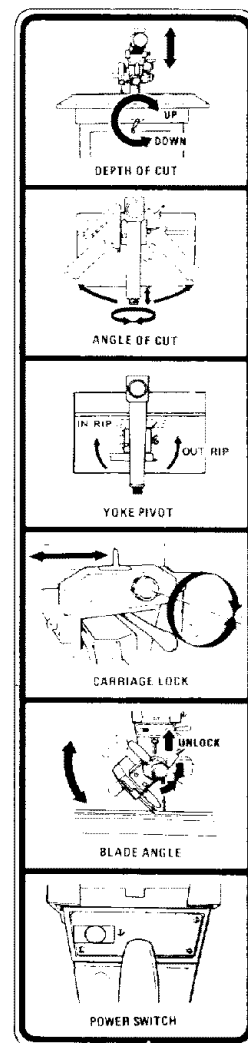


Figure 47

## LOCATION AND FUNCTION OF CONTROLS

A series of six diagrams are located on the top surface of the radial arm in order to designate the controls that must be used in basic "set-ups" and operating procedures. (See figures 46 and 47.) The operator should become familiar with these diagrams and operation instructions that follow before operating the saw.

### 1. "Depth of Cut"

- The diagram shows the elevation crank (9, figure 46) which is used to raise and lower the saw blade.
- Clockwise rotation raises the blade ... counterclockwise rotation lowers it. One complete turn of the handle will raise or lower the saw blade 1/8-inch.

### 2. "Angle of Cut"

**CAUTION:** When moving the radial arm in any direction beyond 45° (left or right), always pull out the arm latch lever (1, figure 46), or loosen the lever by rotating the arm latch handle (knob) counterclockwise until

it stops, to prevent damaging the arm lock pin. Damage of this nature would prevent proper indexing of the radial arm at 0° and 45° positions (left or right).

- Two controls are involved in releasing, securing and indexing the angle of the radial arm. These are: arm latch handle, (17, figure 46) and arm latch lever (1, figure 46).
- The arm is unlocked from any position by a slight counterclockwise rotation of the arm latch handle (17, figure 46) and is locked in any desired angular position by rotating the arm latch handle clockwise until tight. The radial arm has positive stops at 0° and 45° left and right, and is released from these index positions by unlocking the arm latch handle (17, figure 46) 1/4-turn and pulling out the arm latch lever (1 figure 46).
- For most positive and accurate settings at the index positions, the following is recommended:
  - If the radial arm is already indexed, rotate the arm latch handle (17, figure 46) 1/4 turn counterclockwise from the locked position,

# operating controls

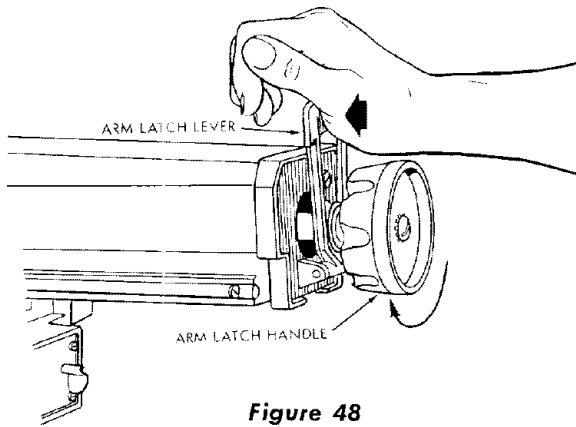


Figure 48

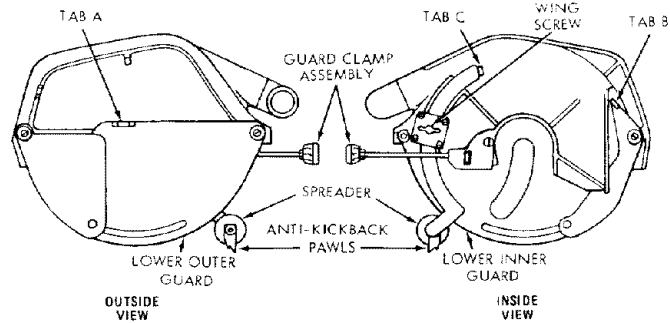


Figure 49

pull out the arm latch lever (1) and move the radial arm off the index position. Release the arm latch lever (1).

(2) Move the radial arm into the desired index position (do not bump or jar it) and push on the arm latch lever (1, figure 46) solidly with the palm of the hand. (See figure 48). This is very important as it insures proper seating of the arm lock pin in the arm latch, thus always returning the arm to the correct position.

(3) Lock the radial arm by rotating the arm latch handle (17, figure 46) clockwise until tight.

### 3. "Yoke Pivot"

- Two controls are used in this operation. They are: swivel latch pin knob (2, figure 46) and yoke clamp handle (7, figure 46).
- The swivel latch pin automatically indexes the yoke at each 90° position. Lift the spring-loaded knob to release it.
- The yoke clamp handle (7, figure 46) locks the yoke to the carriage in any position. Pull the handle forward to release the yoke; push the handle rearward to secure the yoke.

### 4. "Carriage Lock"

- The carriage lock knob (6, figure 46) is rotated clockwise to secure the carriage on the radial arm, and counterclockwise to release it.
- When performing a square crosscut or angle cut, the carriage lock knob must be rotated counterclockwise until the carriage is free to travel along the arm. This knob should be tightened except when the operator is ready to grasp the bevel index handle (14, figure 46) and make a cut.

### 5. "Blade Angle"

- The two controls used in angular positioning and indexing of the motor to provide the desired saw

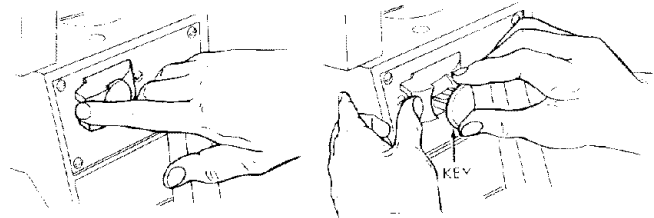
blade angle are: bevel lock knob (12, figure 46) and latch pin handle (15, figure 46).

- The bevel index scale (11, figure 46) indicates the angular position of the motor with respect to horizontal from 0° to 90° in either vertical position.
- The latch pin handle (15, figure 46) automatically indexes the motor at 0°, 45° and 90° up and down. Lift the latch pin handle to release it. At any other position, the latch pin handle does not engage.
- The bevel lock knob (12, figure 46) locks the motor to the yoke when the motor is in any position. Rotate it clockwise to lock; counterclockwise to unlock.
- The lift-tabs (A and B, figure 49) on the guard assembly are provided for use under certain conditions. In order to prevent the inner or outer lower guards from binding (with power off), lift lower guards with tabs (A or B, figure 49) while lowering the saw blade to the table in a bevel position.

### 6. ON-OFF Switch and Key

The On-Off switch has a locking feature. **THIS SHOULD PREVENT UNAUTHORIZED AND POSSIBLY HAZARDOUS USE BY CHILDREN AND OTHERS.**

To turn the switch on, the operator inserts the key and hooks the forefinger of the right hand under the end of switch lever and pulls forward. The switch is turned off by simply pressing in on the switch lever. When removing the key, always hold the thumb or finger against end of switch lever to prevent the switch from being turned on as the key is removed.





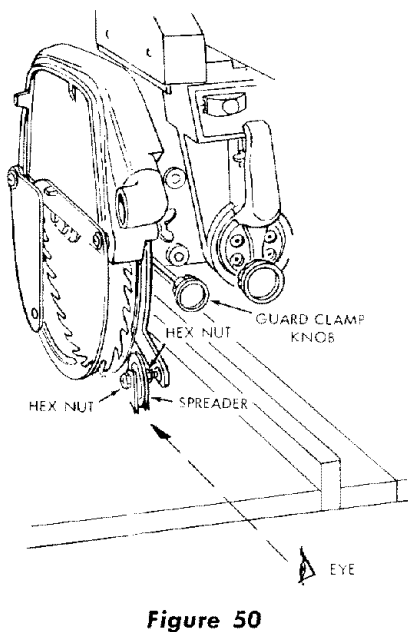


Figure 50

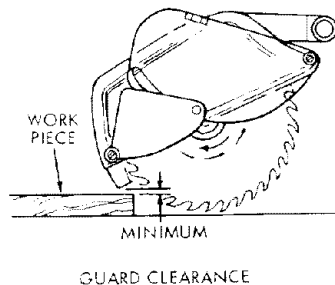
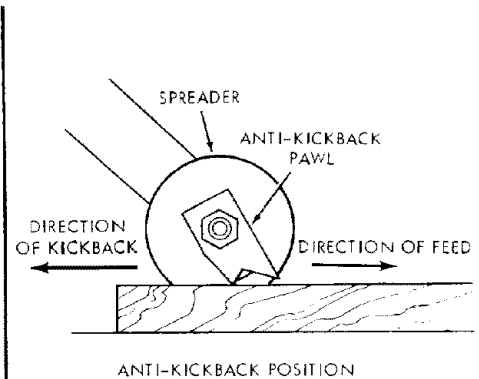


Figure 51



(Make sure by trial before starting the cut that the Anti-Kickback Pawls will stop a Kick-back once it has started)

Figure 52

## ADJUSTING GUARD, ANTI-KICKBACK AND SPREADER ASSEMBLY, FOR RIPPING

**WARNING:** Never position the guard or anti-kickback assembly with power ON; nor position anti-kickback pawls by grasping pawls or spreader.

### 1. Check and Adjust the Spreader as follows:

- a. Loosen the wing screw and with tab (C, figure 49) position the anti-kickback and spreader assembly to near the bottom of the blade. Tighten the wing screw.
- b. Sight (visually) to check for proper alignment of spreader with saw blade, as shown in figure 50. If the spreader is not aligned, adjust it as follows:
  - (1) Loosen two hex nuts, one on each side of spreader figure 50).
  - (2) Rotate hex nuts with fingers until the spreader is directly in line with saw blade.
  - (3) Tighten both hex nuts firmly.

### 2. Adjust the guard and anti-kickback assembly as follows:

- a. Position the saw blade the proper distance from the fence to produce the desired width of the rip cut. Tighten the carriage lock knob. Also, make sure the arm latch handle, yoke clamp handle and bevel lock knob are tight.
- b. Plug in the power cord, pull out the on-off switch lever to start the motor.
- c. Carefully lower the saw blade with the elevation crank until the saw blade cuts into the table surface to a depth of approximately 1/32-inch.
- d. Push in the on-off switch to stop the motor and allow the blade to come to a complete stop.

- e. Place the workpiece to be ripped in the position shown in figure 51.
- f. Loosen the guard clamp knob (figure 50) and rotate the guard so that it just clears the workpiece (figure 51). Tighten the guard clamp knob.
- g. Loosen the wing screw (figure 49) and with tab "C" position the anti-kickback and spreader assembly until the pawls assume the approximate position shown (See figure 52). Tighten the wing screw.
- h. Before making the cut, check the effectiveness of the anti-kickback pawls by sliding the workpiece under the pawls in the direction of feed and then attempting to slide it in the reverse direction – the direction of kickback. If the pawls do not catch, readjust with wing screw and tab "C" (figure 49).
- i. Periodically check and maintain sharp tips on the anti-kickback pawls.

## PRECISION INDEXING

Experienced operators of precision equipment, such as this Craftsman Radial Saw, normally acquire the habit of indexing the machine in one direction only, whenever a new setting is made in preparation for a different operation. For example: when moving the radial arm to a new position, it is advisable to move it slightly past the desired index position, then return it slowly and carefully to latch and lock it. Figure 48 shows the radial arm being securely indexed by "tapping" it with the palm of the hand. Swivel indexing and bevel indexing can be accomplished in a similar manner. This indexing technique tends to neutralize any stresses imposed upon saw components and contributes to the high degree of accuracy the saw is capable of producing when operated expertly.

# basic saw operations

## BASIC SAW OPERATIONS

Your Craftsman 12-inch Radial Saw is an extremely versatile tool, capable of performing innumerable cuts with sufficient accuracy to satisfy both amateur and professional wood-working requirements. Basic saw operations are summarized into six categories, explained and illustrated in the following paragraphs. A manual entitled "The Radial Saw" is available at your nearest Sears Retail Store or Catalog Order House. This manual contains considerable data and project ideas applicable to the radial saw.

**NOTE:** Refer to paragraphs under "OPERATION" for illustrations and descriptions of controls.

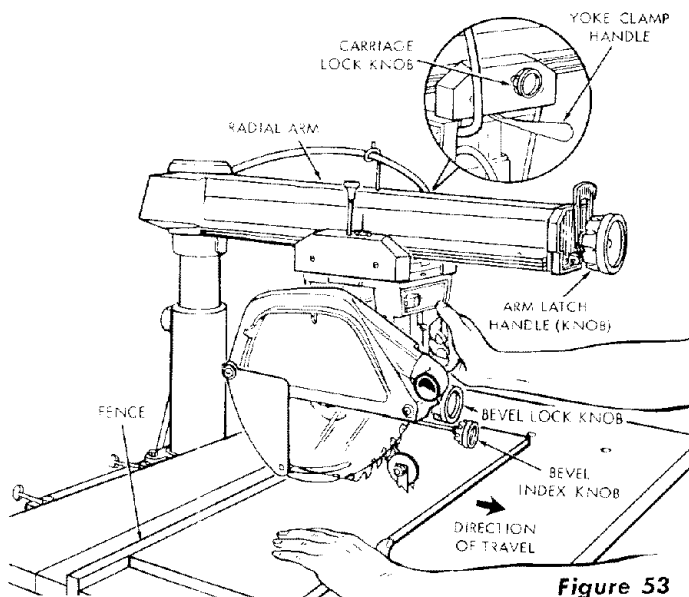


Figure 53

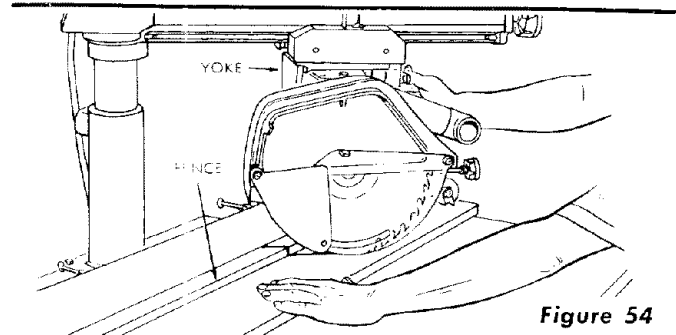


Figure 54

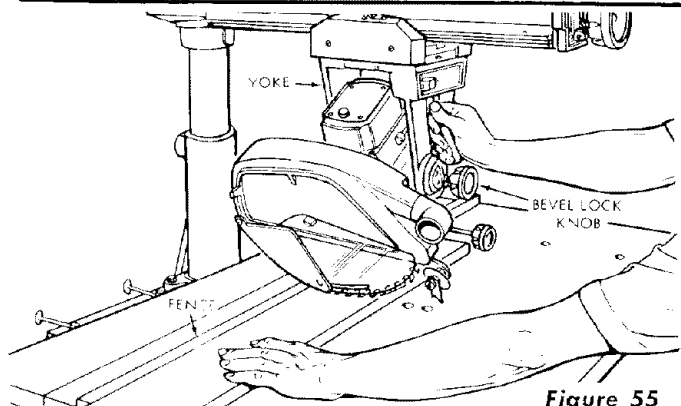


Figure 55

### REQUIREMENTS FOR CROSSCUT (OPERATIONS 1 THROUGH 4)

1. Arbor nut must be tight and saw blade guard installed in horizontal position.
2. Arm latch handle (knob) must be tight.
3. Adjust the anti-kickback assembly so the pawls just clear the workpiece, or fence.
4. Work must be held firmly against table and fence. For workpieces thicker than the fence is high, it is recommended that a higher fence be cut (at least workpiece thickness) and inserted for that operation being performed. Always place the fence in the most forward position (farthest from the column support) compatible with the workpiece being processed and the operation being performed. With the carriage fully retracted, the blade should not contact the workpiece when placed against the fence, within the stated capacities of your saw.
5. Blade should be sharp and correctly set.
6. Hands must be kept well away from saw blade.
7. Yoke clamp handle must be in locked position.
8. Bevel index knob must be tight.
9. Blade should cut into the table or plywood cover not more than 1/32 inch.
10. Pull the saw forward just far enough to sever the lumber. It is dangerous if the blade has been pulled too far out beyond the piece being cut. When it is returned it can pick up the right hand piece and throw it over the fence.
11. For operations No. 3 and No. 4, observe additional instructions under paragraph "Operating Controls" - "Blade Angle".

### OPERATION No. 1 – CROSSCUT

Crosscutting is the process of sawing the workpiece by pulling the saw blade through it and using the fence as a support for the edge of the workpiece. (See figures 53 through 56.) Never crosscut free-hand.

**WARNING: BEFORE CROSSCUTTING, MAKE SURE THE ARM LATCH, BEVEL LOCK AND YOKE CLAMP ARE ALL SECURED. NEVER USE A LENGTH STOP OR A FIXED GUIDE ON THE FREE END OR EDGE OF A WORKPIECE. (SEE INSTRUCTION 13 UNDER "SAFETY INSTRUCTIONS TO OPERATOR".) DO NOT CROSSCUT WORKPIECES THAT PLACE YOUR HANDS CLOSE TO THE PATH OF THE SAW BLADE. WHEN MORE EXPERIENCE IS GAINED BY USING THE SAW, IT WILL BE NOTICED, THAT WHEN PULLING THE SAW TOWARD YOU DURING CROSSCUTTING, THE BLADE TENDS TO FEED ITSELF THROUGH THE WORK DUE TO THE ROTATION OF THE BLADE AND THE DIRECTION OF THE FEED. THEREFORE, THE OPERATOR SHOULD DEVELOP THE HABIT OF HOLDING HIS RIGHT ARM STRAIGHT FROM THE SHOULDER TO THE WRIST.**

### OPERATION No. 2 – MITER CROSSCUT

Miter crosscutting is the process of sawing a board at any angle other than a 90° (square) cut. (See figure 54.) The 45° miter angle is a popular one, since two boards cut to 45° can be assembled to form a 90° corner for producing a square or rectangular frame. The radial arm is set to the

desired angle of cut; yoke and bevel settings indexed at 0° (and locked) as in square crosscutting. The board being cut is held firmly against the fence and the carriage pulled forward along the radial arm to perform the desired cut. As in "Operation No. 1", the carriage should be returned to full rear position and the saw blade allowed to come to a complete stop before removing the boards from saw table.

### OPERATION No. 3 – BEVEL CROSSCUT

Bevel crosscutting is the process of sawing at 90° (square) across the board with the saw blade set at an angle other than 90° to the saw table. (See figure 55.) The radial arm and yoke are indexed at 0° and locked, but the bevel is set to the desired angle of cut. The board is held firmly against the fence and the carriage pulled forward along the radial arm to produce the cut. The carriage should be returned to full rearward position and the saw blade allowed to come to a complete stop before removing the boards from saw table.

### OPERATION No. 4 – COMPOUND CROSSCUT

Compound crosscutting is the combination of miter and bevel crosscuts. (See figure 56.) The radial arm and bevel are set to produce the desired cut; the yoke is indexed at 0° and locked. The board is held firmly against the fence and the carriage pulled forward along the radial arm to produce the cut. Again, the carriage should be returned to full rearward position and the saw blade allowed to come to a complete stop before removing boards from saw table.

### REQUIREMENTS WHEN RIPPING (OPERATIONS 5 AND 6)

1. Carriage lock knob must be tight.
2. Radial arm must be locked in 0° position.
3. Work must be held firmly against table and fence while feeding through.
4. Guard and anti-kickback mechanism must be properly set. Observe instructions in paragraph, "Adjusting Guard, and Anti-Kickback and Spreader Assembly, for Ripping."
5. Blade should be sharp and correctly set.
6. Hands must be kept well away from saw blade. When ripping narrow or short stock, always use a push-board.
7. Saw blade must be parallel to fence, to minimize possibility of kickbacks.

### OPERATION No. 5 – OUT-RIPPING AND IN-RIPPING

1. Ripping is the process of sawing the workpiece by feeding it into the saw blade when using the fence as a guide and as a positioning device to obtain the desired width of cut. (See figures 57 through 59.)

**WARNING: NEVER RIP FREE-HAND. BEFORE RIPPING, MAKE SURE THE GUARD, SPREADER AND ANTI-KICKBACK PAWLS ARE SET UP PROPERLY. ALSO, MAKE SURE THE SAW BLADE IS PARALLEL WITH THE FENCE. NEVER RIP WORKPIECES SHORTER THAN THE SAW BLADE DIAMETER.**

2. Since the work is pushed along the fence, it must have a reasonably straight edge in order to make sliding contact with the fence. Also, the work must make solid contact with the table, so that it will not wobble.

Provide a straight edge, even if this means temporary nailing of an auxiliary straight-edged board to the work. If the workpiece is warped, turn the hollow side down.

3. Always use the saw guard and make sure the spreader is correctly aligned with the saw kerf. Wood cut with the grain tends to spring the kerf closed and bind the blade and a kickback could occur.
4. Stand a little to one side of center to avoid being sprayed with sawdust and to be clear of work in case of kickback.
5. When ripping short or narrow work, always use a push stick applied to the section of the workpiece between the blade and fence . . . push the work past the blade so it is clear of the blade. This procedure will minimize the possibility of kickbacks.

**In-Ripping** (See figure 57.) The radial arm and bevel are indexed at 0° and locked, but the yoke is turned 90-degrees in a clockwise direction (viewed from above) from the crosscut position. Thus, when standing in front of the saw, the blade would be rotating counterclockwise. After positioning the guard and anti-kickback mechanism the workpiece is fed from the right-hand side of the saw, as shown in figure 57. The "In-Rip" scale is on the right-hand side of radial arm.

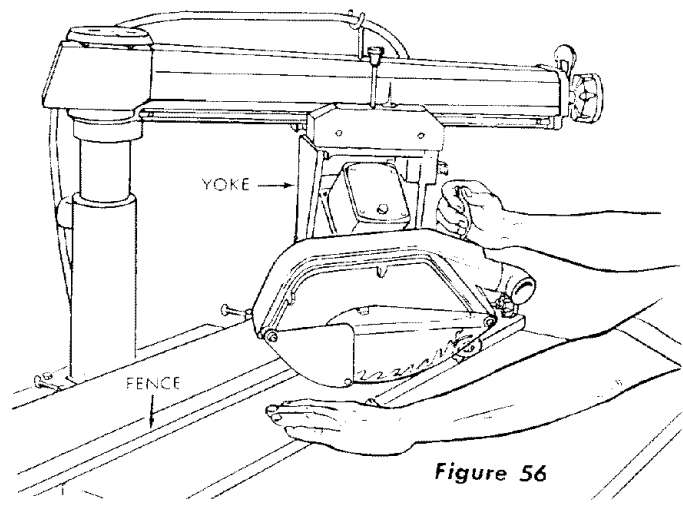


Figure 56

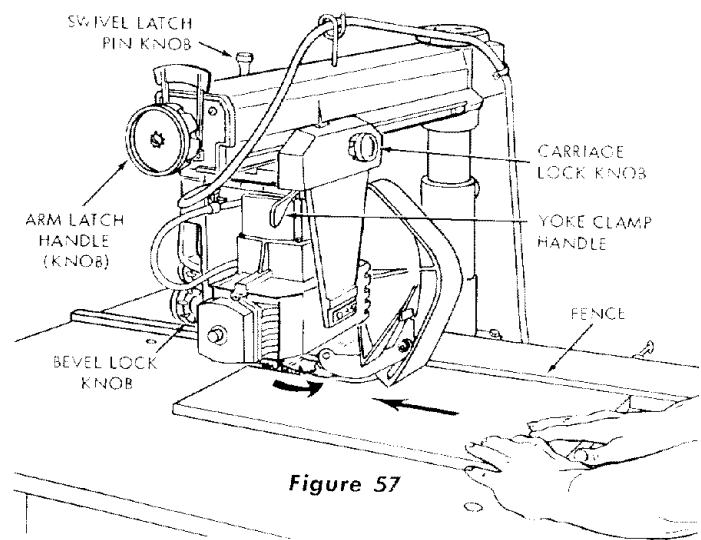


Figure 57

# basic saw operations

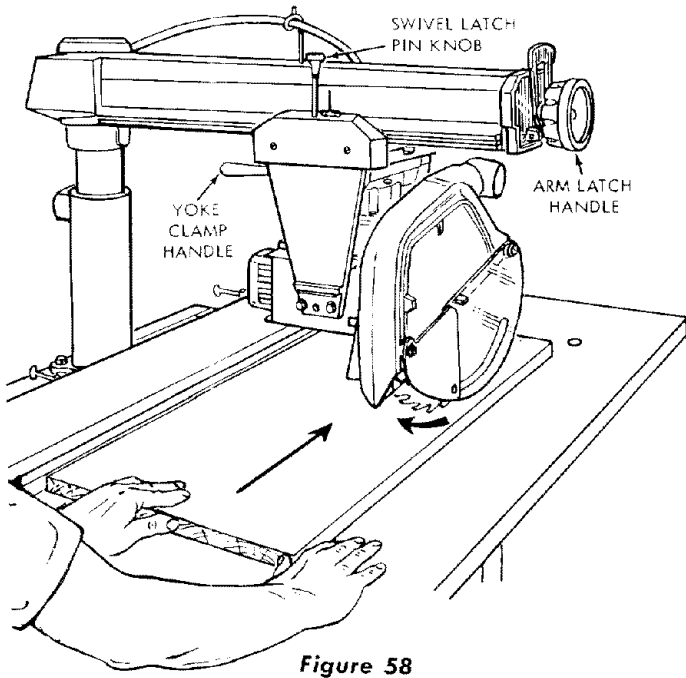


Figure 58

**Out-Ripping** (See figure 58.) The radial arm and bevel are indexed at 0° and locked, but the yoke is turned 90-degrees in a counterclockwise direction (viewed from above), from the crosscut position. When standing in front of the saw, blade would be rotating clockwise. After positioning the guard and anti-kickback mechanism the workpiece is fed from the left-hand side of the saw, as shown in figure 58. The "Out-Rip" scale is on the left-hand side of radial arm.

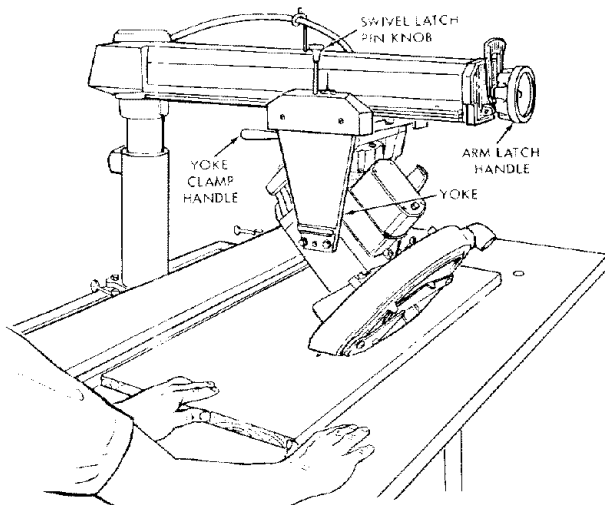


Figure 59

## OPERATION No. 6 — BEVEL RIPPING

Bevel ripping is either in-ripping or out-ripping as described above, except the saw blade is tilted out of perpendicular to the saw table surface. Figure 59 shows a typical bevel out-ripping operation. The radial arm is indexed at 0° and locked, the bevel is set to the desired bevel angle and the yoke is positioned for in-ripping (saw blade at rear) or out-ripping (saw blade at front), as required. All requirements and observations applicable to normal ripping operations also apply to bevel ripping.

## DADOING

For best results and to avoid excessive load on the motor, NEVER CUT A 13/16" WIDE DADO, DEEPER THAN 3/4" IN ONE PASS.

# trouble shooting

## TROUBLESHOOTING

Even though the finest materials and precision workmanship have been incorporated into your Craftsman saw, it is reasonable to expect some wear after long periods of use. Adjustment facilities have been built into the saw to compensate for this wear. Looseness due to wear, rough handling, or improper adjustments will usually be indicated by reduced accuracy or the inability of the saw to perform as intended. The usual operating "troubles" are listed in the following paragraphs with the necessary corrections described and illustrated.

### 1. LOOSENESS OF COLUMN TUBE IN COLUMN SUPPORT — ELEVATION CRANK OPERATES ROUGHLY, OR CHATTERS WHEN ROTATED.

When this condition exists, square crosscuts are likely to be difficult to make and repeated cuts inaccurate. Adjust the column tube key as follows:

#### a. Checking for Looseness of Column Tube in Column Support.

- (1) Tighten arm latch handle.
- (2) Grasp the arm latch handle with one hand and hold fingers of other hand at parting line between column tube and column support. (See figure 60.)
- (3) Apply gentle side force to the radial arm in opposing directions. Any looseness between column and column support (indicated by arrow in figure 60) can be felt with fingers.
- (4) If looseness can be felt, perform the following operations:

**NOTE:** Before attempting to adjust the column tube key, the function of this adjustment should be understood. Figure 61 shows a sectional view through the column tube support (looking downward) at the column tube key location. By loosening the left-hand set screw and tightening

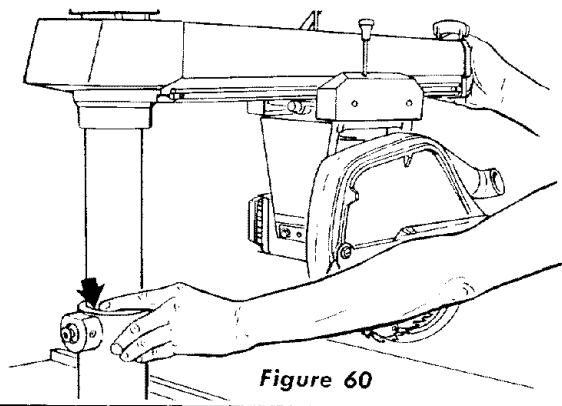
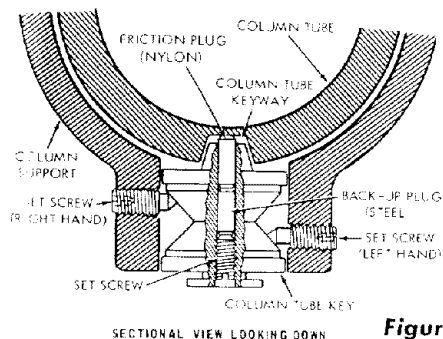


Figure 60



SECTIONAL VIEW LOOKING DOWN

Figure 61

the right-hand set screw the column tube key will be forced tighter into the column tube keyway. Conversely, loosening the right-hand set screw and tightening the left-hand set screw, will retract the column key out of the column tube keyway. The set screw in outer end of column tube key must be loosened while adjustment is being made and tightened with medium firmness after the adjustment has been completed. This screw applies pressure on the nylon friction plug and provides smoother elevation movement of column tube. This set screw should be tightened to provide maximum smoothness of operation. Right and left positions are given with operator facing the saw — standing in front of saw table.

#### b. Adjusting Column Tube Key

- (1) Loosen the set screw in center of column tube key. (See figure 61.)
- (2) Loosen the left-hand set screw 1/4 turn.
- (3) Tighten right hand set screw until looseness between column and column support is eliminated. Turn elevation crank to raise radial arm, if saw elevates too hard, loosen right hand set screw slightly and again check elevation and column tube for looseness. When correct, tighten left hand set screw.
- (4) Tighten set screw in center of column tube key. Elevate and lower arm and if chatter or rough elevation exists, tighten set screw until smoothest operation is obtained.
- (5) Turn elevation crank to raise and lower radial arm. If too tight, loosen right hand set screw slightly and check again for smooth operation. When correct, tighten left hand set screw.
- (6) Tighten the set screw in center of column tube key (figure 61) until smoothest operation is obtained.

### 2. BLADE DOES NOT MAKE SQUARE CUTS AND ACCURATE REPEAT CUTS CANNOT BE MADE.

If this condition exists the trouble might be due to one, or a combination of, the following conditions.

#### a. Looseness between column tube and column support.

Adjust as described in preceding paragraph 1, a and b.

#### b. Crosscut travel not properly adjusted.

Refer to paragraph, "Adjusting Crosscut Travel." If crosscut travel cannot be adjusted as described, refer to paragraph i, below.

#### c. Table supports not properly adjusted.

Correct adjustment of table supports can be checked with satisfactory accuracy without removing the table boards, by checking at the various positions on the top surface of the table, described in paragraph, "Adjusting Table Supports Parallel to Radial Arm".

#### d. Saw blade not square with table.

Adjust as described in paragraph, "Squaring the Saw Blade to the Table".

# trouble shooting

- e. **Bearings Loose on Tracks.**  
Adjust carriage bearings as described in subsequent instructions.
- f. **Yoke Does Not Index Properly.**  
Check for proper yoke indexing noting that the swivel latch pin fits into its detents properly. If swivel latch pin housing screws (located under left-hand carriage cover) are loose, re-adjust blade for "heel" as described in paragraph, "Blade Heels to the Right or Left".
- g. **Yoke Clamp Does Not Tighten the Yoke When In Full Rearward Position.**  
Refer to paragraph, "Yoke Clamp Handle Adjustment" in subsequent instructions.
- h. **Improper Indexing of Radial Arm for Miter Cuts.**  
Refer to paragraph, "Precision Indexing", in the "Operation" section.

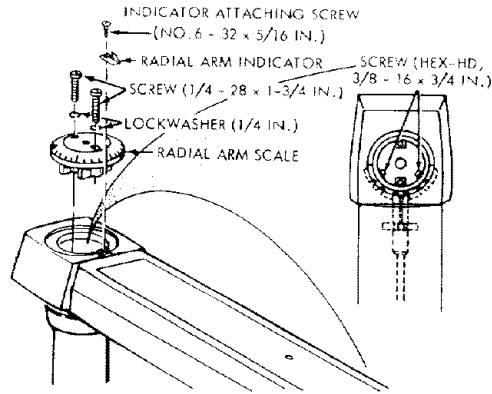


Figure 62

- i. **Adjusting the Arm Latch To Correct Crosscut Travel Mis-Adjustment.**  
In some remote cases, due to rough handling, etc., the crosscut travel cannot be squared by the usual method. (Refer to "Squaring the Crosscut Travel".) If this condition is encountered, it will be necessary to adjust the arm latch as follows:

- (1) Remove two 1/4-28 x 1-3/4-inch screws (figure 62) to free the radial arm cap, and lift out the cap.
- (2) Rotate the arm latch handle (figure 63) one-quarter turn counterclockwise but do not pull it out.
- (3) Loosen (do not remove) two 3/8-16 hex-head screws (figure 62) located inside the column tube.
- (4) Move radial arm slightly in the proper direction to make saw tooth ("A", figure 63) follow edge of square when the saw blade is moved in and out in a "cross-cut" manner.
- (5) Re-tighten the hex-head screws inside radial arm then tighten the arm latch handle (figure 63.)
- (6) Recheck travel of blade tooth ("A") with the square (figure 63), to make sure that tightening the screws did not affect the adjustment.
- (7) After the crosscut has been accurately squared, install the radial arm cap with two 1/4-28 x 1-3/4-inch screws and 1/4-inch lockwashers. (The cap has elongated holes to permit final positioning, therefore, leave the screws loose enough to permit the cap to "shift".)
- (8) Position the cap to align the "O" mark with the radial arm indicator and tighten the two screws.

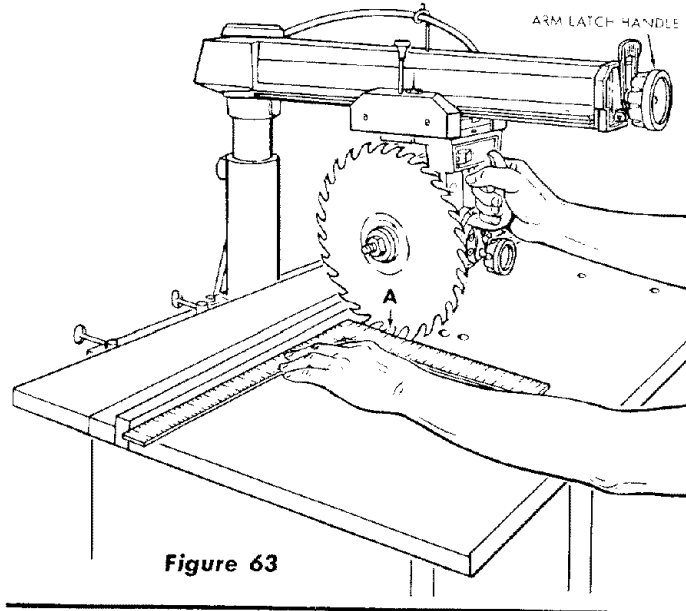


Figure 63

- j. **Squaring the Saw Blade to the Table.**
  - (1) Place a framing square on the table with the short leg against the saw blade as shown in figure 64. Do not allow the square to rest against a "set-out" tooth of the saw blade.

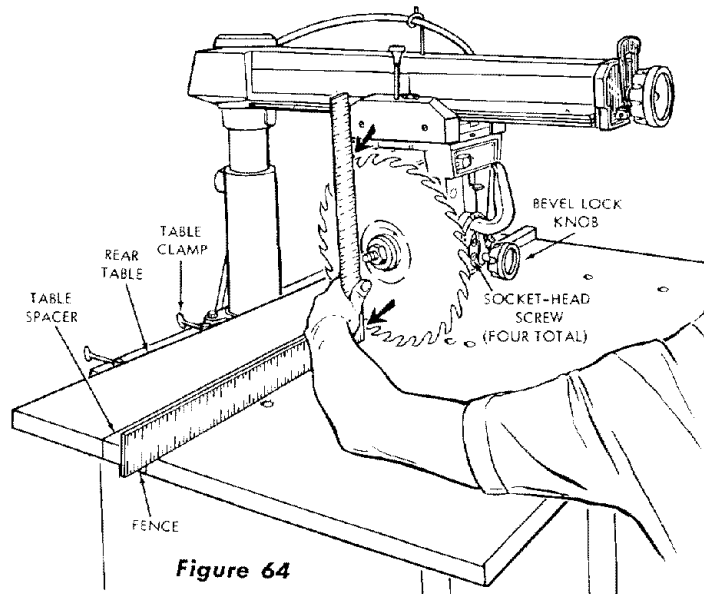


Figure 64

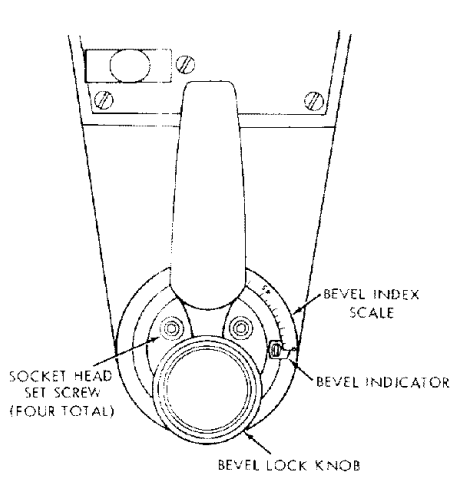


Figure 65

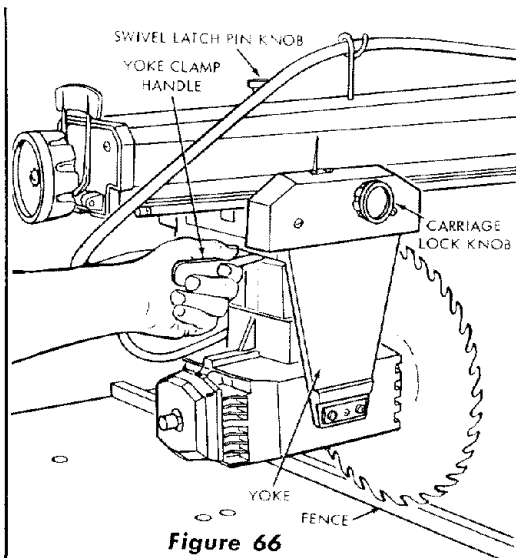


Figure 66

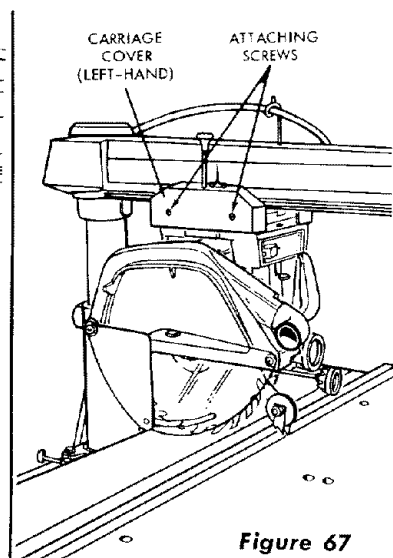


Figure 67

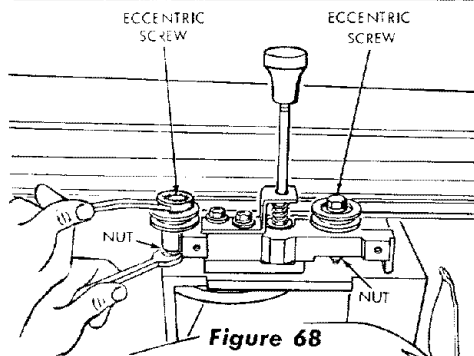


Figure 68

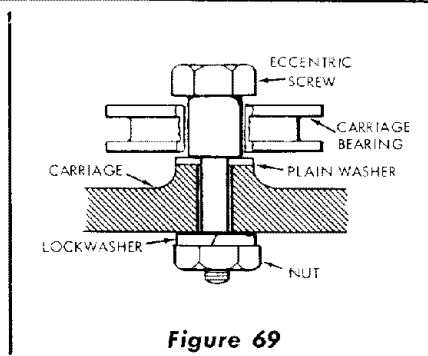


Figure 69

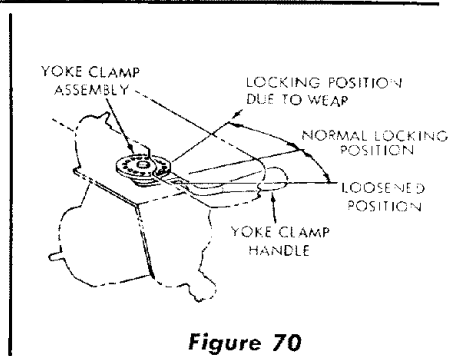


Figure 70

(2) If the saw blade is square with the table top, the square will contact the hollow-ground blade at the points shown by arrows in figure 64. If the square does not touch the saw blade as shown (with square leg held firm against the table top), perform the following adjustments:

- (a) Loosen the bevel lock knob (figure 65) several turns in order to provide room for inserting the hex-L wrench into heads of the socket-head screws.
- (b) Using a 1/4-inch hex-L wrench, loosen just slightly the four socket-head screws (figure 65).
- (c) Tilt the motor until saw blade is square with the table top as shown in figure 64. Then, while holding the square firmly against the saw blade and table top, apply moderate force against lower part of saw blade with the thumb until approximately 1/32-inch clearance exists between the square and lower edge of saw blade. This is to compensate for the possible slight shifting of the motor while the socket-head screws are being tightened.
- (d) Tighten the socket-head screws (figure 65) and bevel lock knob. It may be

necessary to perform several trial operations before the saw blade remains perfectly square with the table after tightening the four screws.

(3) After completing this adjustment, set the bevel indicator to zero.

k. **Adjusting Carriage Bearings.**

To test for looseness between the carriage bearings and tracks on radial arm, lock the yoke clamp handle (figure 66) grasp the motor and carriage assembly firmly with both hands and apply a firm rocking motion. If looseness exists, perform the following steps:

- (1) Remove left-hand carriage cover (figure 67).
- (2) Loosen nuts (figure 68) just enough to permit the eccentric screws to turn. (See figure 69.)
- (3) Rotate the eccentric screws (figure 68) a partial turn (left or right) as required to take up looseness.
- (4) Hold the heads of eccentric screws (figure 68) in the position established in the preceding step and tighten nuts on underside of carriage. Correct adjustment exists when there is no play between the carriage and radial arm, and yet the carriage moves freely.
- (5) Install the left-hand carriage cover (figure 67).

# trouble shooting

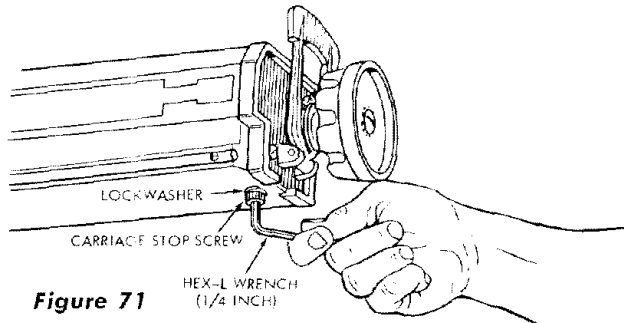


Figure 71

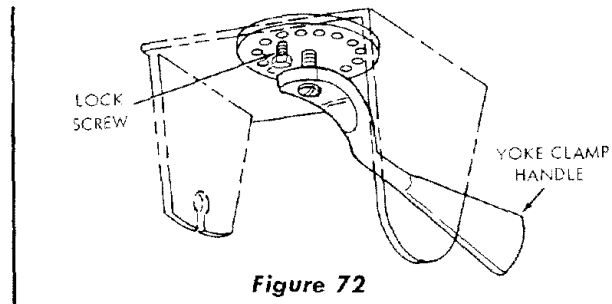


Figure 72

## I. Yoke Clamp Handle Adjustment.

The normal locking position of the yoke clamp handle (figure 70) is approximately midway between the two sides of the yoke. When sufficient wear has occurred to permit the handle to move considerably to the rear, or strike the yoke before locking, the handle may be adjusted as follows:

- (1) Set the yoke clamp handle to "Normal Locking Position" (figure 66) which is just slightly ahead of the mid-position of the handle.
- (2) Remove the carriage stop screw and lockwasher (figure 71) with a 1/4-inch hex-L wrench.
- (3) Grasp the motor and carriage assembly and, holding it parallel to the radial arm until all bearing rollers are free of their tracks, move it carefully off the end of the arm.
- (4) Rest the motor and carriage assembly on saw table and remove the lock screw (figure 72).
- (5) Using a screwdriver, rotate the yoke clamp assembly (figure 73) clockwise until the next hole will line up with the lock screw. (See figure 72.) Usually rotating the yoke clamp assembly one hole will correct this adjustment. However, in some extreme cases it may be necessary to rotate it two holes or more.
- (6) Install and tighten the lock screw. (See figure 72.)
- (7) Hold the motor and carriage assembly parallel to radial arm and start the rear bearings onto the tracks. Continue to hold the assembly parallel to the tracks until the forward bearings are on the tracks.
- (8) Slide the carriage rearward on the radial arm and install the carriage stop screw and lockwasher (figure 71).

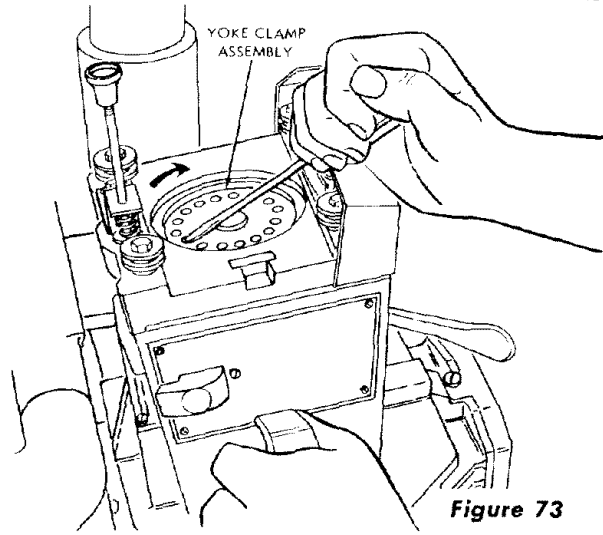


Figure 73

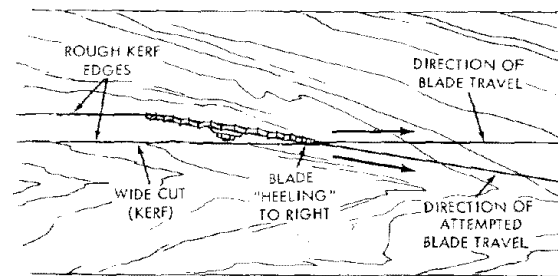


Figure 74

## 3. BLADE "HEELS" TO THE RIGHT OR LEFT.

"Heeling" is a term used to describe a condition where the saw blade is not aligned with the direction in which it is forced to travel. Figure 74 is a diagram showing the saw blade "heeling" to the right. Results of "Heeling", even to a minor degree, can be detected by the tooth marks left on the edge of the saw kerf (cut edge) of the board. When using a hollow ground blade, even a small degree of "heel" will cause the wood to smoke as a result of the frictional heat produced. The various effects of "heel" are as follows.

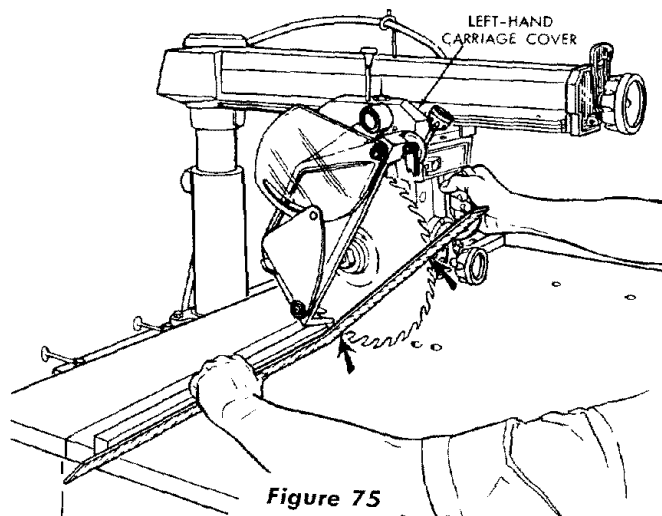


Figure 75



a. **Crosscutting**

(1) Heeling to the right will tend to slide the workpiece toward the right along the rip fence, as the cut is being made, and make a square cut almost impossible.

(2) Heeling to the left will tend to slide the board to the left along the fence.

b. **Miter Cutting** – Same as crosscutting, except to a lesser or greater degree, depending upon the angle.

c. **In-Ripping**

(1) Heeling to the right will force the workpiece against the rip fence.

(2) Heeling to the left will force the workpiece away from the fence.

d. **Out-Ripping** – The exact reverse of in-ripping.

e. **Checking and Adjusting to Eliminate "Heeling".**

(1) Loosen the guard clamp knob and tilt the guard upward at the front to expose the saw blade, as shown in figure 75.

(2) Place a square against the rip fence and the saw blade as shown in figure 75. The long leg of the square must be held firmly against the rip fence and table top and the short leg must not touch any of the teeth on the saw blade.

(3) If the square does not touch the hollow-ground blade at points shown in figure 75, a heel condition exists (either to the left or right). To correct the condition, proceed as follows:

(a) Remove the left-hand carriage cover (figure 75).

(b) Loosen the yoke clamp handle.

(c) Loosen (slightly) two hex-head screws (figure 76).

(d) Rotate the yoke until the gap between saw blade and square is eliminated.

(e) Lock the yoke with the yoke clamp handle and tighten the two hex-head screws (figure 76).

(f) Recheck for "heel" to make sure that tightening the screws did not affect the setting.

(g) Install left-hand carriage cover.

4. **WOOD SMOKES AND MOTOR SLOWS DOWN OR STOPS WHEN RIPPING.**

This condition can be caused by several conditions as follows:

a. **Dull Blade or Warped Board.**

Sharpen or replace the saw blade. Avoid the attempted use of severely warped material.

b. **Crosscut Not Properly Squared.**

Adjust as described in paragraph, "Squaring the Crosscut Travel".

c. **Radial Arm Not Securely Locked in 0° Position.**

Loosen the arm latch handle and refer to paragraph, "Precision Indexing".

d. **Blade Heels to the Right.**

Refer to paragraph "Blade Heels to the Right or Left."

5. **BOARD BINDS, OR PULLS AWAY FROM FENCE, WHEN RIPPING.**

Refer to "Adjusting Guard, Anti-kickback and Spreader Assembly, For Ripping".

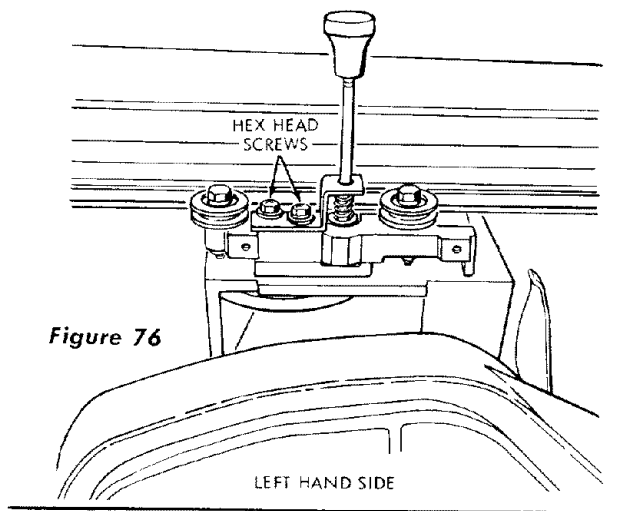


Figure 76

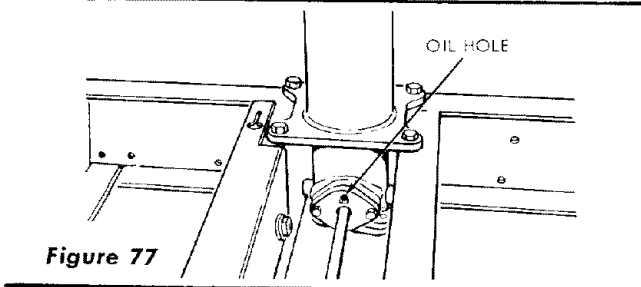


Figure 77

### LUBRICATION

Your saw is precision built and should be kept clean and properly lubricated. Before describing the various points which may periodically require lubrication, IT IS MORE IMPORTANT TO FIRST MENTION THE VARIOUS POINTS WHICH SHOULD NOT BE LUBRICATED.

#### NO LUBRICATION REQUIRED

Do not lubricate carriage ball bearings or motor bearings as these are sealed ball bearings and require no added lubrication.

Do not lubricate between radial arm cap and radial arm.

#### PERIODICALLY LUBRICATE THESE POINTS

Use SAE No. 10W-30 automotive engine oil and refer to Parts List for locations. Apply a few drops of oil along the swivel latch pin only if the pin has a tendency to stick. Remove the left-hand carriage cover and use oil sparingly to prevent it from getting on the ball bearings or races.

A light film of oil should be wiped on the face of the column tube and keyway to lubricate the fit between the column tube, the key and column support.

Apply a few drops of oil to the bearing surfaces of the elevation crank shaft assembly. An oil hole is provided in the elevation shaft bearing bracket to facilitate the lubrication of the bearing support. (See figure 77.)

The thread on the elevation shaft assembly can be lubricated through the oil hole in the center of the radial arm cap.

**CAUTION:** Excessive oil at any location will attract airborne dust particles and sawdust.

# trouble shooting

Make sure the teeth of the ANTIKICKBACK pawls are always sharp. Replace if not sharp.

## TROUBLE SHOOTING CHART

**NOTE:** Motors used on wood-working tools are particularly susceptible to the accumulation of sawdust and wood chips

and should be blown out or "vacuumed" frequently to prevent interference with normal motor ventilation.

TROUBLE	PROBABLE CAUSE	REMEDY
Motor will not run.	<ol style="list-style-type: none"> <li>1. Protector open; circuit broken.</li> <li>2. Low voltage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset protector by pushing on red button, located on top of motor junction box (indicated by audible click).</li> <li>2. Check power line for proper voltage.</li> </ol>
Motor will not run and fuses "BLOW."	<ol style="list-style-type: none"> <li>1. Short circuit in line cord or plug.</li> <li>2. Short circuit in motor terminal box, or loose connections.</li> <li>3. Incorrect fuses in power line.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect line cord and plug for damaged insulation and shorted wires.</li> <li>2. Inspect all terminals in motor terminal box for loose or shorted terminals or worn insulation on wires.</li> <li>3. Install correct fuses.</li> </ol>
Motor fails to develop full power. (Power output of motor decreases rapidly with decrease in voltage at motor terminals. For example: a reduction of 10% in voltage causes a reduction of 19% in maximum power output of which the motor is capable, while a reduction of 20% in voltage causes a reduction of 36% in maximum power output.)	<ol style="list-style-type: none"> <li>1. Power line overloaded with lights, appliances and other motors.</li> <li>2. Undersize wires or circuit too long.</li> <li>3. General overloading of power company's facilities. (In many sections of the country, demand for electrical power exceeds the capacity of existing generating and distribution systems.)</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce the line load.</li> <li>2. Increase wire sizes, or reduce length of wiring.</li> <li>3. Request a voltage check from the power company.</li> </ol>
Motor starts slowly or fails to come up to full speed.	<ol style="list-style-type: none"> <li>1. Low Voltage – will not trip relay.</li> <li>2. Starting relay not operating.</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct low voltage condition.</li> <li>2. Replace the relay.</li> </ol>
Motor overheats.	<ol style="list-style-type: none"> <li>1. Motor overloaded.</li> <li>2. Improper cooling. (Air circulation restricted through motor due to sawdust, etc.)</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct overload condition.</li> <li>2. Clean out sawdust to provide normal air circulation through motor.</li> </ol>
Starting relay in motor will not operate.	<ol style="list-style-type: none"> <li>1. Burned relay contacts (due to extended hold-in periods caused by low line voltage, etc.)</li> <li>2. Open relay coil.</li> <li>3. Loose or broken connections in motor terminal box.</li> <li>4. Shorted capacitor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace relay and check line voltage.</li> <li>2. Replace relay.</li> <li>3. Check and repair wiring.</li> <li>4. Test capacitors and replace if defective.</li> </ol>

CONTINUED ON NEXT PAGE

## TROUBLE SHOOTING CHART (Con't.)

TROUBLE	PROBABLE CAUSE	REMEDY
Motor stalls (resulting in blown fuses or tripped circuit breakers).	<ol style="list-style-type: none"> <li>1. Starting relay not operating.</li> <li>2. Voltage too low to permit motor to reach operating speed</li> <li>3. Fuses or circuit breakers do not have sufficient capacity.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace relay.</li> <li>2. Correct the low line voltage condition.</li> <li>3. Replace fuses or circuit breakers with proper capacity units.</li> </ol>
Frequent opening of fuses or circuit breakers.	<ol style="list-style-type: none"> <li>1. Motor overloaded.</li> <li>2. Fuses or circuit breakers do not have sufficient capacity.</li> <li>3. Starting relay not operating (motor does not reach normal speed.)</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce motor load.</li> <li>2. Replace fuses or circuit breakers.</li> <li>3. Replace relay.</li> </ol>
Brake fails to work.	<ol style="list-style-type: none"> <li>1. Brake assembly "hums" excessively or "chatters."</li> <li>2. Failure of brake coil (short circuit or "open").</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the brake coil.</li> <li>2. <ol style="list-style-type: none"> <li>a. Check for foreign particles between the brake shoe inside diameter and shoulder of brake disc.</li> <li>b. Check for 0.020-inch clearance between brake shoe and brake disk. (Clearance is probably less than 0.020-inch.)</li> </ol> </li> </ol>
Kickbacks when ripping.	<ol style="list-style-type: none"> <li>1. Not using spreader.</li> <li>2. Blade not parallel to rip fence.</li> <li>3. Failure to push wood all the way past saw blade.</li> <li>4. Warped wood.</li> <li>5. Anti-kickback pawls not working properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use spreader.</li> <li>2. Position the saw for ripping as described in applicable paragraphs under "Basic Saw Operations".</li> <li>3. Push wood all the way past saw blade. (Refer to applicable paragraphs under "Basic Saw Operations".)</li> <li>4. Use caution. (Refer to applicable paragraphs under "Basic Saw Operations".)</li> <li>5. Check for proper adjustment. Clean out any dust accumulations and apply a drop of oil around the pin. Sharpen the teeth on pawls with a file.</li> </ol>

### RECOMMENDED ACCESSORIES

IN CANADA, SEE YOUR LOCAL SIMPSONS-SEARS STORE  
OR CATALOG FOR ACCESSORY SELECTION AND NUMBERS

ITEM	CAT.NO.	ITEM	CAT.NO.
Key Chuck	9-2980	Dust Collector	9-29517
Molding Head Guard — 8-inch	9-29523	Heavy Duty Dado — 8-inch	9-32473
Rotary Surface Planer — Carbide Tip	9-29513	Molding Head Single Cutter	9-3215
Sanding Wheel — 8-inch	9-2274	Molding Head Three Cutter	9-3217
Sanding Wheel — 10-inch	9-22723	Sanding Drum — 3-inch	9-25246
Dust Collector	9-16998	Caster Set	9-22201
Taper Jig	9-3233	Leg Set	9-22211
Satin Cut Dado — 7-inch	9-3257	Power Tool Know How Handbook	
Satin Cut Dado — 8-inch	9-3253	Radial Saw	9-2917
Steel Legs	9-22238		

The above recommended accessories are current and were available at the time this manual was printed.

CRAFTSMAN 12-INCH RADIAL SAW, MODEL No. 113.23301

repair parts

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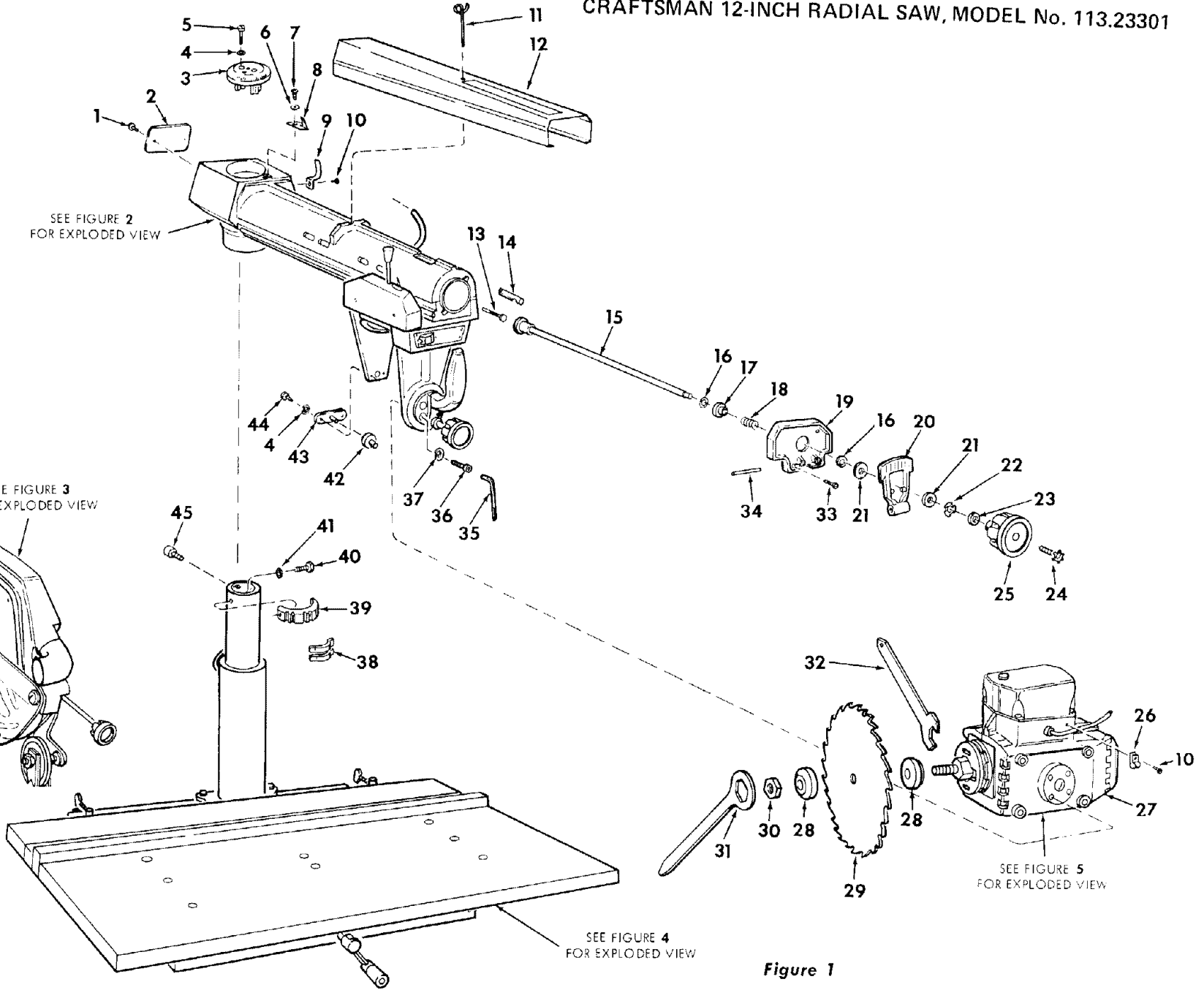


Figure 1

# PARTS LIST

## CRAFTSMAN 12-INCH RADIAL SAW, MODEL No. 113.23301

All parts illustrated in Figures 1 through 6 and listed under part numbers may be ordered through any Sears retail store or Catalog order store. Order parts by mail from the Catalog order house which serves the territory in which you live. In several instances, part numbers are listed for COMPLETE ASSEMBLIES. All parts are shipped prepaid within the limits of the Continental United States.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN ON THIS LIST:

1. THE PART NUMBER
2. THE PART NAME
3. THE MODEL NUMBER 113.23301
4. THE NAME OF ITEM – 12-INCH RADIAL SAW

Always order by Part Number – not by Key Number

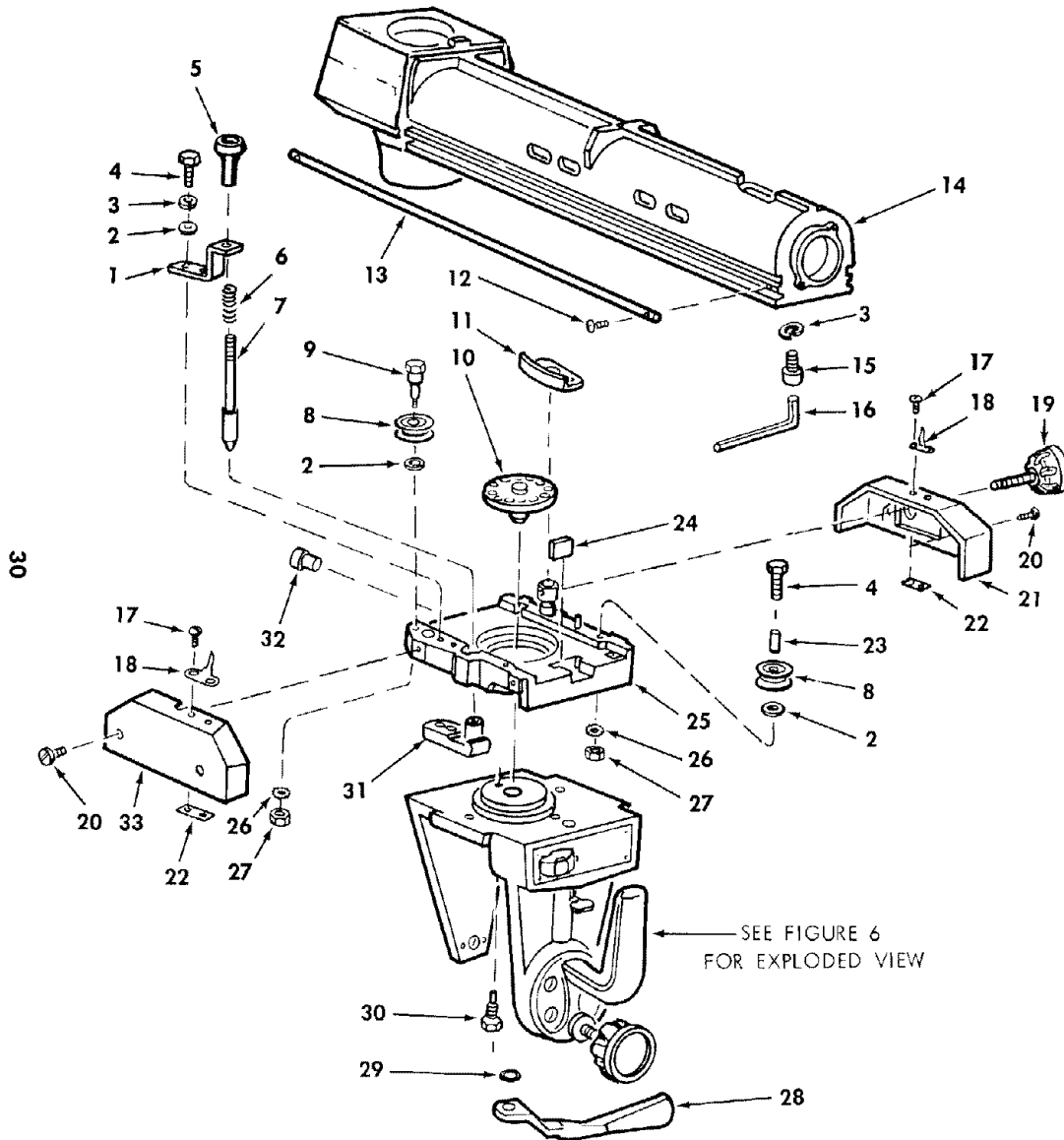
### FIGURE 1 PARTS LIST

Key No.	Part No.	Description	Key No.	Part No.	Description
1	STD 601103	Screw, Mach., No. 10-32 x 3/8, Type 23, Pan Hd.	24	455872	Screw, Mach., 1/4-20 x 1-3/8, Truss Hd., w/L/washer
2	63098	Plate, Cover	25	63410	Handle
3	63211	Gage, Cap	26	63139	Clamp, Cord
4	STD 551125	Lockwasher, 1/4	27	63494	Motor Assembly (See figure 5)
5	226310	*Screw, Mach., 1/4-28 x 1-3/4, Fil.Hd.	28	30494	Collar
6	37935	Washer, Fiber, 9/64 x 1/4 x 1/32	29	60177	Blade, Saw, 12"
7	STD 600603	Screw, Mach., No. 6-32 x 5/16, Type 23, Pan Hd.	30	30495	Nut, Shaft
8	63213	Indicator No. 1	31	3540	Wrench, Arbor
9	63214	Clamp, Cord	32	63062	Wrench, Shaft
10	STD 600803	Screw, Mach., No. 8-32 x 3/8, Type 23, Pan Hd.	33	STD 511107	Screw, Mach., No. 10-32 x 3/4, Type 23, Pan Hd.
11	63221	Hook, Cord	34	443151	Pin Groove, 3/16 x 1-3/4
12	63501	Trim, Radial Arm	35	37435	*Wrench, Hex. "L", 1/4 Across Flats
13	30662	Screw, Arm Lock	36	9421626	*Screw, Socket Hex.Hd.,Cap,5/16-18 x 1-1/2
14	30482	Pin Assy., Arm Lock	37	STD 551131	*Lockwasher, 5/16
15	37370	Shaft Assembly, Latch Arm	38	30661	Shoe, Brake
16	60044	Ring, Retaining, 3/8"	39	30479	Latch, Arm
17	30489	Washer, Spring Support	40	STD 523707	*Screw, Mach., 3/8-16 x 3/4, Hex Hd.
18	30490	Spring, Arm Latch	41	STD 551137	Lockwasher, 3/8
19	63096	Cap, Trim	42	63469	Bushing, Rubber
20	37372	Lever, Arm Latch	43	63468	Support Assy., Motor Includes Key No.42
21	60076	Washer, 1/2 x 1-1/8 x 1/16	44	STD 522503	*Screw, Mach., Hex.Hd.,1/4-20 x 7/16
22	37373	Washer, Spring	45	9421620	Screw,5/16-18 x 1/2 Socket Hd.Cap
23	60030	Washer, 1/2 x 1 x 1/32		63567	Bag of Loose Parts (not illustrated)
				63568	Owner's Manual (not illustrated)

\*Standard Hardware Item – May be Purchased Locally.

**NOTE:** Shipping and handling charges for standard hardware items (identified by \*) such as nuts, screws, washers, etc., make buying these items by mail uneconomical. To avoid shipping and handling charges, you may obtain most of these locally.

FIGURE 2 PARTS LIST



Key No.	Part No.	Description
1	63119	Retainer, Spring
2	60040	Washer, 21/64 x 3/4 x 1/16
3	STD 551131	*Lockwasher, 5/16
4	STD 523115	*Screw, Mach., 5/16-18 x 1-1/2, Hex. Hd.
5	62332	Knob Assembly
6	30521	Spring, Swivel Latch
7	37494	Pin, Swivel Latch
8	63117	Bearing, Carriage
9	37387	Screw, Eccentric
10	30566	Clamp Assembly, Yoke
11	63120	Shoe, Carriage Lock
12	448337	Screw, Mach., No. 10-32 x 5/8, Type 23, Rd. Hd.
13	63127	Track
14	63208	Arm, Radial
15	9421620	*Screw, 5/16-18 x 1/2, Socket-Hd., Cap
16	37435	*Wrench, Hex.-L, 1/4" Across Flats
17	STD 510605	*Screw, Mach., No. 6-32 x 7/16, Pan Hd.
18	63215	Indicator, Rip Scale
19	63316	Knob, Carriage Lock
20	STD 511107	*Screw, Mach., No. 10-32 x 5/8, Pan Hd.
21	63416	Cover, Carriage R.H.
22	30530	Nut, Twin
23	37388	Sleeve, Bearing
24	30567	Bumper
25	63294	Carriage Assembly
26	STD 551231	*Lockwasher, Ext. Tooth, 5/16
27	STD 541231	*Nut, Hex., 5/16-18
28	37403	Handle, Yoke Clamp
29	37816	Washer, 5/8 x 1-1/8 x 3/32
30	30558	Screw, Lock
31	63118	Housing, Latch Pin
32	30565	Bumper
33	63417	Cover, Carriage L.H.

\*Standard Hardware Item - May be Purchased Locally.

Figure 2

CRAFTSMAN 12-INCH RADIAL SAW, MODEL No. 113.23301

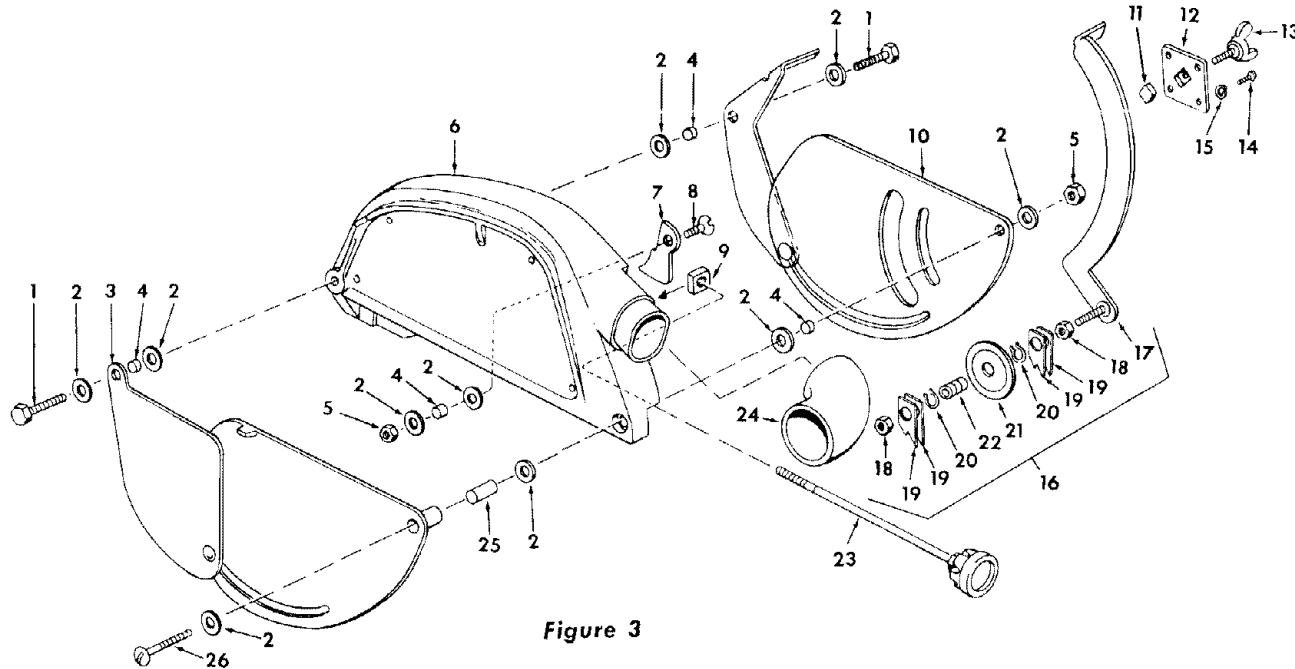


Figure 3

FIGURE 3 PARTS LIST – 63496 GUARD ASSEMBLY

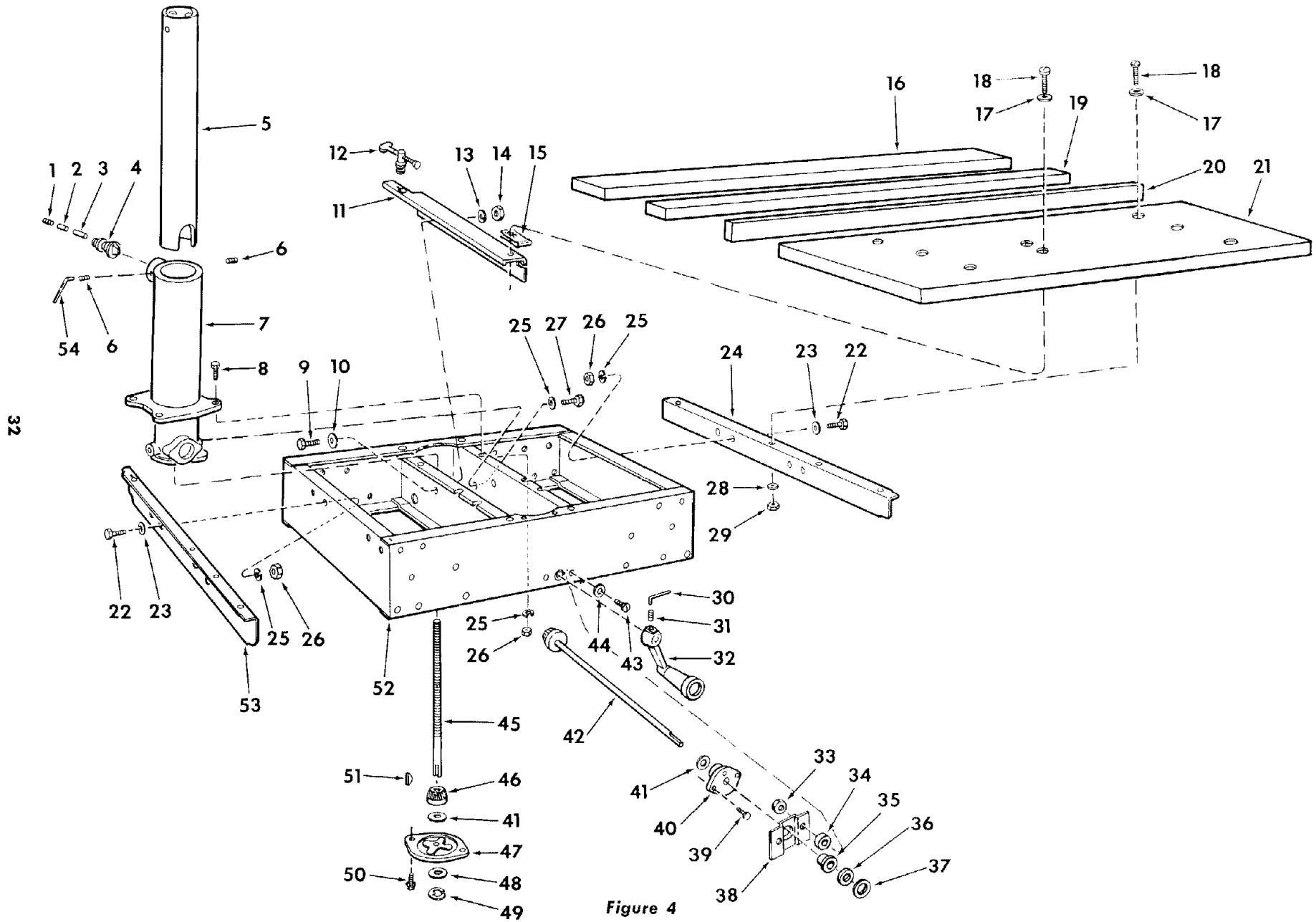
Key No.	Part No.	Description
—	63496	Guard Assembly (Complete)
1	STD 522507	*Screw, Hex. Hd., 1/4-20 x 3/4 Type 23
2	60218	Washer, 1/4 x 11/16 x 1/32
3	63264	Guard Assembly, Lower Outer
4	63266	Bushing
5	STD 541425	*Nut, Lock, 1/4-20
6	63495	Guard Assembly
7	63257	Shoe, Clamp
8	126151	*Screw, 1/4-20 x 1-1/8, Fl. Hd., Sl.
9	120399	*Nut, Sq., 5/16-18 x 9/16 x 7/32
10	63263	Guard Assembly, Lower Inner
11	63262	Shoe
12	63261	Guide, Anti-Kickback
13	60219	Screw, Wing

Key No.	Part No.	Description
14	STD 601105	*Screw, No. 10-32 x 7/16, Type 23, Pan Hd.
15	STD 551110	*Lockwasher, No. 10
16	63260	Pawl Assembly, Anti-Kickback
17	63268	Bar, Anti-Kickback
18	STD 541231	*Nut, Hex., 5/16-18
19	63271	Pawl, Anti-Kickback
20	60220	Ring, Retaining
21	63270	Spreader
22	63269	Bearing
23	63259	Clamp Assembly, Guard
24	63258	Elbow, Dust
25	63267	Bushing
26	60210	*Screw, Mach., 1/4-20 x 2-5/8, Pan Hd.

\*Standard Hardware Item – May be Purchased Locally.

CRAFTSMAN 12-INCH RADIAL SAW, MODEL No. 113.23301

repair parts





CRAFTSMAN 12-INCH RADIAL SAW, MODEL No. 113.23301

FIGURE 4 PARTS LIST

Key No.	Part No.	Description	Key No.	Part No.	Description
1	STD 503105	*Screw, Set, 5/16-18 x 1/2, Slotted, Cup Pt.	29	STD 541025	*Nut, Hex., 1/4-20
2	63078	Plug, Back Up (Steel)	30	30505	*Wrench, Hex. "L", 1/8 Across Flats
3	63077	Plug, Friction (Nylon)	31	STD 502503	*Screw, Set, 1/4-20 x 3/8, Soc.Hd., Cup Pt.
4	63079	Key, Column Tube	32	63254	Crank Assembly, Elevation
5	63146	Tube Assembly, Column	33	STD 541425	Nut, Lock, 1/4-20
6	139416	*Screw, Set, 3/8-16 x 5/8, Soc.Hd., Cone Pt.	34	63483	Spacer, Bearing
7	63114	Support, Column	35	63435	Bushing
8	9415839	*Screw, Mach., 3/8-16 x 1-1/8, Hex.Hd.	36	30604	Washer, Oil Sling, Rubber
9	STD 523107	*Screw, Mach., 5/16-18 x 3/4, Hex.Hd.Ind.	37	60080	Washer, 1/2 x 7/8 x 1/32
10	STD 551031	*Washer, 11/32 x 7/8 x 1/16	38	63436	Bracket, Bearing
11	63106	Support, No. 2 Table	39	448649	Screw, Type 23, Hex.Hd., 1/4-20 x 3/4
12	37862	Clamp, Table	40	30510	Bracket, Elevating Shaft Bearing
13	STD 551131	Lockwasher, 5/16	41	60300	Washer, Thrust
14	STD 541031	*Nut, Hex., 5/16-18	42	63116	Shaft Assembly, Elevating Crank
15	37530	Nut, "U" Clip, 1/4-20	43	STD 512507	*Screw, Mach., Pan Hd., 1/4-20 x 3/4
16	63108	Table, Rear	44	60106	*Washer, 1/4 x 5/16 x 3/64
17	60128	*Washer, 17/64 x 5/8 x 1/32	45	63498	Shaft, Elevation
18	STD 512510	*Screw, Mach., 1/4-20 x 1, Pan Hd., Slotted	46	63499	Gear, Bevel
19	63109	Spacer, Table	47	37428	Plate, Retaining
20	63110	Fence, Rip	48	63500	Washer, Thrust
21	63107	Table, Front	49	60319	Ring, Retaining, 11/32
22	STD 523710	*Screw, Mach., 3/8-16 x 1, Hex.Hd.Ind.	50	STD 523108& STD 551231	*Screw, Mach., 5/16-18 x 7/8, Hex.Hd.Ind. w/L/washer
23	STD 551037	*Washer, 13/32 x 7/8 x 1/16	51	STD 580018	Key, Woodruff No. 5
24	63105	Support, Table R.H.	52	63502	Base
25	STD 551137	Lockwasher, 3/8	53	63104	Support, Table L.H.
26	STD 541037	*Nut, Hex., 3/8-16	54	37911	*Wrench, Hex. "L", 3/16 Across Flats
27	STD 523707	*Screw, Mach., 3/8-16 x 5/8, Hex.Hd.			
28	STD 551125	*Lockwasher, 1/4			

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\*Standard Hardware Item — May be Purchased Locally.

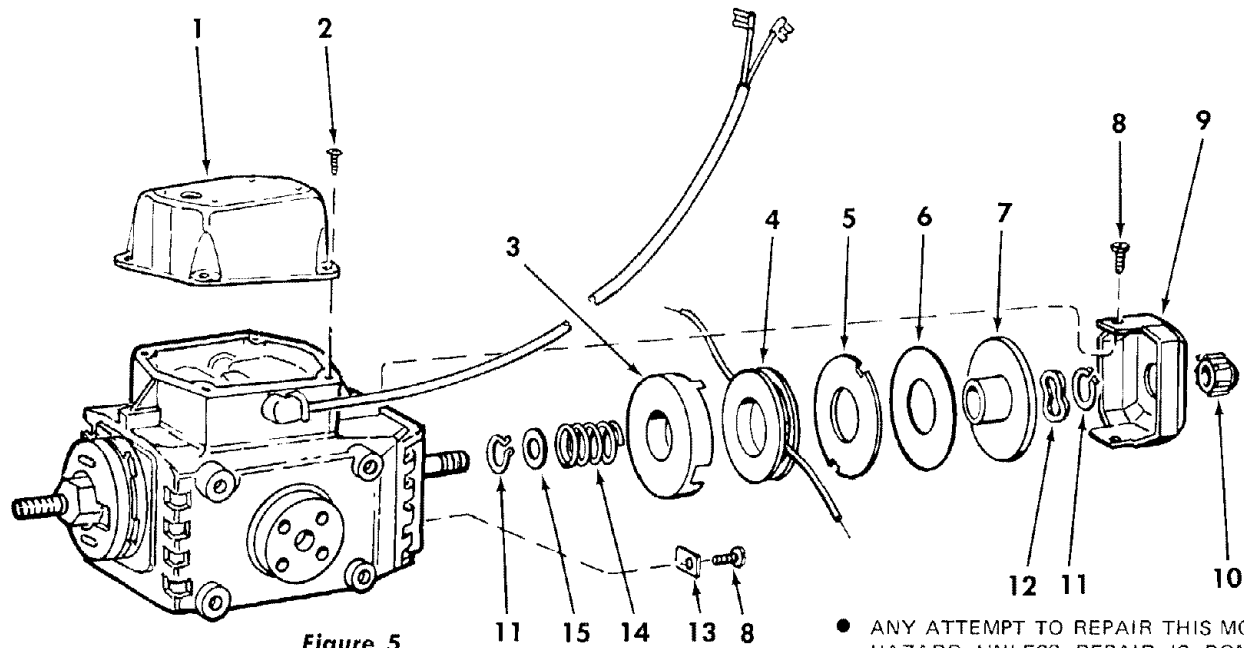


Figure 5

• ANY ATTEMPT TO REPAIR THIS MOTOR MAY CREATE A HAZARD UNLESS REPAIR IS DONE BY A QUALIFIED SERVICE TECHNICIAN. REPAIR SERVICE IS AVAILABLE AT YOUR NEAREST SEARS STORE.

FIGURE 5 PARTS LIST – 63494 MOTOR ASSEMBLY

Key No.	Part No.	Description
—	63494	• Complete Motor Assembly
1	63505	Box Assembly, Control (w/Nameplate)
2	STD 600603	*Screw, Self-Tapping, No. 6-32 x 3/8", Pan Hd.
3	37908	Housing, Brake Coil
4	63133	Coil, Brake
5	63134	Shoe, Brake
6	63137	Lining, Brake
7	37884	Disc, Brake

Key No.	Part No.	Description
8	STD 600803	*Screw, Self-Tapping, No. 8-32 x 5/16", Pan Hd.
9	63309	Cover, Brake
10	30582	Cap, Shaft
11	37158	Ring, Retaining, 5/8"
12	37886	Washer, Spring
13	37412	Cleat
14	37415	Spring
15	30767	Washer, Spacer (As Required)

\*Standard Hardware Item — May be Purchased Locally.

CRAFTSMAN 12-INCH RADIAL SAW, MODEL No. 113.23301

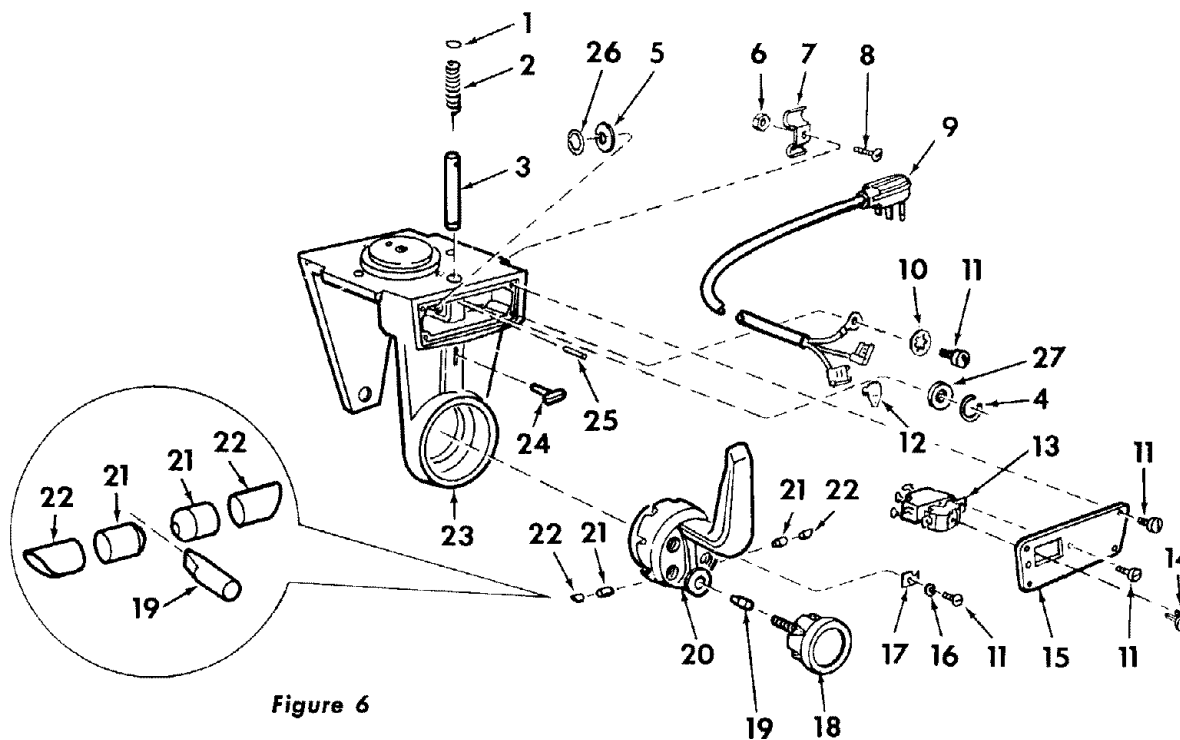


Figure 6

FIGURE 6 PARTS LIST

Key No.	Part No.	Description
1	30547	Disk
2	30548	Spring, Latch Pin
3	30689	Pin, Bevel Latch
4	60289	Ring, Clamp
5	60055	Washer, Fibre, 3/8 x 3/4 x 1/16
6	STD 541110	*Nut, 10-32
7	63418	Clamp, Cord
8	STD 511110	*Screw, Mach.Pan Hd.,No. 10-32 x 1
9	63575	Cord with Plug
10	STD 551206	*Lockwasher, No. 6, Int. Tooth
11	STD 600602	Screw, No.6-32 x 1/4,Type 23,Pan Hd.
12	63467	Cap, Insulator
13	60267	Switch (off-on)
14	60256	Key

Key No.	Part No.	Description
15	63549	Switch Plate
16	37935	Washer, Fibre, 9/64 x 1/4 x 1/32
17	63423	Indicator, No. 2
18	63315	Knob, Bevel Index
19	30664	Pad, Pressure
20	63424	Handle, Bevel Index
21	30663	Expander
22	30665	Shoe, Index Handle Brake
23	63296	Yoke Assembly
24	30693	Handle, Latch Pin
25	STD 571210	Pin, Roll, 1/8 x 1
26	63581	Ring, Clamp
27	60320	Washer, Fibre,7/16 x 3/4 x 1/16

\*Standard Hardware Item – May be Purchased Locally.



*owners  
manual*

**SERVICE**

**MODEL NO.  
113.23301**

**HOW TO ORDER  
REPAIR PARTS**

## 12 INCH RADIAL SAW

Now that you have purchased your 12 inch radial saw, should a need ever exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. stores. Be sure to provide all pertinent facts when you call or visit.

The model number of your 12 inch radial saw will be found on a plate attached to your saw, at the left hand side of the base.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

PART NUMBER	PART DESCRIPTION
MODEL NUMBER 113.23301	NAME OF ITEM 12 INCH RADIAL SAW

All parts listed may be ordered from any Sears Service Center and most Sears stores. If the parts you need are not stocked locally, your order will be electronically transmitted to a Sears Repair Parts Distribution Center for handling.

**Sold by SEARS, ROEBUCK AND CO., Chicago, IL. 60684 U.S.A.**