

Bought Jan 15, 1977 T.L. 1420104

10" RADIAL ARM SAW

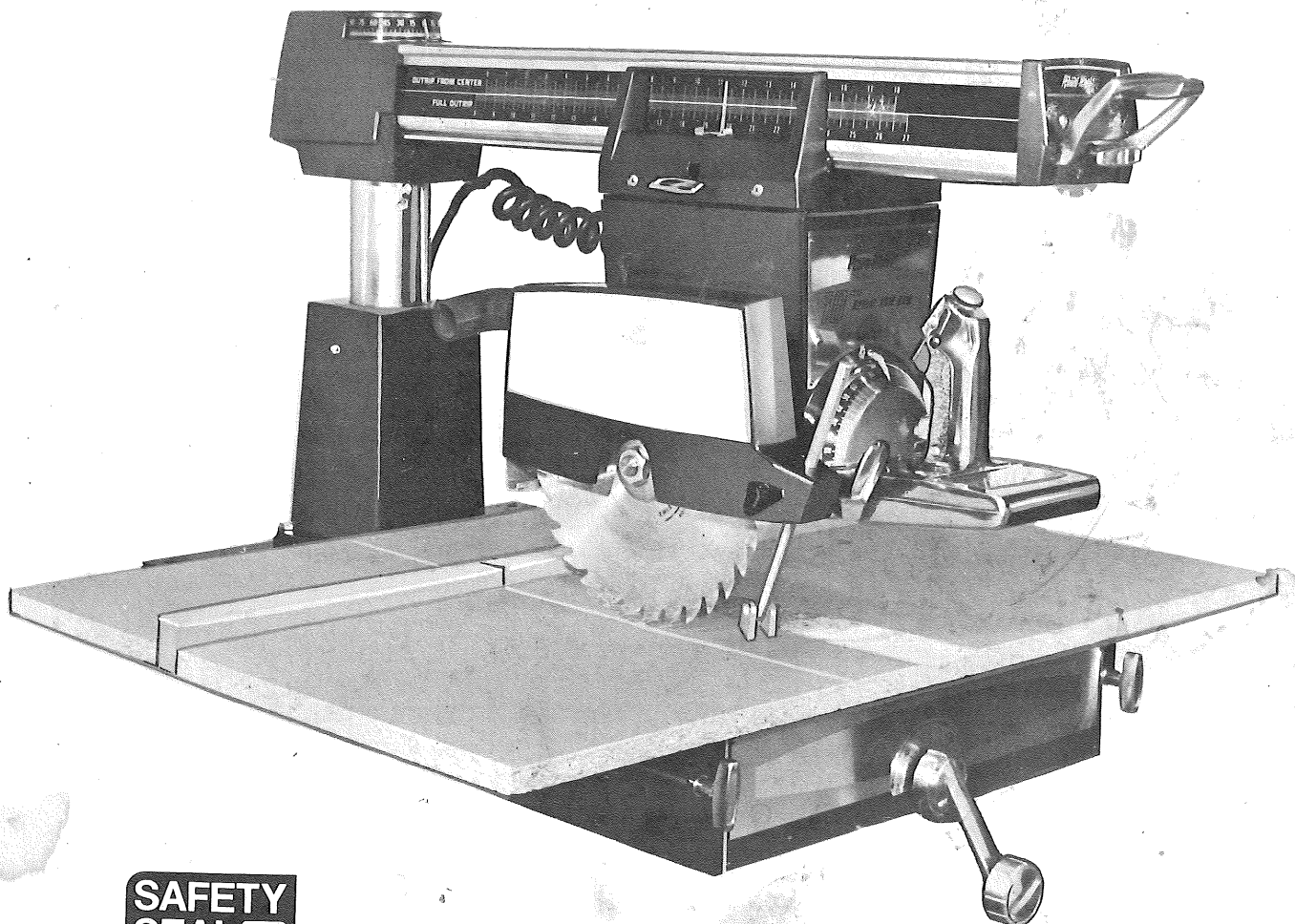
MODEL
TPC - 2610B

17-29

FORM NO. 84P1092B*

WARDS
POWR-KRAFT

owner's
guide and
PARTS LIST



**SAFETY
SEAL** 
power tool institute®

POWR-KRAFT — SOLD EXCLUSIVELY BY **MONTGOMERY WARD**

FOREWORD

The Powr-Kraft 10" Radial Arm Saw is a rugged - versatile power tool which will give years of excellent service, if properly used and cared for.

You should thoroughly study this Owner's Guide before attempting to set up and use the saw. Spend a few minutes to become completely familiar with all the controls, their function and operation of the saw. Learn the names and locations of all controls as shown on pages 5 and 6. Many of the instructions refer to reference letters for identification of particular parts. See parts lists on pages 26 thru 31 for parts identification.

This radial arm saw is an extremely versatile machine capable of a variety of cutting operations such as cross-cutting, mitering, beveling, ripping, bevel mitering etc. The saw is also equipped with auxiliary spindles (3450 and 20,000 RPM) to give maximum flexibility with accessories to perform routing, grinding, sanding, drilling and many other operations that involve the use of a circular cutting tool.

CURRENT SUPPLY

This tool should be operated from 115 V A.C. 25/60 cycle power. Be sure that the voltage of the source agrees with the nameplate marking. The plate is located on the motor housing.

ELECTRIC CONNECTIONS, POWERLINE: For your protection, this tool is equipped with Underwriter's Laboratories listed 3-prong plug. When this plug is inserted into a properly grounded receptacle, it will guard the user against shock if the tool insulation should fail for any reason. To connect this plug to a standard 2-pole, parallel-slot receptacle an adapter is required to accept the 3 prongs. See illustration at right. It is recommended that the conventional 2-prong receptacle be replaced with a listed 3-prong receptacle at convenience outlets where heavy duty appliances are connected. The adapter is intended only as a temporary expedient until receptacles are replaced. **CAUTION:** Before using the adapter, make sure the convenience outlet box you intend to use is properly and effectively grounded. If there is any doubt, consult an electrician. **IMPORTANT:** Connect the terminal on the ground wire of the adapter to the face plate mounting screw of the receptacle. (This connects the third prong to the grounded box). Insert the two prongs of the adapter into the receptacle. The 3-prong plug on the supply cord of your tool can now be inserted into the Adapter and your tool is ready for use.

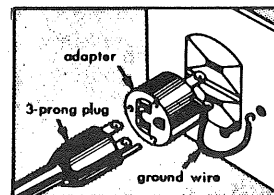


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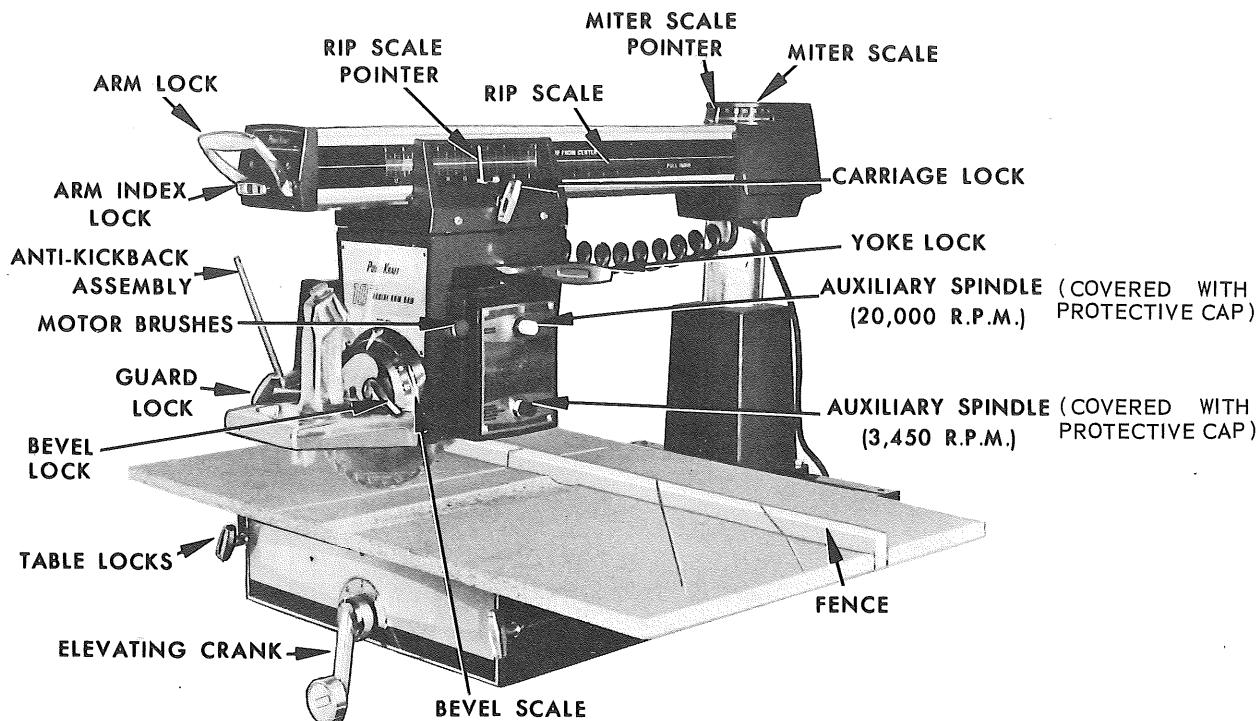
SAFETY PRECAUTIONS

Your Powr-Kraft Radial Arm Saw is designed with safety in mind; you can rely and have confidence in it, however, you must follow basic safety rules as with all power tools:

1. Use proper electrical connections. See section titled "Current Supply" in this Owners guide.
2. Keep guard in place and anti-kickback fingers. Keep protective caps on ends of rotating auxiliary shafts.
3. Keep work area clean. Cluttered areas and tables invite accidents.
4. Avoid dangerous environments. Don't use saw in damp or wet locations. Keep work area well lighted.
5. Keep children away. All visitors should be kept safe distance from work area.
6. Don't force the tool. It will do the job better and safer at the rate for which it was designed.
7. Wear proper apparel. No loose clothing or jewelry to get caught in moving parts. Remove neckties.
8. Use safety glasses, also face or dust mask if cutting operation is dusty.
9. Make sure electrical cord does not interfere with work.
10. Keep hands in sight and clear of all moving parts. Use a push stick where necessary. Don't overreach, keep proper footing and balance at all times.
11. Keep cutting tools sharp, dull tools cause rough cuts and excessive slipping.
12. Secure work. Make sure saw is securely fastened to a sound base or bench. Support long work properly.
13. Safety switch. To operate saw, the red plastic switch key must be inserted in top of handgrip handle and pressed down before switch will operate. Always remove switch key when saw is not being used.

Its good practice to always be careful. Be respectful of power enough to cut through tough wood. Never become so over confident that you get too relaxed or careless.

CHAPTER I PRODUCT IDENTIFICATION



BEVEL LOCK

Securely locks motor when it has been rotated.

MOTOR BRUSHES

Located under caps.

ANTI-KICKBACK ASSEMBLY

Used when ripping to insure control of work.

ARM LOCK

Locks arm in any right or left angular position. Pushing the handle up locks the arm. Moving the handle down releases the arm. (To move the arm from 90° to 45° right or left, the index lock must also be released).

AUXILIARY SPINDLE (20,000 RPM)

For accessory attachments which require a high RPM.

AUXILIARY SPINDLE (3,450 RPM)

Multi-purpose spindle for use with accessory attachments.

BEVEL SCALE

Shows bevel angle when motor has been rotated.

RIP SCALE POINTER

Moveable to allow adjustment on rip scale.

FENCE

Guides and steadies work. Can be positioned to suit cut being made.

GUARD LOCK

Locks blade guard in desired position. Twist clockwise to tighten, counterclockwise to loosen.

CARRIAGE LOCK

Firmly secures carriage in any desired position on arm. It is used mainly for ripping operations. Turn clockwise to lock and counterclockwise to release.

RIP SCALE

The two rip scales show the distance between the fence and the blade. The scale on the left side of the arm is used for outboard ripping and the one on the right side is used for inboard ripping. The top scale is used when the fence is in the forward position and the bottom scale is used when the fence is in its full rear position.

ARM INDEX LOCK

Locates arm in pre-selected positions of 45° right or left and 90°.

MITER SCALE

Shows the angle of the arm with reference to the fence.

MITER SCALE POINTER

Moveable to allow adjustment on miter scale.

TABLE LOCKS

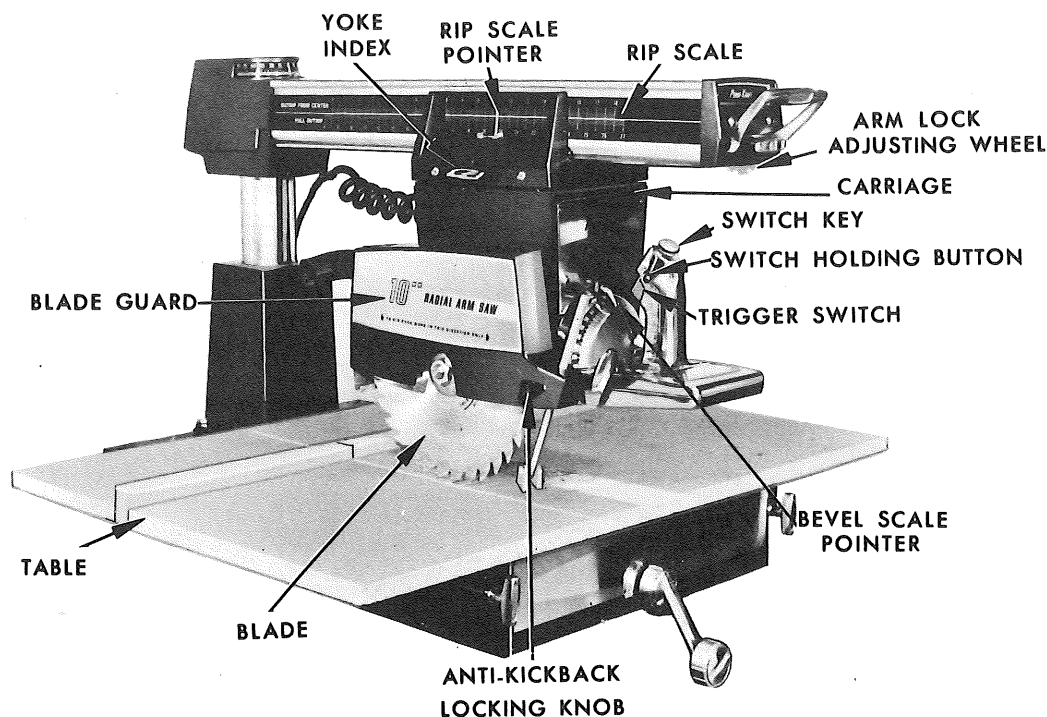
Locks fence and table boards in desired position. Turn handle counter-clockwise to loosen; clockwise to lock.

ELEVATING CRANK

Raises and lowers arm to desired height above table.

YOKE LOCK

Secures yoke in any position when rotated. Push back to lock, to release pull forward.



SWITCH KEY

Must be inserted and pressed down before trigger switch will operate.

TRIGGER SWITCH

Will operate only when switch key is depressed.

SWITCH HOLDING BUTTON

Locks switch in "on" position for ripping and similar operations.

TABLE

Gives maximum support of work.

ARM LOCK ADJUSTING WHEEL

Used to adjust tension of arm lock. Increase tension by turning wheel in a counter-clockwise direction.

YOKE INDEX

Indexing the yoke index into slots of the yoke positions the yoke for crosscutting and inboard and outboard ripping. To operate, lift handle out of slot in yoke.

RIP SCALE

The two rip scales show the distance between the fence and the blade. The scale on the left side of the arm is used for outboard ripping and the one on the right side is used for inboard ripping. The top scale is used when the fence is in the forward position and the bottom scale is used when the fence is in its full rear position.

BLADE

This saw is equipped with a combination blade to do both ripping and crosscutting. Special purpose blades are available to fit this saw.

BLADE GUARD

Directs sawdust from operator. May be rotated to provide proper blade coverage to protect operator.

ANTI-KICKBACK LOCKING KNOB

Secures anti-kickback rod in position.

CARRIAGE

Four ball bearings in the carriage support the yoke and motor assembly and insure smooth operation.

BEVEL SCALE POINTER

Movable to allow adjustment on bevel scale.

CHAPTER II ASSEMBLY AND ADJUSTMENT

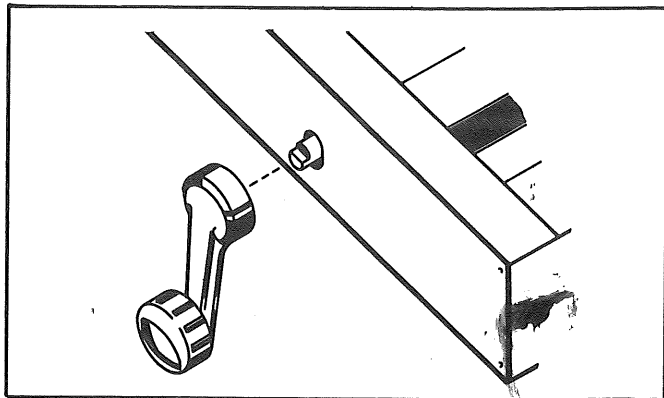


FIG. 1

The following tools are required to assemble and adjust this saw:

Included with saw

- 1/4" Allen Wrench
- 3/32" Allen Wrench
- 3/4", 1" Open End Wrench
- 5/8", 3/4", 15/16" Open End Wrench
- 1/8" Allen Wrench
- 5/64" Allen Wrench

Other tools required:

- Screwdriver
- Phillips Screwdriver
- 1/2" Open End Wrench
- 9/16" Open End Wrench
- 1/2" Socket Wrench
- Carpenter (rafter) Square

STEP 1 ELEVATING CRANK

Attach elevating crank handle by sliding it over shaft protruding from front of base and tighten set screw with allen wrench. Figs. 1 & 2.

STEP 2 ARM AND COLUMN

Lift arm and column assembly and insert column into base. Turn elevating crank counter-clockwise until column is engaged. Do not force column in base. Move arm slightly from side to side while turning crank. Figs. 3 & 4.

STEP 3 COLUMN PLUG

Insert tapered plug (A), spring washer (B), and threaded plug (C), into base as shown. Be sure the tapered plug engages in slot on column. Finger tighten the threaded plug. Insert set screw (D) in side of column base. Do not tighten screw at this time. SEE STEP 8 "ELEVATING CRANK TENSION".

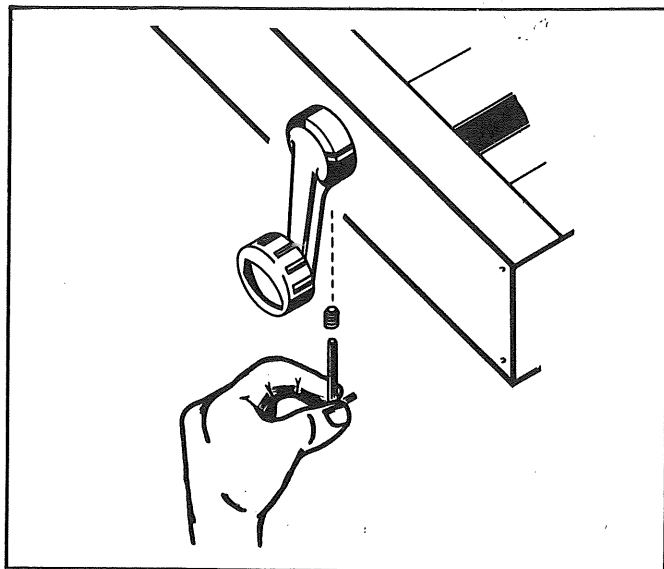


FIG. 2

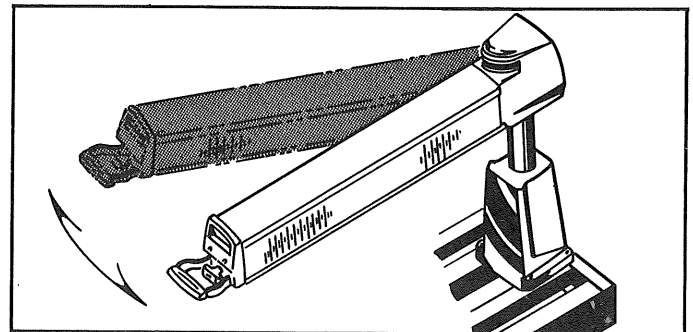


FIG. 4

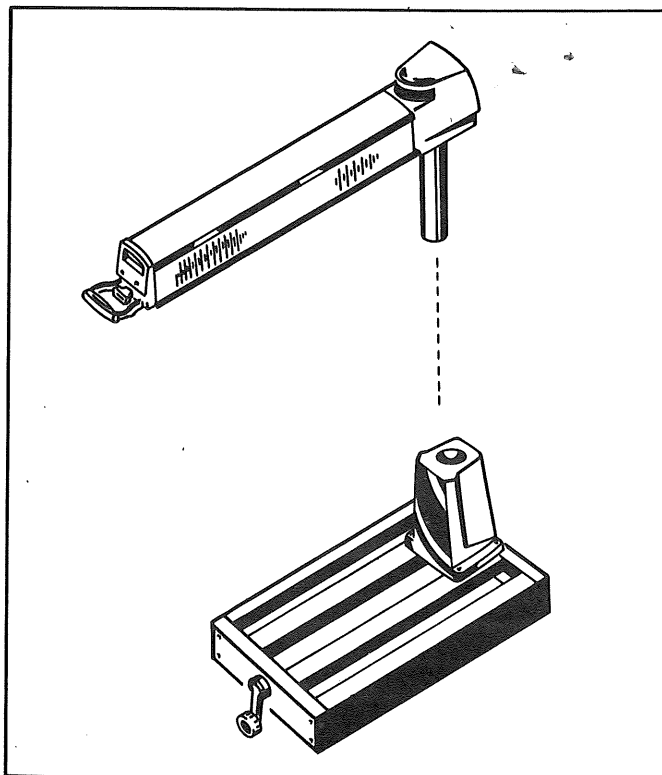


FIG. 3

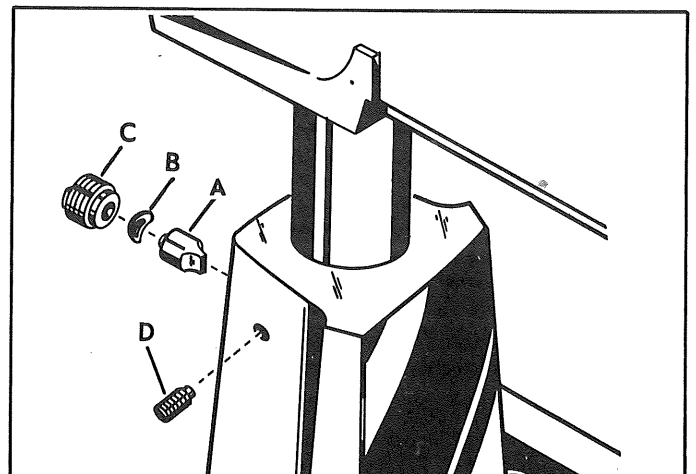


FIG. 5

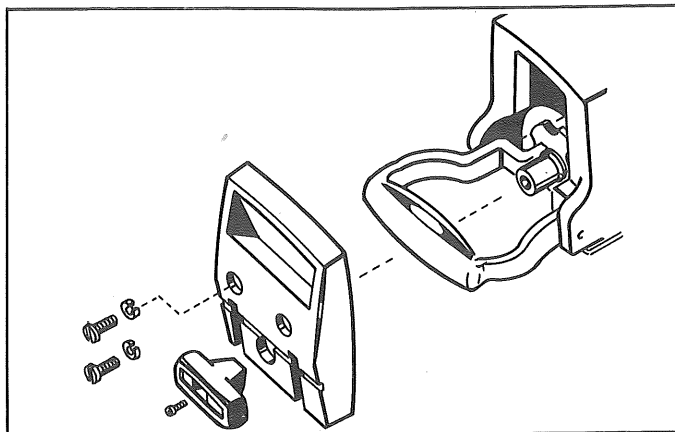


FIG. 6

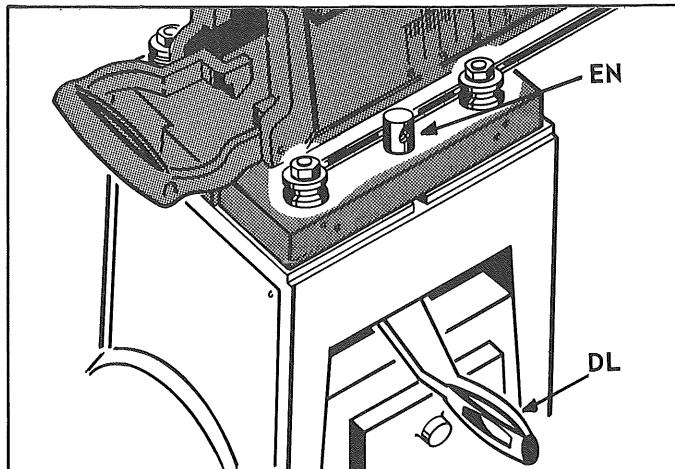


FIG. 7

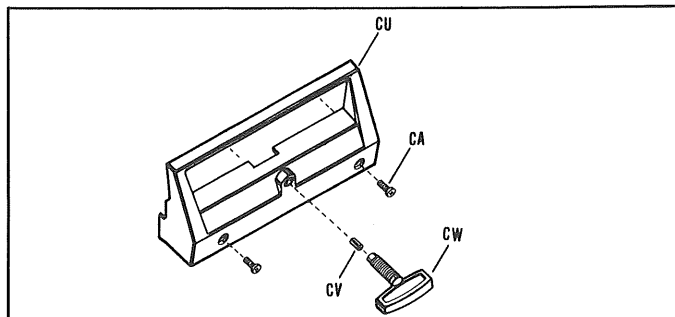


FIG. 8

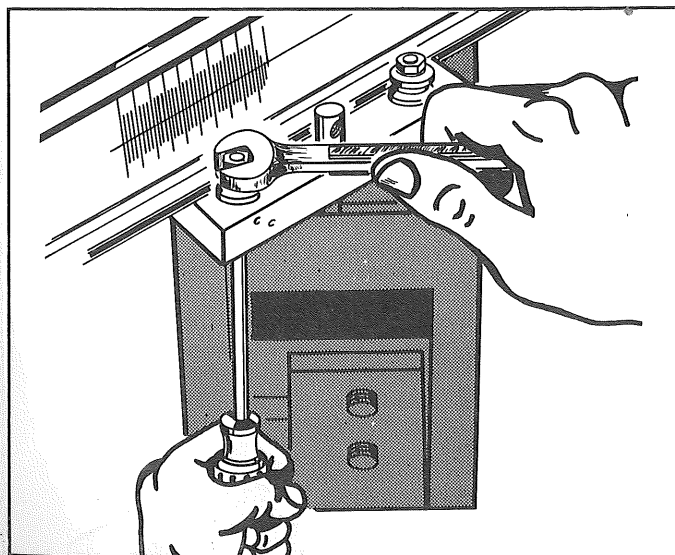


FIG. 9

STEP 4 INSTALLING MOTOR CARRIAGE ASSEMBLY ON ARM

1. Remove arm index ("T" shaped) handle from front of arm by removing the phillips head screw in the center of the handle. Fig. 6.
2. Place the stirrup shaped arm lock handle in the down position. Remove the two phillips head screws from the end cap and remove the end cap. CAUTION: While end cap is removed, do not move the arm lock adjusting wheel. If this occurs the brake activator may need to be realigned. (This must be done by a qualified serviceman. Place lock handle in up position).
3. Lift motor and carriage assembly and engage "V" groove of carriage bearings onto arm track. Carriage assembly will move freely on track.
4. Move lock (stirrup) handle to down position. Replace end cap making sure the arm cover (rip scales) fit inside of cap. Give cap a slight tap to position and replace end cap screws.
5. Replace arm index ("T") handle.
6. Attach cord clamp to rear of arm with small phillips head screw. Fig. 10.

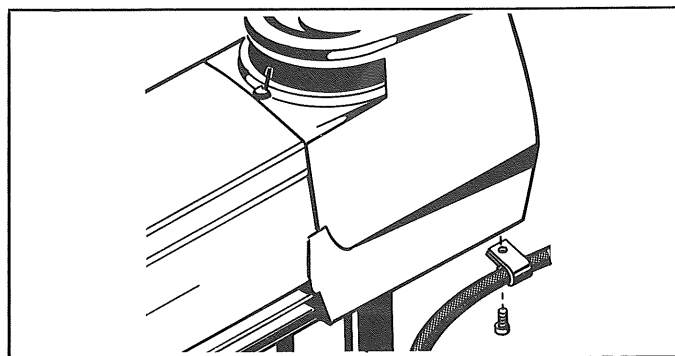


FIG. 10

STEP 5 TENSION OF CARRIAGE BEARINGS

The carriage should ride firm on the track. Existing play or wobble between the carriage rollers (bearings) and the track must be eliminated. This is done by adjustment of the two bearings on the right of carriage to the proper tension.

1. Release carriage lock (CW) by turning counter-clockwise. Fig. 8.
2. Remove the right hand carriage cover (CU). NOTE: During initial assembly of saw this step is omitted.
3. Release the yoke lock (DL) Fig. 7 by moving it toward the front of the saw towards the operator.
4. Release the yoke index on left side by lifting lever up.
5. Pivot motor and yoke assembly to the right to expose the adjusting screws under the carriage. Fig. 9.
6. Loosen set screws on side of carriage. Fig. 12.
7. Use screw driver and 1/2" wrench to loosen nut at top of the two right hand bearings. Fig. 9.
8. Adjust bearing tension by turning screw until bearing is firm but not tight on track. Secure adjustment by holding screw in place and tightening set screw in carriage. Then tighten nut. Figure 11 illustrates the adjustment experienced between the track and carriage bearings when turning the eccentric screw.

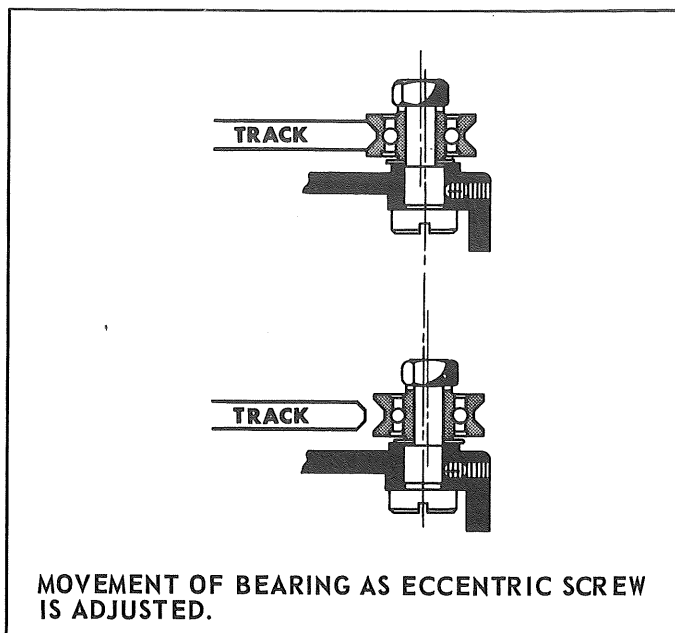


FIG. 11

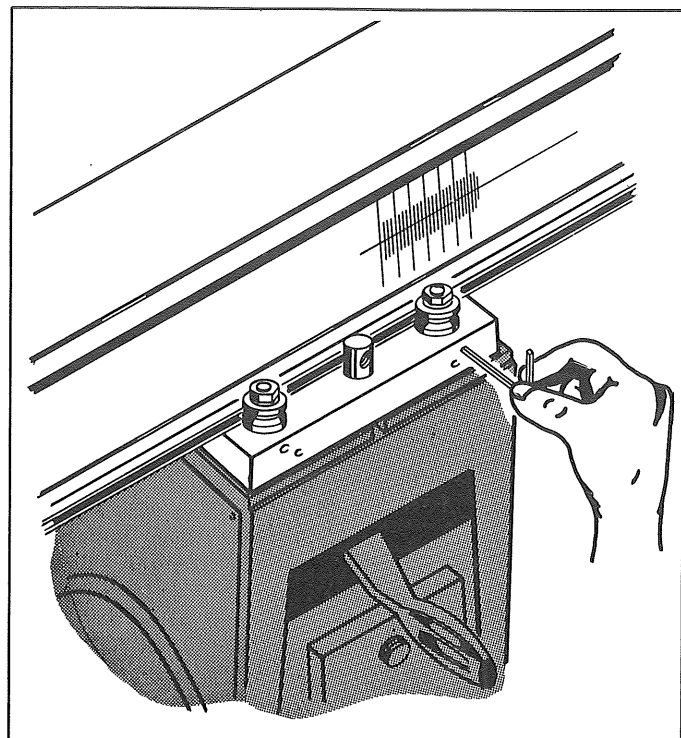


FIG. 12

STEP 6 TABLE CLAMP AND ELEVATING BRACKET

Attach table clamp and leveling bracket assemblies to frame using hex bolts, flat washers and lock washers as shown in Fig. 13. DO NOT TIGHTEN THE BOLTS.

STEP 7 TABLE ASSEMBLY

1. Assemble large table board to leveling brackets. NOTE BOARD IS MARKED "FRONT-BOTTOM" — Fig. 14.
2. Insert set screws into holes indicated. These screws are used to level the table. Fig. 15.

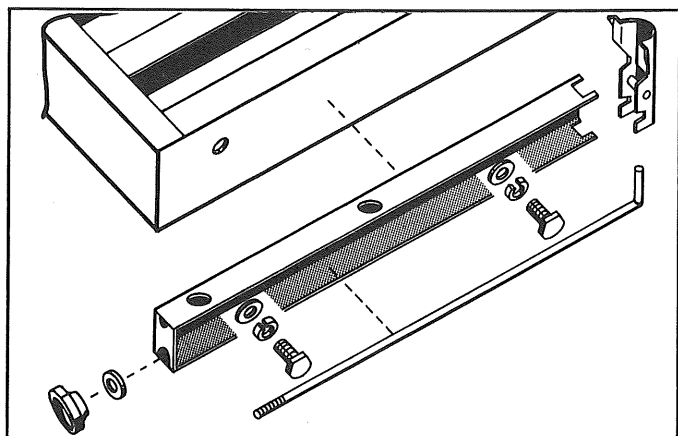


FIG. 13

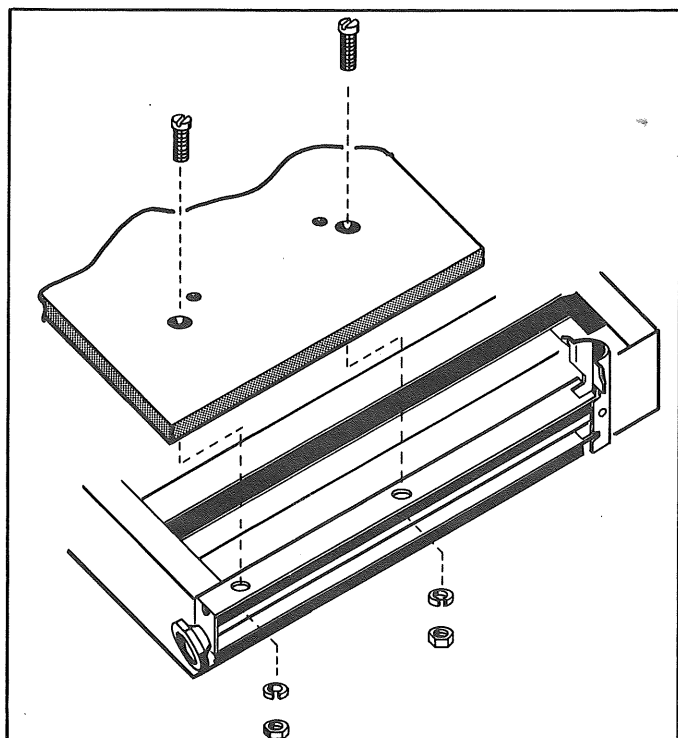


FIG. 14

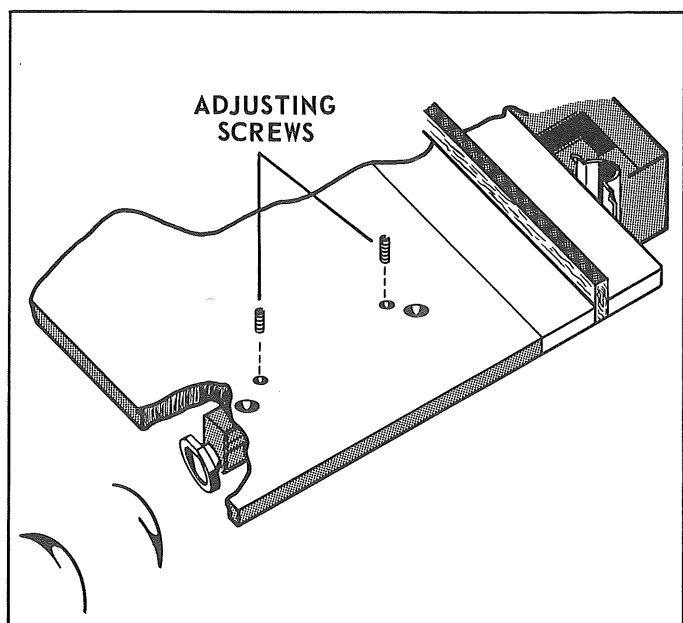


FIG. 15

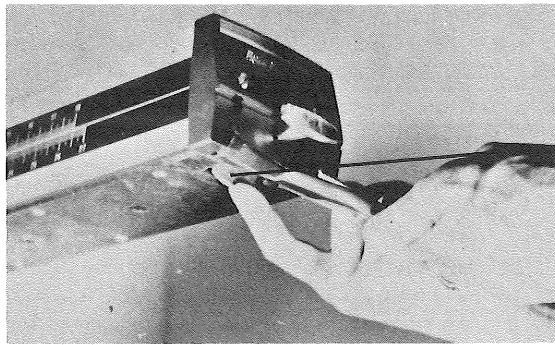


FIG. 16

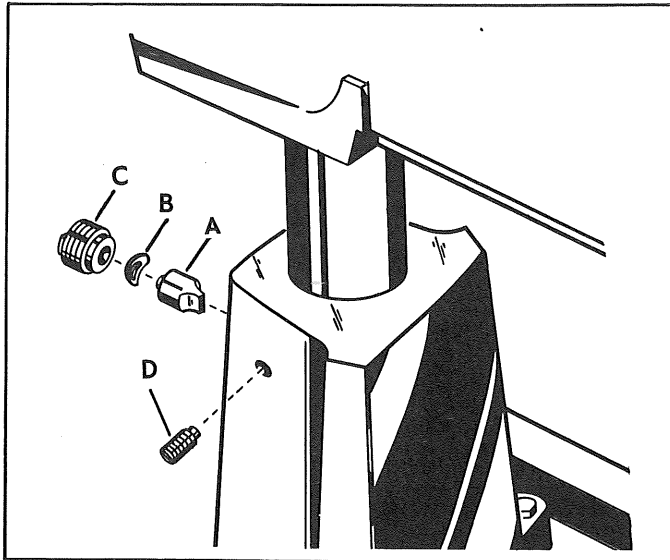


FIG. 17

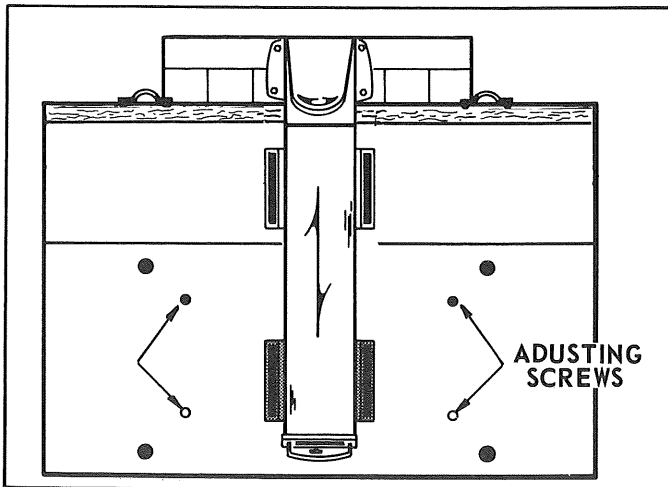


FIG. 18

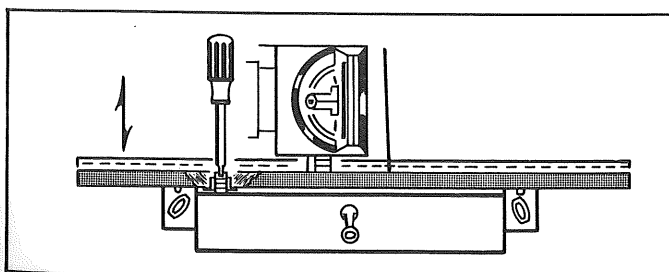


FIG. 19

STEP 8 SIDE MOVEMENT OF ARM-ELEVATING CRANK TENSION

1. Move saw to rear of arm next to the column.
2. Set the arm at 0 degrees on the mitre scale, making certain the column is seated in the detent. Tighten the arm (brake) lock. The brake action should feel tight and secure whereas you must push on the handle solidly with the palm of the hand. If loose adjust the arm lock adjusting wheel under the front of the arm by turning in a counter-clockwise direction. Fig. 16.
3. Loosen set screw in side of column support with a 1/8" allen wrench.
4. Undesirable side movement of the arm may be eliminated by adjusting the column plug at rear of column support. Use a wrench to tighten the plug while moving the arm up and down with the elevating crank. Over tightening the plug will make the crank difficult to operate. Plug should be snug enough to eliminate excessive arm movement.

Make sure spring washer is inserted between the tapered plug and column plug as shown in Fig. 17.

5. Tighten the set screw in the side of column support to lock adjustment.
6. Check the four Hex head bolts that secure the column support to the base; make sure they are tight and secure.

When raising or lowering the saw, place saw at rear of arm for smoother crank movement.

STEP 9 SQUARING THE TABLE (TABLE PARALLEL TO ARM)

1. Place the fence in the full rear position. Place the two table boards between the fence and large table board.
2. Lock the arm in 0 position.
3. With the upper blade guard and blade removed, loosen bevel lock lever on front of motor and pivot motor to the left 0 position so the blade spindle points down to the table.
4. Lower the saw with the elevating crank until the blade spindle just clears the table top.
5. Pull the saw back and forth on the arm to determine if the front of the table is high or low.
6. To adjust table, the four channel screws Fig. 22, must be loose.
 - a. If the table front is too high, slightly loosen the front two adjusting screws. If the front is too low, slightly tighten the two front adjusting screws.
7. Without changing the setting of the elevating crank, release arm lock and move the arm to the 45° right position.

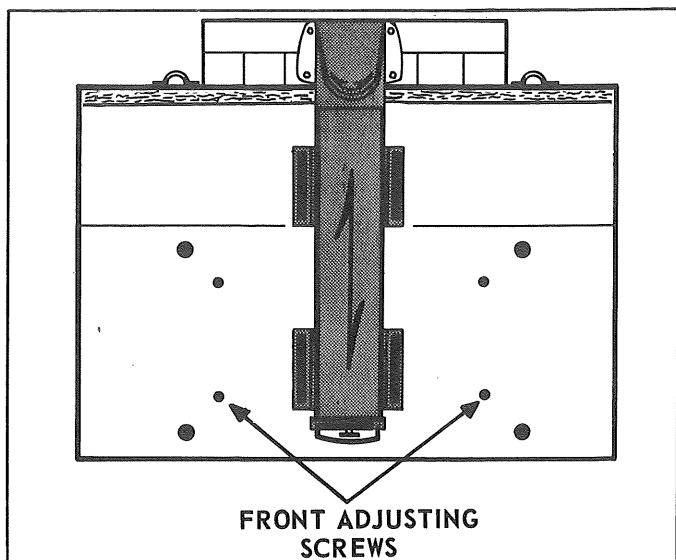


FIG. 20

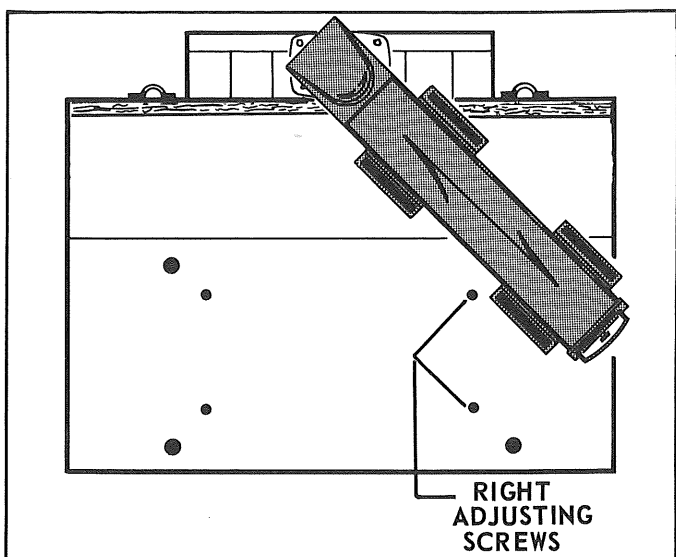


FIG. 21

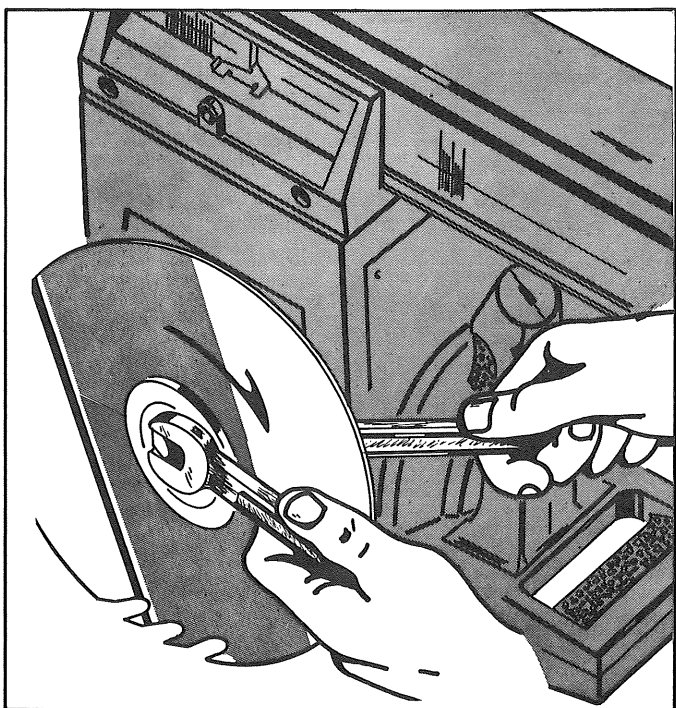


FIG. 23

8. Pull the saw back and forth on the arm checking the clearance between the table and the saw spindle. Use the two adjusting screws in the right side of the table to adjust clearance. Loosen screws to increase clearance. Tighten screws to reduce clearance.
9. Without changing the setting of the elevating crank, release arm lock and move the arm to the 45° left position.
10. Repeat #8 above using the two left side adjusting screws.
11. When table is square, securely tighten the four channel screws with a 1/2" socket wrench Fig. 22.

If desired, the table surface may be covered with 1/4" plywood to protect it from saw kerfs. The plywood may be secured to the top with brads. Brads should be placed where they will not interfere with normal saw cuts.

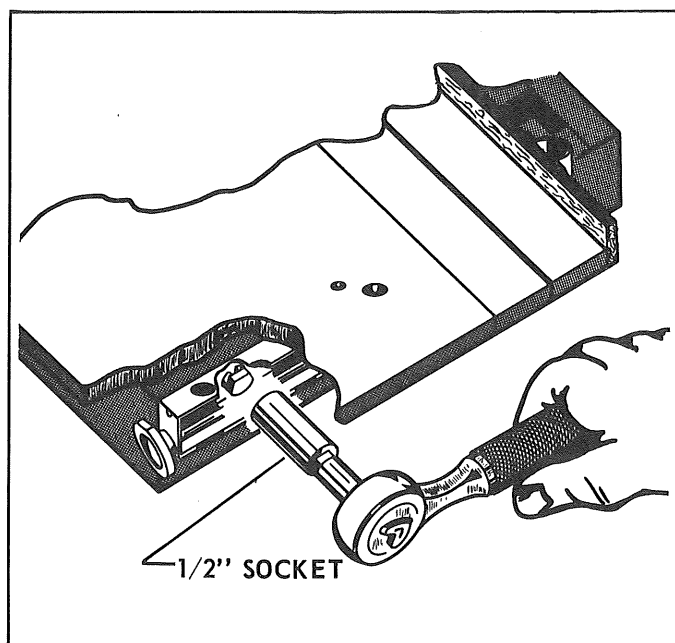


FIG. 22

STEP 10 ASSEMBLING THE BLADE

Disconnect saw from power source before replacing or adjusting saw blade. The blade is assembled as illustrated with the large face of the washers against the blade. To secure the blade, a 15/16" open end wrench is used to hold the flats on the saw spindle, while a 1 inch open end wrench is used to tighten the blade nut. The saw spindle has a left-handed thread so the nut is turned in a counter-clockwise direction to tighten.

SAW BLADES-APPLICATION

A major and often overlooked cause of poor cutting is the blade. Make sure that the saw blade is sharp. A dull blade is a major cause of saws not cutting properly. Indications of dullness are rounded tips on the teeth and the accumulations of hard gum on the blade. Saw blades in this condition have insufficient set in the teeth for proper clearance and cut poorly. For extremely fine wood finishing and very close cuts, it is a good practice to use a smaller diameter, hollow ground blade. For precise cutting or for repeated use in special cutting, the radial arm saw will perform better with a special blade. Blades that can be used, and their applications are as follows:

The combination blade which is furnished with the saw, is a general purpose blade which performs well for a variety of cuts in different materials. However, it is not recommended for precise cutting or for repeated use in special cutting.

The plywood blade is designed for splinter free cuts in plywood, veneers, and wood laminates.

The hollow ground or planer blade gives fine, high finish cuts with or across the grain. Gives sanded quality finish.

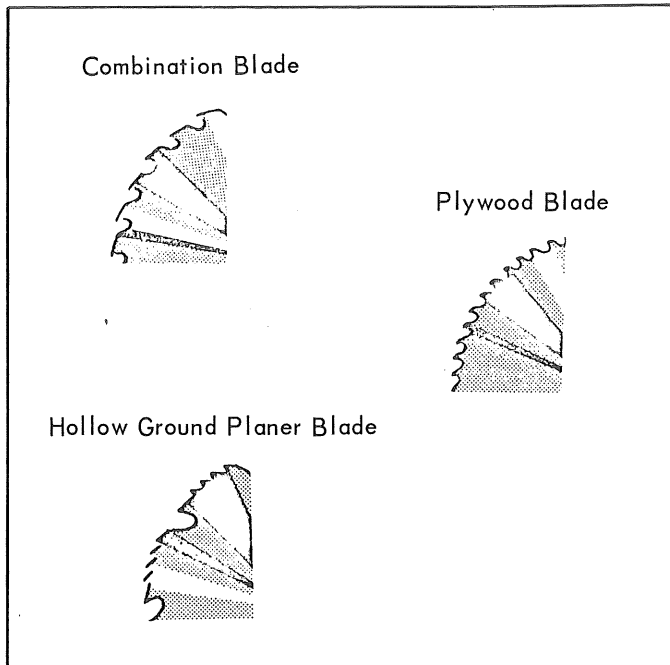


FIG. 24

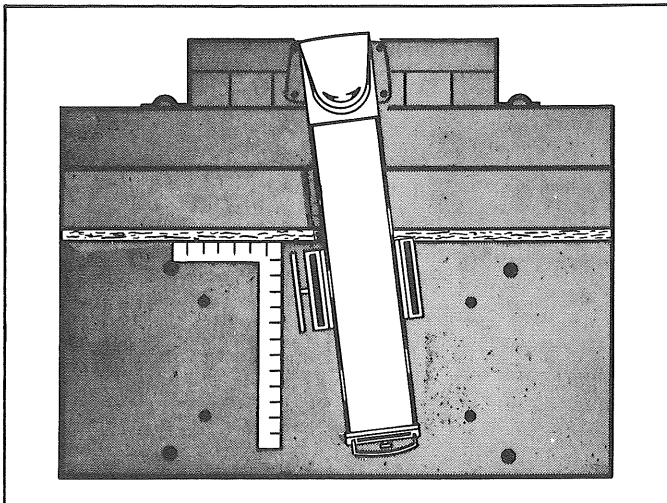


FIG. 25

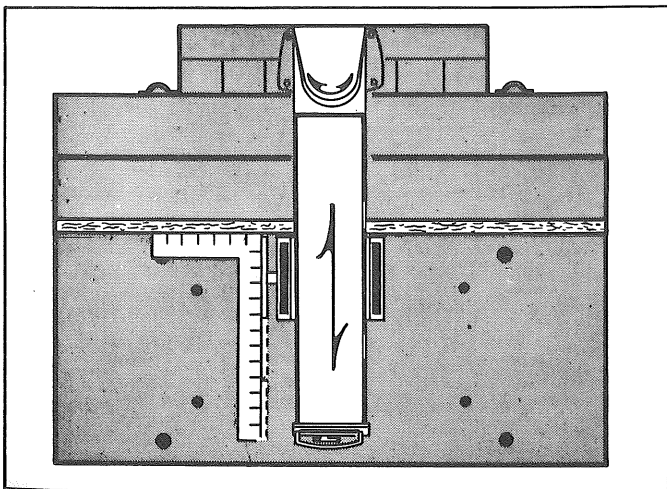


FIG. 26

STEP 11 SQUARING THE SAW BLADE TO THE FENCE

Refer To "Accurate Indexing" Page 18

1. Place the fence next to the large tableboard. Add the two small boards between the fence and the column. Tighten both table locks. Fig. 25.
2. Lower the saw with the elevating crank until the blade just clears the table.
3. Lay a carpenter's square on the table with one side against the fence and the other side next to the blade.
4. With brake applied move the saw back and forth on the track. The blade should just touch the square in all positions. If not, the following adjustment should be made.
5. Remove the two screws from the top of the arm hood and the index screw and pointer. Lift off the hood Fig. 27.
6. Loosen both bolts located inside the top of the column using a 9/16" wrench. Fig. 28.

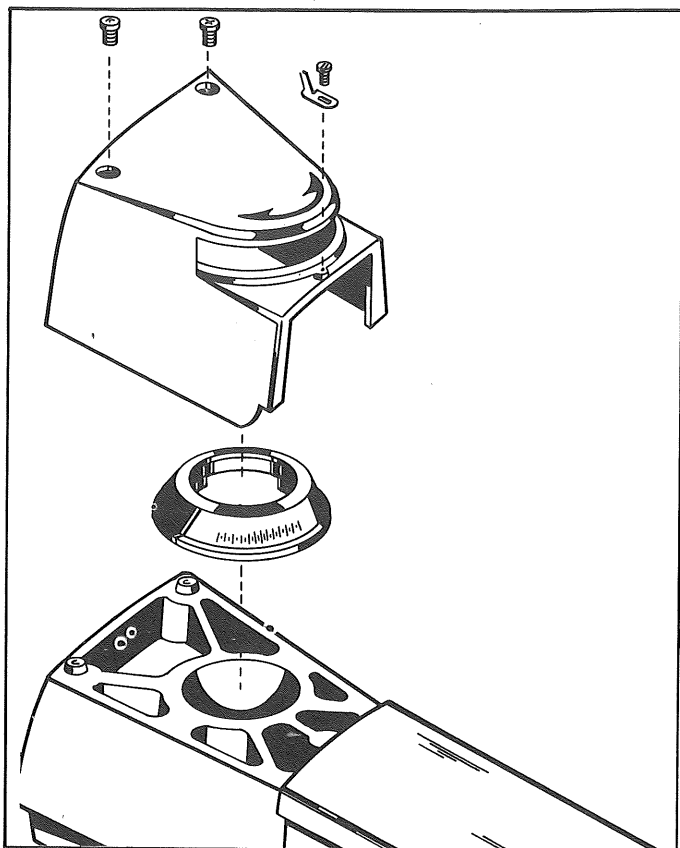


FIG. 27

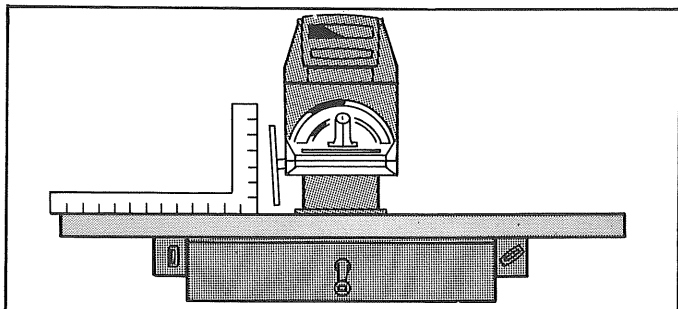


FIG. 29

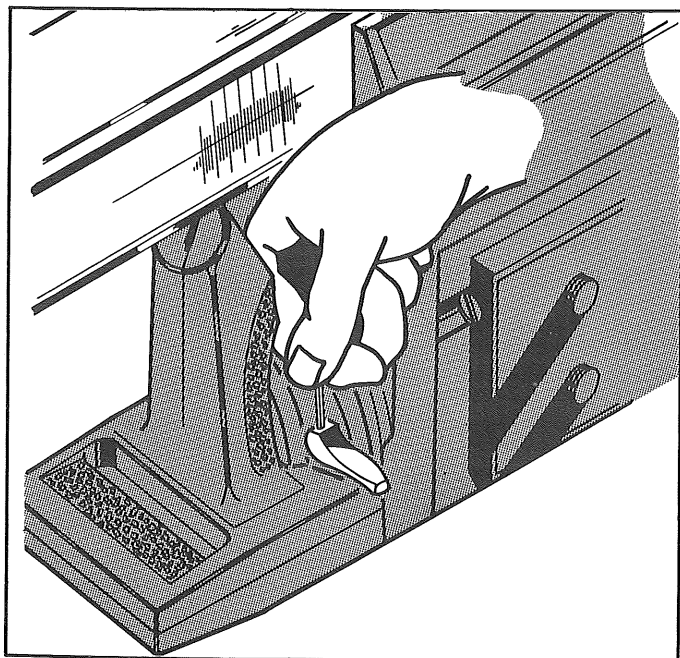


FIG. 30

7. Move arm until the saw blade touches the carpenter's square in all positions as the motor is moved back and forth on the arm.
8. Hold arm steady and tighten bolts.
9. Replace hood and pointer.
10. Adjust dial by turning so that pointer lines up with 0 Degree on scale. Once adjusted slight misalignment of the pointer and scale may be corrected by slightly bending the pointer.

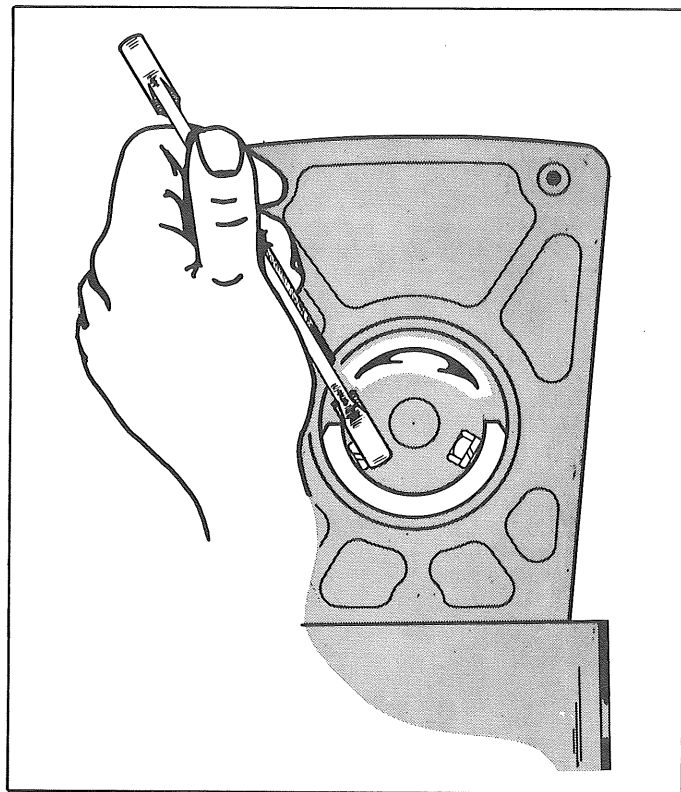


FIG. 28

STEP 12 SQUARING THE SAW BLADE TO THE TABLE (BEVEL ANGLE ADJUSTMENT)

Position the motor as shown (Fig. 29) until the 0 degree detent snaps into place. Snap can be adjusted by set screw on left hand side of bevel scale. Do not over-tighten and compress spring solid in detent snap.

1. Tighten bevel locking clamp. If clamp does not tighten securely when placed in a lock position, it can be adjusted as follows:

Loosen the set screw in the clamp lever and remove the clamp lever. Use the clamp lever as a wrench to tighten the index screw. Do not over-tighten; only slight pressure is needed. Replace lever in locked position and tighten the set screw. Fig. 30.

2. Place a carpenter's square on table top against the blade as shown. Fig. 29. Square must not rest against a tooth of the blade. If blade is not square, adjust as follows:

- a. Remove the lower portion of the index handle by removing the four phillips head screws. This exposes the lower adjusting screw. Fig. 31.
- b. Use a 1/4" allen wrench to loosen all three adjusting screws. (DX and DN) Fig. 31 and 32.

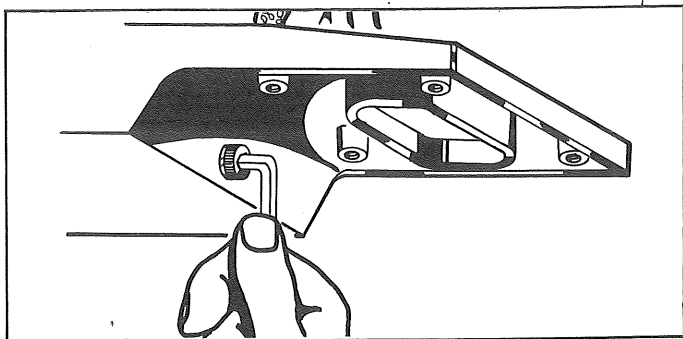


FIG. 31

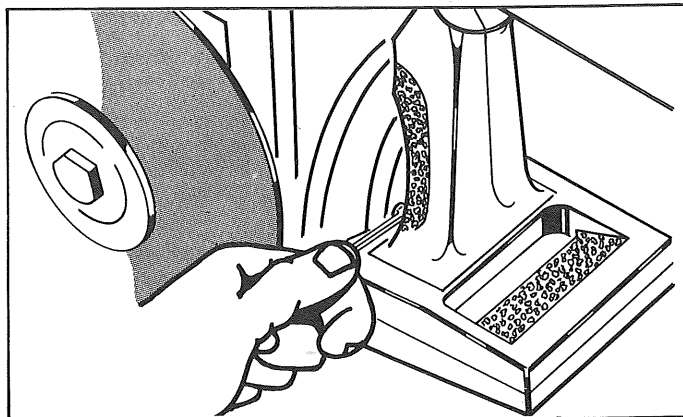


FIG. 32

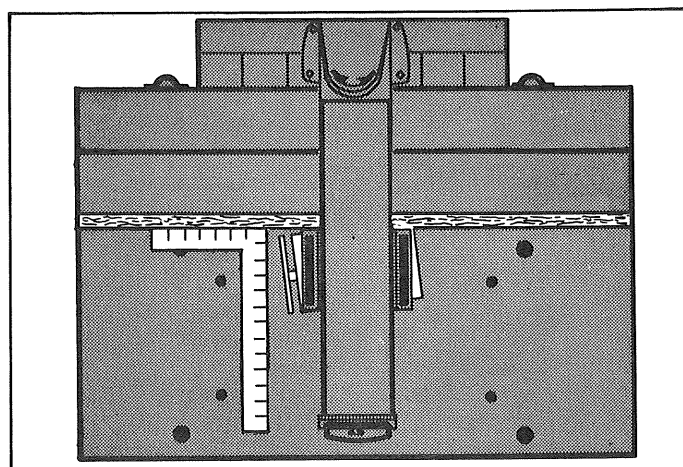


FIG. 34

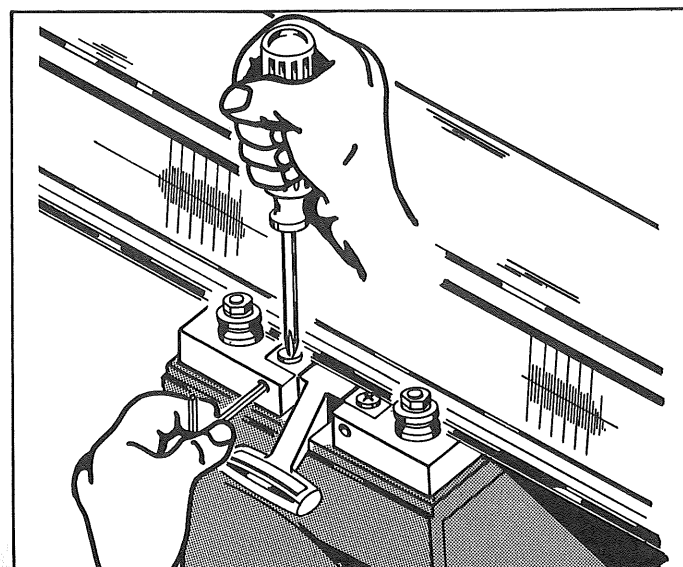


FIG. 35

c. Release bevel locking clamp and lift motor housing until blade is parallel to the square. Apply pressure to the lower part of saw blade with thumb until there is about $1/32$ " clearance between the square and the lower edge of the blade. (This compensates for motor movement when tightening screws.) Tighten the three adjusting screws.

d. Replace lower handle cover.

e. Tighten bevel locking clamp.

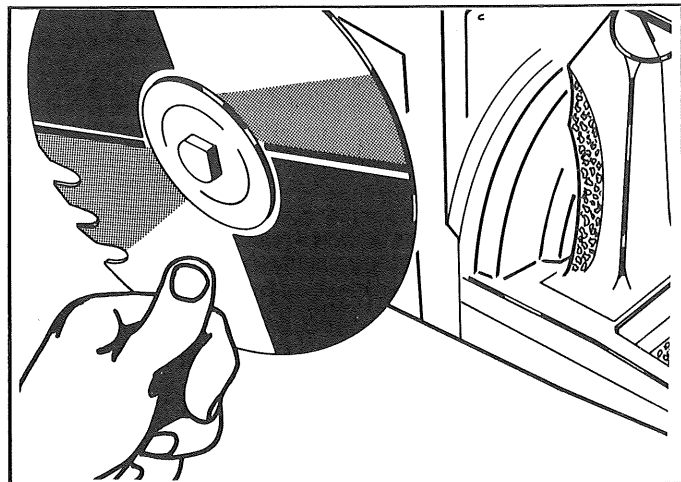


FIG. 33

STEP 13 CHECKING THE SAW BLADE FOR "HEEL "

"Heel" in the blade is the condition where, although the blade moves in a path that is square to the fence, the blade itself is not square to the fence. The back teeth of the blade will not follow in the saw kerf of the front teeth and thus causes a bind or drag when cutting. To check, proceed as follows:

1. Place a carpenter's square against the fence and the blade as shown. Do not allow the square to rest on the blade teeth. Fig. 36.
2. If the blade is not square, remove the left side carriage cover. NOTE: During initial assembly of the saw the carriage covers are not assembled to the saw.
3. Release the yoke lock.
4. Lock the yoke index. (Handle Down)
5. Loosen adjusting screws at top of carriage, and locking screws at side of carriage. Fig. 35.
6. Rotate the motor until blade is parallel to the square.
7. Lock yoke lock lever.
8. Tighten both screws at side of carriage then both screws on top of carriage. After adjustment, yoke index lever should move freely but not drop.

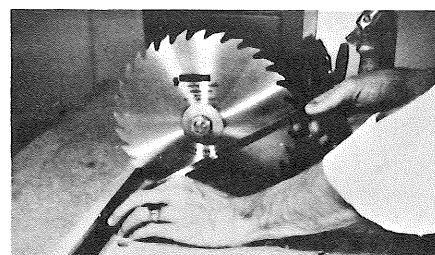


FIG. 36

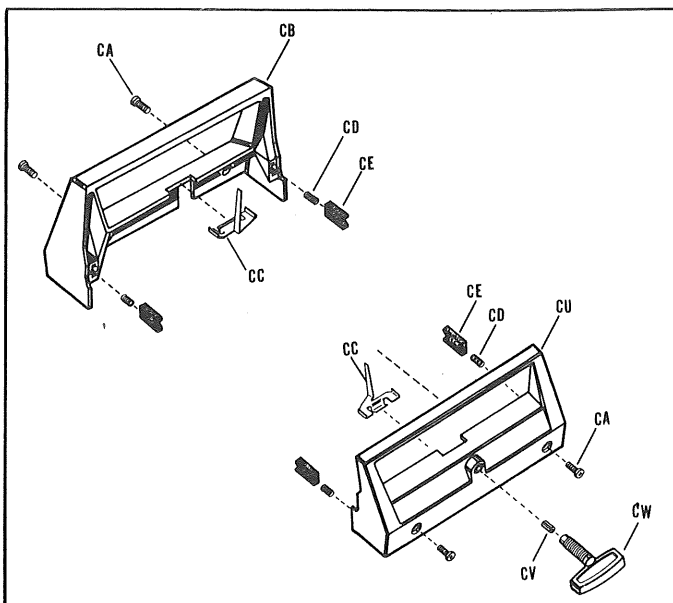


FIG. 37

STEP 14 ASSEMBLING CARRIAGE COVERS

Next the carriage covers are assembled. Slide a pointer (CC) over the center section of each cover from the back so the pointer shows in cover window. Place spring (CD) and track wipers (CE) (felt) in each end of cover. Attach carriage covers to carriage.

Insert track lock pin (CV) into carriage lock (CW) and thread carriage lock into position through right hand carriage cover.

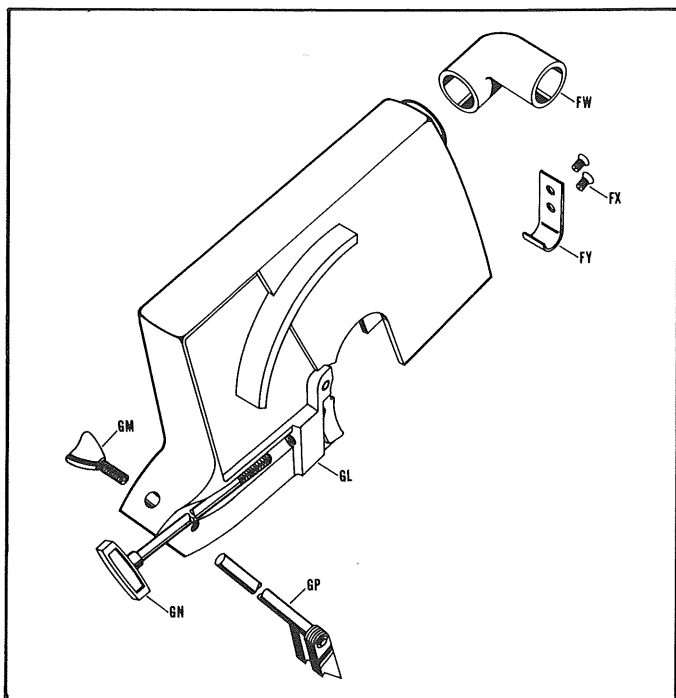


FIG. 38

STEP 15

The blade guard fits in a ring around the saw spindle and is locked in position with the guard lock which threads into the guard. The blade guard should be used at all times when operating the saw.

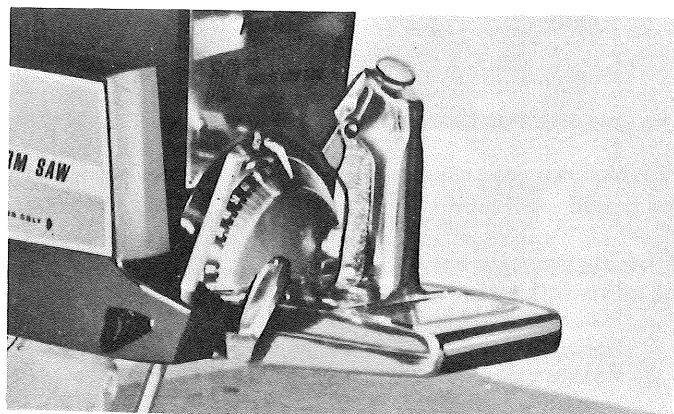


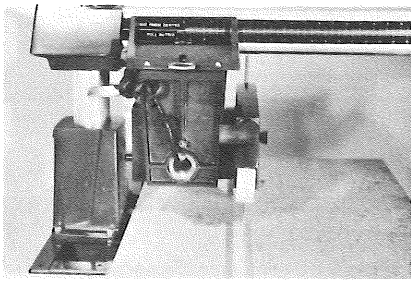
FIG. 39

STEP 16

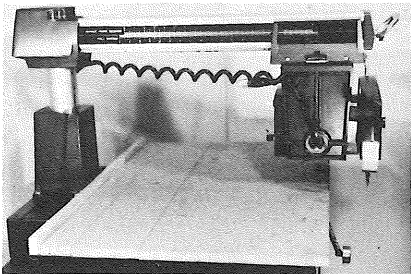
The anti-kickback assembly is slipped into a hole in the blade guard and secured with a plastic knob and stud.

The exhaust tube is slipped into the hole in the blade guard.

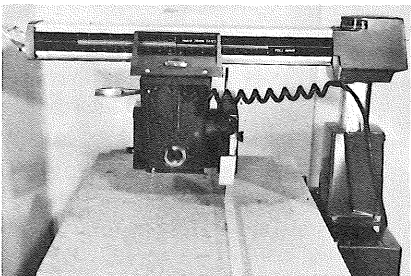
To operate the saw the switch key must be inserted in the handle and held down while the trigger is depressed. The trigger will not operate if the key is not pressed down.



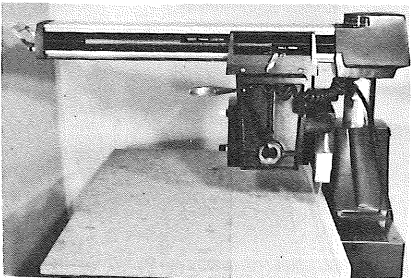
OUTRIP FROM CENTER



FULL OUTRIP



INRIP FROM CENTER



FULL INRIP

FIG. 40

ADJUSTMENT OF RIP SCALE

OUTRIP FROM CENTER

OUTRIP from center of table fence (Position 1) with fence positioned as shown.

Rotate the yoke so that the blade faces away from the column. Move carriage toward the column until the blade touches front of fence. Adjust indicator on left side of arm to zero position at the top of scale.

FULL OUTRIP

Move rip fence to rear position as shown, to obtain maximum outrip.

INRIP FROM CENTER

Position rip fence as shown and rotate the yoke so that the blade faces the column. Move the carriage toward the column until the blade just touches front of fence. Adjust indicator on right side of arm to zero position at the top of scale.

FULL INRIP

Position rip fence as shown and rotate the yoke so that the blade faces the column. Move the carriage toward the column support until blade touches the rip fence and adjust the right indicator at zero on the bottom scale.

IMPORTANT: Lock the yoke during all rip operations with the carriage lock.

ADJUSTING YOKE LOCK

The yoke lock has been adjusted at the factory.

Position the yoke clamp handle so that, when tightened, the handle will almost touch the rear part of the yoke.

If handle does not hold securely in the "LOCK" position, adjust as follows:

1. Rotate motor as shown in picture.
2. Remove screw (DK) from locking plate (DJ).
3. Rotate plate slightly. Replace screw and tighten.

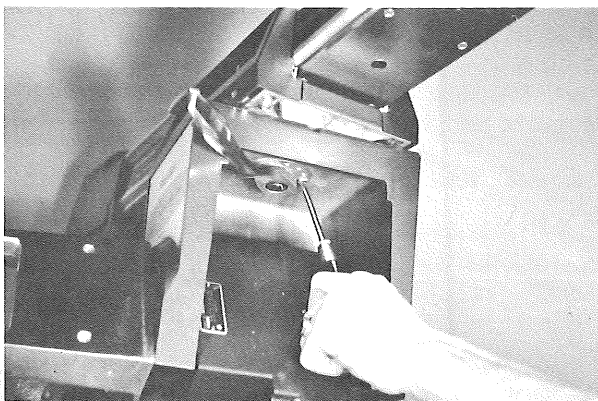


FIG. 41

CHAPTER III PREPARATION OF TABLE

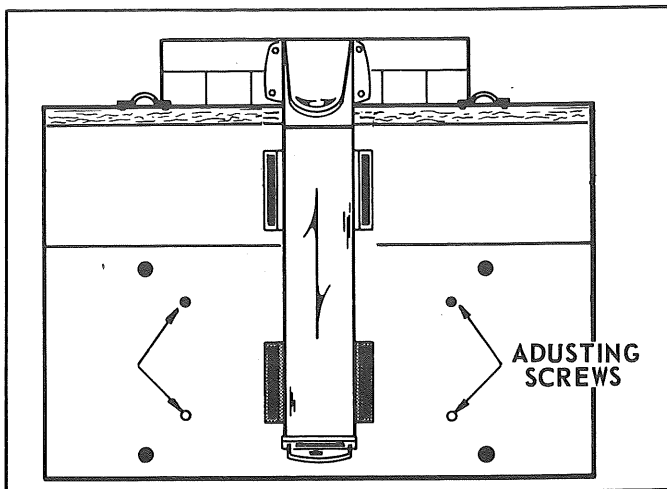


FIG. 42

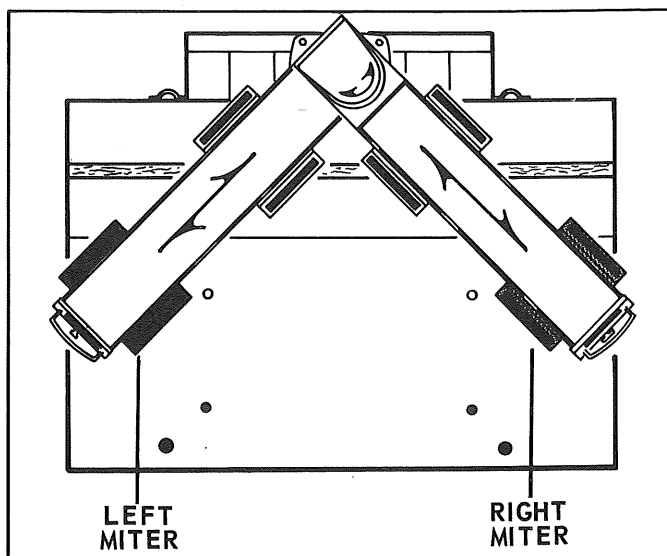


FIG. 43

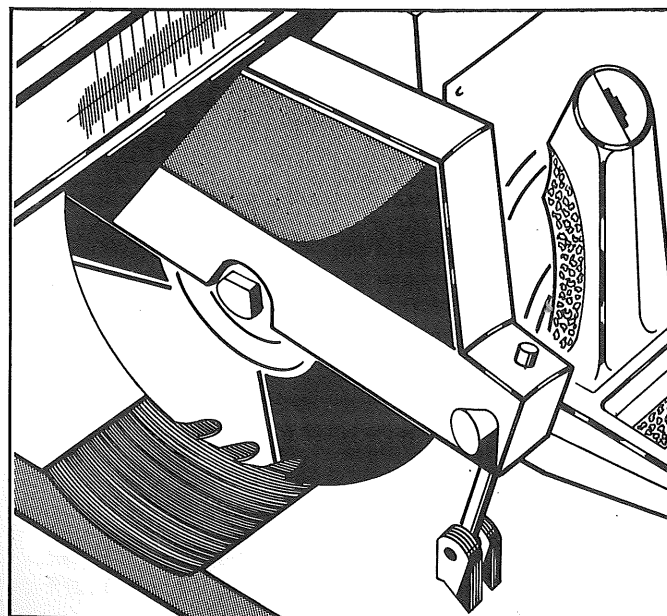


FIG. 44

Operation of the saw requires that the blade extend into the table during most cutting operations. The table, therefore, must be cut prior to use. Certain basic cuts can be made in the table.

AFTER completing the adjustments previously described. The basic cuts are: CROSS CUT, RIGHT AND LEFT MITER and RIPPING.

If desired, the table surface may be covered with 1/4" plywood or masonite to protect it from saw kerfs. The plywood may be secured to the top with brads. Brads should be placed where they will not interfere with normal saw cuts.

The method to be used to prepare the table for these cuts is as follows:

CROSS CUT

Position the lock lever in the yoke so that the blade is at right angles to the fence. Tighten the yoke clamp. Set the arm at 0 degrees on the miter gauge, making certain the column is seated in the detent. Tighten the arm lock. Be sure the bevel scale is set at 0 degrees and the bevel locking clamp is tight. Move the fence adjacent to the large stationary board, with the saw against the rear stop. Lower the saw until the blade just clears the table. Turn on the saw and with saw running, slowly lower the arm until the blade is about an eighth of an inch into the table. Then pull the saw to the front stop.

RIGHT MITER

Move arm to 45 degree miter setting, with saw against rear stop and tighten arm lock. Lower saw until the blade just clears the table. Turn on the saw and lower it until the blade is about one eighth of an inch into the table and pull the saw to the front stop.

LEFT MITER

Move arm to 45 degrees left miter setting, then proceed as outlined in cutting the right miter. CAUTION: Do not move saw against column base. The table clamp bracket will interfere and hit the saw blade.

RIPPING

Return the saw to the cross cut position against the front stop and tighten the arm lock. Raise the arm so the blade clears the table. Position the yoke index in the carriage so that the blade is parallel to the rip fence (fence adjacent to column), and the motor is between the blade and the column. Loosen the bevel lock and rotate the blade downward about ten degrees, and tighten the bevel lock. Position the arm so that the blade extends approximately one eighth of an inch below the top of the table. Turn on the motor and with the motor running, slowly push the saw until the carriage is against the rear stop. Turn off the motor. This will cut a trough in the large stationary board. To complete the rip trough for the full width of the table, it will be necessary to reverse the position of the saw blade. This is accomplished by first pulling the saw to the front stop, then loosen the yoke index and yoke lock and rotate the yoke and motor 180 degrees so that the blade is between the column and the motor. Lock yoke index and yoke lock. Turn motor on and lower until blade cuts approximately 1/8" into table. With the motor running, slowly push the saw against the rear stop. This trough will be offset from front trough.

CHAPTER IV OPERATING INSTRUCTIONS

OPERATING INSTRUCTIONS

It is most important to take the time to become completely familiar with all of the controls, their function and operation of your new radial arm saw. Make sure all the assembly and adjustment instructions have been followed and completed before operating the saw.

Because of the versatility of this radial arm saw, you should get into the practice of planning your work in advance before operating the saw. Similar cuts should be made at the same time to avoid frequent resetting.

Make sure that the saw blade and cutting tools are sharp. Do not force or twist work. A major and often overlooked cause of poor cutting is a dull tool. For extremely fine wood finishing and very close cuts, it is a good practice to use a smaller diameter, hollow ground blade. For precise cutting or for repeated use in special cutting the radial arm saw will perform better with a special blade. A variety of blades for special applications are available thru your nearest Wards Retail, Catalog Store or Catalog House.

Remember "Safety First". The saw can be operated with confidence if basic safety rules are followed. Refer to page (4) "Safety Precautions".

ACCURATE INDEXING

When operating the saw, you should acquire the habit of indexing the machine in one direction only whenever a new setting is made in preparation for a different cut.

The detents at 0° and 45° right and left are provided for quick automatic settings. To assure accuracy always move arm to the right of the detent position then bring the arm back slowly to the left until the index pin engages the detent and the arm comes to a complete stop. Apply slight pressure to the left and apply brake.

The brake action should feel tight and secure whereas you must push on the handle solidly with the palm of the hand. If loose, adjust the arm lock adjusting wheel as outlined in step 8, Page 10.

SAFETY SWITCH

To operate, as a safety feature, the red plastic switch key must be inserted in top of handgrip handle and pressed down before trigger switch will operate. Switch is also equipped with a holding button to lock in "on" position for ripping and similar operations.

As a safety precaution, always remove switch key when saw is not being used.

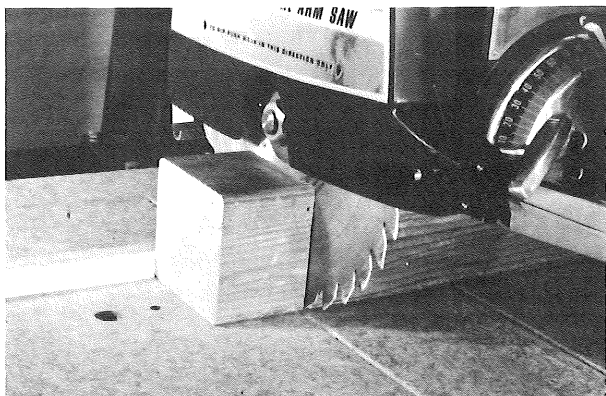


FIG. 45
CROSS CUTTING OR 90° CUTOFF

NOTE: Chips or other debris between the fence and the work will interfere with the accuracy of the cut.

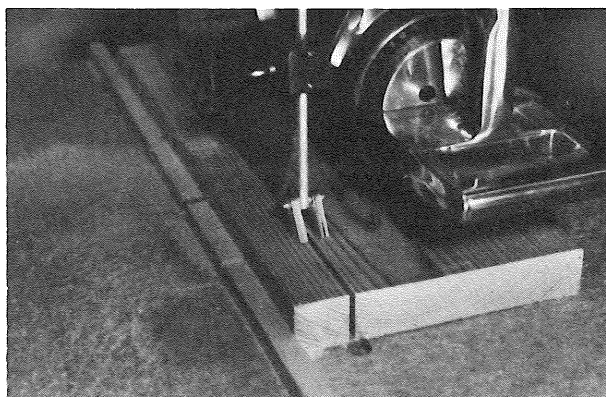


FIG. 46
RIPPING-INBOARD

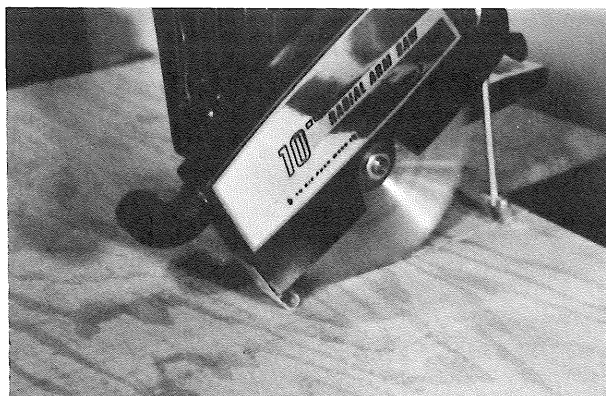


FIG. 47
RIPPING-OUTBOARD

CROSS CUTTING OR 90° CUTOFF

Position the yoke index in the carriage so that the blade is at right angles to the fence. Tighten the yoke lock. Set the arm at 0 degrees on the miter scale, making certain the column is seated in the detent. **TIGHTEN THE ARM LOCK.** Be sure the bevel scale is set at 0 degrees and the bevel lock is tight. Lower the arm until the saw blade just clears the bottom of the 90 degrees cut-off groove.

NOTE: SEE "ACCURATE INDEXING" ON PAGE 18.

Push the saw to its rear stop. With the material against the fence, line up the cut-off mark on the workpiece with the saw blade. The saw should then be **PULLED** at a controlled rate through the work. Return the saw to its rear stop before removing the workpiece.

RIPPING - INBOARD AND OUTBOARD

Basically, inboard and outboard ripping are the same except for the position of the blade. For inboard ripping, the blade is between the motor and the column. For outboard ripping, the motor is between the blade and the column. The position selected should be the one which gives maximum wood support during the ripping operation. Position the yoke index in the carriage so that the blade just clears the bottom of the rip trough previously prepared. The blade guard should be rotated so that it is one eighth to one quarter of an inch above the wood, and then secured. Lower the anti-kickback so that the pawls are one eighth of an inch below the top of the wood to be cut, and secure its knob. The wood is fed into the blade, using the fence as a guide to keep the work true to the blade.

CAUTION: WORK MUST BE FED INTO THE BLADE FROM OPPOSITE THE ANTI-KICKBACK FOOT SIDE ONLY. NEVER FEED FROM THE OTHER SIDE BECAUSE THE DIRECTION OF BLADE ROTATION WILL TEND TO FORCE THE BLADE TO CLIMB UP THE WORK.

On long cuts in large pieces of wood, the work off the table should be supported so as not to bind the blade. Always use a push stick for ripping narrow pieces.

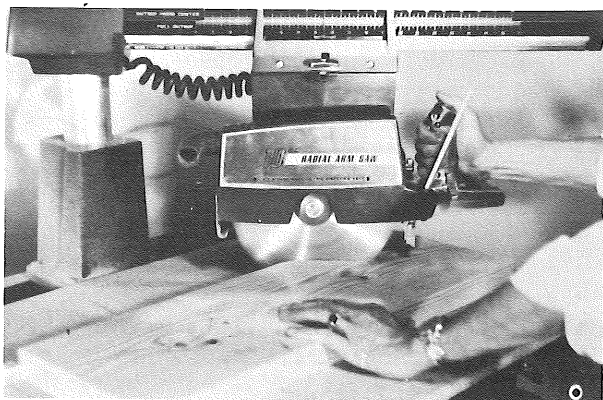


FIG. 48

MITERING



FIG. 49

BEVELING

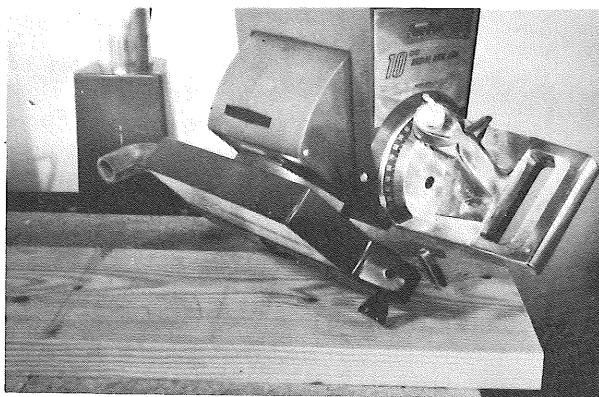


FIG. 50

BEVEL-MITERING

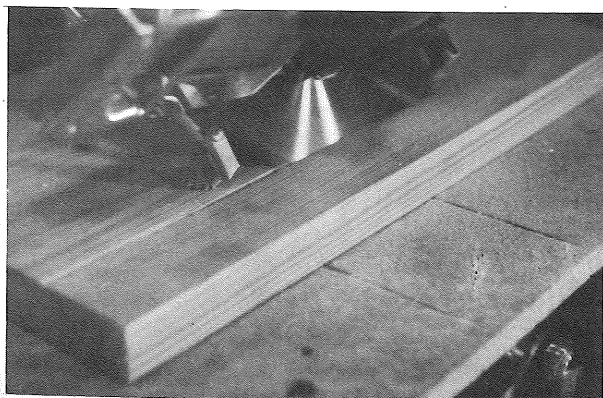


FIG. 51

BEVEL-RIPCUTTING

MITERING

Mitering is performed in the same manner as a 90 degree cut off. The saw should be pushed to its rear stop. Release arm lock and push arm to the desired angle, then retighten lock. The saw should then be pulled at a controlled rate through the work. Return the saw to its rear stop before removing the workpiece. NOTE: There are detents to locate the 45 degree right and left miter cuts. When using these positions, be sure column is seated in detent.

NOTE: SEE "ACCURATE INDEXING" ON PAGE 18.

When cutting miters, there might be a tendency for the work to creep along the fence, spoiling its accuracy. If this occurs, strips of coarse sandpaper can be glued to one side of the fence. Use this side against the work for all operations except ripping.

For in-between miter angles, it will be necessary to adjust arm height and to make a cutting groove.

CAUTION: When using the left 45° miter do not move saw against column base. The table clamp bracket will interfere and hit the saw blade.

BEVELING

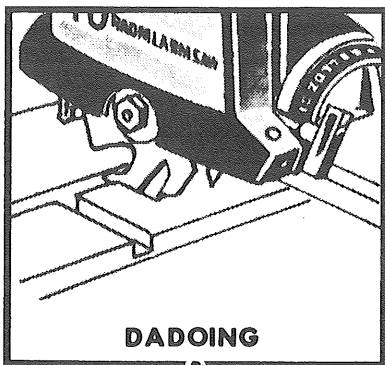
Bevel cuts are made exactly like cross cuts except for the blade angle. Pull the saw to the end of the track, then loosen the bevel lock and rotate the motor housing to set the desired angle on the bevel scale. Retighten the bevel lock. Detent stops are provided at 90, 45, 0, 45, 90. Pre-cut groove per instructions outlined in table preparation. With clamp against rear stop, place work against the fence and proceed as in crosscutting.

BEVEL-MITERING

Bevel-mitering, or Compound Angles are also easy to perform. Set the saw blade at the desired bevel angle, then set the miter angle. Precut groove if necessary. Pull the saw through the work at a controlled rate as in all cross cuts.

BEVEL - RIP CUTTING

Bevel rip cutting is basically performed the same as rip cutting. With the yoke set for ripping, the blade is then set at an angle as in bevel crosscutting. Proceed as in rip cutting.



DADOING

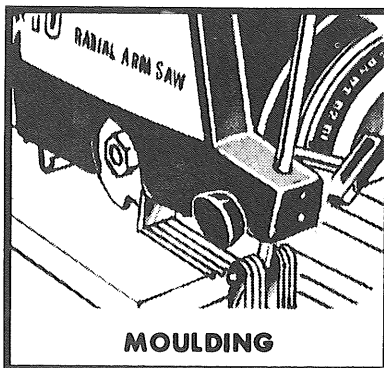
The Dado blade is put on the regular saw spindle. It is important that the dado blade be assembled with the inner chippers positioned between side blade teeth as much as possible in a balanced arrangement.

The upper guard should be on while using the Dado blade.

The width of the dado is determined by the number and width of the side blades and chippers assembled on the spindle. The depth of the dado is obtained by adjusting the height of the arm with respect to the work, to give the desired depth.

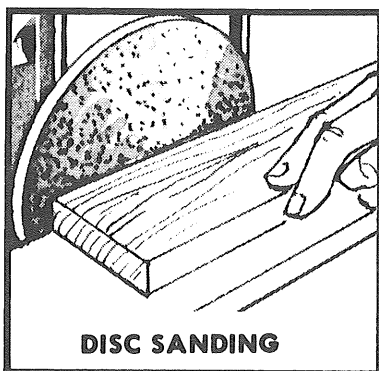
The dado can perform all of the operations that the regular cutting blade is capable of doing.

Either a 6" or 8" Dado Set is recommended for use with the Radial Saw. The "wobble" type may also be used.



MOLDING CUTTER HEADS

Molding heads with various shapes of cutters are available to fit this saw. They are mounted on the saw spindle shaft and the upper guard should be left in place as a safety precaution. The same rules apply for direction of feed as in ripping. For edgemolding, the rip fence should be prepared by cutting a notch from the center of the fence. The, with the motor in the vertical position, various edge moldings can be done. The molding cutters should be adjusted so that approximately one eighth inch of material is being removed at a time, until full depth is obtained.

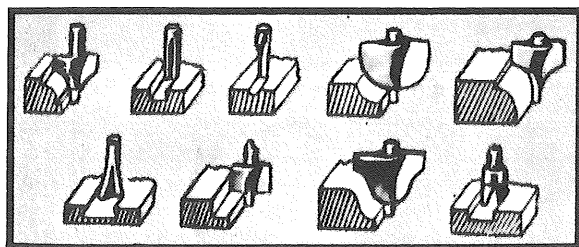


DISC SANDING

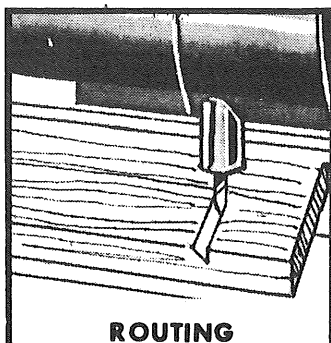
The disc sander is normally mounted on the saw spindle and the upper guard may be left in place for most operations. For short edges, such as cross cut, the sanding disc can be used in the same manner as the saw blade. This also applies to bevel cuts.

For accurate long edge sanding, the rip fence should be prepared by mounting the disc sander and putting the saw in the outboard rip position. Lower the arm into the rip trough and with the fence in the full forward position, feed the sanding disc into the fence until about $1/32"$ of the disc protrudes. The rip fence can then be used as a guide for sanding the long edges of the work piece.

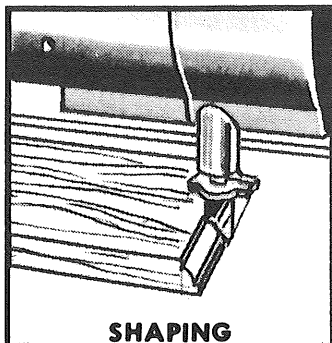
Face sanding can be done with the motor housing mounted in the vertical position. Care should be taken to feed the work against rotation of the disc sander so that it does not have the tendency to pull the work away from the operator.



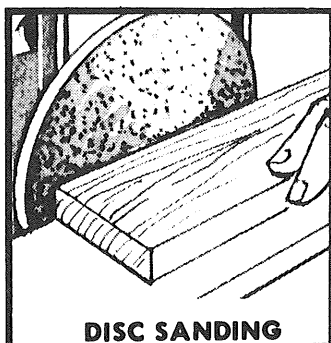
ROUTER BITS



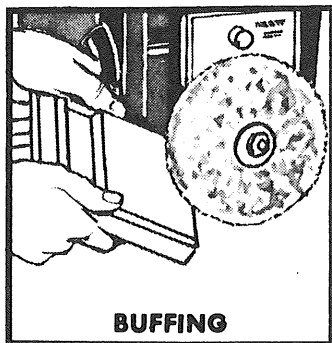
ROUTING



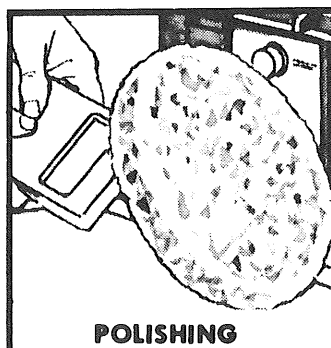
SHAPING



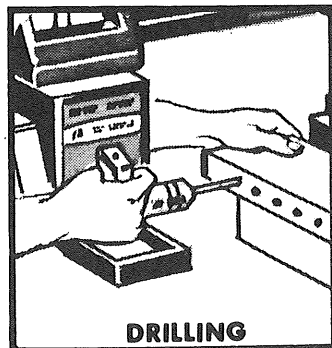
DISC SANDING



BUFFING



POLISHING



DRILLING

AUXILIARY SPINDLES

This saw is equipped with two auxiliary spindles. They operate at 3,450 and 20,000 RPM to give maximum flexibility with attachments. Speeds and direction of rotation are shown on the spindle plate. Each of these spindles is intended for the use of certain accessories. The 20,000 RPM spindle has a 15/32"-20 thread, and the 3,450 has a 1/2"-20 thread. The auxiliary spindles are covered by protective caps. The caps should be kept on when spindles are not being used. The caps are easily removed by twisting 1/4 turn to the right or left.

NOTE: The saw blade should be removed when using auxiliary spindles.

20,000 RPM SPINDLE

The 20,000 RPM spindle is intended for routing and shaping use. Router adapter no. 84-2613 is available from your Wards Store or Catalog. This adapter is used to mount the router bits to the saw. Shaper adapter No. 84-2612 is needed to attach shaper cutter to the saw.

3,450 RPM SPINDLE

This spindle is used for such accessories as drilling, buffing, and drum sanding. Arbor adapter no. 84-2611 is used to attach buffing wheels.

CHAPTER V MAINTENANCE AND SERVICE

TROUBLE CHART

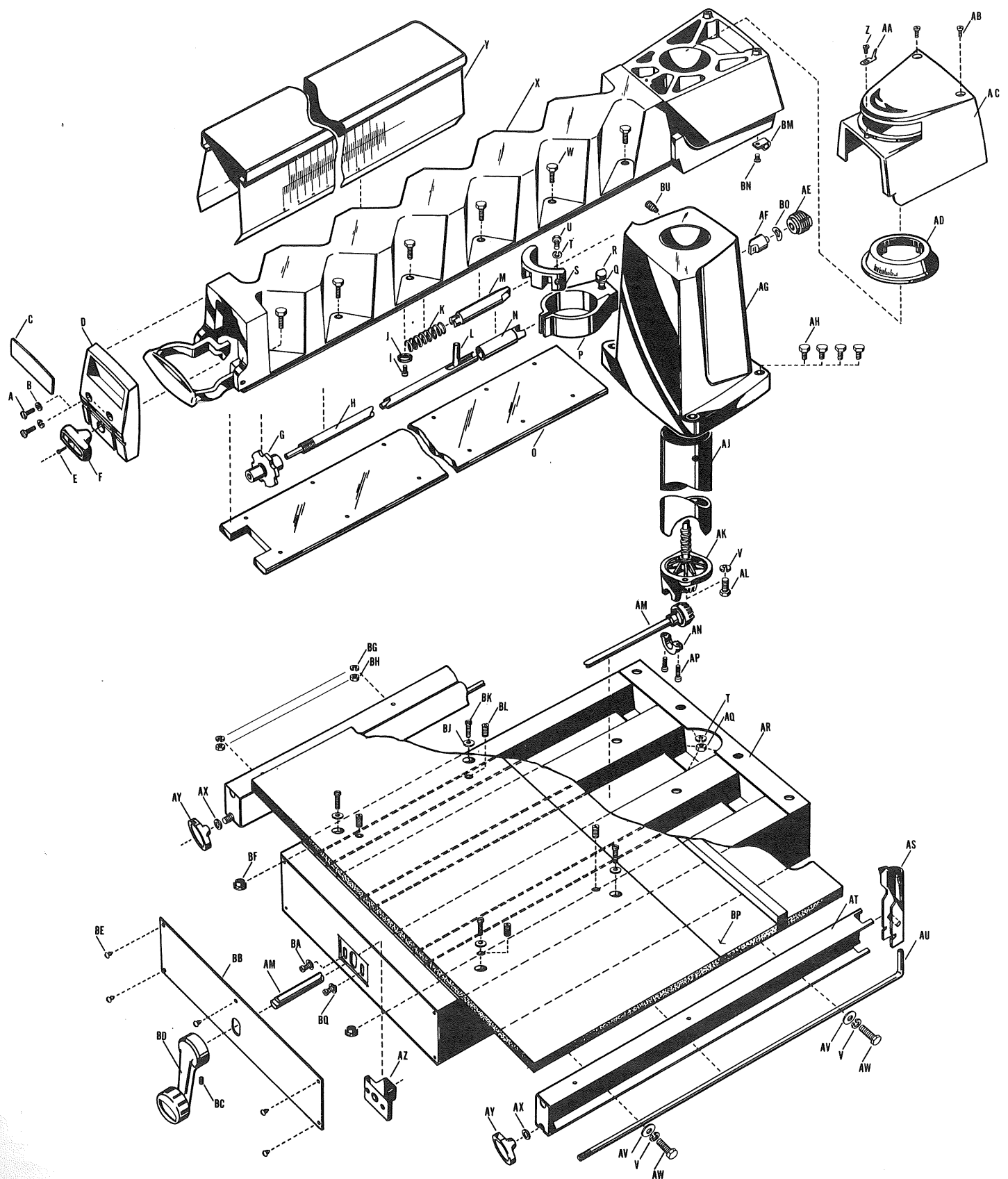
Use this chart for assistance to determine possible cause and correction of any problem you may experience in operating your radial arm saw.

PROBLEM	POSSIBLE CAUSE	CORRECTION
Bevel Index does not hold or is light	Tension Screw not holding	Adjust tension set screw as outlined in section titled, "Bevel Angle Adjustment" on page 13.
45° Bevel off	Bevel angle out of adjustment	Adjust as outlined in section titled, "Bevel Angle Adjustment" on page 13.
	Table not parallel to arm	Adjust table as outlined in section titled, "Squaring the Table" on page 10.
	Bevel scale pointer bent	Set bevel pointer with blade square to table.
Motor and Yoke Assy. loose at one end of track and tight at other end	Carriage bearings out of adjustment	Adjust carriage bearings as outlined in section titled, "Tension of Carriage Bearings" on page 8.
	Track defective	Replace track.
Lumber splinters after 90° cutoff	Saw blade "Heeling"	Check and adjust "Heel" as outlined on page 14.
Blade stalls when cutting lumber	Dull blade	Sharpen or replace blade.
Arm tight, does not move freely from side to side	Arm lock out of adjustment	Refer to arm lock adjustment, page 10 step 8.
Arm has play when locked in position	Arm lock out of adjustment	Refer to page 10 step 8, arm lock adjustment.

PROBLEM	POSSIBLE CAUSE	CORRECTION
Arm has play when locked in position	Column plug is not tight against column	Adjust column plug as outlined in section titled, "Side Movement of Arm - Elevating Crank Tension" on page 10.
Elevating Handle Tight	Column plug not adjusted properly	Adjust column plug as outlined in section titled, "Side Movement of Arm - Elevating Crank Tension" on page 10.
	Elevating gears full of saw dust - lacks lubrication	Clean gears - apply grease.
	Motor and yoke assembly positioned on front of arm	Move motor and yoke assembly back to the rear of the arm (next to column) when raising or lowering for smoother crank movement.
Elevating handle loose	Elevating shaft support (AZ) loose	Tighten shaft support. Turn crank as you tighten screws to be sure shaft is properly aligned.
Saw will not start	Fuse blown	Correct circuit for overloaded condition.
	Wall receptacle broken or wire disconnected	Check wiring and receptacle and repair as necessary. Have power supply corrected.
	Outlet may be controlled by a wall switch in "Off" position	Check switch - make sure it is "on" and operative.
	Red plastic key not inserted properly in key slot	Plastic switch key must be inserted and pressed down before trigger switch will operate.
	Worn brushes	Replace brushes.
	Power cord or extension cord damaged	Replace.
Saw does not cut straight on 90° cutoff	Saw not properly adjusted	It is very important that every adjustment be carried out exactly and completely as outlined in this book particularly "Squaring Saw Blade to Fence"; "Checking Saw Blade for Heel"; and "Tension of Carriage Bearings". Make sure proper saw blade is used and is clean and sharp.

PROBLEM	POSSIBLE CAUSE	CORRECTION
Saw does not cut straight on 90° cutoff (Cont'd.)	Saw not operated properly	Refer to Operating Instructions on page 18.
	Column tube plug (AE) not engaged properly	Refer to section titled, "Side Movement of Arm" on page 10.
	Saw not mounted properly	Saw base must be firmly mounted on solid base.
	Table not square	Refer to "Squaring the Table" on page 10.
	Arm not properly locked	Refer to section "Side Movement of Arm" page 10.
	Carriage bearings out of adjustment	Adjust bearings. See section titled "Tension of Carriage Bearings" on page 8.
	Accumulation of saw dust next to fence	Remove any accumulation of saw dust which will interfere with the accuracy of the cut.
Blade not parallel to fence at rip	Saw "Heeling"	Check and adjust "Heel" as outlined on page 14.
	Accumulation of saw dust next to fence	Remove any accumulation of saw dust which will interfere with the accuracy of the cut.
Blade not square to table at rip	Table not square or warped	Square table - Refer to "Squaring the Table" on page 10. If table is seriously warped it should be replaced.
Burnt or saw teeth marks on wood	Dull blade	Sharpen or replace blade.
	Saw is "Heeling"	Check and adjust "Heel" as outlined on page 14.
	Wood not properly supported and moved while being cut	Provide steady support for work.
	Table not square or warped	Square table as outlined on page 10. If table is seriously warped it should be replaced.
Column and arm "chatter" when raised or lowered	Motor and yoke assembly positioned on front of arm	Move motor and yoke assembly back to the rear of the arm (next to column) when raising or lowering for smoother crank movement.
	Column plug is not tight against column	Adjust column plug as outlined in section titled, "Side Movement of Arm - Elevating Crank Tension" on page 10.

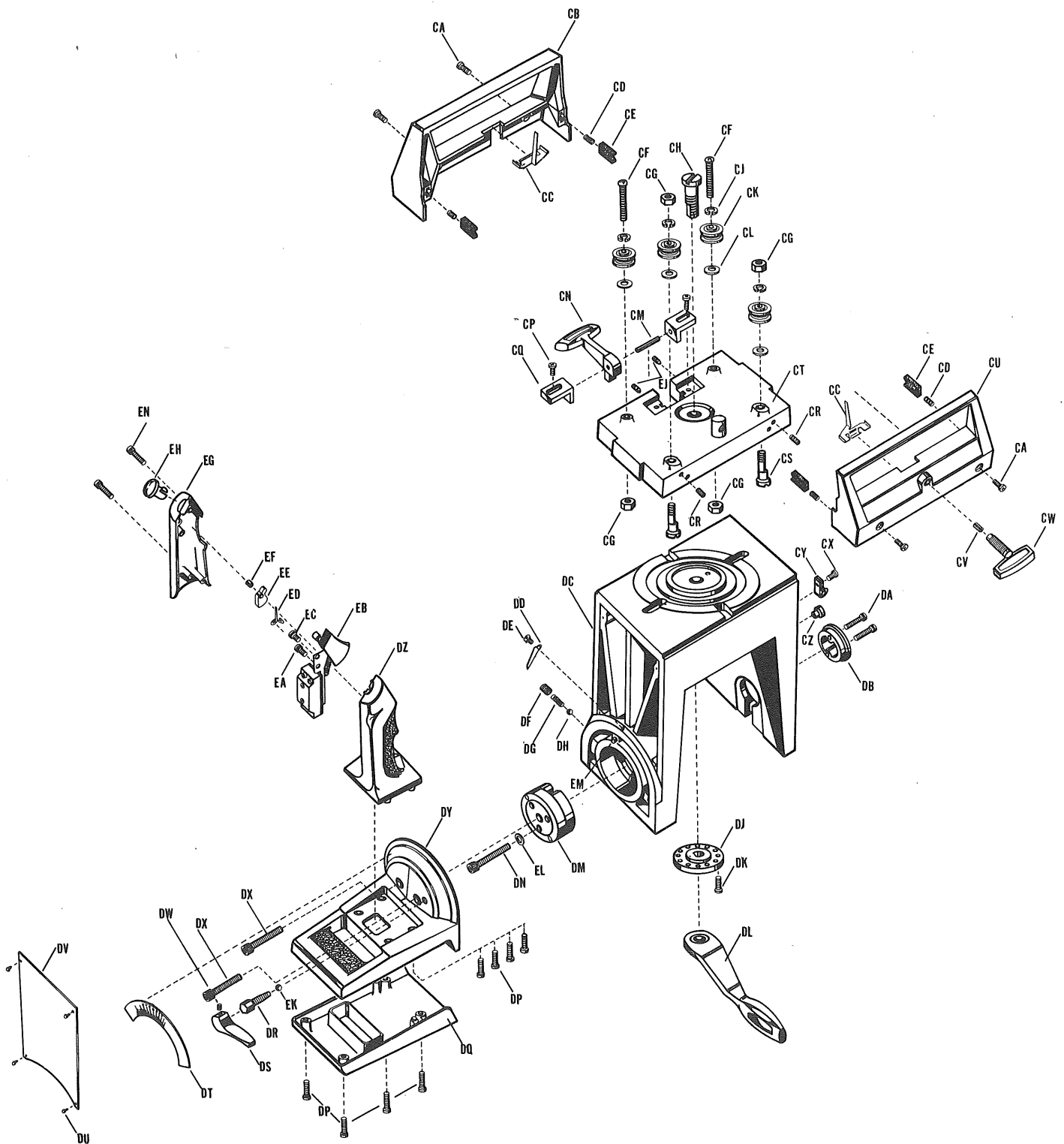
ARM, COLUMN AND BASE ASSEMBLY



ARM, COLUMN AND BASE ASSEMBLY

Ref. Ltr.	Part No.	DESCRIPTION
A	22-764	Screw
B	17-74	Split Lock Washer
C	21-2298	Nameplate
D	6-797	End Cap
E	22-13	Screw, #8-32 UNC-2A X 5/8", Phillips Fillister Head
F	5-813	Knob
G	1-1436	Adjustment Wheel
H	1-1429	Brake Rod
I	22-279	Screw, #10-24 UNC-2A X 3/8", Phillips Fillister Head
J	17-242	Steel Washer
K	27-96	Compression Spring
L	1-1424	Index Rod
M	1-1413	Index Pin Assembly
N	1-1412	Brake Activator
O	43-839	Track
P	6-815	Brake Shoe
Q	17-202	Lock Washer
R	22-746	Shoulder Bolt
S	45-66	Index Collar
T	17-307	Split Lock Washer
U	22-753	Hex Bolt, 3/8-16 UNC-2A X 7/8"
W	22-327	Screw, 5/16-24 UNC-2A X 3/4", Hex Head
X	25-795 BMW	Arm and Handle Assembly
Y	43-849	Arm Cover (Rip Scales)
Z	22-763	Screw, #6-32 UNC-2A X 3/8" Phillips Round Head
AA	43-862R	Pointer
AB	22-440	Screw, #10-24 UNC-2A X 11/16", Phillips Fillister Head
AC	5-796	Arm Hood
AD	44-96	Dial Indicator
AE	1-1409	Column Tube Plug
AF	45-72	Column Tube Key
AG	6-794	Column Support
AH	22-749	Hex Bolt, 3/8-24 UNF-2A X 1"
AJ	1-1435	Column and Pin Assembly
AK	1-1434	Elevating Shaft and Bracket Assembly
AL	22-748	Screw, 5/16-18 UNC-2A X 7/8" Hex Head
AM	1-1441	Elevating Shaft and Gear Assembly
AN	5-792	Bearing Support Cap
AP	22-255	Screw, #10-24 UNC-2A X 3/4", Phillips Fillister Head
AQ	22-38	Hex Nut, 3/8-24 UNF-2B X 21/64"
AR	43-837	Table Base Frame
AS	1-1428	Clamp Assembly
AT	43-838	Channel
AU	1-1445	Fence Lock Rod
AV	17-224	Steel Washer
AW	22-573	Screw, 5/16-18 UNC-2A X 5/8", Hex Head
AX	17-159	Washer
AY	6-812	Knob
AZ	45-61	Elevating Shaft Support
BA	22-357	Screw, #10-32 UNC-2A X 1/2", Phillips Pan Head
BB	21-2299	Nameplate
BC	22-756	Socket Set Screw, 1/4-28 UNF-3A X 1/2"
BD	25-824	Elevating Crank Assembly
BE	1-1427	Clip
BF	1-1446	Tee Nut
BG	17-74	1/4" Split Lock Washer
BH	22-465	Hex Nut, 1/4-20 UNC-2B X 9/32"
BJ	17-323	Steel Washer
BK	22-750	Screw, 1/4-20 UNC-2A X 7/8", Slotted Pan Head
BL	22-751	Slotted Set Screw, 1/4-20 UNC-2A X 5/8"
BM	1-936	Cable Clamp
BN	22-174	Screw, #10-24 UNC-2A X 3/8", Slotted Round Head
BO	27-132	Belleville Spring
BP	1-1438A	Main Table Board
	1-1438B	5 5/8" Wide Board
	1-1438C	2 15/15" Wide Board
	1-1438D	Fence
BQ	28-144	Bumper Pad
BR	6-809MS	Index Lock Handle
BS	2-177	Pin
BT	17-181	Washer
BU	22-788	Set Screw, Special

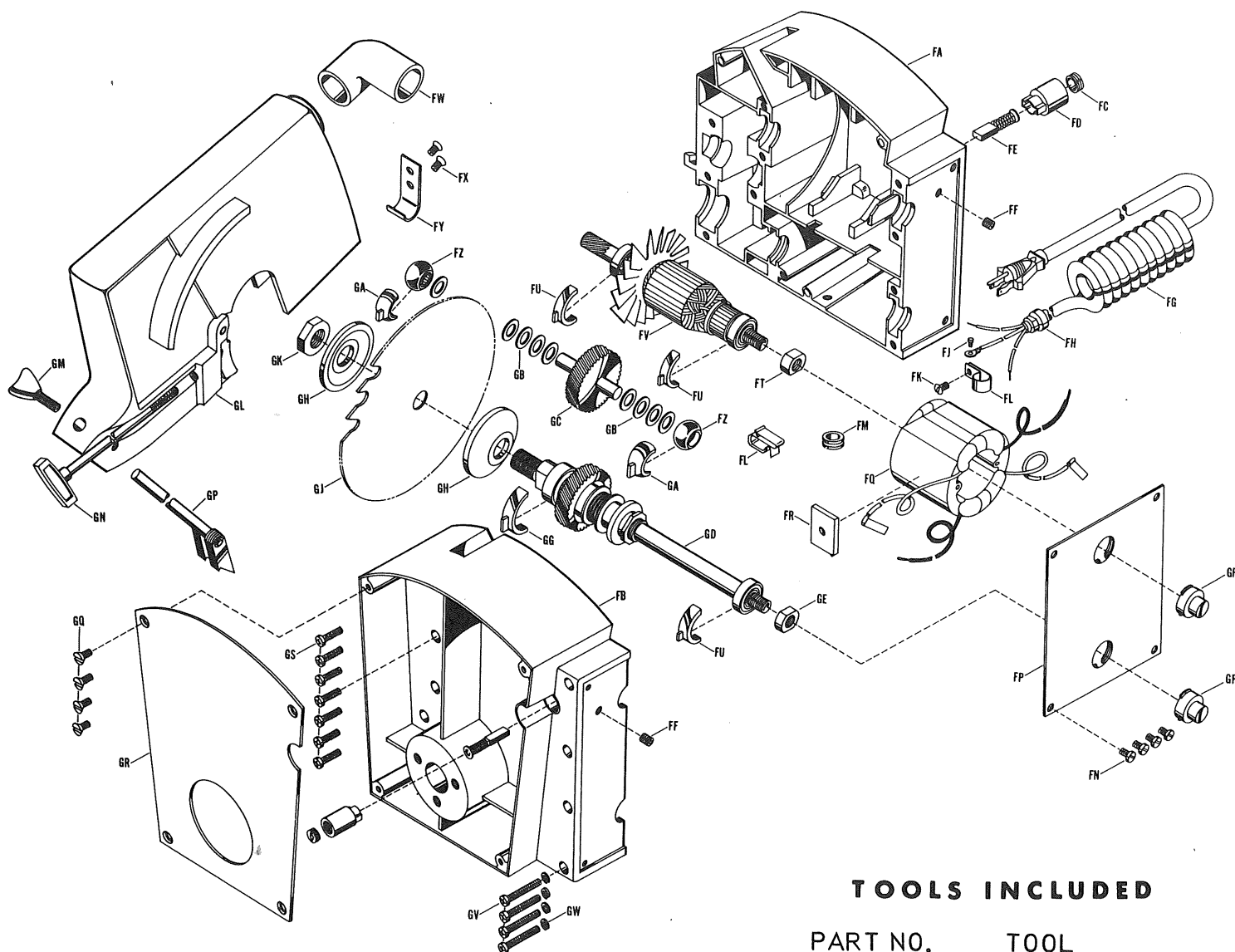
YOKE ASSEMBLY



YOKE ASSEMBLY

Ref. Ltr.	Part No.	DESCRIPTION
CA	22-754	Screw, #10-32 UNF-2A X 1/2", Phillips Oval Head
CB	5-799	Carriage Cover (Left Hand)
CC	43-861R	Pointer
CD	27-86	Spring
CE	1-1404	Track Wiper
CF	22-361	Machine Screw, Special
CG	22-394	Hex Nut, 5/16-18 UNC-2B X 17/64"
CH	22-747	Pivot Bolt
CJ	17-277	Lock Washer
CK	10-59	Track Bearing
CL	17-323	Flat Washer
CM	1-1421	Dowel Pin
CN	6-811	Yoke Lock
CP	22-357	Screw, #10-32 UNF-2A X 1/2", Phillips Pan Head
CQ	45-65	Yoke Index Bracket
CR	22-210	Socket Set Screw, #10-32 UNF-3A X 1/4"
CS	1-1410	Eccentric Screw
CT	25-800	Carriage Assembly
CU	5-798	Carriage Cover (Right Hand)
CV	1-1420	Track Lock Pin
CW	25-817	Carriage Lock
CX	22-260	Screw, #10-24 UNC-2A X 3/8", Phillips Round Head
CY	1-936	Cable Clamp
CZ	28-126	Rubber Bumper
DA	22-1	Screw, #10-24 UNC-2A X 1", Phillips Fillister Head
DB	45-60	Motor Pivot
DC	6-801	Yoke
DD	43-860R	Pointer
DE	22-768	Screw, #6-32 UNC-2A X 1/4", Phillips Pan Head
DF	22-557	Slotted Set Screw, 7/16-20 UNF-2A X 1/2"
DG	27-133	Spring
DH	10-61	Ball
DJ	45-58	Index Plate
DK	22-548	Screw, #10-24 UNC-2A X 5/8" Slotted Binding Head
DL	25-810	Yoke Locking Handle
DM	1-1437	Motor Pivot
DN	22-759	Socket Head Cap Screw, 5/16-18 UNC-3A X 2 1/4"
DP	22-13	Machine Screw
DQ	5-803	Index Handle Cover
DR	1-1418	Index Screw
DS	6-816	Motor Lock Lever
DT	21-2301	Index Handle Scale
DU	22-341	Self - Tapping Screw
DV	21-2898	Cover Plate
DW	22-140	Socket Set Screw #8-32 UNC-3A X 3/16"
DX	22-752	Socket Head Cap Screw, 5/16-18 UNC-3A X 2 1/2"
DY	6-802	Index Handle Support Half
DZ	6-804	Switch Handle Support Half
EA	22-436	Screw, #8-32 UNC-2A X 1/4", Slotted Round Head
EB	18-205	Trigger Switch
EC	17-75	#8 Lock Washer
ED	27-95	Torsion Spring
EE	45-59	Lock Cam
EF	2-222	Lock Cam Shaft
EG	6-805	Switch Handle Cover
EH	44-95	Key
EJ	22-758	Socket Set Screw, #8-32 UNC-3A X 1/2"
EK	10-60	Ball
EL	17-284	Lock Washer
EM	1-1405	Pin
EN	22-416	Screw, #8-32 UNC-2A X 1/2", Phillips Pan Head

MOTOR ASSEMBLY



TOOLS INCLUDED

PART NO.	TOOL
4-115	Allen Wrench (.250 Across Flats)
4-23	Allen Wrench (.094 Across Flats)
WR-11	Open End Wrench 3/4", 1"
WR-13	Open End Wrench 5/8", 3/4", 15/16"
4-17	Allen Wrench (.125 Across Flats)
4-113	Allen Wrench (.078 Across Flats)

MOTOR ASSEMBLY

Ref. Ltr.	Part No.	DESCRIPTION
FA	6-807 BMW	Support Half
FB	6-808 BMW	Cover Half
FC	14-57	Brushholder Cap
FD	14-56	Brush Holder
FE	14-58	Brush and Spring
FF	22-481	Socket Set Screw, #10-24, UNC-3A X 1/4"
FG	11-162	Cord Set
FH	11-93	Strain Relief
FJ	22-594	Screw, #6-32 UNC-2A X 5/16", Phillips Pan Head
FL	43-449	Cable Clamp
FM	28-6	Rubber Grommet
FN	22-122	Screw, #6-32 UNC-2A X 1/4", Slotted Binding Head
FP	21-2879	Nameplate
FQ	8-152	Field Assembly
FR	28-91	Rubber Pad
FS	44-68	Protective Cap
FT	1-1431	Nut, Special
FU	28-115	Bearing Cap
FV	7-208	Armature Assembly (includes one #10-67 and one #10-68 Ball Bearings)
FW	28-124	Exhaust Tube
FX	22-537	Screw, #10-24 UNC-2A X 1/2", Slotted Flat Head
FY	43-365	Bracket
FZ	1-1439	Bearing Assembly
GA	28-84	Bearing Cap
GB	17-325	Steel Washer
GC	1-1440	Intermediate Gear
GD	1-1444	Spindle Shaft Assembly (includes one #10-22 and one #10-67 Ball Bearings)
GE	1-1403	Nut, Special
GF	44-231	Protective Cap
GG	28-116	Bearing Cap
GH	17-272	Blade Washer
GJ	CS-131	Blade
GK	22-550	Blade Nut
GL	25-806 BMW	Upper Guard Assembly
GM	1-986B	Knob
GN	25-827	Guard Lock Screw
GP	25-362	Anti-Kickback Rod Assembly
GQ	22-660	Screw, #6-32 UNC-2A X 1/4", Slotted Flat Head
GR	43-851	End Plate
GS	22-697	Screw, #10-32 UNF-2A X 1", Phillips Pan Head
GV	22-629	Screw, #10-32 UNF-2A X 2", Phillips Pan Head
GW	17-4	#10 Lock Washer
GX	28-145	Bearing Cap
Not Shown	11-73B	Adapter Plug

MAINTENANCE

LUBRICATION

The bearings and gears of this saw are properly lubricated at the factory. After extended use old grease should be flushed out and refilled. It is recommended that this be done by a qualified service man.

The elevating shaft and gear should be lubricated periodically by coating the gears with a good grade of grease.

NOTE: The arm track must not be lubricated. Keep the track clean by wiping it with a clean dry cloth.

BRUSHES

The motor brushes should be checked regularly and if worn to approximately 1/4" in length, should be replaced. Brushes are accessible by unscrewing the plastic brush caps in the motor, and removing the spring and brush assembly.

CARE OF SAW BLADE

A saw blade must be kept sharp to perform well. Indications of dullness are rounded tips on the teeth and the accumulation of hard gum on the blade. Blades in this condition have insufficient set in the teeth for proper clearance and cut poorly. The blade rubs and binds and thus heats and cracks. Blades which fail because of improper sharpening are not defective and are not covered by warranty. Worn blades should be replaced or sharpened to prevent damage to saw. A variety of blades and accessories are available at your nearest Wards Retail Store, Catalog Store or Catalog House.



The merchandise you have purchased from us has been carefully engineered and manufactured under Wards rigid quality standards and should give you satisfactory and dependable operation. However, like all mechanical merchandise, it may occasionally require adjustment or maintenance. Should you ever need technical assistance, please contact or write your nearest Wards Retail Store, Catalog Store or Catalog House.

provide the following:

1. Model, serial number and all of the other data shown on the model plate.
2. The date and the Wards branch from which you purchased your merchandise.
3. State briefly the trouble you are having.

HOW TO OBTAIN REPLACEMENT PARTS



Replacement Parts may be obtained from your Wards Retail Store, Catalog Store or Catalog House and will be made available at current prices. If requested, prices will be quoted in advance when not listed.

When requesting replacement parts, be sure to give the model and serial number which is shown on the model plate. Also give the part number and the name of the part as shown in the parts list.

If you order by mail, you will pay the transportation charges from the shipping point.