

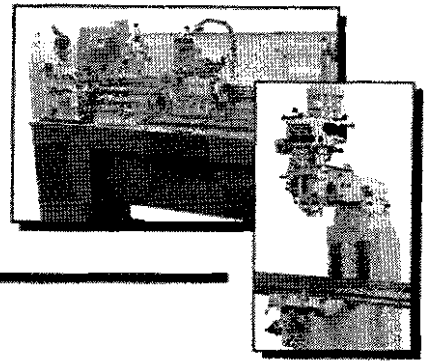


**MACHINERY DIVISION**

6465 18 MILE ROAD  
STERLING HEIGHTS, MI 48314

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**FAX:**  
(586) 731-7464 • 1-800-862-1740



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## **MODEL BAH-712 BANDSAW**

**THANK YOU FOR PURCHASING WITH KBC MACHINERY. ALL KBC MACHINES ARE BACKED BY OUR 1 YEAR PARTS REPLACEMENT WARRANTY. WHEN USED AS INTENDED, AND WITH PROPER MAINTENANCE THIS MACHINE WILL PROVIDE YOU WITH YEARS OF TROUBLE-FREE SERVICE. IF YOU NEED PARTS SIMPLY FILL OUT THE PARTS REQUEST FORM, AND FAX OR E-MAIL YOUR REQUEST. ALL OTHER QUESTIONS PLEASE CONTACT US @ :**

**KBC MACHINERY  
6465 18 MILE ROAD  
STERLING HEIGHTS, MI 48314  
PH (800) 860-1740  
FAX (800) 862-1740  
[MACHINERY@KBCTOOLS.COM](mailto:MACHINERY@KBCTOOLS.COM)  
[WWW.KBCTOOLSANDMACHINERY.COM](http://WWW.KBCTOOLSANDMACHINERY.COM)**



# PARTS REQUEST FORM

YOUR COMPANY NAME:

STATE/PROVINCE

YOUR NAME

PHONE # + EXT

FAX #

MACHINE INFO:

MAKE/MANUFACTURER

MODEL NUMBER

YEAR MADE

SERIAL#

PARTS REQUESTED:

PART#

DESCRIPTION

PLEASE INCLUDE COPY(S) OF THE PARTS DRAWING FROM THE  
MANUAL AND CIRCLE THE PARTS NEEDED

FAX PARTS REQUEST TO (800) 862-1740

E-MAIL PARTS REQUEST TO: [machinery@kbctools.com](mailto:machinery@kbctools.com)

THANKS; KBC MACHINERY - MICHIGAN

# 7" x 12" HORIZONTAL & VERTICAL BAND SAW

## Specifications

Cutting Capacity: 7" Round (180MM)

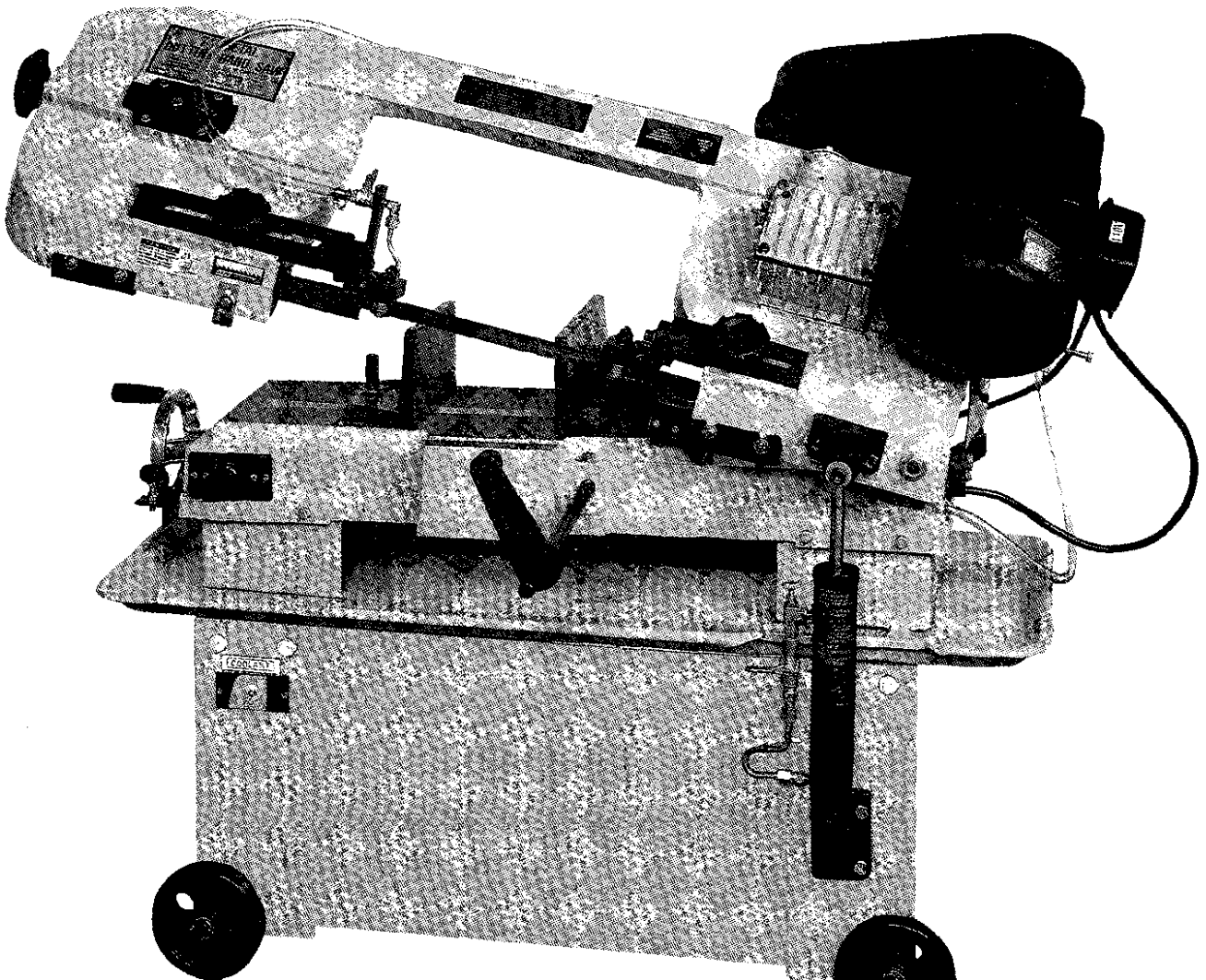
7"x12" Rectangle (180MMx300MM)

Blade Speeds : 86-132-178-260 FPM 60 HZ

72-110-148-217 FPM 50 HZ

Blade Size : 3/4" x .032" x 93"

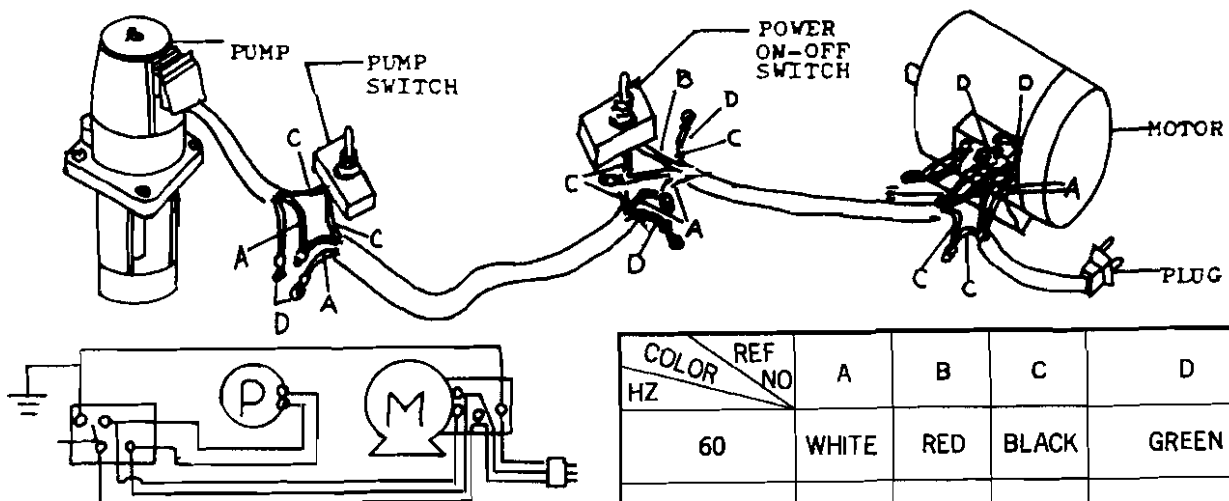
(19 MM x 09MM x 2360MM)



## SAFETY INSTRUCTION TO THE OPERATOR

1. Know your band saw. Read the operator's manual carefully. Learn the operation, application, and limitations as well as the specific potential hazards peculiar to this band saw.
2. This unit is equipped with a three prong (grounding) plug for your protection against shock hazards and should be plugged directly into a properly grounded three prong receptacle. Where a two prong wall receptacle is encountered, it must be replaced with a properly grounded three prong receptacle in accordance with the National Electrical code and Local Codes and Ordinances. **THIS WORK SHOULD BE DONE BY A QUALIFIED ELECTRICIAN. DO NOT** cut off the round grounding prong!
3. Use only 3-wire extension cords which have 3-prong grounding type plugs.
4. Replace or repair damage or worn cord immediately.
5. Keep guards in place and in working order.
6. Be especially careful when using band saw in vertical position to keep fingers and hands out of path of blade.
7. Wear ear protection if exposed to long periods of very noisy shop operations.
8. Use safety goggles, hard hat and safety shoes. Also use face or dust mask if cutting operation is dusty.
9. Wear proper apparel. No loose clothing or jewelry to get caught in moving parts. Do not wear a tie or gloves.
10. Don't overreach. Keep your proper footing and balance at all times.
11. Secure work. Always use the vise to hold work. Clamp securely. Never hand-hold the work with saw in horizontal position.
12. Keep work area clean. Cluttered areas and benches invite accidents.
13. Avoid dangerous environment. Don't use the band saw in damp or wet location. Keep work area well illuminated.
14. Don't force tool. It will do the job better and safer at the rate for which it was designed.
15. Disconnect power cord before adjusting and servicing, and before changing blade.
16. Safety is a combination of operator common sense and alertness at all times when the saw is being used.
17. Never stand on tool. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
18. Check damaged parts. Before further use of the tool, a guard or other parts that is damaged should be carefully checked to assure that it will operate to assure that it will operate properly and perform its intended function-check for alignment of moving parts; binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
19. When moving the saw, ALWAYS have the head lowered to the horizontal position.

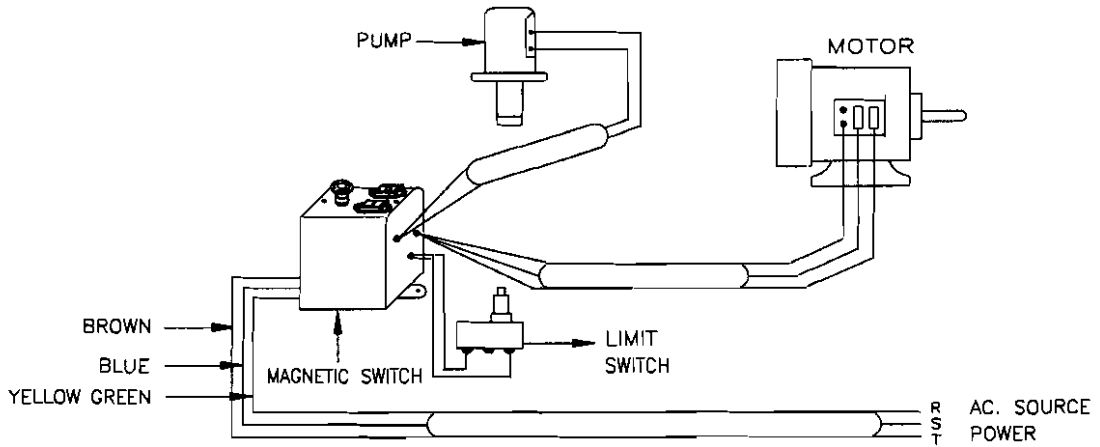
**WIRING DIAGRAM  
TOGGLE SWITCH SINGLE PHASE**



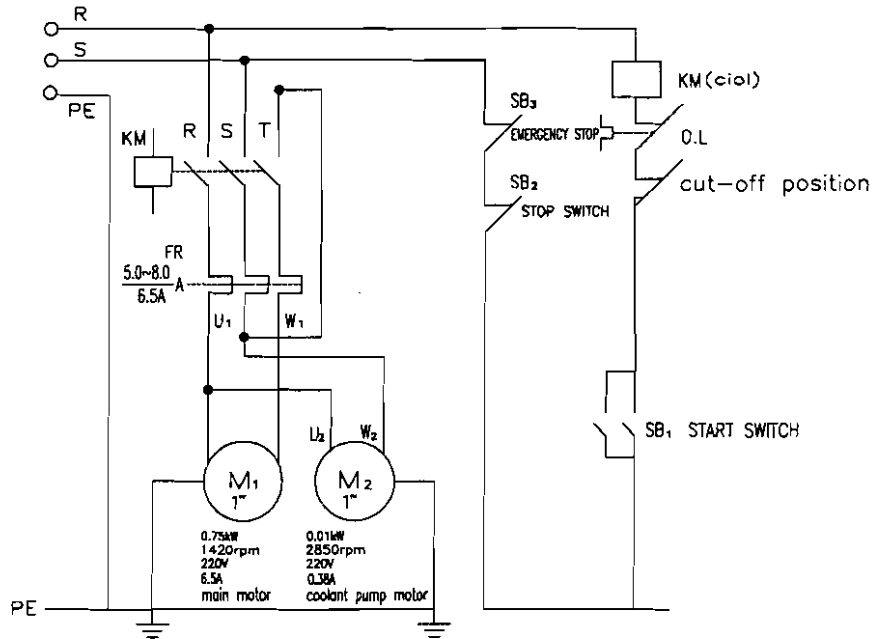
COLOR	REF NO	A	B	C	D
60 HZ		WHITE	RED	BLACK	GREEN
50 HZ		BLUE	BLACK	BROWN	YELLOW GREEN

**IMPORTANT**

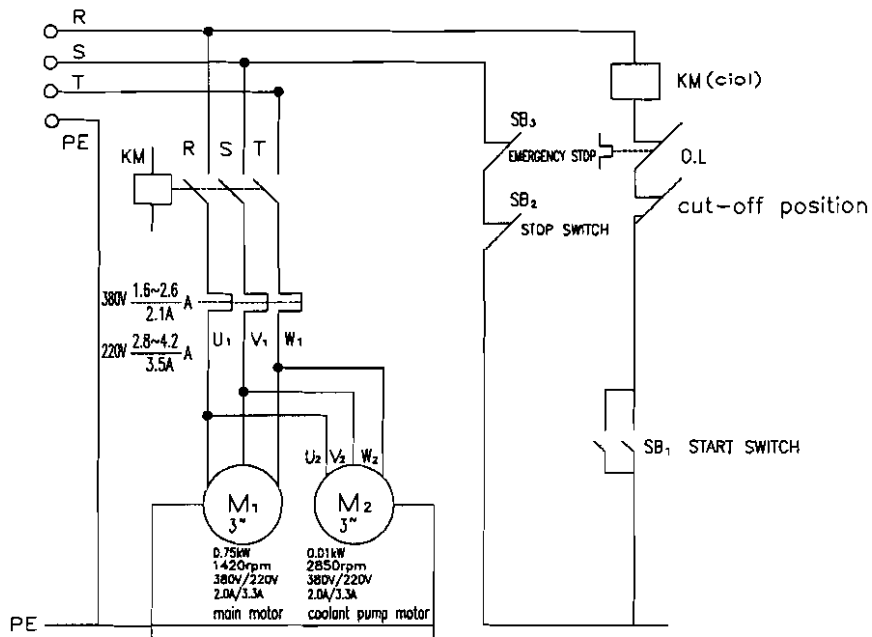
# WIRING DIAGRAM MAGNETIC SWITCH (FOR 712A)



(1x220V, 0.75kW)



(3x380V, 0.75kW) and (3x220V, 0.75kW)



## ASSEMBLY

A 3/4 or 1 HP, motor, split phase or capacitor start, is recommended for best economical performance. Counterclockwise rotation is required. Note that rotation can be reversed by following directions given on terminal or nameplate.

1. Assemble the motor Mounting plate to the head using the long bolt. Note that the flat side of the plate faces up.
2. Assemble the guard plate to the Head using the screw and Lock Washer and the Carriage Bolt. Washer and Wing Nut are used to secure the Motor Mounting plate to the Guard plate through the slotted hole in the Guard plate. These components also serve to position and lock the motor in place for proper speed/belt adjustment.
3. Place the spacer over the long Bolt and secure it with the nut.
4. Secure the Motor to the Motor Mounting plate with the four Bolts and nuts. Note, that the motor shaft is placed through the large opening in the Guard plate and must be parallel with the drive shaft.
5. Assemble the Motor Pulley, the smaller of the two provided, to the motor shaft. Note, the larger diameter must be closest to the motor. Do not tighten the set screw.
6. Assemble the Driven Pulley, the larger of the two provided, to the protruding drive Shaft. Note the smaller diameter must be closest to the bearing. Do not tighten the set screw.
7. Place the belt into one of the pulley groove and the other end into the respective grooves of the second pulley.
8. Line up the belt and both pulleys such that the Belt is running parallel in the pulley grooves.
9. Tighten the set screws of both pulleys in this position.
10. Place the belt into proper pulley combination for proper blade speed. See material cutting Chart.
11. Adjust the position of the Motor to obtain approximately 1/2" depression in the belt when applying pressure with your thumb.
12. Tighten the head screw Holding the Motor Mounting plate to the Guard plate.
13. Connect the Electrical Harness to the motor terminal box. The motor should be protected with a time delay fuse or circuit breaker with a rated amperage slightly greater than the full-load amperage of the motor

## INSTALLATION

The saw may be mounted on your own bench or stand. The rear end of the arc must be mounted flush with the rear of the stand or bench to permit vertical operation for this band saw. Ask your dealer for this band saw. This stand has punched holes to effect easy assembly to the bench using eight standard bolts.

## OPERATION

### WORK SET UP

1. Raise the saw head to vertical position.
2. Open vise to accept the piece to be cut by rotating the wheel at the end the base.
3. Place workpiece on saw bed. If the piece is long, support the end.
4. Clamp workpiece securely in vise.

### WORK STOP ADJUSTMENT

1. Loosen the thumb holding the work stop casting to the shaft.
2. Adjust the work stop casting to the desired length position.
3. Rotate the work stop to as close to the bottom of the cut as possible.
4. Tighten thumb screw.
5. **DO NOT ALLOW** the blade to rest on the work while the motor is shut off.

### CONVERTING FOR VERTICAL USE

Nothing, slitting, contour work may be done with the saw in the vertical position in the following manner:

1. Rotate the head to the vertical position.
2. Assemble a 10"x10" table (an option that may be purchased from your dealer to the guide bar using the screws provided and the guide bar knob.

### BLADE SPEEDS

When using your Band saw always change the blade speed to best suit the material being cut. The material Cutting Chart gives suggested settings for several materials.

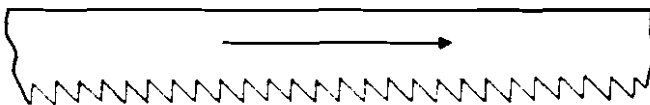
## 4 SPEED MATERIAL CUTTING CHART

Material	Speed F.P.M.		Belt Groove Used	
	60Hz	50Hz	Motor Pulley	Saw Pulley
Tool, Stainless Alloy Steels Bearing Bronze	86	72	Small	Largest
Medium to High Carbon Steels Hard Brass or Bronze	132	110	Medium	Large
Low to Medium Carbon Steels Soft Brass	178	148	Large	Medium
Aluminum Plastic	260	217	Largest	Small

### BLADE DIRECTION OF TRAVEL

Be sure the blade is assembled to the pulleys such that the vertical edge engages the work piece first

BLADE MOVEMENT



### STARTING SAW

**CAUTION: NEVER OPERATE SAW WITHOUT BLADE GUARDS IN PLACE.**

Be sure the blade is not in contact with the work when the motor is started. Start the motor, allow the saw to come to full speed, then begin the cut by letting the head down slowly onto the work. DO NOT DROP OR FORCE. Let the weight of the saw head provide the cutting force. The saw automatically shuts off at the end of the cut.

### BLADE SELECTION

A 8-tooth per inch, general-use blade is furnished with this metal Cutting Band Saw. Additional blades in 4, 6, 8, and 10 tooth sizes are available. The choice of blade pitch is governed by the thickness of the work to be cut; the thinner the workpiece, the more teeth advised. A minimum of three (3) teeth should engage the workpiece at all times for proper cutting. If the teeth of the blade are so far apart

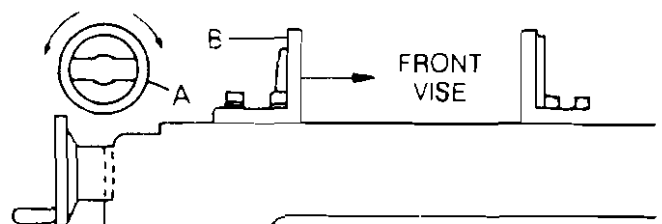
## CHANGING BLADE

Raise saw head to vertical position and open the blade guards. Loosen tension screw knob sufficiently to allow the saw blade to slip off the wheels. Install the new blade with teeth slanting toward the motor as follows:

1. Place the blade in between each of the guide bearings.
2. Slip the blade around the motor pulley (bottom) with the left hand and hold in position.
3. Hold the blade taut against the motor pulley by pulling the blade upward with the right hand which is placed at the top of the blade.
4. Remove left hand from bottom pulley and place it at the top side of the blade to continue the application on the upward pull on the blade.
5. Remove right hand from blade and adjust the position of the top pulley to permit left hand to slip the blade around the pulley using the thumb, index and little finger as guides.
6. Adjust the blade tension knob clockwise until it is just right enough so no blade slippage occurs. Do not tighten excessively.
7. Replace the blade guards.
8. Place 2-3 drops of oil on the blade.

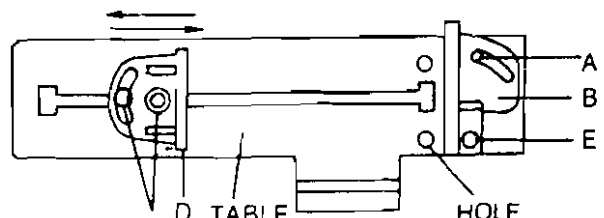
## USAGE OF THE QUICK VISE

Your machine is equipped with a "quick thanaction" vise jaw which allows you to instantly position the moveable vise jaw (B). Simply turn handwheel (A) counterclockwise 1/2 turn and move the vise jaw (B) to the desired position. Then tighten the vise jaw (B) against the workpiece by turning hand-wheel-clockwise.



## QUICK VISE ADJUSTMENT FOR ANGLE CUT

1. Loosen the A. B. C. Screw.
2. Adjust rear vise to the threaded hole position. (E)
3. Set the scale to the desired angle.
4. Adjust the front vise (D) to parallel the rear vise (E).
5. Tighten the A. B. C. Screw.



## BLADE GUIDE BEARING ADJUSTMENT

**ATTENTION:** This is the most important adjustment on your saw. It is impossible to get satisfactory work from your saw if the blade guides are not properly adjusted. The blade guide bearings on your metal Cutting Band Saw are adjusted and power tested with several test cuts before leaving the factory to insure proper setting. The need for adjustment should rarely occur when the saw is used properly. If the guides do get out of adjustment, through, it is extremely important to readjust immediately. If improper adjustment is maintained, the blade will not cut straight, and if the situation is not corrected it will cause serious blade damage.

Because guide adjustment is a critical factor in the performance of your saw, it is always best to try a new blade to see if this will correct poor cutting before beginning to adjust. If a blade becomes dull on one side sooner than the other, for example, it will begin cutting crooked. A blade change will correct this problem the guide adjustment will not. If a new blade does not correct the problem, check the blade guides for proper spacing.

**NOTE:** There should be from .000 (just touching) .001 clearance between the blade and guide bearings, to obtain this clearance adjust as follows:

1. The inner guide bearing is fixed and cannot be adjusted.
2. The outer guide bearing is mounted to an eccentric bushing and can be adjusted.
3. Loosen the nut while holding the bolt with an Allen wrench.
4. Position the eccentric by turning the bolt to the desired position of clearance.
5. Tighten the nut.
6. Adjust the second blade guide bearing in the same manner.

## BLADE TRACK ADJUSTMENT

1. Open the blade guard.
2. Remove the blade guide assemblies (top and bottom)
3. Loosen the hex head screw in the tilting mechanism to a point where it is loose but snug.
4. With the machine running, adjust both the set screw and blade tension knob simultaneously to keep constant tension on the blade. The set screw and blade tension knob are always turned in opposite directions, ie, when one is turned clockwise the other is turned counterclockwise. The blade is tracking properly when the back side just touches the shoulder of pulley or a slight gap appears near the center line of the pulley. Care should be taken not to overtighten the saw blade since this will give a false adjustment and limit life of the blade.

5. Tighten the hex head screw in tilting mechanism.  
**IMPORTANT:** Sometimes in trying to make this critical adjustment it is possible to cause the basic setting to be misaligned. Should this occur, proceed as follows:

- a. Loosen the set screw and back it out as far as it can go and still remain in the threaded hole.
- b. Turn the hex head screw clockwise until it stop (do not tighten).
- c. Turn the set screw clockwise until it bottoms, then continue for half a turn and check the tracking by turning on the machine.
- d. If further adjustment is required, go back to step 4.

6. Turn off power to the machine.
7. Replace the blade guide assemblies-- it may be necessary to loosen the blade tension slightly.
8. Adjust the vertical position of blade guide bearing assemblies so that the back side of the blade just touches the ball bearings.
9. Make a final run to check tracking. If required, touch up adjustment (See step 4)
10. Replace the blade guards.

## MAINTENANCE

**CAUTION:** MAKE CERTAIN THAT THE UNIT IS DISCONNECTED FROM THE POWER SOURCE BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENT!

## LUBRICATION

Lubricate the following components using SAE-30 oil as noted.

1. Ball-bearing none.
2. Driven pulley bearing 6-8 drops a week.
3. Vise lead screw as needed.
4. The drive gears run in an oil bath and will not require a lubricant change more often than once a year, unless the lubricant is accidentally contaminated or a leak occurs because of improper replacement of the gear box cover. During the first few days of operation, the worm gear drive will run hot. Unless the temperature exceeds 200 F., there is no cause for alarm.

The following lubricants may be used for the gear box:

Atlantic Refinery Co. Mogul Cyl. Oil  
Cities Service Optimus No. 6  
Gulf Refinery Co Medium Gear Oil  
Pure Oil co. Park Clipper

## Shipping Container Contents

- 1 Saw
- 2 Wheel Axle
- 4 Wheel
- 4 Split Pin
- 1 Material Stop Bar
- 1 Material Stop
- 1 Belt Cover
- 1 Vertical Cutting Plate

## Tools Required for Assembly

- #2 Cross Point Screwdriver
- Pliers

## Unpacking and Clean-Up

1. Finish uncrating the saw. Inspect it for shipping damage. If any damage has occurred, contact your distributor.
2. Unbolt the saw from the skid and place it on a level surface.
3. Clean rust protected surfaces with kerosene, diesel oil, or a mild solvent. Do not use cellulose based solvents such as paint thinner or lacquer thinner. These will damage painted surfaces.

## Assembly

1. Place blocking under the ends of the saw base to allow wheel installation. **Caution:** Make sure saw is steady while temporarily supported.
2. Slide wheel axles through holes in base.
3. Slide wheels onto axles and fasten with pins. Bend pins to hold in place.
4. Slide material stop bar (A, Fig. 1) into base and secure by tightening bolt (B). Slide material stop (C) onto bar and tighten bolt (D).
5. Slide belt cover over pulley assemblies and fasten with screws and washers (A, Fig. 2).
6. Close belt cover and secure with lock knob (B).

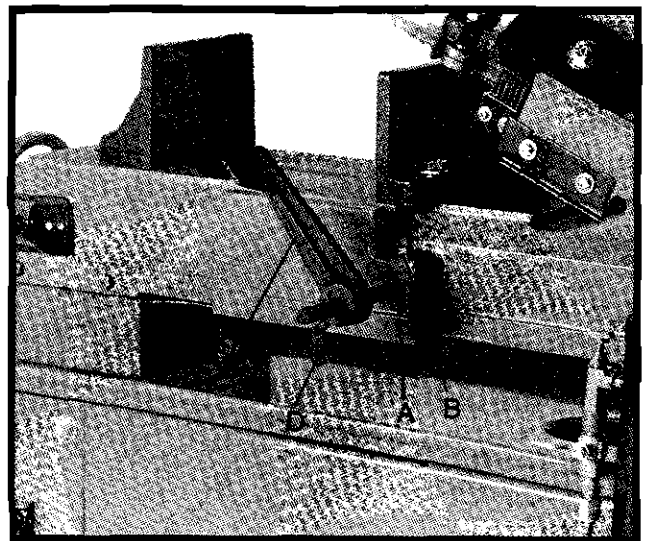


Fig. 1

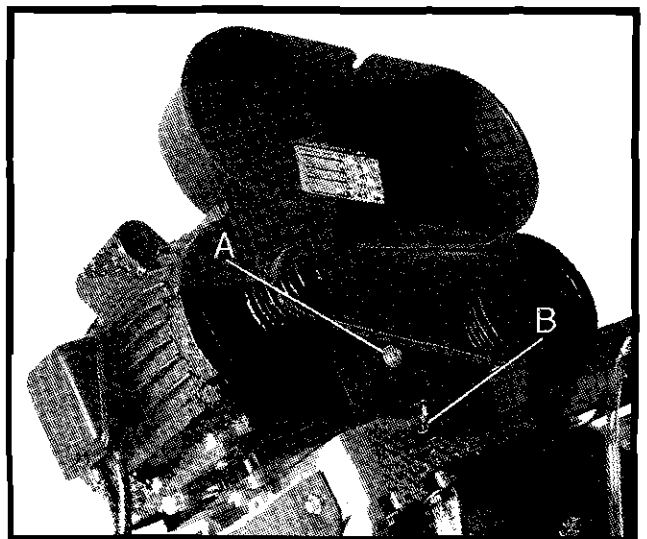


Fig. 2

7. Remove transportation strap and keep for later use should the saw be moved any distance.

### Vertical Cutting Plate Assembly

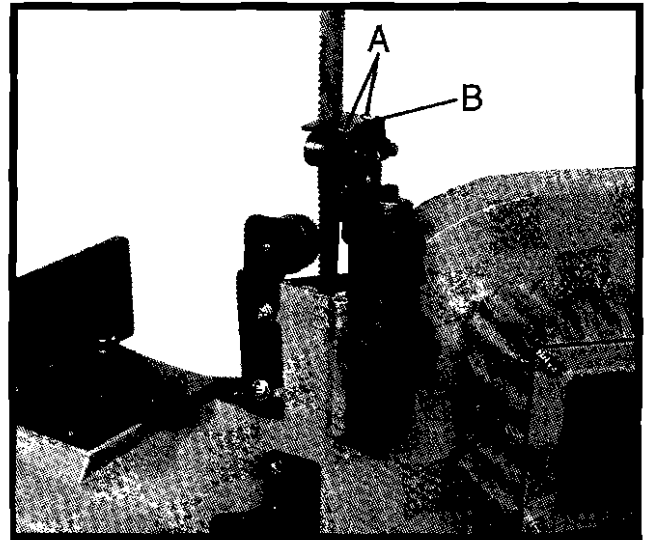
**Note:** These steps are only necessary if using the bandsaw in the vertical mode.

**⚠ WARNING**

**Disconnect bandsaw from the power source before making any repairs or adjustments!**

**Failure to comply may cause serious injury!**

1. **Disconnect the bandsaw from the power source.**
2. Raise the arm to the vertical position and lock in place by turning the hydraulic cylinder valve to the off position.
3. Remove two screws (A, Fig. 3) and remove the deflector plate (B).
4. Guide blade through slot in table and fasten with two screws. See Fig. 4.

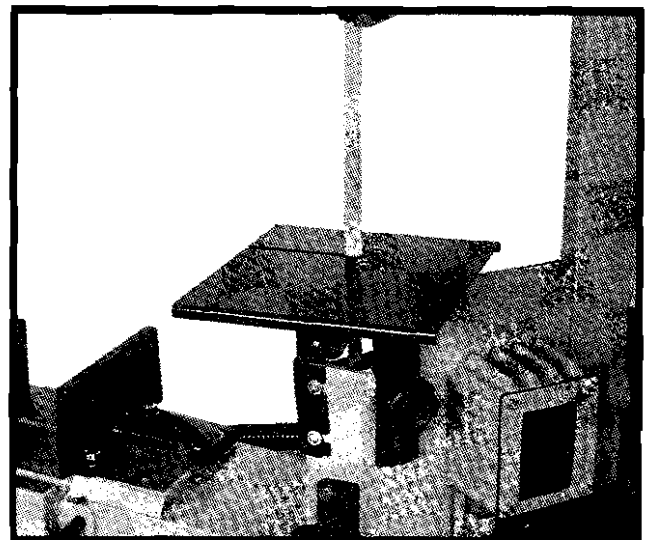


**Fig. 3**

### Coolant Tank Preparation

Use of a water-soluble coolant will increase cutting efficiency and prolong blade life. Do not use black cutting oil as a substitute. Change cutting oil often and follow manufacturers instructions as to its uses and precautions.

1. **Disconnect machine from the power source.**
2. Remove coolant return hose from tank cover.
3. Slide tank out of saw base and carefully remove lid containing coolant pump.
4. Fill tank to approximately 80% of capacity.
5. Place lid back onto tank and place tank assembly back into base.
6. Replace return hose back into hole in tank lid.



**Fig. 4**

## Electric Box (For UE-712A)

### A. Part No.A -Emergency stop switch ( EMS ).

It stop all electric motors including coolant pump.

### B. Part No.B -Start switch.

### C. Part No.C -Stop switch.

There is a relay inside the electric box. When machine is overloaded and the current is too high. This relay will switch off automatically as protection. It cuts off all electrics and machine stops.

Open the electric box and find this switch in white button. Please reset this white button to function the electrics again.

If this machine gets overloaded too often, Try to adjust the realy-make the setting of current higher.

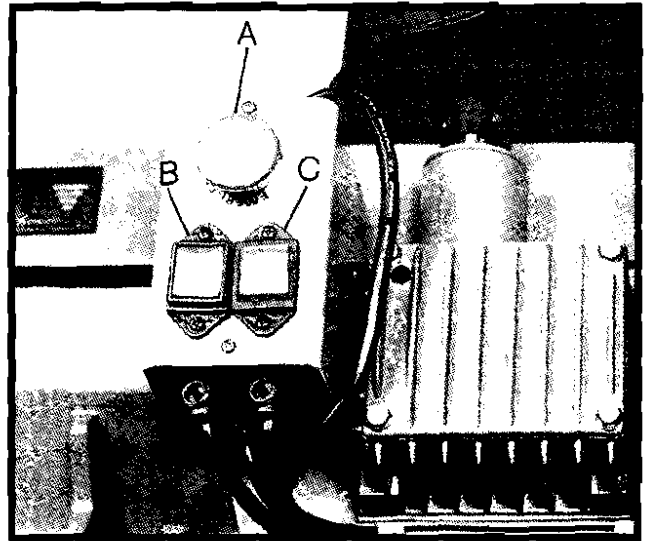


Fig. 5

## Adjusting Blade Square to Table

1. Disconnect machine from the power source.
2. Place machinist's square on table next to blade as pictured in Fig. 13.
3. Check to see blade makes contact with square along the entire width of the blade.
4. If adjustment is necessary, loosen bolts (A Fig. 13) and rotate blade guide assemblies slightly in the same direction until blade makes contact with the square along it's entire width.
5. Tighten bolts (A).
6. Connect machine to the power source.

**Note:** If adjustment to square blade to table is necessary, be sure to check blade adjustments again.

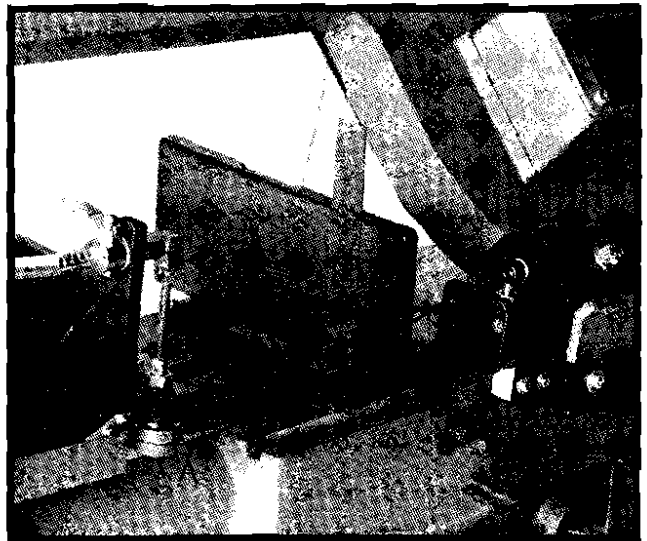


Fig. 6

## Adjusting Blade Square to Vise

1. Disconnect machine from the power source.
2. Place a machinist's square as pictured in figure 14. Square should lie along entire length of vise and blade without a gap.
3. If adjustment is necessary, loosen bolts holding vise and adjust vise so that square lines up properly. Tighten bolts.
4. Connect machine to the power source.

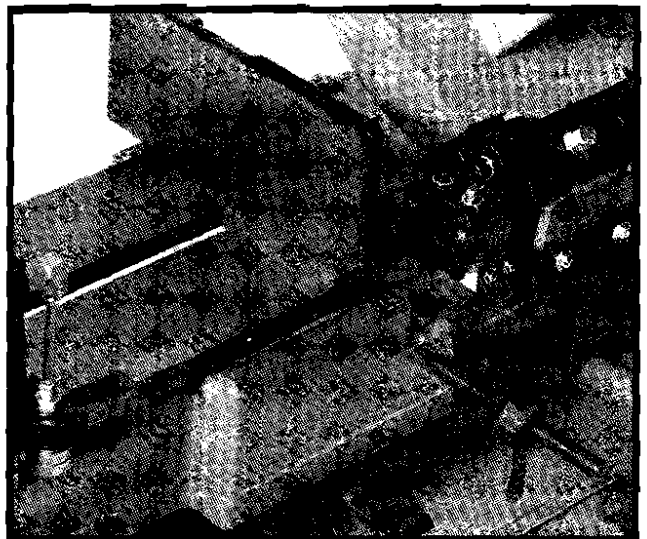


Fig. 7

## Adjusting Blade Guides

1. Disconnect machine from the power source.
2. Loosen knob (A, Fig. 8) and bolt (B). Slide blade guide assemblies as close as possible to the material without interfering with the cut.
3. Tighten knob (A) and bolt (B) and connect machine to the power source.

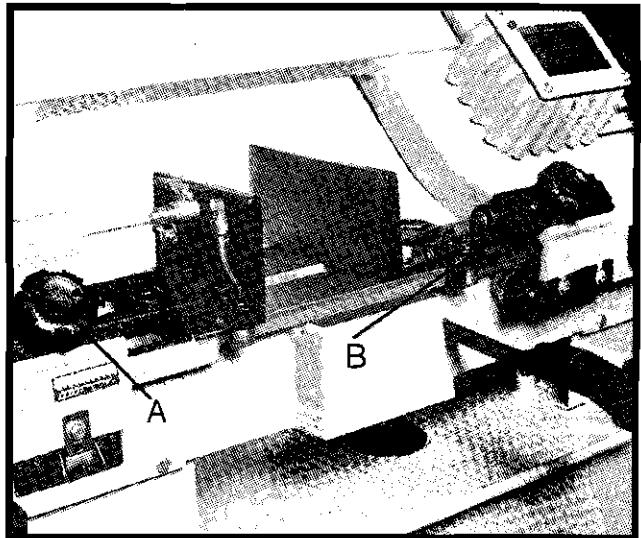


Fig. 8

## Vise Adjustment

**⚠ WARNING**

Do not make any adjustments or load/unload material from vise while machine is running!

Failure to comply may cause serious injury!

To set the vise for 0 to 45 degree cutting:

1. Remove bolt assemblies (C, Fig. 9).
2. Position vise and re-install as pictured in Fig. 10. Pay particular attention to bolt hole location.
3. Set vise to desired angle, re-install bolts, and tighten nut and bolt assemblies.
4. Adjust movable vise parallel to fixed vise by loosening bolt (A, Fig.10), adjusting to parallel, and tightening bolt.

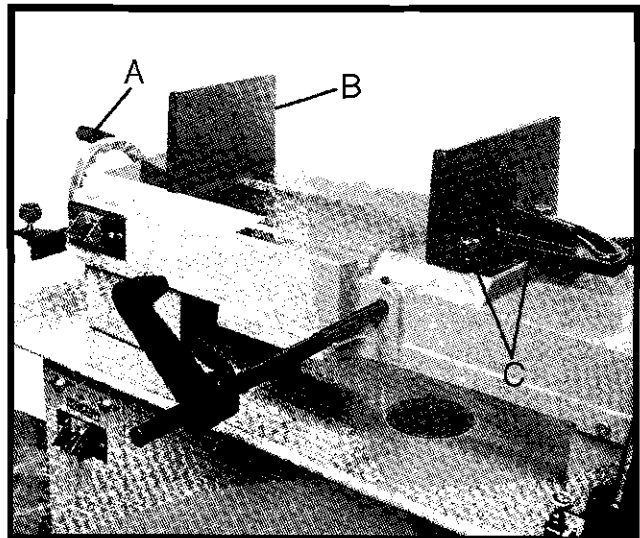


Fig. 9

To set vise for maximum width of stock cutting:

1. Remove nut and bolt assemblies.
2. Position vise and re-install bolt assemblies as pictured in Fig 9.

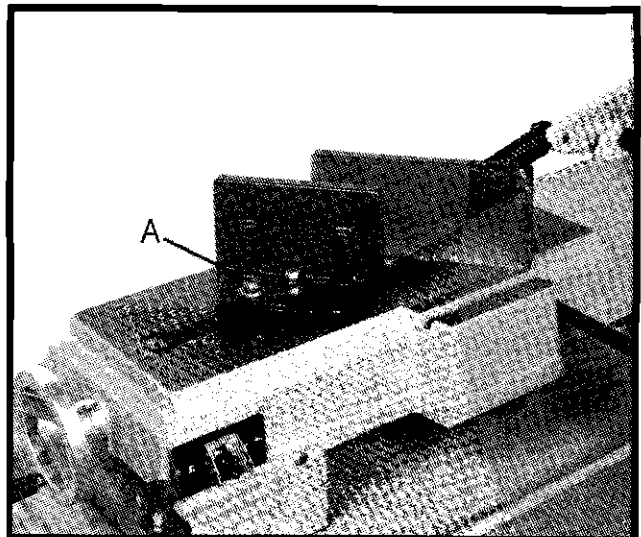


Fig. 10

### TROUBLE SHOOTING CHART

SYMPTOM	POSSIBLE CAUSE (s)	CORRECTIVE ACTION
<p><b>Excessive Blade Breakage</b></p>	<ol style="list-style-type: none"> <li>1. Incorrect blade tension</li> <li>2. Incorrect speed or feed</li> <li>3. Material loose in vise</li> <li>4. Blade rubs on wheel flange</li> <li>5. Teeth too coarse for material</li> <li>6. Teeth in contact with work before saw is started</li> <li>7. Misaligned guides</li> <li>8. Blade too thick for wheel diameter</li> <li>9. Cracking at weld</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust to where blade just does not slip on wheel</li> <li>2. Check Machinist Handbook</li> <li>3. Clamp work securely</li> <li>4. Adjust wheel alignment</li> <li>5. Check Machinist Handbook for recommended blade type</li> <li>6. Place blade in contact work after motor is started</li> <li>7. Adjust</li> <li>8. Use thinner blade</li> <li>9. Make longer annealing cycle</li> </ol>
<p><b>Permature Blade Dulling</b></p>	<ol style="list-style-type: none"> <li>1. Teeth too coarse</li> <li>2. Too much speed</li> <li>3. Inadequate feed pressure</li> <li>4. Hard spots or scale in/on material</li> <li>5. Work hardening of material (especially stainless steel)</li> <li>6. Blade installed backwards</li> <li>7. Insufficient blade tension</li> </ol>	<ol style="list-style-type: none"> <li>1. Use finer tooth blade</li> <li>2. Try next lower speed</li> <li>3. Decrease spring tension on side of saw</li> <li>4. Reduce speed increase feed pressure (Scale) Increase feed pressure (Hard Spots)</li> <li>5. Increase feed pressure by reducing spring tension</li> <li>6. Remove blade twist inside out and reinstall blade.</li> <li>7. Increase tension to proper level</li> </ol>
<p><b>Bad Cuts (Crooked)</b></p>	<ol style="list-style-type: none"> <li>1. Work not square</li> <li>2. Feed pressure too great</li> <li>3. Guide bearing not adjusted properly</li> <li>4. Inadequate blade tension</li> <li>5. Blade guides spaced out too much</li> <li>6. Dull blade</li> <li>7. Speed incorrect</li> <li>8. Blade guide assembly loose</li> <li>9. Blade guide bearing assembly loose</li> <li>10. Blade tracks too far away from wheel flanges</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust vise to be square with blade Always clamp work tightly in vise.</li> <li>2. Reduce pressure by increasing spring tension on side of saw.</li> <li>3. Adjust guide bearing to .001 greater than max. thickness. including weld of the saw.</li> <li>4. Increase blade tension a little at a time.</li> <li>5. Move guide as close to work as possible.</li> <li>6. Replace blade</li> <li>7. Check manual for recommended speeds</li> <li>8. Tighten</li> <li>9. Tighten</li> <li>10. Retrack blade according to operating instructions.</li> </ol>
<p><b>Bad cuts (Rough)</b></p>	<ol style="list-style-type: none"> <li>1. Too much speed or feed</li> <li>2. Blade is too coarse</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce speed and feed</li> <li>2. Replace with finer blade</li> </ol>
<p><b>Blade is twisting</b></p>	<ol style="list-style-type: none"> <li>1. Cut is binding blade</li> <li>2. Too much blade tension</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease feed pressure</li> <li>2. Decrease blade tension</li> </ol>
<p><b>Unusual Wear on Side/Back of Blade</b></p>	<ol style="list-style-type: none"> <li>1. Blade guides worn</li> <li>2. Blade guide bearings not adjusted properly</li> <li>3. Blade guide bearing bracket is loose</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace</li> <li>2. Adjust as per operators manual</li> <li>3. Tighten</li> </ol>
<p><b>Teeth Ripping from blade</b></p>	<ol style="list-style-type: none"> <li>1. Tooth Too coarse for work</li> <li>2. Too heavy feed/ too slow feed</li> <li>3. Vibrating work place</li> <li>4. Gullets loading</li> </ol>	<ol style="list-style-type: none"> <li>1. Use finer tooth blade</li> <li>2. Increase feed pressure and/or speed</li> <li>3. Clamp work Securely</li> <li>4. Use coarse tooth blade or brush to remove chips</li> </ol>
<p><b>Motor Running too Hot</b></p>	<ol style="list-style-type: none"> <li>1. Blade tension too high</li> <li>2. Drive belt tension too high</li> <li>3. Blade is too coarse for work (Pipes especially)</li> <li>4. Blade is too fine for work (Heavier, soft material)</li> <li>5. Gear not aligned properly</li> <li>6. Gears need lubrication</li> <li>7. Idler wheel needs lubrication</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce tension on blade</li> <li>2. Reduce tension on drive belt</li> <li>3. Use finer blade</li> <li>4. Use coarser blade</li> <li>5. Adjust gears so that worm is in center of gear</li> <li>6. Check oil bath</li> <li>7. Oil bearing/shaft on idler wheel</li> </ol>

## PART LIST

PART NO.	DESCRIPTION	SIZE	Q'TY	PART NO.	DESCRIPTION	SIZE	Q'TY
1	BOTTOM PAN		1	64	90° POSITION SUPPORT		1
2	LEG (LEFT)		1	65	NUT	3/8	2
3	LEG (RIGHT)		1	66	SPRING WASHER	3/8	2
4	SKIRT		1	67	LIMIT SWITCH		1
5	SHELF		1	68	LIMIT SWITCH SEAT		1
10	SWITCH BRACKET		1	69	ROUND HD. SCREW	5/32X1	2
11	TOGGLE SWITCH		1	70	HEX. HD. SCREW	3/8X1 1/2	2
12	ELECTRICAL BOX		1	71	HEX. HD. SCREW	5/16X3/4	1
13	HEX. HD. SCREW	5/16X3/4	8	72	THUMB SCREW		1
14	WASHER	5/16	8	73	STOP BLOCK		1
15	WASHER	5/16	8	74	WORK STOP ROD		1
16	SPRING WASHER	5/16	8	75N	FIBER HEX. NUT	1/2	2
17	NUT	5/16	8	76	WASHER	1/2	2
18	HEX. HD. SCREW	5/16X1/2	6	77	BEARING BUSHING (FRONT)		1
19	NUT	5/16	6	78	RUBBER COVER		1
20	CYLINDER		1	79	WASHER	5/32	2
21	HEX. SOC. SCREW	M10X40	1	80N	SUPPORT SHAFT	22MM	1
22	WASHER	3/8	1	80-1	BUSHING		1
23	SPRING WASHER	M10	1	81	PIVOT ARM		1
24	NUT	M10	1	84	PLATE		1
25	HEX. HD. SCREW	3/8X1	2	85	SPRING WASHER	3/8	2
26	SPRING WASHER	3/8	2	86	HEX. HD. SCREW	3/8X1 1/2	2
27	SUPPORT ROD		1	87	SPRING		1
28	SET SCREW	1/4X3/8	1	88	ADJUSTABLE SPRING ROD		1
29	BOTTOM SUPPORT		1	89	SPRING BRACKET		1
33	WASHER	5/8	4	90	HEX. HD. SCREW	5/16X1	1
34	WHEEL	5"	4	91	NUT	3/8	2
35	WHEEL SHAFT		2	92	SPRING WASHER	5/16	1
36	CUTTER PIN		4	92-1	WASHER	5/16	1
37	TOGGLE SWITCH		1	93	NUT	5/16	1
38	ELECTRIC CORD ASSEMBLY		1	94	FRONT VISE		1
39	TABLE		1	95	REAR VISE		1
40	HEX. HD. SCREW	5/16X1	5	96	VISE THRUST SHAFT		1
41	WASHER	5/16	5	96-1	SPRING WASHER	3/8	2
42	SPRING WASHER	5/16	5	96-2	WASHER	3/8	1
43	NUT	5/16	5	97	HEX. HD. SCREW	3/8X1 1/2	1
44	FILTER		1	98	HEX. HD. SCREW	1/2X1 1/2	1
45	ROUND HD. SCREW	3/16X3/8	2	98-1	SPRING WASHER	1/2	2
46	ELECTRIC BOX ASSEMBLY		1	98-2	WASHER	1/2	1
47	HANDLE WHEEL		1	99	HEX. HD. SCREW	1/2X1 1/4	1
48	SET SCREW	5/16X3/8	1	100	SCALE		1
49	KEY	5X20	1	101	HEX. SOC. SCREW	3/8X1 3/4	1
50	LEAD SCREW		1	101-1	NUT	3/8	1
51	NUT SEAT		1	102	HOSE	1"	1
52	ACME NUT		1	103	PUMP		1
53	BUTTON		1	104	HEX. HD. SCREW	1/4X1/2	4
54	RETAINER		1	105	STRAIN RELIEF		1
55	SPRING WASHER	M5	1	107	COOLANT TANK		1
56	ROUND HD. SCREW	M5X8	1	108	HOSE FITTING		1
57	HEX. HD. SCREW	5/16X5/8	2	109	HOSE CLAMP	13MM	1
58	SPRING WASHER	5/16	2	110	HOSE	5/16	1
58-1	WASHER	5/16	2	111	SAW BOW		1
59	SUPPORT PLATE		1	112N	TAPPING SCREW	6X20	4
60	STOP SCREW		1	113	VENT PLUG		1
61	NUT	5/16	2	114N	GEAR BOX COVER		1
62	HEX. HD. SCREW	3/8X1	1	115N	GEAR BOX GASKET		1
63	NUT	3/8	1	116	WORM GEAR		1



## PART LIST

PART NO.	DESCRIPTION	SIZE	Q'TY	PART NO.	DESCRIPTION	SIZE	Q'TY
117	KEY	6X20	1	165	HEX. HD. SCREW	1/4X1/2	4
118	BALL BEARING	6005	3	166	SLIDING GUIDE PLATE		2
119	HEX. HD. SCREW	3/8X1	1	167	SET SCREW	5/16X3/4	1
119-1	SPRING WASHER	3/8	1	168	HEX. HD. SCREW	5/16X1 1/2	2
119-2	WASHER	3/8X35X4	1	169	BLADE TENSION SLIDING BLOCK		1
120	OIL SEAL	25. 47. 7	1	170	HEX. HD. SCREW	1/4X1/2	1
121N	GEAR BOX		1	170-1	SPRING WASHER	1/4	1
122	SPRING WASHER	5/16	4	170-2	WASHER	1/4	1
123	HEX. HD. SCREW	5/16X1 1/4	4	171	SLIDING DRAW BLOCK		1
123-1	ADJ. SCREW	1/4X3/8	2	172	BRACKET		1
124	BLADE WHEEL (REAR)		1	173	BEARING BUSHING (REAR)		1
125	BEARING BUSHING		1	174	BALL BEARING	6203 ZZ	2
126	HEX. SOC. SCREW	3/16X5/8	3	175	BLADE WHEEL (FRONT)		1
127	BLADE		1	176	WASHER	5/16	1
128	BLADE BACK COVER		1	176-1	SPRING WASHER	5/16	1
129	WHEEL COVER		1	177	HEX. HD. SCREW	5/16X3/4	1
130	PLUM SCREW		2	178	ROUND HD. SCREW	1/4X1/2	2
130-1	WASHER	1/4	2	179	WASHER	1/4	2
131	ADJUSTABLE GUIDE KNOB		2	180	WASHER	3/8	1
132	ADJUSTABLE BRACKET (REAR)		1	181	BLADE ADJUSTABLE HANDLE		1
133	BALL BEARING	608 ZZ	2	182	VERTICAL CUTTING PLATE		1
134	ADJUSTABLE BLADE SEAT (REAR)		1	183	BELT	3V270	1
135	BEARING PIN		2	184	WORM PULLEY		1
136	ECCENTRIC SHAFT ASSEMBLY		2	185	MOTOR PULLEY		1
136-1	CENTER SHAFT ASSEMBLY		2	186	SET SCREW	5/16X3/8	3
137	NUT	3/8X24UNF	4	187	HEX. HD. SCREW	1/4X1/2	2
137-1	SPRING WASHER	3/8	4	188	WASHER	1/4	2
138	WASHER	5/16	2	189	PULLEY COVER		1
139	SPRING WASHER	5/16	2	190	PLUM SCREW		1
140	HEX. SOC. SCREW	5/16X1 1/8	1	191	KEY	5MM	1
141	HD. SCREW	1/4X1/2	2	192	MOTOR		1
142	VERTICAL CUTTING PLATE (SMALL)		1	193	HEX. HD. SCREW	5/16X1	4
143	ADJUSTABLE BLADE SEAT (FRONT)		1	194	MOTOR MOUNT PLATE		1
144	HEX. HD. SCREW	3/8X1 1/4	2	195	WASHER	5/16	4
145	TOP SUPPORT		1	196	SPRING WASHER	5/16	4
146	SPRING WASHER	3/8	2	197	NUT	5/16	4
147	NUT	3/8	2	198N	WORM SHAFT STOPPER		1
148	ROUND HD. SCREW	1/4X1/2	2	198-1	SET SCREW	5/16X1/4	1
149	WASHER	1/4	2	199	BALL BEARING	6003	3
150	BRUSH HOLDER		1	200	BLOCK PLATE		1
151	HEX. HD. SCREW	5/16X2 1/2	2	201	OIL SEAL	17. 35. 7	1
152	NUT	5/16	2	202	BEARING BUSHING		1
153	BRUSH		1	203N	WORM SHAFT		1
154	HEX. HD. SCREW	5/16X5/8	3	203-1	KEY	5X5X50	1
154-1	SPRING WASHER	5/16	3	204	HEX. HD. SCREW	1/4X1/2	2
155	MAGNETIC SWITCH	MS-11	1	205	WASHER	1/4	2
156	NOZZLE		1	206	SUPPORT PLATE		1
157	SET SCREW	1/4X3/8	1	207	LIMIT SWITCH RACK		1
158	NOZZLE SUPPORT		1	208	HEX. HD. SCREW	1/4X1/2	1
159	VALVE		1	209	NUT	1/4	1
160	ROUND HD. SCREW	3/16X3/8	2	210	WASHER	1/4	1
161	HEX. SOC. SCREW	5/16X1 1/8	1	211	SPRING WASHER	1/4	1
161-1	SPRING WASHER	5/16	1	212	HEX. HD. SCREW	1/4X1/2	1
163	ADJUSTABLE BRACKET (FRONT)		1	213	NUT	5/16	1
164	BLADE GUARD		1	214	HEX. HD. SCREW	5/16X1 1/4	1
164-1	ROUND HD. SCREW	3/16X1/4	2	217	C-RING	R47	2

