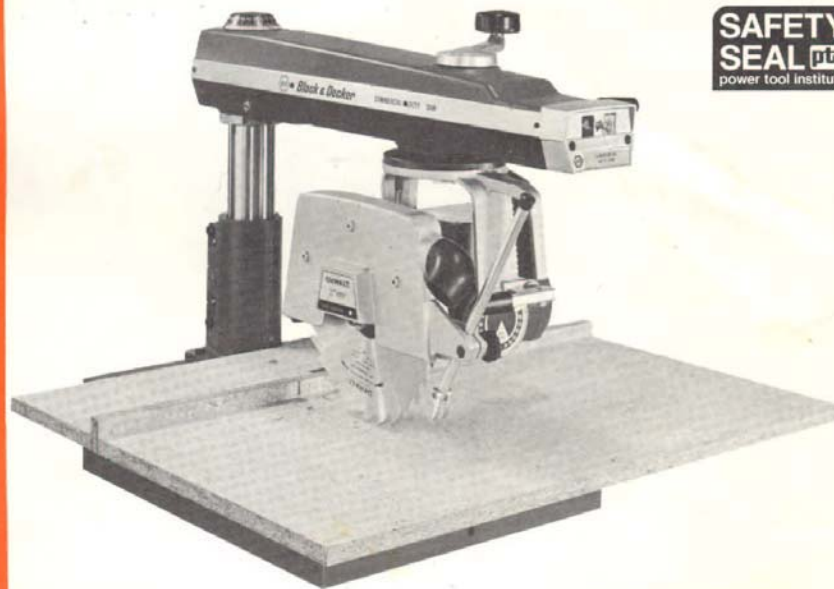


# DEWALT®

## instruction maintenance and parts



*Black & Decker*

This booklet is provided for your convenience in the use and care of your new DeWalt Saw. These instructions include operation, safety precautions, preventive maintenance, maintenance and other pertinent data to assist you in assuring long life and dependable service from your saw.

### 10" RADIAL ARM SAW

NO. 7770/3427

TYPE 3

Bulletin No. 2878-1

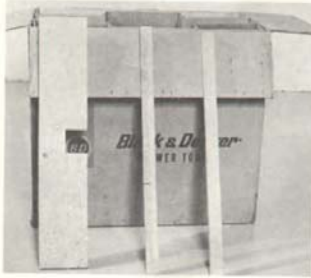
## 10" RADIAL ARM SAWS

MODEL NO.		VOLTAGE			MODEL NO.		VOLTAGE		
7770/3427	Type 3	120/208-240V	60 cy.	1 ph.	7770-06	Type 3	120/240V	50/60 cy.	1 ph.
7770-01/3427-01	Type 3	120/230-250V	50 cy.	1 ph.	7770-07/3427-07	Type 3	120/240V	50/60 cy.	1 ph.
7770-03	Type 3	120/220-240V	50 cy.	1 ph.	7770-09/3427-09	Type 3	120/220-240V	50 cy.	1 ph.
7770-04	Type 3	120/230-250V	50 cy.	1 ph.					

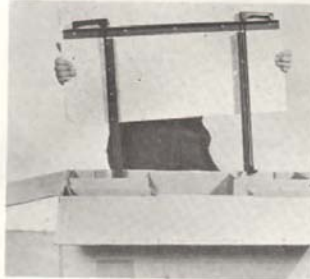
### UNPACKING AND SET-UP INSTRUCTIONS

... you can easily and safely set up your DeWalt "Power Shop," America's most popular power tool. Handling is minimized because every machine is assembled and job-tested at the factory, then partially knocked down for shipment to you. The only tools required are the wrenches furnished with the machine and a screw driver from your tool box.

So that your new "Power Shop" may be placed in operation just as soon as assembled, all electrical connections have been made at the factory to operate on 120V single phase power supply. For 240V single phase, see connection diagram on page 18. Just follow this easy step-by-step procedure in setting up your new "Power Shop"!



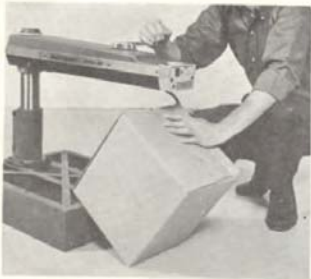
1. Take out guide strip and two table top spacer boards.



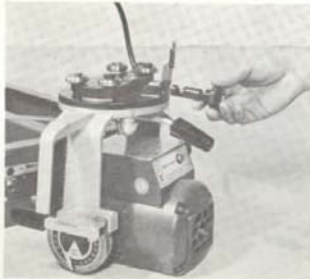
2. Remove table top assembly with two metal cleats attached.



3. Remove guard box, tip carton on end and remove machine.



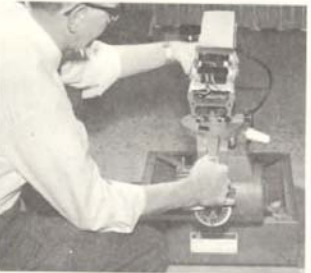
4. Raise arm assembly to free carton containing motor by turning elevating handle counter-clockwise. Remove motor from box.



5. Insert slug and short threaded knob into Rip Lock and install into Roller Head as shown.



6. Remove two screws from arm endcap, wipe arm tracks with clean cloth.



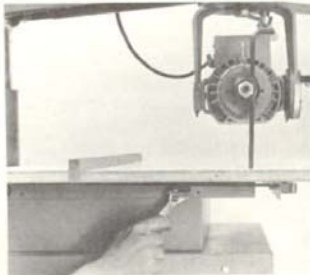
7. Insert motor assembly in arm. Be careful not to damage pointers on right side of assembly. Replace endcap.



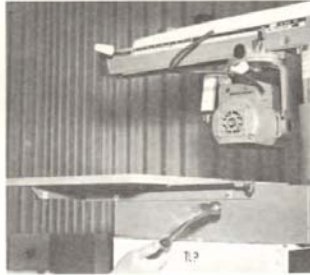
8. Loosen pointer screws, adjust both pointers to up-right position and tighten screws.



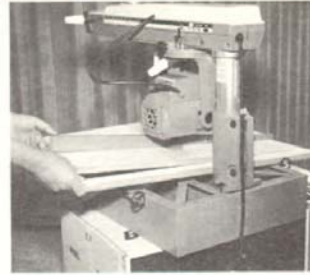
9. Fit table top assembly to machine frame so that the four drilled holes (circled in white) match.



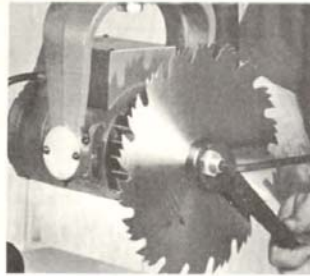
10. Insert 4 square bolts from inside of frame through table cleats. Attach flat washers, lockwashers and nuts loosely at this point. Tighten nuts after step 12.



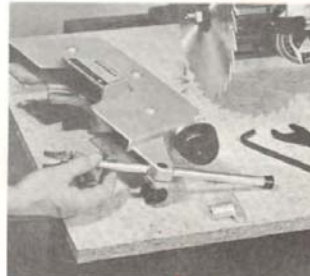
11. Align table top assembly to frame by inserting four roll pins in matching holes. This will assure original factory alignment.



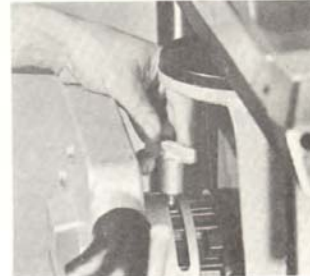
12. Assemble guide fence and spacer boards, secure with locking clamps at front of table.



13. Place saw blade between collars, (recessed side against blade). Tighten arbor nut using both wrenches.



14. Assemble guard kickback, sawdust exhaust elbow and kickback cap. See page 22 for details of guard assembly.



15. Enclose blade with guard and lock in place with wing nut. Insert key in arm end cap. Place switch in OFF position.

## 16. CONNECTING TO POWER AND GROUNDING

Your tool has a grounding system to protect you from electric shock if some damage should occur to the wiring of the tool. This system utilizes the tool's approved 3-conductor power cord and 3-prong grounding type attachment plug, which should be used with the proper grounding type receptacle, in accordance with the National Electric Code, Canadian Electrical Code, and Underwriters' Laboratories specifications.

If your unit requires less than 150 volts, it has a plug that looks like Fig. "A". It will fit directly into the proper type of 3-wire grounding receptacle. The unit is then grounded automatically each time it is plugged in.

Shown in Fig. "B" is a special grounding adapter (not allowed in Canada by the Canadian Electrical Code) which is available

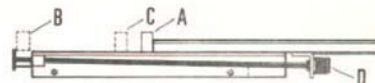
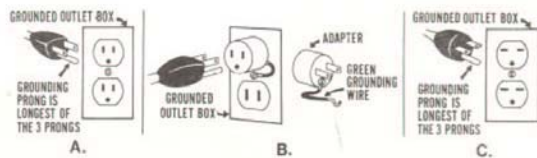
from your dealer and will permit using a 2-wire receptacle. The green grounding wire extending from the side of the adapter must be connected to a **Permanent Ground**.

We recommend that you NEVER disassemble the tool or try to do any rewiring in the electrical system. Any such repairs should be performed only by B&D Service Centers or other qualified service organizations. Should you be determined to make a repair yourself, remember that the green colored wire is the "grounding" wire. Never connect this green wire to a "live" terminal. If you replace the plug on the power cord, be sure to connect the green wire only to the grounding (longest) prong on a 3-prong plug.

The use of a separate 15 ampere circuit is recommended.

### IMPORTANT

1. Securely fasten the table to the Accessory Cabinet, Leg Stand or a sturdy work bench using the holes provided in the table frame. To prevent forward creeping of the saw carriage, tilt the saw backward by shimming under the front of table frame or front legs if so equipped.
2. Refer to "Safety, Controls and Alignment Procedures" on following pages before making any cuts.
3. Before using machine, place guide fence in position (A) for normal operations. For maximum cutoff work, place guide fence in position (C) and for ripping wide panels, use guide fence in position (B). To locate guide fence where needed, simply release locking clamps (D) . . . lift fence . . . position it . . . and reclamp.



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## SAFETY RULES FOR STATIONARY POWER TOOLS

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. AVOID DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations. Keep work area well lit.
5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
6. MAKE WORKSHOP KID PROOF — with padlocks, master switches, or by removing starter keys.
7. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
8. USE RIGHT TOOL. Don't force tool or attachment to do a job it was not designed for.
9. WEAR PROPER APPAREL. No loose clothing or jewelry to get caught in moving parts. Rubber-soled footwear is recommended for best footing.
10. USE SAFETY GLASSES. Also use face or dust mask if cutting operation is dusty.
11. SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
12. DON'T OVERREACH. Keep proper footing and balance at all times.
13. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
14. DISCONNECT TOOLS before servicing; when changing accessories such as blades, bits, cutters, etc.
15. AVOID ACCIDENTAL STARTING. Make sure switch is in "Off" position before plugging in.
16. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.

## MAINTENANCE & OPERATION

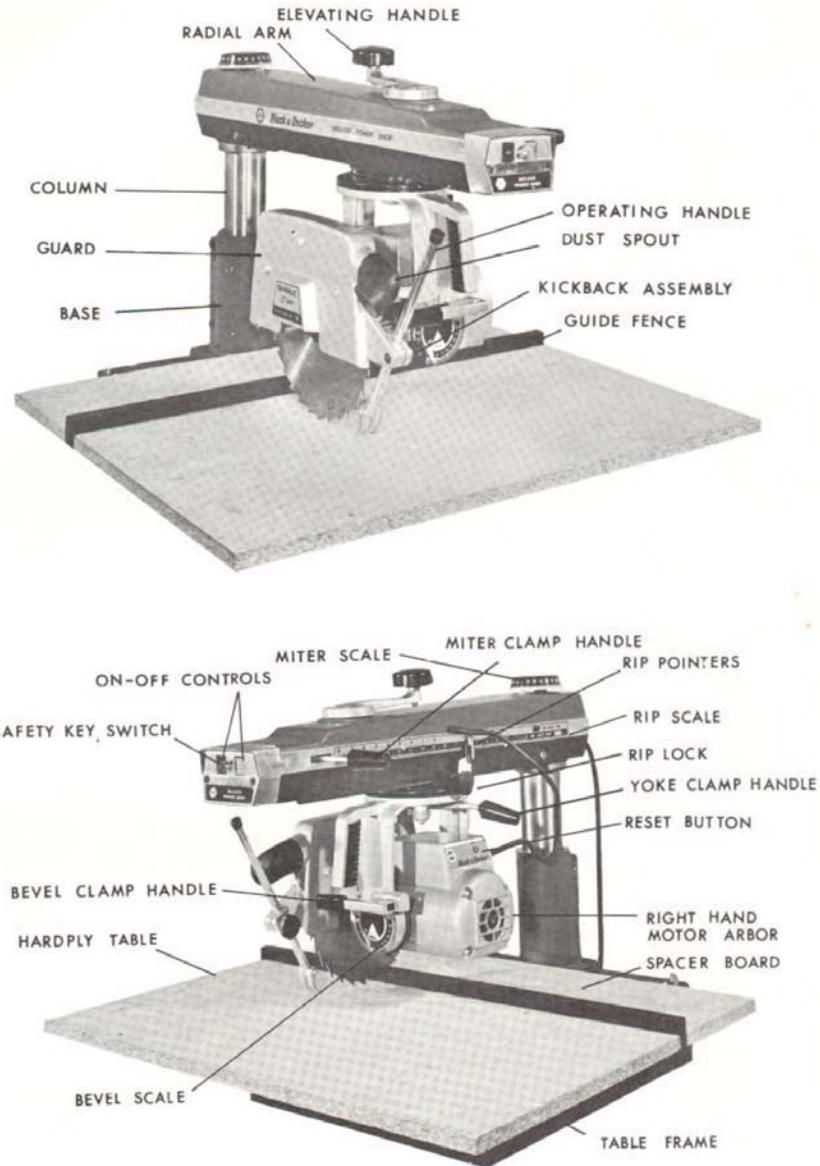
1. DO—Protect line with at least a 15 ampere *time delay* fuse.
  2. DO—Be sure blade rotates clockwise when facing arbor.
  3. DO—Be sure all clamp handles and thumb screws are tight before starting any operation. Push handles back to tighten. Pull to loosen.
  4. DO—Be sure blade and arbor collars are clean and recessed side of collars are against blade. Tighten arbor nut securely, using both wrenches provided.
  5. DO—Keep saw blade sharp and properly set.
  6. DO—Use anti-kickback attachment on guard.
  7. DO—Keep arm tracks and bearing surfaces clean and dry. Periodic cleaning with dry cleaner is recommended.
  8. DO—Periodically recheck alignment.
  9. DO—Remove blade but not arbor collars and nut when using rear shaft. Tighten nut securely.
  10. DO—Keep motor air slots clean and free of chips.
  11. DO—Remove switch key and store in a safe place to prevent unauthorized operation.
- 
1. DON'T—Attempt to operate on anything but designated voltage.
  2. DON'T—Operate unless all clamp handles are tight.
  3. DON'T—Use blades of larger diameter than recommended.
  4. DON'T—Remove anti-kickback from guard.
  5. DON'T—Rip from wrong direction—observe caution tag on guard.
  6. DON'T—Oil or grease arm tracks or motor.
  7. DON'T—Wedge anything against fan to hold motor shaft.
  8. DON'T—Subject table top to variable humidity conditions (keep away from dampness.)
  9. DON'T—Force cutting action. Stalling or partial stalling of motor can cause major damage to motor winding.
  10. DON'T—Remove saw blade guard when boring.
  11. DON'T—Remove arbor collars and nut when using rear shaft. Tighten nut securely.
  12. DON'T—Remove ground prong from plug. Never operate saw unless it is properly grounded.

## MOTOR OVERLOAD PROTECTION

Your Saw Motor is equipped with a manual-reset type overload protector. If the protector "trips" and stops the motor, take the following steps:

1. Press the saw "STOP" switch button and allow the motor to cool.
2. After motor has cooled, the overload protector may be reset by firmly pressing the red reset button. If you do *not* hear an audible "click", the motor must be allowed to cool further before attempting the reset.
3. After the reset is accomplished, the saw may be started by pushing the "START" button.

**RADIAL-ARM MACHINE CONTROLS.** The versatility of the radial-arm machine is due, in part, to its controls, and these are the keys to its successful operation. Learn to use them by adjusting the machine for all operations before actually starting to operate it. All controls, as well as the major parts of the radial-arm machine, are shown and identified here.



## ALIGNMENT

MAKE CERTAIN SAW IS NOT CONNECTED TO POWER SOURCE. NOW BEFORE GOING ANY FARTHER TAKE TIME OUT TO READ THE FOLLOWING IMPORTANT INSTRUCTIONS. THE ALIGNMENT OF YOUR NEW SAW IS MOST IMPORTANT NOT ONLY FOR MAKING ACCURATE CUTS, BUT ALSO FOR OPERATING SAFETY. THE TIME SPENT HERE WILL ADD CONSIDERABLY TO YOUR OVERALL ENJOYMENT OF THIS FINE PRODUCT. NOTE: SECURE TABLE FRAME OF UNIT TO A STURDY WORK BENCH, APPROPRIATE TABLE, OR LEG STAND, WITH SCREWS OR BOLTS BEFORE MAKING ALIGNMENTS OR OPERATING. THIS UNIT WILL FIT A NO. R-1201 LEG STAND.

All DeWalt Machines are thoroughly tested and inspected and partially adjusted before leaving the factory. Adjustments marked (\*) are to be made by you. All others have been completed at the factory, however rough handling in shipment can, at times, affect adjustments. Because of this we recommend alignment check before operation. You will also find that because of overload and various excessive stresses and strains realignment and minor adjustments may periodically become necessary to maintain complete accuracy. Provisions are made for complete adjustment of all positions so that your DeWalt Machine can be kept accurate for its entire life. A description of each of these adjustments follows and should be performed in the sequence listed.

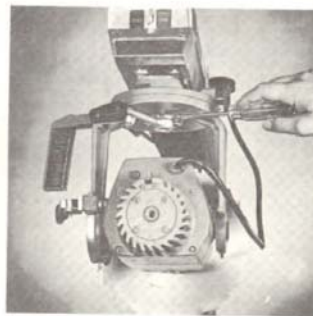
### YOKE CLAMP HANDLE ADJUSTMENT

The purpose of this handle is to provide a friction lock between the upper face of the yoke and the bottom face of the rollerhead. It should also eliminate any play between these two parts. In operating position the yoke clamp handle is pushed back from the hand grip of the yoke. If, at any time, it is possible to move this handle so that it strikes the rear leg of the yoke, it is not in proper adjustment. Its proper position for machine operation is approximately 90° or less to the hand grip of the yoke.

To readjust:

- (a) Pull yoke clamp handle forward to release friction locking action.
- (b) Insert screw driver between the yoke and the notched clamp adjustor. Flex the adjustor downward just enough to pass over the lug stop on the yoke.
- (c) Rotate clamp adjustor as necessary (to loosen, clockwise; to tighten, counter-clockwise). Be sure the notch in the adjustor is positioned properly over the yoke lug stop at final setting.

NOTE: If difficulty is encountered in making the above adjustments we suggest that you remove the arm end cap and slide the entire motor, yoke and rollerhead assemblies from the arm. This will provide access to the king bolt and by turning this with a wrench it will assist in the above adjustment procedure.



### ADJUSTING BEVEL CLAMP HANDLE

The purpose of the bevel clamp handle is to hold the motor at any angle. This is accomplished by the cam action of the clamp pulling the clamp pad against the dial plate.

To adjust:

- Loosen set screw (A), tighten clamp bolt (B), then retighten set screw.



### ADJUSTING ROLLERHEAD BEARINGS TO ARM TRACKS

The rollerhead is suspended by four special tolerance, greased-packed, double shield ball bearings. These bearings are mounted on two straight bearing shafts and two eccentric bearing shafts. In proper adjustment the top and bottom radii of all four bearings should be in contact with the arm tracks for their entire length and head should roll freely.

- Bring motor, yoke, and rollerhead assemblies to the end of arm.
- Set in "out rip" position.
- Loosen hex nuts on left side, front and rear.
- Insert  $\frac{1}{8}$ " Allen wrench in recess at bottom of shafts and turn bearing shaft until the ball bearing touches the arm track on both top and bottom radii. Repeat for both eccentric shafts.

**CAUTION:** Do not tighten too much. Bearings should only be sufficiently tightened so that they roll and do not slide. Be sure tracks are clean.

- While holding each shaft in adjusted position, re-tighten the hex nuts.

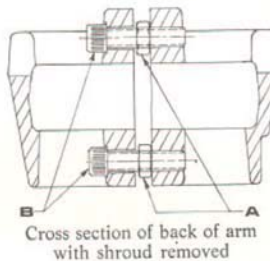


### ARM TO COLUMN

Prior to readjusting the arm clamp cam check adjustment of the arm to column. With the arm clamp released there should be no vertical play in the arm, and the arm should fit snugly on the column.

To adjust:

- Loosen two jam nuts (A) in slot at rear of arm, turning them clockwise.
- Adjust bolts (B) for proper fit and re-tighten jam nuts (A).



### REMOVING SHROUD

To make adjustments in the arm it is necessary to remove the arm cover, as follows:

- Unscrew arm clamp handle grip.
- Remove elevating handle. Handle is held on by a set screw.
- Remove miter scale by loosening and removing screws.
- Remove four screws holding plates on each side of arm.
- Remove plates and arm cover.

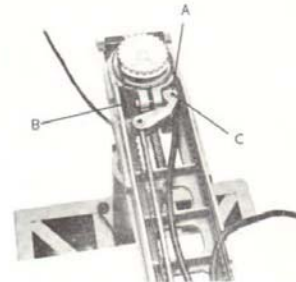


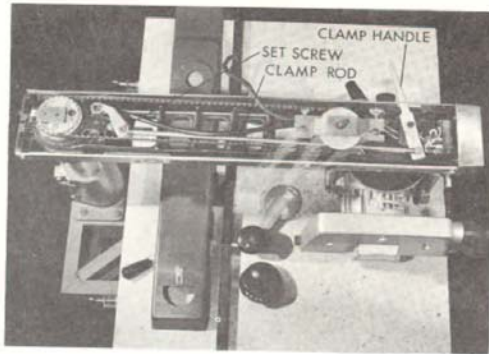
### ADJUSTING ARM CLAMP

The arm clamp handle operates a cam that clamps and releases the arm, and lifts the miter latch from the 0 and 45° slots.

To adjust:

- Loosen set screw (A) on clamp bolt (B) in clamp cam pivot pin (C).
- To tighten clamp turn clamp bolt clockwise. (Very little adjustment should be made prior to trying the clamp.)
- Retighten set screw (A).



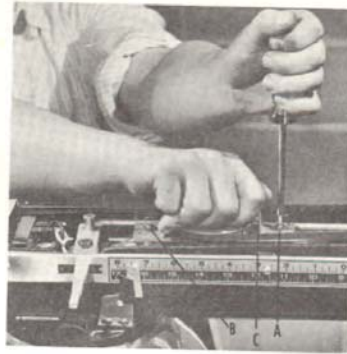


#### MITER CLAMP HANDLE POSITION

Position of the clamp handle may need adjusting after the clamp cam has been adjusted.

To adjust:

- (a) Loosen set screw in pivot pin on the clamp rod.
- (b) Turn the clamp rod so that the handle does not contact casting when clamped or released.
- (c) Re-tighten set screw in pivot pin on the clamp rod.

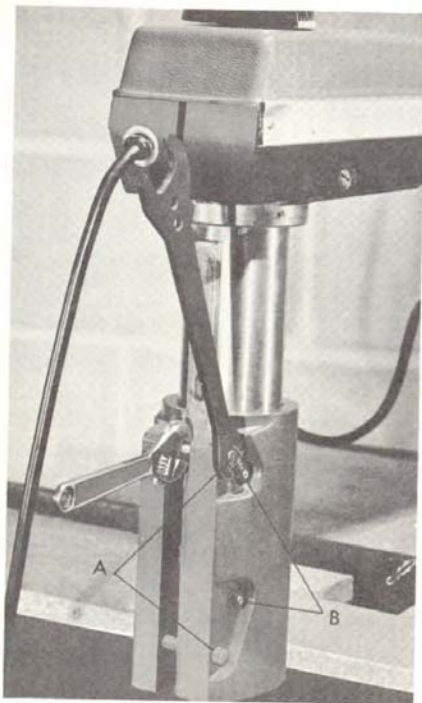


#### ADJUSTING BELT TENSION

It is necessary to remove the arm cover to adjust the timing belt tension.

To adjust:

- (a) Loosen two screws marked (A) and (B).
- (b) Pull and hold sprocket bracket (C) to apply belt tension.
- (c) Tighten screws (A) and (B).



#### ADJUSTING BASE TO COLUMN

If, after the arm clamp handle is tightened, you have side motion at the end of the arm and this is caused by the column rotating in the base it indicates adjustment of the base is necessary.

To adjust: (Face rear of machine)

- (a) Loosen all base hardware above table frame level (4 pieces). There are: two pinch bolts (A) with lock nuts (top and bottom), and two set screws (B) with lock nuts (top and bottom).
- (b) Raise and lower column. If base is too tight around the column, causing it to bind, turn the nut to the right hand side until column moves freely. Then tighten pinch bolts while holding nuts in place.
- (c) If column is too loose in base tighten pinch bolts until base fits snugly around column, but column raises and lowers freely. Then tighten nut on left side to lock pinch bolt.
- (d) To prevent side motion of the arm (rotation of column) tighten the top and bottom set screws against the column key. Be careful you do not tighten to the point of binding with resulting hindrance to the elevating. Lock by tightening jam nuts.



### ADJUSTING TABLE TOP PARALLEL WITH ARM

The table top surface must be parallel with the horizontal plane of the arm tracks.

To check this alignment:

- Insert the arbor nut wrench or a piece of steel about 10 inches long between the saw arbor collars.
- Elevate or depress saw that when swinging arbor wrench on the motor arbor the bottom or it just touches the table top.
- Locate the highest spot on the table over adjusting cleats by moving arm on the column and the rollerhead along the arm tracks.
- If the bottom of the arbor wrench in vertical position does not "just touch" the table top at all positions over the cleats adjustment is necessary.

To readjust:

- Remove and discard the four roll pins locking the cleats to the table frame.
- Loosen all locking nuts at the sides of the table frame except the one holding the highest point of the table as determined above.
- Elevate the low sections to the same elevation as the highest and tighten all lock nuts.

### ADJUSTING TABLE BOARD CLAMPS

The back boards are clamped by the operation of the clamp cam in front of the table.

To adjust:

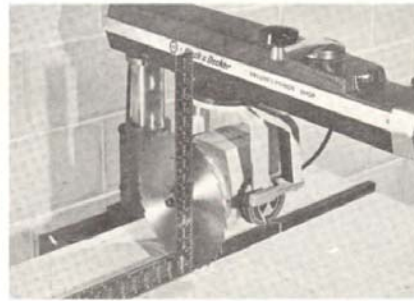
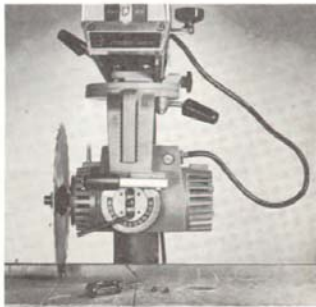
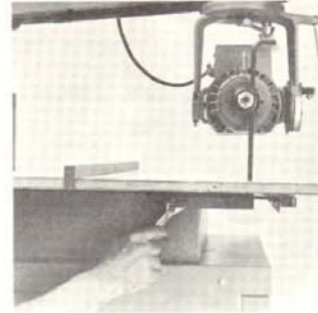
- Release table clamps.
- Loosen lock nut.
- Turn clamp rod clockwise to tighten and counter-clockwise to loosen.
- When desired adjustment is obtained retighten lock nut.
- Repeat on opposite side.

### CHECK TABLE TOP AND GUIDE FENCE

The table top assembly and guide strip are checked for straightness with a master straight edge before leaving the factory. As all wood products must "breathe" and are affected by various humidity conditions, a slight change from factory conditions may sometimes be found. Straightness of top and Guide Strip, with Clamp Screws (at rear of table) tight, should be checked with a square or straight edge. Correction can be made only by sanding. A slight variation from perfect straightness of table top will not normally affect the average woodworking requirements.

Do not use a level except as a straight edge. (This check is for straightness, not levelness with the floor.)

NOTE: You may desire to place a 1/4" plywood protective top on the section of table top in front of the guide fence until you are more familiar with the operation of your machine. This procedure will eliminate excessive cutting into permanent top and, like the guide fence, is easily replaced when necessary. Be sure you countersink finishing nails and place them so as not to be in line with cutting tools.



### ADJUSTING BLADE PERPENDICULAR TO WORK TOP

With the arm in cross-cut position, all latches engaged and all clamp handles locked place a steel square with one edge on the table top parallel to guide strip and the other edge against the flat of the saw blade (place in saw blade gullets and not against teeth because of tooth set). If blade is not flat against square, adjust as follows:

- Remove bevel pointer by removing two screws.
- Loosen two outside socket head screws.
- Tilt motor until blade is flat against the square and again lock (very firmly) socket head screws. Replace bevel pointer.

NOTE: In some cases it will be found necessary to also loosen center cap screw in order to adjust motor.

### BEVEL SCALE

The bevel scale is located at the front of the motor. When the motor is positioned for vertical cutting the pointer should be at 0 on the scale. To adjust loosen the two screws, move the pointer to 0 and tighten.

### ADJUSTING CROSS CUT TRAVEL WITH GUIDE FENCE

With the miter latch engaged and arm clamp handle locked, place a wide board (1" x 12" if available) against the guide strip. Cross-cut this board with a set tooth blade. Check cut with a steel square. If cut is not square, the arm is out of alignment with the guide fence.

To readjust:

- (a) Loosen arm clamp handle (B).
- (b) Loosen two set screws under the miter adjusting screws.
- (c) Lay steel square on table top with one edge against guide fence and the other edge at 0° cross-cut as shown in picture.
- (d) Move saw carriage and blade forward along steel square to determine which way arm must be adjusted.
- (e) If saw blade moves toward square as it comes forward, disengage miter latch. With screw driver loosen left adjusting screw and tighten right adjusting screw, re-engage miter latch. Check and repeat if necessary.
- (f) If saw blade moves away from square as it comes forward, disengage miter latch. Loosen right adjusting screw and tighten left adjusting screw, re-engage miter latch. Check and repeat if necessary.
- (g) When saw travel is parallel to square for entire length, lock adjustment screws in place by retightening set screws.

**NOTE:** Do not tighten adjusting screws enough to retard the operation of the miter latch.

### MITER POINTER

The miter pointer is located at the top on the back of the arm. When the arm is positioned for straight cross-cut the pointer should be at 0° on the scale. To adjust pointer loosen screw in top of scale and turn scale until the pointer is at 0°, then tighten screw.

### DIRECTIONS FOR REMOVING ARBOR NUT

1. Fit 5/16" Allen wrench into front end of motor shaft. (This is a holding wrench only.)
2. Fit large wrench on arbor nut as nearly parallel to first wrench as possible.
3. While holding Allen wrench stationary with left hand, use downward pressure of right hand on second wrench and nut will loosen.

In cases of extreme tightness use the following method:

1. Lock rollerhead to arm with rip lock assembly.
2. Fit wrench to arbor nut only.
3. Place striking block of wood as shown in figure below.
4. While holding wrench on arbor nut strike end of wrench on wood block in counter-clockwise direction as shown in figure at left.

(Caution—Never wedge anything against fan.)

