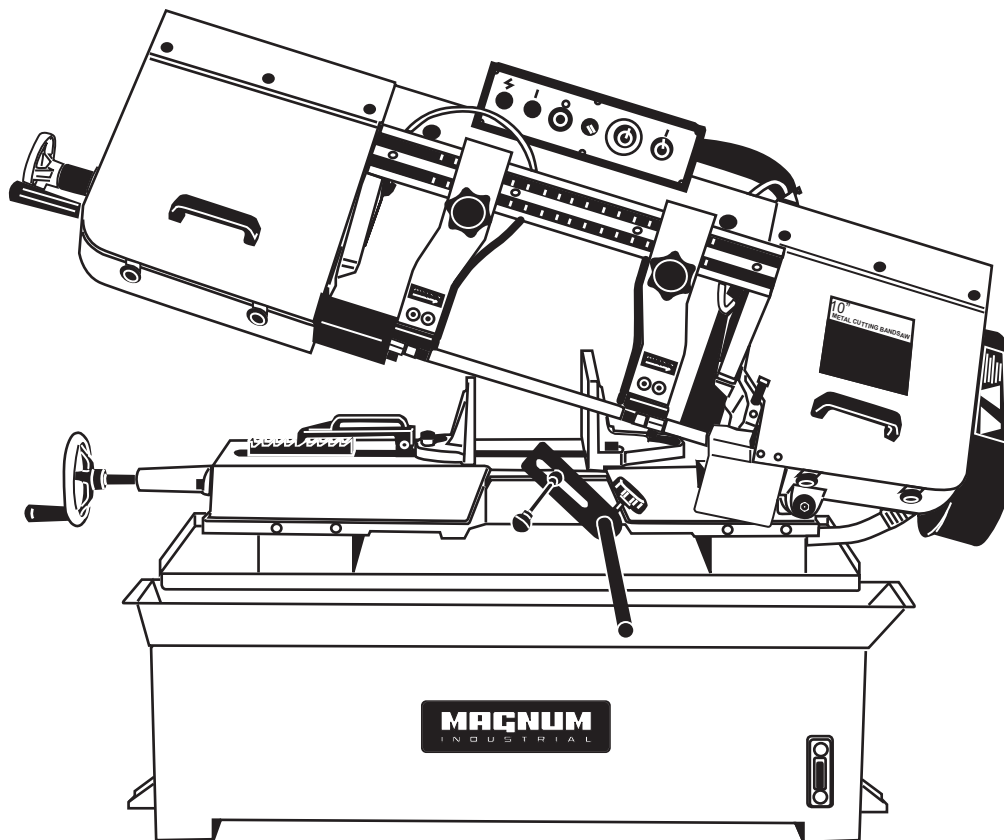


# MAGNUM

## INDUSTRIAL

**MODEL NO.: MI-93500**



### SPECIFICATIONS

Speeds: 60Hz 82, 132, 170, 235FPM

Motor: 60Hz 2HP 1725RPM 1PHASE

Capacity: 90° ● 250MM ■ 250x415MM ■ 200x450MM  
 90° ● 10" ■ 10"x16-1/2" ■ 8"x18"  
 45° ● 190MM ■ 250x190MM  
 45° ● 7-1/2" ■ 10"x7-1/2"

Blade: 27MMx0.9MMx3300MM  
 (1"x0.032"x130")

Dimension: L:1730MMxW:760MM  
 (L68"xW30")

Blade Wheels: 355MM (14") Diameter

Shipping Weight: 320KGS/360KGS

**WARNING**  
**For Your Own Safety Read Instruction**  
**Manual Before Operating Saw**

- a) Wear eye protection.
  - b) Do not remove jammed cutoff pieces until blade has stopped.
  - c) Maintain proper adjustment of blade tension, blade guides, and thrust bearings.
  - d) Adjust upper guide to just clear workpiece.
  - e) Hold workpiece firmly against table.
- 
1. KEEP GUARDS IN PLACE and in working order.
  2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
  3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
  4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
  5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
  6. MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.
  7. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.
  8. USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.
  9. This tool should be connected to a ground metal permanent wiring system; or to a system having an equipment-grounding conductor.
  10. WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
  11. ALWAYS USE SAFETY GLASSES. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
  12. SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
  13. DON'T OVERREACH. Keep proper footing and balance at all times.
  14. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
  15. DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.
  16. REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.
  17. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
  18. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
  19. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function—check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
  20. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
  21. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

## **ELECTRICAL CONNECTION/DISCONNECTION.**

### **FOR 3 PHASE**

#### **1. Electrical connection:**

- a. A cable with four wires is equipped to connect your machine into the 3 phase power supply. Please connect your machine into the power supply with hand-operated disconnecting device, which is in compliance with subclause 5.3 of EN 60204, such as no fuse breaker or plug/socket combination.
- b. For the protection of control device, we recommend the operator to supply a fuse with appropriate current rating, and the total length between fuse and connection terminal shall not exceed 1.5 m.
- c. The power supply system is TN system.
- d. The exact power source voltage, frequency, and number of phase shall be checked according to the installation diagram and circuit diagram.
- e. The correct direction of saw blade should be checked after connecting.

#### **2. Electrical disconnection:**

- a. The disconnection is carried out by hand-operated disconnecting device, which is on the door of control box as an option or connected before the power source.
- b. Be sure to disconnect this machine from power source, when you want to stop the job, maintenance, and adjustment.

#### **3. Grounding:**

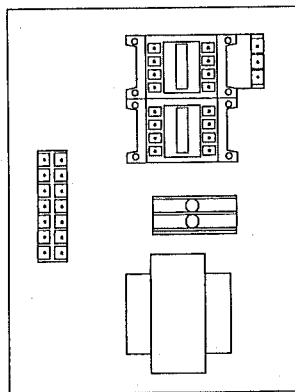
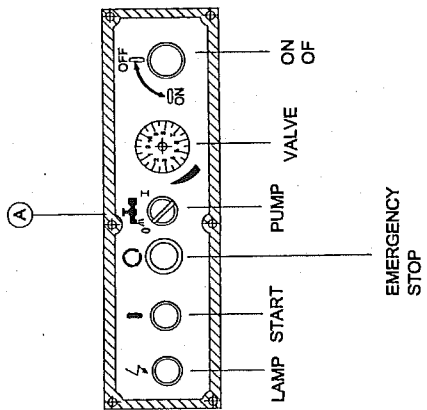
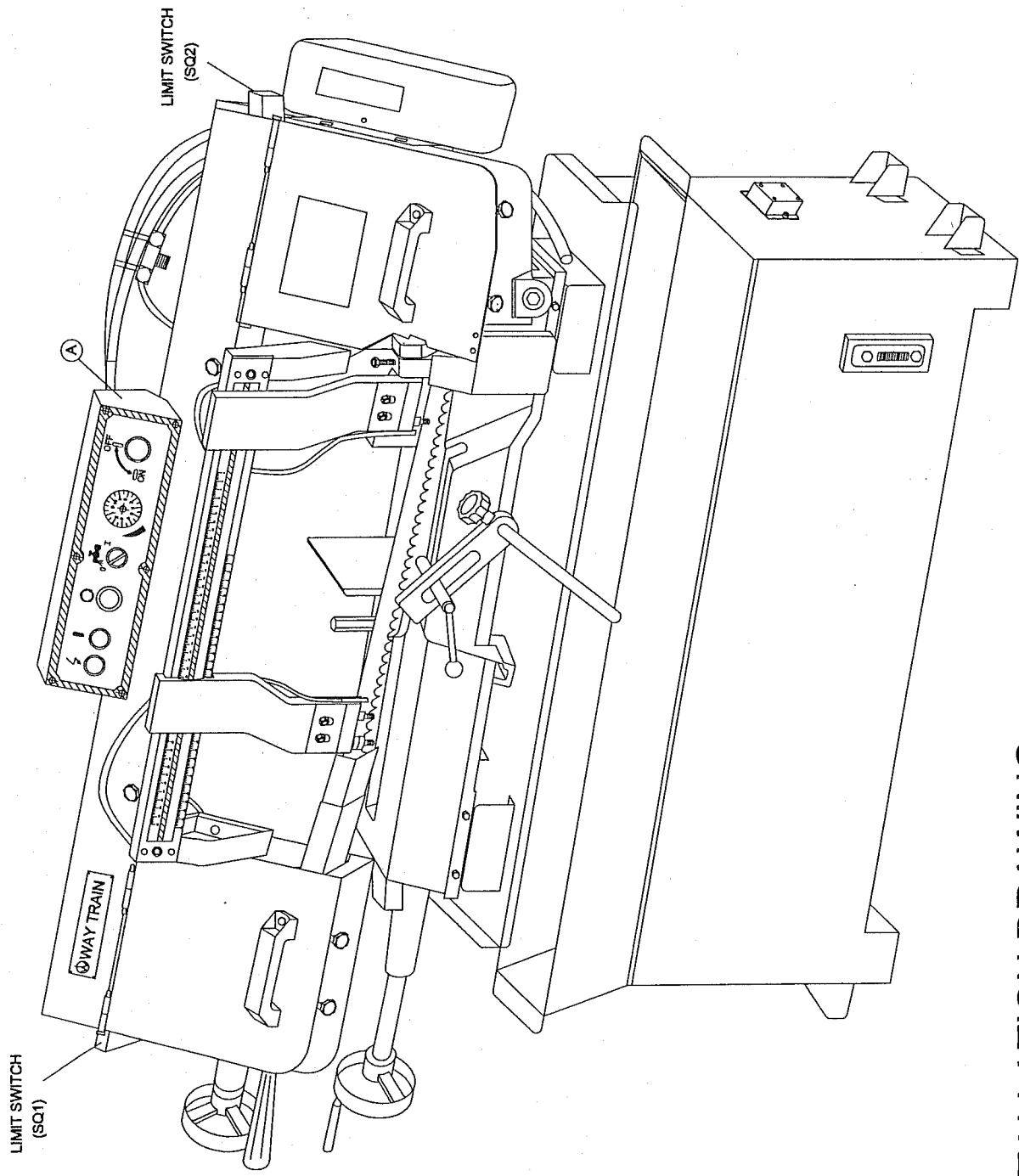
The grounding of this model is carried out by connecting the yellow/green terminal of supply cable to the grounding terminal of power source. Be sure to ground your machine before connecting machine to power source in any situation.

### **WARNING !**

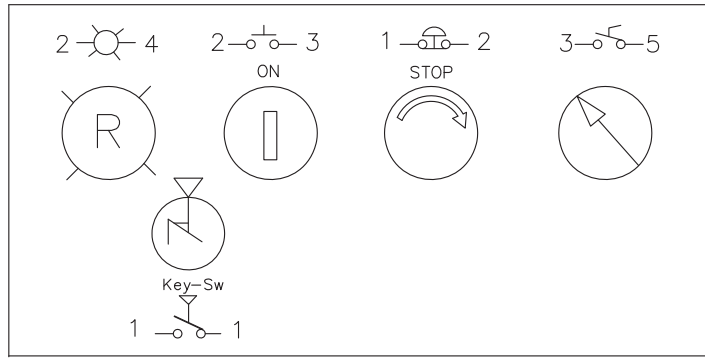
Do not disconnect grounding terminal before disconnecting power source.

### **FOR SINGLE PHASE**

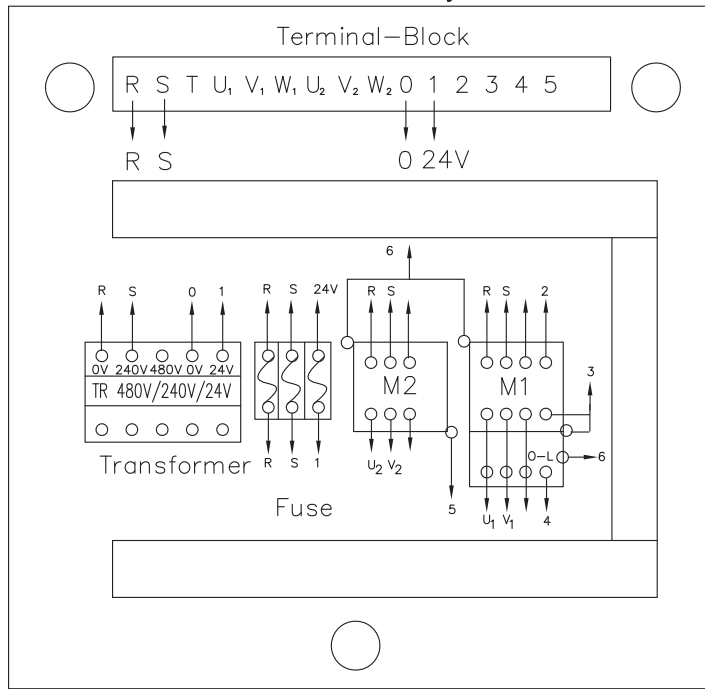
1. If the power cable is not equipped with plug, please connect and disconnect your machine with power according to the same instruction of three phase. Otherwise, please follow the following instruction (2~4).
2. The connection, disconnection, and grounding is carried out through the plug, equipped on the machine. For the safety reason, Do not change this plug into any other type in any situation.
3. For the protection of control device, we recommend the operator to supply a fuse with appropriate current rating, and the total length between fuse and connection terminal shall not exceed 1.5m.
4. The exact power source voltage, frequency, and number of phase shall be checked according to the installation diagram and circuit diagram.



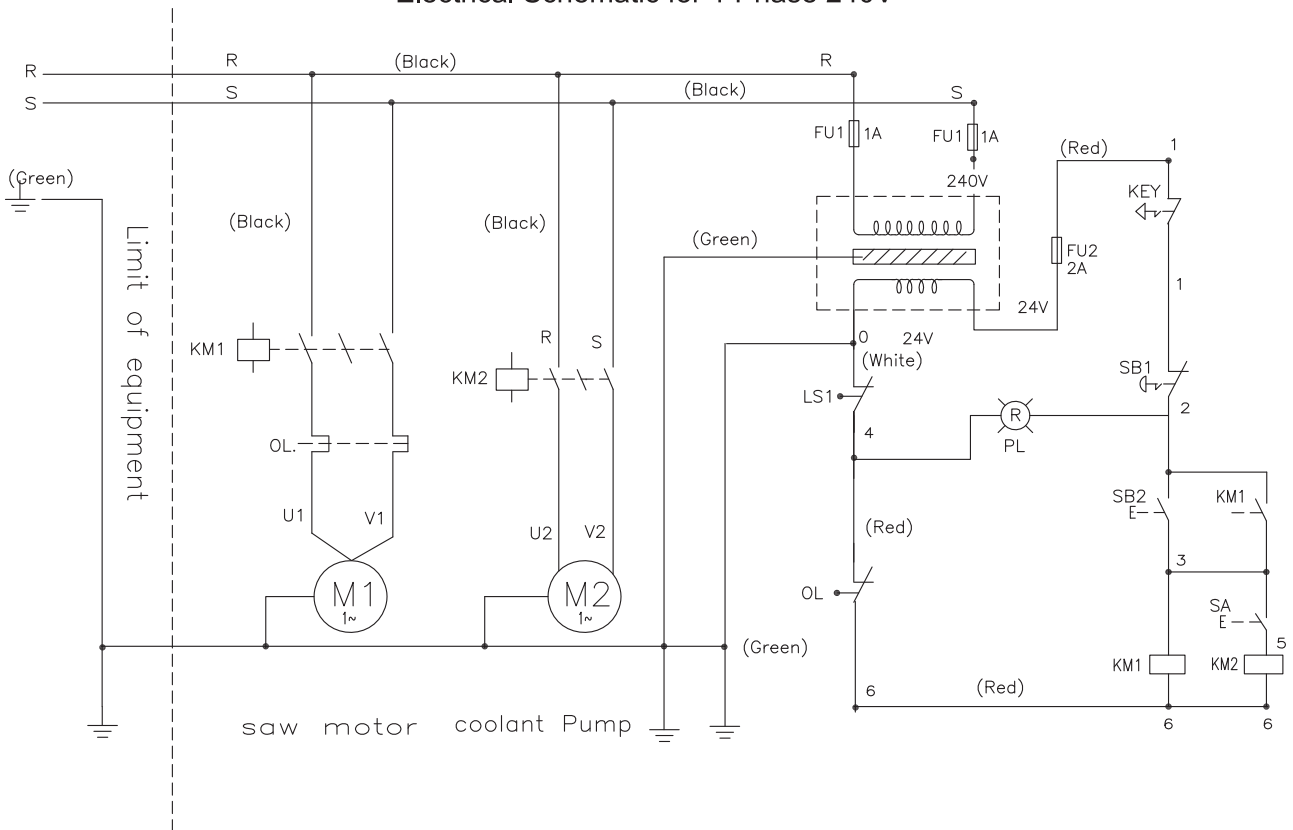
# INSTALLATION DRAWING

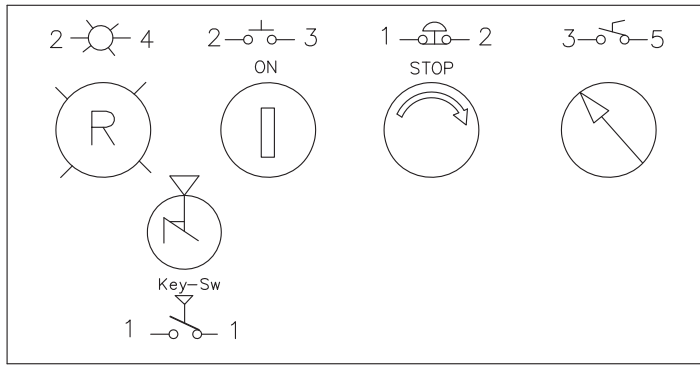


### Electrical Panel Layout

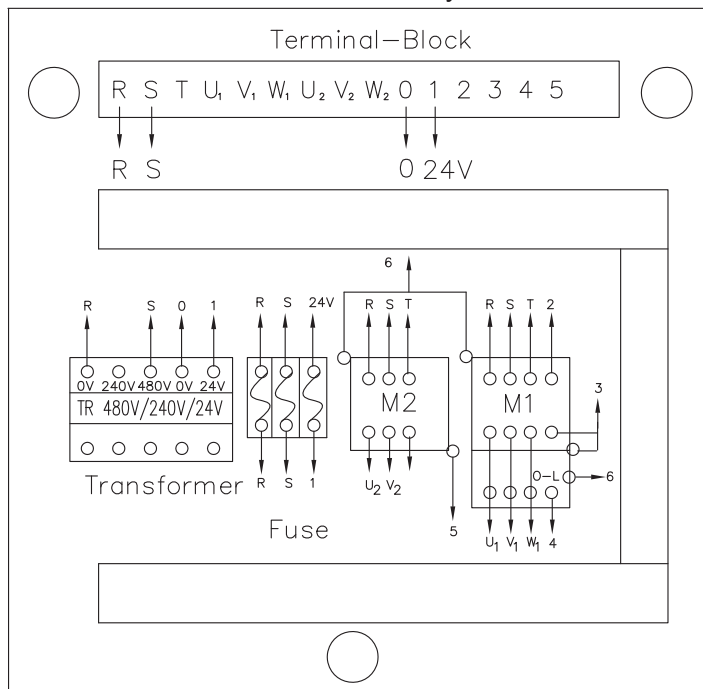


### Electrical Schematic for 1 Phase 240V

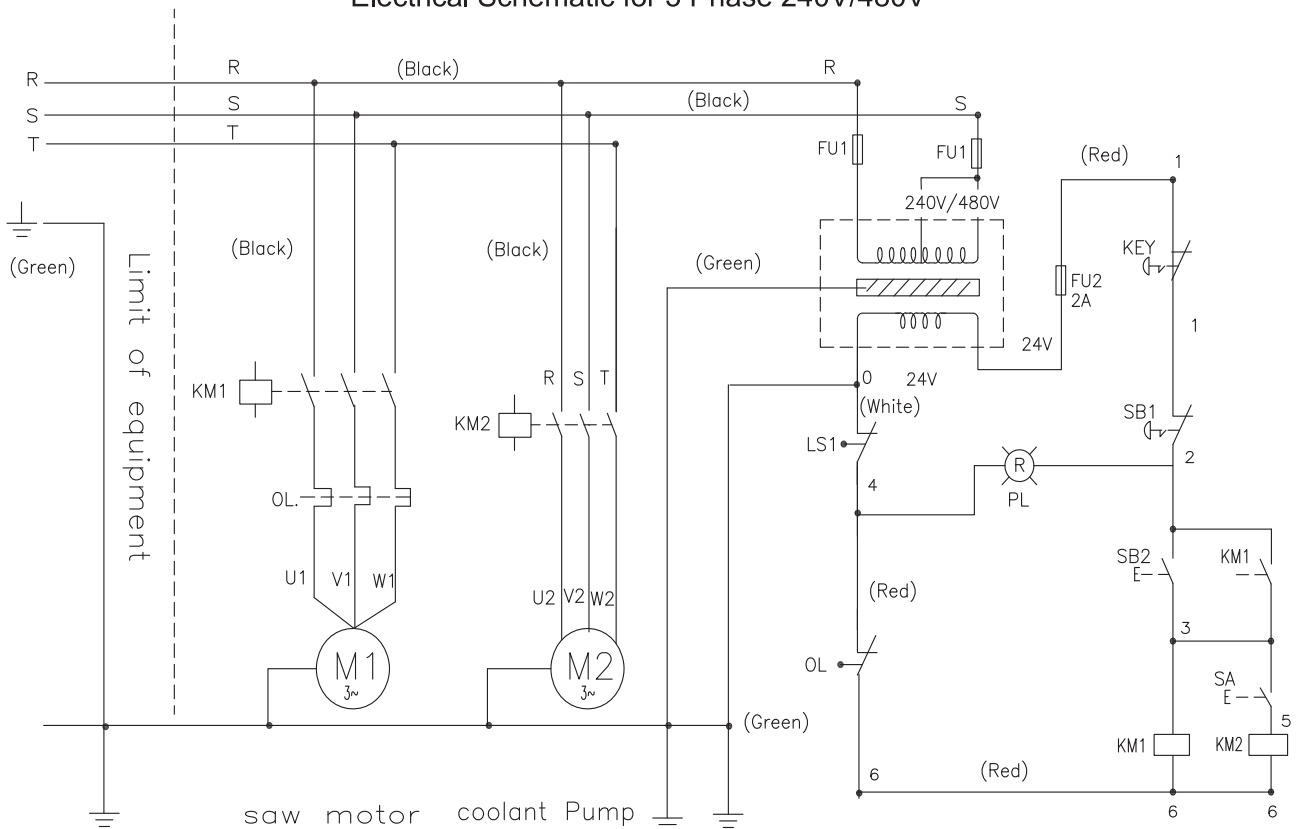




**Electrical Panel Layout**



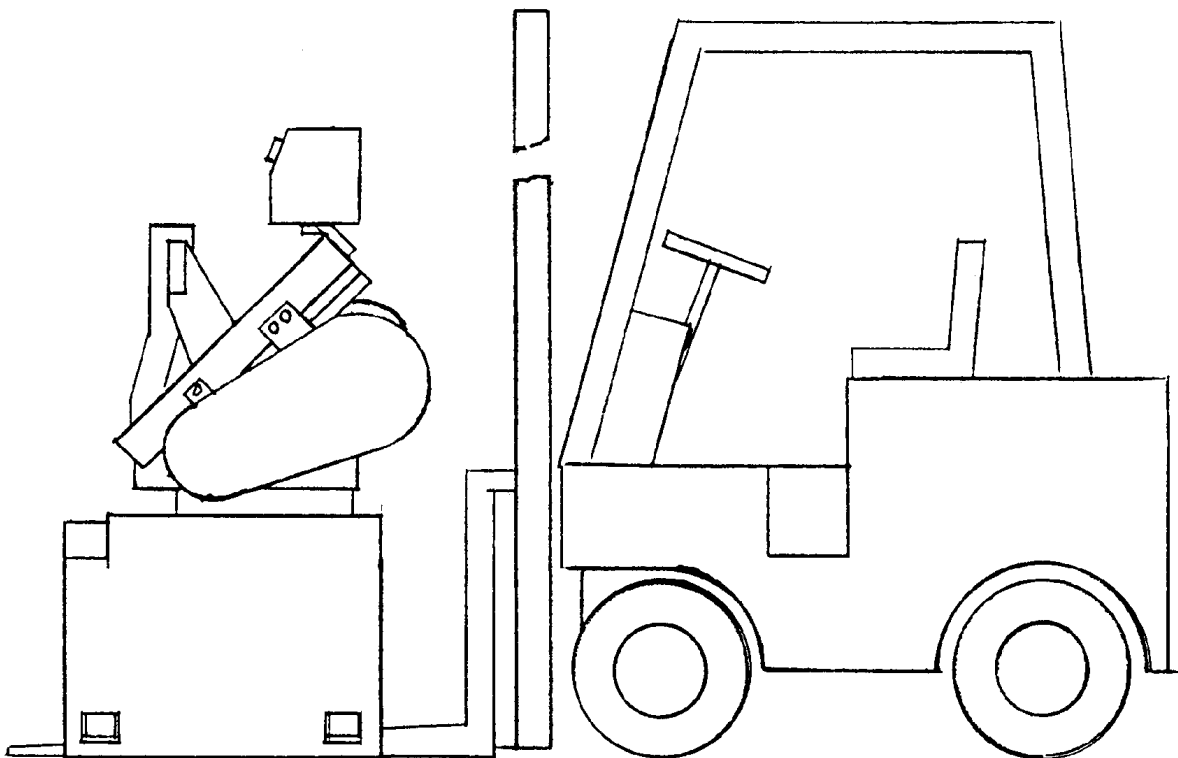
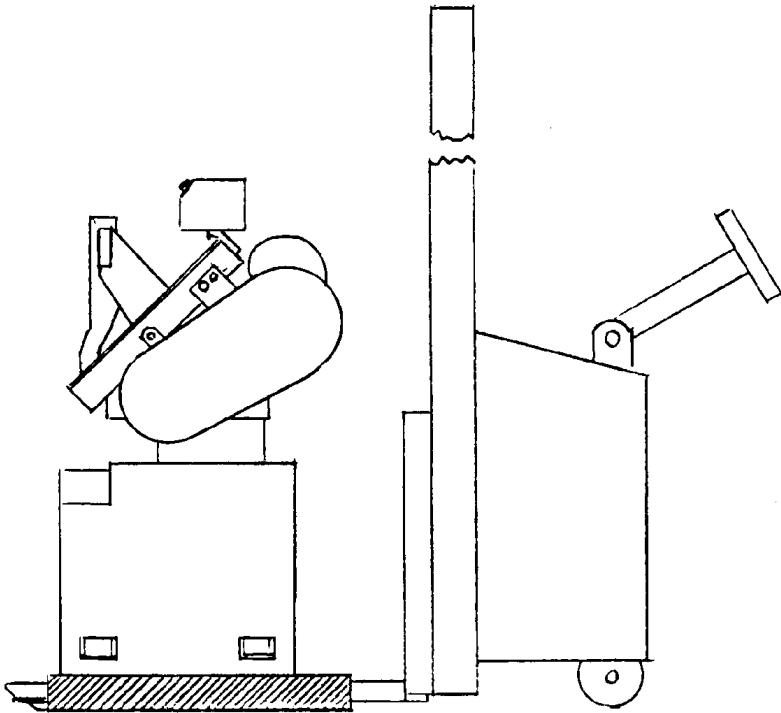
**Electrical Schematic for 3 Phase 240V/480V**



## Transportation Methods

### WARNING

1. Always keep balance of the machine in transportation. Watch the gravity !
2. Drive folk lift slowly and carefully.









## Operating Instructions

1. Check Coolant: Low coolant level causes foaming and high blade temperatures. Dirty or weak coolant can clog pump, causes crooked cuts, low cutting rate and permanent blade failure. Dirty coolant causes the growth of bacteria with ensuing skin irritation.
2. Keep vise slides clean and oiled.
3. Clean chips from blade wheels and wheels housing.
4. Saw Guide: Keep saw guides properly adjusted. Loose guides will affect cutting accuracy.
5. Saw Blade: Make sure the saw blade is sharp.
6. Blade Speed: Make sure the blade speed sets correctly for workpiece material and shaped.
7. Check Blade Tension: Particularly after initial cuts with a new blade.

## Blade Selection

- A. Never use a blade so coarse that less than 3 teeth are engaged in the workpiece at any time. (Too few teeth will cause teeth to strip out.)
- B. Never use a blade finer than required to obtain a satisfactory surface finish or satisfactory flatness. (Too many teeth engaged in the workpiece will prevent attainment of a satisfactory sawing rate; frequently cause premature blade wear; frequently produce "dished" cuts or the cuts are neither square nor parallel.)
- C. The chart which follows is not expected to be exactly correct for all cases. It is intended as a general guide to good sawing practices. Your blade supplier or the qualified engineers should be your most reliable source of correct information for operational details of saw blades and their use.

## THE SELECTION OF SAWBLADES

Cutting Material						
	<3mm	>5mm	>50mm	>100mm	>150mm	>200mm
Sawblade	<0.12"	>0.2"	>2"	>4"	>6"	>8"
(HSS) 14T	●					
(HSS) 6/10T		●				
(HSS) 5/8T			●			
(HSS) 4/6T			●	●		
(HSS) 3/4T				●		
(HSS) 2/3T					●	●
(HSS) 1/2T						●
(HCS) 10T	●					
(HCS) 8T		●				
(HCS) 6T			●			
(HCS) 4T				●		
(HCS) 2T					●	●

Remarks: HSS-High Speed Steel Sawblade  
HCS-High Carbon Steel Sawblade

### NOTE:

1. When cutting standard wall pipe, tubes, channel iron, angle iron, and I beam, a 10 pitch saw blade of wave-set type or sawblade of (HSS) 6/10T is frequently used for good advantage.
2. Tubes or structure with wall thickness or web thickness of 1/2" or more usually uses an 8 or 6 pitch blade or sawblade of (HSS) 4/6T satisfactorily.
3. When rectangular solid bar is to be sawed, the work should, whenever possible, be loaded with the thinnest cross section exposed to the blade teeth. The pitch (or number of teeth per inch of blade) selected must provide engagement of at least 3 teeth in the workpiece. Should application of this rule not be possible because the thinnest cross section is too thin, the piece must be loaded with the wider dimension exposed to the saw teeth and a coarser blade selected from the listing of recommendations for round and square solid bars.



## Single Phase

Refer to the wire drawing inside the electrical box and above for proper motor and transformer connections, lead selection and wiring connections from the motor to the power source for the voltage you are using.

## Three Phase

Refer to the wire drawing inside the electrical box and above for proper motor and transformer connections, lead selection and wiring connections from the motor to the power source for the voltage you are using.

Important: Immediately after wiring the machine, remove the drive belt, turn on the power and make sure the motor is running in the right direction (clockwise when looking at the motor shaft.) If it is not, disconnect the machine from the power source and interchange any two lead lines.

## General Operating Instructions

### Removing and Installing the Blade

When your machine was shipped, a blade was supplied and assembled to the saw. When selecting a new blade refer to the selection of sawblades. The machine requires a blade 1"×0.032"×130".

(27MM×0.9MM×3300MM)

1. Disconnect the machine from the power source.
2. Raise the saw frame about 6" and close the feed control valve by turning it clockwise as far as it will go. (Do Not Overtighten.)
3. Open both wheel covers and clean the chip out of the machine.
4. Release blade tension by turning the blade tension handwheel (C) Fig.1 counter-clockwise.
5. Slide left blade guide arm to the right as far as possible.
6. Remove the blade from both wheels and out of each blade guide.
7. Make sure the teeth of the new blade are pointing in the direction of travel. If necessary, turn the blade inside out.
8. Place the blade in place on the wheels (A) and through the upper blade guard. (B) Fig.1.

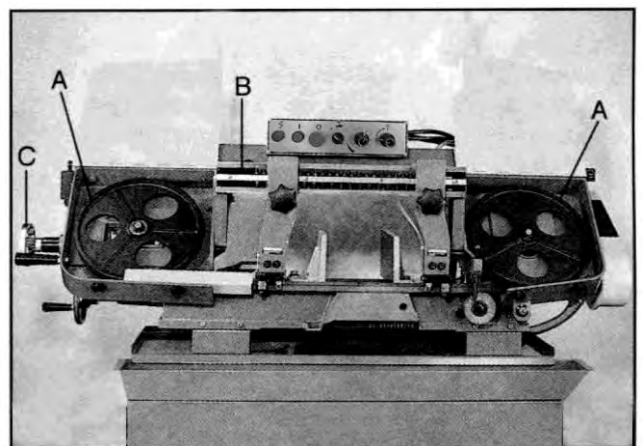


Fig. 1

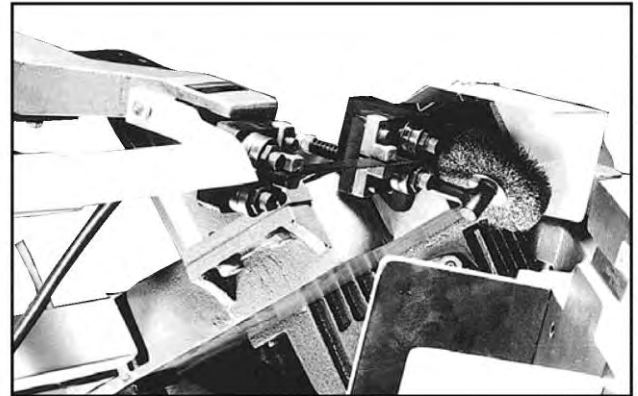
9. Work the blade all the way up between the blade guide bearings with the back of the blade against the back-up bearing, as shown in Fig.2.

**Note:** If bearings need adjustment, refer to the section adjusting blade guide roller bearings.

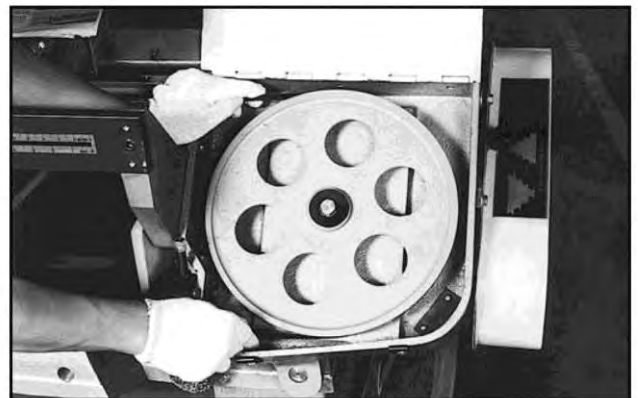
10. Put light tension on the blade and work it on both wheels, as shown in Fig.3. Make sure that the back of the blade is against the wheel flanges of both wheels. This is very important.
11. When you are sure the back of the blade is against the wheel flanges of both wheels and properly inserted into the guides, finish putting tension on the blade.

Proper tension is achieved when the pointer is on the left mark of the blade tension scale behind the fly wheel.

12. Jog the power "on" and "off" to be sure the blade is in place and tracking properly. If blade is not tracking properly refer to the section tracking the blade.



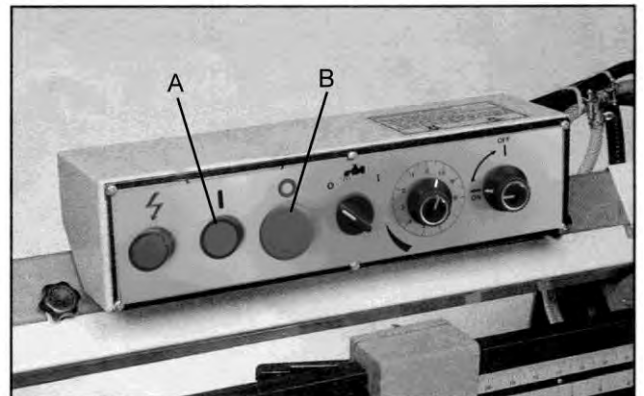
**Fig. 2**



**Fig. 3**

## Starting and Stopping the Machine

The saw frame must be in the raised position before starting the machine. The machine is started by pushing the start button (A) Fig.4, and will continue to run until the saw frame is in the down position at the end of the cut, or when the stop button (B) is pushed. Pushing the stop button (B) will stop the motor at any time.



**Fig. 4**

## Blade Tracking Adjustment

Blade tracking has been set at the factory and should require no adjustment. If a tracking problem occurs, adjust the machine as follows:

Since tracking can only be adjusted while machine is running, it is suggested that this adjustment be accomplished by qualified personnel that are familiar with this type of adjustment and the dangers associated with it.

1. Disconnect machine from the power source.
2. Raise saw arm to its highest position and close cutting pressure control valve to hold saw arm in place.
3. Locate tracking adjustment plate on the back side of the blade fly wheel.
4. Loosen the three bolts (A - Fig.5) located on the top of the tracking nuts.
5. Tracking adjustment is accomplished by either loosening or tightening three adjusting nuts (B - Fig.5).
6. Tracking is set properly when the back of the blade lightly touches the wheel flange. **Note:** over-tracking (allowing blade back to rub hard against wheel flange) will damage the blade wheels and blade.
7. Tighten locking bolts (A) once properly tracking is completed.
8. Connect machine to the power source.

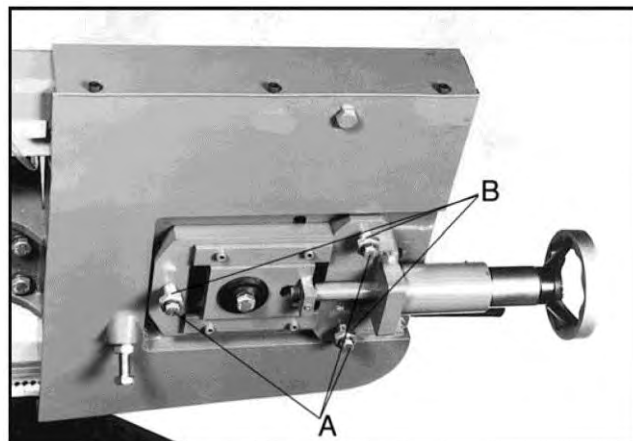


Fig. 5

## Adjusting Feed Rate

When the oil regulating micro switch (A) Fig.6 is turned clockwise as far as it can go, the saw frame will not move down. By turning the feed control valve counter-clockwise, you regulate the flow of oil from the cylinder and determine the speed at which the saw frame will lower and the blade will feed through the work. Too many factors are involved to make tabulated data practical on feed rates. As a general rule, an even pressure without forcing the blade gives best results. Avoid forcing the blade at the start as this may shorten blade life and produce a bad cut. By inspecting the chip while the cut is being made will indicate whether the feed rate is correct. Fine powdery chip indicates a feed rate which is too light. The teeth are rubbing over the surface instead of cutting. Burned chip indicates excessive feed which causes the teeth to break off as the blade overheats. The ideal feed rate is indicated by chip that have a free curl and this will give the fastest cutting time and longest blade life.

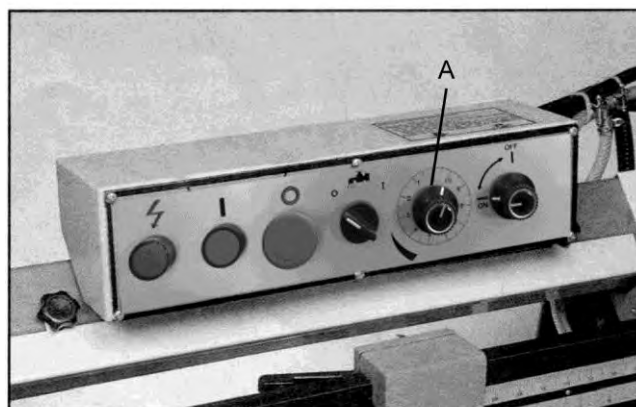


Fig. 6

## Adjusting Blade Guide Brackets

The blade guides should be set as close to the vise jaws as possible. The right blade guide bracket, is not adjustable and is set at the factory to clear the right hand vise jaw. The left blade guide bracket can be moved to the left or right depending on the size of the workpiece. To move the left blade guide bracket (A) Fig.7, loosen the knob (B), position blade guide bracket and tighten knob (B).

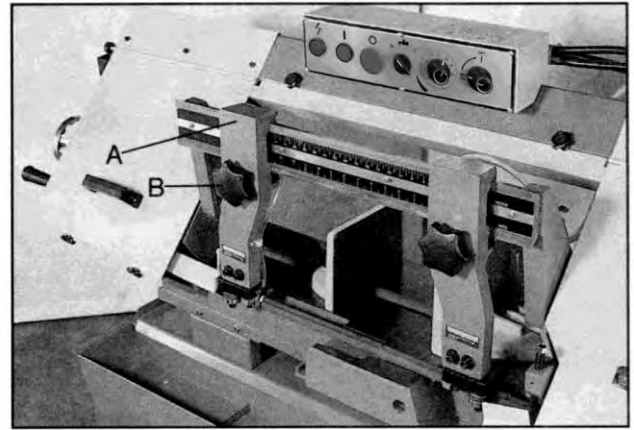


Fig. 7

## Automatic Shut-Off Adjustment

The motor should shut off immediately after the blade has cut through the material and just before the head comes to rest on the horizontal stop bolt. If the machine continues to run after the workpiece has been fully cut, locate and adjust the micro switch mounting plate down. If the machine shuts off before the workpiece has been completely cut, move the micro switch mounting plate up.

## Thrust Roller Adjustment

1. Disconnect machine from the power source.
2. Loosen two hex socket cap screws (A-Fig.8).
3. Move guide seat (B – Fig.8) up or down until a clearance of 0.003" to 0.005" between back of blade and thrust roller is obtained.
4. Tighten two hex socket cap screws (A – Fig.8).
5. Repeat for other blade guide assembly.
6. Connect machine to power source.

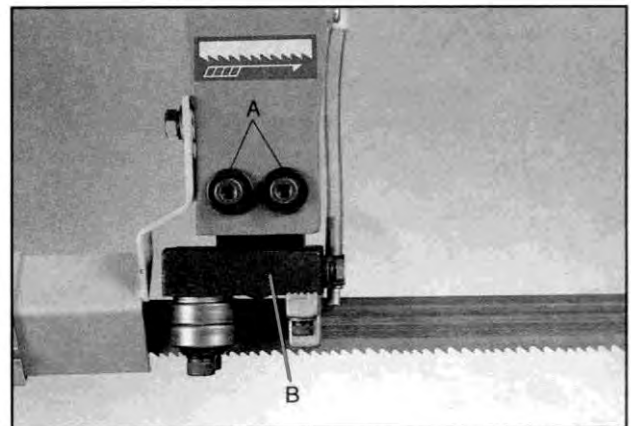


Fig. 8

## Guide Roller Adjustment

1. Disconnect machine from the power source.
2. Loosen blade guides (A – Fig.9) by loosening screws (B). Slide blade guides away from blade.
3. Loosen locking screws (C) by using a hex wrench.
4. Adjust the eccentric bushings with a combination wrench until the ball bearings are snug to the blade. Note: blade should travel freely up and down between the ball bearings. Do not pinch the blade.
5. Tighten locking screws (C).
6. Slide blade guides back into contact with blade and tighten screws (B).
7. Connect machine to the power source.

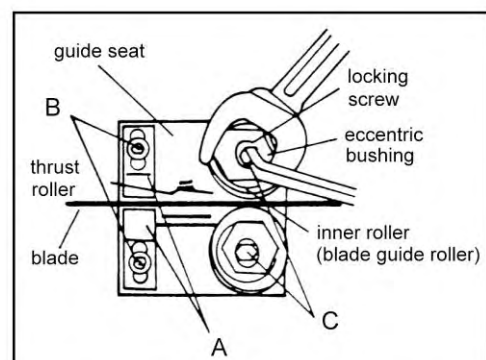


Fig. 9

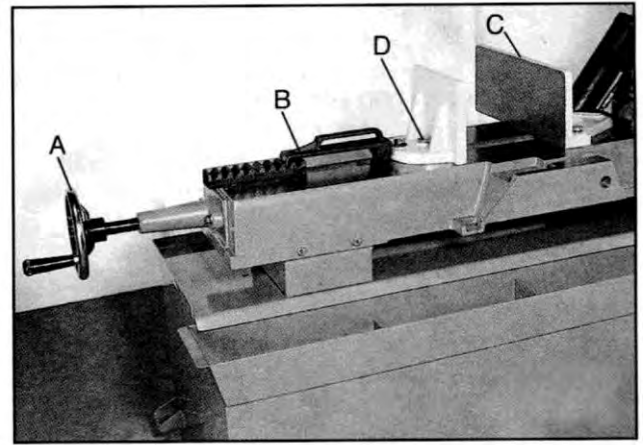
## Vise Adjustment

To position the moveable vise jaw:

1. Turn vise handwheel (A – Fig.10) 1/2 turn counter-clockwise.
2. Move rack block (B – Fig.10) to desired location by sliding along the bed. Place the rack block onto the rack.
3. Turn the handwheel to tighten the vise.

To adjust the vise for angle cutting:

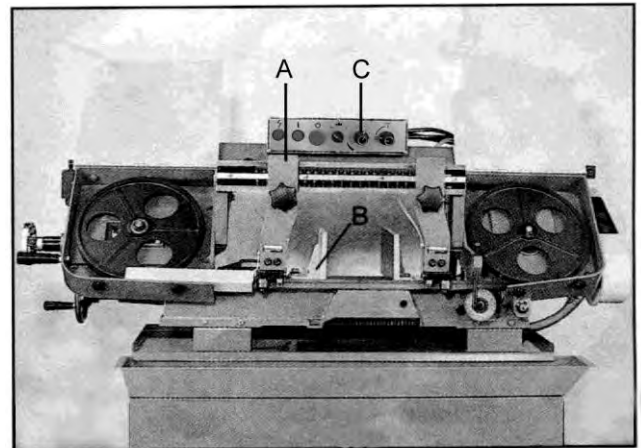
1. Loosen bolts and move vise jaw (C – Fig.10) to desired location.
2. Set the vise to desired angle, reinstall nuts and tighten the nut and bolt assemblies.
3. Make sure the movable vise jaw parallels to the fixed vise jaw. Loosen the bolt (D – Fig.10) and adjust it until it is in parallel with the fixed vise jaw and tighten the bolt.



**Fig. 10**

## Setting Up the Machine for Operation

1. Select the proper speed and blade for the type of material you are going to cut.
2. Make sure blade tension is adjusted properly.
3. Lift the saw frame up and turn off the oil regulating micro switch.
4. Place the stock between the vise jaws, set the stock for the desired length of cut and tighten the vise.
5. Make sure the left blade guide bracket (A) is adjusted as close as possible to the left vise jaw (B) Fig.11.
6. Turn the oil regulating micro switch (C) Fig.11, counter-clockwise until the saw blade begins to lower by the desired rate.
7. Proceed to cut through the workpiece, as shown in Fig.11. The machine will shut off upon completion of cut.



**Fig. 11**

## Changing Speeds

### For 250A

Your machine is provided with four speeds. To change speeds, proceed as follows:

1. Disconnect the machine from the power source.
2. Loosen wing nut (A), Fig.12 and lift up and swing belt and pulley guard (B) to the side of the machine.
3. Release tension on the belt by turning the tension lock knob counter-clockwise and letting the motor swing forward.
4. Shift the belt Fig.12, to the desired grooves on the pulleys and adjust belt tension by pulling the motor plate back until correct belt tension is obtained and tighten tension lock knob.
5. Close belt and pulley guard.

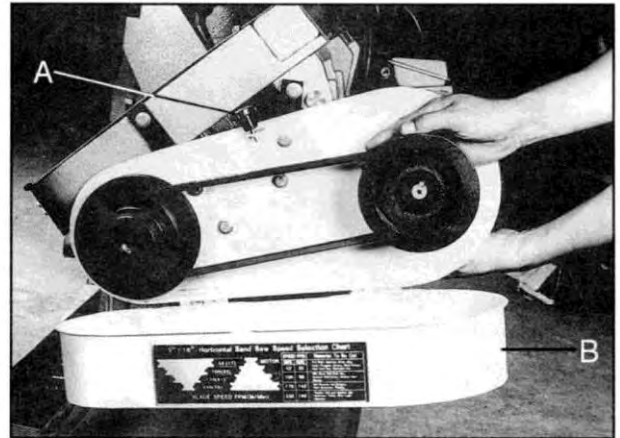


Fig. 12

### For 250V

Your machine is provided with variable speed equipment, the ranges are 67-212FPM for 50HZ and 82-259 for 60HZ.

1. While your machine is running, speed can be adjusted.
2. Turn handle knob (A) Fig.13 clockwise to increase the speed.
3. Turn hand knob counter-clockwise to decrease the speed.

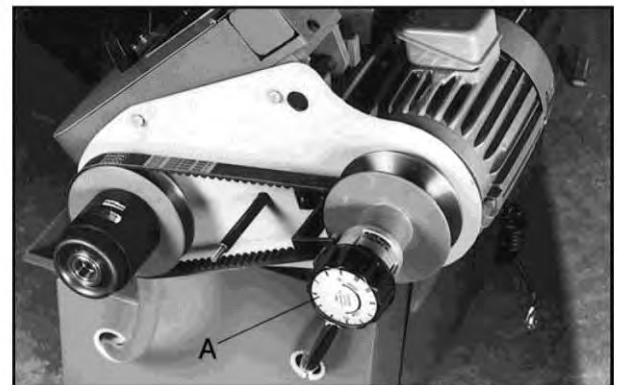


Fig. 13

## Gear Case

After the first 50 hours of use the gear box should be drained and refilled. Remove drain plug Fig.14, drain all of the oil out of the gear box and replace plug. Remove oil filler plug located underneath the right blade wheel and fill the gear box with 1 $\frac{1}{2}$  pints of MOBIL CYL. OIL # 600W or equivalent.

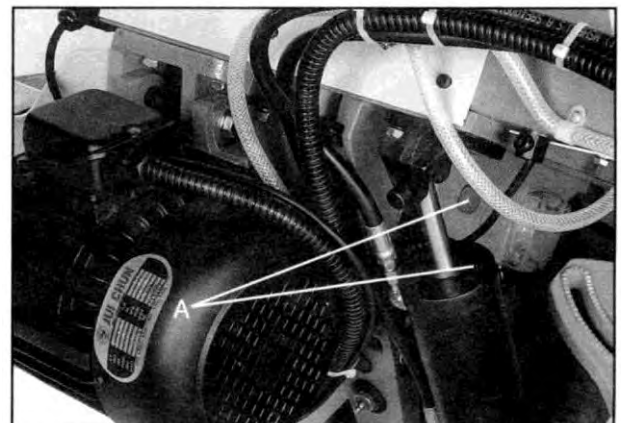


Fig. 14

**PARTS LIST FOR MI-93500**

<b>PARTS #</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>	<b>PARTS #</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>
MI-93500-1	Base		1	MI-93500-52	Cylinder Pin-Top		1
MI-93500-1-1	Wire Protector		1	MI-93500-52-1	Pin		1
MI-93500-1-2	Power Cord		1	MI-93500-53	Hydraulic Mounting Plate-Top		1
MI-93500-2	Hex. Cap Bolt	M12x65	4	MI-93500-53-1	Lock Washer	M10	2
MI-93500-3	Nut	M12	4	MI-93500-53-2	Hex. Cap Bolt	M10x30	2
MI-93500-4	Coolant Pump		1	MI-93500-54	Hex. Cap Bolt	M12x50	2
MI-93500-5	Round Head Screw	M6x16	2	MI-93500-55	Washer	M12	2
MI-93500-6	Lock Washer	M6	2	MI-93500-56	Lock Plate		1
MI-93500-7	Hose		1	MI-93500-57	Nut	1/2"	2
MI-93500-7-1	Hose Clamp	35MM	2	MI-93500-58	Spring Bracket		1
MI-93500-8	Hose		1	MI-93500-59	Spring Adjustable Rod	1/2"	1
MI-93500-9	Coolant Gauge		1	MI-93500-60	Spring		1
MI-93500-9-1	Hex. Cap Bolt	M10x30	2	MI-93500-61	Angle Scale		1
MI-93500-9-2	Nut	M10	1	MI-93500-61-1	Rivet		3
MI-93500-10	Chip Tray		1	MI-93500-62	Hex. Cap Bolt	M12x40	2
MI-93500-11	Bed		1	MI-93500-63	Lock Washer	M12	2
MI-93500-12	Hex. Cap Bolt	M8x30	8	MI-93500-63-1	Washer	M12	1
MI-93500-13	Washer	M8	8	MI-93500-64	Vise Jaw-Left		1
MI-93500-14	Lock Washer	M8	8	MI-93500-65	Hex. Cap Bolt	M12x50	1
MI-93500-15	Nut	M8	8	MI-93500-66	Lock Washer	M12	2
MI-93500-16	Work Stop Bracket		1	MI-93500-66-1	Washer	M12	1
MI-93500-17	Work Stop Rod		1	MI-93500-67	Vise Jaw-Right		1
MI-93500-18	Lock Handle		1	MI-93500-68	Hex. Cap Bolt	M12x40	1
MI-93500-19	Work Stop		1	MI-93500-69	Hex. Socket Cap Screw	M6x30	1
MI-93500-20	Lock Knob	3/8"x1 1/4	1	MI-93500-69-1	Lock Washer	M6	1
MI-93500-21	Hand Wheel Assembly		1	MI-93500-69-2	Washer	M6	1
MI-93500-21-1	Set Screw	5/16"x3/8	1	MI-93500-70	Electrical Panel Cover		1
MI-93500-22	Lead Screw Seat		1	MI-93500-70-1	Pin		2
MI-93500-23	Hex. Cap Bolt	M8x30	2	MI-93500-71	Fuse Block		2
MI-93500-23-1	Lock Washer	M8	2	MI-93500-72	Contactora (main motor)		1
MI-93500-23-2	Washer	M8	2	MI-93500-72-1	Contactora (pump)		1
MI-93500-24-1	Lead Screw		1	MI-93500-73	Transformer		1
MI-93500-25-1	Lead Screw Bracket		1	MI-93500-74	Terminal Strip		1
MI-93500-25-2	Hex. Socket Cap Screw	M8x25	2	MI-93500-75	Handle		2
MI-93500-26-1	Slide Bracket		1	MI-93500-76	Round Head Screw	M6x16	4
MI-93500-26-2	Set Screw	M6x8	1	MI-93500-77	Hex. Cap Bolt	M6x12	2
MI-93500-27-1	Rack		1	MI-93500-77-1	Lock Washer	M6	2
MI-93500-28-1	Rack Block		1	MI-93500-77-2	Washer	M6	2
MI-93500-29-1	Pin		1	MI-93500-78	Wire Brush Guard		1
MI-93500-30	Closed Bearing	HK25 15	2	MI-93500-79	Hex. Socket Cap Screw	M6x8	12
MI-93500-30-1	Bushing		1	MI-93500-80	Blade Wheel Cover-Right		1
MI-93500-31	Torsion Spring		1	MI-93500-81	Washer	M6	4
MI-93500-32	Pivot Shaft		1	MI-93500-82	Bushing		1
MI-93500-32-1	Spacer	M12	2	MI-93500-83	Washer		1
MI-93500-32-2	Hex. Cap Bolt	M12x20	2	MI-93500-84	Drive Wheel		1
MI-93500-33	Pivot Bracket		1	MI-93500-85	Blade		1
MI-93500-33-1	Set Screw	M10x12	1	MI-93500-86	Hose		1
MI-93500-34	Nut	M12	1	MI-93500-87	Round Head Screw	M5x10	2
MI-93500-35	Washer	M12	1	MI-93500-88	Filter Screen		1
MI-93500-36	Hex. Cap Bolt	M12x40	1	MI-93500-89	Hex. Cap Bolt	M12x35	4
MI-93500-37	Torsion Spring Shaft		1	MI-93500-89-1	Lock Washer	M12	4
MI-93500-38	C-Ring	S-22	1	MI-93500-90	Lock Knob		4
MI-93500-39	Hex. Cap Bolt	M8x30	1	MI-93500-92	Blade Wheel Box-Right		1
MI-93500-39-1	Washer	M8	1	MI-93500-93	Connector		1
MI-93500-39-2	Nut	M8	1	MI-93500-94	Gear Box Assembly		1
MI-93500-40	Motor Tilt Plate		1	MI-93500-94-1	Key	8MM	1
MI-93500-41	Limit Switch Plate		1	MI-93500-95	Key	7MM	1
MI-93500-42	Washer	M8	2	MI-93500-96	Pulley Cover		1
MI-93500-43	Hex. Cap Bolt	M8x20	2	MI-93500-96-1	Lock Knob	1/4"	1
MI-93500-43-1	Lock Washer	M8	2	MI-93500-97	Gear Box Pulley		1
MI-93500-44	Hex. Cap Bolt	M6x12	4	MI-93500-98	Belt	A.39	1
MI-93500-44-1	Washer	M6	4	MI-93500-99	Motor Pulley		1
MI-93500-45	Limit Switch		1	MI-93500-99-1	Set Screw	M8x10	2
MI-93500-46	Drain Plug	3/8PT	1	MI-93500-100	Hex. Cap Bolt	M8x16	2
MI-93500-47	Cylinder Pin		1	MI-93500-100-1	Washer	M8	2
MI-93500-48	C-Ring	S-20	1	MI-93500-100-2	Lock Washer	M8	2
MI-93500-49	C-Ring	S-25	2	MI-93500-101	Hose		1
MI-93500-50	Hex. Cap Bolt	M10x30	1	MI-93500-101-1	Hose		1
MI-93500-50-1	Nut	M10	1	MI-93500-102	Support Shaft		1
MI-93500-51	Hydraulic Cylinder Assembly		1	MI-93500-102-1	Washer	M12	1

**PARTS LIST FOR MI-93500**

<b>PARTS #</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>	<b>PARTS #</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>
MI-93500-102-2	Nut	M12	1	MI-93500-159	Set Screw	M6x8	1
MI-93500-103	Hex. Cap Bolt	M12x35	2	MI-93500-160	Adjusting Valve		2
MI-93500-104	Motor Mount Bracket		1	MI-93500-160-1	Brace		2
MI-93500-105	Column		1	MI-93500-160-2	Lock Washer	M6	4
MI-93500-106	Hex. Socket Cap Screw	M12x20	6	MI-93500-160-3	Hex. Cap Bolt	M6x12	4
MI-93500-106-1	Lock Washer	M12	6	MI-93500-161	Power Indicator Light		1
MI-93500-106-2	Nut	M12	6	MI-93500-161-1	Switch With Key		1
MI-93500-107	Hex. Cap Bolt	M8x30	1	MI-93500-162	Start Switch		1
MI-93500-108	Washer	M8	1	MI-93500-163	Stop Switch		1
MI-93500-108-1	Lock Washer	M8	1	MI-93500-164	Pump Switch		1
MI-93500-109	Hex. Cap Bolt	M8x45	4	MI-93500-165	Speed Control Valve		1
MI-93500-109-1	Washer	M8	4	MI-93500-166	Connection Tube		1
MI-93500-110	Motor Mount Plate		1	MI-93500-166-1	Hose Clamp		5
MI-93500-111	Motor		1	MI-93500-168	Control Box		1
MI-93500-112	Washer	M8	4	MI-93500-169	Control Panel		1
MI-93500-112-1	Lock Washer	M8	4	MI-93500-169-1	Oil Regulating Micro Switch		1
MI-93500-113	Nut	M8	4	MI-93500-169-2	On/Off Switch		1
MI-93500-114	Key	7MM	1	MI-93500-170	Round Head Screw	M5x10	6
MI-93500-116	Hex. Socket Cap Screw	M8x20	2	MI-93500-171	Wheel Box-Left		1
MI-93500-117	Blade Wheel Cover-Left		1	MI-93500-172	Handle		1
MI-93500-118	Ball Bearing		2	MI-93500-173	Nut	M12	2
MI-93500-118-1	Lock Washer	M8	2	MI-93500-175	Round Head Screw	M5x10	2
MI-93500-119	Hex. Cap Bolt	M12x20	2	MI-93500-176	Indicator Scale		1
MI-93500-120	Washer	M12	1	MI-93500-177	Slide Bracket		1
MI-93500-121	Ball Bearing	6205Z	2	MI-93500-178	Tension Shaft		1
MI-93500-121-1	Ball Bearing	6205	1	MI-93500-179	Key	5MM	1
MI-93500-122	Idler Wheel		1	MI-93500-180	Handwheel		1
MI-93500-123	Blade Guard		1	MI-93500-181	Disc Spring		13
MI-93500-123-1	Washer	M8	2	MI-93500-182	Flat Washer		1
MI-93500-123-2	Lock Washer	M8	1	MI-93500-183	Tension Indicator		1
MI-93500-123-3	Hex. Cap Bolt	M8x16	1	MI-93500-184	Thrust Bearing		1
MI-93500-124	Guide Bracket-Left		1	MI-93500-187	Slide		1
MI-93500-124-1	Set Screw	M8x16	6	MI-93500-188	Set Screw	M8x10	1
MI-93500-125	Washer	M8	4	MI-93500-189	Extension Bar		1
MI-93500-126	Ball Bearing	6201ZZ	8	MI-93500-190	Blade Wheel Shaft		1
MI-93500-127	Eccentric Sleeve		2	MI-93500-191	Nut	M12	1
MI-93500-127-1	Centric Sleeve		2	MI-93500-191-1	Set Screw	M6x8	1
MI-93500-128	Lock Washer	M8	4	MI-93500-192	Hex. Socket Cap Screw	M8x25	4
MI-93500-129	Hex. Socket Cap Screw	M8x45	4	MI-93500-193	Hex. Cap Bolt	M12x20	1
MI-93500-130	Hex. Socket Cap Screw	M6x30	4	MI-93500-193-1	Washer	M12	1
MI-93500-130-1	Washer	M6	8	MI-93500-194	Gib		2
MI-93500-131	Tungsten Carbide Blade Guide		4	MI-93500-195	Hex. Cap Bolt	M16x30	3
MI-93500-132	Hex. Cap Bolt	M8x40	4	MI-93500-196	Hex. Cap Bolt	M10x60	3
MI-93500-133	Lock Washer	M8	4	MI-93500-196-1	Lock Washer	M10	3
MI-93500-133-1	Washer	M8	4	MI-93500-199	Hose Fitting		1
MI-93500-134	Adjustable Bracket-Left		1	MI-93500-200	Hose Clamp	14MM	1
MI-93500-135	Scale		1	MI-93500-207	Hose		1
MI-93500-135-1	Round Head Screw		4	MI-93500-208	Hose		1
MI-93500-136	Hex. Socket Cap Screw	M10x25	2	MI-93500-209	Speed Chart Label		1
MI-93500-137	Slide		1	MI-93500-213	Washer	M10	2
MI-93500-138	Blade Bracket-Left		1	MI-93500-214	Clamp		2
MI-93500-139	Hex. Cap Bolt	M12x30	4	MI-93500-215	Cu Connecting		2
MI-93500-139-1	Lock Washer	M12	4				
MI-93500-139-2	Washer	M12	2				
MI-93500-141	Knob		2				
MI-93500-143	Set Screw	M8x10	4				
MI-93500-144	Blade Bracket-Right		1				
MI-93500-145	Hex. Cap Bolt	M6x12	1				
MI-93500-146	Washer	M6	1				
MI-93500-147	Wire Brush		1				
MI-93500-148	Wire Brush Rod		1				
MI-93500-149	Guide Bracket-Right		1				
MI-93500-150	Spring		1				
MI-93500-152	Nut	M10	1				
MI-93500-154	Adjustable Bracket-Right		1				
MI-93500-155	Nut	M12	1				
MI-93500-156	Stand Bolt	M12x50	1				
MI-93500-157	Blade Guard		1				
MI-93500-157-1	Blade Guard-Down		1				
MI-93500-158	Lock Knob		2				



