Owner's Manual

M-5018.002 Cut-Off Saw

OLIVER MACHINERY COMPANY

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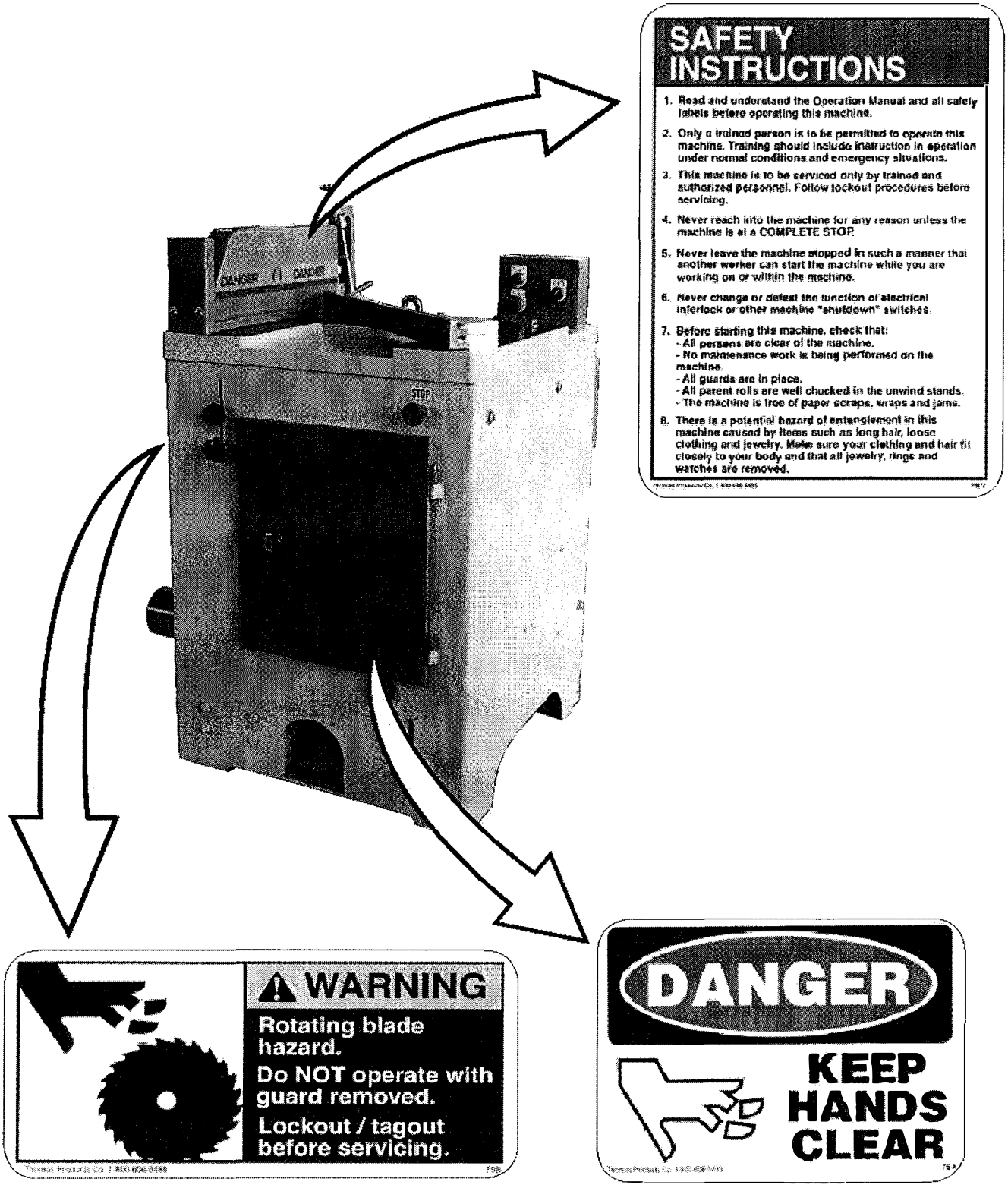
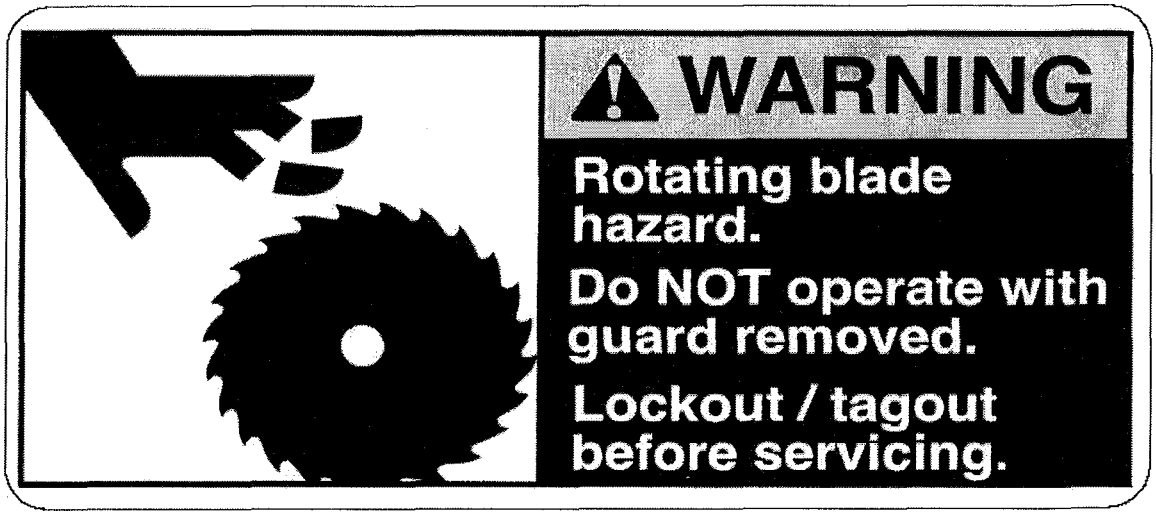
WARNING LABEL LOCATIONS



WARNING LABEL (1)

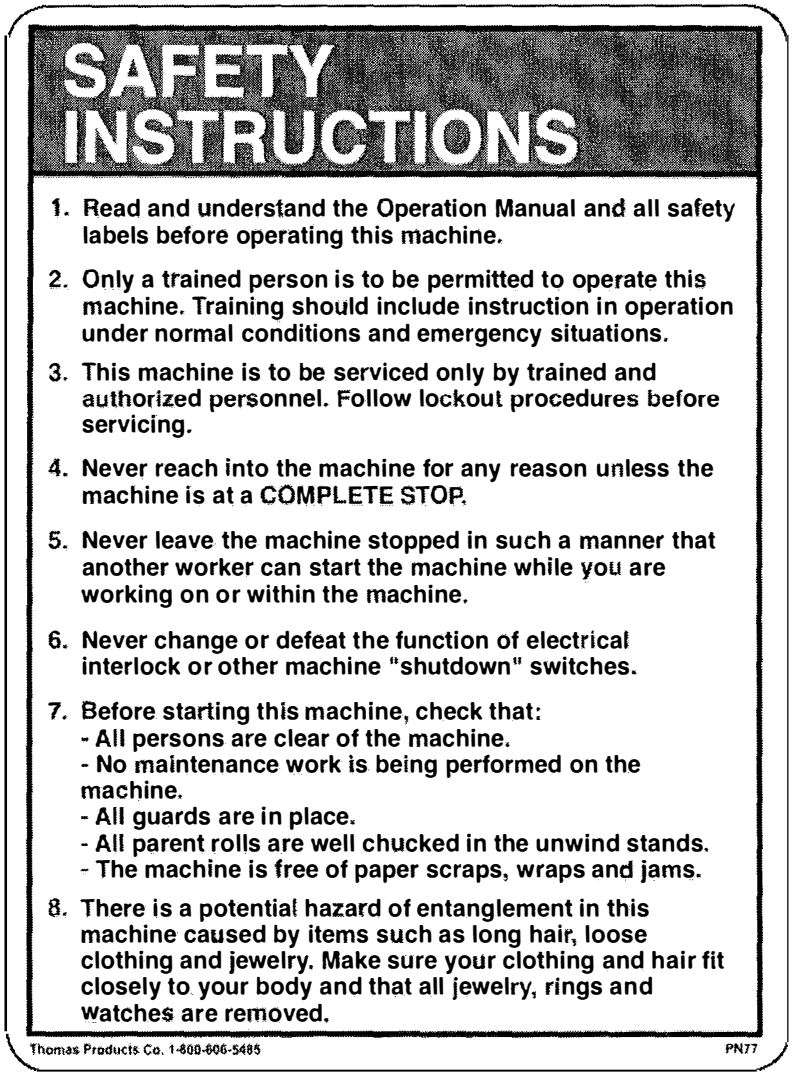
The warning label "KEEP HANDS CLEAR", shown as above, is attached to the sawblade front guard. It warns the operator to keep hands out of this area.

WARNING LABEL (2)



The warning label “Rotating blade hazard”. Do not operate with guard removed. Lockout/ tagout before servicing", shown as above, is attached to side guard. It warns the operator do not operate the machine when the sawblade guard is opened.

SAFETY INSTRUCTIONS LABEL (3)



The label "SAFETY INSTRUCTIONS", shown as above, is attached to the front of cabinet. It gives safety instructions for operating the cut off saw.

GENERAL SAFETY RULES FOR WOODWORKING MACHINERY (1)

1. Know your machine. For your own safety, read the operation manual carefully. Learn its applications and limitations, as well as specific potential hazards pertinent to this machine.

2. Make sure the machine is properly grounded.

3. Keep guards in place and in working order. If a guard must be removed for maintenance or cleaning, make sure it is properly reattached before using the machine again.

4. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.

5. Keep work area clean. Cluttered areas and workbenches increase the likelihood of an accident.

6. Do not use in dangerous environments. Do not use machine in damp or wet locations, or expose them to rain. Keep work area well illuminated.

7. Keep children away. All visitors should be kept at a safe distance from work area.

8. Make workshop childproof. With padlocks, master switches, or by removing starter keys.

9. Do not force the machine. It will do the job better and be safer at the rate for which it was designed.

10. Use the right tools. Do not force the machine or attachments to do a job for which they were not designed. Contact the manufacturer or distributor if there is any question about the machine's suitability for a particular job.

11. Wear proper apparel. Avoid loose clothing, gloves, neckties, rings, bracelets, or jewelry which could be caught in moving parts. Nonstop footwear is recommended. Wear protective hair covering to contain long hair.

12. Always use safety glasses, also use face or dust mask if operations is impact resistant lenses. They are not safety glasses.

13. Secure work.

14. Keep proper footing and balance at all times.

GENERAL SAFETY RULES FOR WOODWORKING MACHINERY (2)

15. Maintain machine in top conditions. Keep machine clean for best and safest performance. Follow instructions or lubricating and changing accessories.

16. Disconnect machine form power source. Before servicing and when changing accessories, or when mounting and remounting motor.

17. Avoid accidental starting. Make sure switch is in the "off" position before plugging in power cord.

18. Use recommended accessories. Consult the operation manual for recommended accessories.

19. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to make sure 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 condition that may affect its operation. Guards or other parts that are damaged should be properly repaired or replaced.

20. Never leave machine running unattended. Turn power off. Do not leave the machine until it comes to a complete stop.

21. Do not use machine while under the effects of drags, alcohol, or any medication.

22. Always wear a face or dust mask if operates a lot of saw dust and or wood chips. Always operate the machine in a well ventilated area and provide for proper dust removal. Use a wood dust collection system whenever possible.

⚠ WARNING

Do not attempt to operate until you have read thoroughly and understood completely all instructions, rules etc. contained in this manual. Failure to comply can result in accidents involving fire, electric shock, or serious personal injury. Keep this operation manual and review frequently for continuous safe operations.

ADDITIONAL SAFETY RULES FOR WOODWORKING MACHINERY

1. Read and understand the operation manual before operation.
2. Keep hands away the cutting area.
3. Always disconnect the power source before making any adjustments.
4. Do not operate the machine in case air pressure does not reach the normal working pressure. Normal working pressure for this cut off saw is 5kg/cm2.
5. With the saw motor running try to press the foot switch and check if the motion cycle is normal or not.
6. Make sure the height of the hold-down clamp is properly adjusted.
7. Make sure the sawblade running direction is correct.
8. Do not cut warped wood. The workpiece must be sit flat on the table without rocking.
9. When cutting long warkpiece, use infeed and outfeed conveyor table for support.
10. The cut piece is removed by pulling it out or pushing it out with a wood stick.
11. Never try to remove the cut-off piece until the power is off and sawblade has stopped.
12. Always use fence to position and guide workpiece. Do not use hands to support the work.

UNPACKING AND CHECKING CONTENTS

The cut-off saw is shipped complete in one wooden crate in addition to infeed and outfeed conveyor tables.

Carefully unpack the machine and ensure that all parts are present and free of damaged. If any parts are missing or damaged, contact your local dealer immediately. Do not attempt to assemble or operate the machine without all components present and in working order.

OPTIONAL EQUIPMENT

- Sawblade
- Infeed and outfeed roller conveyor, length as required.
- Safety guard.

CLEANING THE MACHINE

After the machine is unpacked, remove the rust preventative oil that coats the machine with a cloth soaked in kerosene. Do not use gasoline or lacquer thinner, as this can damage the painted parts of the machine.

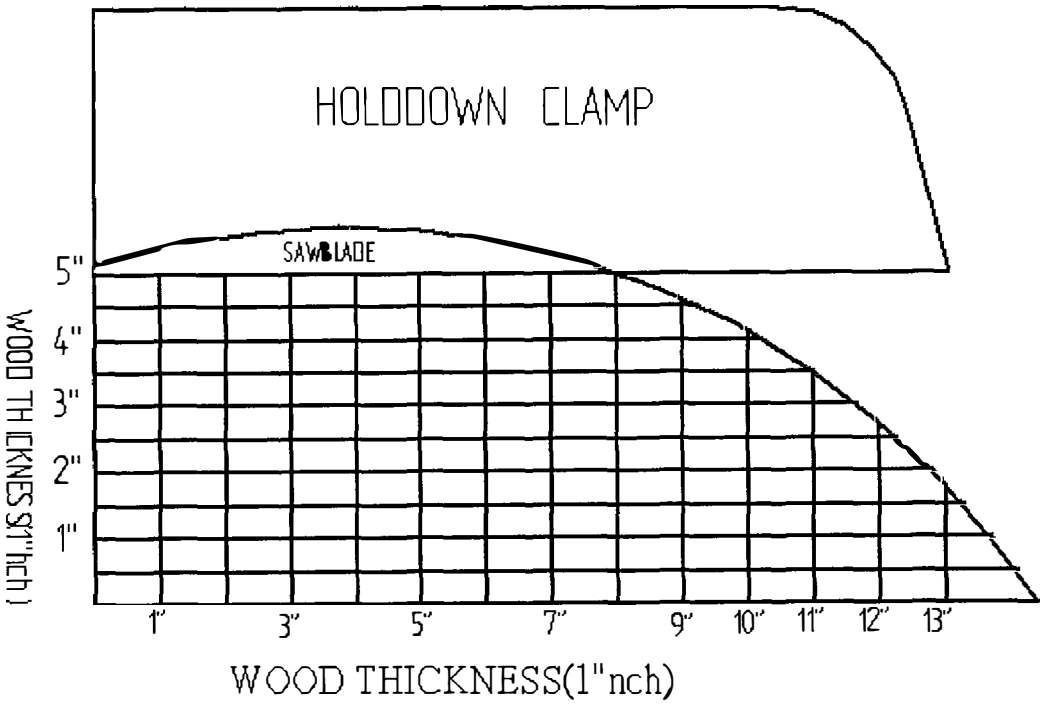
MACHINE SPECIFICATIONS

SPECIFICATIONS

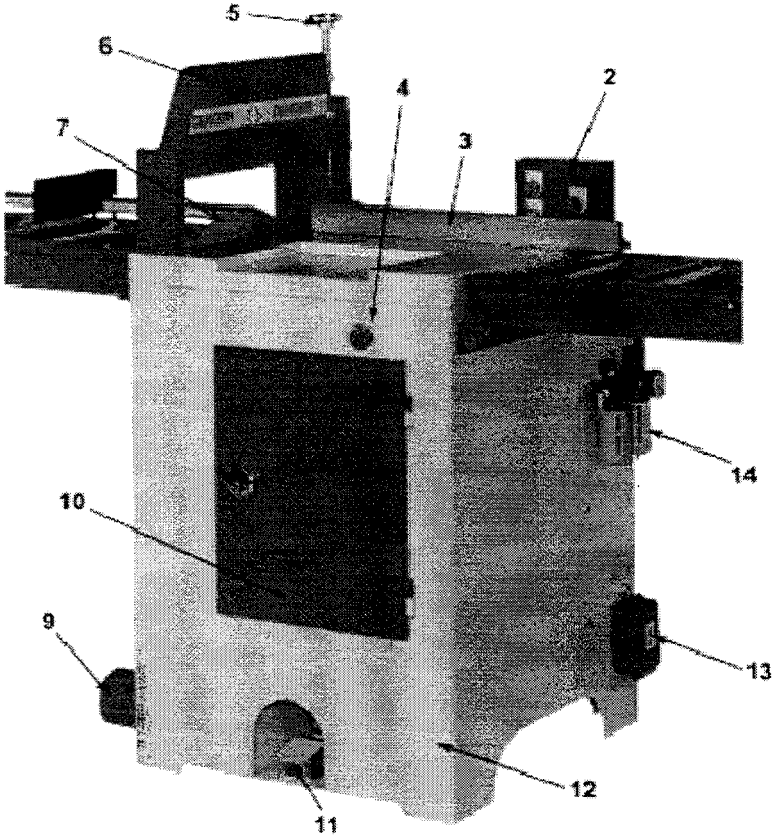
ITEM	18" CUT-OFF SAW
Cutting capacity (thickness x width)	2" x 12", 3" x 11", 4" x 10"
Cycle speed	45 strokes/min
Cycle operation	Air
Saw blade size (optional)	18"
Saw arbor diameter	1"
Saw blade speed	3600 RPM
Dust exhaust diameter	Ø4"
Motor	7 1/2 HP/10HP
Table size	660 x 700 mm
Net weight	350 kgs
Gross weight	410 kgs
Packing dimensions (L x W x H)	940 x 850 x 1350 mm

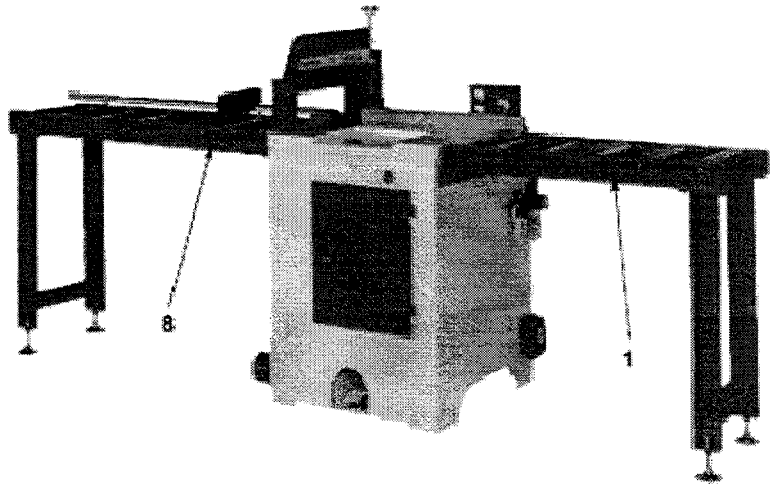
* We reserve the right to modify design without prior notice.

CUTTING CAPACITY DIAGRAM



LEGEND OF CUT-OFF SAW





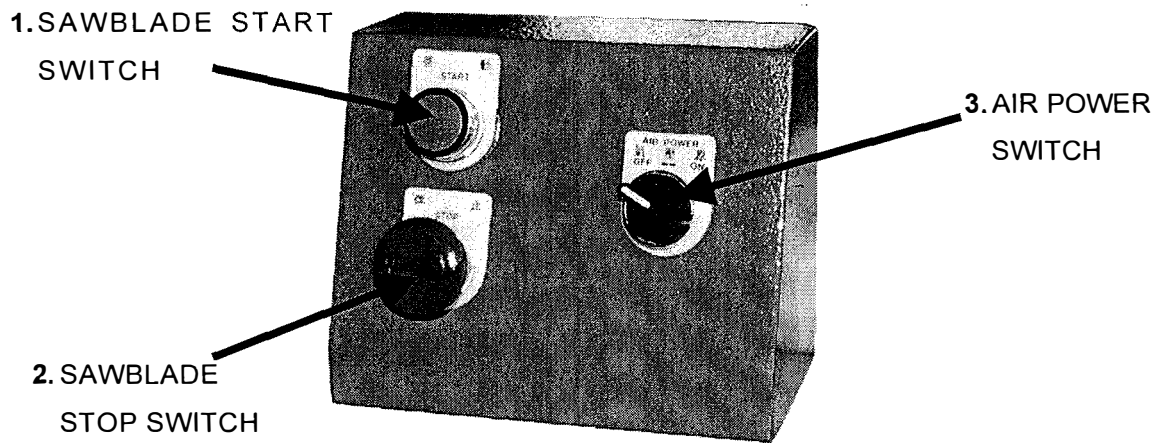
1. Infeed conveyor (optional)
2. Control panel
3. Fence
4. Emergency stop switch
5. Height adjustment knob
6. Hold-down clamp
7. Sawblade(optional)
8. Outfeed conveyor (optional)
9. Dust hood outlet
10. Front door
11. Foot Pedal
12. Canbinet
13. Junction box
14. Filter/regulator/lubricator combination

ELECTRIC CONTROL SWITCHS

1. SAWBLADE START SWITCH:
   Press this switch for starting the sawblade running.

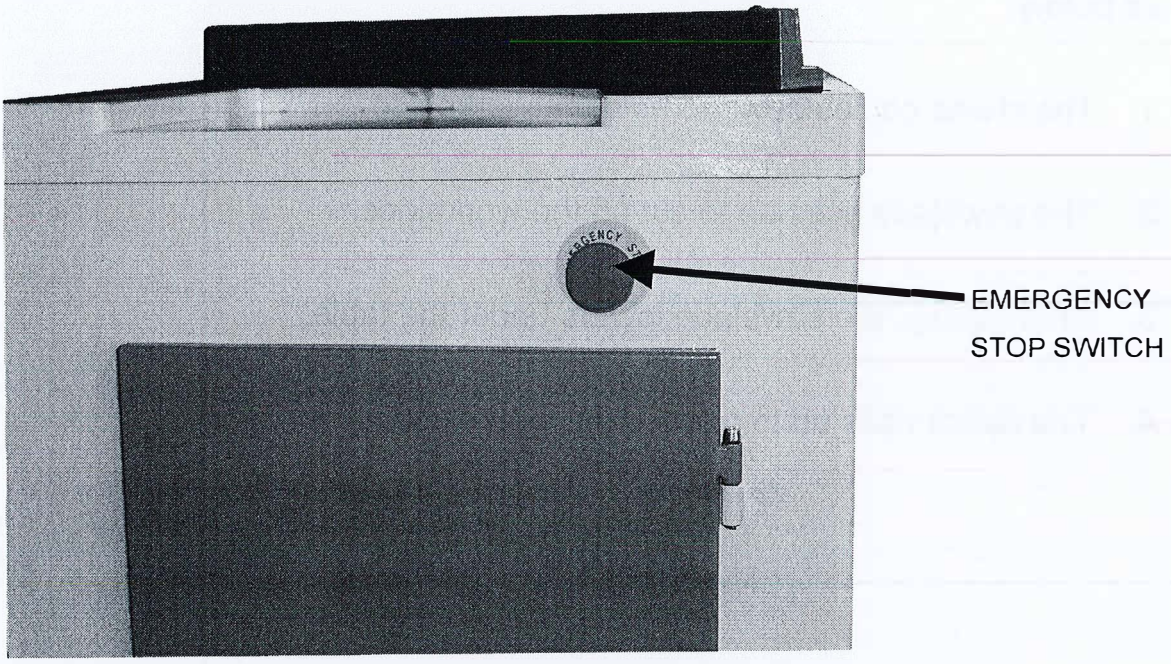
2. SAWBLADE STOP SWITCH:
   Press this switch for stopping the sawblade.

3. AIR POWER SWITCH:
   Turn this switch to ON position, and then air enters into the air circuit.
   Turn this switch to OFF position for shutting off air pressure.



EMERGENCY STOP SWITCH

This is an emergency stop switch for air system. When this switch is pressed, the clamp raises immediately to release the workpiece.



⚠ CAUTION

This emergency stop switch only shut off air power.

FOOT SWITCH (1)

The machine operation is controlled by a foot switch. When operator treadles on the foot switch one time then release it, motion sequences are performed as below:

1. The clamp comes down to hold the workpiece.

2. The sawblade rises up to cut off the workpiece.

3. After cutting, the sawblade lowers under the table.

4. The clamp rises up to release the workpiece.

FOOT SWITCH (2)

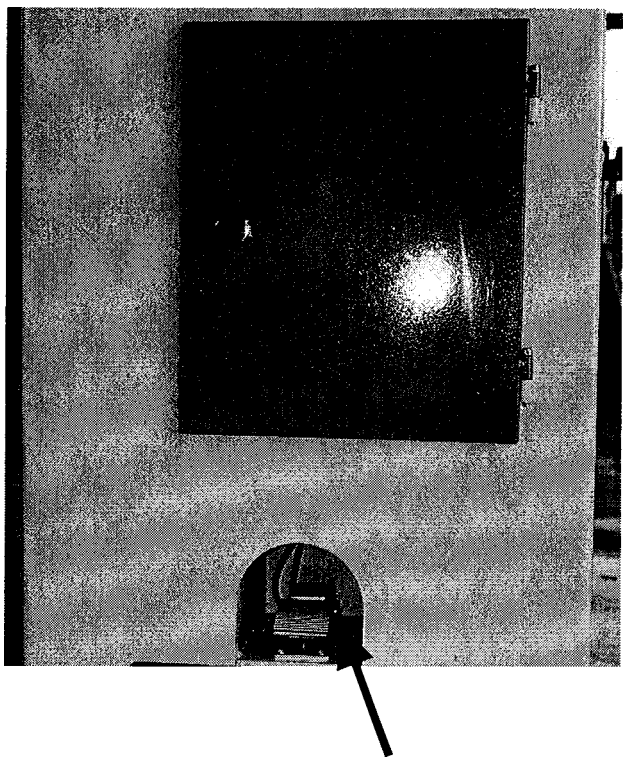
When the operator keeps on pressing the foot switch about over 1 minute, motion sequences are performed as below:

1. The clamp come down to bold the workpiece.

2. The sawblade rises up to cut off the workpiece.

3. After cutting, the sawblade will not lower under the table.

When this problem occurs, correct it by pressing the emergency stop switch to lower the sawblade.



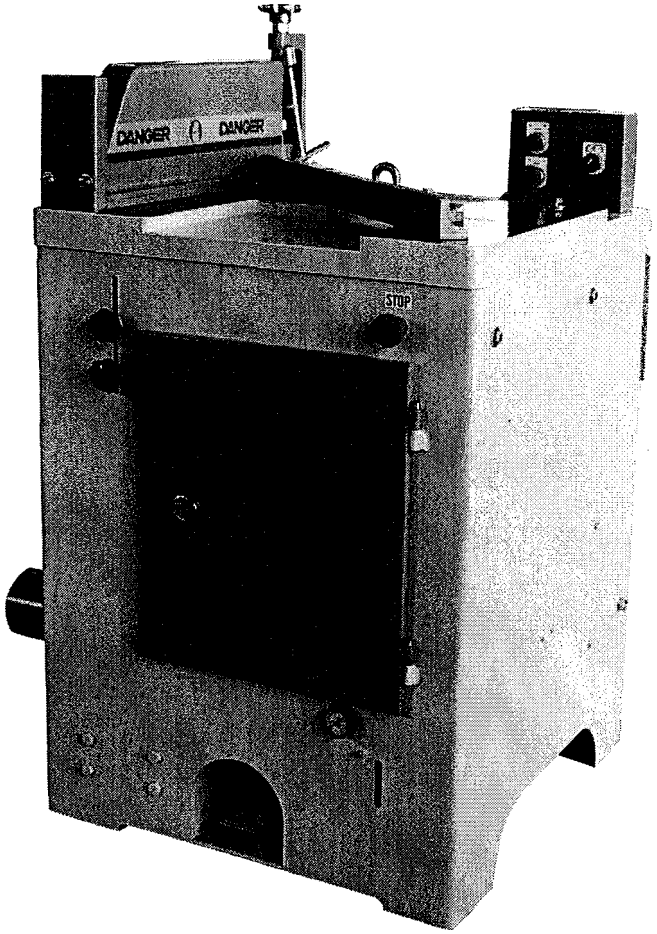
FOOT SWITCH

INSTALLING MACHINE

The cut-off saw does not need to be bolted into the concrete floor, however a solid and plan enough concrete floor is requested.

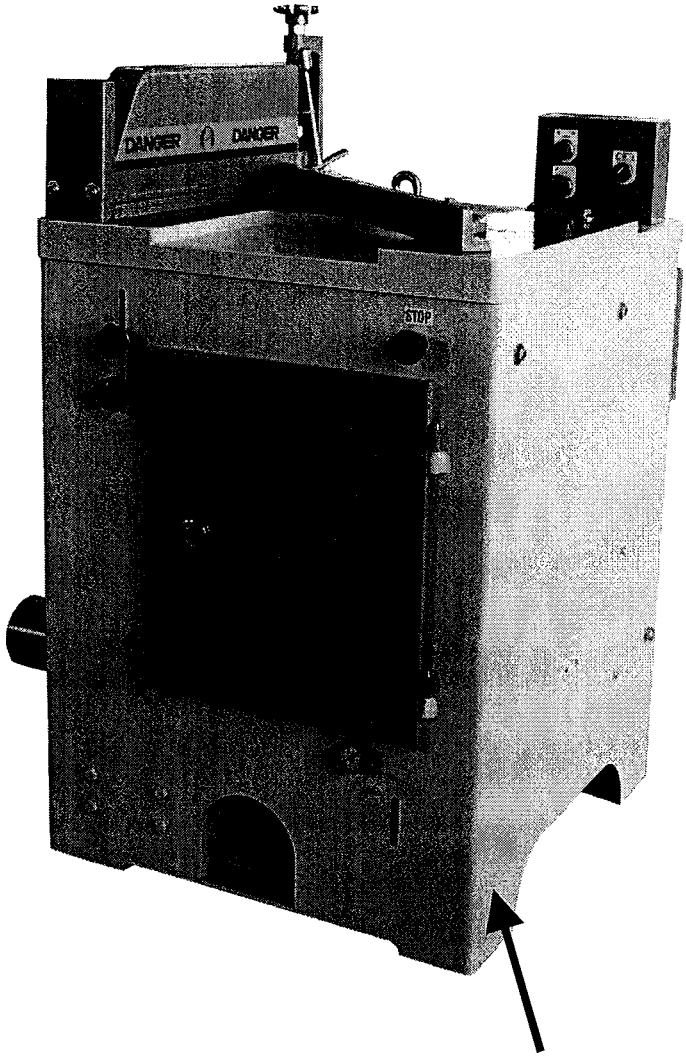
Leave proper space around the machine for conveniently handling the material to be cut.

Make leveling adjustment after the machine has been located at the work site.



ADJUST MACHINE LEVELING

To perform the machine leveling adjustment, place a precision level gauge on the table. Turn the leveling screw by using an open and wrench, located under the 4 corners of the cabinet.



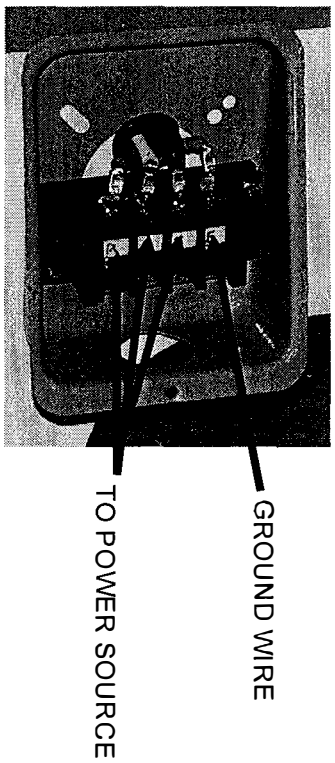
LEVELING SCREW
(INSIDE OF THE CABINET)

CONNECT POWER WIRES (1)

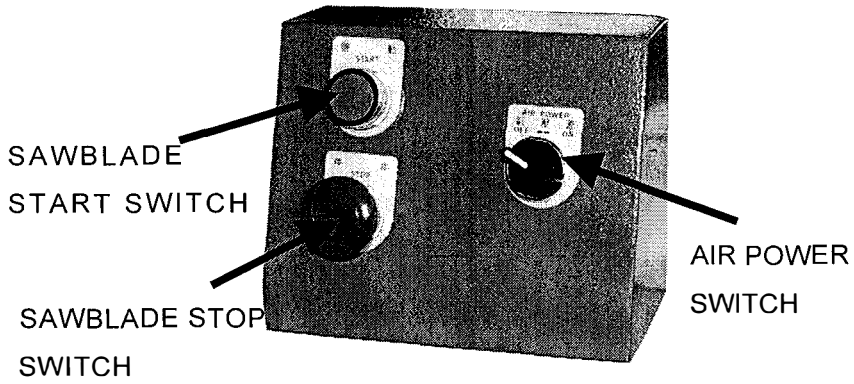
This machine has been factory test by using the proper voltage before shipment. Before the machine is connected with the factory power, be sure the power supply is the proper voltage, hertz and phase as the machine prewired.

Connect the power wires to "R.S.T" contacts in the junction box, located at back side of the machine cabinet. After the power wires are connected, try to start the saw blade running by pressing the saw blade start switch, and then press the saw blade stop switch for immediately stopping the sawblade. At this time check to see if the sawblade runs to the correct direction as the arrow sign indicated.

JUNCTION BOX



CONTROL PANEL

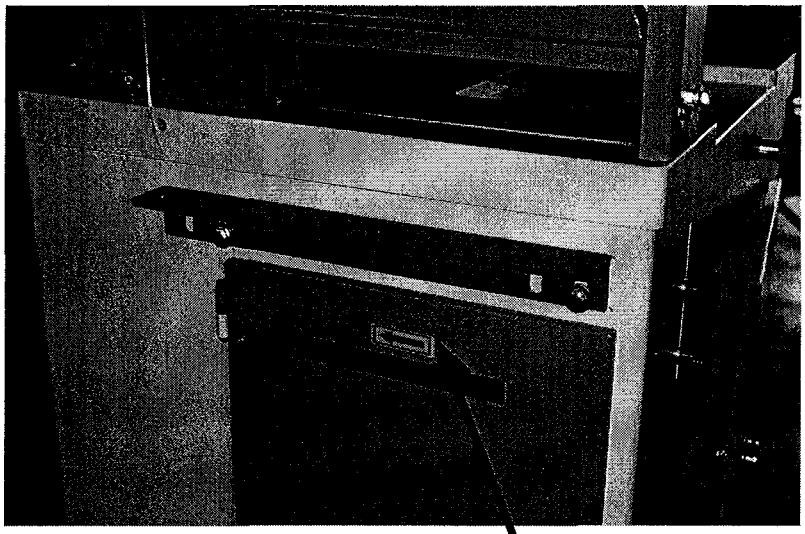


CONNECT POWER WIRES (2)

If the saw blade runs to the direction as the arrow sign instructed, then the power wires are correctly connected, otherwise you should change any two of the three power wires to obtain a correct running direction of the sawblade.

The machine should be properly grounded to avoid electric shock.

> ⚠ **WARNING!** Disconnect the machine from the power source before changing wires connection.

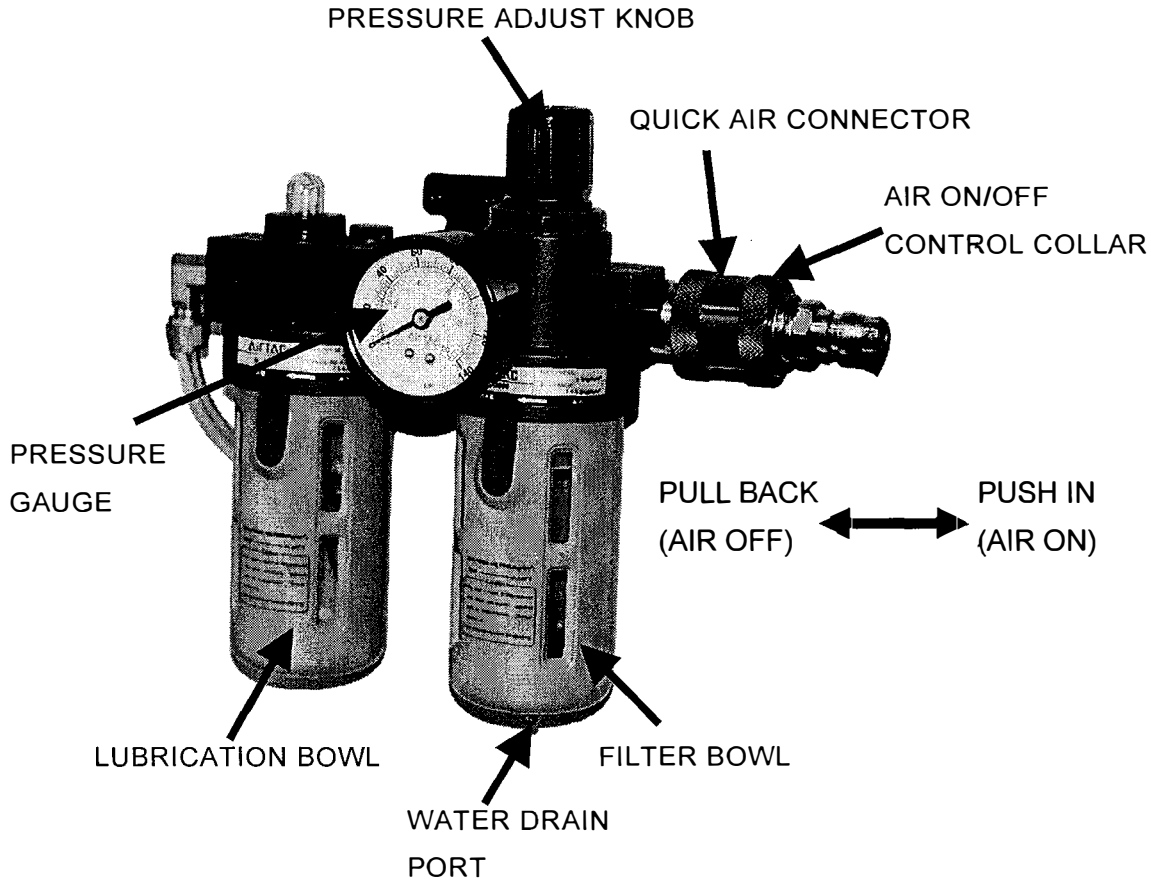


SAWBLADE RUNNING
DIRECTION ARROW SIGN

AIR CIRCUIT CONNECTION

The quick air connector is provided on the Filter/Regulator/ Lubricator unit; simply connect the air source to the air connector.

The Filter/Regulator/Lubricator unit (F.R.L. UNIT) is mounted at the front right side in the cabinet. Open the right side door you can find it. The working pressure is indicated on pressure gauge of F.R. L unit. The correct working pressure should be adjusted to 5-6 kg/cm2 range. To adjust working pressure simply turn pressure adjust knob. Turn the knob clockwise for increasing pressure, turn knob counter-clockwise for reducing pressure.



FILTER/REGULATOR/LUBRICATOR UNIT

1. PRESSURE GAUGE

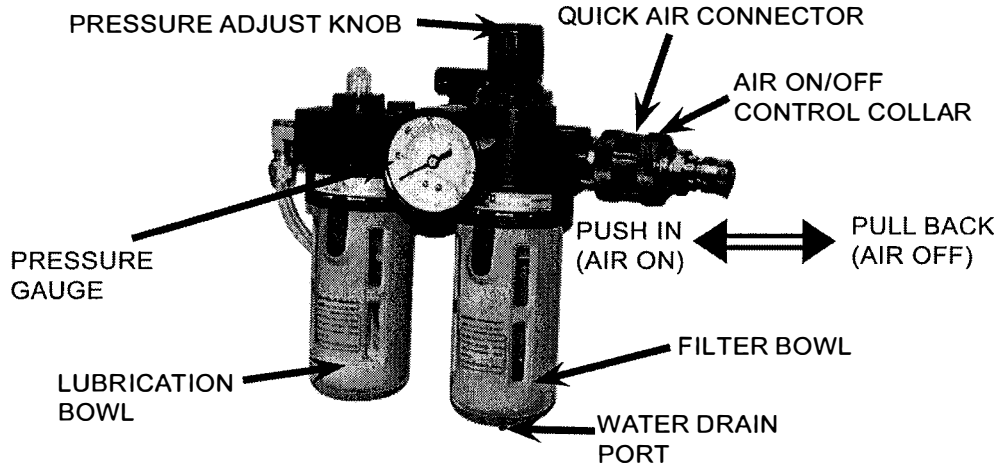
The pressure for the air system is shown on this pressure gauge. Working air pressure can be adjusted by turning the pressure regulator located on the filter bowl. Turn it clock-wisely for increasing pressure. Turn counter clock-wisely for decreasing pressure. Lift the regulator knob before setting pressure. Push it down to fix the pressure setting after the pressure has been adjusted. The working air pressure should be set at 5-6kg/cm2.

2. LUBRICATION BOWL

Periodically check to make sure that there is an adequate amount of oil in the lubrication bowl. If necessary, fill oil into the lubrication bowl to 80% of the bowl capacity to ensure that the air circuit is properly lubricated.

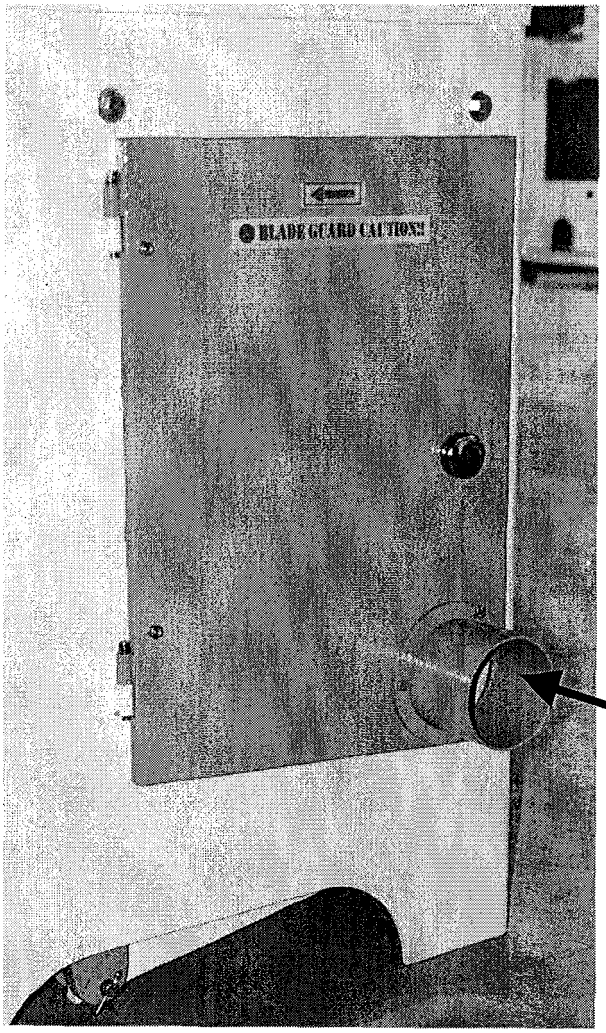
3. FILTER BOWL

Always remember that the moisture contained in air will condense and collect in the filter bowl. The accumulated water in the filter bowl needs to be released when the water level reaches a certain level. To release water simply pull back the AIR ON/OFF CONTROL COLLAR on the quick air connector.



CONNECT DUST COLLECTION SYSTEM

The cut off saw is equipped with a dust exhaust outlet, located at the left side of the machine. The dust exhaust outlet diameter is ø4". Use a proper diameter of flexible hose to connect the exhaust outlet to a dust collector.

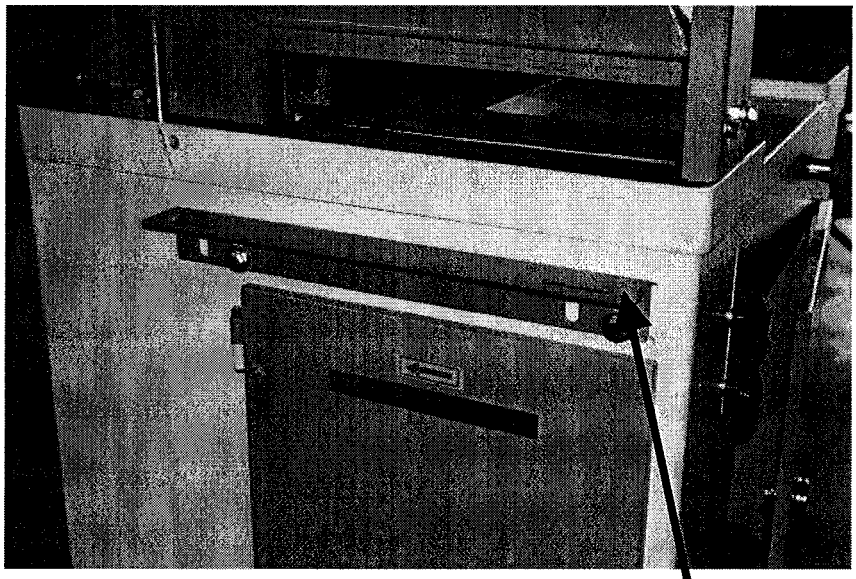


MOUNTING INFEED AND OUTFEED CONVEYOR TABLE (OPTIONAL) (1)

1. The instructions below are for mounting the infeed and outfeed conveyor table. Mounting procedures for infeed and outfeed conveyor table are the same.

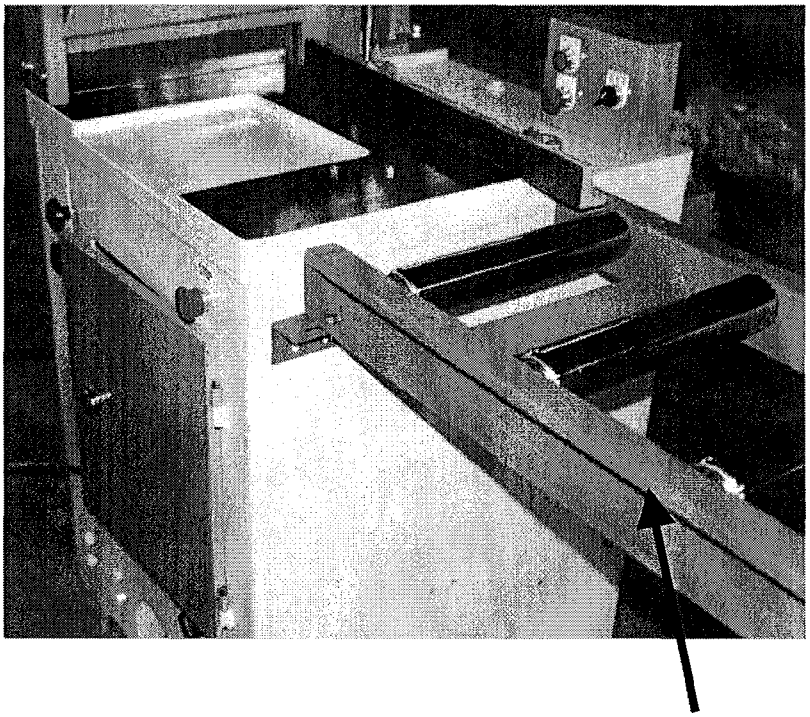
2. When mounting the infeed and outfeed conveyor, ask another one to help you for moving the conveyor table.

3. Assemble the conveyor table support plates on the infeed and outfeed side of the cabinet. Note that the surface of support plate with two slots should be located horizontally and the surface with 4 slots should be located vertically. At this time only slightly tighten the support plates.



MOUNTING INFEED AND OUTFEED CONVEYOR TABLE (OPTIONAL) (2)

4. Place the infeed conveyor table on the support plate. Align the two holes on the end of the infeed conveyor table with the two horizontal slots on the support plate. And slightly tighten the infeed conveyor table.

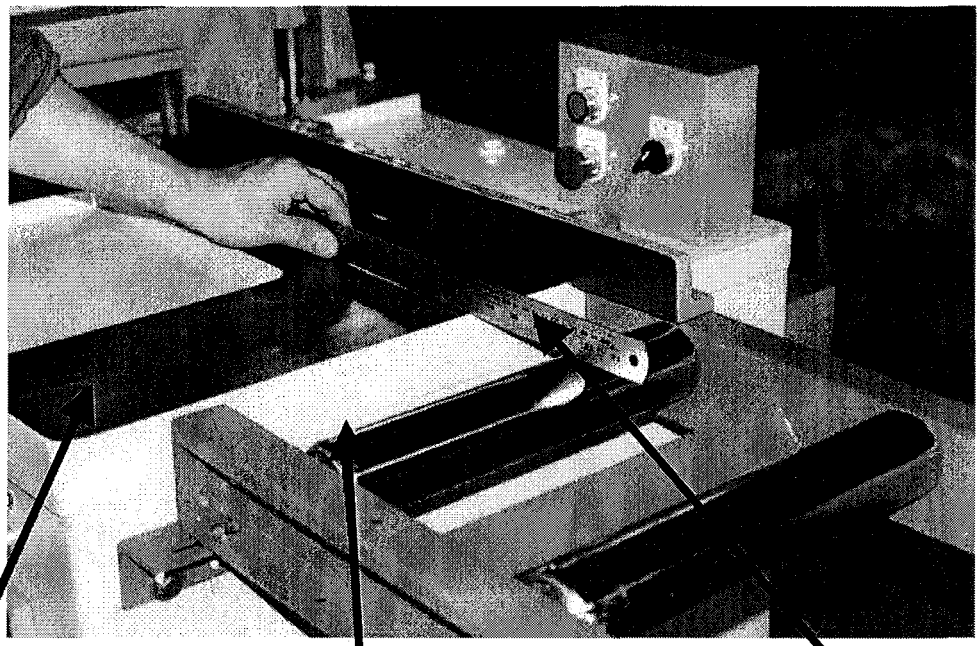


CONVEYOR TABLE SUPPORT PLATE

5. After the infeed conveyor table has been mounted, be sure to make conveyor leveling adjustment to table surface.

MOUNTING INFEED AND OUTFEED CONVEYOR TABLE (OPTIONAL) (3)

6. Place a straight edge on the table surface across the conveyor roller; raise the conveyor table until the roller just touches the straight edge. Then tighten the lock screws.



CONVEYOR TABLE SUPPORT PLATE

CONVEYOR TABLE SUPPORT PLATE

CONVEYOR TABLE SUPPORT PLATE

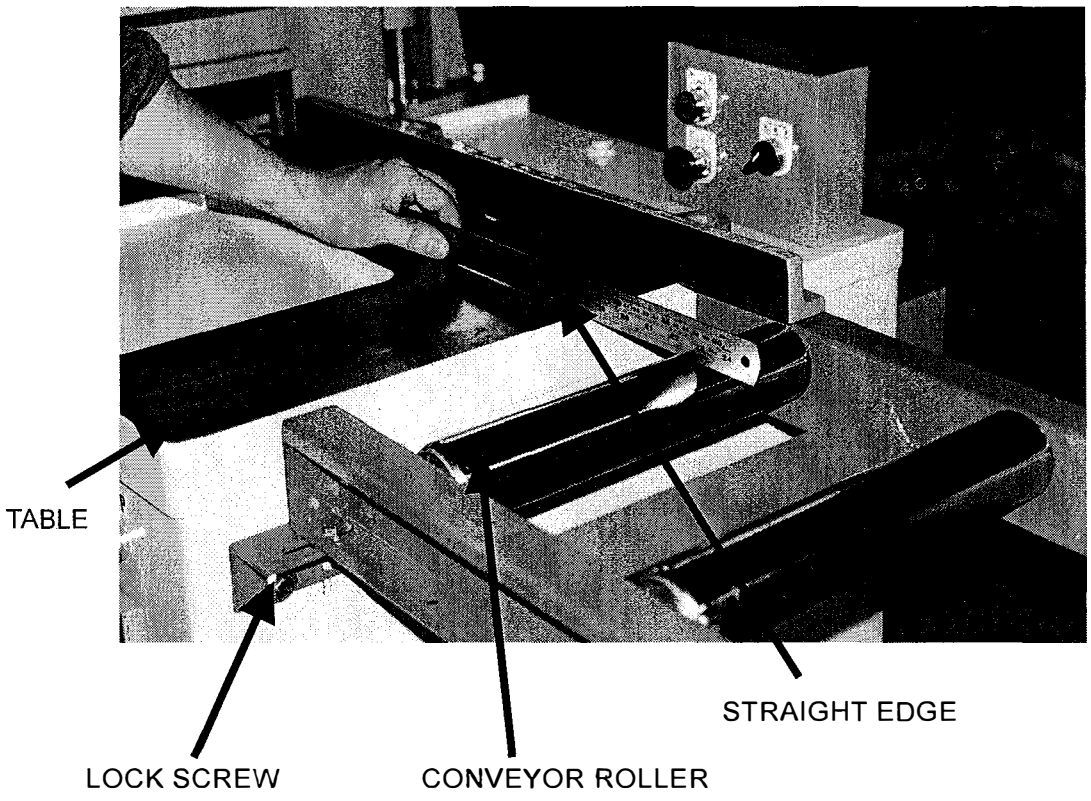
7. The entire conveyor table leveling should also be properly adjusted. Turn the leveling screws located under the legs for leveling adjustment.

LEVELING CONVEYOR TABLE TO MACHINE TABLE (1)

1. Leveling adjustment for the infeed and outfeed conveyor table are the same.

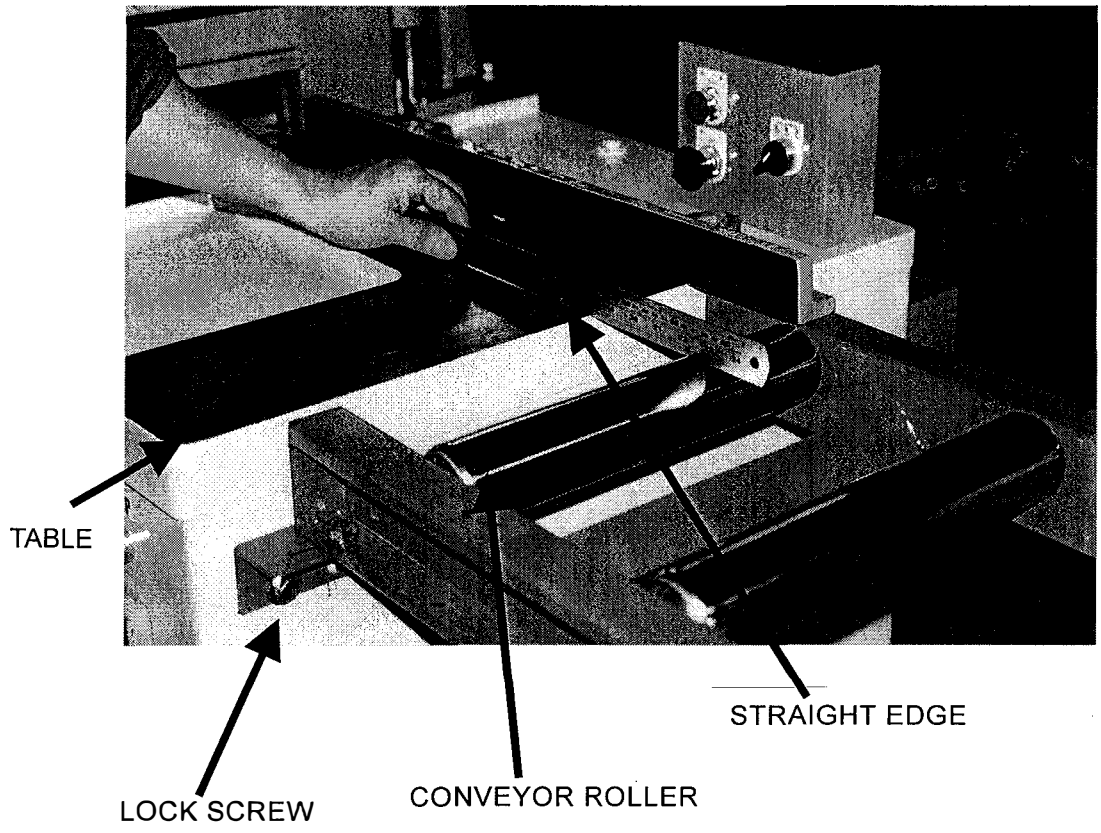
2. Place a straight edge across the machine table and infeed conveyor roller.

3. Raise the infeed conveyor table until the conveyor roller just touches the straight edge.



LEVELING CONVEYOR TABLE TO MACHINE TABLE (2)

4. Tighten the two screws securely that fasten the infeed conveyor table to the cut-off saw.



5. Repeat above procedures to level the outfeed conveyor table.

ADJUSTING WORKING HEIGHT

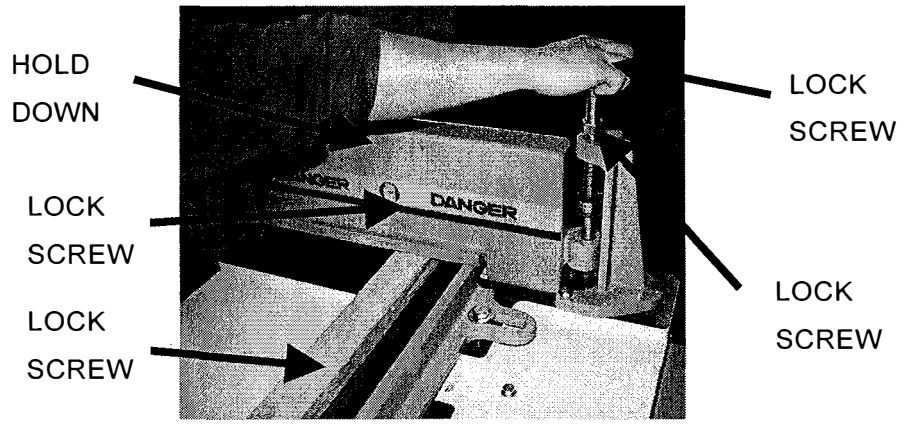
1. Raise the hold-down clamp by pushing in the AIR ON/OFF control collar on the quick air connector.

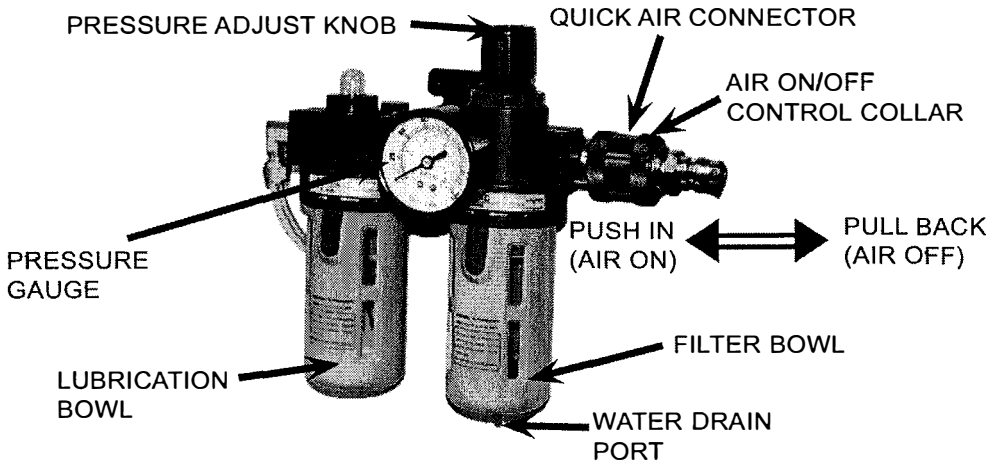
2. Place a workpiece to be cut under the hold down clamp.

3. Turn the height adjustment knob to raise or lower the hold down clamp. If you feel heavy to turn this knob, pull back the AIR ON/OFF CONTROL COLLAR (air off) for effortless turning of the knob.

4. Normally the hold-down clamp is adjusted so that its bottom is about 1/4"~3/8" above the workpiece.

5. After the hold down clamp is adjusted, tighten the lock nut.



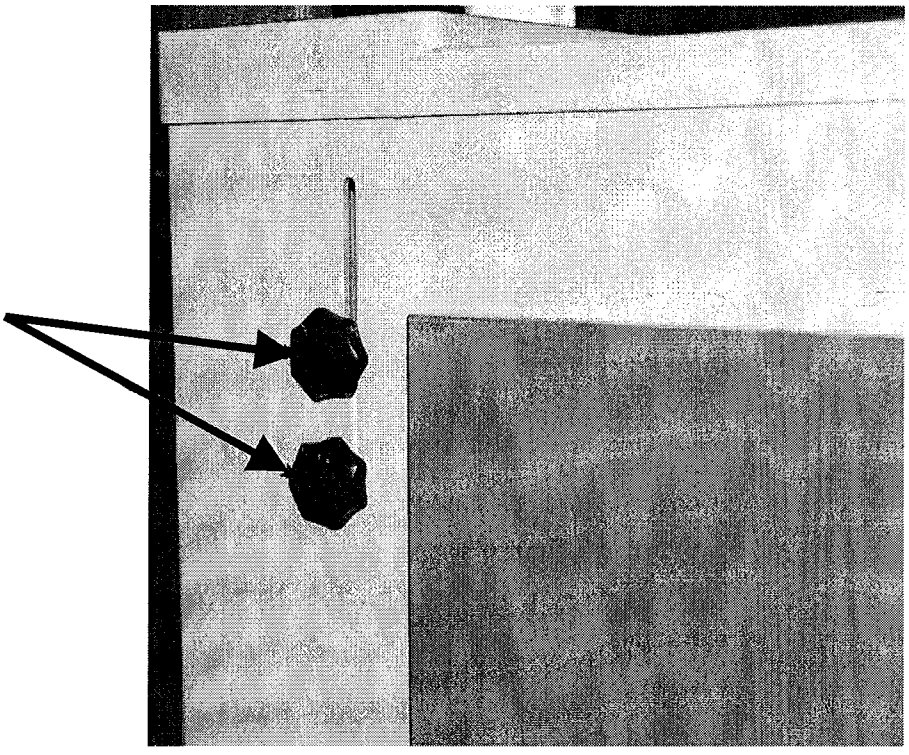


ADJUSTING BLADE RAISING HEIGHT

The sawblade raising height is controlled by a limit switch built in the machine cabinet. When the blade is raising and its bracket touches the limit switch, then the sawblade will lower to its original position.
The two knobs, located at the left front side of machine cabinet, are used to adjust the limit switch position. Move the two knobs will change the limit switch position for adjusting the blade raising height.

Loosen the two knobs before adjustment. Tighten them securely after adjustment.

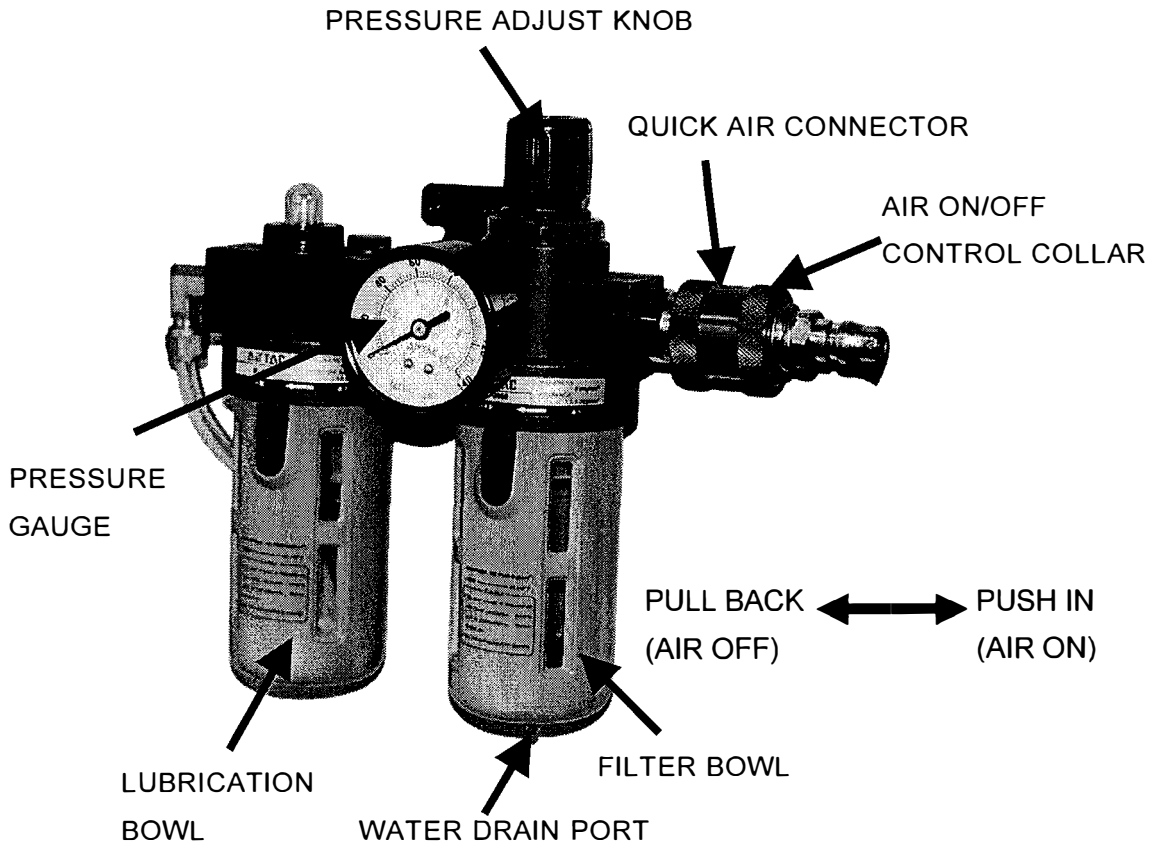
BLADE RAISING HEIGHT
ADJUSTMENT KNOB



ADJUSTING FENCE SQUARENESS TO SAWBLADE (1)

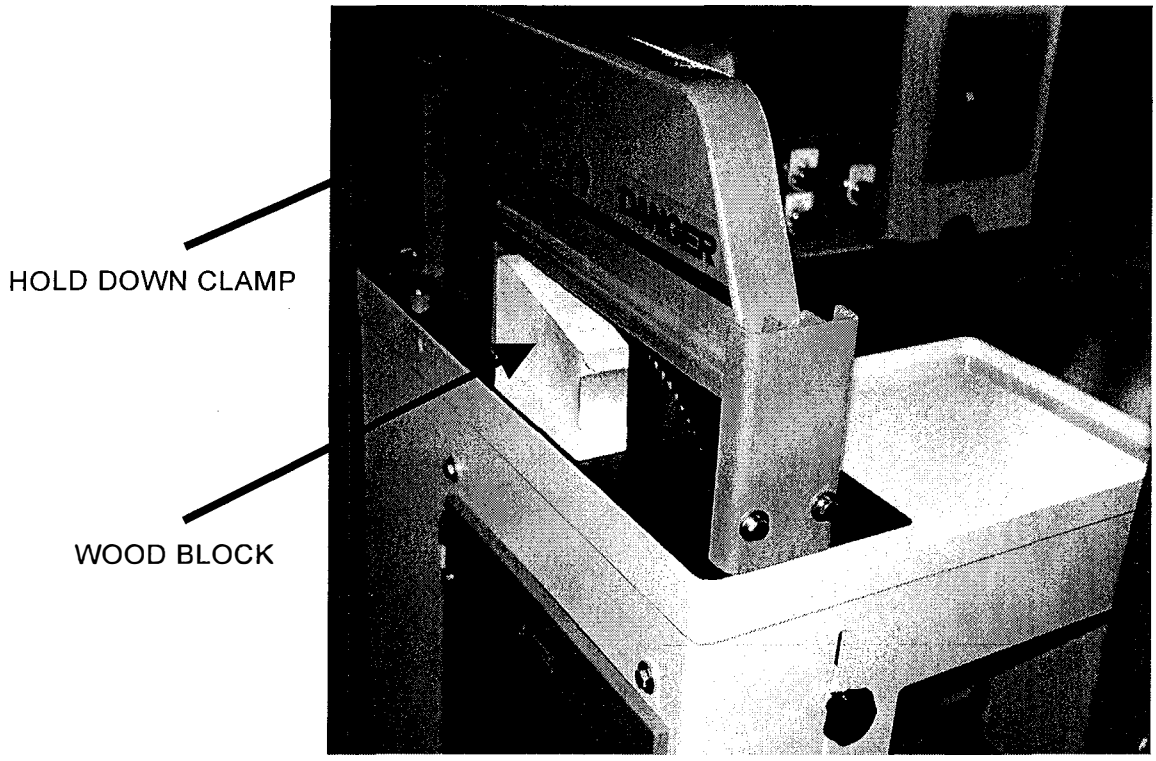
1. Disconnect the machine from the power source.

2. Raise the hold-down clamp by pushing in the AIR ON/OFF control collar on the quick air connector.



ADJUSTING FENCE SQUARENESS TO SAWBLADE (2)

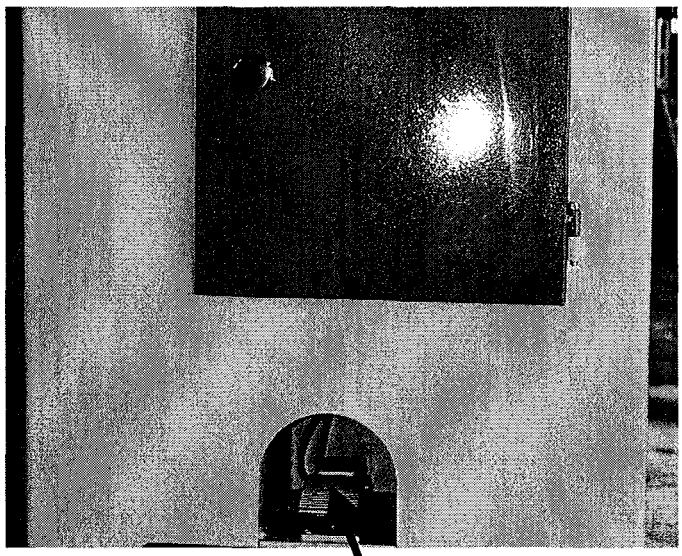
3. Fix the hold down clamp by placing a wood block under it. Note the wood block position should not interfere with the sawblade raising path.



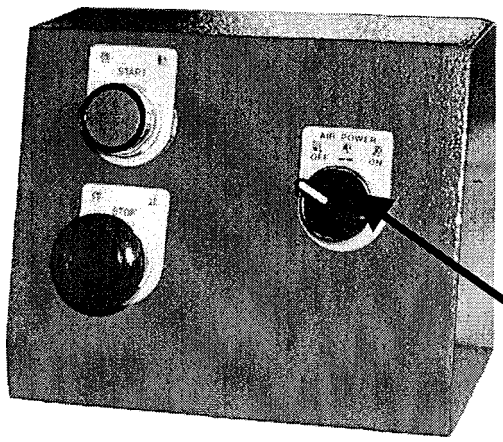
ADJUSTING FENCE SQUARENESS TO SAWBLADE (3)

4. Turn air power switch to on position on the control panel. Treadle on the foot switch to raise the sawblade.

5. When your foot releases the foot switch, the sawblade will lower. At this time you can turn air power switch to off position to fix the sawblade at the raising position.



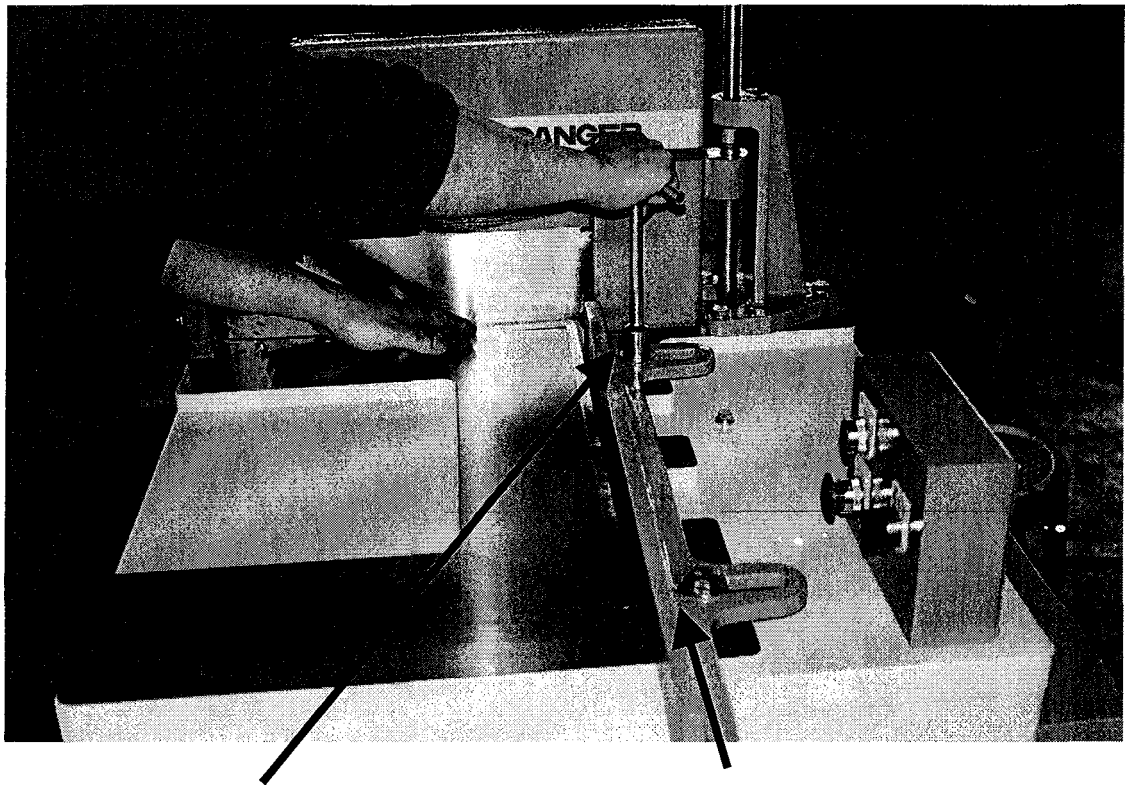
FOOT SWITCH



AIR POWER SWITCH

ADJUSTING FENCE SQUARENESS TO SAWBLADE (4)

6. Check squareness between the fence and the sawblade by using a combination square. Keep the combination square against the flat part of the blade. Do not have the combination square touch the blade teeth.



COMBINATION SQUARE

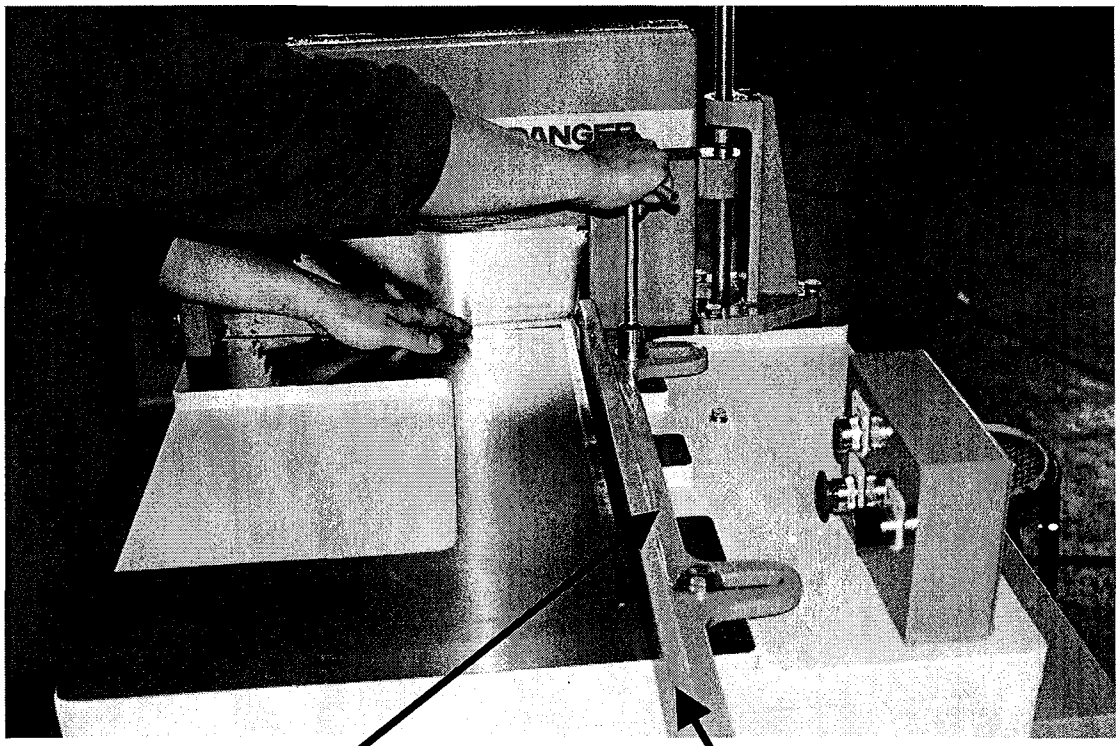
FENCE

ADJUSTING FENCE SQUARENESS TO SAWBLADE (5)

7. If the fence is not square to the sawblade, loosen the two lock screws that tighten the fence.

8. Move the fence until it is correctly square to the sawblade. Then tighten the two lock screws securely.

9. The table is marked with a reference line that is square to the sawblade. Align the fence with this line for quick squareness adjustment.



SAW BLADE (OPTIONAL)

NOTE: This cut-off saw accommodates an 18" diameter sawblade.

1. The suitable sawblade is a 18" diameter carbide tipped blade. Teeth numbers 120. Blade bore size is 1" diameter.

2. Use only sawblade for maximum safe operating speeds of 3600 RPM or greater.

3. Always keep the sawblade sharp for normal cutting quality. Sharpen the sawablde immediately in case it is worn out.

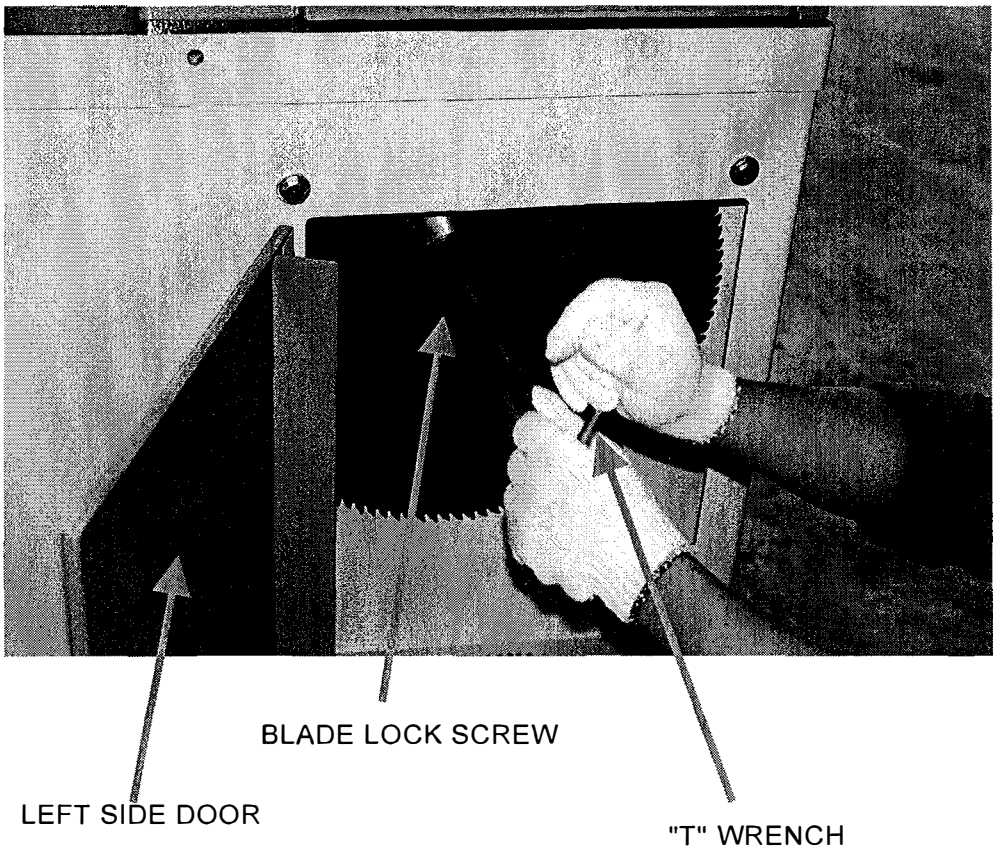
REPLACING THE SAWBLADE (1)

> **⚠ WARNING**
>
> Disconnect the machine from power source before replacing the saw blade.

1. Disconnect the machine from the power source.

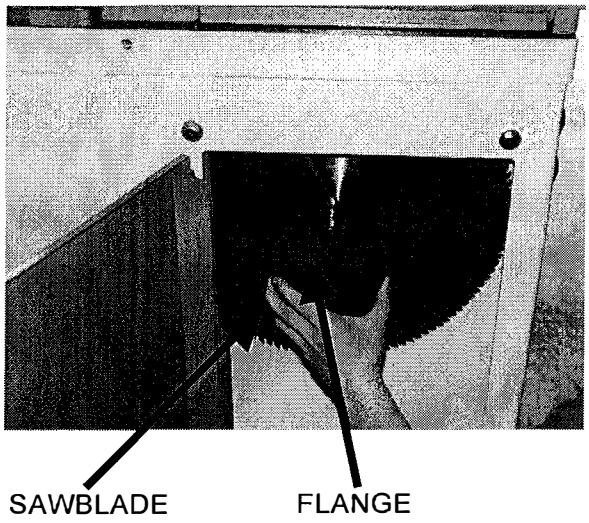
2. Open the left side door. Use the supplied door handle to turn the door latch for opening the door.

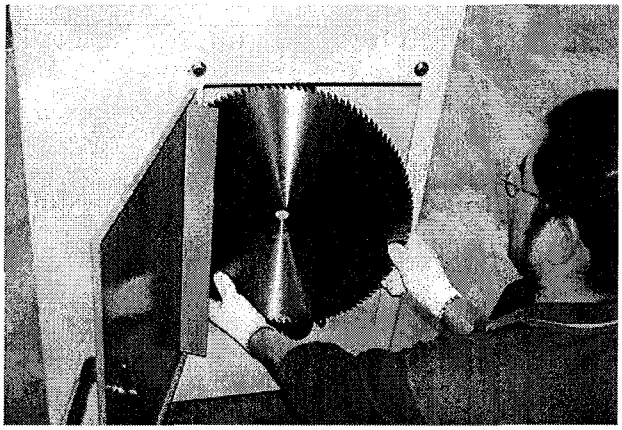
3. Loosen the sawblade lock screw by using the supplied "T" wrench.



REPLACING THE SAWBLADE (2)

4. Remove sawblade lock screw and flange. Take out the old sawblade.





5. Fit a sawblade onto the arbor. Ensure that the arbor and flange are clean of dust and debris before fitting the saw blade.

6. Be sure the saw blade teeth point toward its running direction.

7. Tighten the sawblade securely by using the supplied "T" wrench.

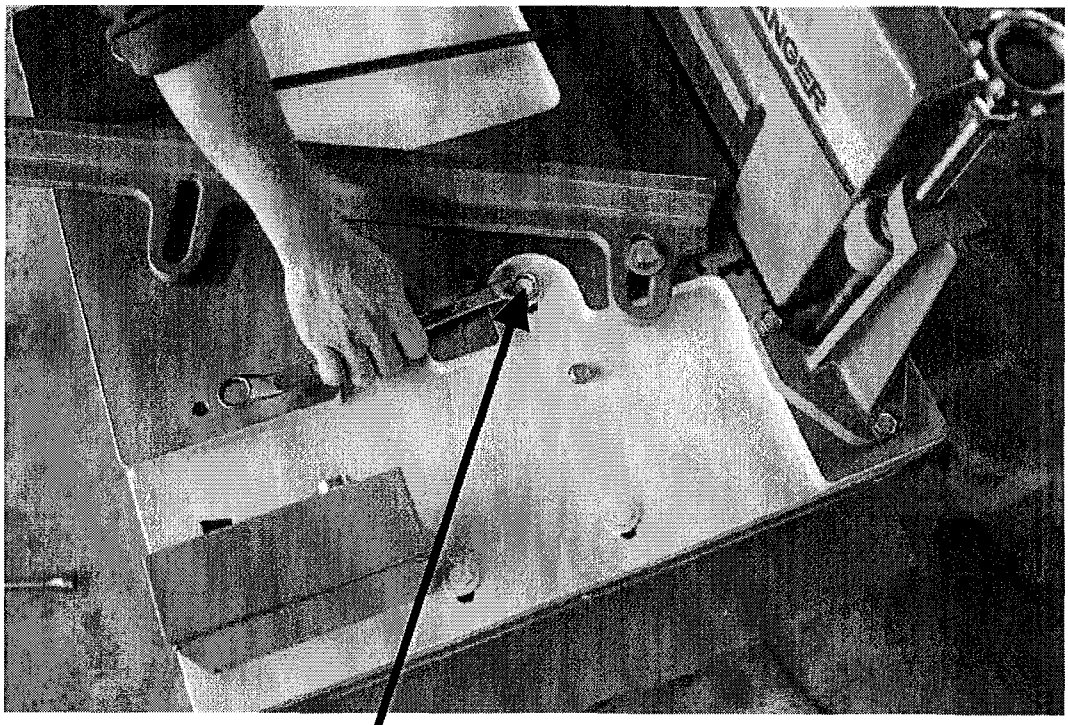
8. Reverse above procedures to return the machine to its original condition.

ADJUSTING V-BELT TENSION

After the machine has been operated for a long period, the V-belt tension may loosen gradually. At this time you need to adjust the V-belt tension. Inadequate tension in the V-belt will cause the belt to slip from the pulley. To adjust V-belt tension:

1. Disconnect the machine from the power source.

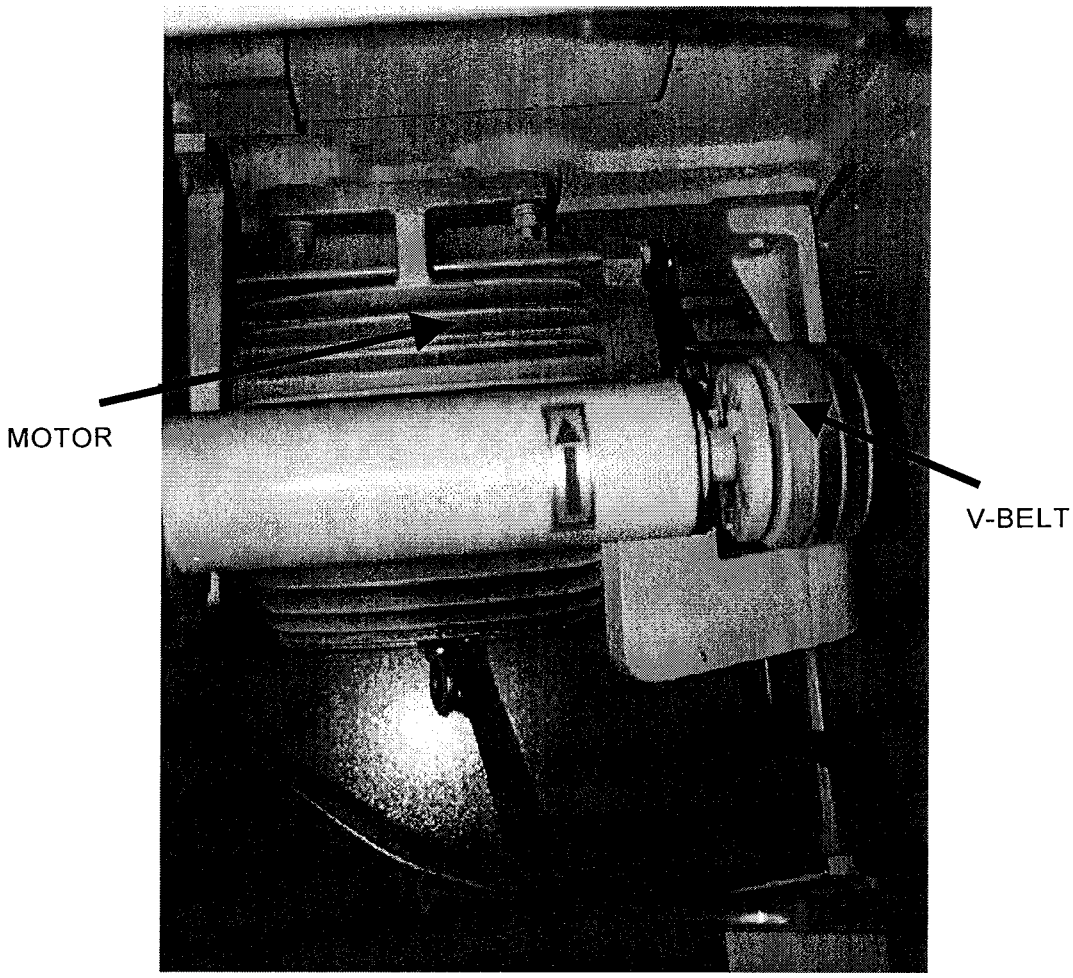
2. Slightly loosen the 4 screws on the table.



ADJUSTING V-BELT TENSION

3. Open the front door by using the supplied door handle.

4. Move the motor forward to increase the belt tension.



5. After V-belt tension is adjusted tighten the 4 lock screws on the table.

REPLCING V-BELT

If the saw arbor speed decreases or an abnormal sound when starting the sawblade, then it is suggested to replace the V-belt.

When replacing the V-belt, replace the complete three belts to ensure a consistent tension on each belt.

Refer to "ADJUSTING V-BELT TENSION" for V-belt replacement procedures. The V-belt specification is MF-1330.

IDENTIFICATION BEFORE OPERATION

1. Make sure all function of switches is normal.

2. Make sure the sawblade running direction is correct.

3. Remove all adjustment tools or any other object from the machine.

4. Check to see if air pressure is proper or not.

5. Make sure the dust collector starts running before cutting.

6. Check if the clamp height is properly adjusted or not.

OPERATION PROCEDURES

1. Properly adjust the hold-down clamp according to the workpiece thickness.

2. To adjust hold-down clamp position, place a workpiece to be cut under the hold-down clamp, and adjust the hold-down clamp position by turning the adjustment knob. Normally the hold-down clamp position is adjusted to 1/4" ~ 3/8" above the workpiece.

3. When the hold-down clamp is adjusted, remove the workpiece.

4. Start the sawblade running by pressing the blade start switch provided on the control panel.

5. Turn the AIR POWER SWITCH to on position.

6. Place the workpiece to be cut under the hold-down clamp. Hold the workpiece firmly against the fence when placing the workpiece.

7. Treadle on the foot switch, then the hold-down clamp comes down to hold the workpiece, sawblade raises to cut off the workpiece, then hold-down clamp raises to release the workpiece.

LUBRICATION

1. The saw arbor bearings are sealed and need no lubrication.

2. Lubricate the saw head bracket pivot with oil.

3. Periodically check the oil amount in lubricator bowl on F.R.L. combination unit.

MAINTENANCE

1. Buildup of saw dust and other debris can cause the machine to cut inaccurately. Periodic cleaning is not only recommended, but mandatory for accurate-cutting.

2. Periodically check the oil in the lubrication cup of the filter/ regulator/lubricator combination unit.

3. Periodically check the water accumulated in the filter cup of the filter/regulator/lubricator combination unit.

4. Clean the saw dust existed on the machine.

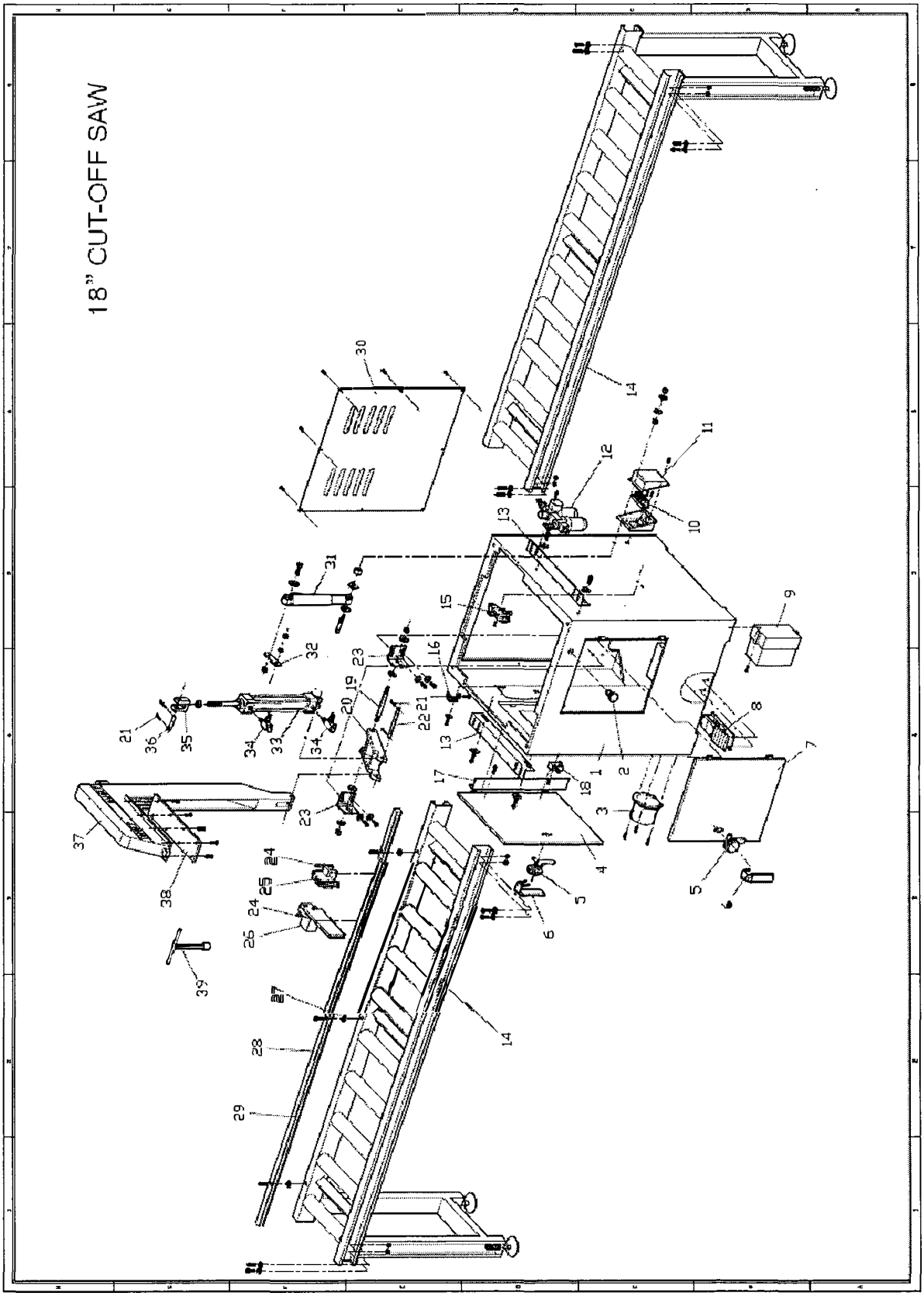
5. Always keep the sawblade sharp.

TROUBLE SHOOTING

TROUBLE SHOOTING

TROUBLE	PROBABLE CAUSES	CORRECTION
SAWBLADE STARTING FAILED	1. Factory power abnormal 2. Power wire damaged 3. Overload thermal pin kick out	1. Check 2. Replace 3. Press it down
POOR CUTTING QUALITY	1. Sawblade dulled 2. Inaccurate fence alignment	1. Sharpen sawblade 2. Adjust fence squareness
WORKPIECE BURNT	1. Sawblade dulled 2. Blade teeth worn out or broken	1. Sharpen sawblade 2. Replace sawblade
SAWBLADE SLOWS DOWN DURING CUTTING	1. Sawblade dulled 2. V-belt tension too loose 3. Blade teeth worn out or broken	1. Sharpen sawblade 2. Adjust v-belt tension 3. Replace sawblade
MOTOR DOES NOT RUN AT FULL SPEED	1. Power voltage too low 2. Overloaded	1. Test voltage 2. Reduce load
MOTOR OVERHEATING	1. Motor is dirty 2. Motor is damaged	1. Clean motor 2. Check and repair motor

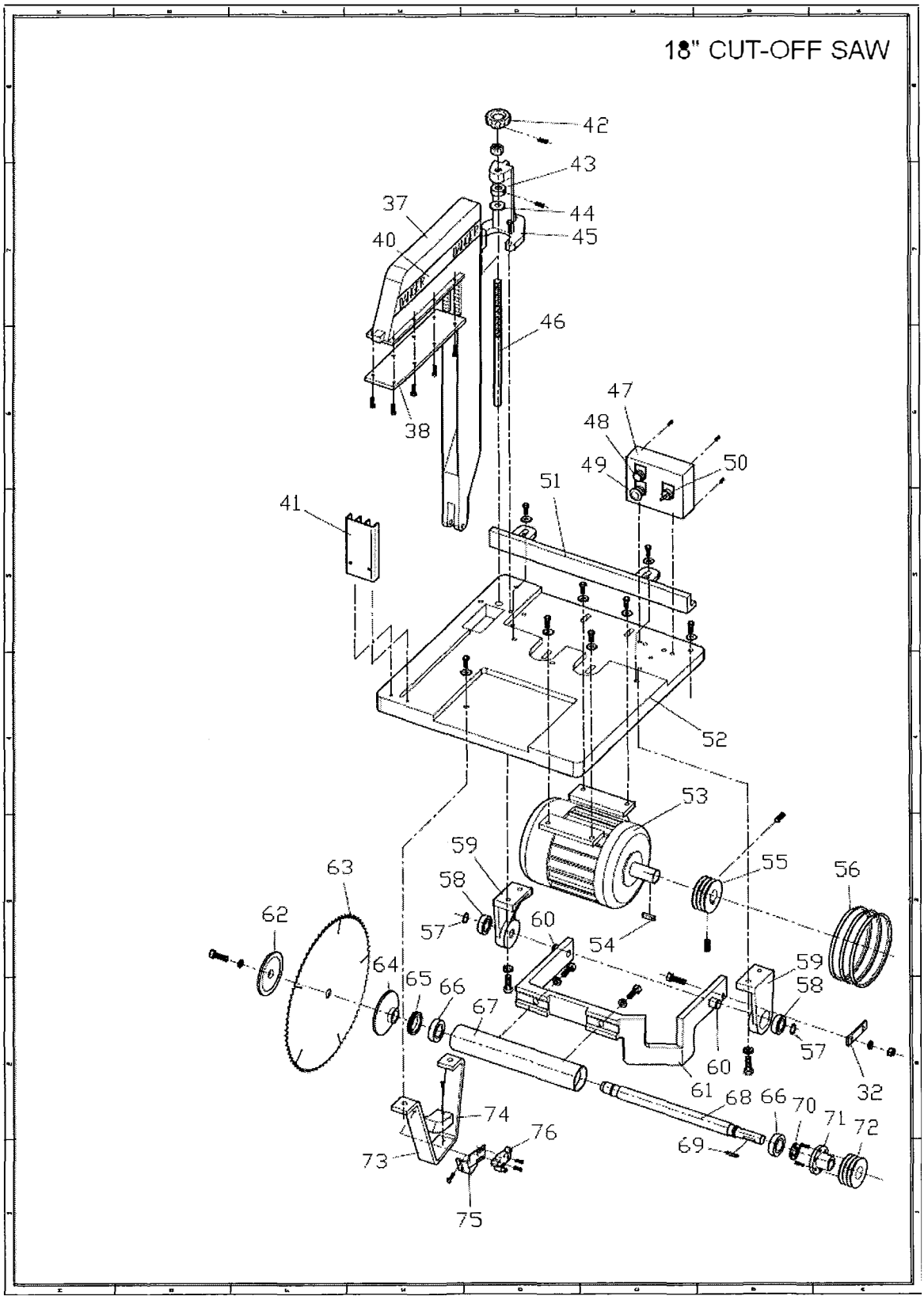
PARTS LIST



PART LIST

18″ CUT-OFF SAW					
REF	DESCRIPTION	Q'TY	REF	DESCRIPTION	Q'TY
1	Cabinet	1	31	Cushion	1
2	Emergency stop	1	32	Connecting Link	1
3	Dust Port	1	33	Air Cylinder	1
4	Side Door	1	34	Pressure Regulating Valve	2
5	Door Lock	2	35	Toggle	1
6	Lock Handle	2	36	Coupling Pin 1/2″ ×2″	1
7	Front Door	1	37	T-clamp	1
8	Pedal	1	38	Gasket	1
9	Magnetic Switch	1	39	Socket Wrench 19mm	1
10	Wire Connecting Plate	1			
11	Electrical Box	1			
12	Air filter- pressure Regulator – oil feeder	1			
13	Connecting Plate	1			
14	Roller Conveyor	2			
15	Solenoid Valve	2			
16	Bracket	1			
17	Limit Switch Stop	1			
18	Limit Switch	1			
19	Stud Bolt	1			
20	Support Frame	1			
21	Split Pin	4			
22	Coupling Pin	1			
23	Support Angle Steel	2			
24	Lock Handle 5/16"	4			
25	Equal Stop	1			
26	Big Stop	4			
27	Square Washer	3			
28	Square Rail	1			
29	Scale	1			
30	Back Door	1			

PARTS LIST


18" CUT-OFF SAW
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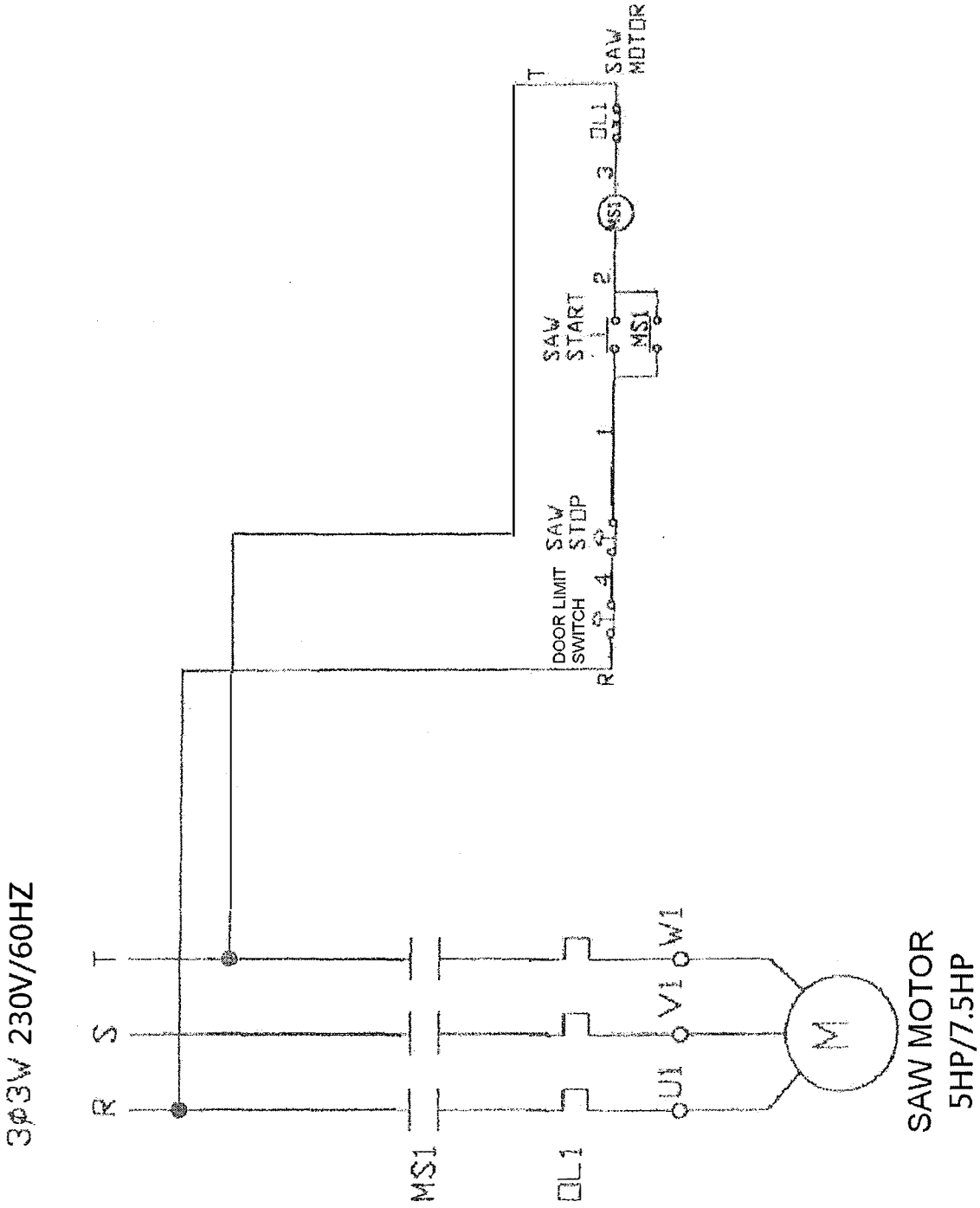
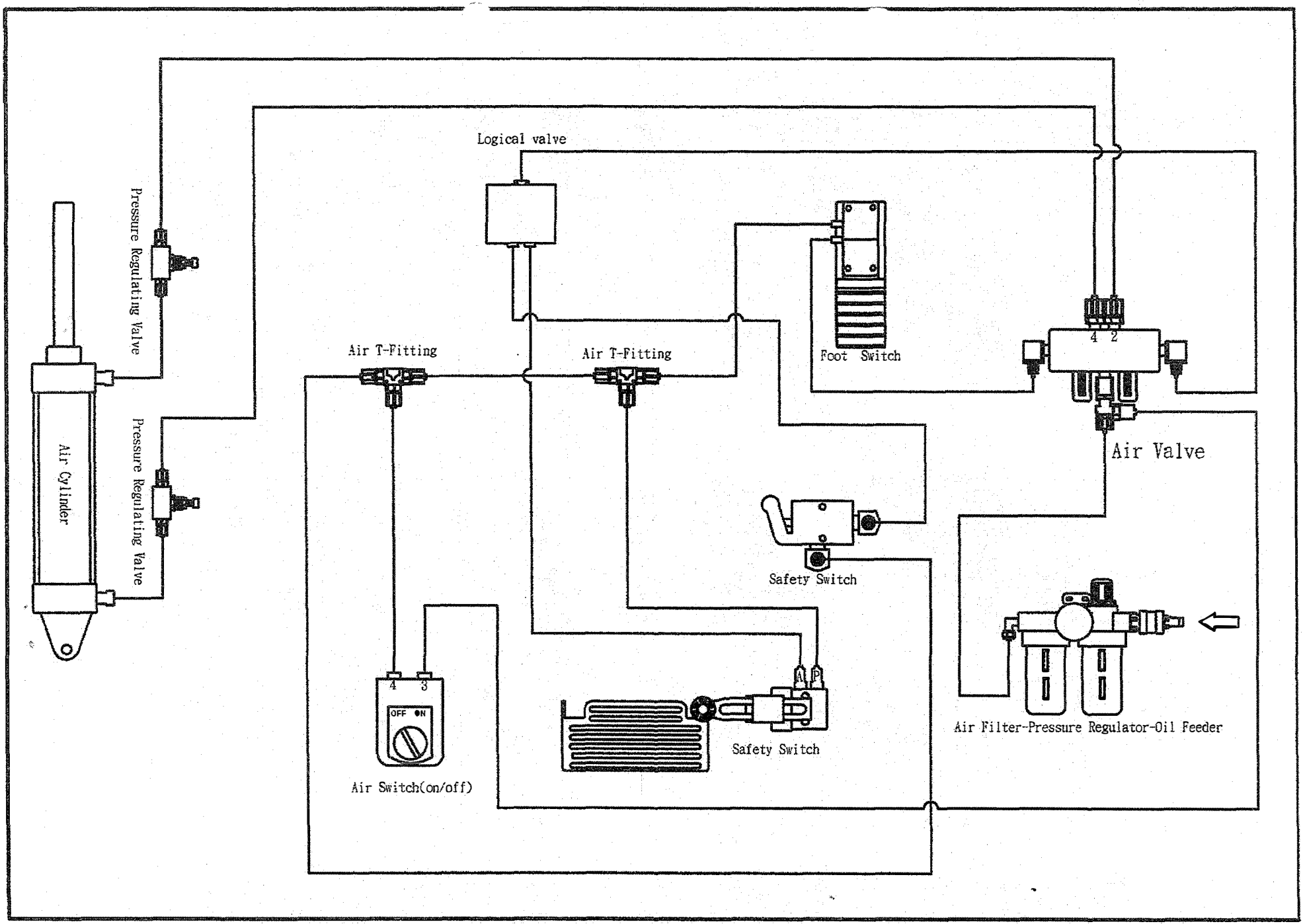
PART LIST

18″ CUT-OFF SAW

REF	DESCRIPTION	Q'TY	REF	DESCRIPTION	Q'TY
40	Danger Label	2	**71**	Tapper Flange	1
41	Safety Appurtenance	1	**72**	Drive Pulley	1
42	Lobe Knob	1	**73**	Lower Bracket	1
43	Lock Nut	1	**74**	Lower Damper	1
44	Rubber Ring	1	**75**	Limit Switch Bracket	1
45	Adjustable Seat	1	**76**	Limit Switch	1
46	Guide Screw	1			
47	Switch Box	1			
48	***On*** Button	1			
49	***Stop*** Button	1			
50	Air Inlet Switch	1			
51	Fence	1			
52	Table	1			
53	Motor	1			
54	Key	1			
55	Motor Pulley	1			
56	V-belt MF1330	3			
57	C-ring	2			
58	Bearing 6205zz	2			
59	Bracket	2			
60	Shaft	2			
61	Suspension Bran	1			
62	Flange Washer	1			
63	Saw Blade	1			
64	Inside Flange	1			
65	Locknut	1			
66	Bearing 6206zz	2			
67	Quill	1			
68	Main Spindle	1			
69	Key	1			
70	Locknut-left	1			

ELECTRIC WIRING DIAGRAM




Logical valve
Pressure Regulating Valve
Pressure Regulating Valve
Air Cylinder
Air T-Fitting
Air T-Fitting
Foot Switch
4 2
Air Valve
Safety Switch
4 3
OFF ON
Air Switch(on/off)
A P
Safety Switch
Air Filter-Pressure Regulator-Oil Feeder