DREMEL 4" TABLE SAW

owner's manual



CAUTION:

Read SAFETY RULES
and OPERATING
INSTRUCTIONS
carefully before
using Dremel
creative power
tools.

MODEL 580 4" TABLE SAW assembly • operation • repair parts

DREMEL

Division of Emerson Electric Co. 4915 - 21st Street Racine, Wisconsin 53406

DREMEL LIMITED WARRANTY

Your Dremel Table Saw is warranted against defective material or workmanship for a period of **one full year** from date of purchase. But if for some reason trouble should develop, please do the following:

- (1) Return the Table Saw prepaid direct to Dremel Service Center, P.O. Box 954, Racine, Wisconsin 53405.
- (2) Enclose a note telling us exactly what the problem is.

If our inspection shows that the trouble was caused by defective parts or workmanship, we will make all repairs **free of charge** and return prepaid to you. Repairs made necessary by normal wear, abuse, or out of warranty will be charged for at our regular low factory prices. We will try to return your repaired Table Saw to you within 72 hours after we receive it at the Dremel factory.

For prices and warranty fulfillment outside the continental United States, contact your local Dremel distributor.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

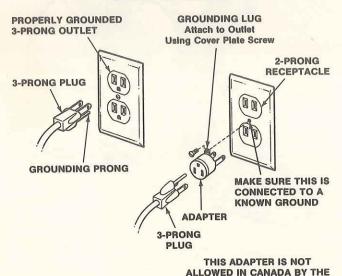
Specifications
Electrical - 115 Volts 60 Hertz 2.2 Amps
Furnished with 6 foot long 3 wire
grounding cord
Blade Size - 4 inch diameter
Blade Speed - 9,800 RPM
Maximum Cut - 1" at 90°; 3/4" at 45°
Table Size - 10" × 12"
Saw Height - 7-5/16 to top of table
Saw Weight - 12 Lbs. Approx.

OWNERS MANUAL General Safety Instructions

Table saws can be dangerous tools if not used properly. Please, for your own safety and the safety of others, read instruction manual completely before using your new saw.

 Use the ground three-prong plug in the proper outlet or with an adapter that is properly grounded. This plug is provided for your protection. Should the cord ever become worn or damaged, it should be repaired immediately. The green (or green and yellow) conductor in the cord is the grounding wire and should never be connected to a live terminal. If an extension cord is used, it must be the three wire type with a three-prong plug and a three-pole receptacle that fits the tool's plug.

GROUNDING METHODS



Always wear safety glasses or goggles. The blade can throw a loose splinter or loose knot and damage your eye.

CANADIAN ELECTRICAL CODE



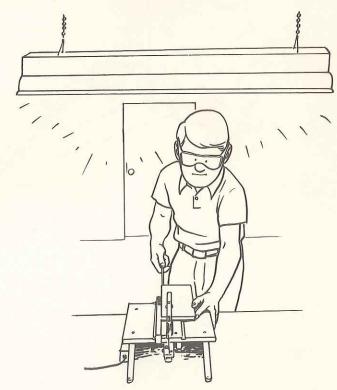
 Always keep the guard in place except when rabbeting or cutting tongue and groove joints

 see pages 8, 9, & 10.

 4. Do not use power saws in damp or wet locations or expose them to rain.



Set your saw up in a comfortable, well lighted location that will not cause you to reach or squint. Keep the floor and work area clean.



 Don't overreach. Keep proper footing and balance at all times. A slip can cost a finger. Non-slip footwear is recommended. Loose clothes, work gloves, neckties, and jewelry can get caught on the saw and cause an accident. Protect yourself by not wearing them. Wear protective hair covering to contain long hair.



Keep children and other visitors at a safe distance when working. If children are present in the household, lock the switch with a padlock, in the hole provided, when the saw is unattended.



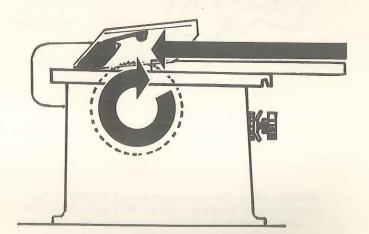
Never leave your saw until the blade has come to a stop.



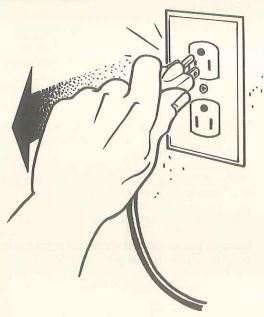
- Use only good quality 4-inch blades rated for at least 10,000 RPM. Some blades do not run true causing excessive vibration. This results in a rough cut and extra wear to your saw mechanism. Thicker blades do not cut as well and waste material.
- Keep blades clean and sharp so they cut freely without being forced. Forcing the work will cause excessive wear to your saw and cause an accident.



- For the safety of you and your saw, keep it well maintained and lubricated. If it binds, makes strange noises, or has broken parts, correct the problem immediately.
- Check the switch to see that it is "OFF" before plugging in the cord.
- Feed work into the blade against the direction of rotation. This prevents the blade from grabbing the wood and throwing it.



15. Remove the electrical plug and turn the saw "OFF" before any servicing, such as changing bench.18. Do not use your saw table as an anvil or work bench. blades or belts.



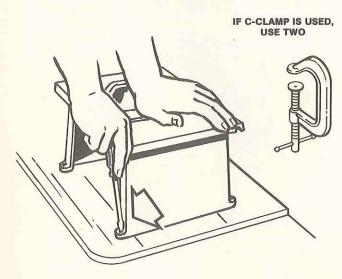
- Never put hands under the table except for changing the belt or for repairs. This should only be done with the electrical plug removed.
- 17. Never attempt to use this saw as a portable tool. It must be mounted to a table or bench before using.



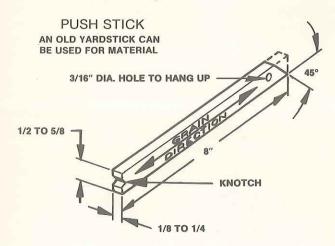


19. A saw or other dust producing tool should not be used close to a furnace, water heater, or any open flame. The dust in the air can be ig-nited causing a dust explosion and/or fire.

 For your safety, mount your saw in a location that does not require you or an observer to stand in line with the saw blade. It can be permanently mounted to your workbench or you can mount it to a piece of 3/4" plywood that can be Cclamped to any base that will not wobble or tip. Transfer the hole locations from the four feet to the mounting surface with a pencil or nail and drill four 9/64" dia. holes. Mount saw with the four screws provided.



 Make two wooden push sticks as shown and hang them on a nail next to your saw. Their use will be shown in the section on the use of the rip fence. It is better to saw through a push stick, if you slip, rather than your finger.



3. KICKBACKS

6

Kickbacks can cause serious injury: A "kickback" occurs when a part of the workpiece binds between the saw blade and the rip fence or other fixed object, rises from the table, and is thrown toward the operator. Keep your face and body to one side of the saw blade, out of line with a possible "kickback". Kickbacks — and possible injury from them — can usually be avoided by:

- Maintaining the rip fence parallel to the sawblade.
- B. Keeping the saw blade sharp. Replacing or

- sharpening anti-kickback spurs when points become dull.
- C. Keeping saw blade guard, spreader, and antikickback spurs in place and operating properly. The spreader must be in alignment with the sawblade and the spurs must stop a kickback once it has started. Check their action before ripping.
- D. NOT ripping work that is twisted or warped or does not have a straight edge to guide along the rip fence.
- E. NOT releasing work until you have pushed it all the way past the saw blade.
- F. NOT ripping round stock.
- G. Using a push stick or sticks for ripping narrow widths. Push on wood between blade and rip fence.
- H. Removing rip fence or moving it out of the way when cross cutting. Do **not** use it for a stop.

4. FACE PROTECTION

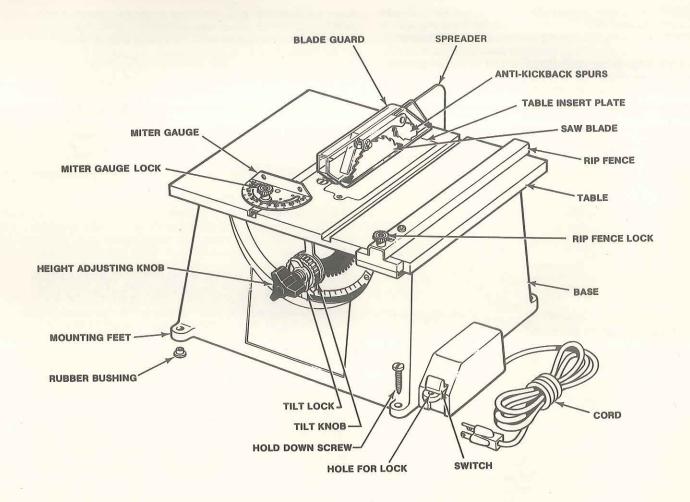
Wear safety goggles that comply with ANSIZ87.1 at all times when sawing. Some people are allergic to the sawdust from certain woods and this can result in sneezing and itching of the eyes. For this, we recommend a face mask or a filtered breathing device.

5. Do not perform any operations freehand. Always use either the rip fence or the miter gauge to position or guide the work. Freehand sawing can cause the blade to jam in the cut, resulting in damage to your saw and possible injury to you.

6. MATERIALS

This saw was designed to cut wood and should never be used to cut metals of any kind. Some plastics and hardboard can be cut, but with great care. CAUTION — Because of the hard surfaces of plastics and hardboards, the anti-kickback spurs may not function and pieces of material can be thrown out at great speed. Some plastic materials use fiber-glass or sand as a filler and will dull your saw blade.

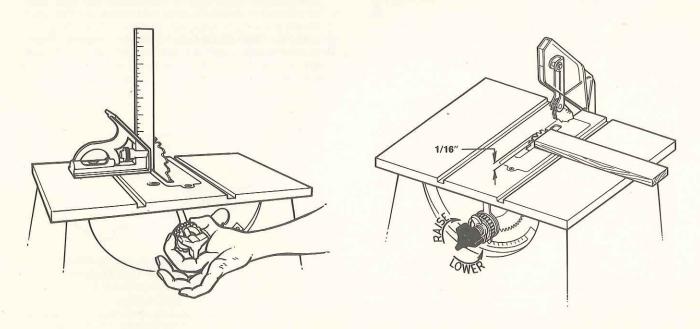
 Never use dado cutters, friction discs, cutoff wheels, or any similar accessory. Use only the Dremel 4 inch diameter blades designed for use in this saw.



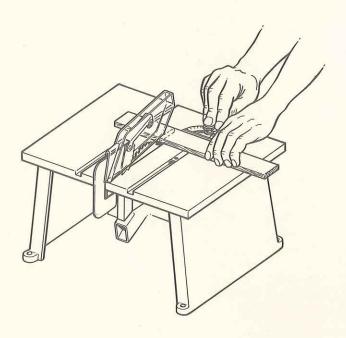
NOW IT IS TIME TO TRY SAWING. Your saw should now be mounted to a solid base in a well lighted area adjacent to a 3-wire electrical outlet or properly grounded adapter. Before plugging in the cord, check the blade for squareness as shown. The blade should be raised to about 1" above the table. This is done by turning the height adjusting knob clockwise.

If the blade is not square, loosen the tilt lock and move the tilt knob until the blade is square. Retighten lock before sawing.

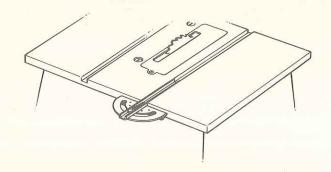
Your first cut will be a cross cut which is across the short dimension of a piece of wood. Select a piece of wood and lay it adjacent to the blade with the guard raised. Adjust the blade height about 1/16"



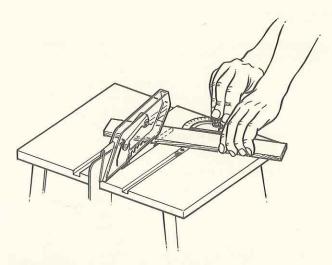
above the wood and then lower the guard. Blade height adjustment should always be finished with a raising motion; otherwise the backlash in the mechanism will allow the blade to drop slightly while you are sawing. Now mark the piece of wood where you would like it cut off. If you are right handed, move the rip fence to the far right side or remove it and install the miter gauge in the groove to the left of the blade. If you are left handed, do the opposite. With the table free of all other foreign objects, plug in the cord and turn saw on. Grasp the miter gauge lock knob with the right hand as shown, keeping



your hand away from the blade. Hold the wood securely against the face of the miter gauge with the other hand and move it slowly through the blade. Always have a place for both hands so that they do not come in contact with the blade. Before making another cut, remove any loose pieces of wood from the table using the end of the push stick. Should any pieces get caught in the guard or the antikickback spurs, turn off the switch before clearing. Remove the electrical plug if it is necessary to use your fingers. If you find your cut is not square with the edge of the part, invert the miter gauge in its slot and use the edge of the table as a gauge to square it.



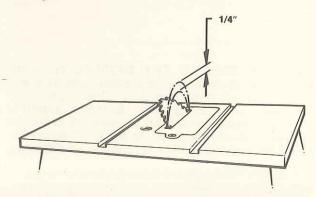
For angle cuts, set the desired angle on the miter gauge and handle the wood in the same manner as described above. For precision angular cuts, use



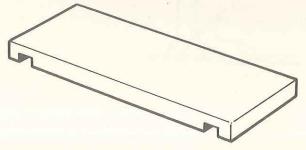
a precision protractor and set the miter guage using the edge of the table for a reference. The blade has been aligned parallel with the miter gauge slots in the table and the sides of the table. Remember to clear table of any loose pieces of wood after each cut.

If an angle other than perpendicular to the table is desired, release the tilt lock and tilt the blade to the correct angle.

CAUTION — The blade must be at least 1/4" below its maximum setting before tilting blade or the blade nut will strike the table insert plate, causing damage.

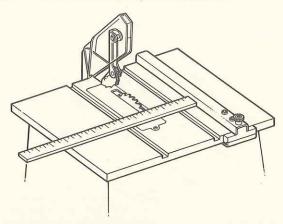


So far you have done only "through sawing" or cutting entirely through a board. Sometimes you may need to cut a blind slot such as used in a tongue and groove joint in the frame of a drawer or box.

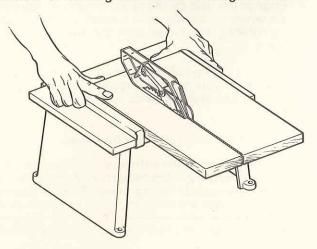


To do this, the guard and spreader assembly must be removed by taking out the two screws holding the spreader in place. They are located just below the rear edge of the table. Remember to remove the electrical plug before doing any work below the table top. Now set the saw blade height equal to the desired depth of the slot. The width of the slot is produced by multiple saw cuts. Be extra careful with the guard removed. The blade can now throw loose knots or splinters into your face. Always stand slightly to one side when sawing and be sure to wear your safety glasses. Replace the guard and splitter as soon as this operation is done — see alignment instructions on page 11.

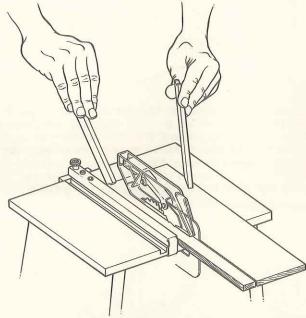
The second kind of cutting done with a table saw is known as ripping. This is a cut along the long dimension of a piece of wood and is made using the rip fence. Remove the miter gauge from the saw table. Install the rip fence to the right side of the blade if you are right handed or to the left if you are left handed. Select a piece of wood that is flat and has at least one straight edge. The wood should be checked by holding it against a flat surface to see if it rocks or if any large gaps of light can be seen under it. If the edge is not straight, correct it with a jointer, hand plane, or sander. Warped wood will cause the blade to bind. This can damage the saw or cause a piece of wood to be thrown out at high speed. A round piece of wood like a dowel or broomstick will cause the same problem.



Set the width of the piece to be cut by measuring from the offset tip of the tooth to the rip fence. Lock the rip fence and lower the blade guard. Turn on the saw and start the board into the blade, holding it against the rip fence and down on the surface of the saw table. If the piece of wood extends at least 1" farther from the blade than the slots in the saw table, you can feed it through by hand if you use the method described; otherwise use one or both of the push sticks. For hand feeding, the right hand should be positioned as shown with the thumb pushing the wood and the first finger holding it down. The remainder of the fingers should be riding the outside



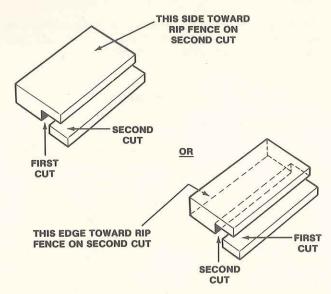
of the rip fence. Should you slip, these fingers will cause your hand to slide past the blade instead of into it. The left hand is protected in a similar manner. The thumb is used to push the wood with the fingers and palm sliding along the edge of the table as shown. If either edge of the board is too short to hand feed, use a push stick, keeping your hand well clear of the blade. If the board is too narrow to hand feed, use both push sticks as shown. The stick used



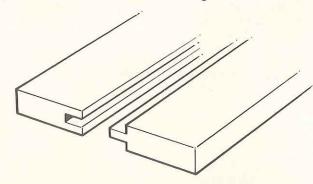
between the blade and the rip fence is used for pushing; the other stick is used to hold the wood down and against the rip fence. To saw very narrow strips, see the work helpers on page 10.

To cut rabbets or tongue and groove joints, the guard must be removed. Remember to remove the electrical plug before removing the two screws just below the back edge of the table.

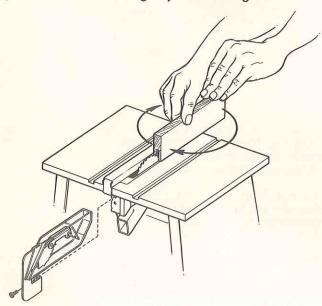
To cut a rabbet, the second cut should always be made so that the scrap strip remaining is never trapped between the blade and the rip fence. A



trapped piece could be picked up by the blade and thrown back toward the operator at a high rate of speed. Be sure to stand slightly to one side and wear your safety glasses. To cut a tongue and groove joint, the tongue is cut as two rabbets. The groove is made by multiple cuts with the board on edge. The first cut is



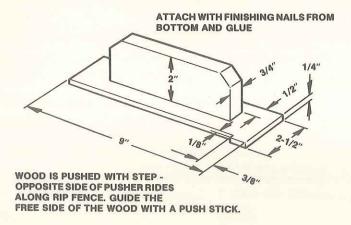
made approximately at the center of the edge. The board is then turned end for end and run through again. This will insure that the groove is in the center of the board. Move the rip fence less than a blade thickness away from the blade and run the board through again from each end as above. Repeat this until the tongue just fits the groove.



Remember to replace the blade guard assembly as soon as you have finished making blind cuts. See page 11 for alignment instructions.

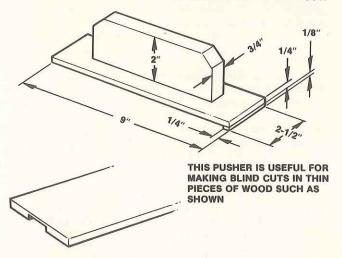
WORK HELPERS

1. Pusher for cutting very thin strips

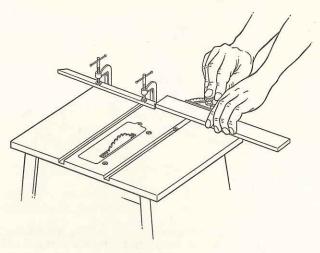


2. Pusher

ASSEMBLE WITH GLUE ONLY -DO NOT USE NAILS. A NAIL COULD DAMAGE THE BLADE IF PUSHER IS ACCIDENTLY CUT.



3. Multiple cross cuts of same length.

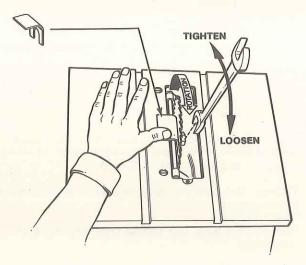


CHANGING BLADES

- Remove electrical plug.
- Remove table insert plate by removing single screw.
- 3. Raise blade to top position.
- Engage the flats on the spindle hub with the spindle wrench that has been furnished. This is done
 by rotating the blade until the wrench slips in
 place.
- 5. With the flat end of the wrench held down on the table with your thumb, loosen the blade nut by turning counterclockwise with a 3/4" open end wrench.
- 6. Remove the nut, washer, and blade.
- 7. Install the new blade with teeth pointing forward, as indicated by rotation arrow. Washer should have cupped side facing blade. Be sure washer, nut and blade are clean to prevent wobble. Bring nut up snug with the wrench but do not overtighten. Blade rotation tends to tighten nut when

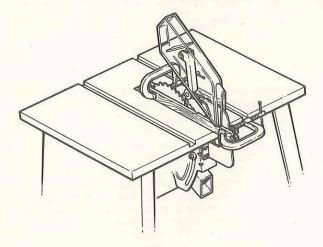
the saw is in use.

8. Remove spindle wrench and replace table insert plate.



INSTALLING BLADE GUARD

- 1. Remove the electrical plug.
- Hold the blade guard in place and install the screws that support it. The screws should not be tightened enough to prevent movement for adjustment.
- 3. Raise the anti-kickback spurs and guard and insert a wooden match stick or toothpick through the hole provided in the splitter to keep them up.
- 4. Raise the blade to full height.
- Lay your push sticks (they should be of equal thickness) along the sides of the blade and splitter and clamp with two small C-clamps as shown to align, tighten the guard mounting screws.
- 6. Remove C-clamps and push sticks
- Remove match stick holding spurs.

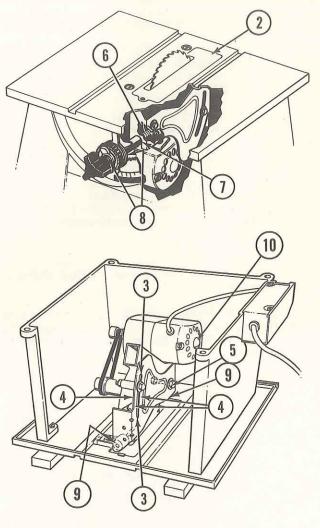


LUBRICATION

Should be done after every 2 hours of use.

1. Remove electrical plug.

- 2. Remove the table insert plate.
- Remove accumulated dirt and old grease. Take special care to clean the slot in the raise/lower mechanism to prevent jamming at the ends of travel.
- 4. Wipe a thin film of grease on the surfaces that guide the mechanism when it is raised and lowered. It must be raised and lowered to lubricate both sides and both ends.
- Add a drop of oil to each side of the mechanism pivot point.
- Wipe a thin film of grease on the adjusting screw when the saw blade is in the "UP" position.
- Add a little grease at the place where the yoke engages the control shaft.
- Add a drop of oil at each end of the control shaft where it passes through the tilt control knob.



- Add a drop of oil at each of the hanger hinge points.
- Add one drop of light (sewing machine type) oil to the motor rear bearing. The front bearing and spindle bearings are ball bearings lubricated for life.

ALIGNMENT OF RIP FENCE

- 1. Remove electrical plug.
- Move rip fence adjacent to the groove in the table used by the miter gauge. The edge of the rip fence should be perfectly aligned with the edge of this groove.
- If rip fence is not aligned, loosen two screws in the rip fence and carefully align, recheck alignment after tightening screws.

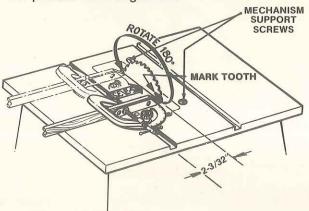
ALIGNMENT OF BLADE

CAUTION — Blade has been aligned at the factory and should never need realignment unless the saw has been damaged or badly worn. Check alignment carefully before attempting to change it.

- 1. Remove electrical plug.
- 2. Raise blade to "UP" position and mark one tooth with a felt point pen or a piece of tape.
- 3. Move the marked tooth on the blade to a position just above the table top in the forward position.
- Clamp a push stick to the miter gauge with the pointed side against the table. The point should just touch the saw blade at a spot just below the marked tooth.
- Rotate the marked tooth back to a position just above the table at the rear.
- 6. Move the miter gauge back and see if the point of the stick still touches the blade without binding. If there is a noticeable error the blade must be adjusted. This test must not be made without using a reference point on the blade or an error could result from blade wobble.

If blade is not aligned —

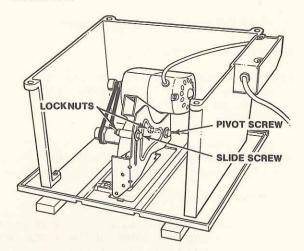
- Loosen the two screws that support the saw mechanism.
- Carefully move the mechanism until the flat side of the blade is 2-3/32" from the outer edge of the miter gauge slot. A gauge should be made to check this.
- 3. Tighten the two screws and check blade again for position and alignment.



WEAR ADJUSTMENT

The surfaces that guide the blade when it is raised and lowered may wear in time. This may be easily readjusted as follows:

- 1. Remove electrical plug.
- Turn saw over and set it on blocks high enough to keep the blade from striking the workbench.
- Loosen the locknuts indicated on the pulley side of the mechanism.
- Turn the pivot screw up tight and then back it off just enough to allow the mechanism to move freely — approximately 1/8 turn.
- Tighten the locknut and re-check for freedom of movement.
- Repeat this with the screw that adjusts sliding clearance.



BELT ADJUSTMENT

The mechanism of this saw has elongated holes for the motor mounting screws. Belt adjustment is made by loosening the two hex socket screws above the motor with the wrench provided and



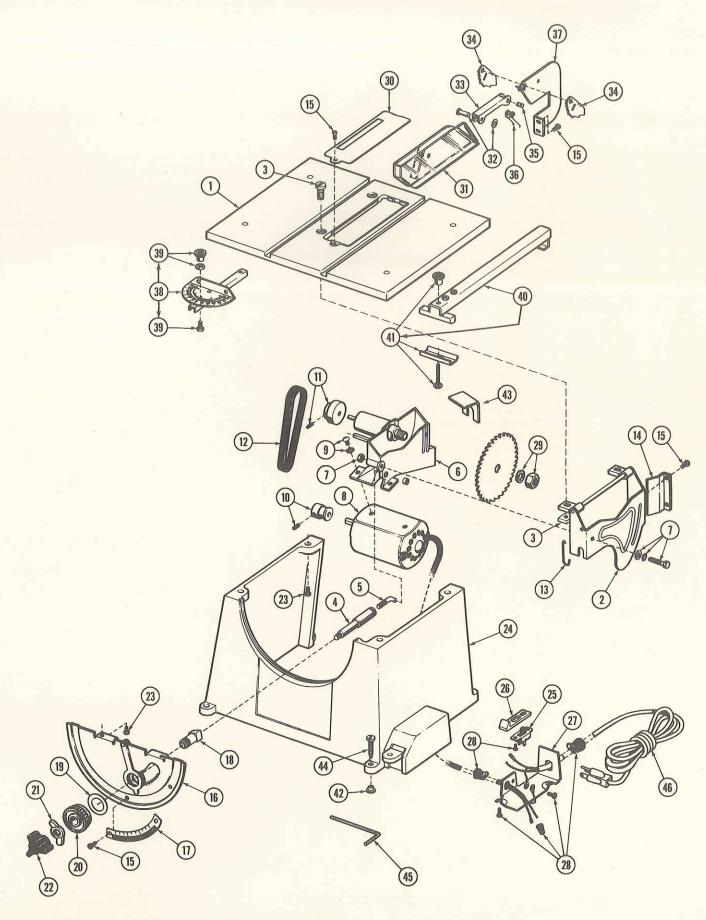
moving the motor to obtain the desired belt tension. The easiest way to do this is to first move the motor to remove the slack from the belt. Snug the screws and remove the belt by rolling it off the unflanged pulley. Now loosen each screw separately and move the motor slightly in the direction that tightens the belt and retighten the screws. When both ends of the motor have been moved, recheck both screws. Install the belt (smooth side in) on the flanged pulley first and then roll it onto the unflanged pulley. If motor has been moved too far you will be unable to install the belt. Loosen screws and move motor back toward its original location, retighten screws, and attempt to reinstall belt. If belt can be installed, turn the pulley by hand and check to see that the belt does not ride against the pulley flange as this will damage it. If it rubs, the motor is not aligned with the spindle shaft. This should be corrected.

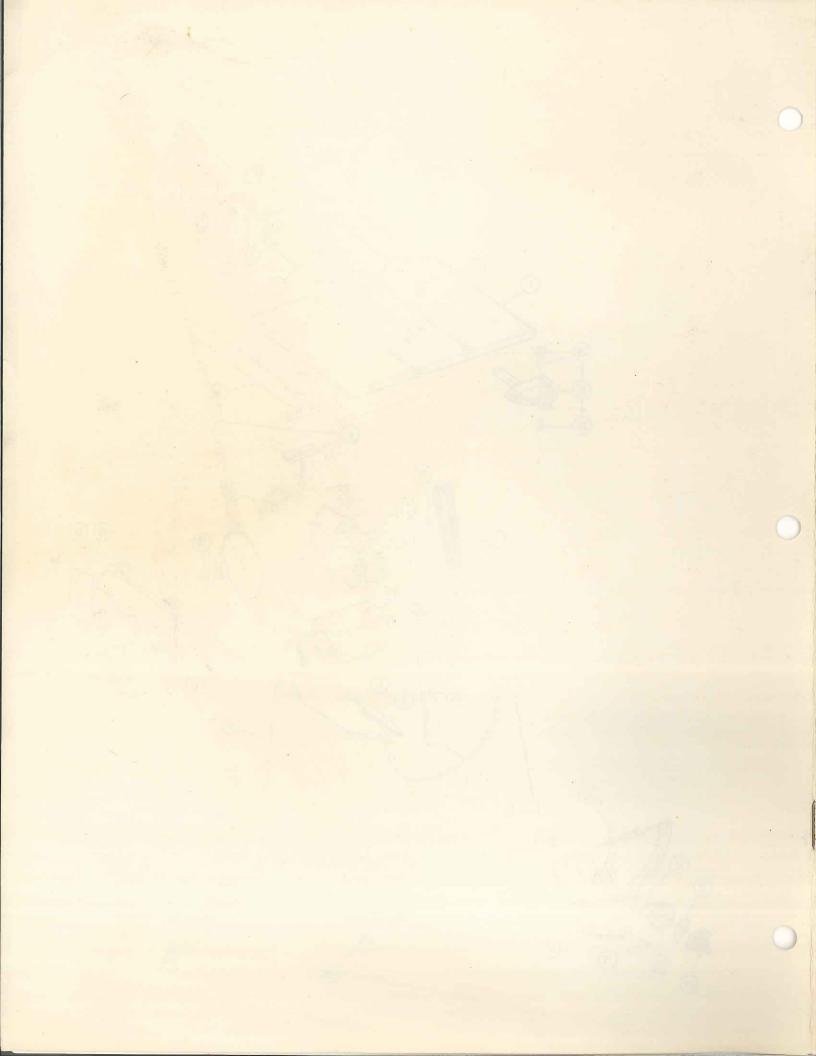
TROUBLE SHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY		
Excessive vibration	Unbalanced or poorly sharpened blade	1. Replace blade		
	Badly worn belt	2. Replace belt		
	Worn guiding surfaces for	3. Readjust — see page 12		
	frame	or rioudjust see page 12		
	4. Tilting knob not locked	4. Tighten lock		
Saw binds or makes irregular surface when ripping	Dull blade or improper tooth set	1. Sharpen or replace blade		
	2. Warped board	A. If bow is slight, saw with hollow side down B. Plane board C. Discard board		
	3. Spreader out of alignment	3. See page 11 - Installing blade guar		
	Rip fence not parallel to blade	See page 12 for blade alignment and page 12 for rip fence alignment		
Controls bind	Lock not loosened on tilt mechanism	1. Loosen lock		
	2. Mechanism not lubricated	2. Lubricate — see page 11		
	Traverse slot of blade elevation mechanism filled with sawdust			
Excessive noise	Poor quality or unbalanced saw blade	1. Replace blade		
	2. Worn or damaged bearings	2. Return for service		
	3. Loose parts	3. Check and tighten		
	 Guiding surface for blade elevation mechanism worn 	4. Readjust — See page 12		
Loss of power	1. Loose belt	1. Tighten		
	Friction surface of belt loaded with sawdust or coated with lubricant	Clean with small brush or rag with solvent		
	Dull or improperly sharpened blade	3. Resharpen or replace blade		
	4. Binding	4. Check rip fence alignment		
	5. Defective motor	5. Return for service		
Smells hot (motor overheating)	Motor air passages plugged with sawdust	 Hold vacuum sweeper hose to motor air vents while tapping with screwdriver handle to loosen dirt. Do not use an air hose — this can blow dirt into the bearings. 		
	2. Forcing saw	2. Cut slower		
	Cutting wrong material	Use another material		

580 REPAIR PARTS LIST

Code No.	Part No.	Description	No. Req'd.	Code No.	Part No.	Description	No. Req'd.
1	406009	Table	1	24	406017	Base	1
2	995804	Cradle Complete	1	25	304001	Switch	1
3	990940	Hardware (2 scrs & 2 nuts) (mount cradle to table)	1	26	406007	Switch Actuator	1
4	406047	Control Shaft	1	27	406041	Switch Box Cover	1
5	406014		2.2	28	990939	Switch Box Hardware (5 scrs, 2 bushings, 1 wire nut)	
		Elevation Screw	1				4
6	995803	Frame Complete	1	29	990946	Blade, Nut & Washer	
7	990937	Hardware, (mount frame to cradle) (1 bolt, 1 nut, 2 washers)		30	406046	Table Cover	1
				31	406062	Blade Guard	1
8	406012	Motor	1	32	990947	Guard Hardware, 1 pin	1
9	990942	Hardware (mount motor) (2 scrs., 2 washers)	1			& 1 retainer	
10	8017		-	33	406063	Link	1
11	114000000000000000000000000000000000000	Pulley, Small	1	34	990948	Spurs (1 ea. R.H. & L.H.)	1
20,825	8016	Pulley, Large	1	35	406064	Pin (for spurs)	1
12	8015	Belt	1	36	404065	Spring (for spurs)	1
13	406048	Spring (brake)	1	37	995818	Spreader w/pin	1
14	406049	Guard	1	38	995822	Miter Gage, Complete	1
15	990938	Hardware (5 screws)	1	39	990949	Miter Gage Hardware	1
16	995811	Plate and Pointer Assembly	1	40	995824	Rip Fence Complete	1
17	406024	Quadrant Plate	1	41	990950	Rip Fence Hardware	1
18	406020	Bushing	. 1	42	990951	Rubber Bushing (foot)	1
19	308005	Fibre Washer	1		000001	Package of 4 Pcs.	
20	406030	Knob with Gear	1	43	406068	Wrench	1
21	406031	Lock Lever	1_	44	990955	Saw Mounting Screws (4)	1
22	406028	Knob	1	45	700025	Hex Wrench	1
23	990944	Hardware, (6 screws) Base Mtg.	1	46	404038	Cord	1





CAUTION

Read before plugging in saw.

To prevent damage to internal parts during shipment, the Tilt Lock Lever of your saw was **not** tightened. Before using your saw, be sure to adjust the blade tilt to the angle desired and then tighten the Tilt Lock Lever. Failure to do this could result in binding and kickback of the piece being cut and possible injury to the user.

Refer to your Owners Manual for complete operating instructions.

Note: The four (4) rubber bushings (feet) are shipped in the plastic accessory bag. They should be inserted in the base mounting feet to prevent marring of the work surface and reduce transmission of vibration.

Form No. 395018

HARDWRE A 99.99
HARDWRE A 99.99
HARDWRE A .63
REGR-% A -10.06
2 ITEMS
TAX #1 3.62
TOTAL 94.18
CASH 100.00
CHANGE 5.82

OPER.1 222222 9521
3-3-90 9:35AM