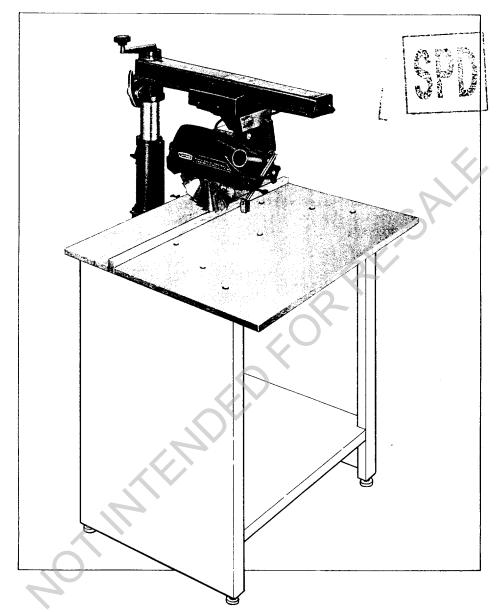
Sears

owners manual

MODEL NO. 113.29342

CAUTION:

Read SAFETY RULES and INSTRUCTIONS carefully



CRAFTSMAN

9-INCH RADIAL SAW

assembly • operating • repair parts

SEARS, ROEBUCK AND CO., Chicago, Ill. 60607 U.S.A. and SIMPSONS-SEARS LIMITED, Toronto

general satety rules tor 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 grounded 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 it on.

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 lit.

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

No loose clothing or jewelry to get caught in moving parts. Rubber-soled footwear is recommended for best footing.

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 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. 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.

20. CHECK DAMAGED PARTS

Before further use of the tool, a guard or other part that is damaged should be carefully checked to assure 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.



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.



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

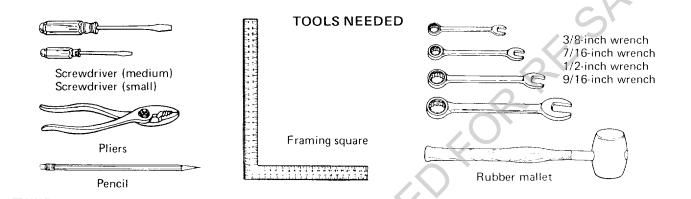
- That the manufacturer's power tools, including the particular tool associated with the Seal, are produced in accordance with applicable Standards For Safety of Underwriters' Laboratories and American National Standards (ANSI).
- 2. That compliance with applicable safety standards is assured by independent inspection and testing conducted by Underwriters' Laboratories (U1).
- 3. That every motorized tool is inspected under power.
- That every tool has with it adequate instructions and a list of safety rules for the protection of the user.
- 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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unpacking and pre-assembly

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UNPACKING AND PREASSEMBLY INSTRUCTIONS

1. Unpacking and Checking Contents.

- a. Before proceeding with the assembly of your new Craftsman 9-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 the saw is received by the purchaser. These "loose parts" are shown in figure 1 and listed in the following "Table of Loose Parts".
- c. Separate all "loose" parts from packing materials and check each item with figure 1 and "Table of

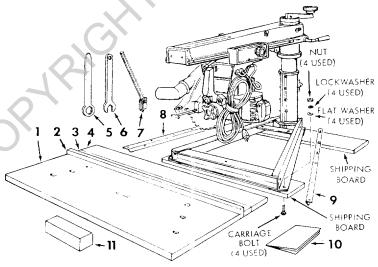
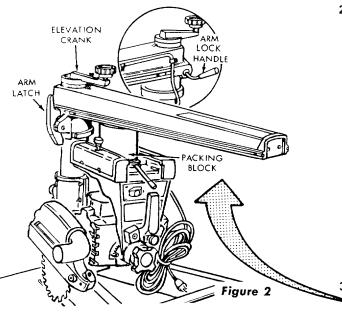


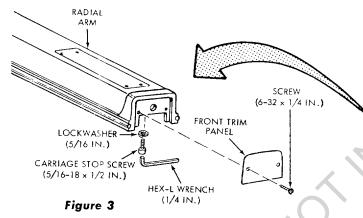
Figure 1

Loose Parts", making sure all items are accounted for before discarding any packing material. The four carriage bolts, nuts, flat washers and lock washers, used to secure the saw base to shipping boards (figure 1) may be retained for mounting the saw.

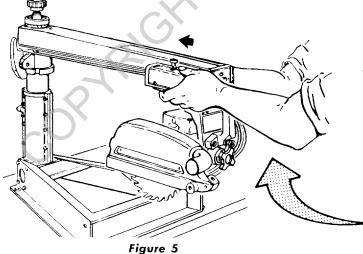
Key No. (Fig. 1)	Table Of Loose Parts	Qty.
1	Table, Front	1
2	Fence, Rip	1
3	Table, Spacer	1
4	Table, Rear	1
5	Arbor Wrench	1
6	Shaft Wrench	1
7	Anti-kickback Assembly	1
8	Table Support, Left-hand	1
9	Table Support, Right-hand	1
10	Owner's Manual	1
11	Loose Parts Carton (containing the following):	
	Wrench, Hex-L, 1/8"	
	Wrench, Hex-L, 3/16"	1
	wrench, Hex-L, 1/4	1
	Wrench, Hex-L, 5/16"	1
	Washer, Plain, 11/32 x 7/8 x 1/16"	4
	Lockwasher, 5/16 x .125 x .078"	
	Screw, Hex. Hd., 5/16-18 x 3/4"	4
	Screw, M. Pan. Sl., 1/4-20 x 1"	6
	Washer, Plain, 17/64 x 5/8 x 1/32"	
	Lockwasher, Steel, 1/4 x .109 x .062"	6
	Nut, Hex., 1/4-20 x 7/16 x 3/16"	6
	Nut, Tee	
	Screw, M. Pan. St., 1/4-20 x 1-1/4"	1
	Screw, Sl.Cup Pt., Set, 1/4-20 x 1/2"	1
	Nut, U-Clip (1/4-20)	
	Clamp, Table	2
	Screw, Thumb	. 1
	Switch Key	. 2
	Shoe, Carriage Lock	1
	Knob Carriage Lock	

assembly and adjustments





- e. Using a 1/4-inch, hex-L wrench, remove the carriage stop screw (figure 3) and lockwasher.
- f. Remove and discard the two 5/16-inch, hex-head screws from underside of base. These screws secure the motor during shipment. (See figure 4.)

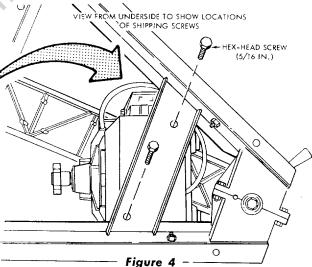


2. Mounting the Saw.

- a. After removing the two shipping boards (figure 1) place the saw assembly upright on a suitable sturdy work bench, or Craftsman Power Tool Bench.
- b. The base of the saw must be mounted flush to a flat surface on the bench to prevent distortion of the saw base. The nuts, screws and washers which attach the wooden shipping skids to the saw base may be used to secure the saw base to the work bench (or tool bench).
- c. Position the work bench or tool bench with the front edge slightly higher than the rear — enough to prevent the carriage from creeping forward with the motor running and carriage lock knob loose. This should be checked after the saw has been set up and is ready to be operated.

3. Installing Motor and Carriage Assembly on Radial Arm.

- a. Rotate the elevation crank (figure 2) counterclockwise approximately 20 turns to raise the radial arm free of the carriage.
- b. Loosen the arm lock handle (figure 2), engage the arm latch handle, then tighten arm lock handle firmly.
- c. Remove and discard the packing block.
- d. Remove the front trim panel (figure 3) by removing two screws.



CAUTION: During the next operation be sure to hold the motor and carriage assembly parallel to the radial arm until all rollers are engaged with the tracks. If the assembly is allowed to tilt after rear rollers are engaged, the adjustment of rear rollers will be altered.

g. Grasp the carriage with both hands and while holding it with carriage bearings parallel to the tracks on radial arm, slide the motor and carriage assembly carefully onto the arm. (See figure 5.)

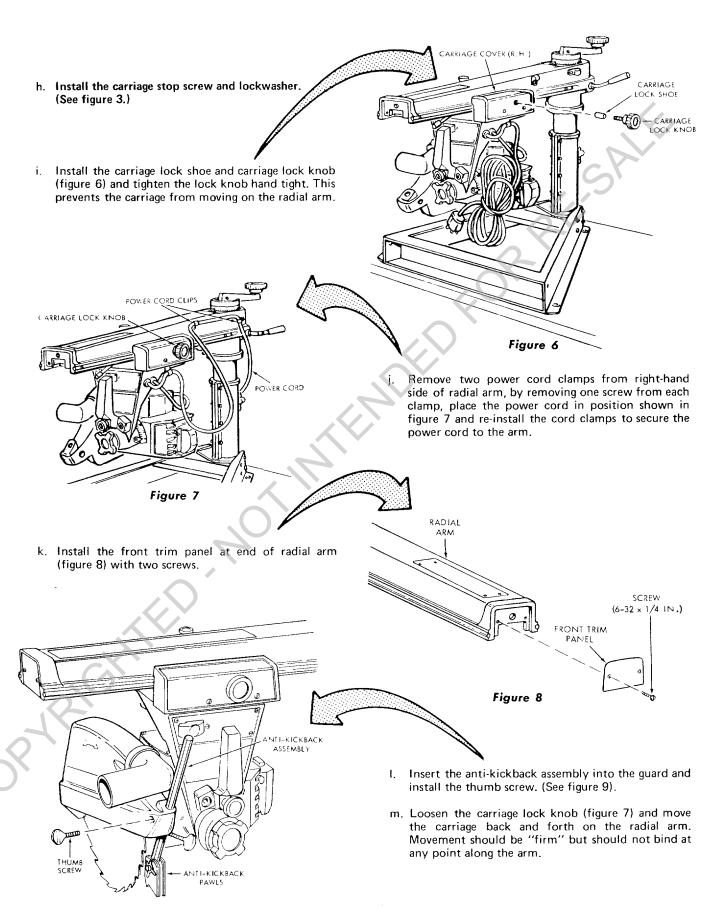


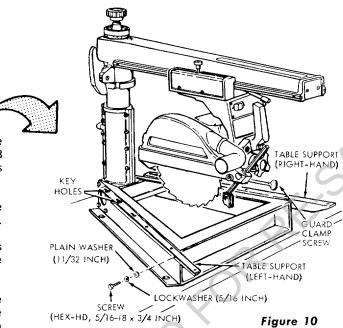
Figure 9

assembly and adjustments

4. Installing Table Supports.

NOTE: Right- and left-hand table supports may be identified by the three "keyholes" in the table attaching surface of each support. These keyholes are for attaching the table clamps and are located at the rear of the saw. Also, the angle of each support turns outward, away from the saw base. (See figure 10).

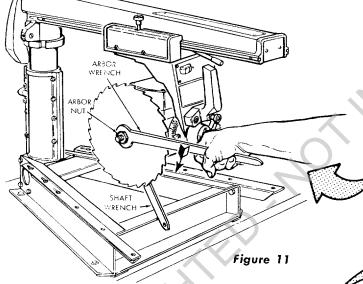
- a. Place one 5/16-inch, split lockwasher and one 11/32-inch plain washer on each of the four 5/16-18 x 3/4-inch hex-head screws, all from the loose parts pack.
- Attach each table support to the saw base (figure 10) with two screws, lockwashers and plain washers.
- c. Position each support on the base so each screw is approximately centered in the slotted hole in the support.
- d. Tighten the screws just enough to hold the table supports in position, but loose enough for the supports to slip against the base channel when tapped with a rubber mallet.



ALIGNMENT INSTRUCTIONS

- 1. Adjusting Table Supports Parallel to Radial Arm.
 - a. Loosen the guard clamp screw (figure 10) and remove the guard.
 - Secure the carriage (approximately midway on radial arm) by tightening the carriage lock knob (figure 7).
 - c. Using the shaft wrench on hex portion of motor shaft (at inner edge of saw blade) and the arbor wrench on shaft nut, loosen the shaft nut, as shown in figure 11.

NOTE: The motor shaft has left-hand threads.



d. Remove the shaft nut, outer collar, saw blade and inner collar. (See figure 12.)

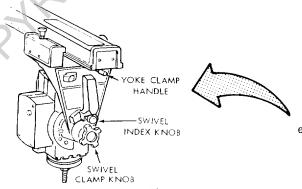


Figure 13

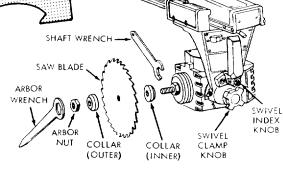


Figure 12

. Loosen the bevel lock knob (figure 12), pull out on the bevel index knob and swivel the motor to position the saw end of shaft pointing straight down. (See figure 13). Tighten the bevel lock knob and check the yoke clamp handle to make sure it is tight.

- f. Loosen the arm lock handle (figure 14) release the arm latch handle and loosen the carriage lock knob.
- g. Move the radial arm to the left as far as possible until the end of motor shaft is over the rear support.
- h. Hold the arbor wrench between end of motor shaft and top surface of table support and use the wrench as a "feeler" gauge to insure an accurate adjustment. (See figure 14)
- i. Lower the motor with the elevation crank (figure 14) until the end of motor shaft just touches the arbor wrench. Then, carefully adjust the motor up or down (with elevation crank) until the arbor wrench can be slipped back and forth with only slight resistance.

NOTE: Do not change the elevation setting of the motor until both right, and left-hand table supports have been adjusted.

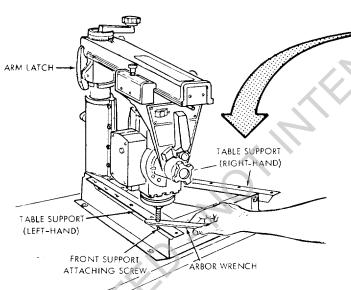
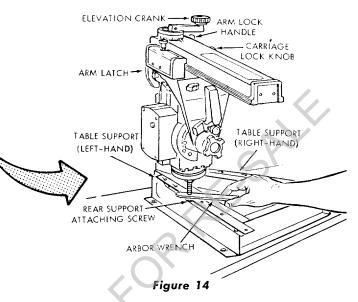
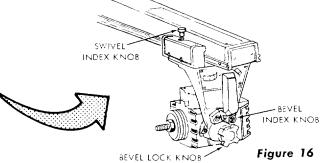


Figure 15

n. Loosen the bevel lock knob (figure 16), pull out on bevel index knob and rotate the motor and carriage assembly until the swivel index knob indexes the motor with the shaft in a horizontal (zero) position. Tighten the bevel lock knob.

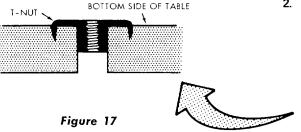


- j. Move the carriage out near the end of radial arm and move the arm until the end of motor shaft is over the table support above the front support attaching screw. (See figure 15) Tap the table support upward or downward until the arbor wrench slides with the same "feel", as in the previous setting of left-hand support.
- k. After setting the forward position of table support, move the carriage rearward to the first position checked in order to make sure that adjusting the forward position did not affect the rear setting. Tap the table support upward or downward as required. Several trial settings may be required.
- Tighten the two hex-head support attaching screws securely to retain the adjustment. Recheck 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 support and adjust it in the same manner. Make sure all four table support attaching screws are tight.

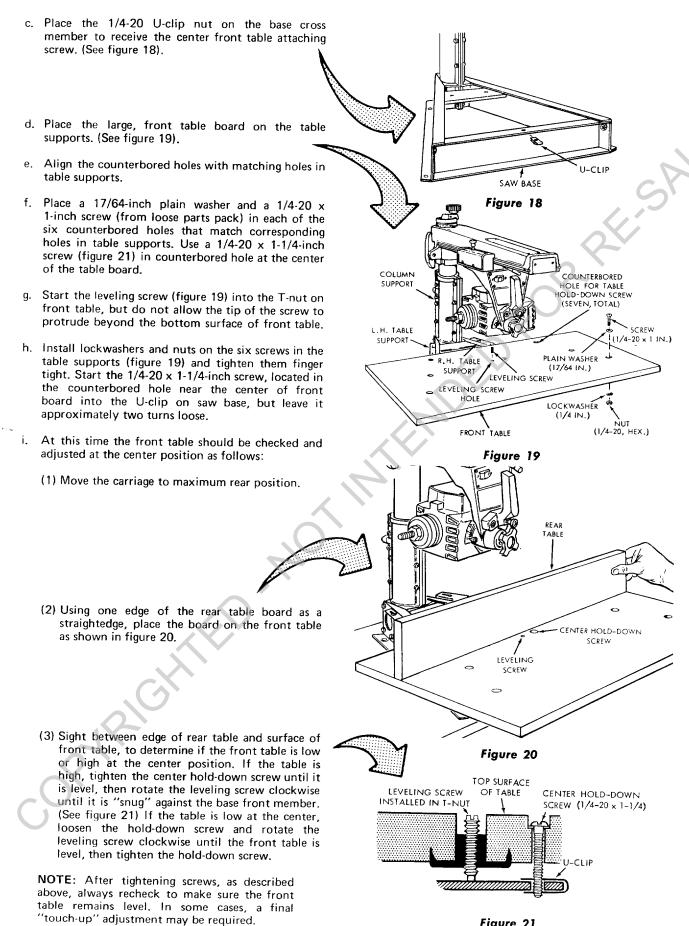


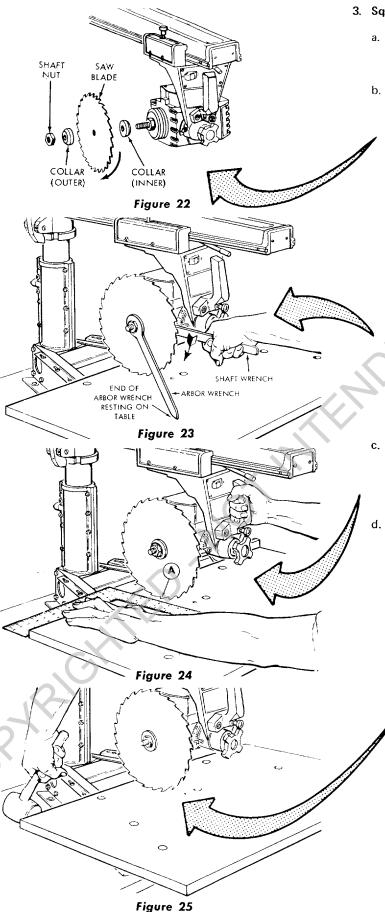
2. Installation of Front Table.

- a. Place the large table board upside-down on the floor. Distinguish between the one through-bored (leveling screw) hole near the center of the table board, and the seven counterbored holes. The counterbores are in the top surface of the board.
 - . Drive the T-nut into the through-hole. (See figure 17, which shows the T-nut installed.)



assembly and adjustments





3. Squaring the Crosscut Travel.

- a. Check to make sure the arm latch handle is securely latched in the detent and the arm lock handle is still tight.
- b. Install the saw blade as follows:
 - (1) Place the inner collar on motor shaft with flange next to saw blade. (See figure 22)
 - (2) Slide the saw blade on motor shaft. Make sure teeth are pointed in direction of saw rotation. (See figure 22)
 - (3) Install outer collar, with flange next to saw blade. (See figure 22)

NOTE: The arbor shaft has left-hand threads.

- (4) Install the shaft nut (figure 22.)
- (5) Use the shaft wrench on motor shaft and arbor wrench on arbor nut to tighten the shaft nut, as shown in figure 23.
- c. Place a square on the table as shown in figure 24 and position the saw and square until the long leg of the square just contacts a tooth of the saw blade. (Position "A", figure 24.) Mark this tooth with a soft lead pencil.
- d. When the blade 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 saw tooth "A" (figure 24) moves away from the square when moving the blade from the rear toward the front of the table, tap the left rear edge of front table board with a rubber mallet until the table is square with the saw blade. (See figure 25.)
 - (2) If saw tooth "A" (figure 24) moves into the square when moving the saw from the rear toward the front of the table, tap the left front edge of the table until it is squared.
 - (3) Recheck for blade squareness and, if correct, tighten the six table hold-down screws that secure the front table to table supports.

NOTE: If any difficulty is experienced in squaring the crosscut, refer to "Trouble Shooting" and adjust the arm latch. Then complete the preceding adjustments.

assembly and adjustments

- e. After the crosscut travel has been accurately squared, check the 0° position on the indicator scale of the radial arm cap to determine if the 0° position on the scale is aligned with index mark on radial arm. (See figure 26) If not aligned, proceed as follows:
 - (1) Rotate the elevation crank to a position which will locate the two access holes over screw heads of radial arm cap attaching screws. (See figure 26.)
 - (2) Loosen the two screws with a screwdriver inserted through the access holes in elevation crank,
 - (3) Reposition the radial arm cap by hand until the 0° mark is aligned with the index mark and tighten the two screws.

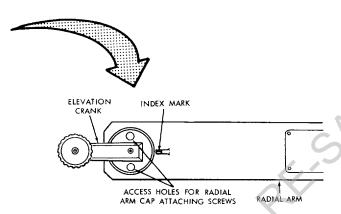
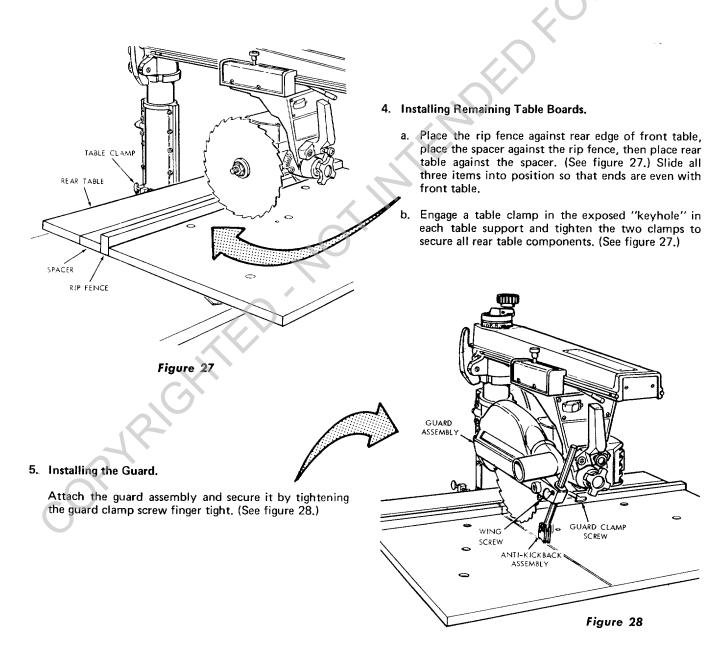


Figure 26



electrical connections

POWER SUPPLY AND MOTOR DATA

1. Motor Specifications

The a-c motor used in this Craftsman Radial Saw is of the capacitor start, non-reversible type with the following specifications:

Horsepower
1.75 max. developed
Voltage
Amperes 9.5
Hertz 60
Phase Single
RPM 3450
Rotation (viewing
saw blade end) Clockwise

CAUTION: This motor is wired for 120 volt operation. Connect to 15 ampere branch circuit and use a 15 ampere, time-delay fuse.

2. Connecting Saw to Power Source

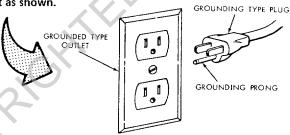
Plug power cord into a 110-120V grounded outlet protected by a 15-amp, time delay or Circuit Saver fuse or circuit breaker.

WARNING: DO NOT PERMIT FINGERS TO TOUCH THE TERMINALS OF PLUGS WHEN INSTALLING OR REMOVING THE PLUG TO OR FROM THE OUTLET.

WARNING: IF NOT PROPERLY GROUNDED THIS POWER TOOL CAN INCUR THE POTENTIAL HAZARD OF ELECTRICAL SHOCK, PARTICULARLY WHEN USED IN DAMP LOCATIONS, IN PROXIMITY TO PLUMBING, OR OUT OF DOORS. IF AN ELECTRICAL SHOCK OCCURS THERE IS THE POTENTIAL OF A SECONDARY HAZARD SUCH AS YOUR HANDS CONTACTING THE SAW BLADE.

To comply with regulations of Underwriters' Laboratories in the United States and the Canadian Standards Association in Canada, this power tool is equipped with an approved 3-conductor cord and grounding type plug which has a grounding prong. The ground conductor has a green jacket and is attached to the tool housing at one end and to the ground prong in the attachment plug at the other end.

This plug requires a mating 3-conductor grounded type outlet as shown.



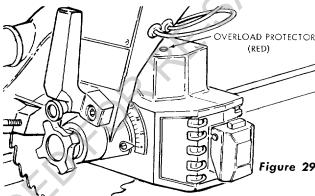
If the outlet you are planning to use for this power tool is of the two prong type. DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER, but have a qualified electrician replace the 2-prong outlet with a grounded 3-prong outlet.

3. Motor Safety Protection

NOTE: This motor should be blown out, or "vacuumed", frequently to prevent sawdust interference with normal motor ventilation.

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. (See figure 20.)

- a. If the overload protector opens the line and stops the saw motor, press the switch to the "OFF" position immediately and allow the motor to cool.
- b. After cooling to a safe operating temperature, the overload protector can be closed manually by pushing in the red button on the motor cover and nameplate. (See figure 29.) 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.)



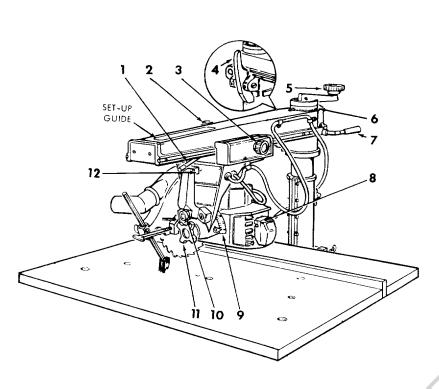
- c. As soon as the red button will snap into running position, the saw may be started and operated normally by pulling out the saw switch to the "ON" position.
- d. Frequent opening of fuses or circuit breakers may result if motor is overloaded, or if the motor circuit is fused with a fuse other than those recommended. Do not use a fuse of greater capacity without consulting the power company.
- e. 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.
- f. 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.

IMPORTANT: The following wire sizes are recommended for connecting the motor to power source for trouble-free operation of the saw. (Extension cords should be three-conductor.)

Length of Conductor	Wire Size Required (American Wire Group No.)
50 feet or less	No. 12
100 feet or less	
100 feet to 150 feet	
150 feet to 200 feet	. No. 6
200 feet to 400 feet	No. 4

g. For circuits of greater length the wire size must be increased proportionally in order to deliver ample voltage to the saw motor.

operating controls



- 1. Yoke Clamp Arm
- 2. Swivel Index Knob
- 3. Carriage Lock Knob
- 4. Arm Latch
- 5. Elevation Crank
- Radial Index Scale
- 7. Arm Lock Handle
- 8. Manual Brake
- 9. Bevel Index Scale
- 10. Bevel Index Knob
- 11. Bevel Lock Knob
- 12. On-Off Switch

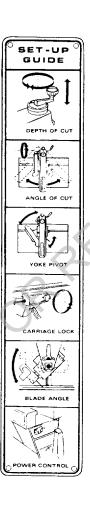


Figure 30

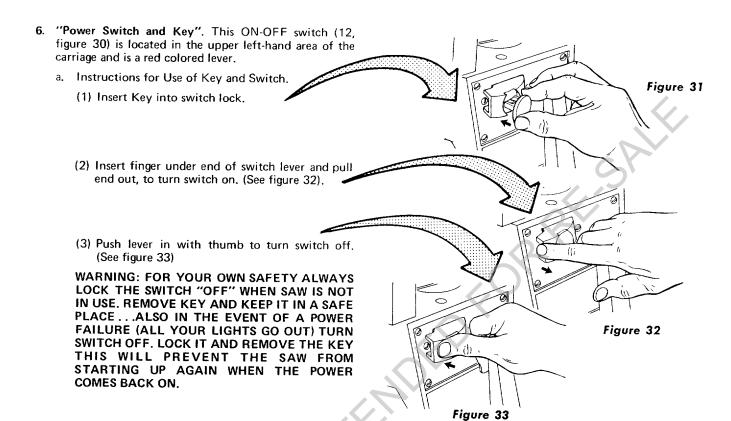
OPERATING CONTROLS

Location and Function of Controls

A series of six diagrams are located on the top surface of radial arm in order to designate the controls that must be used in basic "set-ups" and operating procedures. (See figure 30.) The inexperienced operator should become familiar with this set-up guide before operating the saw.

- "Depth of Cut". The diagram shows the elevation crank (5, figure 30) which is used to raise and lower the blade. One complete turn of this handle will raise or lower the radial arm 1/8 inch.
- 2. "Angle of Cut". Two levers are involved in releasing, securing and indexing the angle of radial arm. These are: arm lock handle (7, figure 30) and arm latch handle (4, figure 30). The arm is unlocked by loosening the arm lock handle (7, figure 30) and pushing the arm latch handle out of the detent notch. It is locked by tightening the arm lock handle. The radial arm has positive index stops at 0° and 45°, left and right, and is released from these index positions by pushing the arm latch handle. In order to provide the most positive and accurate settings at the index positions, the following is recommended:
 - Move the radial arm into the index position (do not bump or jar) and depress the arm latch handle

- solidly into the detent notch with the palm of the hand.
- b. Lock the radial arm by tightening the arm lock handle fully hand tight.
- 3. "Carriage Pivot". Two controls are used in this operation. They are: swivel index knob (2, figure 30) and yoke clamp handle (1, figure 30). The swivel index knob automatically indexes the yoke at each 90° position and both 0° positions. Lift the knob to release it. The yoke clamp handle locks the yoke to the carriage in any position. Push the handle to the right to release it; push to the left to tighten it.
- 4. "Carriage Lock". The carriage lock knob (3, figure 30) is rotated clockwise to prevent movement of the carriage on the radial arm, and counterclockwise to release it. Avoid excessive tightening of this knob.
- 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 (11, figure 30) and bevel index knob (10, figure 30). The bevel index scale indicates the angular position of the motor with respect to the horizontal position, from 0° to 90°, in either vertical position. The swivel index knob indexes the motor at 0°, 45°, and 90°, up and down. Pull the knob out to release the motor from any of the index positions. At any other position, the swivel index knob is not engaged. The bevel lock knob locks the motor to yoke when the motor is any position.



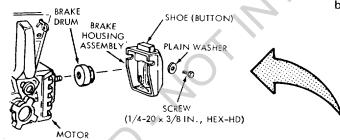


Figure 34

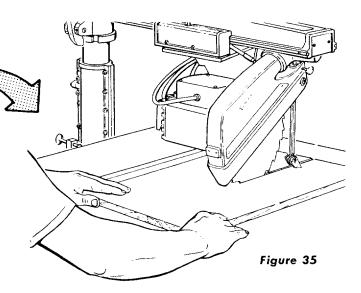
- b. The Manual Motor Brake.
 - (1) The manual brake (8, figure 30) is located on the motor shaft at the right-hand end of motor.
 - (2) Pressing on the brake button with finger or thumb, after turning off the ON-OFF switch, will greatly reduce blade coasting time.

NOTE: When using an accessory, such as a drill chuck attached to end of motor shaft, it will be necessary to remove the brake housing assembly and brake drum. (See figure 34.) Be sure to re-install the brake after removing the accessory.

ADJUSTING GUARD AND ANTI-KICKBACK ROD FOR RIPPING

WARNING: NEVER POSITION THE GUARD OR ANTI-KICKBACK ASSEMBLY WITH THE POWER ON; NOR POSITION ANTI-KICKBACK PAWLS BY GRASPING THE PAWLS.

- Check and Adjust the Anti-Kickback Rod by loosening the thumb screw and positioning the anti-kickback rod approximately three inches above lower extremity of saw blade. Tighten the thumb screw.
- When ripping, always rotate the guard until the rear of guard housing is just slightly above the board being ripped. (See figure 35.) Make sure the guard clamp screw is tight.



basic saw operations

BASIC SAW OPERATIONS

Your Craftsman 9-inch Radial Saw is capable of performing innumerable cuts with sufficient accuracy to satisfy discriminating 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 and contains considerable data and project ideas applicable to the radial saw. Be sure to read and follow, "Safety Rules" and "Instructions to the Operator", included in this manual.

NOTE: Refer to paragraphs under "OPERATING CONTROLS" for illustrations and descriptions of these controls.

REQUIREMENTS FOR CROSSCUT

- Be sure you return the carriage to the full rearward position at the conclusion of each cut. Never remove your hand from the bevel index handle unless the carriage is in this position. Allow the saw blade to come to a complete stop before removing the workpiece from the saw table.
- The arbor nut must be tight and saw blade guard installed in a horizontal position with anti-kickback device in full up position.
- 3. The arm lock handle (7, figure 30) must be tight.
- 4. Work must be always 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 the saw blade.
- 7. The yoke clamp handle must be in locked position.
- 8. The bevel lock knob must be tight.
- For operations No. 3 and No. 4, observe additional instructions under paragraph, "Operating Controls", "Blade Angle".

PRELIMINARY CROSSCUT AT THE 0° POSITION

- Loosen the carriage lock knob (figure 36) and move the carriage to position the saw blade just forward of the rip fence
- 2. Lower the radial arm until the saw blade just clears the table top.
- 3. Tighten the carriage lock knob.

CAUTION: Before making the cut, make sure the arm latch handle is fully engaged in the detent notch.

- 4. Plug in the power cord (if not already connected.)
- 5. Insert the safety lock key and pull the switch lever to "ON" position.

 Lower the radial arm, by rotating the elevation crank, until the saw blade cuts into the table top surface to a depth of approximately 1/32 inch.

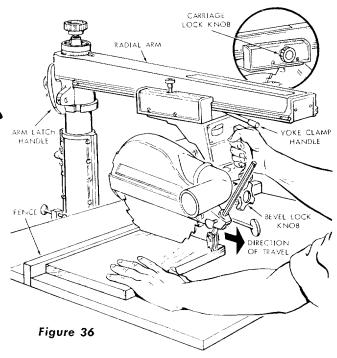
NOTE: Some owners prefer to cover the saw table with thin plywood, tacking it outside of saw travel area in order to protect the table surface.

- 7. Operate the saw in the same manner as shown in figure 36 and complete the blade clearance groove in the table rip fence as follows:
 - a. Loosen the carriage lock knob and slowly pull the carriage out to the extreme end of its travel.
 - b. Push the carriage slowly rearward to the extreme end of the travel. This stroke will cut through the rip fence.
 - c. Push the switch to "OFF" position.

OPERATION NO. 1 - CROSSCUT

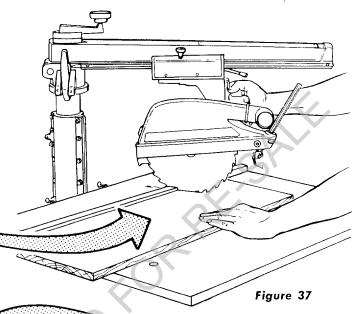
Crosscutting is the process of sawing the workpiece by pulling the saw blade through it and using the fence as a support for the edge of the workpiece. (See figure 36.) Never crosscut freehand.

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 15 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.



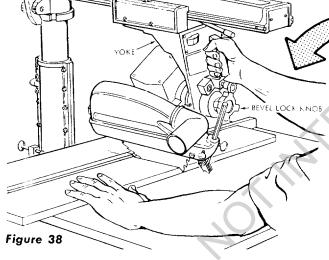
OPERATION NO. 2 - MITER CROSSCUT

Miter crosscutting is the process of sawing a board at any angle other than a 90° (square) cut. (See figure 37.) The 45° miter angle is a popular angle, 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; the bevel setting is indexed at 0°; the yoke is indexed to position the saw blade parallel with radial arm, and all settings locked. The board being cut is held firmly against the fence and the carriage pulled forward along the radial arm to perform the desired cut. 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 38.) The radial arm is indexed at 0°; the yoke is indexed to position the saw blade parallel with the radial arm, but the bevel is set to the desired angle of cut. All settings must be locked. 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 39.) The radial arm and bevel are set to produce the desired cut; the yoke is indexed to position saw blade parallel to the radial arm. All settings must be 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.
- Work must be held firmly against the table and fence while feeding through.
- The guard and anti-kickback mechanism must be properly set. Observe instructions in paragraph "Adjusting Guard and Anti-Kickback Rod for Ripping".
- 5. The 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 pushboard.

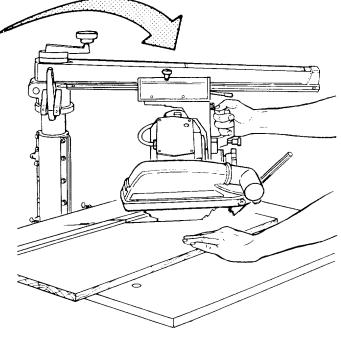


Figure 39

basic saw operations

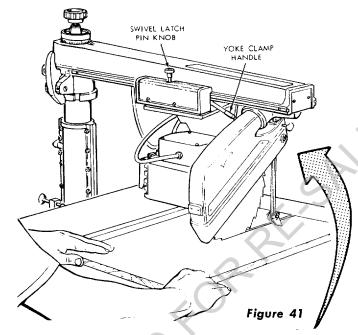
OPERATION NO. 5 — OUT-RIPPING AND IN-RIPPING

 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.

WARNING: NEVER RIP FREE-HAND. BEFORE RIPPING, MAKE SURE THE GUARD 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.
- Always use the saw guard and make sure the anti-kickback rod is correctly set. Wood cut with the grain tends to spring the kerf closed and bind the blade, and a kickback could occur.
- 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.

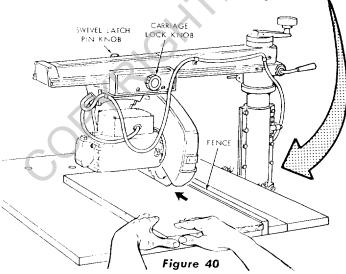
In-Ripping (See figure 40.) The radial arm and bevel are indexed at 0° and locked. The yoke is rotated 90-degrees in a clockwise direction (viewed from above) from the crosscut position and locked. Thus, when standing in front of the saw, the blade would be rotating counterclockwise. After positioning the guard and anti-kickback mechanism the workpiece is fed from the right-hand side of the saw, as shown in figure 40.

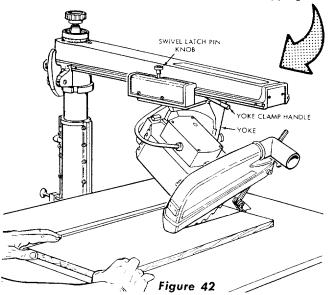


Out-Ripping (See figure 41.) The bevel is indexed and locked at 0°. The yoke is turned 90-degrees in a counterclockwise direction (viewed from above), from the crosscut position. When you are standing in front of the saw, the blade will rotate clockwise. Before positioning the guard and anti-kickback rod, lower the blade to just cut into the table. After positioning the guard and anti-kickback rod, the workpiece is fed from the rear (left-hand) side of the guard, as shown in figure 41.

OPERATION NO. 6 - BEVEL RIPPING

Bevel ripping is either in-ripping or out-ripping as described in preceding instructions, except the saw blade is tilted out of perpendicular to the saw table surface. Figure 42 shows a typical bevel out-ripping operation. The radial arm is indexed at 0°; the bevel is set to the desired bevel angle and the yoke is positioned for out-ripping (saw blade at front) or in-ripping (saw blade at rear), as required. All settings must be locked. Requirements and observations applicable to normal ripping operations also apply to bevel ripping.





safety instructions to operator

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

- A. Assembly and installation.
- B. Examination and operating familiarity with ON-OFF switch, elevation control, bevel index lock, carriage lock, guard clamp screw spreader and anti-kickback device, and miter index and lock.
- C. Review and understanding of the Safety Instructions and Operating Procedures which follow.

 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. ALWAYS RETURN THE CARRIAGE TO THE FULL REAR POSITION AFTER EACH CROSSCUT TYPE

STABILITY

OPERATION.

 The saw should be bolted down if there is any tendency to tip, walk, or slide during normal operation. The saw table should be approximately 39" above the floor.

WORK AREA AND MACHINE POSITION

- Position your entire saw (or saw and bench) to slope slightly rearward, so the carriage will not roll forward due to gravity.
- The saw should be positioned when ripping so neither the operator nor a casual observer is forced to stand in line with the saw blade.
- The saw work area should have adequate overhead, non-glare light and adequate surrounding work space.
- 4. Set carriage lock before moving machine.

KICKBACKS-COMMON WAYS THEY CAN HAPPEN

- Failure to determine that the rip fence and the saw blade are parallel to each other.
- 2. Confining the cut-off piece when ripping.
- Failure to use the spreader when ripping, or failure to maintain the spreader in alignment with the saw blade.
- Ripping wood that has a twisted grain, does not have a straight edge to guide along the fence, or wood that is twisted or not flat (which may rock on the table and pinch the blade).
- Improperly conditioned (dull) saw that permits the material to pinch on the out-feed edge of the saw and rise from the table.
- Ripping by applying the feed force to the section of the workpiece that will become the cut-off (free) piece (feed force when ripping should always be applied between the saw blade and the fence ... use a push stick for narrow or short work).
- 7. Releasing workpiece before operation is complete ... not pushing the workpiece all the way past the saw blade.
- Failure to adjust the nose of the guard to just clear the workpiece.

KICKBACKS — COMMON WAYS THEY CAN BE AVOIDED OR INJURY FROM THEM PREVENTED OR MINIMIZED

- 1. Avoiding any of the causes noted above.
- Keeping your face and body and observers always out of line of possible kickbacks, including turning the switch ON and OFF.
- 3. Always wear safety goggles.
- Making sure (by trial) before starting the cut that the anti-kickback pawls will stop kickback once it has started.

- Whenever possible, perform rip, bevel rip, and plough cuts with the saw in the in-rip position. Minimum obstruction for use of a push stick — Refer to "6" above.
- Keeping points of anti-kickback pawls SHARP!
- Positioning nose of guard to just clear work and positioning anti-kickback pawls properly.

PERSONAL CLOTHING AND EQUIPMENT

- Do not wear gloves while operating the saw. Loose flowing garments, jewelry (rings, wrist watches, etc.) and neckties should never be worn, long sleeves should be rolled to above the elbows.
- Always wear safety goggles, (complying with ANS Z87.1-1968) to protect the eyes. In addition, wear a face shield if the operation is dusty and ear protectors (plugs or muffs) during extended periods of operation.

OPERATIONAL INSTRUCTIONS

- Before starting work, verify that no play exists in the carriage and that arm, yoke, and bevel locks/clamps are tight.
- Never place your fingers or hands in the path of the saw blade
- 3. Use only accessories that are designed for this machine.
- 4. A large proportion of saw accidents is caused by dull, badly set, improperly filed cutting tools, by gum or resin adhering to cutting tools, and by saw blade misalignment (out-of-parallel) with the fence. Such conditions cause the material to stick, jam, stall the saw, or kickback at the operator. Cracked saw blades should be discarded immediately. A saw blade can become cracked if it wobbles or if it is not in balance. NEVER ATTEMPT TO FREE A STALLED SAW BLADE WITHOUT FIRST TURNING THE SAW "OFF". Avoid potential injury by proper cutting tool and machine maintenance.
- CAUTION: DO NOT cycle the motor switch ON and OFF rapidly, as this might cause the saw blade 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.
- 6. 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. When ripping short workpieces (under 12-inches long) or narrow pieces (under 6-inches wide), use a push stick applied to the section of the workpiece between the blade and the fence.
- 7. Never use a length stop on the free end or edge of the workpiece whether crosscutting or ripping. Never hang onto or touch the free end of workpiece, or a free piece that is cut off, while power is "ON" and/or the saw blade is rotating. In short, to guard against kickbacks or other potential accidents, the cut-off piece in any thru-sawing operation must never be confined it must be allowed to move laterally.
- Do not leave a long board unsupported so the spring of the board causes it to shift on the table. A support should be used to catch the end of the board you are cutting.
- Make sure your fingers do not contact the terminals of power or motor plugs when installing or removing the plug to or from a live power source.
- 10. Never climb on or 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.

trouble shooting

- 11. Avoid awkward hand positions, where a sudden slip could cause a hand to move into a saw blade or other cutting tool. Never reach in back of or around the cutting tool with either hand to hold down the workpiece.
- 12. Always position the GUARD and the anti-kickback and spreader assembly for rip type operations. Also make sure the cutting tool, arbor collars and arbor nuts are installed properly. Keep guard in place; use the proper quard.
- 13. Do not use any blade or other cutting tool marked for an operation speed in excess of the design speed of the saw. 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.
- 14. 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.)
- 15. Do not position the arm so the operation you are performing permits the cutting tool to extend beyond the edges of the table.
- 16. Never turn your radial arm 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.
- 17. Objects can be thrown upward toward the operator by the back of the blade if proper operating procedures are

- not followed during cross-cut type operations. This usually occurs when a small loose piece of wood or other object contacts the rear of the revolving blade and ricochets off the fence or the wall behind the saw toward the operator. It can be avoided by removing all loose pieces from the table immediately after they are made, using a long stick, and keeping the guard in place at all times.
- 18. Never perform any operation "free hand". This term means feeding the carriage into the workpiece or feeding the workpiece into the saw blade or other cutting tool without using the fence or some other device which prevents rotation or twisting of the workpiece during the operation. Never "rip" (cut with the grain) narrow or long workpieces in the crosscut position. Never make a miter cut with the arm in the 90° crosscut position.

Safety is a combination of operator common sense and alertness at all times when the saw is being used.

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.

If any part of this radial saw should break, bend, or fail in any way or any electrical component fail to perform properly, or if any is missing, shut off power switch, remove power supply cord from power supply and replace damaged missing and/or failed parts before resuming operation.

TROUBLE-SHOOTING

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 necessary corrections described and illustrated.

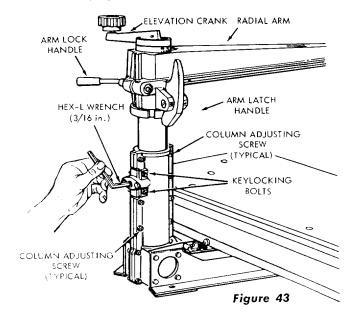
1. Looseness of Column Tube in Column Support.

When this condition exists radial arm will have side play, and square crosscuts are likely to be difficult to make and repeated cuts inaccurate. Check and adjust as follows:

a. Eliminating Radial Arm Side Play.

- (1) Move the radial arm to the center (crosscut) position and engage the arm latch handle (figure 43) in the detent notch. Tighten the arm lock handle.
- (2) Apply side force with one hand on radial arm in both directions. If side play can be felt, an adjustment is required.
- (3) Loosen keylocking bolts (figure 43) and insert a 3/16-inch hex-L wrench into the socket-head set screw that adjusts the column tube wedge key, as shown in figure 43. Rotate the set screw slowly in (clockwise) until no side play can be felt in radial arm, when checked as in the preceding step.

(4) Check for binding by rotating the elevation crank (figure 43). If the crank rotates with noticeable resistance, loosen the set screw by rotating the hex-L wrench counterclockwise until rotation is normal. An effective method for finalizing the set screw adjustment is to rotate the screw while the elevation crank is being rotated, checking for side play in radial arm as the adjustment progresses. The adjustment is correct when all side play of radial arm is eliminated and only very slight additional resistance can be felt when rotating the elevation crank.



- (5) If some radial arm side play can still be detected after performing the above adjustment, it will be necessary to adjust the forward five column adjusting screws that pass through the flanges on the right- and left-hand column supports as follows:
 - (a) While rotating the elevation crank, tighten the five column adjusting screws slightly at the forward edge of column supports. (See figure 43.) Each screw should be tightened only slightly, and each one the same amount, until a slight resistance can be felt when rotating the elevation crank, then each screw backed off just enough to restore a normal feel to the elevation crank.
 - (b) Recheck the adjustment of the column tube, wedge-key set screw (figure 43) as outlined in preceding instructions.
- (6) After the above adjustments have been completed, re-check the radial arm for absence of side play and lock the column tube key in place by tightening the two keylocking bolts (figure 43).

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.

Looseness between column tube and column support.

Adjust as described in the preceding paragraph 1, a.

b. Crosscut travel not properly adjusted.

Refer to paragraph "Squaring the Crosscut Travel", under "Alignment Instructions". If crosscut travel cannot be adjusted as described, refer to paragraph h, following.

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 various positions on the top surface of the table. Use the same procedure described in paragraph "Adjusting Table Supports Parallel to Radial Arm", under "Alignment Instructions".

d. Saw blade not square with table.

Adjust as described in paragraph i, following.

e. Carriage bearings loose on tracks.

Adjust carriage bearings as described in paragraph 3, f, following.

f. Yoke does not index properly.

Check for proper yoke indexing, noting that the swivel latch pin fits into its detent properly. If the swivel latch pin spring is weak or damaged, replace it.

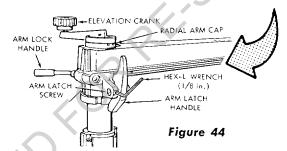
g. Yoke clamp arm does not tighten the yoke when in full rearward position.

Refer to paragraph "Yoke Clamp Arm Adjustment", paragraph j, following.

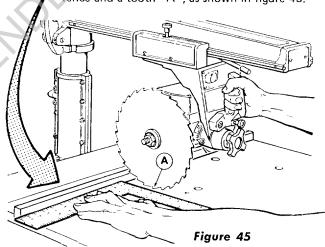
h. Adjusting the arm latch handle to correct crosscut travel

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", under "Alignment Instructions".) If this condition is encountered, it will be necessary to adjust the arm latch handle as follows:

(1) Using a 1/8-inch hex-L wrench, loosen the two set screws that lock the arm latch screws. (See figure 44)



(2) Place the long leg of a framing square against fence and a tooth "A", as shown in figure 45.



- (3) Move the saw blade forward along the square (figure 45) to determine in which direction the radial arm must be adjusted.
- (4) If the saw blade moves away from the square as it comes forward loosen the front arm latch screw (figure 44) with a screwdriver and tighten the rear arm latch screw. Recheck blade travel and repeat if necessary.
- (5) If the saw blade moves toward the square as it comes forward, loosen the rear arm latch screw and tighten the front arm latch screw. Recheck blade travel and repeat if necessary.
- (6) When the adjustment is correct, both arm latch screws should be snug against the arm latch handle but not tight enough to bind the handle.
- (7) Tighten the set screws to secure the arm latch screws. (See figure 44.)
- (8) Adjust the indicator scale as described in paragraph, "Squaring the Crosscut Travel", under "Alignment Instructions" and figure 26.

trouble shooting

(9) After these adjustments have been completed, the 45° index positions (right and left) of radial arm will be correct.

NOTE: The preceding procedure is also used to adjust the arm latch handle due to looseness resulting from wear.

i. Squaring the Saw Blade to the Table Top.

- (1) Place the edge of a framing square on the table top and against the saw blade as shown in figure 46.
- (2) When the saw blade is square to the table top, the leg of the square will touch the blade at both positions indicated by arrows in figure 46. If the square does not touch the blade of both positions, perform the following operations:
 - (a) Loosen the bevel lock knob (figure 47) just slightly and, with a 5/16-inch hex-L wrench, loosen the two socket-head screws that secure the handle to the yoke. A screw is located at each side of the bevel index knob.
 - (b) While holding the motor with one hand (figure 48) and the square with the other hand, tilt the motor until saw blade is square with table top. Then, while holding the square firmly against the saw blade and table top, tighten the bevel lock knob firmly to hold the blade in position.
 - (c) Move the handle slightly toward left or right until the bevel index pin (knob) is properly seated. Push firmly against the bevel index knob (keeping the pin seated) and tighten the two socket-head screws. The bevel index pin should slide freely in the handle.

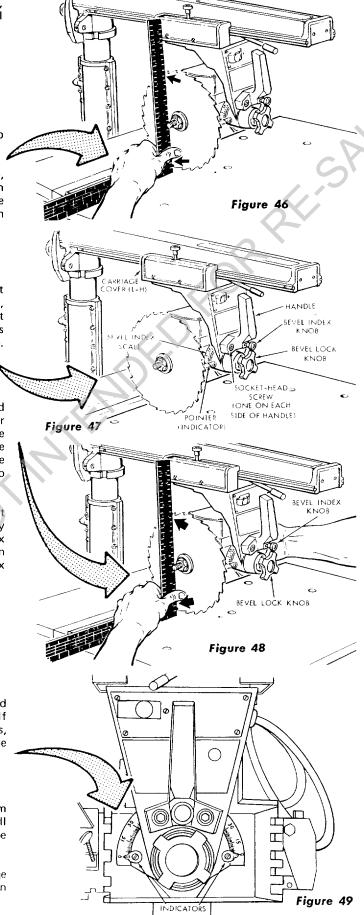
NOTE: It may be necessary to perform more than one trial operation before the saw blade remains perfectly square with table top after tightening the two socket-head screws.

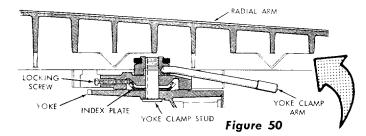
(d) The bevel index indicators (pointers) should read 0° on the bevel scale. (See figure 49.) If not, loosen the indicator attaching screws, adjust indicators to zero and tighten the screws securely.

j. Yoke clamp arm adjustment.

The normal locking position of the yoke clamp arm is parallel with the radial arm. An adjustment will seldom be necessary; however, it may be accomplished as follows:

 Loosen the carriage lock knob, move the carriage out to the forward end of radial arm and tighten carriage lock knob.



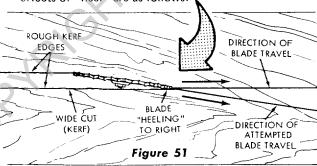


- (2) Locate the index plate locking screw at the rear of the yoke assembly. (See figure 50.)
- (3) Turn the locking screw outward at least 1/4 inch from the tight position. This frees the index plate (figure 50) which is keyed to the yoke clamp stud, thus permitting the stud to be rotated when the yoke clamp arm is loosened.
- (4) Loosen the yoke clamp arm, and with screwdriver or arbor wrench, rotate the yoke clamp stud a small fraction of a turn (clockwise when viewed from bottom), then tighten the yoke clamp arm.
- (5) If the yoke clamp arm still does not line up parallel to the radial arm, loosen it and again move the yoke clamp stud. Continue this operation until the yoke clamp arm is aligned with the radial arm when tightened.
- (6) Rotate the locking screw back into position to secure the adjustment by preventing subsequent movement of the index plate.

NOTE: It may be necessary to loosen the yoke clamp arm so that end of locking screw can enter a notch of the index plate. This would alter the arm adjustment slightly but not enough to be of any consequence.

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 51 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:



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 of the cut.

c. In-Ripping

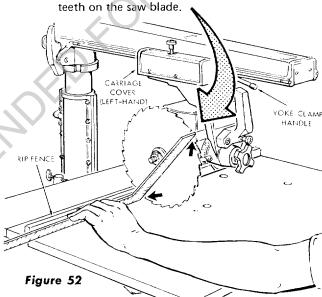
- (1) Heeling to the right will force the workpiece against the rip fence.
- (2) Heeling to the left will force the workpiece away from the fence.

d. Out-Ripping

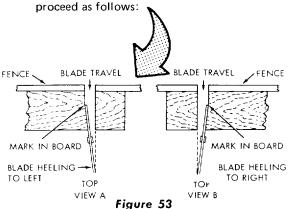
The exact reverse of in-ripping.

e. Checking the Saw Blade for Heel (Left and Right)

(1) Place a square against the rip fence and the saw blade as shown in figure 52. The long leg of the square must be held firmly against the rip fence and the short leg must not touch any "set out" teeth on the saw blade.



(2) If the square does not touch the blade at the two points shown by arrows in figure 52, one of two types of heel exists. The two types of heel are illustrated in views "A" and "B", figure 53. To correct for either type of heel condition,

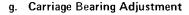


f. Adjusting to Eliminate Heel

- (1) Remove the left-hand carriage cover by removing the two attaching screws. (See figure 52.)
- (2) Loosen the yoke clamp handle. (See figure 52.)

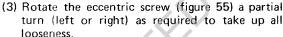
trouble shooting

- (3) Loosen (slightly) the two hex-head screws at location shown in figure 54.
- (4) With the square in position shown in figure 52, shift the yoke until the gap between the saw blade and square is eliminated.
- (5) Tighten the yoke clamp handle. Then tighten the two hex-head screws. (See figure 54.)
- (6) Recheck for heel (figure 52) to make sure that tightening the hex-head screws did not affect the setting. Several trial settings may be required.
- (7) Re-install the left-hand carriage cover.



To test for looseness in the carriage, firmly grasp the carriage across the two carriage covers and apply a firm rocking motion. Noticeable looseness may be adjusted as follows:

- (1) Remove the left-hand carriage cover by removing two attaching screws. (See figure 54.)
- (2) Working on one bearing at a time (figure 55) loosen the nut on the eccentric screw just enough to permit the screw to turn. (See figure 56.)



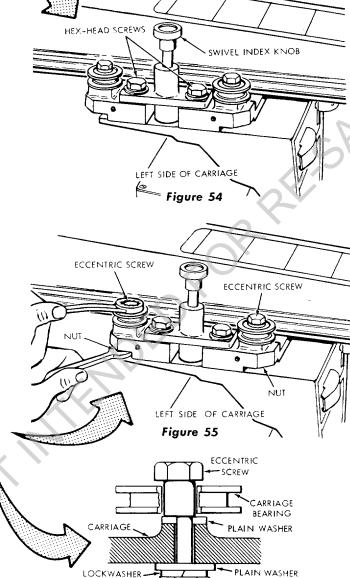
- (4) While holding the head of eccentric screw, tighten the nut. Correct adjustment exists when there is no "play" between the carriage and radial arm, and yet the carriage moves freely.
- (5) Adjust the other carriage bearing in the same manner.
- (6) Install the left-hand carriage cover with two

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", under "Alignment Instructions".

c. Radial Arm Not Securely Locked in 0º Position

Figure 56

Loosen the arm lock handle, press the arm latch handle firmly into its detent (notch) and tighten the arm lock handle.

d. Blade Heels to the Right.

Refer to preceding paragraph 3, e, "Checking the Saw Blade for Heel (Left and Right)".

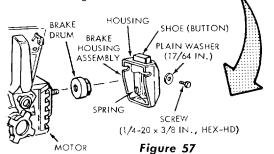
5. Board Binds, or Pulls Away from Fence, When Ripping.

Refer to "Adjusting Guard and Anti-kickback Assembly, For Ripping", under "Operating Controls".

Saw Blade Continues to "Coast" Even With Finger Force Applied to Manual Brake Button.

a. Oil or grease on brake drum or brake button (shoe).

Remove the brake housing assembly and clean all parts of brake assembly with commercial cleaning solvent. (See figure 57.)



b. Damaged, or badly worn brake shoe.

Replace the brake shoe.

c. Repairing Manual Brake Assembly.

- (1) Disconnect the saw from power source.
- (2) Remove two screws and plain washers that attach the brake housing (figure 57) to motor housing.
- (3) Lift off the brake housing assembly.
- (4) Inspect the brake drum and brake shoe (button) for scoring on braking surfaces and excessive wear. Replace worn or scored items.
- (5) Check the spring (figure 57) and replace if broken or too weak to hold the shoe against top of housing (button protruding).
- (6) If removal of the brake drum is required, use the arbor wrench to screw it off end of motor shaft.
- (7) Installation is in exact reverse of removal.

LUBRICATION

This Craftsman saw is precision built and should be kept clean and properly lubricated. Certain parts require occasional lubrication; however, it is just as important that certain parts are **not** lubricated.

1. Do Not Lubricate the following:

- a. Ball races or ball bearings.
- b. Motor bearings. These are sealed ball bearings and require no added lubrication.

2. Lubricate the following Points Periodically.

- a. Use SAE No. 10W-30 automotive engine oil and refer to exploded views in the Parts List for locations described below:
- Always wipe the area clean with a shop towel or clean cloth prior to applying the lubricant.
- c. Apply lubricant as follows:
 - (1) Remove the left-hand carriage cover and apply a few drops of oil along the swivel index pin (only if the pin has a tendency to stick). Use the oil sparingly to prevent it from getting on ball bearings or races.
 - (2) A light film of oil should be wiped on the face of the column tube and keyway (as needed) to lubricate the fit between this part and the key and column support.
 - (3) An oil hole is provided in the top of elevation crank to facilitate lubrication of the elevation shaft and radial arm cap bearing surface. Apply a few drops of oil occasionally.
 - (4) The threads on elevation shaft are lubricated by removing the elevation crank and radial arm cap. Oil when binding or rough operation occurs.



trouble shooting

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.	 Reset protector by pushing in on red button, located on top of motor junction box (indicated by audible click).
	2. Low voltage.	2. Check power line for proper voltage.
Motor will not run and fuses "BLOW."	Short circuit in line cord or plug.	Inspect line cord and plug for damaged insulation and shorted wires.
	2. Short circuit in motor terminal box or loose connections.	Inspect all terminals in motor terminal box for loose or shorted terminals.
Motor fails to develop full power. (Power output of motor decreases rapidly	 Power line overloaded with lights, appliances and other motors. 	1. Reduce line load.
with decrease in voltage at motor terminals.) For example: a reduction of	2. Undersize wires or circuit too long.	2. Increase wire sizes, or reduce length of wiring.
10% in voltage causes a reduction of 19% in maximum power output of	General overloading of power company's facilities. (In many sections of the country, demand	3. Request a voltage check from the power company.
which the motor is capable. while a reduction of 20% in voltage causes a reduction of 36% in	for electrical power exceeds the capacity of existing generating and distribution systems.)	
maximum power output.	4. Incorrect fuses in power line.	4. Install correct fuses.
Motor starts slowly or fails to come up to full speed.	1. Low voltage—will not trip relay.	1. Correct low voltage condition,
	2. Starting relay not operating.	2. Replace relay.
Motor overheats.	1. Motor overloaded.	1. Correct overload condition.
	2. Improper cooling. (Air circulation restricted through motor due to sawdust, etc.)	2. Clean out sawdust to provide normal air circulation through motor.
Starting relay in motor will not operate.	Burned relay contacts (due to extended hold-in periods caused by low line voltage, etc.)	1. Replace relay and check line voltage.
	2. Open relay coil.	2. Replace relay.
	3. Loose or broken connections in motor terminal box.	3. Check and repair wiring.
Motor stalls resulting in	1. Starting relay not operating.	1. Replace relay.
blown fuses or tripped circuit breakers).	Voltage too low to permit motor to reach operating speed.	2. Correct the low line voltage condition.
C	Fuses or circuit breakers do not have sufficient capacity.	3. Replace fuses or circuit breakers with proper capacity units.
Frequent opening of fuses	1. Motor overloaded.	1. Reduce motor load.
or circuit breakers.	Fuses or circuit breakers do not have sufficient capacity.	2. Replace fuses or circuit breakers.
	3. Starting relay not operating (motor does not reach normal speed.)	3. Replace relay.

repair parts

CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342

All parts illustrated in Figures 1 through 5 and listed under part numbers may be ordered through any Sears retail mail order store. Order parts by mail from the catalog order store 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
- 3. The MODEL NUMBER 113.29342
- 2. THE PART NAME
- 4. THE NAME OF ITEM 9-INCH RADIAL SAW

Always order by Part Number — not by Key Number

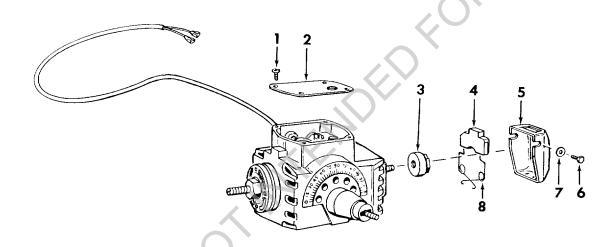


Figure 1

FIGURE 1 PARTS LIST

Key No.	Key No.	Description
	63506	Complete Motor Assembly (Does not include Brake Parts, Key Nos. 3, 4, 5, 6, 7, 8)
1	448001	*Screw, No. 6-32 x 1/4, Type 23, Pan Hd.Slotted
2	63517	Cover and Nameplate
2 3	65000	Drum, Brake
4	65002	Shoe, Brake
5	65003	Housing, Brake
6	60125	*Screw, Mach., Hex.Hd., 1/4-20 x 3/8
7	60089	*Washer,Plain, 17/64 x 1/2 x 1/32
8	65001	Spring, Brake

^{*} Standard Hardware Item — May be Purchased Locally.

repair parts

CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342

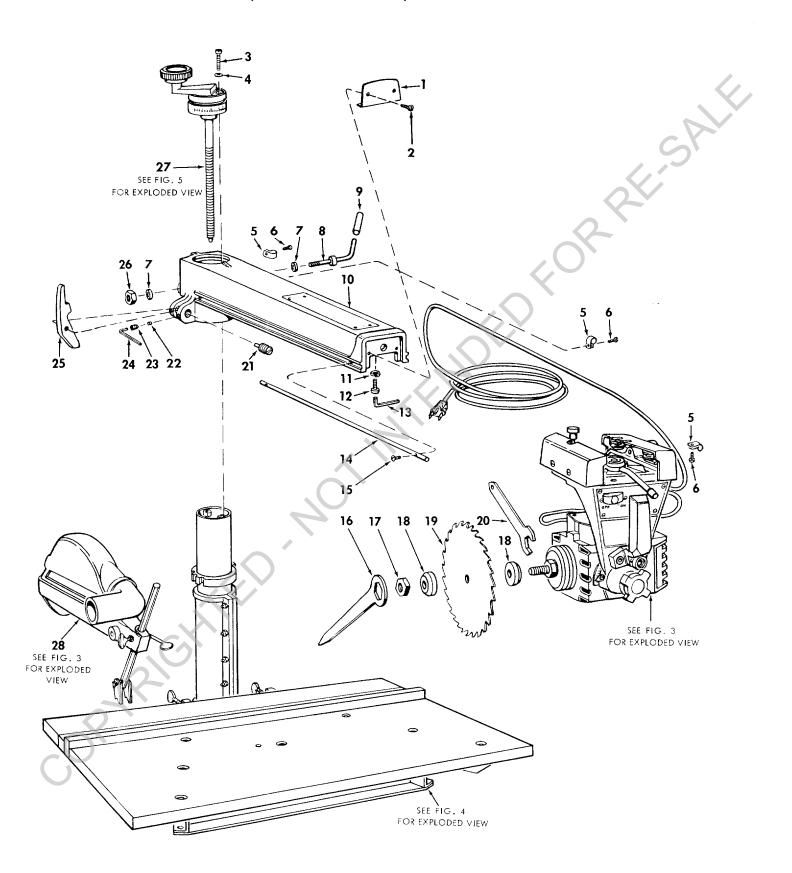


Figure 2

CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342

FIGURE 2 PARTS LIST

Key No.	Part No.	Description
1	63322	Panel, Front Trim
2	448001	Screw, No. 6-32 x 1/4
3	191230	Type 23, Pan Hd.Slotted *Screw, Mach., 1/4-28 x 1, Fill.Hd.Slotted
4	115109	*Washer, Med.Lock, 1/4
5	30613	Clamp, No. 2 Cord
6	448011	*Screw, No. 8-32 x 3/8,
		Type 23, Pan Hd.Slotted
7	63038	Washer, Arm Clamp
8	60265	Handle, Arm Lock
9	60263	Grip
10	63226	Arm, Radial
11	131201	Washer, Split Lock,
		5/16 x .125 x .078
12	9421620	*Screw, 5/16-18 x 1/2,
	į	Hex.Socket Hd.Cap
13	37435	*Wrench, Hex-L, 1/4
14	63034	Track
15	448905	*Screw, No. 6-32 x 1/2,
		Type 23, Fill.Hd.Slotted

		
Key No.	Part No.	Description
16	3540	Wrench, Arbor
17	30495	Nut, Shaft
18	63017	Collar, Saw Blade
19	60169	Blade, Saw, 9''
20	63062	Wrench, Shaft
21	63035	Screw, Arm Latch
22	63037	Plug
23	222405	*Screw, Set, 1/4-20 x 3/8,
		Hex.Socket Hd.,Flat Pt.,
		Blk.Oxide
24	30505	*Wrench, Hex-L, 1/8
25	63036	Latch, Arm
26	120238	*Nut, Hex.Jam,
		1/2-13 x 3/4 x 5/16
27	63183	Cap Assembly, Radial Arm
	}	(See Figure 5)
28	63228	Guard Asm.(See Figure 3)
-	63509	Bag of Loose Parts (Not Illustrated)
-	63508	Owners Manual (Not Illustrated)
		<u>[</u>

^{*}Standard Hardware Item — May be Purchased Locally.

RECOMMENDED ACCESSORIES

ITEM	CAT. NO.	ITEM	CAT. NO.
Cabinet Stand Bench Shaper Fence Hold-Down Attachment Key Chuck Miter Vise Molding Head Guard — 7-Inch	9-1038 9-1071 9-2954 9-3230 9-2980 9-3279	Sanding Wheel — 8-Inch Dust Collector Taper Jig Satin Cut Dado — 7-Inch Dado — 6 Inch Molding Head Single Cutter Molding Head Three Cutter Sanding Drum — 3-Inch	9-16996 9-3233 9-3257 9-3249 9-3215 9-3221
Rotary Surface Planer — Carbida Tip		Lower Ring Guard	

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

repair parts

CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342

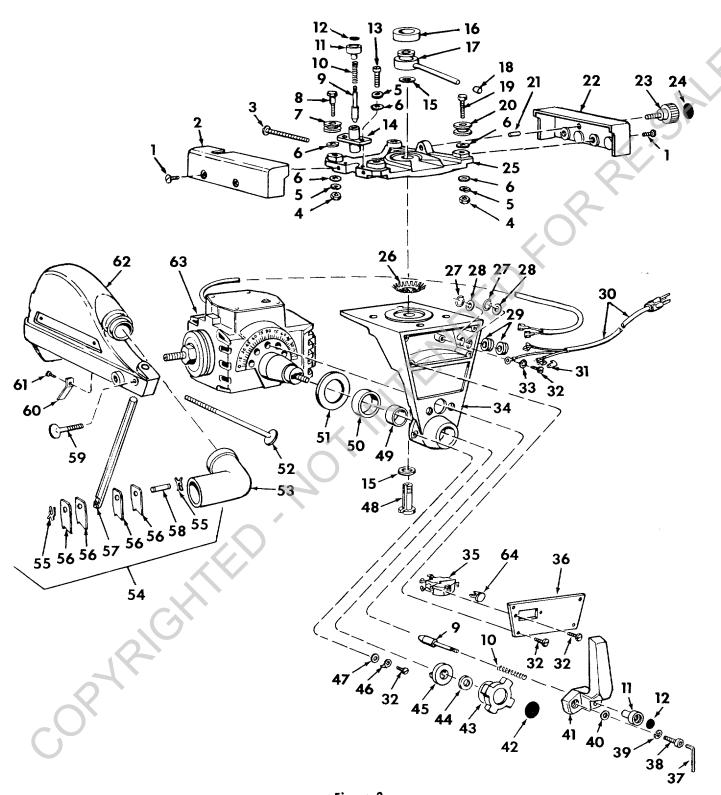


Figure 3

CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342

FIGURE 3 PARTS LIST

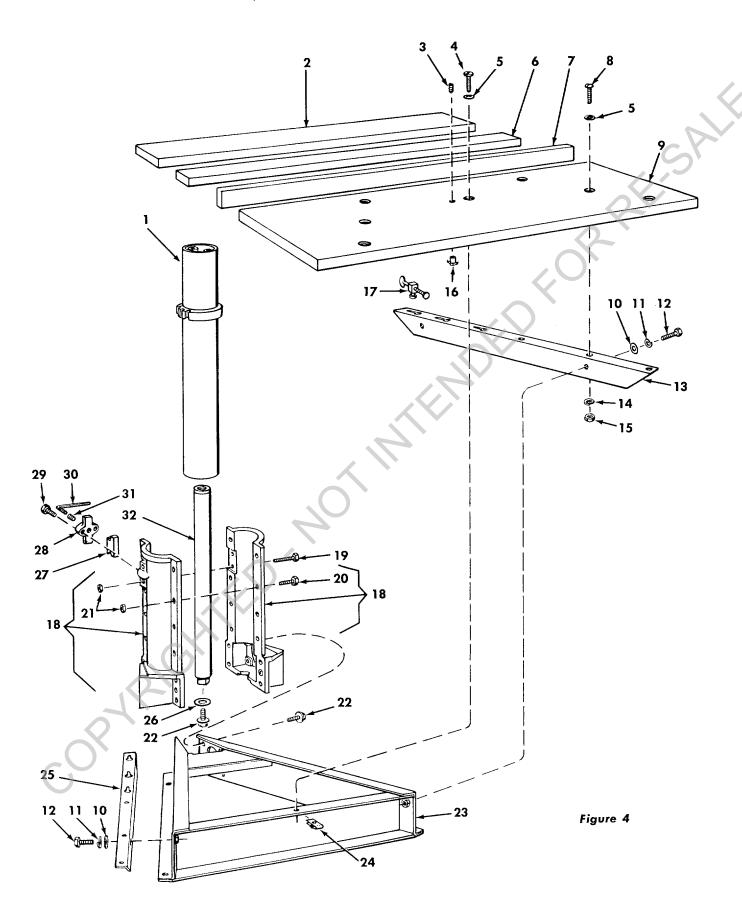
Key N o.	Part No.	Description
1	448013	*Screw, No. 8-32 x 1/2, Type 23, Pan Hd.Slotted
2	63274	Cover, Carriage L.H.
2 3	60052	*Screw, Mach., No. 10-32 x 1-1/2, Fill.Hd.Slotted
4	124824	*Nut, Hex., 5/16-18 x 1/2 x 3/16
5	131201	*Lockwasher, 5/16
6	60040	*Washer, Plain, .328 x 3/4 x 1/16
7	63350	Bearing, Carriage
8	37387	Screw, Eccentric
9	63005	Pin, Latch
10	63004	Spring, Swivel Latch
11	63013	Knob, Swivel Index
12	63513	Disc, Color
13	9415872	*Screw, Mach., 5/16-18 x 3/4,Hex.Ind.Hd.
14	63351	Housing, Latch Pin
15	60051	*Washer, Plain, .688 x 1-1/8 x 1-1/32
16	63030	Bumper
17	63029	Arm Assembly, Yoke Clamp
18	63407	Grip
19	9415819	*Screw, Mach.,
		5/16-18 x 1-1/2,Hex,Ind,Hd,
20	63026	Bearing, Carriage
21	63060	Plug, Brass
22	63273	Cover, Carriage R.H.
23	63061	Knob, Carriage Lock
24	63516	Disc, Color
25	63349	Carriage
26	63028	Plate, Index
2 7	60289	Ring, Clamp
28	60055	Washer, Fiber, .380 x 3/4 x 1/16
29	63045	Grommet
30	63518	Cord and Plug
31 32	63467	Cap, Flag Terminal
32	448001	*Screw, No. 6-32 x 1/4,
		Type 23, Pan Hd.Slotted

	T	
Key No.	Part No.	Description
33	115543	Lockwasher, Int. Tooth, No. 6
34	63044	Yoke
35	60267	Switch
36	63515	Switch Plate
37	60058	*Wrench, Hex-L, 5/16
38	60032	*Screw, 3/8-16 x 1,
		Hex.Socket Hd,Cap
39	131202	*Lockwasher, 3/8
40	60031	*Washer, Plain,
		.440 x 11/16 x 1/32
41	63003	Handle
42	63514	Disc, Color
43	62275	Knob, Bevel Lock
44	63011	Washer, Knob Clamp
45	63010	Washer, Clamp
46	63323	Indicator
47	37935	Washer, Fiber, .140 x .250 x 1/32
48	63027	Stud, Yoke Clamp
49	63006	Bushing, Yoke
50	63007	Bushing, No. 2 Yoke
51	63009	Washer, Motor Clamp
52	63039	Screw, Guard Clamp
53	63258	Elbow, Discharge
54	63476	Pawl Assembly, Anti-Kickback
		Includes Key Nos.55,56,57,58
55	30542	Washer, X
56	63378	Pawl, Anti-Kickback
57	63475	Rod
58	63377	Pin, Cross
59	37858	Screw, Thumb
60	63182	Clamp, Guard
61	9404365	*Screw, No. 8-32 x 5/16,
		Self-Tapping, Pan Hd.Slotted
62	63228	Guard Assembly
63	63506	Motor Asm.,
64	60256	(See Fig. 1) Key

^{*}Standard Hardware Item — May be Purchased Locally

repair parts

CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342



CRAFTSMAN, 9-INCH RADIAL SAW, MODEL No. 113.29342

FIGURE 4 PARTS LIST

Key	Part	_
No.	No.	Description
1	63523	Tube Assembly, Column
2 3	63521	Table, Rear
3	102707	*Screw, Set, Slotted,
4	60057	1/4-20 x 1/2 *Screw, Mach., 1/4-20 x 1-1/4,
		Pan Hd. Slotted
5	60128	*Washer, Plain,
		17/64 x 5/8 x 1/32
6	63520	Table, Spacer
7 8	63522	Fence, Rip
8	60056	*Screw, Mach., 1/4-20 x 1,
		Pan Hd. Slotted
9	63519	Table, Front
10	60013	*Washer, Plain,
		11/32 x 7/8 x 1/16
11	131201	*Washer, Lock, 5/16
12	9415872	*Screw, Mach., 5/16-18 x 3/4, Hex. Hd.
13	63022	Table Support, R.H.
14	115109	*Washer, Lock, 1/4 x .109 x .062
15	115120	*Nut, Hex.,
		1/4-20 x 7/16 x 3/16
16	37384	*Nut, "T"
17	63059	Clamp, Table

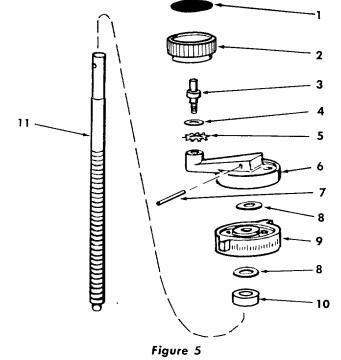
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Key No.	Part No.	Description
18	63041	Support Assembly, Column (Includes Key Nos. 20 and 21)
19	60035	*Screw, Mach., 1/4-28 x 1-3/4, Hex. Hd. Ind.
20	60034	*Screw, Mach., 1/4-28 x 7/8, Hex. Hd. Ind.
21	60036	Nut, Lock
22	9416187	*Screw, 5/16-18 x 3/4, Type 23, Hex. Washer Hd.
23	63000	Base
24	37530	Nut, "U" Clip, 1/4-20
25	63023	Table Support, L.H.
26	63056	Washer, Elevation Tube
27	63057	Key, Column Tube
28	63058	Cover, Key
29	9415800	*Screw, 1/4-20 x 1-1/4, Type 23, Hex. Washer Hd. Ind.
30	37911	Wrench, Hex-L, 3/16
31	222506	*Screw, Set, 3/8-16 x 5/8, Socket Hex. Hd., Flat Pt.
32	63042	Tube Assembly, Elevation

^{*}Standard Hardware Item - May be Purchased Locally.

FIGURE 5 PARTS LIST

Key No.	Part No.	Description	
1 2 3 4 5 6 7 8 9 10	63183 63512 63051 63052 63053 63054 453676 60030 63406	Complete Radial Arm Cap Assembly Disc, Color Knob, Elevation Crank Shaft, Crank Knob Washer, Knob Ring, Retaining *Crank, Lift Pin, Roll Washer, .505 x 1 x 1/32 *Cap, Radial Arm Collar, Thrust *Shaft, Lift	

^{*}Purchase as part of Part No. 63183, Cap Assembly, Radial Arm.



Sears

owners manual

MODEL NO. 113.29342

Sears
SERVICE
is at
YOUR
SERVICE
wherever YOU
live or move
in the U.S.A.

How to ORDER Repair Parts

The Model Number will be found on a plate attached to your Saw, at the left-hand side of the base. Always mention the Model Number when requesting service or repair parts for your 9-Inch Radial Saw.

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail, 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 DESCRIPTION
- 3. The MODEL NUMBER 113.29342
- 4. The NAME OF ITEM 9-INCH RADIAL SAW

Your Sears merchandise takes on added value when you discover that Sears has over 2,000 Service Units through out the country. Each is staffed by Sears-trained, professional technicians using Sears approved parts and methods.

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