



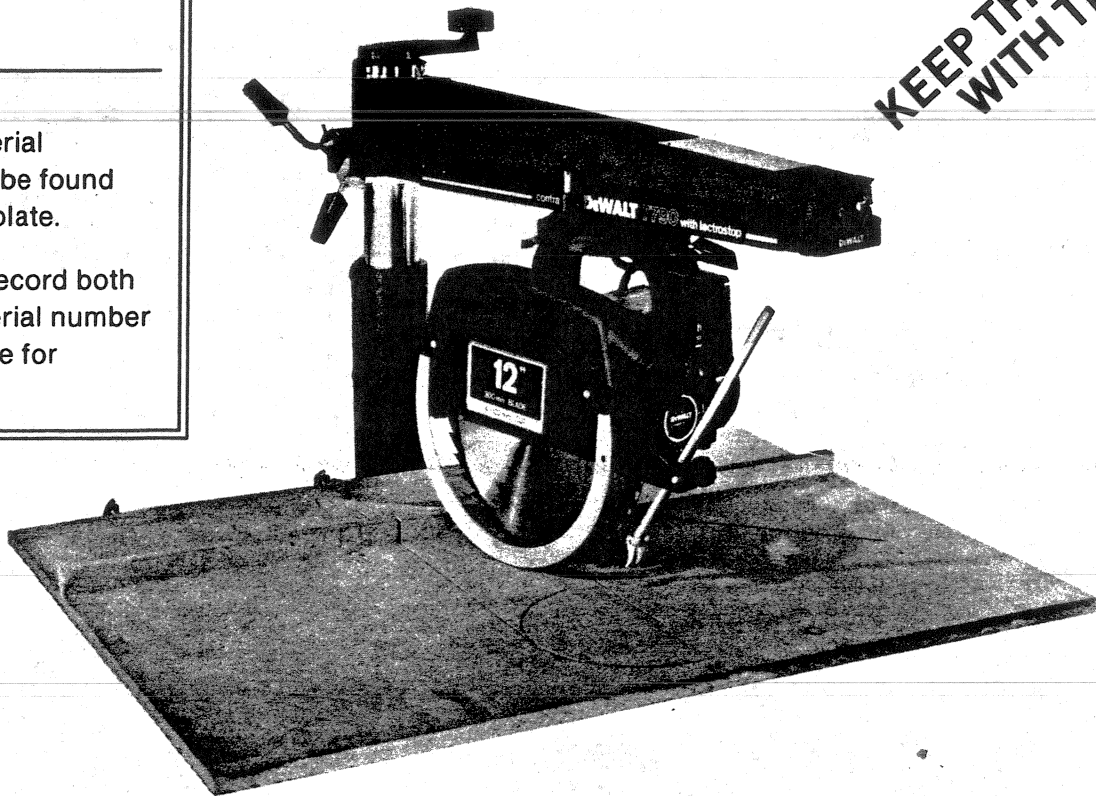
DEWALT®

instruction manual & parts bulletin

Serial
Number _____

Model and serial
number may be found
on the nameplate.

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



**KEEP THIS BOOKLET
WITH THE SAW**

**WARNING: FOR YOUR OWN SAFETY, READ THIS MANUAL BEFORE OPERATING TOOL.
REVIEW SAFETY RULES AND OPERATING INSTRUCTIONS FREQUENTLY.**

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

**No. 790
12" RADIAL ARM SAW
Cat. Nos. 7790/3431
TYPE 8
Bulletin No. 9639**

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CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with the upper guard in place and lower guard where applicable.

MODEL NO.	TYPE	PHASE	VOLTAGE
7790	Type 8	1 ph	120—208/240 VOLT 60 CY.
7790-02	Type 8	1 ph	120/230—250 VOLT 50 CY.
7790-03/3431-03	Type 8	1 ph	120/230—250 VOLT 50 CY.
7790-06	Type 8	1 ph	120/230—250 VOLT 50 CY.
7790-08	Type 8	1 ph	120/240 VOLT 50/60 CY.
7790-45	Type 8	1 ph	240 VOLT 50 CY.

SINGLE PHASE POWER CONNECTIONS AND GROUNDING

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

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.

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify the plug provided — if it will not fit the outlet, have the proper outlet installed by a qualified electrician. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug. Repair or replace damaged or worn cord immediately.

208-240 Volt Operation—the saw is supplied with a plug like Figure A. It should be used in the proper standard, matching 3-wire grounding receptacle. A 15 amp line is satisfactory for 208-240 Volt use.

120 Volt Operation—See page 19 for 120 Volt Connection. The plug supplied, must be replaced with the plug shown in Figure B. It should be used in the proper standard, matching 3-wire grounding receptacle.

The use of a separate 20 amp circuit is recommended. Protect line with a 20 amp time delay fuse or breaker. Replace or repair damaged or worn cord immediately.

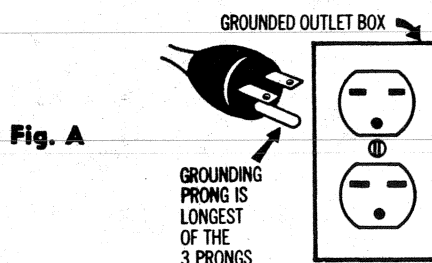


Fig. A

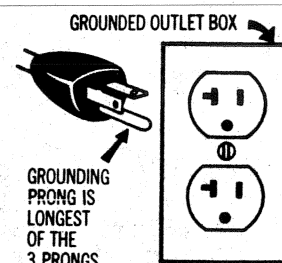


Fig. B

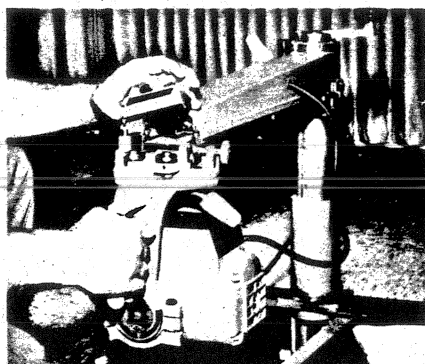
UNPACKING AND SET-UP INSTRUCTIONS

Your DeWalt has been completely assembled and tested at the factory and then partially disassembled for packaging and shipment.

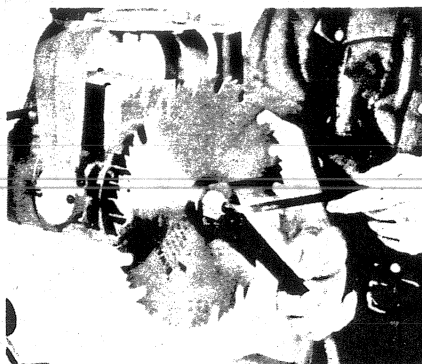
We suggest the following procedure:

1. Turn the Elevating Handle at top of column counter-clockwise a few turns to release the motor box and remove it from under the arm. (Do not discard the metal plate or guard found under motor box.)
2. Remove the Arm End Cap but do not disconnect the leads to the switch. Insert rollerhead yoke and motor assembly into the arm, being careful not to damage the rip pointer on right side, and roll to extreme back of arm against column. Lock the entire assembly with the rip lock. Replace arm end cap.
3. Swing arm and position at right angle to guide fence at 0° on miter scale. Locate miter latch in column slot. Securely lock arm with arm clamp handle.
4. Gently place machine on its back (column on floor) and attach legs with four (4) bolts to each leg. Now place machine in an upright position on its legs. To prevent forward creeping of the saw carriage, tilt the saw backward by shimming under the front of table or front legs if so equipped. Use sturdy outrigger supports if any table extensions are attached to the saw.

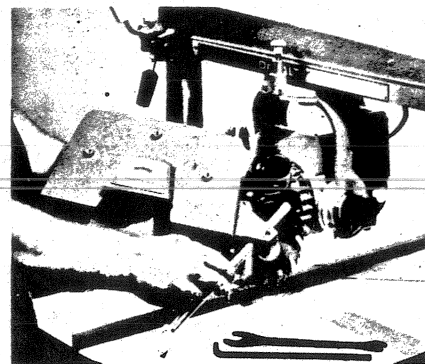
All electrical connections have been made for you to operate your machine on 208 to 240 volts power supply. For change to 120 volt on single phase models refer to connection diagram on the motor name plate, and page 19 of this manual.



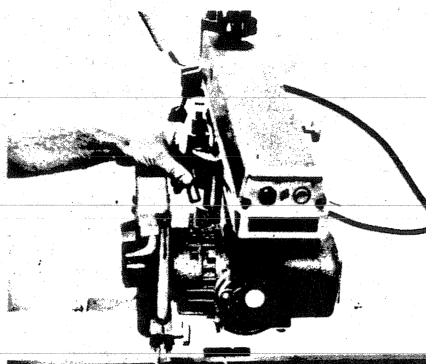
1. Wipe tracks with clean dry cloth. Insert motor assembly in arm. Be careful not to damage rip pointer on right side of assembly.



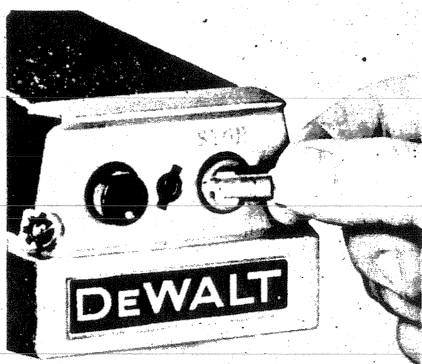
2. Clean saw blade with clean dry cloth. Place saw blade between collars (recessed portion against blade). Tighten arbor nut using both wrenches.



3. Assemble guard kick-back and elbow. See page 17 for details of assembly of upper and lower guards.



4. Enclose blade with guard and lock in place with wing nut.



5. Insert key, unlock push button switch and you are ready for a lifetime of woodworking pleasure.

SPECIFICATIONS 7790/3431

Motor Develops	3-1/2 HP	Cross Cut Capacity—88.9 mm (3-1/2") stock	355.6 mm (14")
Continuous Duty	1-1/2 HP	Spindle Dado Cap.—Width	20.6 mm (13/16")
Full Load Speed—60 cy. AC	3450 RPM	Ripping Capacity—Width	685.8 mm (27")
Blade Guards (Upper and lower)	304.8 mm (12")	Miter Locating latch	(0° and 45° R or L)
Standard Blade	304.8 mm (12")	Scales	Miter, Rip, Bevel
Arbor Size	15.9 X 38.1 mm (5/8" X 1-1/2") long	Bevel Locating Pin	0°, 45°, 90°
Maximum Depth of Cut	101.6 mm (4")	Column Diameter	69.9 mm (2-3/4")
Maximum Depth of Cut without Lower Guard	98.4 mm (3-7/8")	Steel Table Size	660.4 X 812.8 mm (26" X 32")
Maximum Depth of Cut with Lower Guard	92.0 mm (3-5/8")	Work Table Overall Size	749.3 X 977.9 mm (29-1/2" X 38-1/2")
Maximum Depth of Cut at 45° Bevel without Lower Guard	66.7 mm (2-5/8")	Height Work Table on Legs	838.2 mm (33")
Maximum Depth of Cut at 45° Bevel with Lower Guard	38.1 mm (1-1/2")	Net Weight approx.	94.3 kg (208 lbs.)
Cross Cut Capacity—19 mm (3/4") stock	406.4 mm (16")	Gross Shipping Weight, approx.	109.8 kg (242 lbs.)

(Specifications subject to change without notice.)

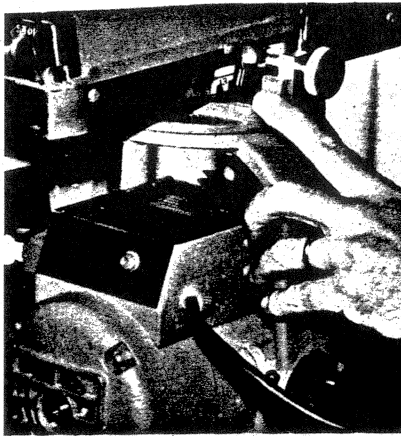


Figure 1

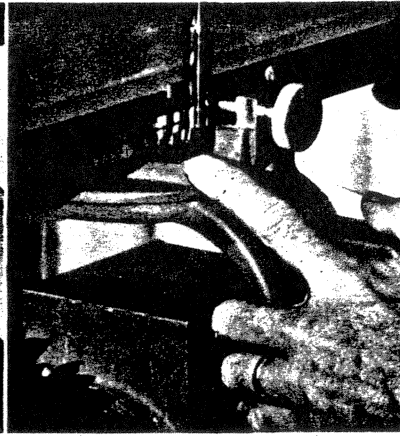


Figure 2

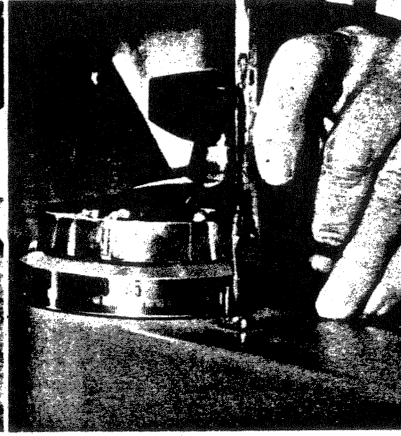


Figure 3

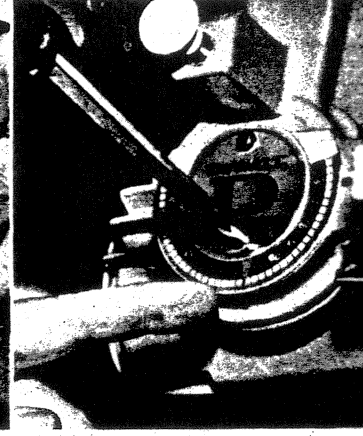


Figure 4

ADJUSTMENTS AND ALIGNMENTS

Adjustment of Scales

Rip Scale

The Rip Scale is located on the right side of the Radial Arm. When the motor is positioned with motor arbor toward the column it is called "in rip" position, and material should be fed from right to left. When the motor arbor is positioned toward the operator it is called "out rip" and material is fed from left to right. When "in ripping" width dimensions are located on the top of the scale and when "out ripping" on the bottom of the scale by use of the reference pointers. The pointers are adjustable and must be readjusted only when gauge (thickness) of blade is changed.

To adjust:

"In rip" (figure 1)

- (a) Place the motor in "in rip" and move the motor on the arm until the saw blade just touches the guide fence.
- (b) Loosen two screws on pointer base and move pointer until edge aligns with 0 on the top scale. Tighten back screw.

"Out rip" (figure 2)

- (a) Place a board of known width against the guide strip, position motor in "out rip" position and move the motor until the blade just touches the material.
- (b) Loosen front screw only and move bottom pointer until the edge aligns with dimension on the lower scale of the known width of board. Tighten screw.

Miter Scale (figure 3)

The miter scale is located at the top rear of the arm. When the arm is positioned for straight cross-cut the pointer should be at 0 on the scale. To adjust loosen the screw holding the pointer, adjust, and tighten.

Bevel Scale (figure 4)

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

ALIGNMENT PROCEDURE

All DeWalt machines are thoroughly tested, inspected, and accurately adjusted before leaving the factory. 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.

1. 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 floor.)

NOTE: You may desire to place a hardboard or 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.

2. ADJUSTMENT OF YOKE CLAMP HANDLE (figure 5)

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

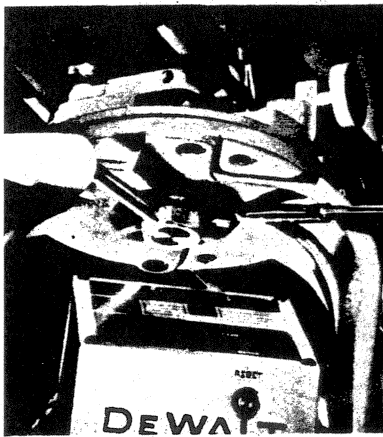


Figure 5

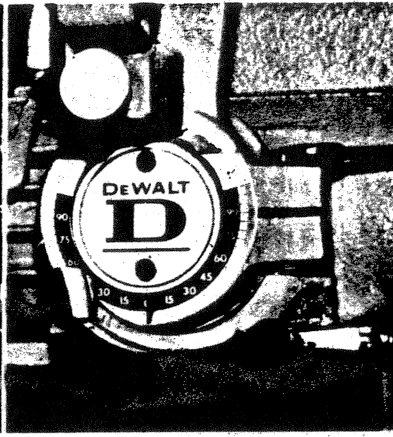


Figure 6



Figure 7

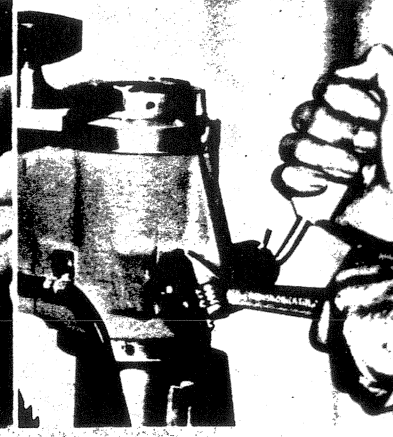


Figure 8

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 tighten, counter-clockwise; to loosen, 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 adjustment 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 screw driver it will assist in the above adjustment procedure.

* Newer saws have a king bolt with a hex hole in the threaded end which is easily accessible without removing any part from saw. Adjustment can be made with the 1/4 hex wrench which is furnished with the saw.

3. ADJUSTING BEVEL CLAMP HANDLE

(figure 6)

The purpose of the Bevel Clamp Handle is to hold the motor rigidly at any angle. This is accomplished by the cam action of the top of the clamp tightening the split portion of the yoke around dial plate hub. In locked position it should be flush with and under bevel scale and hold motor rigidly at the angle desired.

To adjust:

- (a) Loosen Bevel Clamp Handle by pulling left side away from motor.
- (b) While holding bottom head of Cap Screw with a wrench tighten or loosen the top jam nut as necessary.

4. ADJUSTING ROLLERHEAD BEARINGS TO ARM TRACKS (figure 7)

The rollerhead is suspended by four special tolerance, grease-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 but with some resistance. Excessive bearing pressure will cause difficult operation and rapid wear. Too little pressure will cause loss of accuracy and the saw will try to feed itself into the material being crosscut. Proper adjustment will require a force of 4 to 6 pounds to move the rollerhead along the arm at a constant speed. The front and rear bearings should be adjusted to contribute equally to this force. **NOTE:** the end cap was removed for clarity and it need not be removed for this adjustment.

- (a) Wipe tracks with a clean dry lint-free cloth.
- (b) Bring motor, yoke, and rollerhead assemblies to the end of arm.
- (c) Set in "out rip" position.
- (d) Loosen hex nuts on left side, front and rear.
- (e) Insert 1/8" Allen wrench in recess at bottom of shafts and turn bearing shaft until the bearing is snugly against the track. Repeat for the second bearing. Check the force required to move the rollerhead. Readjust as required.
- (f) Tighten the hex lock nuts while holding each bearing shaft in its adjusted position.

5. ADJUSTING ARM CLAMP HANDLE

(figure 8)

The Arm Clamp Handle holds the arm in desired position for cross-cut or miter work. When tightened it should be in upright (vertical) position. If, when tightened, this handle goes beyond this position, it should be adjusted as follows:

- (a) Remove Cotter Pin by tapping from bottom to top.
- (b) Tighten left-hand nut as necessary.
- (c) Replace cotter pin.

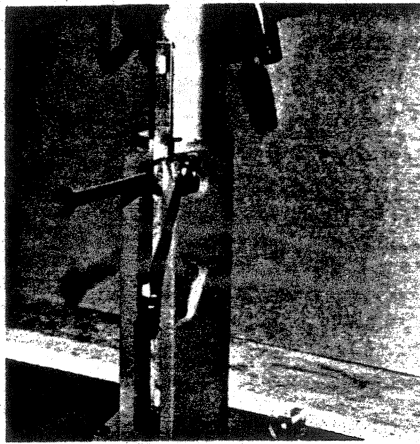


Figure 9

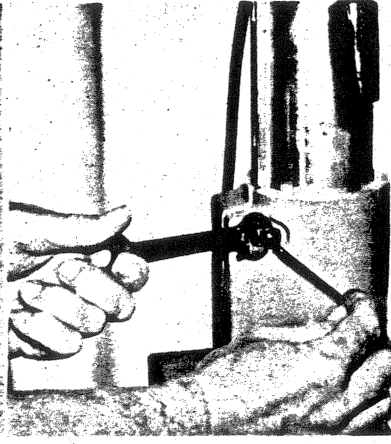


Figure 10

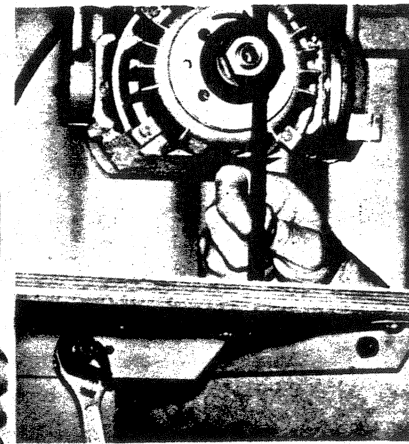


Figure 11

6. ADJUSTING BASE TO COLUMN

(figures 9 and 10)

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 or column key gib is necessary.

To adjust: (Face rear of machine)

- (a) Loosen all base hardware above table frame level (4 pieces). There are: two pinch bolts with lock nuts (top and bottom), two set screws with lock nuts (top and bottom).
- (b) Elevate and depress column. If base is too tight around the column causing binding, loosen pinch bolt and tighten lock nut to the right to spread base.
- (c) Tighten the base pinch bolts (top and bottom) by turning bolt heads on right side until the base fits snugly around the column diameter but column elevates and depresses freely. Lock with nuts inside slot.
- (d) To prevent side motion of the arm (rotation of column) tighten the top and bottom set screws so that the column key gib (brass plate) is forced against the column key. Be careful you do not tighten to the point of binding with resulting hinderance to the elevating. Lock by tightening jam nuts.

7. ADJUSTING TABLE TOP PARALLEL WITH ARM (figure 11)

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

To check this alignment:

- (a) Insert the arbor nut wrench or a piece of steel about 10" long between the saw arbor collars.
- (b) Elevate or depress saw that when swinging arbor wrench on the motor arbor the bottom of it just touches the table top.
- (c) Locate the highest spot on the table over adjusting cleats by moving the arm on the column and the rollerhead along the arm tracks.

- (d) 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 Main Table:

- (a) Loosen locking nuts holding center cleat to table frame.
- (b) Loosen all locking nuts at both sides of the main table frame except the one holding the highest point of the table top as determined above.
- (c) Elevate the low sections to the same elevation as the highest and (1) tighten all locking nuts at both sides of the table frame, (2) tighten locking nuts at center cleat.

8. ADJUSTING BLADE PERPENDICULAR TO WORK TOP (figures 12 and 13)

With the arm in cross-cut position, all latches engaged and all clamp handles locked place a steel square with one angle on the table top parallel to guide strip and the other angle 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:

- (a) Remove name plate by removing two screws.
- (b) Loosen two outside socket head screws.
- (c) Loosen bevel clamp handle.
- (d) Tilt motor until blade is flat against the square and again lock (very firmly) socket head screws. Replace name plate.

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

9. ADJUSTING CROSS CUT TRAVEL WITH GUIDE FENCE (figures 14 and 15)

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.

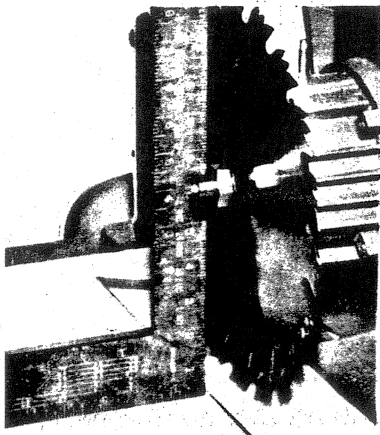


Figure 12

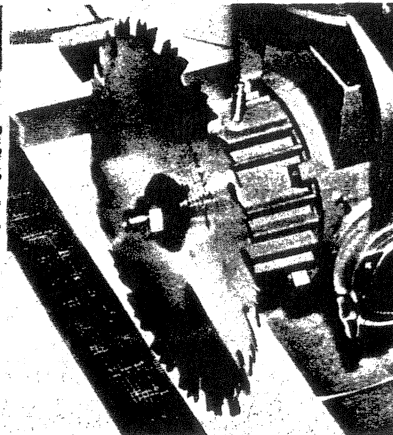


Figure 14

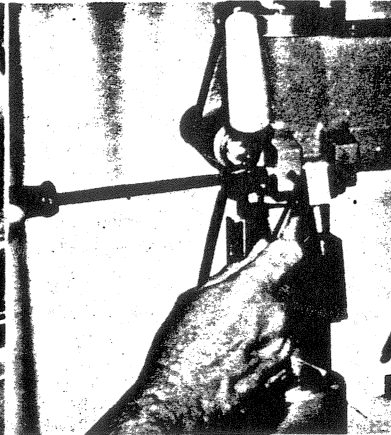


Figure 15

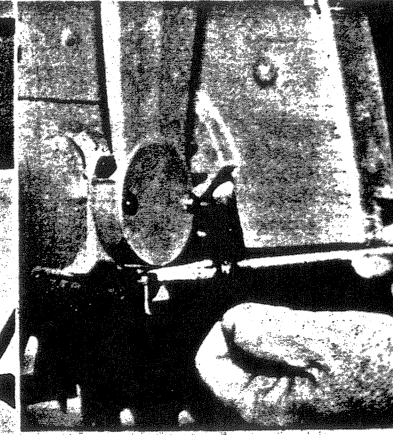


Figure 16

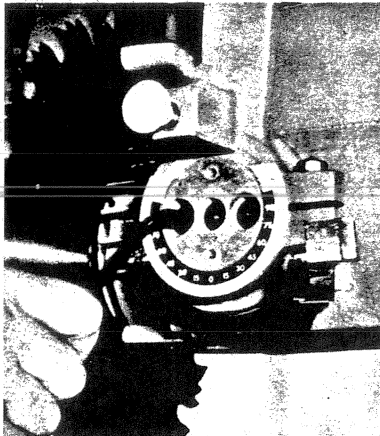


Figure 13

To readjust:

- (a) Loosen arm clamp handle.
- (b) Loosen two set screws.
- (c) Lay steel square on table top with one angle against guide fence and the other at angle of 0° crosscut.
- (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 rear 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 front adjusting screw and tighten rear adjusting screw, re-engage miter latch. Check and repeat if necessary.
- (g) When saw travel is parallel to square for entire length, lock adjusting screws in place by retightening set screws.

10. ADJUSTING CROSS-CUT TRAVEL PARALLEL TO ARM TRACKS (figure 16)

Both the leading and trailing teeth of the saw blade should travel in the same plane parallel to the arm tracks. To check, place a board 4" x 1" or larger against the right side of the guide fence. With the machine in 0° cross-cut position and all locks and latches engaged, end trim this stock by allowing only the front teeth of the blade to clear the stock and the rear teeth remaining in the cut. Now remove the stock by sliding to the right before returning the cutting head to the back of the arm. Examine the cut edge of the stock. If blade marks of the rear teeth are prominent on the cut stock the rear teeth are not exactly following the front teeth and adjustment is necessary. (The arcs of the rear teeth start at the bottom front of the stock and travel up and back.) Repeat this same operation with the stock against the left side of the guide fence. To adjust when marks are on stock cut on right side:

- (a) Disengage bevel clamp handle.
- (b) Loosen right and left lock nuts at rear of yoke.
- (c) Loosen left set screw about 1/6 turn and tighten right set screw.
- (d) Retighten lock nuts and bevel clamp handle.
- (e) Recheck as above by cutting.

To adjust when marks are on stock cut on left side:

- (a) Disengage bevel clamp handle.
- (b) Loosen right and left lock nuts.
- (c) Loosen right set screw about 1/6 turn and tighten left set screw.
- (d) Retighten lock nuts and bevel clamp handle.
- (e) Recheck as above by cutting.

After left and right adjustments have been made, tilt the motor to 45° bevel cross-cut position and again make cuts on 2" x 4" stock as was done in cross-cut position. If tooth marks again appear the motor is too high or low in the rear of the yoke.

To adjust when marks appear on bottom side of cut (left-hand piece of stock):

- (a) Disengage bevel clamp handle.
- (b) Loosen all lock nuts.
- (c) Loosen right set screws about 1/6 turn and tighten bottom set screw.
- (d) Retighten lock nuts and bevel clamp handle and recheck as above by cutting.

To adjust when marks appear on upper side of cut:

- (a) Disengage bevel clamp handle.
- (b) Loosen all lock nuts.
- (c) Loosen bottom set screw about 1/6 turn and tighten right set screws.
- (d) Retighten lock nuts and bevel clamp handle and recheck as above by cutting.

RULES FOR SAFER OPERATION OF STATIONARY POWER TOOLS

1. **KEEP GUARDS, FENCE AND ALL INTEGRAL PARTS 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. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. **KEEP CHILDREN AWAY.** All visitors should be kept a 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 be safer at the rate for which it was designed.
8. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
11. **SECURE WORK.** Use clamps or 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. **REDUCE THE RISK OF UNINTENTIONAL 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 risk of injury to persons. Use of blades with knock out inserts at the arbor hole may cause injury.
17. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
18. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine 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.
19. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
20. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
21. **ONE OPERATOR ONLY.** The same person who pulls the saw should position the work.
22. Shim front saw legs to prevent carriage from creeping toward operator.
23. Automatic return device is available. See saw accessories.
24. **WARNING: Do not operate without using proper guards.**
25. Always unplug cordset or disconnect from power supply before removing blade guards for any reason.
26. Before plugging cordset into outlet or reconnecting to power supply, always replace blade guards and fasten them securely.

MAINTENANCE AND 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. See Rule 16.
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.
12. DO—Use lower guard whenever applicable.
13. DO—Return carriage to full rear after each operation. A return reel is available.
 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. Adjust it to just clear the workpiece when crosscutting.
 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.
 13. DON'T—Remove small scraps from table with fingers.

The lower blade guard covers the side of the teeth when the blade is behind the fence. READ THE FOLLOWING PRECAUTIONS.

CAUTIONS TO FOLLOW WHEN USING LOWER GUARD:

1. The lower blade guard will provide additional protection from contact with the side of the blade—BUT NOT FROM CONTACT WITH THE FRONT OR REAR OF THE BLADE.
When the lower guard touches the fence or material being cut, it will rise up over the material—thus exposing the blade teeth. Be careful, keep your hands out of the line of cut!
2. Lower blade guards may become caught in prior kerfs in the fence or table. Replace guide fence frequently.
3. Short cut-off pieces of wood may become caught between the lower guard and the blade. If this happens shut off power; wait until blade stops before removal of piece.
4. The lower blade guards effectiveness is limited in bevel operations. It may have to be raised out of the way when setting bevel angle to prevent bending. BE SURE THAT POWER IS OFF AND BLADE IS COMPLETELY STOPPED BEFORE MAKING ANY ADJUSTMENT.
5. Catching the lower guard in saw kerfs when changing the saw set-up can be avoided by elevating the saw until the bottom of the guard clears the fence.
6. When ripping narrow strips, the lower guard may have to be raised to rest on top of the fence. Be sure to use a pusher stick to feed the work.
7. Do not use the lower guard with any accessory other than the correct size saw blade.
8. To summarize, when in doubt about whether to use the lower guard and when practical, make a "dry run" with power off to determine if it is a help or hindrance.

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 "OFF" 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 "ON" button.

• OPERATING INSTRUCTIONS •

Observe and comply with the warning labels on the saw.

WARNING

FOR YOUR OWN SAFETY READ INSTRUCTION MANUAL BEFORE OPERATING SAW

1. Wear eye protection.
2. Keep hands out of path of saw blade.
3. Return carriage to full rear position after each crosscut type of operation.
4. Know how to reduce risk of kickback.
5. Use pusher board for narrow work.
6. Do not perform any operation freehand.
7. Never reach around moving saw blade.
8. Shut off power before clearing a stall or jam.
9. Shut off power and wait for blade to stop before servicing tool.
10. Do not operate without using proper guards.
11. Have anti-kickback in place for all cuts.
12. Do not wear gloves, jewelry, or loose clothing.

Use common sense, think all operations through before starting, and be alert.

Review the "Rules For Safer Operation of Stationary Power Tools" and "Maintenance and Operation" sections. (See index)

Keep saw in good adjustment and alignment; use only sharp, free-cutting tools and accessories that were designed for your machine. These precautions will help reduce the possibility of jam-ups or kickbacks.

Never perform any operation "free hand" (i.e. supporting the workpiece by hand alone). The workpiece must always be solidly supported or guided by the fence or supporting jig or fixture to prevent any unexpected movement.

If the sawblade or cutter becomes stalled or lower guard becomes jammed - Turn off power immediately. Never attempt to free a jam up without first turning power off. Remove workpiece and re-check machine alignment. Adjust as necessary.

DANGER Coasting cutting tools can be dangerous - apply the brake immediately on manual braking units to stop the tool as soon as the switch is turned off.

The torque developed during manual or automatic braking may loosen the blade retaining nut, therefore the arbor nut should be checked periodically and tightened if necessary.

Never cycle the tool "on" and "off" rapidly, as forces can be produced which will loosen the arbor nut.

If the arbor nut should ever loosen, allow the blade to come to a complete stop and re-tighten the arbor nut securely, but not excessively, using both wrenches provided.

DANGER

TO AVOID INJURY DO NOT FEED MATERIAL INTO CUTTING TOOL FROM THIS END



WARNING:
SHIM FRONT SAW LEGS
TO PREVENT CARRIAGE FROM
CREEPING TOWARD OPERATOR.

Read through and study the pictorial operating instructions which follow for further instructions before using your new DeWalt powershop.

Kickbacks can occur when the workpiece binds between the saw blade and the fence during a ripping type operation. Such action could cause the workpiece to be ejected from the machine and thrown violently back towards the operator.

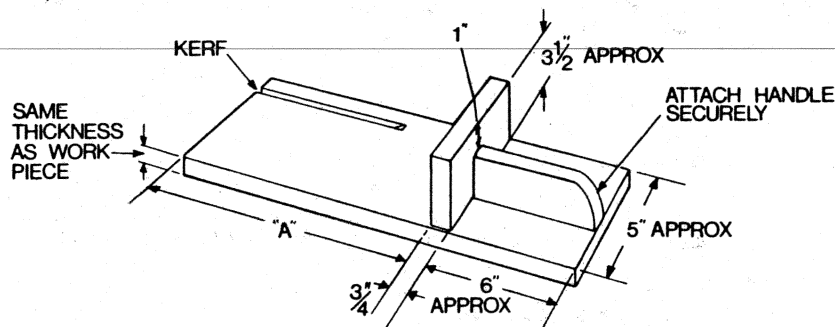
Never stand, or permit someone else to stand in line with the work being ripped due to possible kickbacks.

The anti-kickback fingers must be kept sharp, free moving and correctly adjusted to insure proper operation.

Use extra care when ripping material that is twisted or bowed which can rock on the saw table and cause pinching or binding. Place the wood on the table in such a manner as to minimize rocking.

A pusher board should be used when ripping narrow work (i.e. less than 3 inches or so between the blade and fence). The pusher board should be made from clear, straight grained lumber as shown below.

It is easier to change the saw set-up and will prevent lower guard catching if work table is higher than rear table. 1/4" plywood and brads may be used.



Dimension "A" must be such that the workpiece is fed completely past the blade but short enough to prevent the pusher board from passing under the anti-kickback device.

The pusher board should be pre-kerfed prior to use, for every new width of rip a new or re-worked pusher board must be used.

Do not rip workpieces shorter than 12" in length.

OPERATING INSTRUCTIONS

CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with the upper guard in place and lower guard where applicable.

ARM ROTATES RIGHT OR LEFT FOR MITER CUTS

Release clamp (B) and lift latch (C) . . . then easily swing the arm (A) into any right or left angle. The calibrated miter scale (D) is at eye-level and shows precisely the miter angle you want. The "built-in" stops at 0 and 45° automatically locate these popular, common angles. You get lifetime mechanical accuracy without human error. Also, you never shift the lumber for miters . . . DeWalt puts the saw at the exact angle and you pull across for perfect miter cuts everytime!

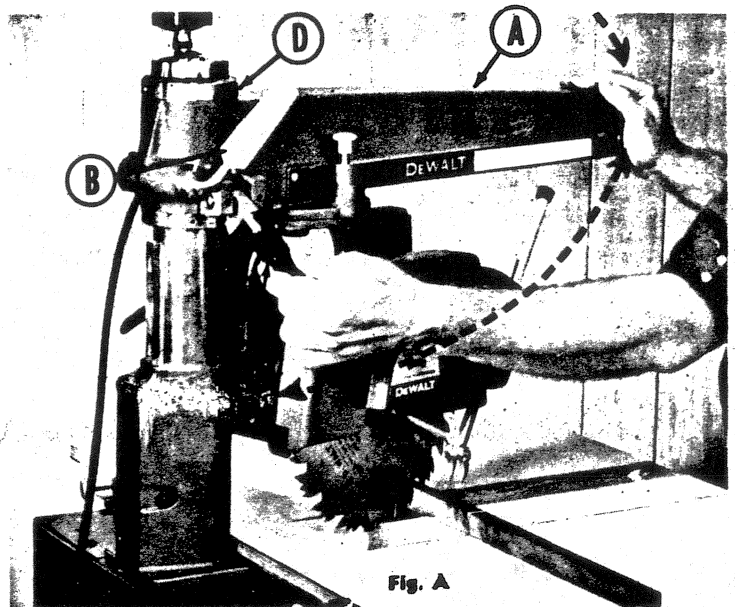


Fig. A

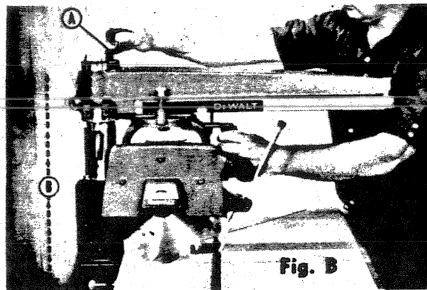


Fig. B

DeWalt measures for you . . . each full turn of the elevating knob (A) lifts or lowers (B) the arm exactly 1/8 inch . . . one half turn gives you 1/16 inch . . . actually pre-determines depth of cut. This is precision depth control at its finest.

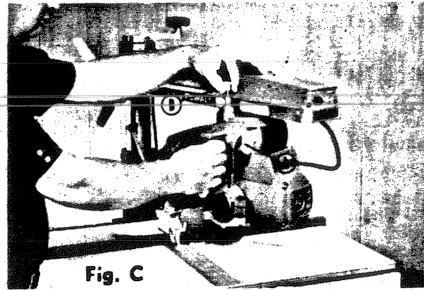


Fig. C

Saw Swivels for Rip Cuts

It's easy. Release yoke clamp (A) and lift locating pin (B) . . . then swing yoke right or left. Automatically stops at three 90° positions. Changes from cross cut to rip in less than five seconds!

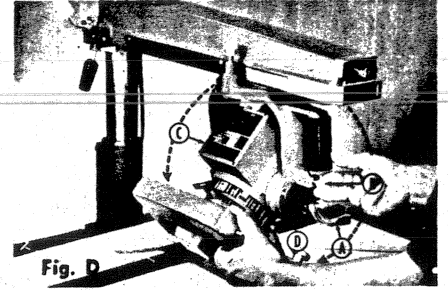
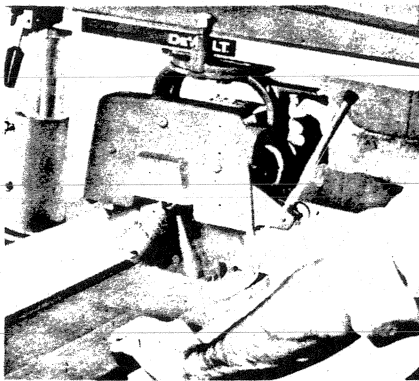


Fig. D

Saw Tilts for Bevel Cuts

First, raise arm about 18 turns. Pull out clamp (A) and locating pin (B). Tilt motor (C) for angle desired on bevel scale (D) . . . Relock (A). Automatically locates popular 0, 45° and 90° bevel positions. There's no limit on bevel cuts.



CROSS CUT

CROSS CUT

Read Fig. A. Set arm at right angle to the guide fence, at 0° on the miter scale. With the miter latch in column slot at 0° position, securely lock arm with arm clamp handle. Place material on work table, against guide fence, draw saw blade across for the cut just far enough to sever wood. After completing cut, return saw blade behind guide fence.

The model 35010 "Roller Head Stop" accessory is available for use as an adjustable cross cut stop to prevent motion of the blade beyond the position necessary to complete the cut when performing repetitive cutting operations.

NOTE: Adjust the anti-kickback assembly to just clear the workpiece in all crosscutting operations.

To achieve maximum crosscut when blade is vertical only (no bevel), position the bevel stop horizontally. (See page 16, item 4 — yoke assembly.) Do not perform this operation when doing bevel cutoff work.

MITER

Read Fig. A. Release arm clamp handle, lift miter latch. Swing arm to desired angle shown on miter scale. For 45° miter cuts, right or left, locate the miter latch in the proper 45° column slot. Securely lock arm with clamp handle. Intermediate angles: lock arm in position with arm clamp handle only. Cutting action same as cross cut.

IN-RIP/OUT-RIP

Read Fig. C. Start with arm locked in cross cut position. Pull out motor to end of arm. Pull yoke clamp handle against pin lifter. Revolve motor 90°, right or left, for out-rip or in-rip position, and lock yoke clamp handle. Locate saw for desired width of rip, using rip scale, and lock saw carriage by tightening rip lock against side of arm. Adjust guard so that infeed end almost touches material. Lower anti-kickback assembly so that fingers are approximately 1/8 inch lower than material. Slide the piece of material to be cut under anti-kickback fingers. Try pulling material in opposite direction. The anti-kickback fingers should grab it, if they do not readjust anti-kickback assembly. With material against guide strip, feed evenly into saw blade; give it a chance to cut. DO NOT FORCE. DO NOT FEED FROM ANTI-KICKBACK SIDE OF GUARD. FOLLOW INSTRUCTIONS ON CAUTION TAG. Anti-kickback with spreader. See accessory page 19 for catalog number.

OPERATING INSTRUCTIONS for Anti-kickback Spreader

1. Disconnect the electrical power.

RIPPING

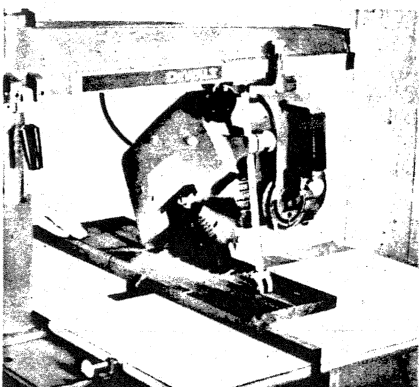
1. Rotate the adjusting screw to center the splitter blade in the kerf made by the blade.
2. Adjust the upper guard to drag lightly on the top surface of the workpiece. Lock it securely in this position.
3. Lower the splitter and kickback until the kickback fingers are about 1/8" below the top surface of the workpiece. Lock it securely in this position.
4. Slide the workpiece under the kickback fingers in the normal rip direction. Try to pull the workpiece backwards. If the fingers do not prevent backwards movement repeat step 3.

CROSS-CUTTING

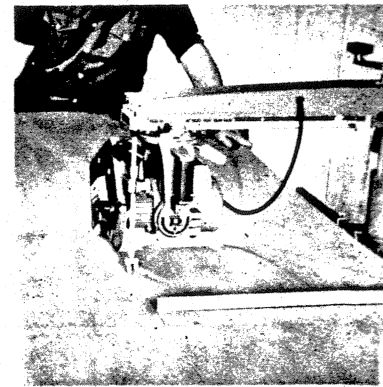
1. Adjust the splitter and kickback so that the splitter blade just clears the fence and workpiece. Clamp it in this position. This provides blade guarding from the front direction.



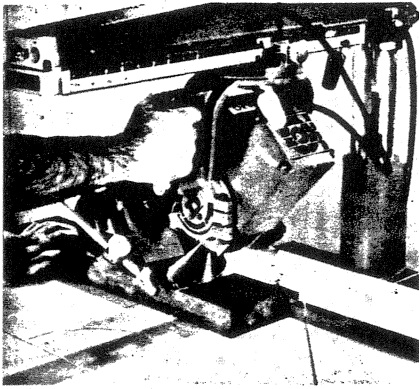
MITER



IN-RIP



OUT-RIP



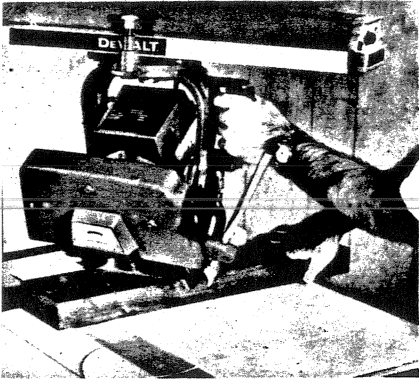
CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with the upper guard in place and lower guard where applicable.

BEVEL CUT-OFF

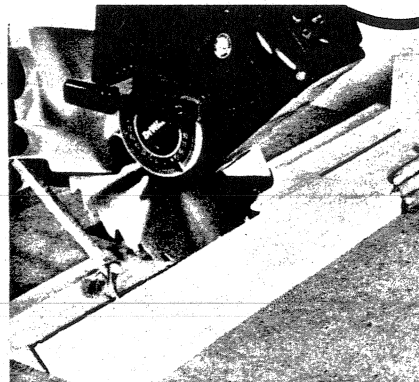
Read Figs. B and D. Start in cross cut position. Elevate the saw by rotating crank on top of column. Pull out locating pin and release bevel clamp handle. Tilt motor in yoke to angle desired on bevel scale. Locating pin quickly locates 0°, 45° or 90° positions. If any other angle is desired, bevel clamp will hold motor rigidly in position.

CAUTION: POSITION BEVEL STOP VERTICALLY BEFORE MAKING BEVEL CUT. (See Page 16, item 4)



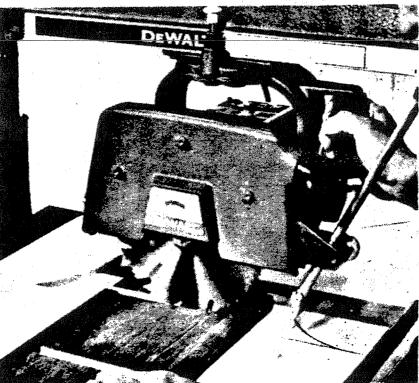
COMPOUND MITER

Read Figs. A, B and D. Start in bevel cut-off position. Lift miter latch, release arm clamp handle. Swing the arm into desired miter position, usually 45° or in-between angles, then relock arm clamp handle. Pull saw across for miter cuts. The compound miter cut is simply a combination bevel and miter cut.



BEVEL RIP

Read Figs. B, C, and D. Start in bevel cross-cut position as described above. Now, place the saw into rip position and (using rip lock) lock securely against arm at desired point. Be sure to lower guard at in-feed position, adjust the anti-kickback device and then use a wood "pusher" board to further prevent kickback.

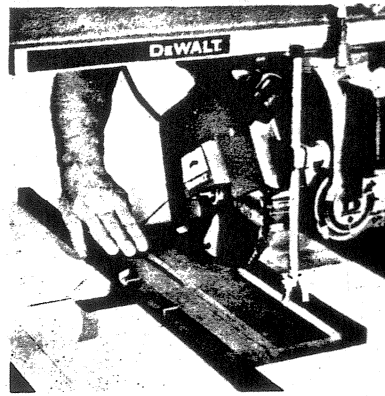


DADO

Replace saw blade with dado head. Use for across or angle dado cuts same as saw blade. When determining depth of cut, simply lower dado until it just touches top of material. Then lower dado head as desired. Each full turn equals 1/8", one-half turn 1/4", etc. Wide dado cuts can be made by making successive passes across the material.

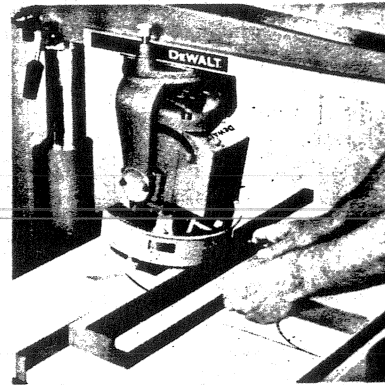
PLOUGH

This operation is done with dado head in RIP position. Lower dado head for depth of cut desired, then lock carriage securely against machine arm. Be sure to adjust guard on in-feed side, lower anti-kickback assembly to hold material. When starting cut, hold material firmly down on table and back against guide. Feed evenly.



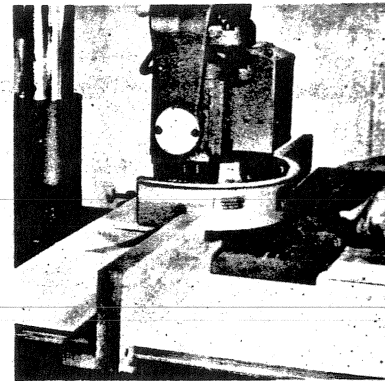
RABBET

Re-read Figs. B, C and D. First, elevate arm until motor locates in 90° vertical position. Place shaper guard over dado head. Swivel motor into rip position so that guard sets above material. Use column crank, also rip lock to set dado for cut desired. Feed material evenly, firmly against guide. Tilt motor for bevel rabbit cuts.



SHAPE

Place shaper cutter on motor arbor; cover with shaper guard. Now, set up the machine in the same position as RABBET. Set shaper cutter for the profile desired. Lock saw carriage securely, adjust shaper guard so that it just clears the material. Feed the material firmly and evenly into the shaper cutters. Maintain positive pressure.



DISC SANDER

Place disc sander directly on motor spindle. Locate disc sander wherever desired on machine. For bevel and surface sanding only, place shaper guard over the disc sander. For finish work on angles, use work support fixture. For surface sanding tilt the disc sander into vertical position. Feed the material evenly for best results. Use finer paper for final finish.



CAUTION

For purposes of clarity, the lower guard is omitted from the photographs inside this manual. However, ALL cuts must be made with the upper guard in place and lower guard where applicable.

CUTTING KERF MARKS

After all your adjustments are made you should now cut into the table top the most common kerf marks. This will allow you to move the saw into different positions without changing the elevation. To do so proceed as follows:

- (a) Locate and lock the arm 90° to the fence. Locate the blade 90° to the table.
- (b) Draw the saw out to about the middle of the track and lower the blade until it just grazes the ply top.
- (c) Turn the saw on and push the roller head all the way back. This will cut the fence and lightly score the ply top.
- (d) Lower the arm (saw still running) $\frac{1}{4}$ turn. Pull the saw forward to the end of the arm with your *left hand*. This will cut a groove in the table top $\frac{1}{32}$ " deep. Tighten Rip Lock. (Refer to figure 1)
- (e) With the saw still running, release yoke clamp handle and locator pin. You can now rotate the yoke in a clockwise direction. Continue rotating the yoke until the spring mounted yoke locator pin falls into the next hole. You have now cut in the table top a $\frac{1}{4}$ turn groove known as the swing line. The saw is now in the "in-rip" position. (Refer to figure 2) Loosen Rip Lock.
- (f) Once the $\frac{1}{4}$ turn out is complete lock the yoke lock with your right hand and with the blade still revolving push the yoke back on the track until the blade reaches the fence. This will cut the rip trough in the center of the table. Stop Motor. (Refer to fig. 3)
- (g) Return saw to position shown in figure 1. Lock Rip Lock and start motor. Release yoke clamp handle and locator pin and rotate yoke counterclockwise to the outtrip position. This cuts the swing line for outtripping. Loosen rip lock.
- (h) Lock the yoke lock (clamp handle), and with your right hand and blade still revolving, push the saw back until the new trough matches the trough cut in (f). Stop Motor.
- (i) Return saw to position shown in figure 1 and move to the rear position behind the fence.
- (k) Lock Rip Lock and start motor. With motor running release the arm clamp handle and miter latch and move arm to the 45° right hand miter position. This will cut a trough for mitering. (Optional step) Repeat above for 45° left hand miter. Stop Motor.

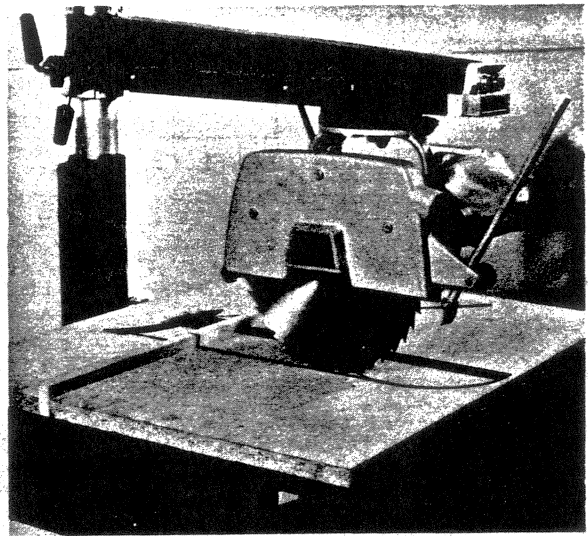


FIGURE 1

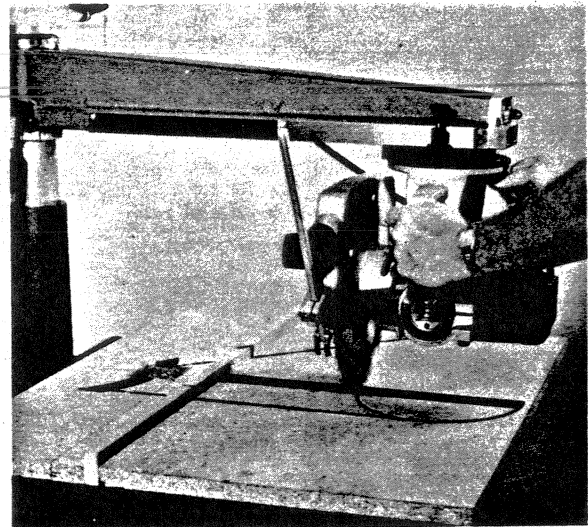


FIGURE 2

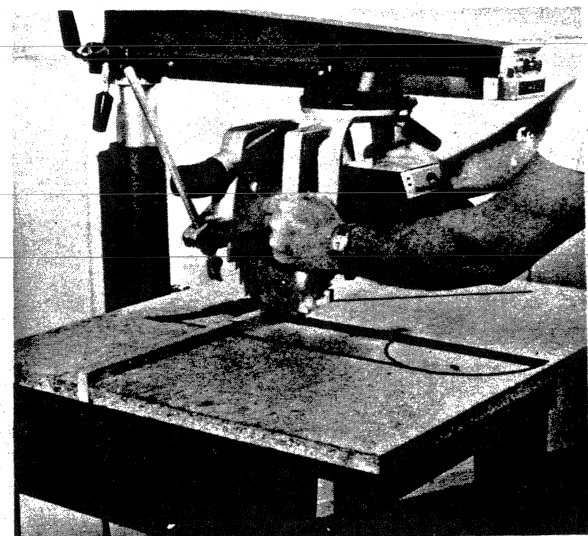
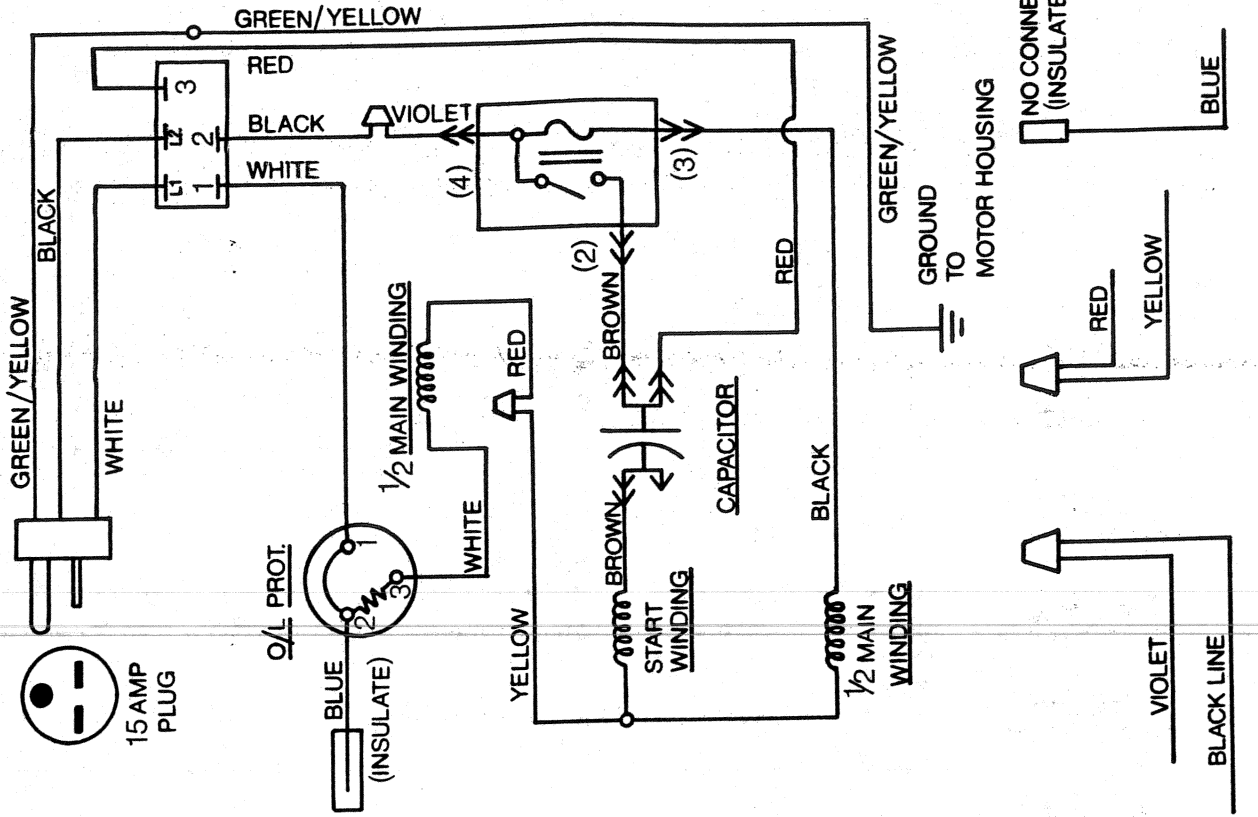
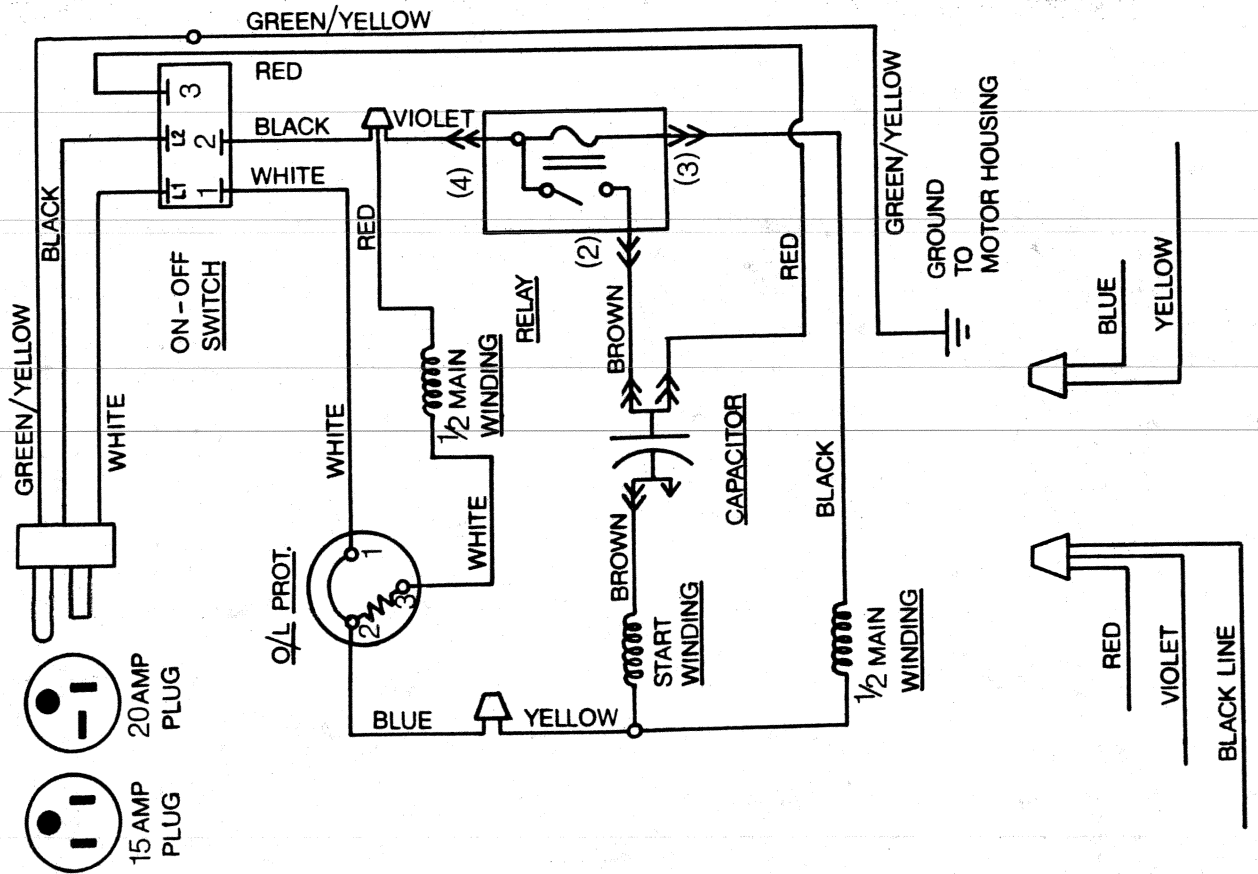


FIGURE 3

WIRING DIAGRAM 121627-00

120 VOLT CONNECTION

240 VOLT CONNECTION







ATTACHMENTS & ACCESSORIES

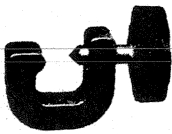
Recommended Accessories for your Radial Arm Saw are illustrated and listed in the Black & Decker Dewalt Catalog and are stocked by authorized Distributors. These accessories include SAW BLADES (in many different types), DISC SANDER, DRUM SANDER, JOINTER CUTTER HEAD, SHAPER HEADS,

SABRE SAW, DADO CUTTERS, BLADE GUARDS, PLANER HEAD, FENCE STOP, LEG STAND, RETURN REEL, and 64-page BOOK, "How To Get The Most Out of A Radial Arm Saw".

CAUTION: The use of an accessory other than those recommended might be hazardous.

RADIAL SAW: SAW BLADES All blades listed have 15.9 mm (5/8") arbor hole.

	Cat. Number	Size	Type	No. of Teeth	Quality
	R1041	254.0 mm (10")	Combinaton, Chisel Tooth	30	Premium
	R1034	304.8 mm (12")	Combination, Chisel Tooth	44	Premium
	R2919	203.2 mm (8")	Plywood Veneer, Taper Ground	176	Standard
	R1014	254.0 mm (10")	Plywood Veneer, Taper Ground	200	Premium
	R1013	254.0 mm (10")	Planer, Hollow Ground	75	Premium
	R1426	254.0 mm (10")	Rip	36	Standard



35010 Roller Head Stop. Mounts on arm of 254 mm (10") and 305 mm (12") machines to limit travel of roller head to any desired cut-off length.



Automatic Return Device. Fastens to rear of machine arm. Returns saw carriage to rear position. **35026** fits 8" radial arm saw, plus 10" and 12" Powershops.

34001 Complete Guard Assembly for 305mm (12") Radial Arm Saws.

35601-15 "The Magic of Your Radial Arm Saw" Illustrated 310 page book of descriptive ideas and technique for using a Radial Arm Saw.

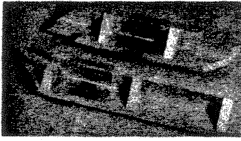


R1818 Splitter and Anti-Kickback Device. For 305 mm (12") for 7790/3431, 7780.

Lower Blade Guards. Free floating device rides over stock being cut.

RADIAL SAWS Shape & Joint

Make finished edges for glue jointing long boards. Edge & surface shape with many different knife sets for decorative mouldings and cabinet making, panel raising and other special woodworking effects.



30025 Shaper / Jointer Fence. Converts saw for precise shaping and jointing operations. In feed fence has 1/32" & 1/16" adjustments.

Deluxe Shaper & Knives Yield Finest Quality Work.



R6480 2-Knife Shaper Head. 127 mm (5") long. 38.1 mm (1 1/2") wide, 15.88 mm (5/8") arbor hole.



R3076

Sets of 2 Knives—Self Aligning. 6.4 mm-9.6 mm (1/4"-3/8") thick, 25.4 mm-38.1 mm (1"-1 1/2") long. High speed steel with one hole and held by 6.4 mm (1/4") socket screw.



R6477

R3076 8 mm (5/16") Bead and Cove Knives



R6478

R6477 50.8 mm (2") Jointing/Surfacing and Panel Raising Knives

R6478 Cabinet Door Lip Knives, 9.6 mm (3/8") radius, 7° rake

Economical Starter Set and Knives



R6501 3-Knife Shaper Head Set. 1 R6500 Head; 1 R6505 Glue Joint Knives; 1 R6512 Universal Bead Knives; 1 R6515 Cabinet Door Lip Knives; 1 R6517 8 mm (5/16") Bead and Cove Knives.



R6506

Sets of 3 Knives:

R6506 Ogee Casing Knives



R6518



R6519



R6520

R6518 25.4 mm (1") Straight Knives

R6519 Tongue Knives

R6520 Groove Knives



34003 Tool Guard. Replaces standard blade guard for shaping, jointing, disc sanding and planing operations. Will accommodate tools up to 203.2 mm (8") dia.

RADIAL SAWS Saber Saw



30020 Saber Saw. Does curve work the fast easy way in wood, plastic, metal. Complete with blade.

R8028 Saber Saw Blades. Consists of one each: Fine, Medium, Coarse.

RADIAL SAWS Rout

35500 Router Attachment. Holds router motor for overarm routing applications. Ideal for variety work. Uses most Router motors.



RADIAL SAW Plane & Sand

Rotary planers surface and size boards. Sanders finish surfaces with either straight or curved edges.

R6380 Rotary Planer (includes knives and wrench). Surface planes. Excellent for thickness sizing, panel raising.

R6383 Knife Set. 2 Knives for R6380

Disc Sander. 15.9 mm (5/8") L.H. thread. **R7470 203.2 mm (8") dia. Sander Disc Set** (includes bevel edge disc, one 203.2 mm (8") dia. pressure-sensitive sandpaper disc No. 60 grit). Fast material removal. Surface, end grain and bevel sanding.

30016 6 assorted 203.3 mm (8") pressure-sensitive sandpaper discs (1 No. 50, 2 No. 60, 3 No. 80 grits).

Drum Sanders.

30092 3" (76.2 mm) dia., 76.2 mm (3") long Drum Sander, 15.9 mm (5/8") L.H. thread. Fits arbor shaft of all 254 mm (10") and 305 mm (12") models for straight and curved edges up to 50.8 mm (2") thick.

30091 2" dia. (50.8 mm) Drum Sander, 76.2 mm (3") long, 15.9 mm (5/8") L.H. thread. Fits arbor shaft of all 254 mm (10") and 305 mm (12") models for medium radius curves and delicate sanding.

30090 1" dia. (25.4 mm) Drum Sander, 76.2 mm (3") long, 15.9 mm (5/8") L.H. thread. Fits arbor shaft of all 254 mm (10") and 305 mm (12") models for small radius curves and delicate sanding.

RADIAL SAW Dado

These great DADO SETS cut uniform slots, grooves, half laps, drawer corners, rabbet cuts, with Spacers and Chippers Assure Finest Quality Cut and Precision over Longest Life.

R6024 152.4 mm (6") Dado Head Set. Flat Ground (2 Blades, 4 Chippers 3.2 mm (1/8"), 1 Chipper 1.6 mm (1/16") 15.9 mm (5/8") bore.

R6025 203.2 mm (8") Dado Head Set. Flat Ground (2 Blades, 4 Chippers 3.2 mm (1/8"), 1 Chipper 1.6 mm (1/16") 15.9 mm (5/8") bore.



IMPORTANT!

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To assure product RELIABILITY, repairs, maintenance and adjustment, should be performed by Black & Decker Service Centers or DeWALT Authorized Service Centers, always using DeWALT replacement parts.

HOME & COMMERCIAL USE WARRANTY (A LIMITED WARRANTY)

Black & Decker (U.S.) Inc. warrants this product for one year from date of purchase. We will repair without charge, any defects due to faulty material or workmanship. Please return the complete unit, transportation prepaid, to any Black & Decker Service Center or Authorized DeWalt Service Station. This warranty does not apply to accessories. This warranty gives you specific legal rights and you may have other rights which vary from state to state. Should you have any questions, contact your nearest Black & Decker Service Center Manager.



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