

Black & Decker[®]



OWNER'S MANUAL

READ MANUAL BEFORE OPERATING SAW



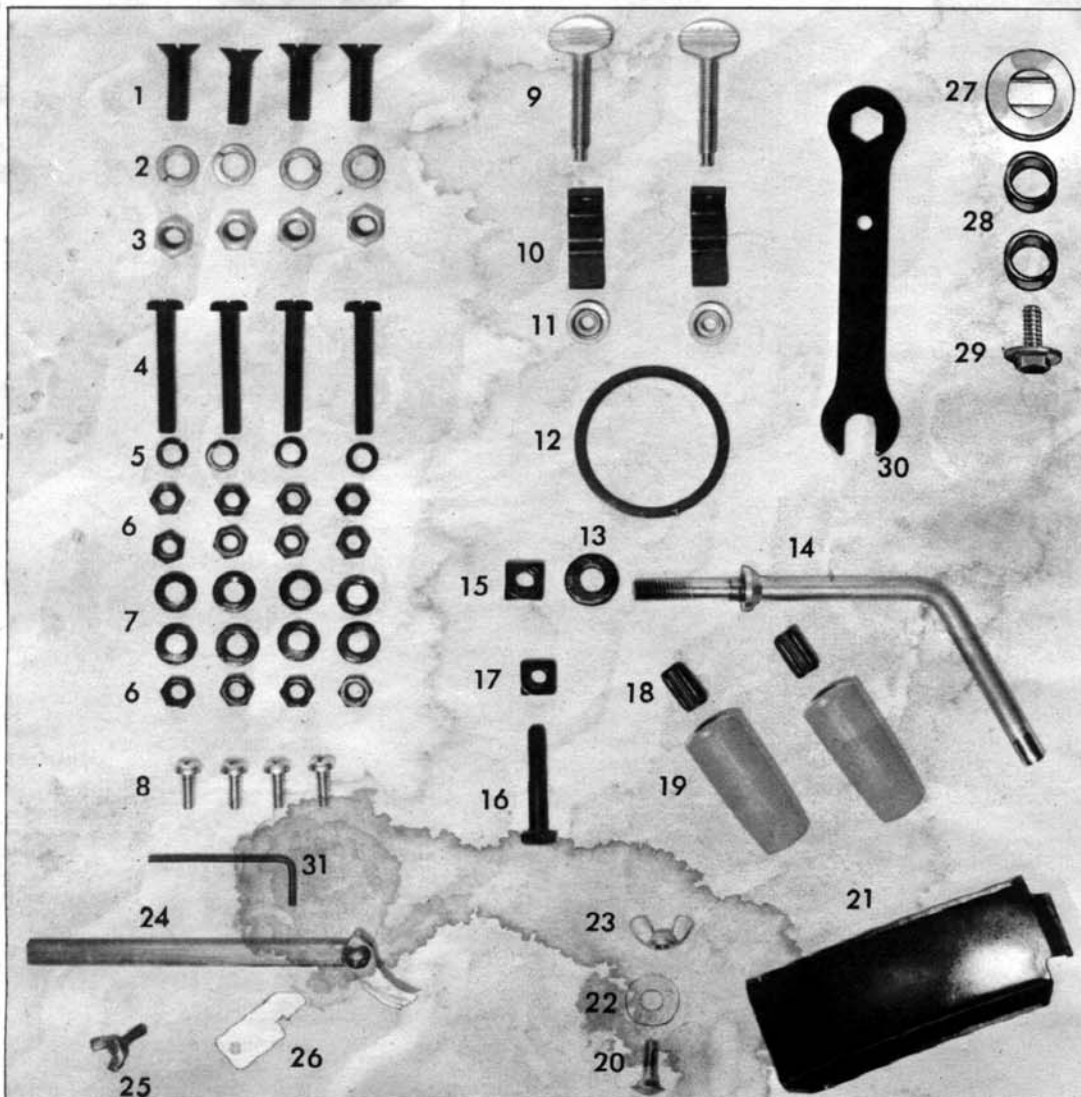
**COMPACT RADIAL ARM SAW
No. 7700 TYPE A
Bulletin No. 2633**

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UNPACKING & SET-UP INSTRUCTIONS

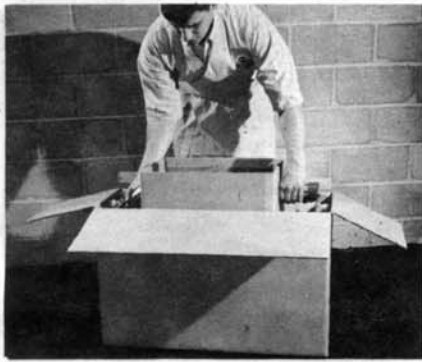
You can easily and safely set up your new Black & Decker Radial Arm Saw, one of America's most popular power tools. Handling is minimized because every machine is partially assembled for shipment to you. The only tools required are the wrenches furnished with the machine, Phillips screwdriver, regular screwdriver, and adjustable wrench. Just follow this easy step-by-step procedure on pages 3 & 4 in setting up your new saw!



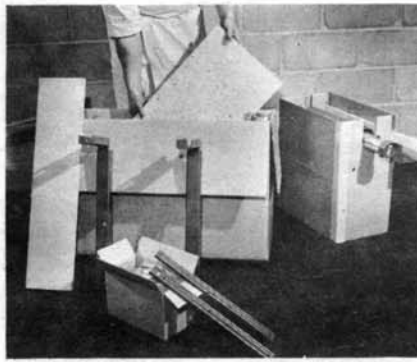
←
THIS IS THE
PARTS
ILLUSTRATION
MENTIONED
IN STEP 3
ON FACING
PAGE

PARTS IDENTIFICATION

NO.	ITEM	QUANTITY	NO.	ITEM	QUANTITY	NO.	ITEM	QUANTITY
1	3/8" Dia. Flat Hd. Screws	4	11	Eyelets	2	21	Safety Guard Extension	1
2	Lock Washers	4	12	Large Thrust Washer	1	22	Washer	1
3	3/8" Dia. Nuts	4	13	3/8" I.D. Washer	1	23	Wing Nut	1
4	2" Lg. Pan Hd. Screws	4	14	Base Clamp	1	24	Anti-Kickback Device	1
5	Lock Washers	4	15	Square Nut	1	25	Wing Bolt	1
6	Hex Nuts	12	16	1 3/4" Lg. Hex Bolt	1	26	Key	1
7	Flat Washers	8	17	Square Nut	1	27	Arbor Washer	1
8	Self Tapping Phillips Screws	4	18	Inserts	2	28	Spacer Washers	2
9	Thumb Screws	2	19	Handles	2	29	Arbor Screw	1
10	Cleat Brackets	2	20	1/4-20 x 7/8" Lg. Carriage Bolt	1	30 & 31	Wrenches	2

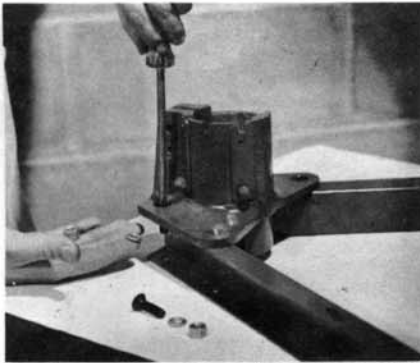


1. Remove saw from carton.

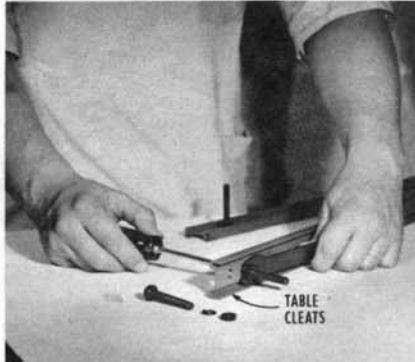


2. Remove remainder of contents from carton.

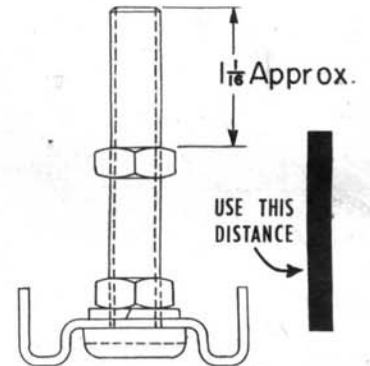
3.
Lay out contents of hardware bag in sequence illustrated in the photograph on page two (2), handy to the assembly area.



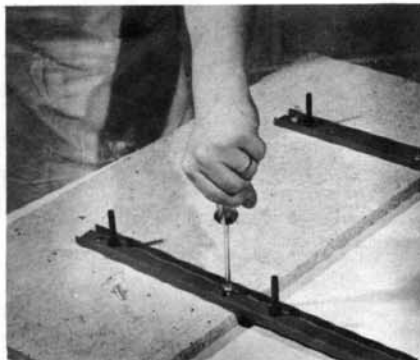
4. Remove base from carton and assemble table frame (2 pieces) to the base using (4) flat head $\frac{3}{8}$ " dia. screws, lock washers, and large $\frac{3}{8}$ " dia. nuts. Tighten securely with wrench.



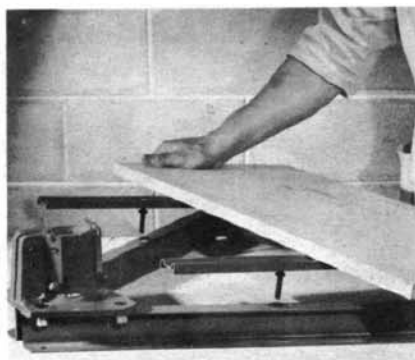
5. Install the (4) 2" long pan head bolts to the table cleats using hex nuts and lock washers supplied. **Make sure these nuts are very tight!**



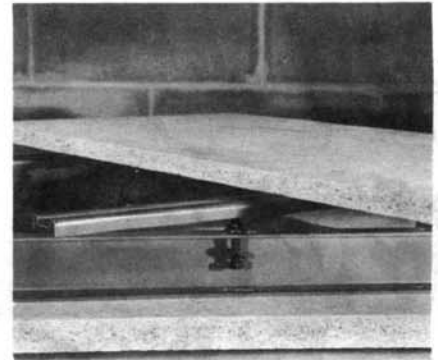
6. Screw (4) more hex nuts onto the (4) pan head bolts so the bolts extend beyond the nuts approximately $1\frac{1}{16}$."



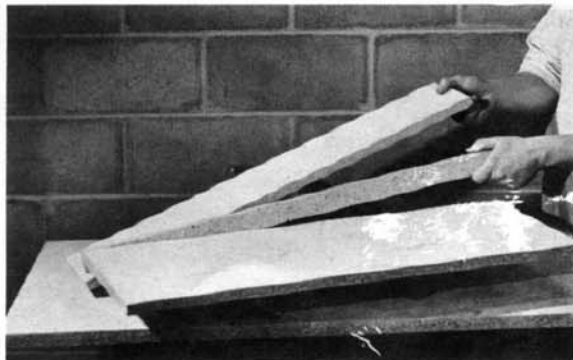
7. Attach the cleats to the underside of the table with the self-tapping Phillips screws. Tighten securely but do not strip the novaply top.



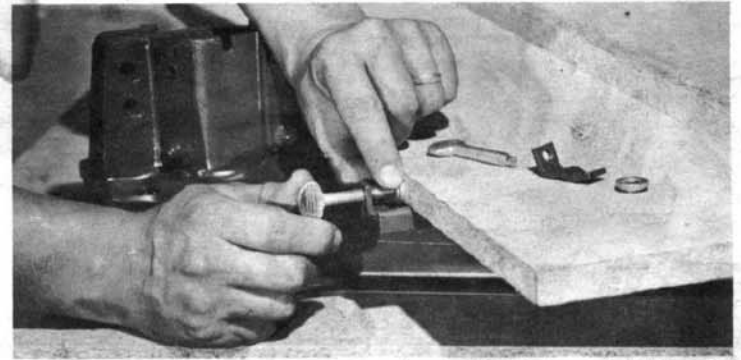
8. Place the (4) flat washers over the elongated holes in the frame. Install the table to the frame making sure the 2" bolts go through each washer.



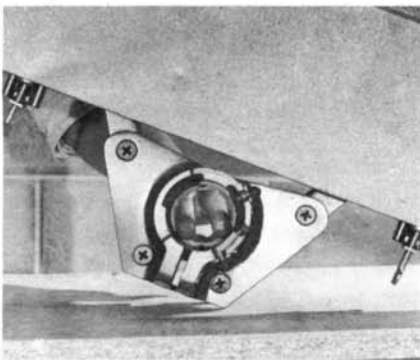
9. Screw the (4) nuts and washers to the 2" bolts and leave loose. These will be tightened when you adjust the table 90° to the arm.



10. Place the fence and back board in position.



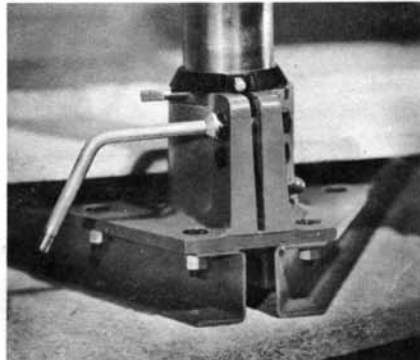
11. Screw the long thumb screw into the cleat bracket and install bracket by slipping it through the rectangular hole in the cleat. With one hand hold the eyelet against the back board in line with the thumb screw while turning the thumb screw with the other hand to force the stud into the eyelet until it snaps in place. Repeat for the other side.



12. Insert the large thrust washer into the base from the bottom as shown. **Important**—the base of the arm should rest on this thrust washer.



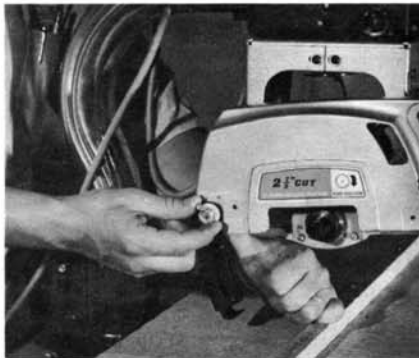
13. Remove the arm and motor assembly from the packing. Insert the rear of the arm into the base as shown. Lubricate arm under miter scale by applying grease over entire surface. Turn and "wiggle" the end of the arm to ease it in place. Pull the miter locator pin so the arm goes all the way down.



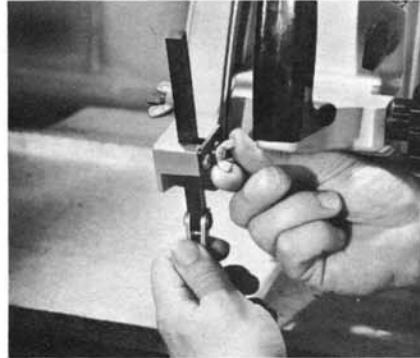
14. Place the $\frac{3}{8}$ " ID Washer over the threaded end of the base clamp (Lubricate this washer and threads with a small amount of grease). Install the base clamp in the upper hole using the $\frac{3}{8}$ " square nut in the recess of the base casting. Insert $1\frac{3}{4}$ " hex bolt into the bottom hole of the base with the square nut in the recess.



15. Place insert about $\frac{1}{8}$ " on clamp handles. Then push plastic knob over insert and onto shaft.



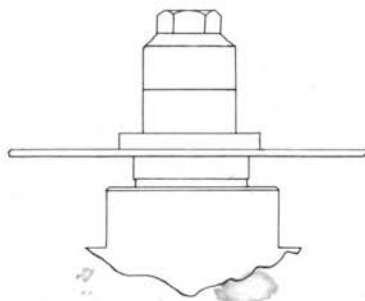
16. Install the $\frac{1}{4}$ -20 x $\frac{7}{8}$ " carriage bolt into the rear square hole of the saw guard with the bolt head inside. Put the safety guard extension cover in place and secure it with a washer & wing nut.



17. Insert anti-kickback device in front end of the guard and secure it with the wing bolt.



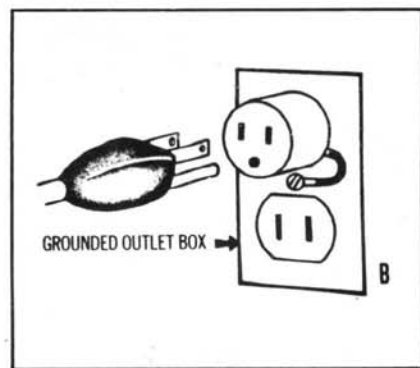
18. To install the blade rotate the saw to the out-rip position (see page 7) at the end of the arm as shown. Place blade on arbor following the illustration on the guard so the teeth of the blade and direction arrow point in the proper direction.



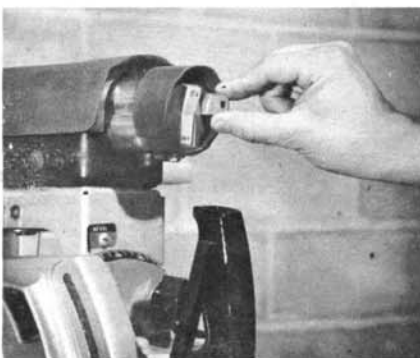
19. Place the large arbor washer on the outside of the blade, then (2) spacer washers and arbor screw. **Note:** left hand thread.

IMPORTANT CLUTCH ADJUSTMENT

Tighten arbor screw until the spring washer flattens. Then back off $1/6$ turn (one flat on the hex head). This allows blade to slip on spindle if it should jam in the work. **If blade jams stop saw immediately!** Clutch will not function if the screw is not set properly.



20. If power outlet is not a 3-prong grounded type use an adaptor with a ground lead as illustrated. The use of a separate 20 Amp. Branch circuit to the machine is recommended.



21. Do not plug saw into receptacle at this time. Insert key in slot with notch down. Switch can now be operated. Key can be removed with upward and outward motion.

NOTE

This unit will fit a R1102 Leg Stand. Before making any adjustments mount your saw on a leg stand or appropriate table. Table top of saw should protrude approximately four (4) inches over mounting surface.

IMPORTANT

REFER NEXT TO "SAFETY, INTRODUCTION AND ALIGNMENT PROCEDURES" ON FOLLOWING PAGES. YOUR SAW MUST BE COMPLETELY ALIGNED BEFORE MAKING ANY CUTS.



SAFETY RULES FOR POWER TOOLS

1. KNOW YOUR POWER TOOL—Read owner's manual carefully. Learn its applications and limitations as well as the specific potential hazards peculiar to this tool.
2. GROUND ALL TOOLS—UNLESS DOUBLE-INSULATED. If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If adapter is used to accommodate two-pronged receptacle, the adapter wire must be attached to a **known ground**. **Never** remove third prong.
3. KEEP GUARDS IN PLACE and in working order.
4. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
5. AVOID DANGEROUS ENVIRONMENT. Don't use power tool in damp or wet locations. And keep work area well lighted.
6. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
7. STORE IDLE TOOLS. When not in use, tools should be stored in dry, high or locked-up place—out of reach of children.
8. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
9. USE RIGHT TOOL. Don't force small tool or attachment to do the job of a heavy duty tool.
10. WEAR PROPER APPAREL. No loose clothing or jewelry to get caught in moving parts. Rubber gloves and footwear are recommended when working outdoors.
11. USE SAFETY GLASSES with most tools. Also face or dust mask if cutting operation is dusty.
12. DON'T ABUSE CORD. Never yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
13. DON'T OVERREACH. Keep proper footing and balance at all times.
14. MAINTAIN TOOLS WITH CARE. Keep tools sharp at all times, and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. DISCONNECT TOOLS. When not in use, before servicing; when changing accessories such as blades, bits, cutters, etc.
16. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

MAINTENANCE & OPERATION

1. Connect to power supply with not less than number 12 size wire.
2. Protect line with at least a 15 ampere time delay fuse.
3. Be sure blade rotates clockwise when facing arbor.
4. Be sure all clamp handles are tight before starting any operation. Push back to tighten. Pull to loosen.
5. Make sure blade and arbor collar is clean and collar is against blade. Tighten arbor screw securely, and set clutch. (See clutch instructions).
6. Keep the saw blade sharp and properly set.
7. Use anti-kickback device on guard; never remove it.
8. Keep arm tracks and bearing surfaces clean and dry. Periodic dry cleaning is recommended.
9. Periodically recheck alignment (see alignment chart).
10. Always loosen thumb screws at rear of table when machine is not in use.
11. Keep motor air slots clean and free of chips.
12. Do not attempt to operate saw on anything but the designated voltage.
13. Do not use blades of larger diameter than 8".
14. Keep the saw blade sharp. Cracked or improper type blades should not be used.
15. Never oil or grease arm tracks or the motor.
16. Do not wedge anything against fan to hold motor shaft.
17. Saw and table top should be kept away from dampness.
18. Never force cutting action. Stalling or partial stalling of the motor is dangerous and can cause major damage to motor winding. **If motor stalls turn switch off immediately.**
19. Do not remove ground prong from plug. Never operate the saw unless it is properly grounded.
20. Be sure you are alert. If you are fatigued, rest before you work.
21. Always use safety guard properly adjusted for the operation you are performing.
22. The motor and yoke should be safely behind the guide fence before you start to cut. The saw should always be returned to the rear of the table after making a cut, and before you remove any stock from the table.
23. Be certain the equipment is turned off before making any adjustments.
24. When ripping, always feed the material past the safety guard from the side opposite the anti-kickback device. Never stand in back, or in direct line with the saw.
25. The saw blade or tool should be completely stopped before you leave the machine.

ALIGNMENT

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.

ADJUSTING BASE TO ARM

Make certain the base is absolutely snug around the arm. Lock the base around the arm tightly by pushing the base clamp away from you. If it does not lock in the position shown in Fig. A1, adjust as follows:

1. Loosen base clamp and remove it from base.
2. Tighten the $\frac{1}{4}$ " bolt with a wrench until base is snug around the column and no appreciable play is noticed.
3. Replace base clamp.
4. Position base clamp so that when it is locked the handle position will be upright. If it is not, turn the nut $\frac{1}{4}$ or $\frac{1}{2}$ turn to reposition handle.
5. Release the base clamp by pulling it toward you, and pull out the miter locator pin. You should now be able to push the arm to the right and left and feel a slight drag.
6. If it is too hard to move, loosen the $\frac{1}{4}$ " bolt a little.

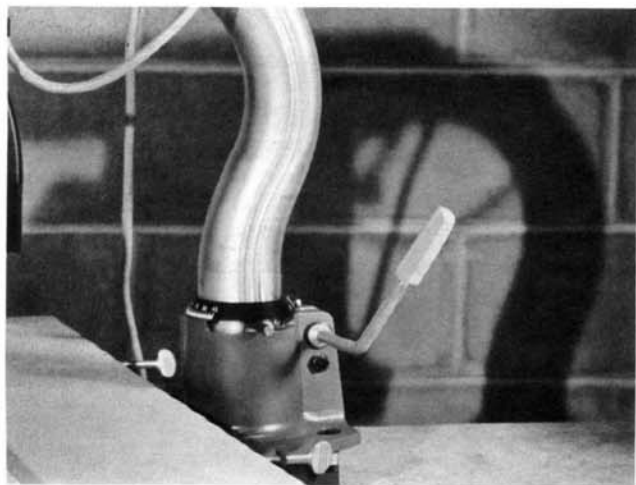


Fig. A1

ADJUSTING TABLE TOP PARALLEL WITH ARM

You will notice the mounting bolts, which hold the table to the frame, are quite long. The washers and nuts, on the top and bottom of the frame, suspend the table above the frame about 1". There is an important reason for this construction. By turning these nuts up or down we can adjust the table parallel to the arm. If the table is parallel to the arm, then any groove you cut will be the same depth from front to back. A simple method of adjusting the table to be parallel with the arm is as follows:

1. **Remove blade.** Turn the anti-kickback rod on the guard upside-down. The lower end of the rod will be used as an indicator to determine if the entire table surface is the same distance from the arm.
2. Set the elevation adjustment so the end of the rod is about $\frac{1}{8}$ " above the table top (Fig. A-2).
3. Push the saw all the way back. If the rod strikes the surface, as you push it back, elevate it a little more so it is $\frac{1}{8}$ " above as before.
4. Pull the miter locator pin and move the arm to your right until the pin falls into the 45° slot on the base. As you move the arm, if the end of the rod strikes the table, elevate it a little more as before. With the arm 45° to the right and the saw all the way back, turn the height adjustment until the rod is just above the surface of the table.
5. Hand tighten the nuts on the back right table suspension bolt.
6. Pull the saw forward to the end of the track. If the end of the rod strikes the table **do not** change the height adjustment of the saw. Instead, lower the front right side of the table by turning the upper nut on the suspension bolt up a few turns. You should now be able to push the front right corner of the table down so the rod indicator can pass over the surface without striking it.
7. Adjust the suspension bolt nuts so the top of the table on the front right side just touches the end of the anti-kickback rod the same as the back. Tighten the nuts by hand.
8. Pull the locator pin and swing the arm to the left hand 45° miter and check the height. If it is incorrect, adjust the same as before. Push the saw back and adjust the rear left side of the table. **Hand tighten adjusting nuts.**

Incidentally, you do not have to start the table adjustment with the right rear bolt. You can start with any one of the bolts, if you find it more convenient.



Fig. A2

INTRODUCTION

You have now set up your saw by following the preceding directions. But before operating this tool, there are two important things you must do.

1. Familiarize yourself thoroughly with the principles of radial arm sawing. See Page 6 for names of components.
2. Carefully follow the alignment and adjustment procedures.

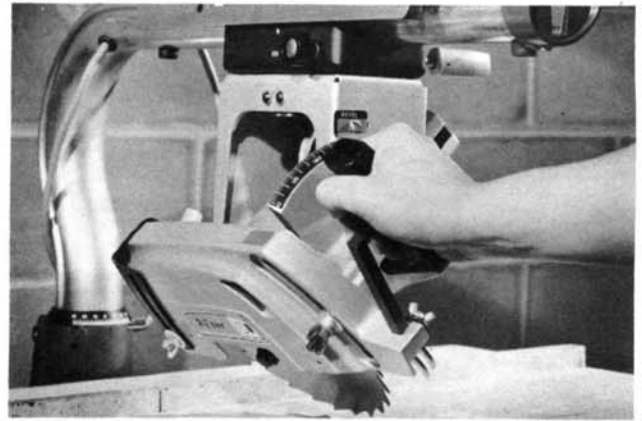
The five basic movements are shown below.



ELEVATION—Release wing nut with left hand and turn black knob with right hand. This raises and lowers saw. Lock in position by tightening wing nut. NOTE: The saw guard should be approx. parallel with the table when the blade is in place. If it is not, adjust the table by turning the nuts on the table adjusting screws.



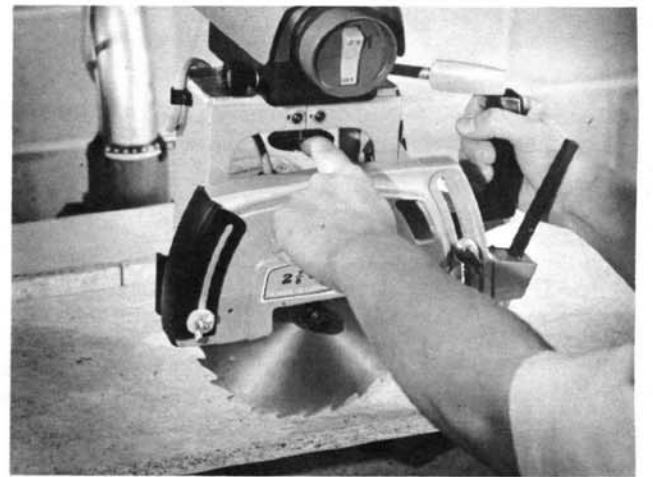
CROSS CUTTING—Unlock rip lock by turning counterclockwise—pull saw back and forth. If the saw does not go all the way behind the fence or it does not hit the front bumper push it against the front or rear bumper several times with a hard tap.



BEVELING—Elevate saw all the way up. Release the bevel lock knob—rotate saw to desired angle. (Saw automatically stops at 45°).



MITERING—Reach around to base and release clamp handle—pull miter pin and rotate saw to desired angle. (Saw automatically stops at 45°). Lock base clamp.



RIPPING—Release yoke clamp handle by pulling it toward you. Using left index finger depress index pin and rotate saw to in-rip or out-rip position. When pin clicks into place, rotate saw counterclockwise a few degrees until it stops. Lock yoke handle.

ALIGNMENT

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3. Replace base clamp.
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5. Release the base clamp by pulling it toward you, and pull out the miter locator pin. You should now be able to push the arm to the right and left and feel a slight drag.
6. If it is too hard to move, loosen the $\frac{1}{4}$ " bolt a little.

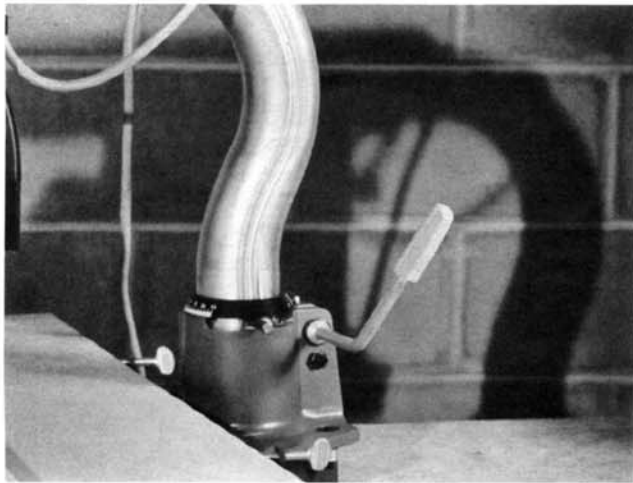


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8. Pull the locator pin and swing the arm to the left hand 45° miter and check the height. If it is incorrect, adjust the same as before. Push the saw back and adjust the rear left side of the table. **Hand tighten adjusting nuts.**

Incidentally, you do not have to start the table adjustment with the right rear bolt. You can start with any one of the bolts, if you find it more convenient.



Fig. A2

ADJUSTING FOR SQUARE CROSS CUT

Install blade. Now you are ready to adjust the arm to be 90° to the fence. You will notice the saw locates at 90° when the tapered pin falls into the slotted hole on the left side of the base. This is a spring loaded pin which passes through (2) holes in the post. The holes are held to a close tolerance at the factory but, they must be large enough to enable the pin to be pulled out without binding. If you locate the arm at 90° or 45° you will be able to move the end of the arm to the right and left about $\frac{1}{2}$ ". This is due to the clearance of the holes in the base. **In order to locate in the same place each time, the hole clearance is taken up by pushing the arm to the right until it stops.** Lock the base by pushing back on the base clamp. **Make it a habit of always locating the arm at 90° or the (2) 45° locations by approaching the position from the left, letting the pin fall in place and bear on the arm slightly to the right until it stops moving, and you always have accurate cuts.** As of now this does not mean the arm is 90° to the fence. Check it as follows:

1. Put the fence in its normal position, with the blade in front of it and about $\frac{1}{32}$ " above the table.
2. Place a carpenter's square against the fence on the left side of the blade and against the blade itself.
3. Hold the square with your left hand and pull the saw forward (Fig. A3). If the arm is 90° the blade will stay against the square as you pull it out. If the arm is too far to the right, the blade will move away from the square. If it is too far to the left, it will push the square to the left. In either case correction is easy.
4. Since the nuts which hold the table to the frame are not tight, you can shift the entire table in relation to the arm by tapping the table corners with your hand or lightly with a hammer (Fig. A4).
5. When table is located so the fence is 90° to the arm, tighten the adjusting nuts on the suspension bolts carefully so as not to change the adjustment you just made.
 - a.) Tighten the bottom nuts only. This will draw the table down only slightly but the same amount on each bolt.
 - b.) As the nut is turned, it may also turn the washer above it. This could shift the table slightly, particularly if the other (3) are only hand tight.
 - c.) Prevent shifting by taking up on the first nut a little and then proceed to the next taking it up a little also.
 - d.) After all (4) nuts are snug, take up on the first again a little more and repeat on all the other nuts.
 - e.) The third time around you should be able to take them up tight without any shifting.

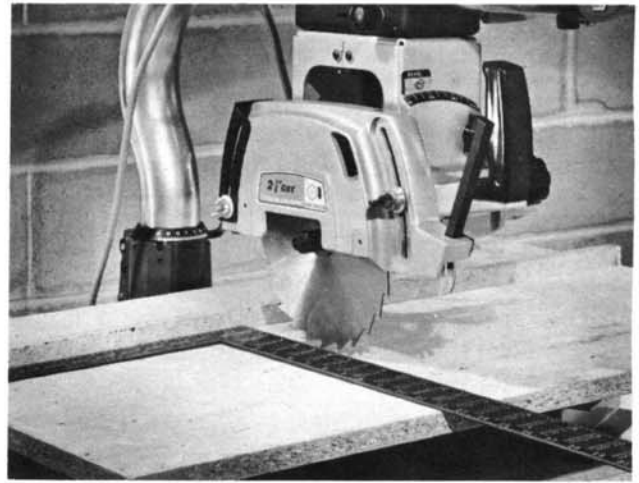


Fig. A3

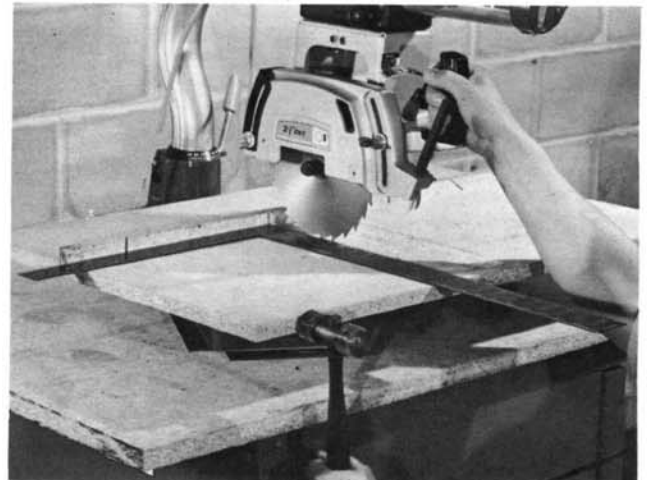


Fig. A4

MAKING MITER ADJUSTMENT

When the arm is 90° to the table, set the miter scale by loosening its set screw and turning the scale to read 0° . Tighten the set screw carefully making it just tight enough to prevent the scale from turning (Fig. A5). Once the saw has been set for 90° , it should be automatically set for 45° ; right and left.



Fig. A5

MAKING MITER ADJUSTMENT (continued)

These settings have been carefully made at the factory. However, after many years of use, metal to metal wear may cause a slight misalignment. Correct as follows:

1. Using the scale on the miter gauge move the arm to the 45° miter position.
2. Loosen the nut on the adjustable miter locator and pivot the arm so the 45° mark lines up with the white mark on the base (Fig. A6).
3. Lock the locator by tightening the nut.
4. Make some test cuts and readjust if necessary.

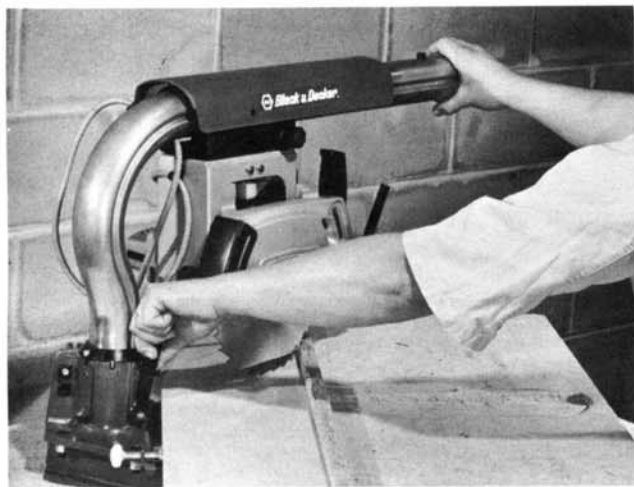


Fig. A6

ADJUSTING SAW BLADE PERPENDICULAR TO TABLE TOP

Align the blade to be 90° to the table as follows:

1. Loosen the bevel lock knob and locate the saw to the 0° position as far as it will go.
2. Look in back of the bevel knob (the inside of the front of the yoke) and you will see a steel plate with (2) curved slots. The bolt to the bevel lock knob passes through the upper slot. A cast protrusion (called a boss) rides in the lower slot. This boss, moving to the ends of the slot, precisely locates the blade at 90° or 45° to the table. See Fig. A7.
3. Place your combination square on the table against the blade Fig. A8. If the blade is not 90°, loosen the screw that holds the bevel pointer and also loosen the bevel lock knob. Shift the saw until the blade is 90°.
4. The boss should be against the end of the slot of the steel locator plate. If it is not, move the plate by hand until it is.
5. Lock the bevel knob.
6. Set bevel pointer to read 0° and tighten its screw.

BOSS

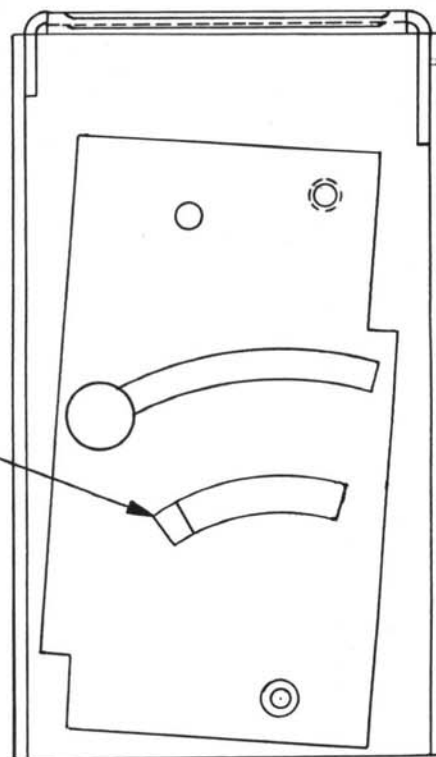


Fig. A7



Fig. A8

ADJUSTING CROSS-CUT TRAVEL PARALLEL TO ARM TRACKS (HEEL ADJUSTMENT)

This is the last immediate adjustment and it is to make certain the blade is parallel to the arm tracks and also that it is parallel to the fence when you are ripping. Adjust as follows:

1. Loosen the (2) allen socket screws which hold the locator pin sleeve (Fig. A9).
2. Loosen the yoke clamp handle.
3. Set the blade perpendicular to the fence by using a combination square as shown in Fig. A10.
4. Lock the yoke clamp handle.
5. Put one hand under the yoke and grab the yoke locator you just loosened (Fig. A11).
6. Shift it so the yoke locator pin butts against the stop on the yoke.

7. Tighten the allen set screws securely.

The blade is now in correct adjustment. **Keep in mind the arm must be 90° to the fence before you make this adjustment, otherwise, you will adjust to a false condition.** A simple method of checking this adjustment is to rotate the saw to the in-rip position and check to see if the blade is parallel to the fence (Fig. A12). If it is not, before readjusting, go back and check the crosscut adjustment. Then Readjust.



Fig. A9

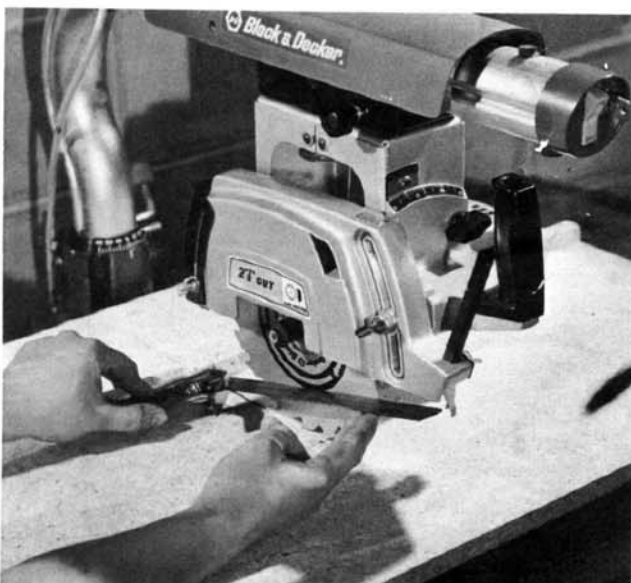


Fig. A10

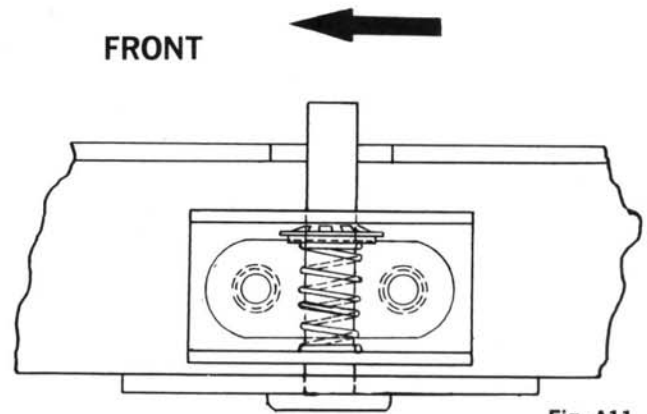


Fig. A11

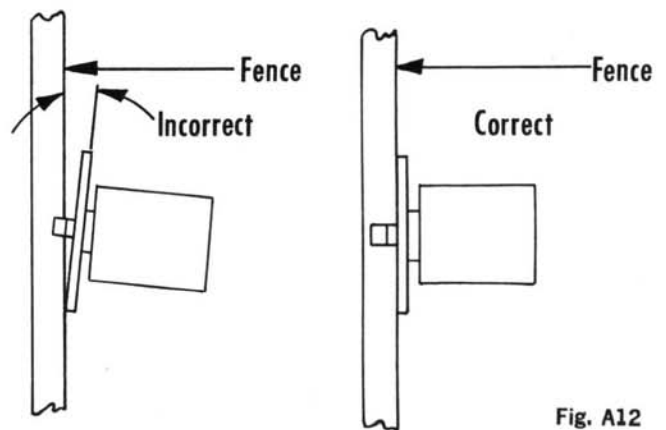


Fig. A12

LONG TERM ADJUSTMENTS

Whenever the saw is used there is metal rubbing against metal. After much use, this wear will cause the tool to lose its rigidity. When this happens, accuracy is also lost. To keep the tool rigid, you must know these wear spots and how to adjust for them.

ROLLER HEAD ADJUSTMENT

The first, and most important, is the roller assembly on which the saw moves forward and back. This roller head assembly has two grooved plates which straddle the ball bearings. Two set screws on the roller head can push the plates tighter against these bearings. To adjust these set screws, push the saw all the way back (Fig. A13). A hole on either side of the cover should align with the set screws on the roller head.

Sometimes the cover gets out of phase with the movement of the carriage and the holes will not align. If this happens, push the saw against either the front or rear bumpers several times with a hard tap. This bumping of the cover against the stop will align the holes with the screws. Tighten both set screws an even amount in order to keep the roller head directly under the arm. If the adjustment is too tight, it will be difficult to pull the saw forward. In that case, back off on the screws a little, but not too much. A slight drag on the roller head will produce the best results.



Fig. A13

YOKE CLAMP HANDLE

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. To lock, the 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 back part of the carriage it is not in proper adjustment. Its proper position when locked is approximately 90° or less to the hand grip of the yoke.

To adjust (Fig. A14):

1. Remove screw holding end cap and switch.
2. Loosen set screws in roller head.
3. Pull end cap and switch as far away from arm as the wires will allow.
4. Remove the two front bumpers which keep the saw and cover in phase.
5. Pull roller head yoke and saw off the end of the track, and you will see the large king bolt which holds the yoke to the roller head.
6. Loosen the yoke lock lever by pulling it toward you.
7. Remove the small screw on the large lock washer around the king bolt. Turn the washer clockwise, one, two or three notches using a screw driver in the slotted grooves as shown. **Do not make it tight.**
8. Replace the small screw in a new groove of the washer and reassemble the saw. The yoke lock lever should now be properly positioned.



Fig. A14

ELEVATION ADJUSTMENT

If the saw is too tight or too loose when elevating, it is out of adjustment.

To adjust (Fig. A15):

1. Remove wing nut and cupped washer from elevating shaft adjacent to guard.
2. With right hand holding elevating knob, tighten or loosen nut with wrench as shown.
3. When saw elevation is satisfactory, replace cupped washer and wing nut.

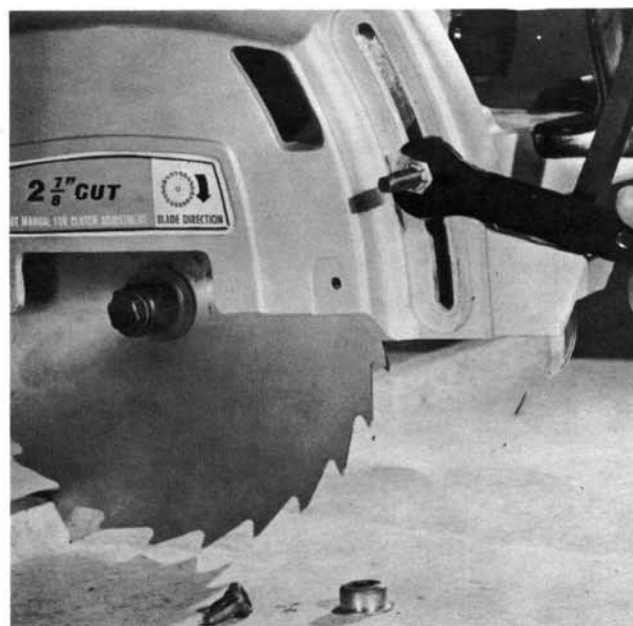


Fig. A15

ALIGNMENT GUIDE FOR ACCURATE CUTTING

It is important to realize that an improperly adjusted saw just will not yield the accurate cuts desired. If the machine seems to cut inaccurately, its adjustments and alignments should be checked.

The following guide is listed for your convenience. However, **changing one adjustment will affect another, so it is best to perform all of the alignment procedures when correcting any one problem.**

ALIGNMENT GUIDE FOR ACCURATE CUTTING

PROBLEM	POSSIBLE CAUSE
1. Saw will not make a square cross cut or a good 45° miter cut.	Arm is not perpendicular to guide fence.
	Arm not indexed to the right.
	Too much play between arm and base.
	Roller head too loose in arm.
	Yoke too loose when clamped to roller head.
	Saw dust between lumber and guide fence.
	Table not parallel with arm.
	Guide fence not straight.
2. Lumber has a tendency to walk away from fence when ripping or ploughing. 3. Saw stalls when ripping or ploughing.	Saw blade is not parallel with fence. (Heel Adjustment)
	Arm not perpendicular to guide fence.
	Dull blade or cutters.
	Fence not straight.
	Feed rate too fast.
	Wrong type blade.
	Arm too loose in base.
	Roller head too loose in arm.
	Yoke loose when clamped to roller head.
	Saw dust between lumber and fence.
4. Saw blade scores lumber, not giving a good finished cut.	Saw blade is heeling.
	Column too loose in base.
	Too much play between arm and column.
	Roller head loose in arm.
	Yoke too loose when clamped to roller head.
	Bent blade or dull.
	Not feeding saw properly.
	Using improper blade for finish cut desired.

CONTINUED ON NEXT PAGE

ALIGNMENT GUIDE FOR ACCURATE CUTTING

PROBLEM	POSSIBLE CAUSE
5. Saw blade or Dado blades tend to push lumber to one side when cross cutting.	Saw blade is heeling.
	Arm too loose on base.
	Roller head too loose in arm.
	Yoke too loose when clamped to roller head.
	Fence not straight.
	Dull blade or cutters.
6. Cut depth varies from one end of stock to the other.	Table top not parallel with arm.
	Arm too loose in base.
7. 45° bevel cut not accurate.	Saw blade not perpendicular to table top.
	Arm too loose in base.
	Roller head too loose in arm.
	Yoke too loose when clamped to roller head.
	Bevel clamp knob loose.
	Table top not parallel with arm.
8. Saw tends to advance over lumber too fast.	Roller head not properly adjusted.
	Dull blade.
	Not feeding saw properly.
9. Saw does not traverse smoothly in tracks.	Dirty tracks.
	Bad bearings.
10. Miter scale not accurate at various miter angles.	Scale pointer not properly adjusted.
11. Clamping force not sufficient at miter angles other than 45°.	Arm clamp out of adjustment.

KERFING THE WORK SURFACE (OPTIONAL)

In cutting through material placed on the saw table the bottom of the saw blade should project to about 1/16" below the bottom of the material being cut. This causes it to cut into the table top, making kerf marks, unless kerfs already exist for the particular cut being made.

This section of the manual will cover the advance, or pre-cutting, of kerfs. This advance kerfing will facilitate your future cutting operations and blade position adjustments. As you continue to use the saw you will no doubt be cutting additional kerfs in the table, different ones from the normal pre-cut ones covered here. For this reason, you may want to cover the front section of table top with a piece of 1/4" plywood which can be replaced when the kerfs become too numerous. (Instructions for attaching 1/4" plywood are at the end of this section of the manual).

KERF No. 1 (Figure K1)



Figure K1

With motor "OFF", arm in crosscut position (0°), blade vertical (0°), and the saw elevated to its highest position, push the saw to the rear of the arm behind the fence. Turn motor "ON". Loosen the wing nut that locks the elevation, and with the Elevating Knob lower the rotating blade until it cuts about 1/16" deep in the table surface.* Tighten wing nut. Pull the saw toward you, cutting through the fence and making the kerf line until the saw reaches its limit of travel in the arm.

* If you have covered the front part of the table with 1/4" plywood, a loose piece of 1/4" plywood can be "C"-clamped behind the fence so as to extend under the blade and enable you to judge the 1/16" deep cut for the front of the table.

KERF No. 2 (Figure K2)



Figure K2

DO NOT MAKE THIS KERF IF YOU HAVE COVERED THE FRONT SECTION OF THE TABLE WITH PLYWOOD.

Kerf No. 1 is for normal 0° crosscutting, and when you return the saw behind the fence, the blade remains 1/16" deep in the table top. Therefore, to swing the arm right or left, you would have to elevate the blade. This elevating becomes unnecessary when you cut a curved trough in the table top behind the fence as follows:

Be sure the saw is **all the way back** on the arm. If it is not push the motor back with a few hard taps. This will bring the roller head in phase with the cover. Make sure the blade is about 1/16" deep in the kerf you have just cut. Lock the Rip Lock and turn the saw "ON". Pull the Miter Locator Pin with your right hand and start the arm moving to the right with your left hand. Release pin and continue moving the arm slowly to the right until the Locator Pin stops it at the 45° miter position. The side of the blade will cut a curved trough. **CAUTION:** If the blade does not cut easily, it may be set too deep. Turn the motor "OFF", elevate saw slightly and begin again.

You can cut this trough to the left as well as the right if you wish, but most of your miter cuts, left hand or right hand, can be done on the right as explained later in this manual.

KERF No. 3

Set saw blade depth as you did for kerf no. 1. With the blade behind the fence, swing the arm right to the 45° miter position. Turn saw "ON" and pull it out to the end of the arm, cutting through the fence and making the 45° miter kerf. This kerf may also be made in the left hand miter position.

NOTE: The depth of kerfs Nos. 1 & 3 should be the same for their entire lengths. If they are not, the table needs adjustment. If the grooves are deeper in front, the front of the table is too high. If the miter kerf is deeper than the crosscut kerf the table is too high on the right—assuming both cuts were made at the same saw elevation. If adjustment is needed, refer back to Table Adjustment in the Alignment section of this manual.

KERF No. 4 (Figure K4)



Figure K4

With the motor "OFF", arm in crosscut position (0°), blade set for a 45° bevel, and the saw elevated to its highest position, push the saw to the rear of the arm behind the fence. Turn the saw "ON" and set the blade cutting depth to about $1/16"$ the same way you did for kerf No. 1. Pull the saw toward you cutting through the fence and making the kerf line until the saw reaches the end of the arm.

KERF No. 5

This kerf enables you to quickly convert from crosscutting to ripping operations. First, bring the saw out to end of the arm in the position shown in Figure K5, with the blade depth locked at about $1/16"$ deep in the crosscut kerf. Tighten the Rip Lock and release the Yoke Clamp Lever. Turn the motor "ON", press down the Yoke Locator Pin and rotate the yoke clockwise 90° , cutting a $1/4$ -circle groove in the table (Figure K5A). (The Yoke Locator Pin should be released after yoke rotation is started so that it can automatically stop the yoke at 90°).



Figure K5



Figure K5A

The blade is now parallel to the fence, and with the motor still running, loosen the Rip Lock, lock the Yoke Clamp Handle, and push the saw slowly—cutting a trough—toward and just up to the fence (Figure K5B). Turn the motor "OFF".



Figure K5B

Moving the saw back through the trough and 1/4-circle kerfs, bring the saw again to the position at the end of the arm as shown in Figure K5. Tighten Rip Lock and release Yoke Clamp Handle. Turn motor "ON" and temporarily hold down the Yoke Locator Pin as you start to rotate the yoke counterclockwise (Figure K5C). Continue rotating until the Locator Pin stops the yoke, after a 1/4-circle cut, with the blade parallel to the fence. Now, with the motor still running—lock the Yoke Clamp Handle, Loosen the Rip Lock, and again slowly push the saw toward the fence, completing the rip trough kerf. Turn motor "OFF".

You have now cut into the work surface all basic, important kerf marks.

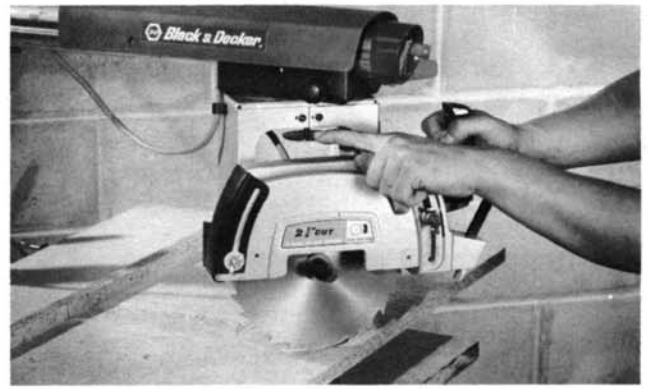


Figure K5C

1/4" PLYWOOD ON TABLE TOP

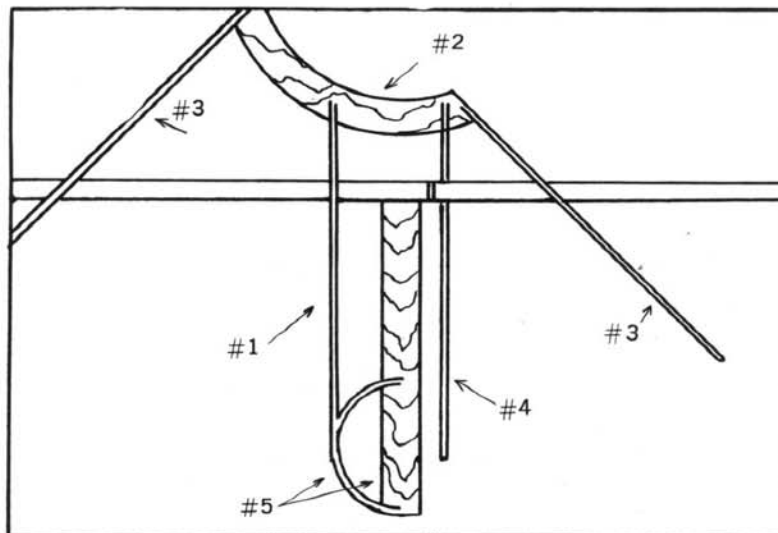
If you elect to cover your table top with 1/4" plywood, only cover it from the fence forward as it is unnecessary to cover the back board. Do not use masonite for a cover as it is too abrasive and will dull the blade too fast.

The plywood must be snug to the work table over its entire surface. Any warps or bumps will affect the accuracy of your cuts, particularly dado cuts. If you use brads for fastening, do not place them where the basic kerf marks will be made—if the blade hits a brad it will need sharpening at once.

The brads should be spaced about 5" apart over the entire surface.

Don't use glue as you will not be able to properly remove the plywood cover for replacement. If you use rubber cement, the top may be difficult to remove, but any solvent (lacquer thinner, acetone, etc.) will soften the rubber and the top will come off. Two-sided masking tape around the edges will also hold the top on. It is recommended that you use either rubber cement or masking tape.

BASIC KERF CUTS – APPROX. 1/16" DEEP



Do not attempt to cut any kerfs behind the fence IF the front of the table is covered with 1/4" plywood.

Figure K6

SAWING—BASIC CUTS

CROSSCUTTING

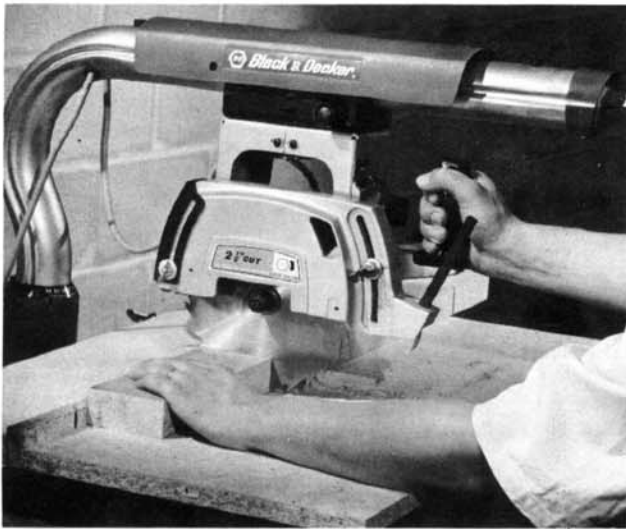


Figure S1

With the motor "OFF", and the blade at 90° to the fence and perpendicular to the table, push the saw to the back of the arm behind the fence. Place the piece to be cut against the fence and hold it firmly with four fingers on the top surface and the thumb tucked under the palm and against the edge facing you.

Turn the motor "ON". Grasp the saw handle firmly and pull the saw toward you until the piece is completely cut through, but not so far that the rear of the blade comes out of the cut in the material (Figure S1). This will prevent the loose piece from getting behind the blade and interfering with your returning the saw to the rear of the arm, which should always be done after each crosscut is completed. Turn the motor "OFF".

This basic cut is also called a "climb cut" because the rotation of the blade tends to hold the piece downward against the table and against the fence . . . the saw wants to "climb" over the piece but is held firmly down by the saw arm.

When making a cut, if the saw tends to move toward you faster than the blade can cut (possibly jamming in the wood), the rollerhead may need adjustment, as explained earlier in this manual. Also jamming can be caused by pulling the saw through the cut too rapidly. If saw should jam turn motor off immediately.

Long Cross Cuts (Figure S2). With the fence in its normal position the length of the basic cross cut is about 11". To cross cut wide lumber, first make this 11" cut and turn the motor "OFF". Move the fence all the way back as shown in Figure S2. Slide the wood back against the fence keeping the blade centered in the cut you have just made. Turn the motor "ON" and extend the 11" cut as needed or to the outward limit of saw travel in the arm. By turning the wood 180°, and repeating the above, cuts up to about 36" long can be made.



Figure S2

MITER CUTS

1. With the motor "OFF", position the saw arm 45° to the right with the blade in back of the fence.
2. Place material to be cut against the fence.
3. Turn the motor "ON". Pull saw forward (Figure S3) only the distance necessary to cut through the material, and then return saw to back of fence. Turn motor "OFF".
4. If a longer miter cut is needed, move the fence back behind the table. Place the piece being cut against the fence with the blade centered in the cut previously made with the fence in normal position. Turn motor "ON" and pull saw forward the distance needed to complete the cut. Return saw to back of fence and turn motor "OFF".



Figure S3

MITER CUTS (continued)

Right and left hand miter cuts for corners or frames are best made with a simple miter jig. With this jig the saw arm can remain in the 45° right miter position for cutting both opposing 45° angles. **FIRST**, place the piece to be cut against the fence and then "C"-clamp a piece of plywood, with at least one accurate 90° corner, in the position shown in Figure S4. Make the cut. The opposite miter is cut by using the edge of the plywood as a fence, see Figures S5 and S6.

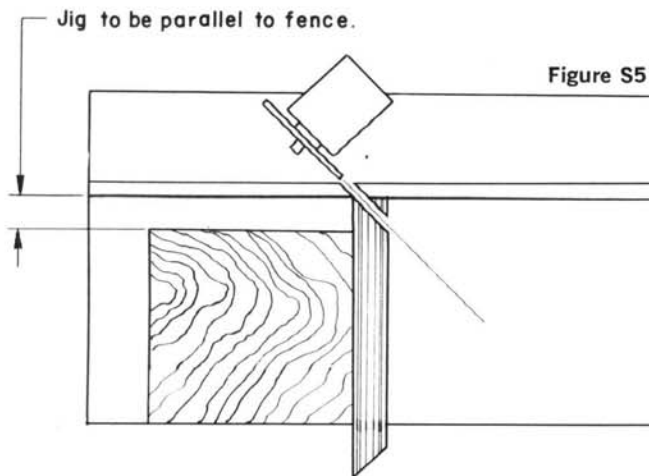
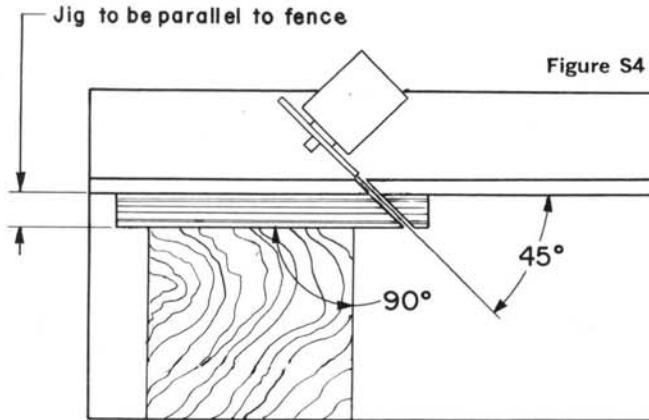
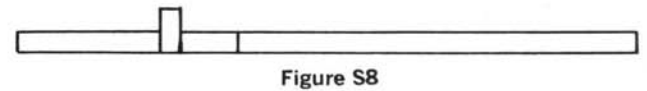
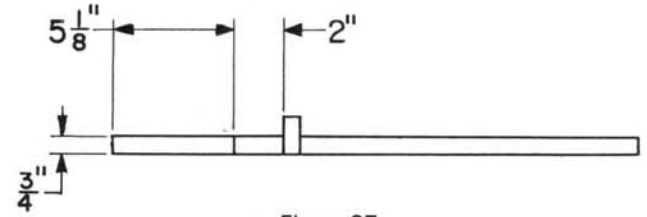


Figure S6

For moulding frames, if you want to "compound" (miter and bevel) the cut, bevel the two 90° edges of the plywood at the angle to which you want the frame to pitch. Make the cuts as before, but hold the moulding flush against the beveled edge of the plywood.

For maximum length miter cuts with the arm in the LEFT-HAND miter position, it is suggested that you rip two ¾" thick strips (one 2" wide, one 5 1/8" wide) to replace the rear table board as shown in Figure S7. The fence can then be located as in Figure S8, when needed for longer left hand miter cuts.



BEVEL CROSSCUTS

With the motor "OFF" and the blade perpendicular to the table, elevate the saw to its highest position and tilt the blade to the desired bevel angle. (If the blade strikes the table, refer back to Table Adjustment and lower the table). Lock the bevel lock and push saw behind the fence. Turn the motor "ON" and lower the blade until it cuts about 1/16" deep in the table top. Lock the elevation. Pull the saw forward, cutting a clearance kerf through the fence and into the table top. Return saw to back of fence and turn motor "OFF".

Hold the material to be cut against the fence with one hand placed well away from the line of blade travel. Turn motor "ON" and pull the saw through the cut only as far as necessary to cut through the material (Figure S9). Return saw behind fence and turn motor "OFF".



Figure S9

COMPOUND (BEVEL-MITER) CUTS



Figure S10

The procedure for making a compound cut is the same as for a bevel crosscut except that the arm is moved to the right or left from 0° to any desired miter angle up to 45°. The bevel angle of the blade is also adjustable from 0° to 45°. See Figure S10.

A popular setting for picture frames is a 30° bevel and a 35° miter, or a 35° bevel and a 30° miter. These combinations of 30° and 35° give an interesting pitch to the frame.

RIPPING

When ripping, the lumber is fed into the blade, and the first contact with the blade is the opposite blade edge from that first contacted in crosscutting. Ripping is a "feed" cut, while crosscutting is a "climb" cut. With the fence in its normal location, use the "IN-RIP" position (Figure S11) for cuts up to 7" wide. Use the "OUT-RIP" position (Figure S12) for cuts up to 12¼" wide. The fence can be moved to the back of the table for rips up to a maximum of 20" in the "OUT-RIP" position.

To set up for ripping, with the motor "OFF", rotate the saw into the in-rip or out-rip position as desired. (Note that material is fed from left-to-right when out-ripping, and right-to-left when in-ripping). Lower the blade until the teeth fit into the dished kerf previously cut. Move the saw on the arm and lock the rip-lock when the distance from blade to fence equals the width wanted. Lower the guard extension until it is about ⅛" above the material being cut (Figure S11). Lower the anti-kickback assembly so that the fingers hang about ⅛" below the top surface of the material to be cut. Slide the material under the fingers—try pulling material in opposite direction. The anti-kickback fingers should grab it; if not, readjust assembly until they do. Remove the material.

Turn motor "ON" and feed the material under the guard extension, holding one side of the material snug against the fence. Feed the material evenly into the blade—not too fast—give the blade a chance to cut. If you do not have plenty of room between the blade and the fence to push the material completely through the cut, use a pusher stick—Figure S11.



Figure S11



Figure S12

BEVEL RIPPING

The procedure for bevel ripping is the same as for straight (0°) ripping except that the blade is set at an angle between 0° and 45° (Figure S13). Set and test the anti-kickback device the same as in RIPPING even though only one of the fingers will take the main "bite", if needed.



Figure S13

DADO & PLOUGH CUTS



Figure S14

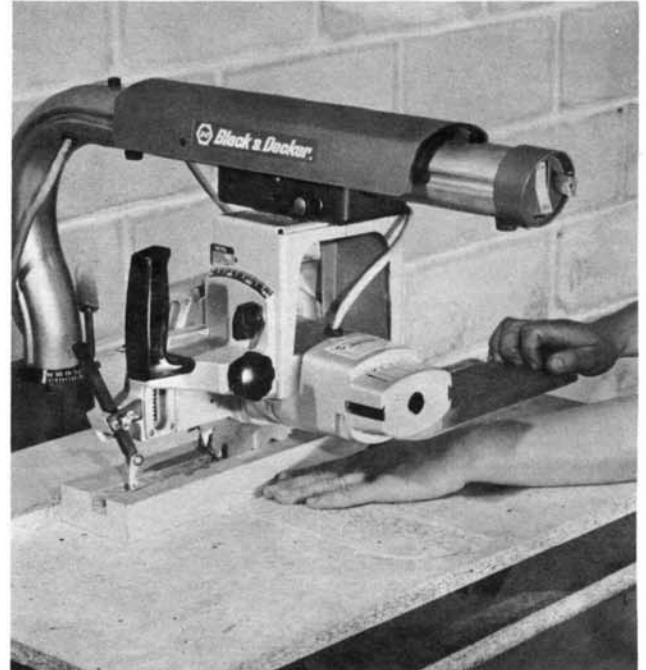


Figure S15

A "Dado" is a groove **across** the wood grain (crosscut) (Figure S14). A "Plough" is a groove **with** the wood grain (rip) (Figure S15). These cuts can be made to any width with a regular saw blade by making one cut next to another until the desired width is achieved. The depth of the groove is controlled by the amount of elevation given to the saw blade.

A Dado Set (or Dado Head) will make dados or ploughs in widths from 1/8" to 13/16" in one cut. The Dado set consists of 2 saw blades 1/8" thick, 4 chippers 1/8" thick, and one chipper 1/16" thick. The 2 blades, when placed together cut a groove 1/4" wide. As chippers are placed between the blades the cutting width will be increased accordingly. The chippers are "swedged" (their cutting ends are flared out), and when placing them between the blades, the swedges must fall in the tooth gullets of any blade next to them (see Figure S16). When using 2 or more chippers their ends can be spaced evenly around the circumference or not—it doesn't matter. As you make the dado wider you will have to remove the spacer washers on the saw arbor (see Figure S17).

The easiest method for setting the proper depth of cut, is to measure the thickness of the lumber and subtract from this the depth of the desired dado. The result will be the dimension that the bottom of the dado head should be set above the table top.

Follow the same procedure in making cuts with the dado head as you would with a regular saw blade, **although slower cutting is recommended**. When ploughing, be sure to lower the guard extension to 1/8" above the wood and lower the anti-kickback assembly so that the fingers hang to 1/8" lower than the top surface of the material being cut. **Test the grabbing action of the fingers as previously explained under RIPPING**. Also, when feeding material into a plough cut, push the wood down as well as forward, as the dado head will have a tendency to lift the wood as it cuts.



Figure S16

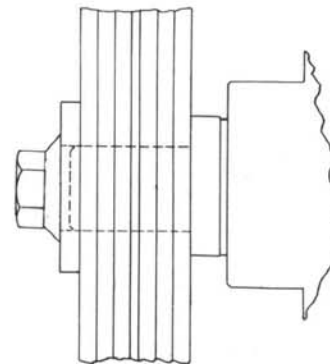


Figure S17

SAW BLADES

Your saw is equipped with an 8" blade which will enable you to cut 2 7/8" deep. Using the proper blade is most important and no matter what type of blade you use it's **wrong** if it is **not sharp**. A dull blade can do harm to the material you are cutting, to your Black & Decker saw, and last but not least to you. A sharp blade is the most efficient and the safest.

The proper blade will produce the best results. We suggest three (3) basic blades. First, the one which comes with the saw—a combination blade for all around cutting of hard or soft woods. It will lose its edge quickly if used on plywood, chipboard, masonite, plastics, dirty lumber, and painted or varnished boards. This blade makes an ordinary saw cut that usually must be sanded or planed if a smooth finish is desired.

Second, to cut plywood, chipboards, masonite, etc., use a ply blade (small teeth). It will hold an edge longer, does not splinter plywood, and cuts quite smoothly.









Third, to cut a finished or planed edge, a hollow ground blade is best. (Not for plywood, masonite etc.) It requires more power to drive a hollow ground blade since this blade has a tendency to burn the wood. It must be kept very sharp and clean.

There are also special cut-off wheels, for your saw, for cutting ceramics, stone, iron, fiber glass, etc.

Your dealer can assist in selecting the proper blade. Carbide tipped blades will stay sharp much longer than ordinary steel blades and will cut all types of wood and plastics. These blades are available in many tooth styles and from 6 to 40 teeth to the blade. Again, your dealer will be glad to advise the proper blade for the work you will be doing.

To further assist you in selecting blades a saw blade reference chart is shown below. This chart indicates how various blades will perform when cutting any of the materials listed in the left hand column.

SAW BLADE REFERENCE CHART

	COMBINATION SET TOOTH	RIP	CROSS CUT PLY	HOLLOW-GROUND PLANER	CARBIDE 8-12 TEETH	CARBIDE MULTI-TOOTH	TOOL STEEL H.G. CROSS-CUT	CUT-OFF WHEEL
								
Wood—Natural	Fast Rough	Fast Rough	Slower Smooth Can't Rip	Slower Very Smooth	Fast Rough	Fast Smooth	Smooth Slow Cross-Cut Won't Rip	Will Not Cut
Wood—Artificial (Plywood) Masonite Novaply, etc.	Fast Rough Dulls Blade Quickly	Fast Splinters Dulls Fast	Slower Smooth Dulls Slowly	Fast Smooth Dulls Instantly	Fast Splinters Stays Sharp	Fast Smooth Stays Sharp Best	Fast Smooth Holds Edge Quite Long	Will Not Cut
Metals—Non-Ferrous Alum. Copper, etc.	O.K. On Soft Aluminum Dulls	Will Destroy Blade	Better O.K. on Aluminum Brass, Copper	Will Destroy Blade	Will Pull Out Teeth If Cut Too Fast	Very Good If Used Slowly	Very Good If Used w/Tallow or Spray	Slow Used With Spray
Metals—Ferrous Iron and Steel	Will Not Cut	Will Not Cut	Will Burn Through After Teeth Are Dull	Will Not Cut	Will Destroy Blade	Will Destroy Blade	Will Burn Through	Will Cut Slowly Use Coolant
Plastics—Soft	Will Chip	Will Shatter	Better May Melt Material Use Spray	Will Not Cut	Will Chip	Very Good	Good But May Bind or Melt Material	Slow May Clog, Bind and Melt Material
Plastics—Hard	Will Chip and Dull Fast	Will Shatter	Cuts Well Dulls Fast	Will Bind	Will Chip	Very Good Smooth	Good Smooth	Good Slow Use Lube
Paper Cardboard	Will Dull Very Fast	Will Tear and Dull Blade	Good Will Dull Very Fast	Will Bind and Dull Blade	Rough Cut Use Slowly	Good Will Dull Very Fast	Good Sometimes Binds	Will Burn
Bone Ivory etc.	Will Shatter	Will Shatter	Good Cut Slowly	Good Will Dull Fast	Will Shatter	Good	Good	Some Are Good Must Try

FANCY CUTS AND TRICKS



Figure T1

DADO TRICKS

1. **Radius Cuts**—Place your dado set at a 45° bevel and set the arm 90° to the fence. **Lock rip lock.** Engage the dado into the lumber about $\frac{1}{2}$ the width of the dado. Place the lumber in the in-rip position. Locate the dado so the radius cut will be at the desired place and lock the rip lock. Push the lumber under the dado head. **Be sure to use a pusher stick to eject the lumber.** If you wish to make a deeper radius cut, lower the blade and make a second cut. See Fig. T1. (Note: All lumber shown in the photos in this section were stained to provide more contrast.)
2. **Castellated Mouldings**—Make a series of dado cuts cross-grained and evenly spaced (Fig. T2). Rip off this piece (use a hollow ground blade) into strips of moulding at any desired width (Fig. T3).

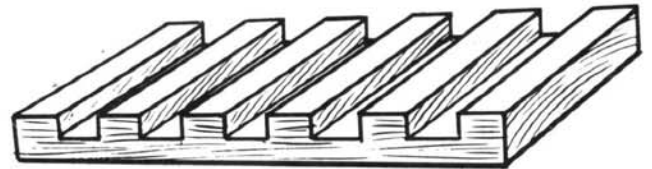


Figure T2

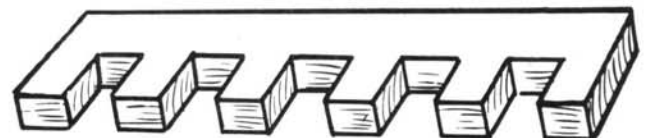


Figure T3

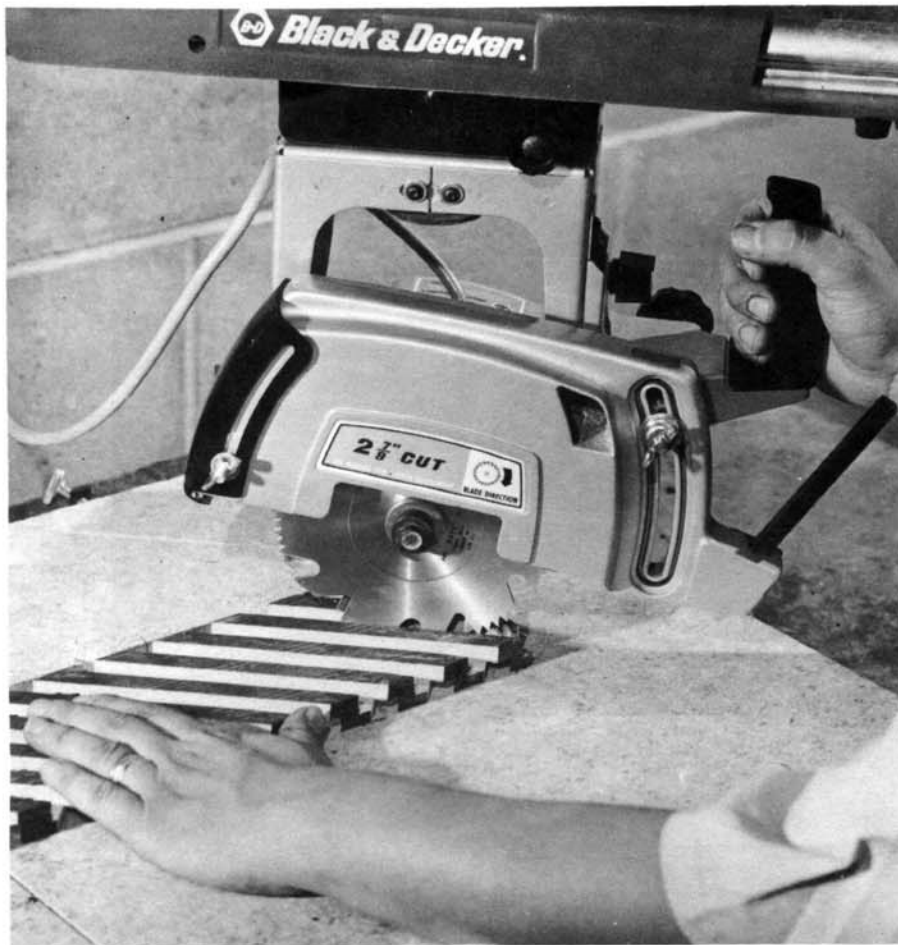
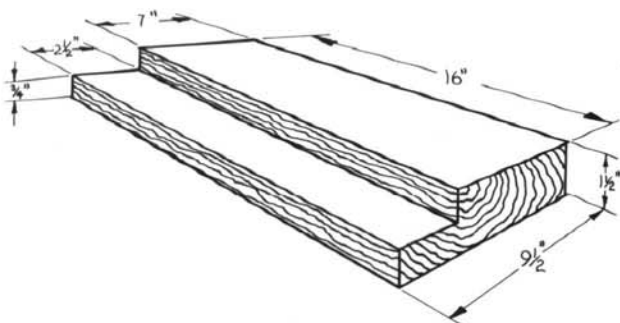


Figure T4

3. **Lattice Work**—Make a series of evenly spaced gaining dado cuts at any angle, slightly deeper than $\frac{1}{2}$ the stock. Repeat this operation on the other side and a lattice will appear. If the miter angle is 45° the holes in the lattice will be square. If any other angle is used, the holes will be diamond shaped (Fig. T4).

COMPOUND STARS

Note: The width of the novaply top is not sufficient to safely hold the lumber while performing this operation. Therefore it will be necessary for you to make an extension for the table top as illustrated below. This extension can be attached with two (2) "C" clamps as shown in Fig. T7.



1. **Pointed Tops**—These can be cut from any bevelled piece of lumber. The variations are almost limitless but basically they are made as follows: Rip up the lumber into any isosceles triangle or any bisymmetrical shape (see Fig. T5). The first cut is a right hand compound cut with the bevel setting the same as the bevelled rip and the miter setting 45° for an 8 point star. (For any other unnumber of points, divide the number of points into 360° and set the miter setting to this angle—see Fig. T6). The piece cut off on the right of the blade is scrap. Rotate the lumber 180° against the fence and make a second cut so the saw blade cuts off one section of the star at its vertex. Rotate the piece again and cut off a piece of scrap. Repeat as before cutting as many sections as needed. See Fig. T7.

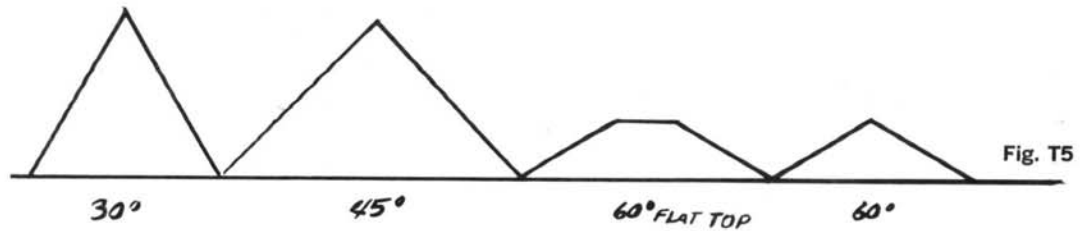


Fig. T5

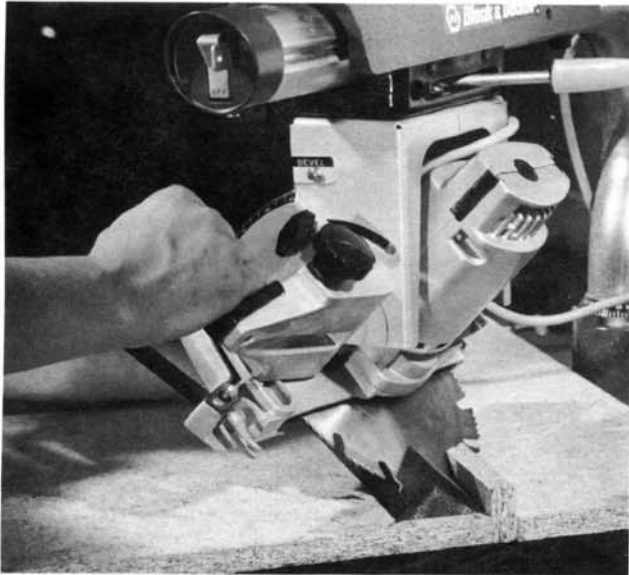


Fig. T6

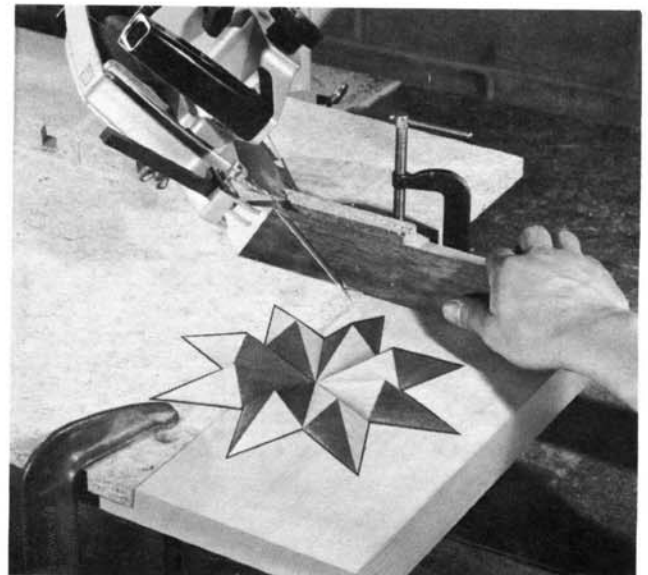


Fig. T7

The diamonds can be glued to form a star, or if placed side by side interesting harlequin designs can be formed.

KERFING or BENDING WOOD

If you rip a piece of wood thin enough it will bend quite easily. Wet this piece and it will bend even more easily and have less tendency to crack. By cutting a slit cross-grained and leaving a thin piece of wood on the bottom, you can bend the wood at this cut until the slit or kerf is closed at the top (Fig. T8). By cutting several slits, one alongside the other, the piece will appear to bend (Fig. T9). To calculate the number of slits required to bend the lumber 90° , measure the angle of the first bend and divide it into 90° . An easier method is by trial and error on a piece of scrap of the same thickness. Once you determine the number of cuts, you will always get a bend of 90° regardless of the distance between cuts. The wider the cuts are spaced, the larger the arc (Fig. T10). When the kerf cuts get wider than $\frac{1}{4}$ " apart, the effect of the curve changes to straight sections at an angle to each other (Fig. T10). If wide arcs are desired, the number of

kerf cuts needed can be increased by one of two methods or by a combination of both. Use a blade with a thinner kerf (Fig. T11). Use a thicker piece of lumber (Fig. T12). Glue an extra piece of lumber to the back of the section to be kerfed. By doing this you can artificially increase the thickness of the lumber only at the place you want it (Fig. T13). The piece to be curved can be mitered, rabbetted or grooved on the inside but this must be done **before** you kerf it (Fig. T14). Once the piece is bent the holes from the kerf cuts are filled with sawdust and glue forming a solid curved piece of lumber when the glue has hardened. All sides of the curved piece can be veneered to give a smooth solid appearance. If the cuts are made at an angle, the piece of lumber will spiral and the pitch of the spiral will be the same as the angle you-cut (Figs. T-15 & T-16).

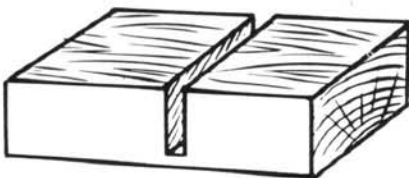
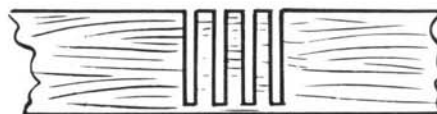


Fig. T8

Fig. T9



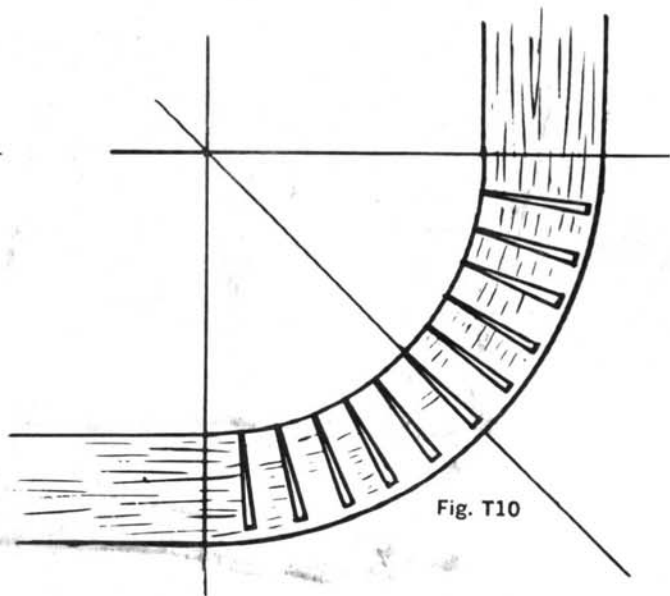
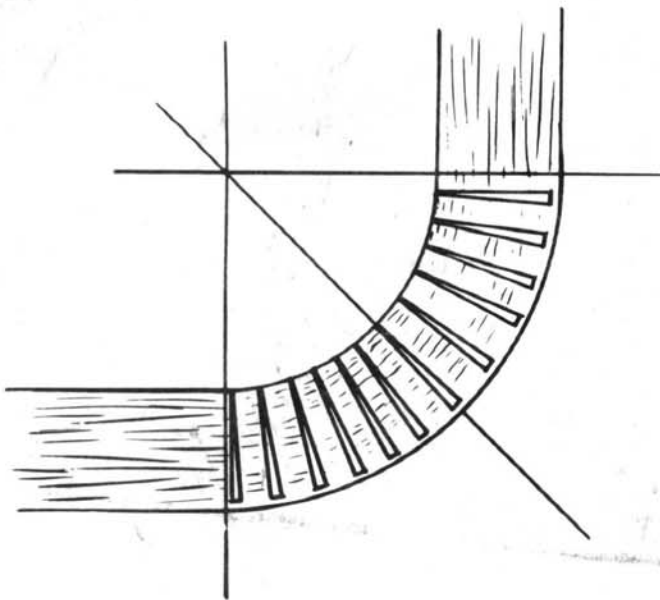


Fig. T10

Fig. T11



Fig. T12



Fig. T13

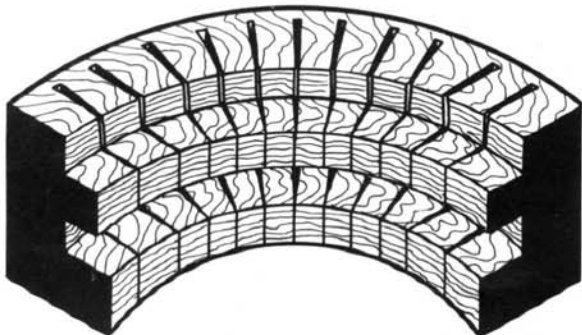


Fig. T14



Fig. T15

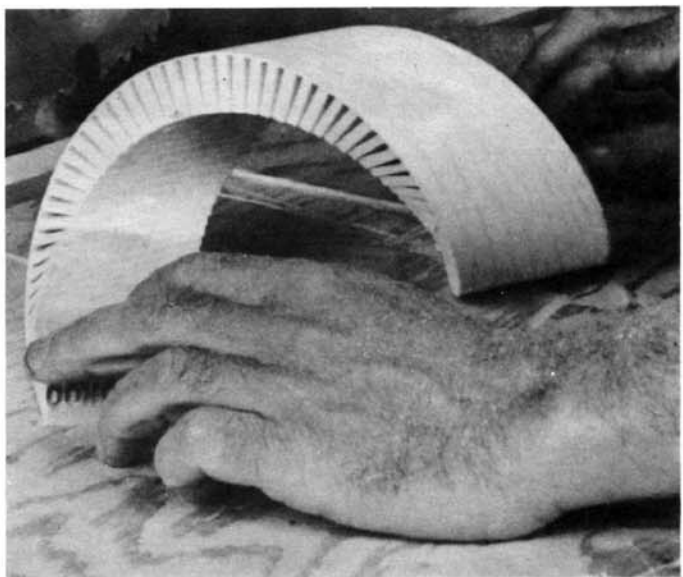


Fig. T16

CUTTING CIRCLES

Circles are usually cut with a saber or jig saw but they can be cut with the saw blade. There are several methods of doing this. The first two methods will give you the hole and the disc. The third method will give the disc only. You can cut material up to $\frac{5}{8}$ " thick with an 8" saw blade.

1. Clamp the stock down so the center of the circle is directly under the saw arbor when it is in a vertical position. **Lock the rip lock.** Set the saw blade 90° to the table in the cross cut position. With the motor on, lower the blade until it just touches the lumber. **Lock the elevation.** Release the yoke lock. With the right hand, and with the same hand grab the upper end of the anti-kickback rod. Push down the yoke locator pin and rotate the yoke, with the right hand, in a clockwise direction. After a complete turn, rotate it counterclockwise to its original position and let the yoke locator pin fall into place. Lower the blade $\frac{1}{16}$ " and repeat the operation. Continue this lowering of the blade $\frac{1}{16}$ " at a time until the disc is **almost** cut out. (If cut out completely, when it is loose it may slip under the blade.) On the last cut, leave part of the cut holding the disc and then break it out or cut it out with a knife. If the disc is nailed to the table you can cut it completely through. The disc will have straight sides but the hole will have a beveled side due to the curvature of the blade (Figs. T17 & T18).

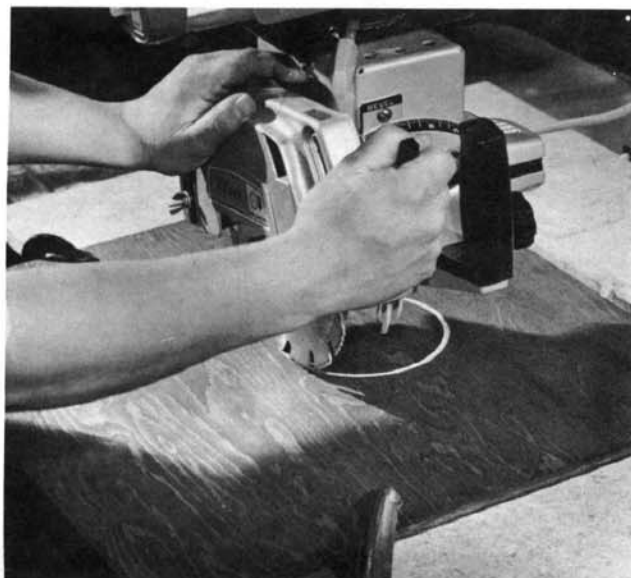


Fig. T17

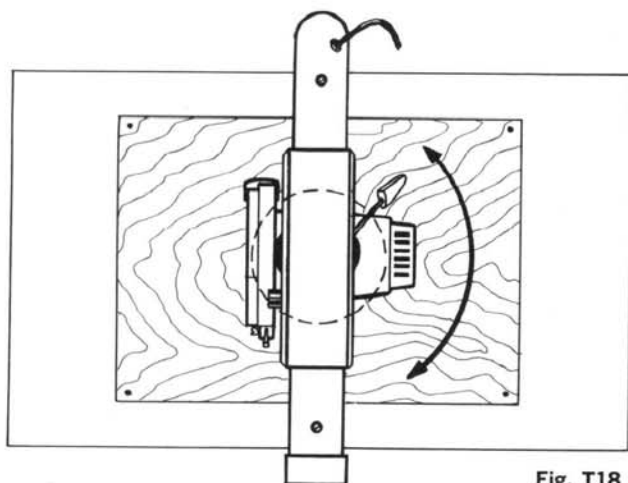


Fig. T18

2. Pivot the lumber on a sturdy nail (or bolt it to the table). It will be necessary for you to drill a hole in the lumber and table top for the nail or bolt. This pivot point should be $\frac{1}{2}$ the diameter of the desired circle and away from the 90° cross cut mark on the work table. Bring the blade tangent to this pivot point above the lumber and lock the rip lock. Clamp the lumber down and with the saw running, lower the blade $\frac{1}{16}$ " into the lumber. **Lock the elevation.** Release the clamp and with both hands rotate the lumber a complete turn. If the pivot is to the left of the blade, rotate clockwise (feed cut). If the pivot is to the right of the blade, rotate counterclockwise (also feed cut). Hold the lumber on the far side of the blade. Have the guard and anti-kickback down so they are above the lumber a little more than the thickness of the lumber. **Only make this cut on lumber 20" wide or wider.** Smaller circles can be cut this way by attaching the piece to be cut to a larger piece of plywood and rotating the plywood. Lower the blade $\frac{1}{16}$ " again and complete the operation. Continue until the disc is **almost** cut out and then break off, or cut off by hand, the last cut (Fig. T19).



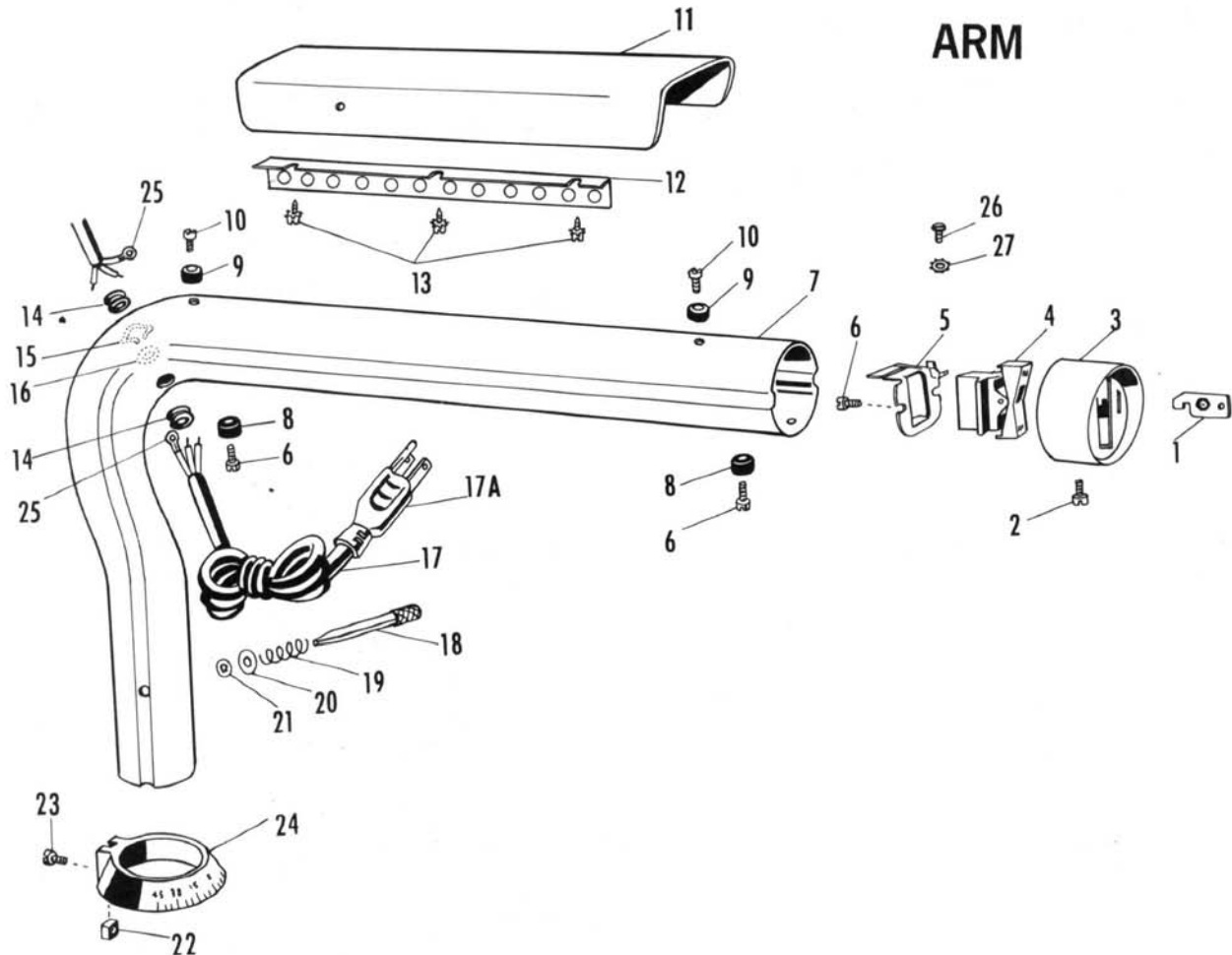
Fig. T19

3. Cutting Disc Only—Pivot the lumber the desired distance from the 90° miter of the cross cut. Clamp the lumber down. Pull the saw forward cutting off any lumber the blade engages. Release the clamp and rotate the lumber 45° (the amount of rotation is not important). Clamp the lumber again and cut off more lumber. Continue releasing, clamping, turning and cutting until the disc is fairly round. Sand the edges until they are smooth.

PARTS LISTS AND ORDERING INSTRUCTIONS

Order only genuine Parts from your Black & Decker Service Center. With your order be sure to include:

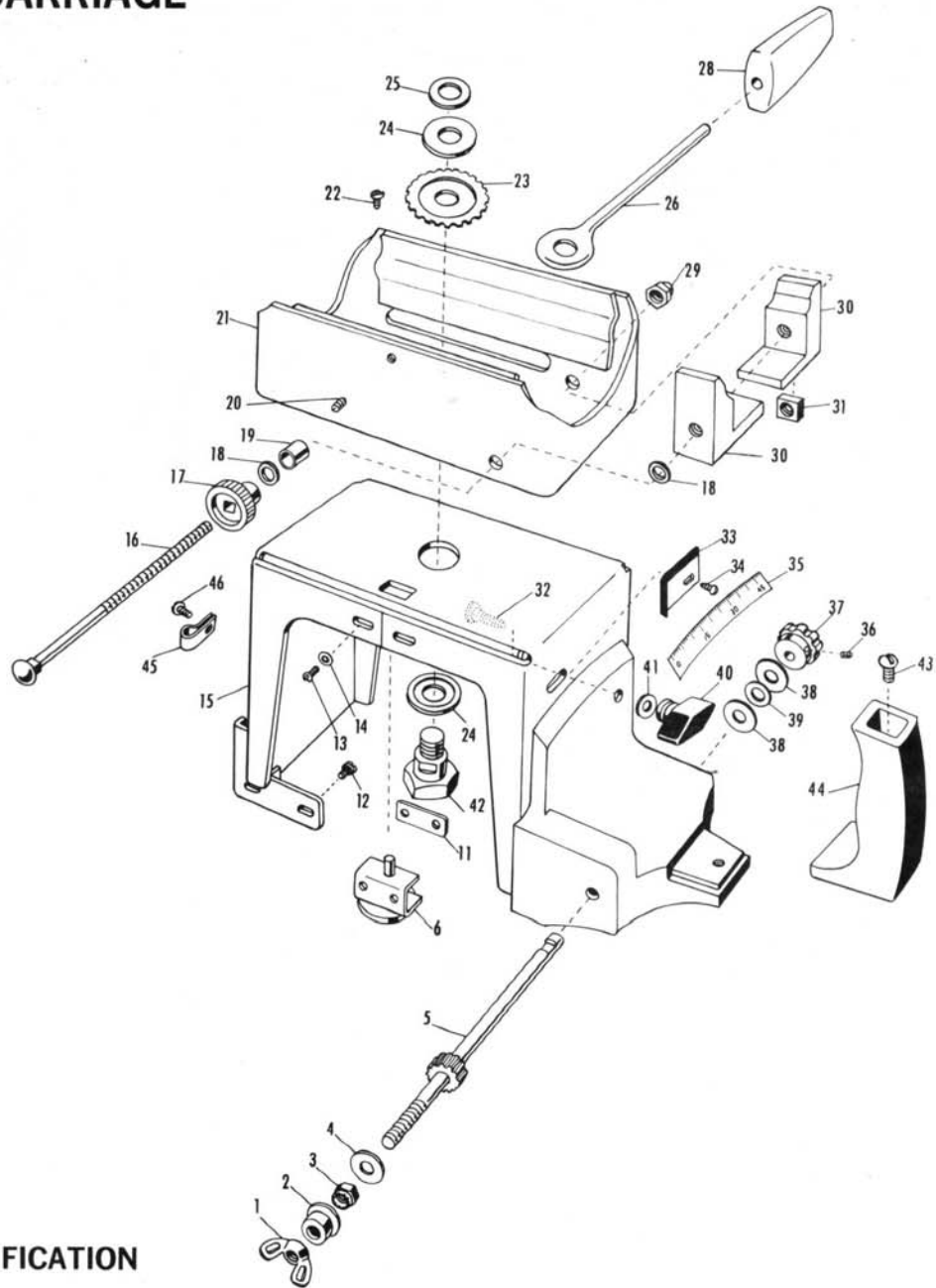
1. Name of manufacturer. BLACK & DECKER.
2. Complete machine identification data (from name plate on motor).
3. Complete motor identification data (from motor name plate).
4. Quantity, part number, and description of parts required.
5. Complete shipping and billing instructions.



PARTS IDENTIFICATION

Index No.	Part No.	Description	Qty.	Index No.	Part No.	Description	Qty.
1	69302	Key	1	14	16860	Grommet	2
2	99319-05	10-24 x 5/16 Pan Hd. Machine Scr. & Lock Washer	1	15	8033	Hog Ring	2
3	69295	End Cap	1	16	99358-08	Washer	2
4	70047-01	Switch	1	17	36480-98	Cord Set	1
5	69301	Switch Lock	1	17A	36478	Attachment Plug	1
6	69408	10-32 x 7/16 Fil. Hd. Screw	4	18	69260	Miter Pin	1
7	69267	Arm	1	19	696280	Miter Spring	1
8	69298	Bumper	2	20	305353	Washer	1
9	71693	Bumper	2	21	69288	Retaining Ring	1
10	69294	8-32 x 7/16 Fil. Hd. Self Tap Scr.	2	22	33518	10-32 Square Nut	1
11	69269	Shroud	1	23	99418-07	10-32 x 7/16 Pan Hd. Scr.	1
12	69271	Balls and Retainer (L. H.)	1	24	69265	Miter Scale	1
	71814	Balls and Retainer (R. H.)	1	25	1747	Terminal	1
13	59953	10-32 x 5/8 Round Hd. Self Tap Scr. & Lock Washer	6	26	82248	Screw	1
				27	33985	External Tooth Lock Washer	1

YOKE & CARRIAGE

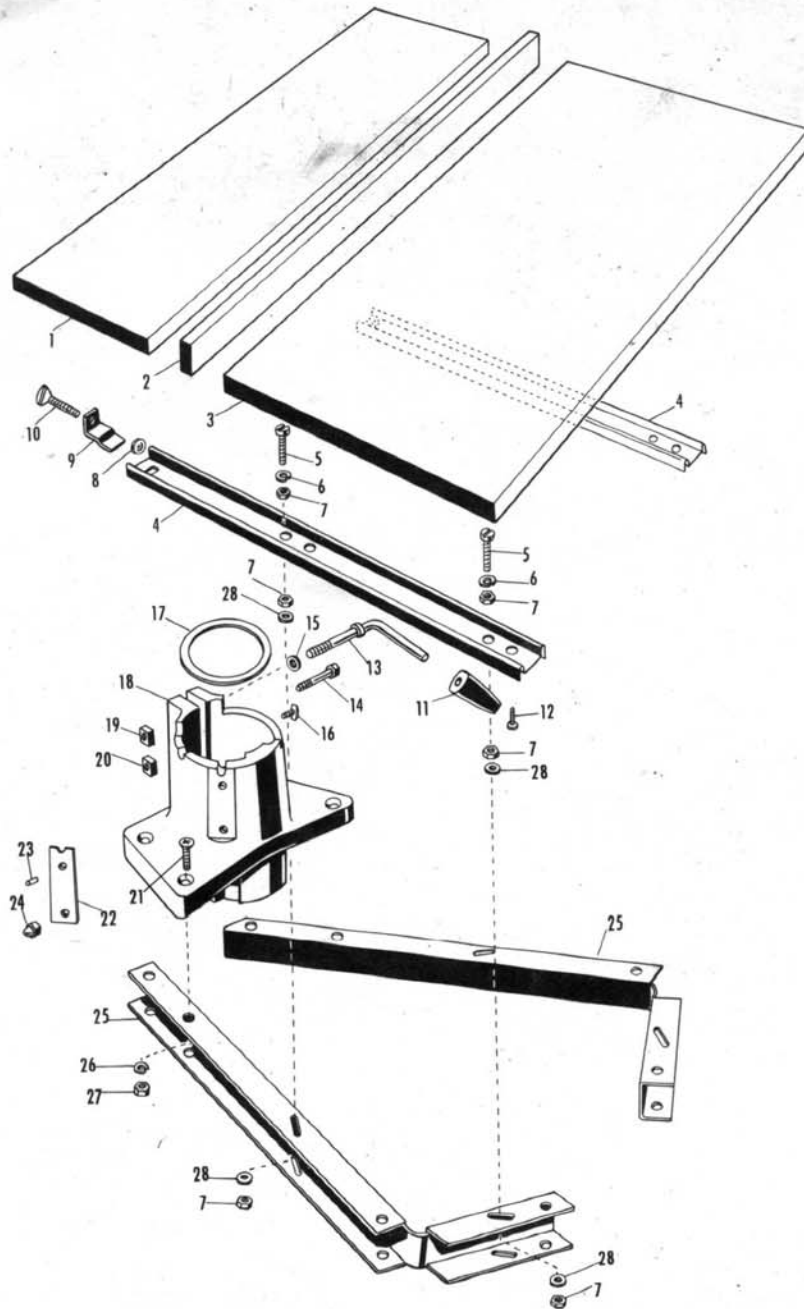


PARTS IDENTIFICATION

Index No.	Part No.	Description	Qty.
1	82012	Wing Nut	1
2	69292	Cupped Washer	1
3	62421	Prevailing Torque Nut	1
4	69278	Nylon Washer	1
5	69290	Elevation Shaft & Gear	1
6	69275	Index Pin & Bracket	1
11	69276	Nut	1
12	99313-08	#1/4-28 x 7/16 Pan Hd. Sems Scr.	2
13	70738	#10-32 x 3/8 Button Hd. Scr.	2
14	30251	#10 Washer	2
15	69300	Yoke	1
16	69303	#5/16-18 x 5 Carriage Bolt	1
17	69281	Riplock Grip	1
18	11078-01	Washer	2
19	69409	Spacer	1
20	21192	#1/4-28 x 1/4 Set Scr.	2
21	69280	Carriage Assembly	1
22	6123	#10-32 x 1/4 Round Hd. Scr.	1
23	69313	Lock Washer	1
24	69311	Clamp Washer	1

Index No.	Part No.	Description	Qty.
25	69310	Washer	1
26	69266	Clamp Handle	1
28	70261	Handle Grip	1
29	69287	Acorn Nut 5/16-18	1
30	69307	Rip Lock Block	2
31	99362-03	#5/16-18 Square Nut	1
32	55131	#1/4-20 x 7/8 Carriage Bolt	1
33	69306	Bevel Pointer	1
34	99271-06	#1/4-28 x 3/8 Pan Hd. Screw	1
35	69326	Bevel Scale	1
36	24857	#8-32 x 3/16 Set Screw	1
37	69277	Elevating Knob	1
38	305353	Washer	2
39	69291	Belleville Washer	1
40	54963	Bevel Knob	1
41	46084	Washer	1
42	69312	King Bolt	1
43	99251-14	#5/16-18 x 7/8 Pan Hd. Screw	1
44	69273	Quadrant Handle	1
45	62443	Cable Clamp	1
46	80598	#8-32 x 3/8 Pan Hd. Self Tap Scr.	1

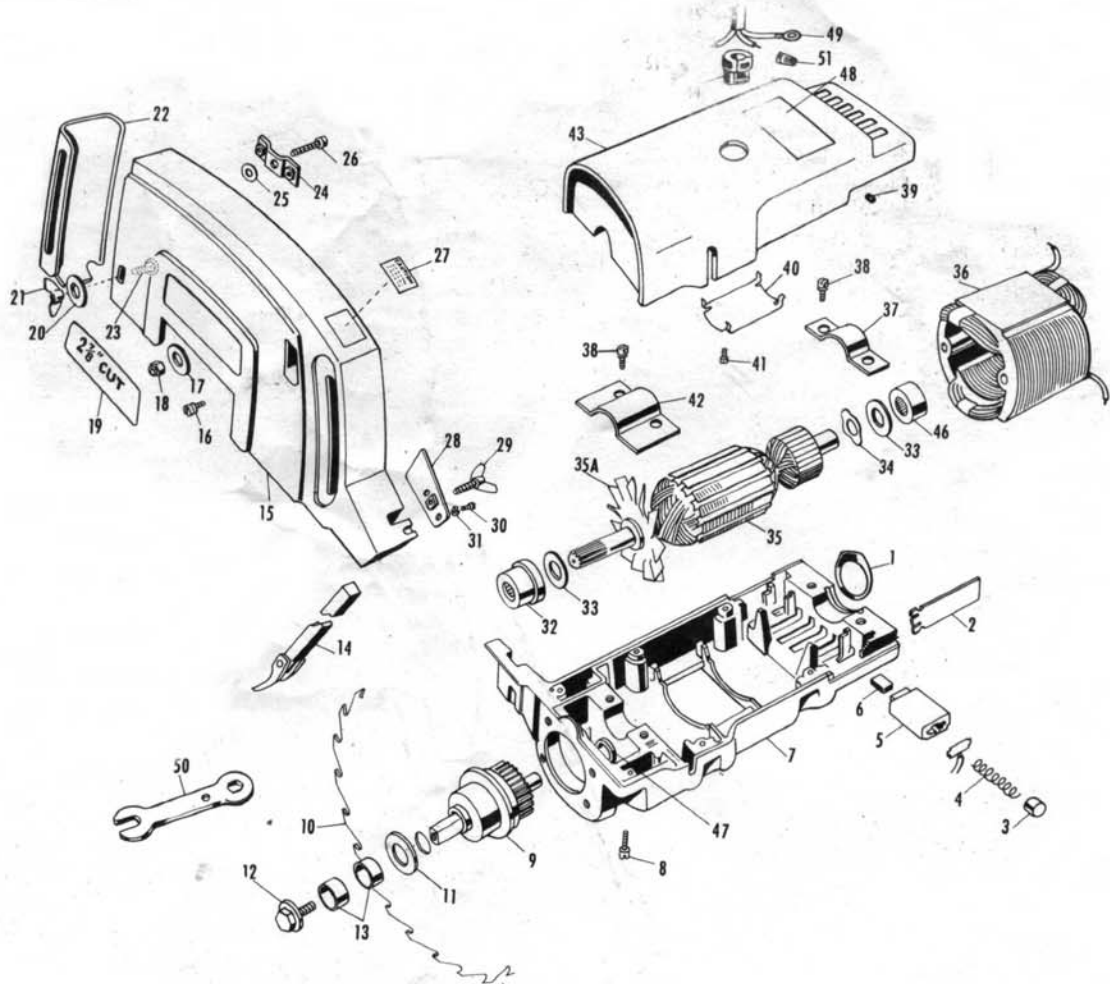
BASE, TABLE & FRAME



PARTS IDENTIFICATION

Index No.	Part No.	Description	Qty.	Index No.	Part No.	Description	Qty.
1	69285	Spacer Board	1	15	99358-09	Washer	1
2	80044	Fence	1	16	69405	5/16-18 Stud	2
3	69264	Fixed Board	1	17	69262	Base Washer	1
4	69259-01	Cleat	2	18	69258	Base	1
5	99251-32	5/16-18 x 2 Pan Hd. Screw	4	19	80468	3/8-16 Square Nut	1
6	84319	5/16 Lock Washer	4	20	99362-03	5/16-18 Square Nut	1
7	80467	5/16-18 Hex Nut	12	21	84423	3/8-16 x 1 1/4 Flat Hd. Screw	4
8	80050	Eyelet	2	22	69309	Miter Adjusting Plate	2
9	69263	Cleat Bracket	2	23	69579	Pin	2
10	80455	5/16-18 x 1 3/4 Thumb Screw	2	24	69287	Acorn Nut 5/16-18	2
11	70261	Clamp Handle	1	25	69261-01	Channel	2
12	201287-02	Table Screws	4	26	82510	3/8 Lock Washer	4
13	69270	Base Clamp Handle	1	27	84180	3/8-16 Hex Nut	4
14	99171-28	5/16-18 x 1 3/4 Hex Hd. Screw	1	28	84318	5/16 Washer	8

MOTOR



PARTS IDENTIFICATION

Index No.	Part No.	Description	Qty.
1	66815	Bearing Cover	1
2	66636	Brush Holder Cover	2
3	69991	Spring Cap	2
4	70077	Brush Spring	2
5	66635	Brush Holder	2
6	66678	Carbon Brush	2
7	66656	Lower Housing & Brg. (Incl. Item #47)	1
8	99452-12	#8-32 x 3/4 Fil. Hd. Screw	6
9	69400	Spindle Brg. & Gear	1
10	U1850	Saw Blade Comb. 8"	1
11	69634	Clamp Washer	1
12	69304	Arbor Screw	1
13	69308	Spacer	2
14	69272	Kickback & Fingers	1
15	70259	Guard & Nameplates (Includes, Items 19 & 27)	1
16	99318-08	#8-32 x 1/2 Pan Hd. Scr. & Lock Washer	4
17	82481	Washer	1
18	81966	Lock Nut	1
19	70543	Guard Nameplate	1
20	46084	Washer	1
21	37667	Wing Nut	1
22	69284	Hold Down Bracket	1
23	55131	#1/4-20 x 7/8 Carriage Bolt	1
24	69283	Mounting Plate	1
25	37352-01	Washer	1
26	99170-16	1/4-20 x 1 Hex Hd. Scr.	1
27	80126	Caution Nameplate	1

Index No.	Part No.	Description	Qty.
28	69282	Retainer Plate Assy.	1
29	36382	#10-32 x 15/16 Wing Screw	1
30	80598	#8-32 x 3/8 Pan Hd. Self Tap Scr.	2
31	417	Lock Washer	2
32	66818	Needle Bearing	1
33	54818	Fiber Washer	1
34	54831	Curved Washer	2
35	69338-31	Armature & Fan	1
35A	69339	Fan	1
36	68008-71	Field Assy.	1
37	66680	Bearing Clamp	1
38	99460-07	#10-32 x 7/16 Fil. Hd. Screw	4
39	55050	Rubber Plug	2
40	65922	Field Spring	1
41	52819	#8-32 x 3/8 Thd. Form Scr. & Washer	1
42	66679	Bearing Clamp	1
43	69297	Upper Housing & Nameplate (Incl. Item #48)	1
44	48822	Heyco Bushing	1
45	69399	Motor Cable (Incl. Item #49)	1
46	66817	Needle Bearing	1
47	66657	Sleeve Brg.	1
48	69974	Nameplate	1
49	1747	Lead Terminal	1
50	69412	Wrench	1
51	50620	Wire Nuts	2

PARTS NOT SHOWN:

69605 Connection Diagram

FACTORY SALES and SERVICE CENTERS

	Area Code	Telephone No.	Area Code	Telephone No.
ALABAMA: Birmingham 35233, 1717 Third Ave., South.....	205	324-6691	NEW JERSEY: Newark 07104, 868 Broadway.....	201 HU 3-1076
ARIZONA: Phoenix 85004, 537 E. McDowell Rd.....	602	AL 8-1332	NEW MEXICO: Albuquerque 87110, 4700 Lomas Blvd. N.E.....	505 265-6401
ARKANSAS: Little Rock, 72201, 519 West Seventh Street.....	501	FR 2-3040	NEW YORK: Buffalo 14209, 881 W. Delavan Ave.....	716 TT 4-6220
CALIFORNIA: Anaheim 92802, 1235 So. Euclid Ave.....	714	772-4050	New York 10462, 1894 E. Tremont Avenue (Bronx).....	212 SY 2-2700
Los Angeles 90007, 2432 S. Broadway.....	213	RI 9-0371	New York 10014, 227 Varick St. (Manhattan).....	212 WA 9-6450
Oakland 94606, 1107 E. 14th St.....	415	TE 4-5944	New York 11377, 56-15 Queens Blvd. (Woodside).....	212 DE 5-1042
Sacramento 95814, 1915 Seventeenth Street.....	916	444-3188	Rochester 14620, 476 Clinton Ave. S.....	716 454-3814
San Diego 92105, 3811 El Cajon Blvd.....	714	AT 1-3331	Syracuse 13224, 2140 Erie Blvd. E.....	315 446-3086
San Francisco 94080, 1139 Airport Blvd.....	415	871-7278	NORTH CAROLINA: Charlotte 28206, 1710 N. Graham St.....	704 FR 5-3721
Santa Clara 95050, 2291 The Alameda.....	408	241-9162	Fayetteville 28306, P.O. Box 4305, Highway 301, S.....	919 425-1181
Van Nuys 91401, 14920 Victory Blvd.....	213	787-5531	Greensboro 27403, 1008 W. Lee Street.....	919 275-0906
COLORADO: Denver 80204, 675 Kalamath St.....	303	222-0621	OHIO: Cincinnati 45203, 1225 Western Ave.....	513 421-2275
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FLORIDA: Jacksonville 32208, 5224 Pearl Street.....	904	356-2951	Columbus 43202, 3293 N. High Street.....	614 263-8884
Miami 33142, 2075 N. W. 54th Street.....	305	NE 3-9839	Dayton 45420, 617 Watervliet Street.....	513 252-1821
Orlando 32806, 940 So. Orange Ave.....	305	423-1651	Solon 44139, 6225 Cochran Road.....	216 CH 8-5330
Tampa 33609, 3401 W. Kennedy Blvd.....	813	872-8317	Toledo 43606, 2629 W. Central Ave.....	419 475-6771
GEORGIA: Atlanta 30313, 316 Techwood Drive, N.W.....	404	JA 4-0431	OKLAHOMA: Oklahoma City 73106, 1318 Linwood Blvd.....	405 CE 2-7515
HAWAII: Honolulu 96813, 675 Auahi Street.....	808	536-9374	Tulsa 74145, 3120 South Sheridan Road.....	918 622-5666
ILLINOIS: Chicago 60607, 1100 W. Jackson Blvd.....	312	TA 9-3500	OREGON: Portland 97209, 1640 N. W. Johnson Street.....	503 CA 8-8631
Chicago 60646, Lincolnwood, 6710 N. Crawford Ave.....	312	OR 3-0923	PENNSYLVANIA: Harrisburg 17112, 6070 Allentown Blvd.....	717 KI 5-0651
Chicago 60643, Beverly Hills, 10708 S. Western Ave.....	312	BE 3-6832	Lancaster 17604, 715 Fountain Ave.....	717 393-5831
Rock Island 61201, 725 30th Street.....	309	788-1744	Philadelphia 19103, 333 No. 20th Street.....	215 LO 4-5520
INDIANA: Evansville 47708, 931 Bond Street.....	812	425-4269	Pittsburgh 15232, 5437 Baum Blvd.....	412 362-2700
Indianapolis 46202, 1125 W. 16th Street.....	317	632-5569	RHODE ISLAND: E. Providence 02914, 2777 Pawtucket Ave.....	401 434-1655
IOWA: Des Moines 50312, 2811 Ingersoll Ave.....	515	CH 4-7257	SOUTH CAROLINA: Greenville 29601, 407 Pendleton St.....	803 232-3038
KANSAS: Wichita 67214, 203 N. Mathewson Street.....	316	FO 3-6571	TENNESSEE: Knoxville 37917, 1123 North Central St.....	615 546-2481
KENTUCKY: Louisville 40209, 4407 Park Blvd.....	502	366-1495	Memphis 38116, 986 East Brooks Rd.....	901 332-3444
LOUISIANA: New Orleans 70002, 3310 N. Causeway Blvd.....	504	837-2550	Nashville 37203, 601 Eighth Ave. S.....	615 254-1061
MARYLAND: Baltimore 21211, 203 West 28th Street.....	301	HO 7-7411	TEXAS: Amarillo 79106, 3008 West 6th Ave.....	806 DR 3-1531
Baltimore 21205, 4712 Erdman Ave.....	301	485-5550	Dallas 75207, 1808 N. Industrial Blvd.....	214 RI 1-6401
Bladensburg 20710, 4501 Baltimore Avenue.....	301	779-3808	Fort Worth 76103, 1801 Bomar Street.....	817 ED 6-0175
MASSACHUSETTS: Boston 02135, 12 Market St. (Brighton).....	617	ST 2-6264	Houston 77003, 105 Sampson Street.....	713 CA 8-7521
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