ASSEMBLY, OPERATING INSTRUCTIONS AND PARTS LIST FOR CRAFTSMAN ACCRA-ARM 10 INCH RADIAL SAW

[-SPD-]

MODEL NUMBER 113.29441

The Model Number will be found on a plate attached to your saw, at the left side of the base. Always mention the Model Number in all correspondence regarding the CRAFTSMAN ACCRA-ARM RADIAL SAW or when ordering repair parts.

Carefully read the instructions provided, observe the simple safety precautions and you will have many hours of satisfactory use from your new Craftsman tool.

HOW TO ORDER REPAIR PARTS

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail from the catalog order house which serves the territory in which you live, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

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

1. The PART NUMBER
2. The PART NAME
3. THE MODEL NUMBER 113.29441
4. The NAME of item—RADIAL SAW

COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN ACCRA-ARM RADIAL SAW

PROTECTIVE MAINTENANCE
Sears Care

SEARS, ROEBUCK AND CO. and SIMPSONS-SEARS LIMITED in Canada back up your investment with quick, expert mechanical service and genuine CRAFTSMAN replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

SEARS, ROEBUCK AND CO.-U.S.A.
IN CANADA, SIMPSONS-SEARS LIMITED

[redacted]

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Part No. 63479

CRAFTSMAN

SAFETY RULES 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
If tool is equipped with three-prong plug, it should be plugged into a three-hole receptacle. If adapter is used to accommodate two-prong receptacle, the adapter wire must be attached to a *known ground*. *Never* remove third prong.

3. KEEP GUARDS IN PLACE
and in working order.

4. REMOVE ADJUSTING KEYS AND WRENCHES
Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on tool.

5. KEEP WORK AREA CLEAN
Cluttered areas and benches invite accidents.

6. AVOID DANGEROUS ENVIRONMENT
Don't use power tools in damp or wet locations. Keep work area well illuminated.

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 be safer at the rate for which it was designed.

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

11. WEAR PROPER APPAREL
No loose clothing or jewelry to get caught in moving parts.

12. USE SAFETY GLASSES
Also use face or dust mask if cutting operation is dusty.

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 your proper footing and balance at all times.

15. MAINTAIN TOOLS IN TOP CONDITION
Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. DISCONNECT TOOLS
before servicing and when changing accessories such as blades, bits, cutters.

17. AVOID ACCIDENTAL STARTING
Make sure switch is "OFF" before plugging in cord.

18. USE RECOMMENDED ACCESSORIES
Consult the owner's manual. Use of improper accessories may be hazardous.

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 glasses or eye shields before commencing power tool operation. We recommend **Wide Vision Safety Mask** for use over spectacles, or standard safety glasses . . . available at Sears retail or catalog stores.

SAFETY SEAL pti power tool institute

THIS SAFETY SEAL OF THE POWER TOOL INSTITUTE ASSURES YOU . . .

1. That the manufacturer's power tools, including the particular tool associated with the Seal, are produced in accordance with applicable Standards For Safety of Underwriters' Laboratories and American National Standards (ANSI).
2. That compliance with applicable safety standards is assured by independent inspection and testing conducted by Underwriters' Laboratories (UL).
3. That every motorized tool is inspected under power.
4. That every tool has with it adequate instructions and a list of safety rules for the protection of the user.
5. That the tool manufacturer is a member of the Power Tool Institute and is a sponsor of the Institute's Consumer Safety Education Program.

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ASSEMBLING AND ADJUSTING YOUR SAW

POWER SUPPLY & MOTOR CONNECTIONS

MOTOR SPECIFICATIONS

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

Voltage	115/230
Amperes	10/5
Cycles	60
Phase	Single
RPM	3450
Rotation (viewed from saw blade end)	Clockwise

CAUTION: This saw is wired for 115 volt operation. Connect to 15 Amp. Branch Circuit and use 15 Amp. Time-Delay Fuse.

ELECTRICAL CONNECTIONS

NOTE: This saw motor is wired at the factory for 115 volt, 60 cycle, AC service as shown in figure 1 and described in paragraph 1, below. Under normal home workshop use with proper voltage to the motor, the saw will operate with adequate efficiency. However, if any of the following conditions exist, it may be necessary to reconnect the saw for 230 volts AC as described in paragraph 2, below.

1. Continuous heavy-duty use.
2. Undersize wiring in circuit from motor to power source, or overloaded circuit.
3. Low voltage from power source to motor (which may be due to overloaded power source).

The power cord molded plug must also be changed from the 115-volt type to the 230-volt type, when changing to 230-volt operation.

1. **Connections For 115-Volts AC.** (See figure 1.) (See figure 1A for Canada.) When replacing a motor or connecting the saw to 115-volts for any reason, make sure the wires inside the motor terminal box are connected as follows:
   a. Connect the WHITE, BLACK and RED leads from the motor terminal box to the WHITE motor cord lead. (The black motor cord lead is already connected to the overload protector.
   b. Connect the GREEN and BROWN leads to the BLUE lead.
   c. Twist bare ends of wires together and install a wire nut on each connection.
   d. Push all leads carefully into motor terminal box and install terminal box cover.
2. **Connections For 230-Volts AC.** (See figure 2.) (See figure 2A for Canada.) When connecting the motor for 230-volt operation, the following connections must be made inside the motor terminal box:
   a. Connect the WHITE and BLACK leads from motor terminal box to the WHITE motor cord lead. Twist bare ends together and install a wire nut as shown in figure 2.
   b. Leave the BROWN lead (from overload protector) disconnected and insulate it with tape to prevent short circuiting inside motor terminal box.
   c. Connect the GREEN, RED and BLUE leads together, twist bare ends and install a wire nut.

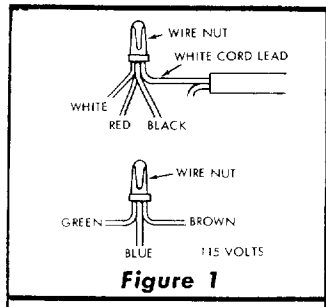

Figure 1

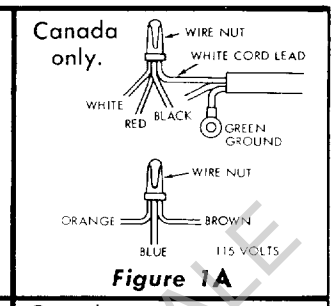

Figure 1A

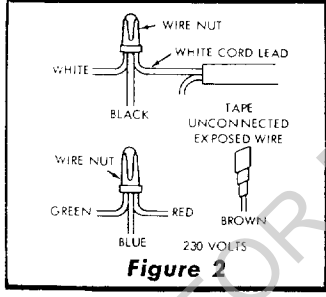

Figure 2

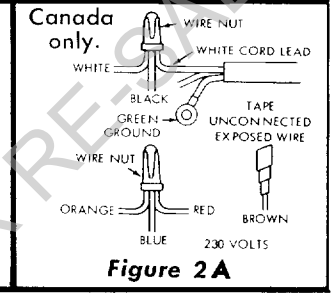

Figure 2A

   d. Push all leads carefully into motor terminal box and install terminal box cover.
3. **Modifying the Molded Plug.**
   Change the power cord by cutting off the existing molded plug (for 115-volts), and attach an appropriate 230-volt plug.
   CAUTION: Do not connect the standard 115-volt plug to a 230-volt receptacle.

MOTOR SAFETY PROTECTION

The saw motor is equipped with a manual-reset thermal overload protector, 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 overload 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 pressing 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 a fuse 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 be not less than the voltage specified on nameplate.
6. Most motor troubles may be traced to loose or incorrect connections, overloading, reduced input voltage (which results when small size wires are used 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.

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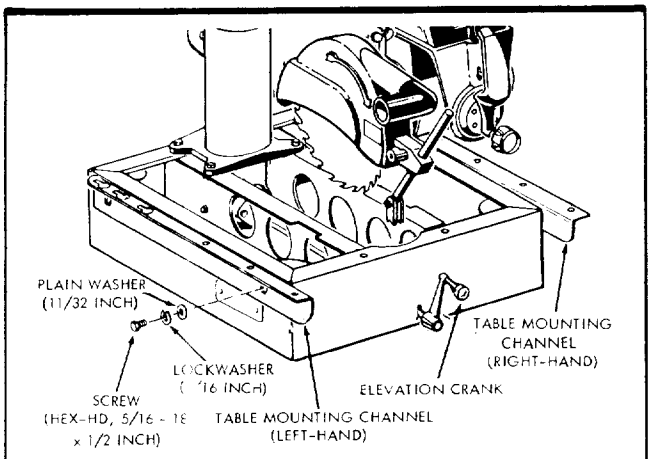

Figure 3

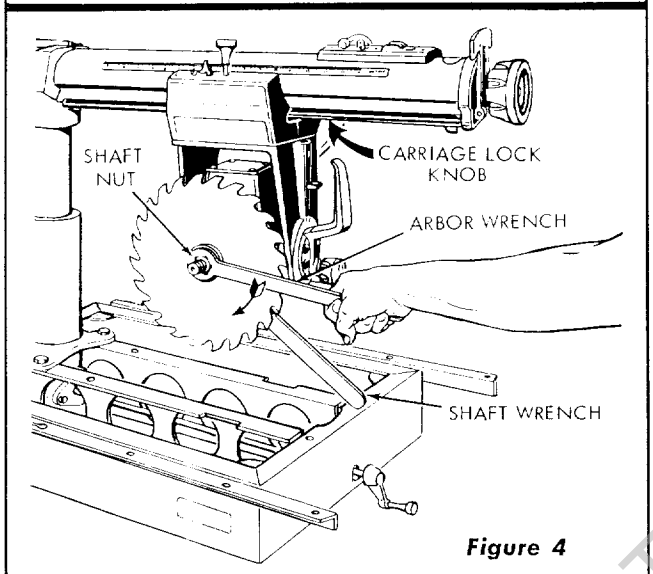

Figure 4

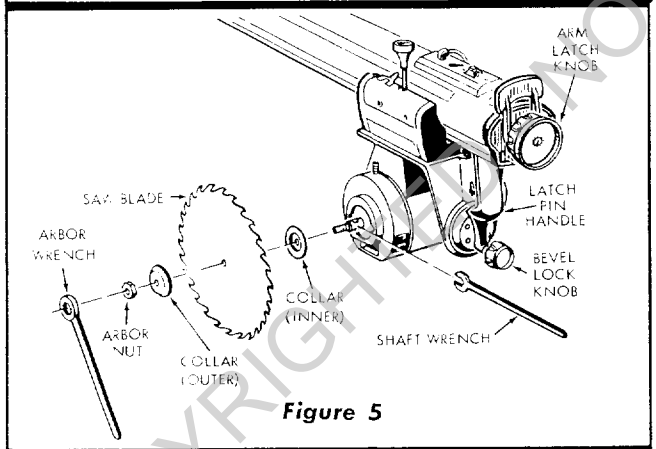

Figure 5

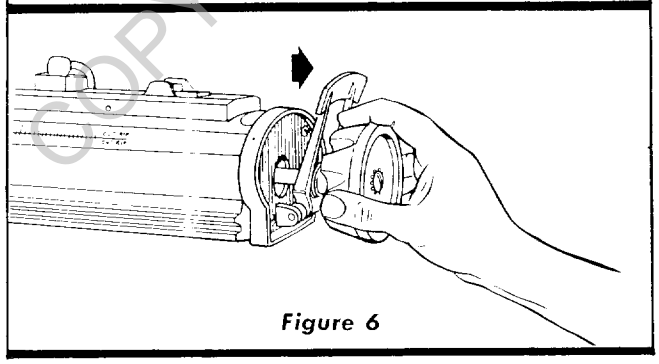

Figure 6

WIRE SIZES

The following table lists recommended wire sizes for connecting the motor to the power source. These sizes should be maintained for trouble-free operation of the saw.

Length of Conductor	Wire Size Required (American Wire Gauge No.)	
	115 Volt Lines	230 Volt Lines
50 feet or less	No. 12	No. 14
100 feet or less	No. 10	No. 12
100 feet to 150 feet ..	No. 8	No. 10
150 feet to 200 feet ..	No. 6	No. 8
200 feet to 400 feet ..	No. 4	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.

MOUNTING THE SAW

The saw should be placed on a suitable sturdy work bench or Craftsman Power Tool Bench and the base positioned so that the elevation crank is free to rotate. (See figure 3.) The base of the saw must be mounted flush to a flat surface on the bench to prevent distortion of the saw base.

NOTE: The seven basic "*steps*" that follow are essential in order to insure correct alignment of saw.

WARNING: Make sure power cord is not plugged into an electrical outlet when working on the saw.

STEP ONE – ATTACHING AND ADJUSTING TABLE MOUNTING CHANNELS

1. Attach the (right-hand and left-hand) table mounting channels with 4 5/16-18 x 1/2 inch hex-head mounting channel attaching screws at each side of saw base (Figure 3). Position screws centered in slots. The screws should be loose enough to permit the mounting channels to "slip" against the surface of the base side member when tapped with a mallet.
2. Adjust table mounting channels parallel to radial arm as follows:
   a. Loosen the guard wing nut (clamp nut) and remove the guard.
   b. Lock the carriage by tightening the carriage lock knob, hold the motor shaft (at inner edge of saw blade) with the shaft wrench and loosen the shaft nut and saw-blade collar with the arbor wrench. (See figure 4.) Remove the shaft nut, outer collar, saw blade and inner collar. (See figure 5.) The motor shaft has left-hand threads.
   c. Loosen the bevel lock knob and lift up on the latch pin handle. (See figure 5.)
   d. Swivel the motor to position the saw end of shaft pointing straight down and tighten the bevel lock knob. If the motor strikes some part of the saw, raise the radial arm by rotating the elevation crank (figure 3) on front of saw base.
   e. Loosen the arm latch knob by rotating it counterclockwise until it stops. (See figure 6.) This should free the radial arm permitting it to be moved from left to right by hand.
   f. Move the radial arm to the left until the end of motor shaft is directly over the left-hand mounting channel.
   g. Loosen the carriage lock knob and move the carriage along radial arm until the end of motor shaft

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is directly over the rear mounting channel attaching screw. (See figure 8.) Then, with the elevation crank, lower the carriage until the end of motor shaft is slightly above the top surface of the left-hand table mounting channel. (See figure 7.)

h. Slide the arbor wrench handle (figure 7) between end of motor shaft and mounting channel, to serve as a "feeler" and assist in achieving an accurate measurement. Carefully lower the motor with elevation crank until the end of shaft is just touching the arbor wrench. The operator should be able to slide the arbor wrench back and forth with only slight resistance.

NOTE: Do not change this elevation setting until both left- and right-hand table mounting channels have been adjusted.

i. Remove the arbor wrench, move the carriage out near the end of radial arm and swing the arm until end of motor shaft is over the table mounting channel, directly over the front mounting channel attaching screw. (See figure 9.) Tap the table mounting channel upward or downward until the end of motor shaft just touches the arbor wrench, held between the end of motor shaft and top of channel, as in the preceding step. (See figure 9.)

setting the forward position of table mounting nel, move the carriage rearward and recheck the position to determine if adjusting the forward tion affected the rear setting. Tap the table mount- channel upward or downward as required.

heck both forward and rear positions as many mes as necessary to provide an accurate adjustment of the channel.

l. Tighten the two 5/16-inch hex-head screws (figure 8) securely to retain the adjustment. Recheck both positions to make sure that tightening screws did not affect the accuracy of the adjustment.

m. Move the radial arm over to the right-hand table mounting channel and adjust it in the same manner.

n. Loosen the bevel lock knob, lift the latch pin handle, and rotate the motor to a horizontal position. Tighten the bevel lock knob.

STEP TWO — CHECKING FOR LOOSENESS OF COLUMN TUBE IN COLUMN SUPPORT

1. Swing the radial arm to the 90° position (until it latches) and tighten the arm latch knob. (See figure 10.)

2. While holding the arm latch knob with one hand, hold fingers of other hand at parting line between column tube and column support. (See figure 10.) Apply gentle side force to the radial arm in opposing directions. Any looseness between column and column support, (indicated by arrow in figure 10) can be felt with fingers.

3. If looseness can be felt, at point indicated by the arrow in figure 10, perform operations outlined in instructions that follow:

Right and left positions are given with operator facing the saw — standing in front of saw table.

NOTE: Before attempting to adjust the column tube key, the function of this adjustment should be understood. Figure 11 is an exploded view of column tube key parts and figure 12 is a sectional view through the column tube support (looking downward) at this

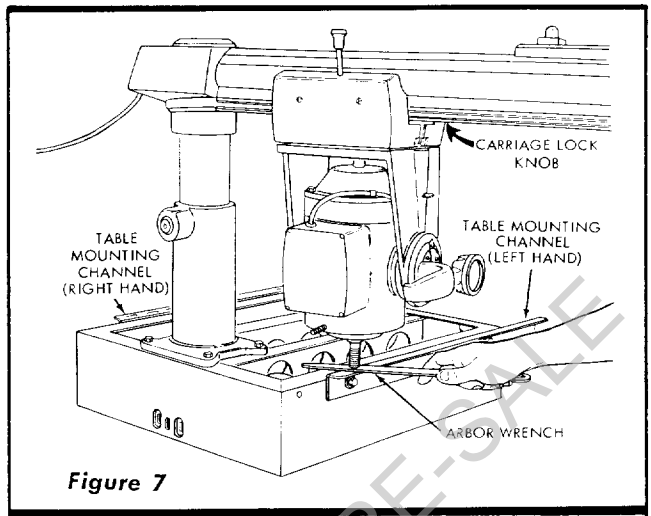
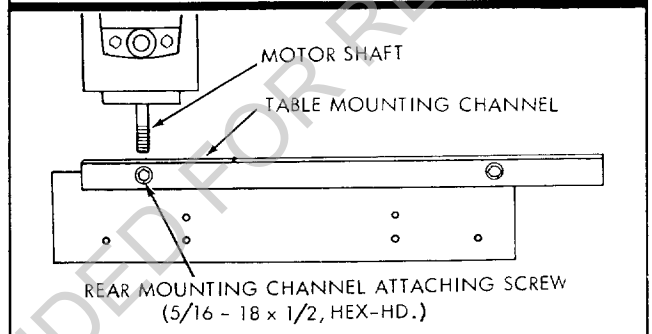


Figure 7



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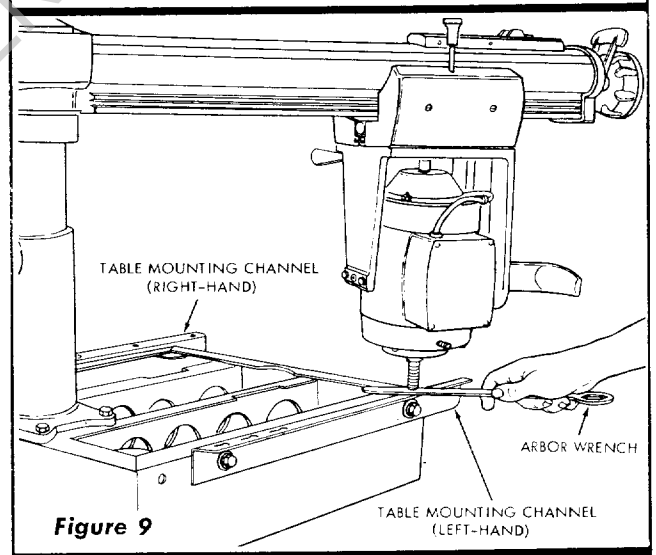

Figure 9

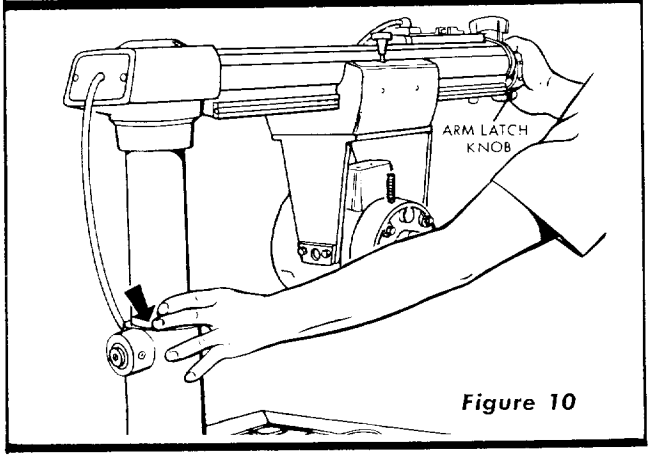

Figure 10

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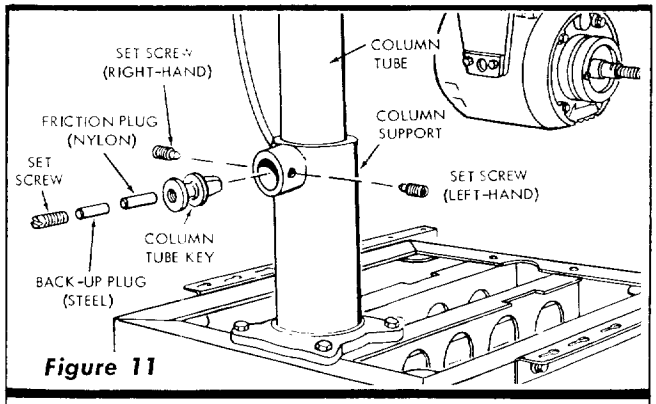


Figure 11

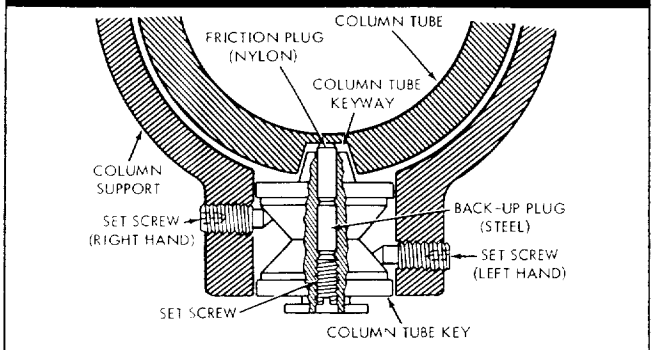
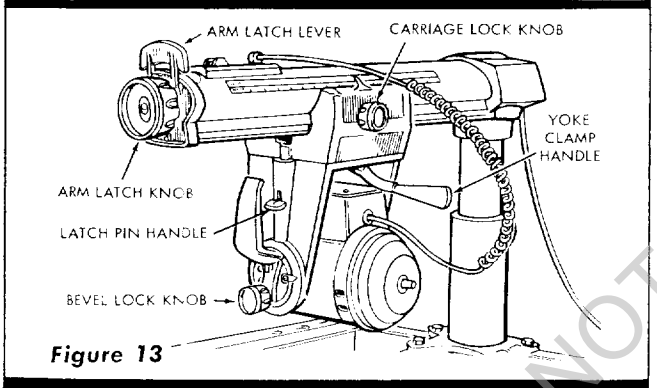


Figure 12 SECTIONAL VIEW LOOKING DOWN



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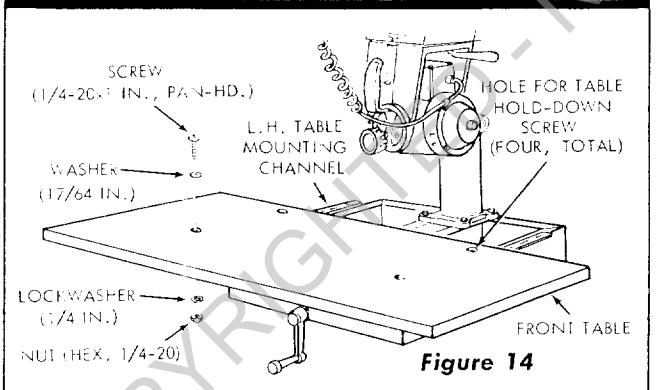

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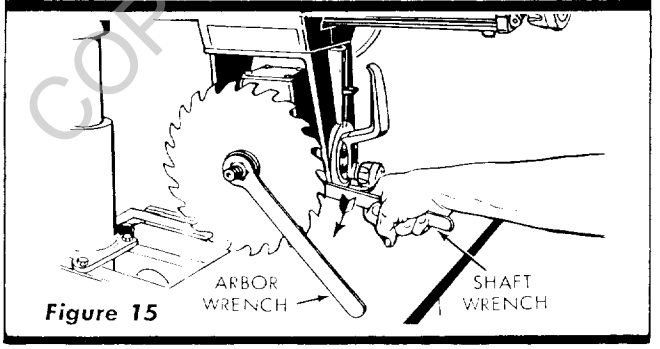

Figure 15

location. By loosening the left-hand set screw and tightening the right-hand set screw the column tube key will be forced tighter into the column tube keyway, thus eliminating side play. Conversely, loosening the right-hand set screw and tightening the left-hand set screw, the column key will be retracted 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 adjustment is 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.

a. Loosen set screw in center of column tube key. (See figures 11 and 12.)

b. Loosen left-hand set screw 1/4 turn. (See figure 12.)

c. Tighten right-hand set screw. (See figure 12.)

d. Tighten left-hand set screw. (See figure 12.)

e. Turn elevation crank to raise and lower radial arm. If too tight, loosen right-hand set screw (figure 12) slightly and check again for smooth operation. When correct, tighten left-hand set screw.

f. Tighten set screw in center of column tube key (figure 12) until smoothest operation is obtained.

g. **Lock the yoke clamp handle (figure 13) and bevel lock knob securely.**

STEP THREE — INSTALLATION OF FRONT TABLE

1. Place the front table board on the table mounting channels. (See figure 14.)
2. Align the counterbore holes with matching holes in table mounting channels.
3. Place a 17/64-inch flat washer and a 1/4-20 x 1-inch pan-head machine screw from loose parts pack in each of the four counterbore holes located above the mounting channels.
4. Install lockwashers and nuts on the four screws in the table mounting channels and tighten them snugly, but not tight.

STEP FOUR — SQUARING THE CROSS CUT TRAVEL

1. Install and tighten the saw blade as follows:
   a. Place the inner collar (figure 5) on motor shaft with flange next to saw blade (facing outward).
   b. Install saw blade, outer collar and nut.

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

   c. Place the box end of arbor shaft wrench on shaft nut. (See figure 15.) Allow end of wrench to rest on saw table.
   d. Use open end of shaft wrench on "flats" of motor shaft and tighten the shaft nut by pushing downward, as shown in figure 15.
2. Loosen the arm latch knob (figure 13) 1/4 turn. Make sure the yoke clamp handle and bevel lock knob are tight.

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3. Pull the arm latch lever (figure 13) outward and move radial arm approximately 10° to the right. Release arm latch lever and move radial arm into the 0° (index) position. Do not bump or jar the arm. Push the arm latch lever solidly with palm of hand in order to seat the arm lock pin in the arm latch. (See figure 16.)

4. Tighten the arm latch knob (Refer to "PRECISION INDEXING" under "PROPER OPERATING PROCEDURES" for detailed instructions on indexing the radial arm.

   CAUTION: When moving the radial arm in any direction beyond 45° left or right, always pull out the arm latch lever (at end of radial arm) to prevent damaging the arm lock pin. If damage occurs, the radial arm will not index properly at 0° and 45° left or right.

5. Place a framing square on the table as shown in figure 17 and position the saw and square until the leg of the square just contacts a tooth of the saw blade. (Position "A", figure 17.) Mark this tooth with crayon or chalk.

6. 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:

   a. If saw tooth "A", (figure 17) moves away from the square when moving the blade from the rear toward the front of the table, tap the right-hand front edge of the table with a mallet. (Loosen table attaching screws slightly if necessary.)

   b. If the saw tooth ("A", figure 17) moves into the square when moving saw from the rear to the front of saw table, tap the left-hand front edge of table.

   c. Recheck and, if correct, tighten all table hold-down screws securely.

7. In extreme cases, the above adjustment procedure may not be sufficient due to rough handling during shipment. Make the following adjustment only after tightening the table screws and the cross-cut cannot be squared according to the preceding adjustment routine.

   a. Remove two screws in radial arm cap (figure 18); miter-scale indicator and radial arm cap.

   b. Turn the arm latch knob (figure 17) one-quarter turn counterclockwise but do not pull it out.

   c. Loosen (do not remove) two hex-head screws (figure 18) located inside the column tube.

   d. Move the radial arm slightly in proper direction to make saw tooth ("A", figure 17) follow edge of square when the saw blade is moved in and out in a "cross-cut" manner.

   e. Re-tighten the hex-head screws in column tube (figure 18) and arm latch knob (figure 17.)

   f. Recheck travel of blade tooth ("A") with the square.

   g. After the cross-cut has been accurately squared, install the radial arm cap (figure 18) and miter-scale indicator. Set the indicator at the 0° position.

STEP FIVE — SQUARING THE SAW BLADE TO THE TABLE TOP

1. Install the fence, rear table, table spacer and the two table clamps. Tighten the clamps firmly. (See figure 19.)

2. Place the edge of a framing square on the table top and against the saw blade as shown in figure 19.

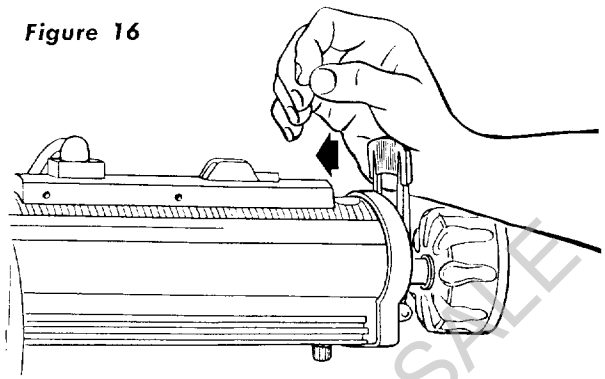

Figure 16

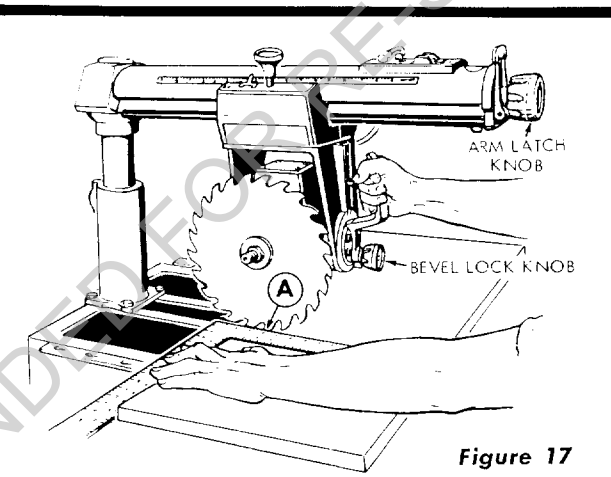

Figure 17

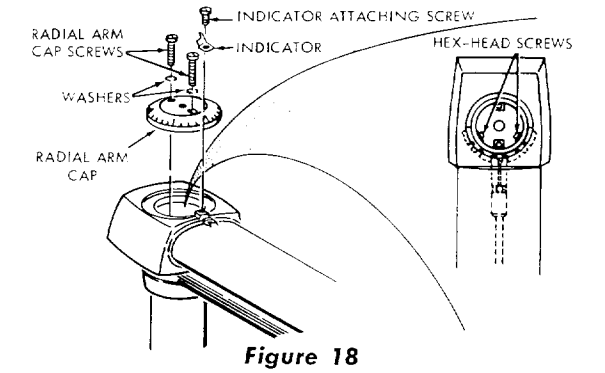

Figure 18

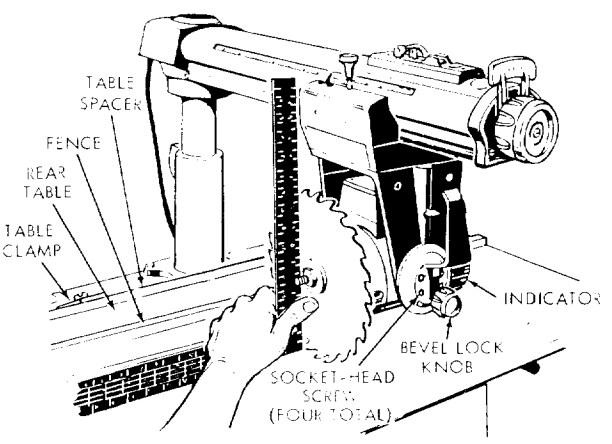

Figure 19

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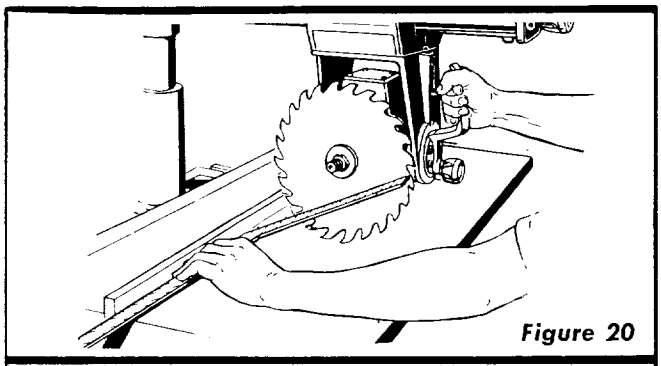

Figure 20

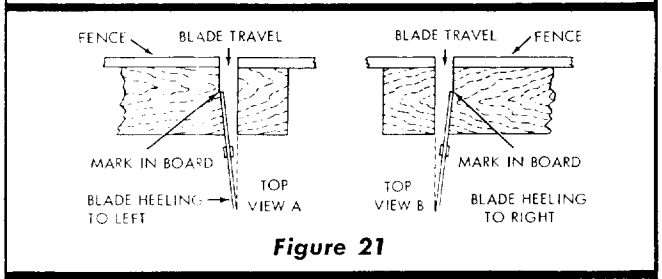

Figure 21

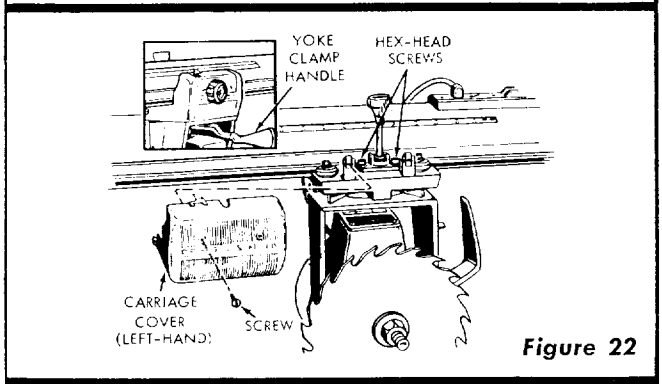

Figure 22

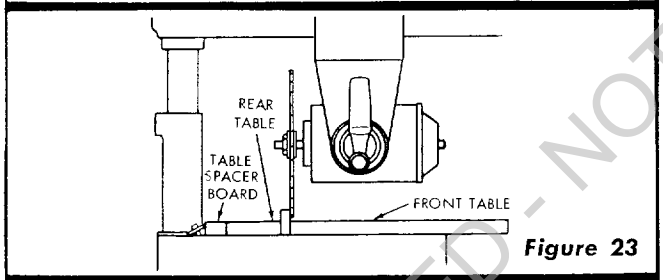

Figure 23

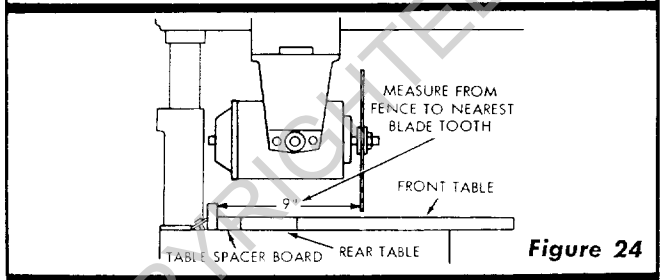

Figure 24

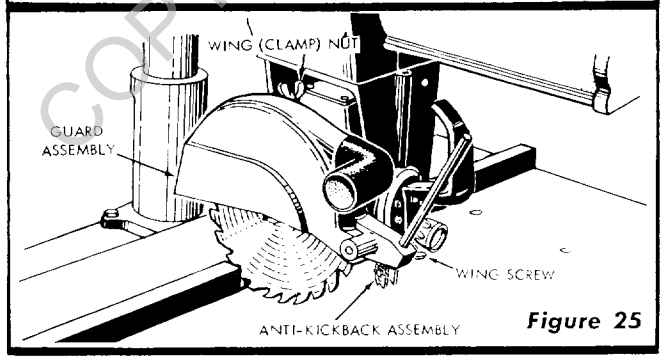

Figure 25

3. When the saw blade is square to the table top, no light will be visible between the square and face of saw blade. Do not allow the square to rest against a "set" tooth of the saw. If light is visible between the square and face of saw blade (with square leg held firm against the table top), perform the following adjustments.
   a. Using a 1/4-inch hex "L" wrench, loosen just slightly the four socket-head screws (figure 19.)

      NOTE: It will be necessary to loosen the bevel lock knob (figure 19) several turns in order to provide room for inserting the hex "L" wrench into heads of socket-head screws.

   b. Tilt the motor until the saw blade is square with the table top as shown in figure 19. Then, while holding the square firmly against the saw blade and table top, apply pressure 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.
   c. Tighten the socket-head screws (figure 19) and bevel lock knob.

      NOTE: It may be necessary to perform more than one trial operation before the saw blade remains perfectly square with table top after tightening the socket-head screws.

   d. Recheck for blade squareness with table top.
   e. The indicator (figure 19) should read 0° on the bevel index scale. If not, loosen the indicator attaching screw, adjust indicator to zero and tighten screw securely.

STEP SIX — CHECKING THE SAW BLADE FOR HEEL (LEFT AND RIGHT)

1. Place a square against the rip fence and the saw blade as shown in figure 20. The long leg of the square must be held firmly against the rip fence and the short leg must not touch any of the teeth on the saw blade.
2. If a gap exists between the saw blade and the square, one of two types of "heel" exists. The two types of "heel" are illustrated in views "A" and "B", figure 21. To correct for either type of "heel" condition, proceed as follows:
   a. Remove the left-hand carriage cover (figure 22).
   b. Loosen the yoke clamp handle.
   c. Loosen (slightly) the two hex-head screws.
   d. Rotate the yoke until the gap between the saw blade and square is eliminated.
   e. Lock the yoke with yoke clamp handle and tighten the two hex-head screws.
   f. Recheck for "heel" after tightening screws, and make corrections if necessary.
   g. Retighten yoke clamp handle.
   h. Install the left-hand carriage cover (figure 22).

STEP SEVEN — DOUBLE CHECK SQUARING OF SAW

1. Recheck for correct adjustment of the saw by performing "STEPS FOUR, FIVE and SIX".
2. If the cross cut is not perfectly squared, proceed with "STEP FOUR" again. If "heel" is still evident, recheck "STEP SIX".

   NOTE: If after making all adjustments outlined in STEPS "ONE" through "SEVEN," refer to Trouble Shooting Charts for any existing problems.

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ADJUSTMENT OF RIP SCALE INDICATORS

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

When the fence is in its normal position (next to the front table), index the yoke 90° from the cross-cut position so that the blade is between the motor and the fence. Lock the yoke.

Move the motor along the radial arm until the blade, when spun by hand, just touches the front face of the fence (see figure 23). The rip-scale indicator (on the right-hand side of radial arm) should now read 0-inches. If not, shift the position of the indicator to read 0-inches.

NOTE: With the saw blade and fence in the position shown in figure 23, the upper portion of the "In-Rip" scale is used. If the fence is moved to the extreme rear position, the lower portion of the "In-Rip" scale is used.

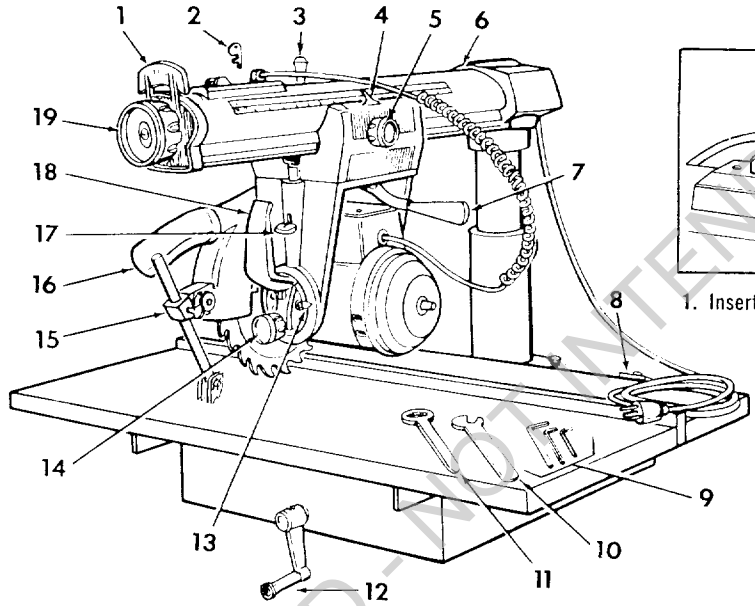
The "Out-Rip" scale indicator on the left-hand side of radial arm is adjusted in essentially the same manner as the "In-Rip" indicator, except the blade should be positioned as in figure 24. With 9-inches measured between the fence (when in full rear position) and face of saw blade, the indicator should be positioned to read 9-inches on the lower portion of the "Out-Rip" scale.

NOTE: With the saw blade and fence in the position shown in figure 24, the lower portion of the "Out-Rip" scale is used. If the fence is moved to normal position (at the rear of front table) the upper portion of the "Out-Rip" scale is used.

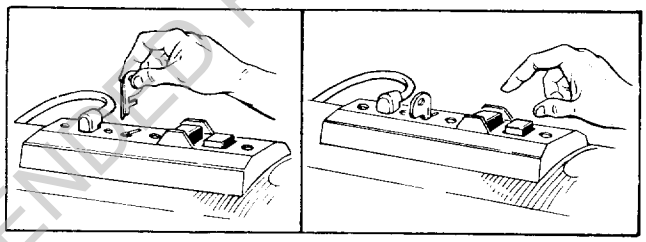
INSTALLING GUARD AND ANTI-KICKBACK ASSEMBLY

1. Attach the guard assembly and secure it by tightening the guard wing nut finger tight. (See figure 25.)

OPERATING CONTROLS



Instructions for use of Key and Switch



1. Insert key into slot and turn.
2. Press the red button to start saw motor. Press the green button to stop.

NOTE: This saw can not be operated without the key, and likewise, the key can not be removed from the lock while the saw motor is running — this was designed for your safety and protection.

Figure 26

1. Arm Latch Lever
2. Switch Key
3. Swivel Latch Pin Knob
4. Rip Scale Indicator
5. Carriage Lock Knob
6. Miter-Scale Indicator
7. Yoke Clamp Handle
8. Table Clamp
9. Hex "L" Wrenches
10. Shaft Wrench
11. Arbor Wrench
12. Elevation Crank
13. Bevel Index Scale and Indicator
14. Bevel Lock Knob
15. Anti Kick Back Pawl Assembly
16. Discharge Elbow
17. Latch Pin Handle
18. Bevel Index Handle
19. Arm Latch Knob

NOTE: WHEN ORDERING REPAIR PARTS REFER TO PARTS LIST FOR CORRECT PART NUMBER.

COLOR CODING

In order to simplify operation of the saw, the various basic operating functions are keyed to their respective controls with color discs (or paint) directly on the controls. These colors are as follows:

1. **YELLOW** — Radial arm indexing and locking — color located on arm latch knob (19, figure 26).
2. **LT. BLUE** — Bevel indexing and locking — colors located on bevel lock knob (14, figure 26), latch pin handle (17) and bevel index indicator (pointer) (13).
3. **GREEN** — Swivel indexing and locking — colors located on yoke clamp handle (7, figure 26), yoke, and color of swivel latch pin knob (3).

The operator should become familiar with these control systems before attempting any projects with the saw.

RAISING AND LOWERING THE RADIAL ARM is accomplished by the elevation crank (12, figure 26). One *complete turn of this handle will raise or lower the radial arm* ⅛".

LOCKING THE CARRIAGE TO THE RADIAL ARM is accomplished by the carriage lock knob (5, figure 26). Turn the knob clockwise to lock; counterclockwise to unlock.

ANGULAR MOVEMENT AND LOCKING OF THE RADIAL ARM are controlled by the arm latch lever (1, figure 26), and the arm latch knob (19). The radial arm can be rotated and locked in any position. The arm is unlocked from any position by a slight counterclockwise rotation of the arm latch knob and is locked in any position by rotating the arm latch knob 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 knob and pulling out the arm latch lever.

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For most positive and accurate settings at the index positions, the following is recommended:

1. If the radial arm is already indexed, turn the arm latch knob (19, figure 26) just **1/4 turn counterclockwise from the locked position,** pull out the arm latch lever and move radial arm off the index position. Release the arm latch lever.
2. Move the radial arm into the index position (do not bump or jar) and push on the knob or the arm latch lever solidly with the palm of the hand. (See figure 16.) 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 cross-cut (0°) position.
3. Lock the radial arm by turning the arm latch knob clockwise until tight.

CAUTION: When moving the radial arm in any direction beyond 45° left or right, always pull out the arm latch lever (at end of radial arm) to prevent damaging the arm lock pin. If damage occurs, the radial arm will not index properly at 0° and 45° left or right.

MOVEMENT AND POSITION OF THE MOTOR IN THE YOKE are controlled by the latch pin handle (17, figure 26) and bevel lock knob (14). The bevel scale indicates the angular position of the motor with respect to the horizontal from 0° to 90° in either vertical position. The latch pin handle automatically indexes the motor at 0°, 45°, and 90° up and down. Lift to release. At any other position, the latch pin handle is not engaged. The bevel lock knob locks the motor to the yoke when the motor is in any position. Locking is clockwise; unlocking is counterclockwise.

MOVEMENT AND POSITION OF THE YOKE are controlled by the swivel latch pin knob (3, figure 26) and the yoke clamp handle (7). The swivel latch pin automatically indexes the yoke at each 90° position. Lift to release. The yoke clamp handle locks the yoke to the carriage in any position. Pull to release. Push to tighten.

PROPER OPERATING PROCEDURES

PRECISION INDEXING — Experienced operators of precision equipment, such as this Craftsman 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 move it back slowly and carefully to latch and lock it. Swivel indexing and bevel indexing can be accomplished in the same manner. This technique tends to neutralize any stresses imposed upon saw components and contributes to the high degree of accuracy this saw is capable of producing when operated expertly.

ADJUSTMENTS TO COMPENSATE FOR WEAR

Even though the finest materials and precision workmanship have been used to minimize wear it is reasonable to expect that some wear will eventually occur. Adjustments have been built into your Craftsman saw to reduce or eliminate this wear.

ELIMINATING LOOSENESS BETWEEN COLUMN TUBE AND COLUMN SUPPORT

This operation is explained fully in "STEP TWO — CHECKING FOR LOOSENESS OF COLUMN TUBE IN COLUMN SUPPORT."

YOKE CLAMP HANDLE ADJUSTMENT

The normal locking position of the yoke clamp handle (figure 27) is approximately midway between the two sides of the yoke.

When the handle moves considerably to the rear, or strikes the yoke before locking, the handle may be adjusted as follows:

1. Remove saw guard and blade.
2. Set yoke clamp handle to Position "A", (figure 27), which is just slightly ahead of the mid-position of handle.
3. Remove the carriage stop screw and lockwasher from the underside of radial arm near the front end of the arm. (See figure 28.)
4. Grasp the motor and carriage assembly and move it carefully off end of radial arm.

CAUTION: When removing the motor and carriage assembly from radial arm, be sure to hold the assembly parallel to the arm until all bearing rollers are free of their tracks. If the assembly is allowed to tilt after the forward rollers are free, the adjustment of rear rollers will be altered and there is also danger of impressing dents into the track. These same precautions should be taken when installing the motor and carriage assembly on the radial arm.

5. Rest the motor and carriage assembly on saw table.
6. Remove the lock screw (figure 29).

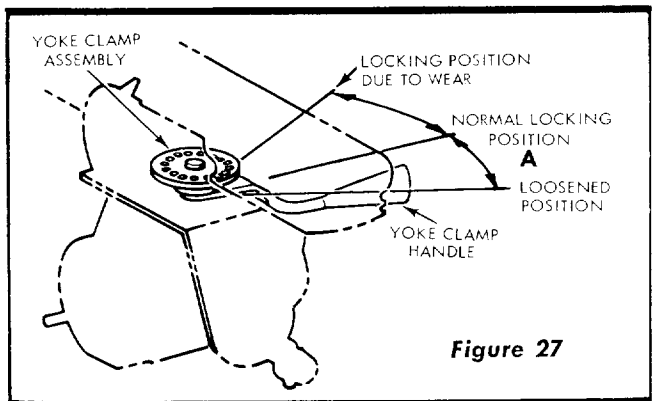

Figure 27

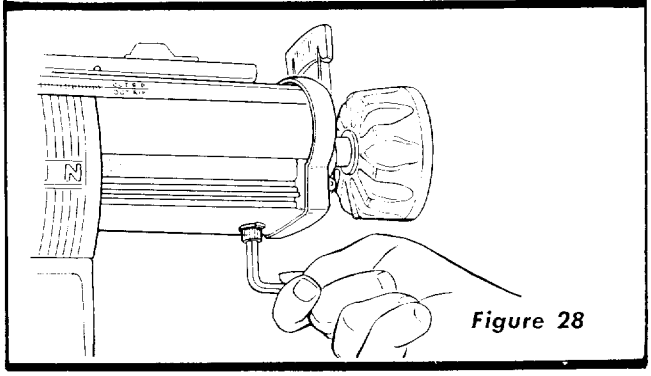
Figure 28

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7. Using a screwdriver or similar tool, rotate the yoke clamp assembly (figure 27) clockwise (when looking down) until the next hole will line up with the lock screw (See figure 30). Usually, rotating the yoke clamp assembly one hole will correct this adjustment. However, in some cases it may be necessary to rotate it two holes.
8. Make sure the hole in yoke clamp assembly (figure 27) lines up with lock screw hole and install and tighten lock screw (figure 29).
9. Install motor and carriage assembly on radial arm. (See "CAUTION" under preceding paragraph step 4.)
10. Install carriage stop screw and lockwasher in radial arm. (See figure 28.)

CARRIAGE BEARING ADJUSTMENT

To test for looseness in carriage ball bearings (between bearings and tracks in radial arm), lock yoke clamp handle, grasp the motor and carriage assembly firmly and apply a firm rocking motion. If looseness exists, the two bearings on **left-hand side** of radial arm must be adjusted. The two bearings on right-hand side of arm are attached to the carriage with regular hex-head screws and are not adjustable. The two bearings on left-hand side of arm are attached to carriage with eccentric screws. (See figure 31.)

1. Remove left-hand carriage cover (figure 32).
2. Loosen two nuts (figure 33) just enough to permit eccentrics to turn. (See figure 31.)
3. Turn adjusting screws (figure 33) a partial turn left or right as required to take up looseness.
4. Hold head of adjusting screw (figure 33) in position established in preceding step and tighten the nut.
5. Correct adjustment exists when there is no play between the carriage and radial arm, and yet the carriage moves freely.
6. Install left-hand carriage cover (figure 32).

NOTE: It will probably be necessary to recheck steps "FOUR, FIVE and SIX" under "ASSEMBLING AND ADJUSTING YOUR SAW" after adjusting the carriage bearings.

LUBRICATION

Your saw is a fine machine and should be given the best of care. If kept clean and properly lubricated, it will give many years of trouble-free service. Before describing the various points which may periodically require lubrication, IT IS MORE IMPORTANT TO FIRST MENTION THE VARIOUS SPOTS WHICH SHOULD NOT BE LUBRICATED.

NO LUBRICATION REQUIRED

Do not lubricate carriage ball bearings.

Do not lubricate the motor bearings. 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 Auto 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 can be wiped on the face of the column tube and keyway to lubricate the fit between column, key and column support.

Apply a few drops of oil to the bearing surfaces of the elevation crank shaft assembly. An oiling hole is provided in the elevation shaft bearing bracket to facilitate the lubrication of the rear bearing support.

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

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

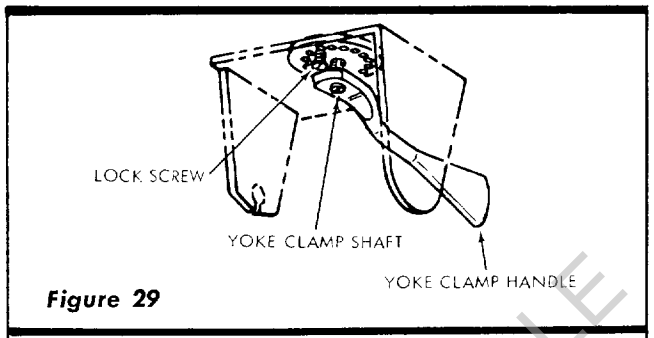

Figure 29

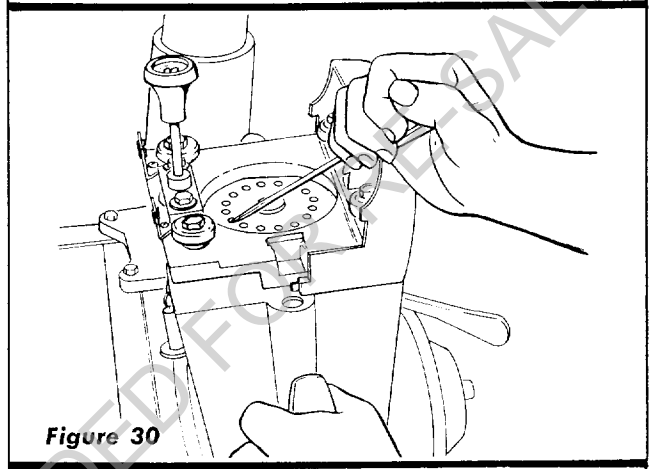
Figure 30

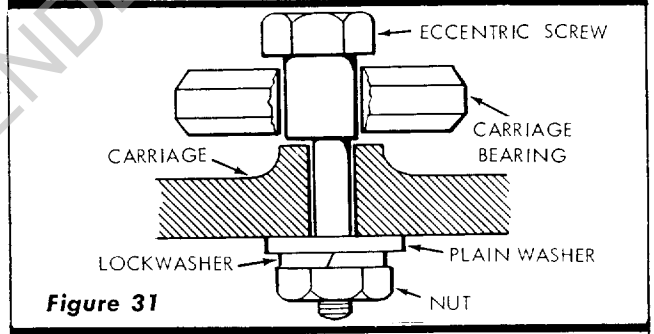

Figure 31

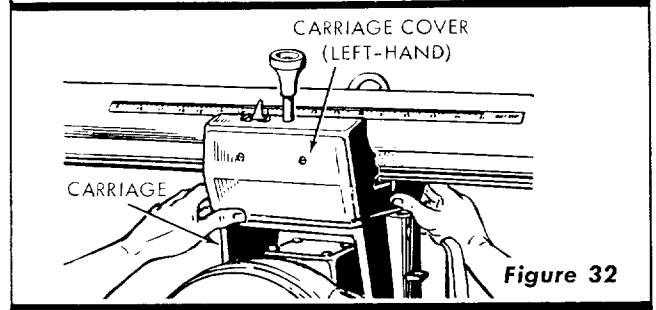

Figure 32

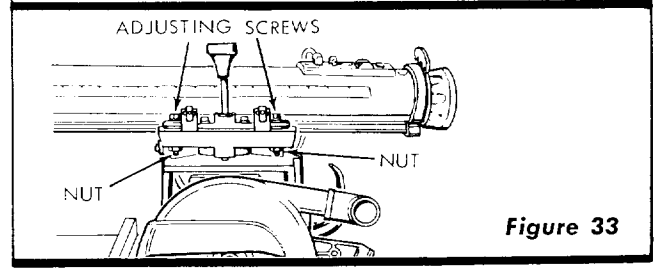

Figure 33

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STANDARD SAW OPERATIONS

PRELIMINARY CROSS-CUT AT THE 0° POSITION

1. Pull motor forward of fence so that blade is free to rotate
2. Lower radial arm until saw blade just clears the table top.
3. Tighten carriage lock knob.

   CAUTION: Before cutting, always be sure that the arm latch knob is locked fully clockwise.

4. Plug power cord into receptacle.
5. Insert switch key; turn the key and press the switch "On".
6. Lower radial arm until blade cuts into table top 1/32".
7. Hold the handle with the left hand and loosen the carriage lock knob with the right hand. Slowly pull the motor with the left hand out to the extreme end of travel and then push the motor back through the fence to the extreme rear position. Push the switch "Off".

CROSS-CUTTING

Cross-cutting is the sawing of wood across the grain. Planks are milled with the grain running the length of the plank. If a straight cross-cut is desired, the board is placed on the saw table against the fence so that the grain is parallel to the fence. (See figure 34.)

> **NOTE:** When cross-cutting normal pieces of lumber, the long end of the board should be placed to the left of the saw blade as the board is normally held by the left hand during operation. The saw is pulled through the stock—not pushed.

The radial arm must be positioned at 0° as indicated by the radial arm position indicator. The arm latch knob must be indexed and tightened. (Refer to paragraph entitled "Angular Movement And Locking Of The Radial Arm".) The yoke must be indexed at the 0° position, making the saw blade perpendicular to the rip fence, and the yoke clamp handle placed in the locked position. The bevel index handle must be positioned at 0°, as indicated by the bevel scale, and locked. Turn the elevation crank to lower the saw until the blade teeth are approximately 1/32" below the table surface and ride in the saw slot made when performing the "PRELIMINARY CROSS-CUT AT THE 0° POSITION". Push the saw carriage to the rear of the radial arm so the blade is behind the rip fence. Adjust the anti-kickback pawl assembly so it clears the board to be cut. Press the switch key "On" to start the saw motor. Hold the board firmly against the rip fence with the left hand and grasp the bevel index handle with the right hand. The cut is then made by pulling the carriage forward until the saw blade cuts through the work. When the cut is complete, the saw should be returned to the back of the radial arm and the switch turned "Off". **When more experience is gained by using the saw, it will be noticed that when pulling the saw toward you during cross-cutting, the saw blade tends to feed itself through the work due to the rotation of the blade and the direction of feed. Therefore, the operator should develop the habit of holding his right arm straight from the shoulder to the wrist.** After this method is used a few times the operator will find that it is necessary to roll or rotate the body from the waist up. If this method is followed, it will become apparent that very little effort is required on the part of the operator to move the saw blade through the work, and in most cases, the right arm is used merely to control the rate of feed of the saw through the board. It will also be found that when cross-cutting a thick board it will be necessary to retard movement of the saw through the work. By holding the right arm (right hand normally grips the saw handle) straight, the operator can easily control the rate of feed, thus *preventing the saw blade from overfeeding and stalling the saw motor.* This must be avoided whenever possible.

RIPPING

Ripping is the sawing of wood with the grain. It is always done with the help of the fence as a guide to position and maintain the work at the correct width for the cut. Because the work is pushed along the fence, it must have a reasonably straight edge to make sliding contact with the fence. Also, the work must make solid contact with the table so that it will not wobble or rock. Provide a straight edge, even if this means temporary nailing of an auxiliary straight edge board to the work. If work piece is warped, turn the hollow side down.

Use of the saw guard is always recommended; and the anti-kickback pawl assembly should always be used in both ripping operations. Before ripping and after the saw has been positioned prior to cutting, the saw guard and anti-kickback pawl assembly must be properly adjusted. Loosen the wing nut holding the guard to the motor and *lower the nose of the guard to within ⅛" above the top surface of the board to be cut. Retighten the wing nut securely.*

> **CAUTION:** The nose of the guard refers to that end of the guard which is opposite to the end which mounts the anti-kickback pawl assembly. Always rip from the nose of the guard. See Warning Label on guard.

At the opposite end of the guard, loosen the wing screw holding the anti-kickback pawl assembly and lower the assembly until the *tips of the pawls are 1/8" below the top surface of the board to be cut. Retighten the wing screw securely.*

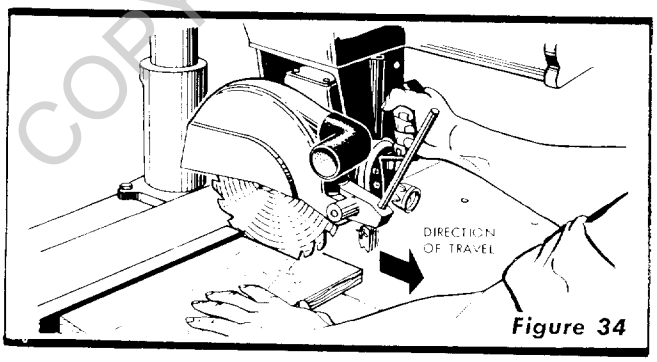

Figure 34

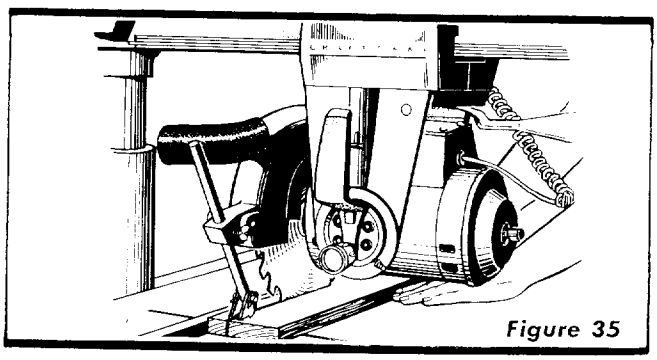
Figure 35

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IN-RIPPING—*In-rip refers to a position when the blade is between the motor and the fence and parallel to the fence.* (See figure 35.) To place the saw in this position, unlock the yoke, disengage the swivel latch pin and rotate the yoke 90° clockwise (viewing it from the carriage) until the swivel latch pin automatically indexes the yoke 90°. Relock the yoke. See "Adjustment of Pointers" to check accuracy of "In-Rip" scale reading. Position the motor on the radial arm until the pointer on the "In-Rip" scale indicates the desired width of the finished cut board. Tighten the carriage lock knob securely. Position the discharge elbow on the guard so that sawdust will be blown toward the rear of the saw. Turn the saw "On" and lower the radial arm until the saw blade cuts into the table top about 1/32". Turn the saw "Off". Now adjust the saw guard and anti-kick pawl assembly as described in the paragraph "Ripping". The board to be ripped must be fed into the saw blade from the right side of the table, therefore, the normal position for the operator is also at the right side of the table. With the left hand safely clear of the blade and holding the board to be ripped down against the table and against the face of the fence as a guide, use the right hand to feed the board into the saw. The left hand should remain stationary, serving as a guide only. As the right hand approaches the left hand, hold a push stick with the right hand to complete the cut. Do not leave a long board unsupported so that the spring of the board causes it to shift on the table. A support like that described in "Cross-Cutting" can be used to support the board behind the blade; and if the board is very long, use another support in front of the saw. Ripped boards up to 8⅞ inches wide can be cut in the "In-Rip" position when the fence is against the front table. With the fence moved to the extreme rear position, ripped boards up to 16 inches wide can be cut.

OUT-RIPPING—*Out-rip refers to a position when the motor is between the blade and the fence.* Normally, this position is only used when the width of the required ripped board cannot be cut from the in-rip position. Ripped boards up to 18¼" wide can be cut in the out-rip position when the fence is against the front table. With the fence moved to the extreme rear position, ripped boards up to 25⅜ inches wide can be cut. To place the saw in the out-rip position, the yoke must be rotated and indexed 90° counterclockwise from the cross-cut position and locked. The same procedure for pre-cutting the table top (see In-Ripping) and adjusting the saw guard and anti-kickback pawl assembly (see Ripping) should be followed. The same procedure for sawing is used except that now the operator stands at the left side of the table and a push stick is normally not required.

The same procedure for sawing is used except that now the operator stands at the left side of the table and a push stick is normally not required.

NOTE: For added table space in front of the blade see "Movement and Position of the Yoke."

FENCE LOCATIONS

There are three positions in which the fence can be located. (See figure 36.)

1. Normal position.
2. Position used for maximum cross-cut on 1" material and greater bevel and miter capacity.

   CAUTION: Rip scales cannot be used in this position.
3. Position used for maximum out-rip capacity.

PREPARING REAR TABLE FOR SHAPING

For use of a Molding Head Cutter the rear table requires an opening for clearance of the motor end. Cut this opening as shown in figure 36 inset.

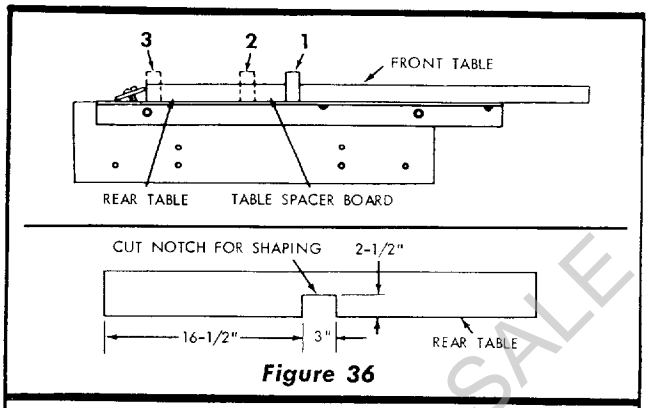

Figure 36

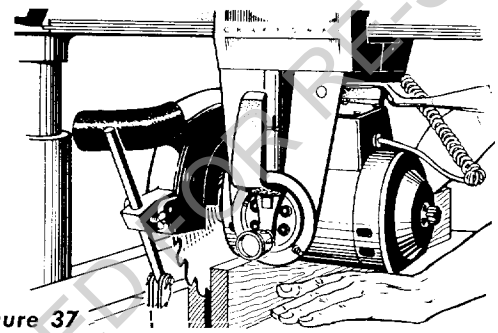
Figure 37

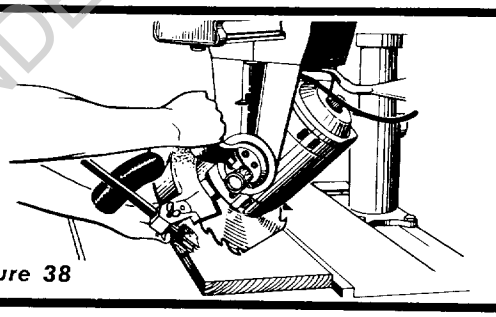
Figure 38

RESAWING

Resawing is the cutting of thick boards into thinner ones. It is a ripping operation. (See figure 37.) Small boards—up to 2½" maximum width—can be resawed in one pass; but larger boards up to 5" maximum require two passes, one pass along each edge of the board. When two cuts from opposite edges are required, these should be made to overlap ½" from the approximate center of the board. If the first cut is too deep, the kerf will close and bind the saw on the second cut, with danger of kickback. Also, when the kerf closes, the two sides of the cut are no longer parallel to the saw blade, and the saw will cut into them to spoil their appearance. Keep the same face of the board against the fence when making both cuts.

When cutting boards thicker than 4", a fence should be used which extends 3½" above the table top. When cutting boards thicker than 5", cut both sides and finish the cut with a hand saw.

BEVEL AND MITER CUTS

Bevel cuts can be made from either a cross-cutting or ripping position by tilting the blade to the desired angle. Miter cuts can be made only from a cross-cutting position when the blade and radial arm are at some angle other than 90° to the fence. A bevel miter cut is a cut which is both beveled and mitered. This cut is made with the blade and radial arm set at the desired miter angle to the fence and then the blade only is tilted with respect to the table top to the desired bevel angle. This cut is also referred to as a compound miter. (See figure 38.)

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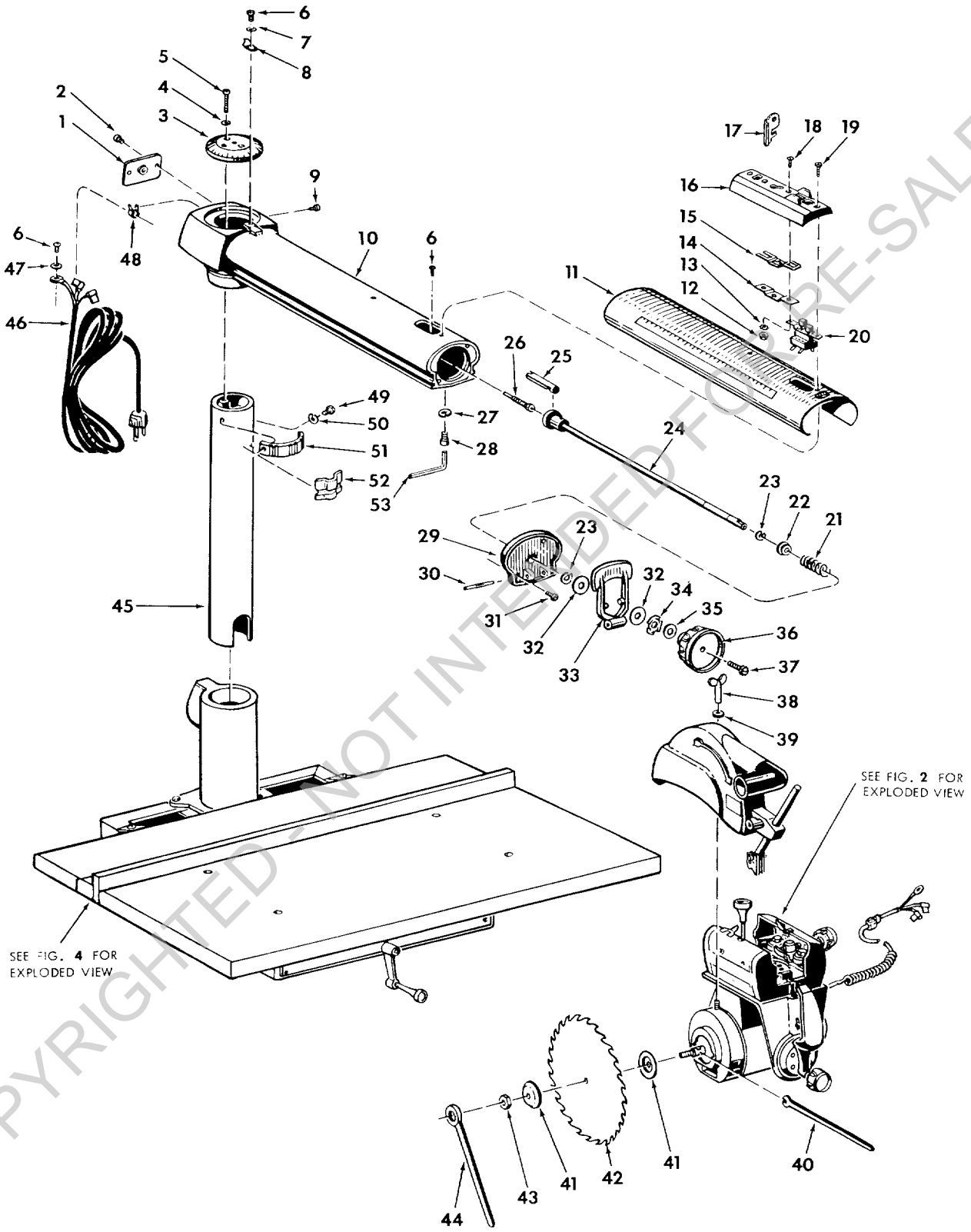

Figure 1

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CRAFTSMAN ACCRA-ARM, 10-INCH RADIAL SAW, MODEL No. 113.29441

All parts illustrated in Figures 1 through 4 and listed under part numbers may be ordered through any Sears retail store or catalog order house. 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 113.29441
4. THE NAME OF ITEM—RADIAL SAW.

Always order by Part Number — not by Key Number

FIGURE 1 PARTS LIST

Key No.	Part No.	Description
1	30473	Plate Assembly Cover
2	448033	Screw, No. 10-32 x 3/8, Type 23, Pan Hd. Slotted
3	37418	Cap, Radial Arm
4	115109	*Lockwasher, 1/4
5	191230	*Screw, Mach., 1/4 x 28 x 1, Fil. Hd. Slotted
6	448001	Screw, No. 6-32 x 1/4, Type 23 Pan Hd. Slotted
7	37935	Washer, Fiber, 9/64 x 1/4 x 1/32
8	30474	Indicator No. 1
9	145205	*Screw, Sheet Metal, No. 8 x 3/4, Type B, Pan Hd.
10	37863	Arm, Radial
11	37867	Trim, Radial Arm
12	134530	*Nut, Hex., No. 6-32 x 5/16 x 7/64
13	138473	*Washer, Lock, No. 6, External Tooth
14	37873	Plate Safety Lock
15	37876	Bolt, Safety Lock
16	37878	Cover, Switch
17	37861	Key, Safety Lock
18	133427	*Screw, Mach., No. 6-32 x 7/16, Flat Hd. Slotted
19	448017	*Screw, No. 8-32 x 3/4, Type 23, Pan Hd. Slotted
20	37874	Switch
21	30490	Spring, Arm Latch
22	30489	Washer, Spring Support
23	30655	Ring, Retaining
24	37370	Shaft Assembly, Latch Arm
25	30482	Pin, Arm Lock Assy.
26	30662	Screw, Arm Lock
27	120214	*Lockwasher, 5/16
28	9421621	*Screw, 5/16-18 x 5/8, Socket Hd.
29	37866	Cap, Trim
30	443151	Pin, Groove, 3/16 x 1-3/4, Type E
31	448039	Screw, No. 10-32 x 3/4, Type 23, Pan Hd. Slotted
32	60076	Washer, Plain, 1/2 x 1-1/8 x 1/16
33	37372	Lever, Arm Latch
34	37373	Washer, Spring
35	60030	Washer, Plain, 1/2 x 1 x 1/32
36	63410	Knob Assembly (3-1/4 in. dia.)
37	60077	Screw, Mach., 1/4-20 x 1-3/8, Truss Hd. with Lockwasher
38	30493	Nut, Wing
39	37938	Washer, Plain, 11/32 x 7/8 x 1/16
40	30496	Wrench, Shaft
41	30494	Collar
42	60175	†Blade, Saw, 10"
43	30495	Nut, Shaft
44	3540	Wrench, Arbor
45	30671	Tube Assembly, Column
46	37363	Cord and Plug
47	115543	*Lockwasher, No. 6, Internal Tooth
48	30472	Clamp, Cord
49	9415837	*Screw, Mach., 3/8-16 x 3/4, Hex. Hd.
50	131202	Lockwasher, 3/8
51	30479	Latch, Arm
52	30661	Shoe, Brake
53	37435	*Wrench, Hex. "L", 1/4" Across Flats
Not Shown	63479	Operating Instructions and Parts List for Craftsman Accra-Arm 10" Radial Arm Saw Model 113.29441

* Standard Hardware Item — May be Purchased Locally.

† Stock Item — may be secured through the Hardware Department of most Sears or Simpsons-Sears Retail Stores or Catalog Order Houses.

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POWER TOOL GUARANTEE

During the first year, we will repair your Craftsman Radial Saw free of charge, if defective in material or workmanship.

This guarantee service is available by simply returning the saw to any Sears store throughout the United States.

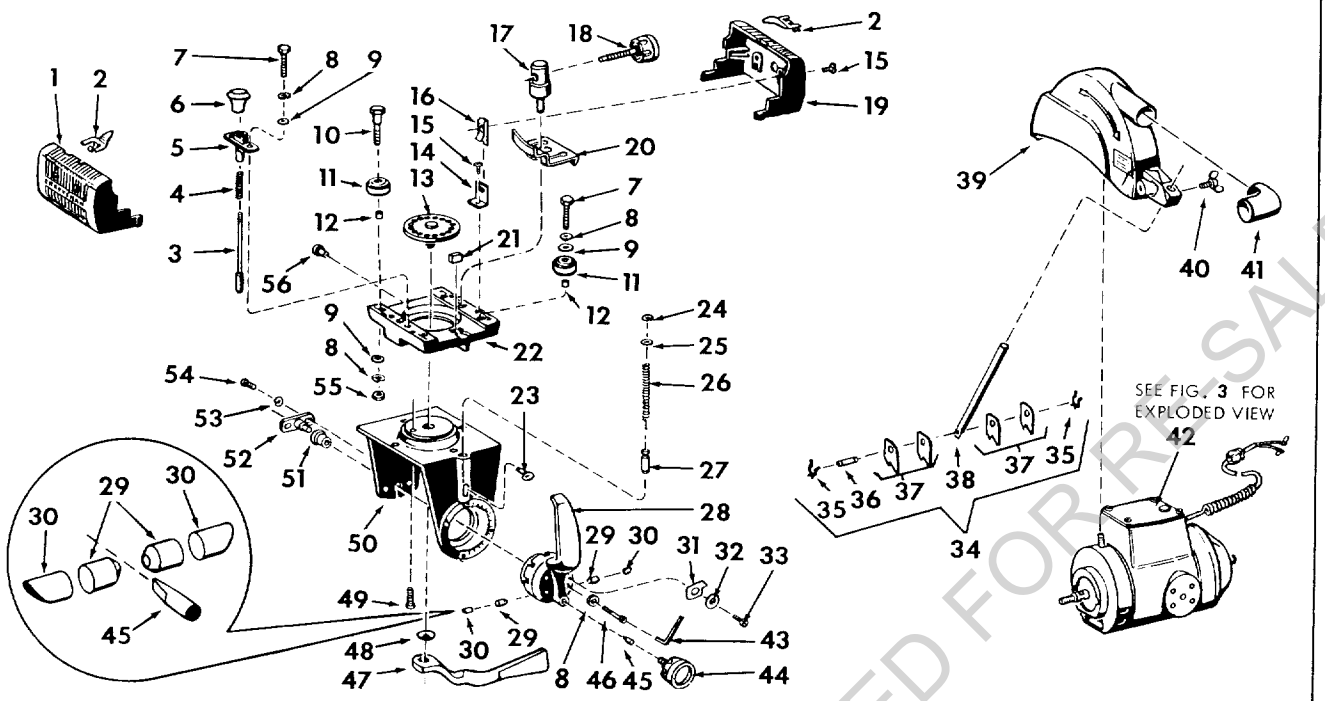

Figure 2

FIGURE 2 PARTS LIST

Key No.	Part No.	Description
1	37864	Cover, Carriage, Left Hand
2	63478	Indicator, Rip Scale
3	37494	Pin, Swivel Latch
4	30521	Spring, Swivel Latch
5	37385	Housing, Latch Pin
6	63474	Knob
7	9415815	*Screw, Mach., 5/16-18 x 1, Hex. Hd. Indented
8	120214	*Lockwasher, 5/16
9	37936	Washer, Plain, 21/64 x 3/4 x 1/16
10	37387	Screw, Eccentric
11	37386	Bearing, Ball
12	37388	Sleeve, Bearing
13	30566	Clamp Assembly, Yoke
14	37392	Bracket, Carriage Cover Mounting
15	9404365	Screw, No. 8-32 x 5/16, Type 23 Pan Hd. Slotted
16	37393	U-Nut
17	37389	Pin, Lock Screw
18	63186	Knob Assembly (1-1/2 in. dia.)
19	37865	Cover, Carriage, Right Hand
20	37870	Shoe, Rip Lock
21	30567	Bumper, No. 2
22	37396	Carriage
23	30693	Handle, Latch Pin
24	30546	Ring, Retaining, No. 2
25	30547	Disc
26	30548	Spring, Latch Pin
27	30689	Pin, Bevel Latch
28	63424	Handle, Bevel Index
29	30663	Expander

Key No.	Part No.	Description
30	30665	Shoe, Index Handle Brake
31	30559	Indicator, No. 2
32	37935	Washer, Fiber, 9/64 x 1/4 x 1/32
33	448001	Screw, No. 6-32 x 1/4, Type 23 Pan Hd. Slotted
34	63476	Pawl Assembly, Anti-Kickback
35	30542	Washer "X"
36	63377	Pin, Cross
37	63271	Pawl, Anti-Kickback
38	63475	Rod
39	37397	Guard
40	30540	Screw, Wing
41	37429	Elbow, Discharge
42	63165	Motor Assembly (Domestic)
42	•63174	Motor Assembly (Canada) (See Fig. 3 for Exploded View)
43	37435	*Wrench, Hex. "L", 1/4 Across Flats
44	63420	Knob Assembly (2-1/4 in. dia.)
45	30664	Pad, Pressure
46	9421626	*Screw, 5/16-18 x 1-1/2, Hex. Socket Hd. Cap
47	37403	Handle, Yoke Clamp
48	37816	*Washer, 5/8 x 1-1/8 x 3/32
49	138201	Screw, Hex. Socket Hd., 1/4-20 x 3/4
50	63477	Yoke
51	63469	Bushing, Rubber
52	63468	Support Assembly, Motor
53	115109	*Lockwasher, 1/4
54	60021	*Screw, Mach., 1/4-20 x 7/16, Hex. Hd.
55	124824	*Nut, Hex., 5/16-18 x 1/2 x 3/16
56	30565	Bumper

* Standard Hardware Item — May be Purchased Locally.
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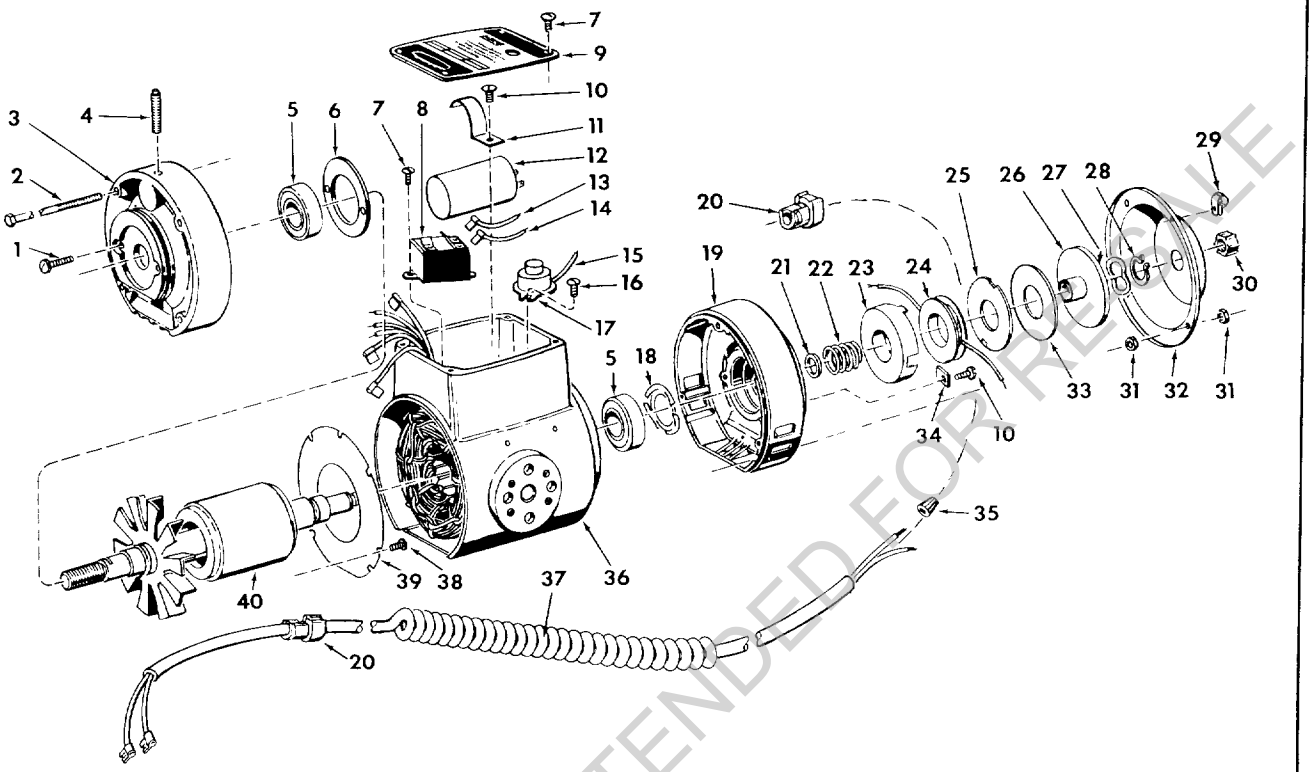

Figure 3

FIGURE 3 PARTS LIST

Key No.	Part No.	Description
1	455330	*Screw, Mach., No. 10-32 x 1, Pan Hd. Slotted with Lockwasher
2	30697	Screw, Stator, No. 2
3	37427	Shield, End (Fan Blade End)
4	30570	Stud, Guard
5	30571	Bearing
6	30572	Plate, Bearing Retainer
7	9404351	Screw, No. 6-32 x 5/16, Type 23 Pan Hd. Slotted
8	30588	Relay
9	63164	Plate, Identification (Domestic)
9	•63175	Plate, Identification (Canada)
10	448011	Screw, No. 8-32 x 3/8, Type 23 Pan Hd. Slotted
11	30700	Clamp, Capacitor
12	30586	Capacitor
13	37409	Lead Assembly, No. 1
14	37410	Lead Assembly, No. 2
15	30619	Wire, No. 16, 3-1/2", AWG U.L. Approved
16	9404353	*Screw, No. 6-32 x 7/16, Type 23 Pan Hd. Slotted
17	37408	Protector
18	30580	Washer, Spring

Key No.	Part No.	Description
19	37407	Shield, End (Opposite Fan Blade End)
20	37818	Relief, Strain
21	37942	Washer, Spacer
22	37415	Spring
23	37908	Housing, Brake Coil
24	37883	Coil, Brake
25	63134	Shoe, Brake
26	37884	Disc, Brake
27	37886	Washer, Spring
28	30783	Ring, Retaining
29	30613	Clamp, No. 2, Cord
30	30582	Cap, Shaft
31	120622	*Nut, Hex., No. 8-32 x 11/32 x 1/8
32	37434	Cover, Brake
33	63137	Lining, Brake
34	37412	Cleat
35	30573	Connector, Wire
36	63166	Stator Assembly
37	37877	Cord (Domestic)
37	•63176	Cord (Canada)
38	448001	Screw, No. 6-32 x 1/4, Type 23 Pan Hd. Slotted
39	30577	Plate, Baffle
40	37885	Rotor Assembly

* Standard Hardware Item — May be Purchased Locally.

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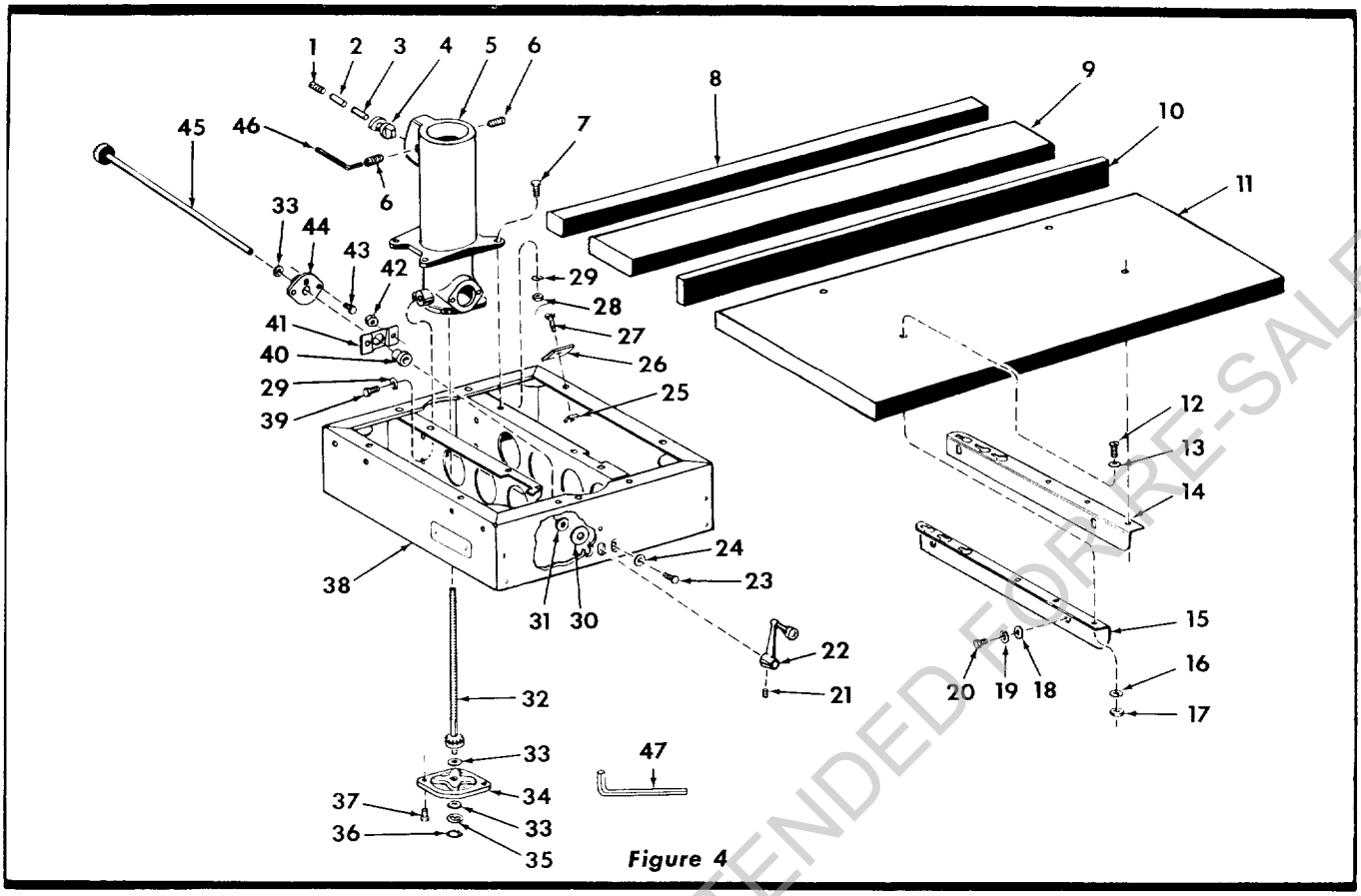

Figure 4

FIGURE 4 PARTS LIST

Key No.	Part No.	Description
1	102718	Screw, Set, 5/16-18 x 1/2, Slotted, Cup Pt.
2	63078	Plug, Back-up (Steel)
3	63077	Plug, Friction (Nylon)
4	63079	Key, Column Tube
5	37868	Support, Column
6	139416	Screw, Set, 3/8-16 x 5/8, Socket Hd., Cone Pt.
7	60020	*Screw, Mach., 3/8-16 x 1-1/8, Hex. Hd. Slotted
8	63279	Spacer, Table
9	63278	Table, Rear
10	63280	Fence
11	63473	Table, Front
12	60056	Screw, Mach., 1/4-20 x 1, Pan Hd. Slotted
13	37937	Washer, 17/64 x 5/8 x 1/32
14	37880	Channel, Table Mtg., Right Hand
15	37879	Channel, Table Mtg., Left Hand
16	115109	*Lockwasher, 1/4
17	115120	*Nut, Hex., 1/4-20 x 7/16 x 3/16
18	60013	*Washer, 11/32 x 7/8 x 1/16
19	120214	*Lockwasher, 5/16
20	60078	*Screw, Mach., 5/16-18 x 1/2, Hex. Hd.
21	102570	*Screw, Set, 1/4-20 x 3/8, Socket Hd.
22	63434	Crank Assembly (Includes Item 21)
23	60226	*Screw, Mach., 1/4-20 x 1/2, Pan Hd.
24	60079	*Washer, 17/64 x 9/16 x 3/64
25	115120	*Nut, Square, 1/4-20 x 7/16 x 3/16
26	63286	Clamp, Table
27	453049	*Screw, Mach., 1/4-20 x 3/4, Pan Hd. Sl.
28	118615	*Nut, Hex., 3/8-16 x 9/16 x 21/64
29	131202	Lockwasher, 3/8
30	60106	Washer, 1/2 x 7/8 x 1/32
31	30604	Washer, Rubber
32	63403	Shaft Assembly, Elevation
33	30509	Washer, Flat, (End Play) (as required)
34	37428	Plate, Retaining
35	63405	Washer, Keyed
36	63331	Ring, Retaining
37	423561	*Screw, Mach., 5/16-18 x 7/8, Hex. Hd.
38	37383	Base Assembly
39	60022	*Screw, Mach., 3/8-16 x 5/8, Hex. Hd.
40	63435	Bushing
41	63436	Bracket, Bearing
42	60236	Nut, Lock
43	448649	*Screw, 1/4-20 x 3/4, Type 23C1, Hex. Hd.
44	30510	Bracket, Elevation Shaft Bearing
45	30508	Shaft Assembly, Elevation Crank
46	37911	Wrench, Hex "L", 3/16 Across Flats
47	30505	Wrench, Hex "L", 1/8 Across Flats

* Standard Hardware Item — May be Purchased Locally.

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TROUBLE SHOOTING CHART — MOTOR

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.	1. Protector open; circuit broken. 2. Low voltage.	1. Reset protector by pushing in on red button, located on top of motor junction box (indicated by audible click). 2. Check power line for proper voltage.
Motor will not run and fuses "BLOW."	1. Short circuit in line cord or plug. 2. Short circuit in motor terminal box or loose connections.	1. Inspect line cord and plug for damaged insulation and shorted wires. 2. Inspect all terminals in motor terminal box for loose or shorted terminals.
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.	1. Power line overloaded with lights, appliances and other motors. 2. Undersize wires or circuit too long. 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.) 4. Incorrect fuses in power line.	1. Reduce line load. 2. Increase wire sizes, or reduce length of wiring. 3. Request a voltage check from the power company. 4. Install correct fuses.
Motor starts slowly or fails to come up to full speed.	1. Low voltage — will not trip relay. 2. Starting relay not operating.	1. Correct low voltage condition. 2. Replace relay.
Motor overheats.	1. Motor overloaded. 2. Improper cooling. (Air circulation restricted through motor due to sawdust, etc.)	1. Correct overload condition. 2. Clean out sawdust to provide normal air circulation through motor.
Starting relay in motor will not operate.	1. Burned relay contacts (due to extended hold-in periods caused by low line voltage, etc.) 2. Open relay coil. 3. Loose or broken connections in motor terminal box.	1. Replace relay and check line voltage. 2. Replace relay. 3. Check and repair wiring.
Motor stalls resulting in blown fuses or tripped circuit breakers).	1. Starting relay not operating. 2. Voltage too low to permit motor to reach operating speed. 3. Fuses or circuit breakers do not have sufficient capacity.	1. Replace relay. 2. Correct the low line voltage condition. 3. Replace fuses or circuit breakers with proper capacity units.
Frequent opening of fuses or circuit breakers.	1. Motor overloaded. 2. Fuses or circuit breakers do not have sufficient capacity. 3. Starting relay not operating (motor does not reach normal speed.)	1. Reduce motor load. 2. Replace fuses or circuit breakers. 3. Replace relay.

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TROUBLE SHOOTING CHART

TROUBLE	PROBABLE CAUSE	REMEDY
Blade "heels" to right or left.	1. Heel has not been taken out of blade.	1. Refer to "STEP SIX — CHECKING THE SAW BLADE FOR HEEL (Left and Right)."
Cannot "rip" properly, wood smokes and motor stops.	1. Dull blade. 2. Crosscut travel and rip fence are not squared. 3. Radial arm not locked in 0° position. 4. Blade not squared to the table top.	1. Check for sharpness of blade or warped board. Refer to the paragraph entitled "RIPPING." Ripping with hollow-ground blades when boards are badly warped is very difficult. 2. Refer to "STEP FOUR — SQUARING THE CROSS-CUT TRAVEL." 3. Make sure the radial arm is locked and indexed properly in the 0° position. 4. Refer to "STEP FIVE — SQUARING THE SAW BLADE TO THE TABLE TOP."
Elevation crank operates roughly; chatter exists.	Column tube key not adjusted properly.	Check adjustment of key plug. Refer to "STEP TWO — CHECKING FOR LOOSENESS OF COLUMN TUBE IN COLUMN SUPPORT."
Motor will not run.	1. Protector open; circuit broken. 2. Low voltage.	1. Reset protector by pushing in on red button, located on top of motor junction box (indicated by audible click). 2. Check power line for proper voltage.
Motor will not run and fuses "BLOW."	1. Short circuit in line cord or plug. 2. Short circuit in motor terminal box or loose connections.	1. Inspect line cord and plug for damaged insulation and shorted wires. 2. Inspect all terminals in motor terminal box for loose or shorted terminals.
Blade does not maintain constant depth of cut across table.	1. Plane of table top not parallel to horizontal plane through radial arm. 2. Table badly warped.	1. Table is not aligned with radial arm. Refer to "STEP ONE — ATTACHING AND ADJUSTING TABLE MOUNTING CHANNELS." 2. Replace table top.
Blade does not cut squarely, or repeat cuts cannot be secured.	1. Excessive free play in column tube key adjustment. 2. Excessive free play in radial arm. 3. Crosscut travel and rip fence are not squared. 4. Improper movement of arm for miter cuts. 5. Saw blade not square to the table top. 6. Bearings loose on track. 7. Yoke does not index properly. 8. Yoke clamp does not tighten yoke; or looseness is felt in yoke assembly.	1. Refer to "STEP TWO — CHECKING FOR LOOSENESS OF COLUMN TUBE IN COLUMN SUPPORT." 2. Remove radial arm cap and check the two 3/8-inch bolts for tightness. 3. Refer to "STEP FOUR — SQUARING THE CROSS-CUT TRAVEL." 4. Before moving the radial arm to the desired miter index position, mainly 0° and 45° positions, make sure the arm latch knob is rotated just 1/4th. It may be advisable to push on the arm latch lever solidly with the palm of the hand to insure proper indexing at 0° and 45° positions. Refer to the paragraph entitled "ANGULAR MOVEMENT AND LOCKING OF THE RADIAL ARM." 5. Refer to "STEP FIVE — SQUARING THE SAW BLADE TO THE TABLE TOP." 6. Refer to paragraph entitled "CARRIAGE BEARING ADJUSTMENT," under "ADJUSTMENTS TO COMPENSATE FOR WEAR." 7. Check to see that yoke does index properly and/or swivel latch pin moves irregularly. If bolts on swivel latch pin housing are loose, tighten them after observing "STEP SIX — CHECKING THE SAW BLADE FOR HEEL." 8. Refer to paragraph entitled "YOKE CLAMP HANDLE ADJUSTMENT" under "ADJUSTMENTS TO COMPENSATE FOR WEAR."

TROUBLE SHOOTING CHART—MOTOR (See Page 23)

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