

# Operations Manual



# C12RS

Straight Line Ripsaw

**Please ensure you have your serial number available when contacting us for parts or service.**

# SPECIFICATIONS

Model NO :

Serial NO : \_\_\_\_\_

Production Date : \_\_\_\_\_

Control : \_\_\_\_\_ Volt

Drive specifications :

| Drive Motor | Q'ty | HP   | Volt | Hz |
|-------------|------|--|------|----|
| Saw arbor   | 1    | <input type="checkbox"/> 7.5 <input type="checkbox"/> 10 <input type="checkbox"/> 15 |      |    |
| Feed        | 1    | 2  |      |    |

Belt specifications :

|                              |                |       |                 |  |
|------------------------------|----------------|-------|-----------------|--|
| Saw motor                    | 7.5、10 HP      | 5 pcs | Triangular belt | <input type="checkbox"/> A-52 (50Hz)<br><input type="checkbox"/> A-58 (60Hz)     |
|                              | 15 HP          | 3 pcs | Triangular belt | <input type="checkbox"/> 3V-530 (50Hz)<br><input type="checkbox"/> 3V-600 (60Hz) |
| Conveyor belt<br>accelerator | variable speed | 1 pcs | ribbit belt     | <input type="checkbox"/> 1922V-386   |
|                              | 5-step speed   | 1 pcs | Triangular belt | <input type="checkbox"/> SPZ-1037  |

# PREFACE

This manual explains how to install, operate, and maintain the **STRAIGHT LINE RIP SAW**. Please make certain to read the information contained herein to ensure safe operation and to achieve the longest lifespan and finest results possible.

When your saw requires professional repair or maintenance, contact your local dealer giving him the following information:

- Model number
- Serial number
- Date of purchase
- Precise details of the fault or problem

Your dealer can provide parts and service authorized by head office ensuring safe and efficient operation.

A list of addresses and telephone numbers of dealers worldwide can be found in the appendix at the back of this manual.

## IMPORTANT!

By reason of safety, the operator **MUST**  
wear **leather gloves** and **leather apron**

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# CHAPTER 1: INTRODUCTION

## 1-1 SPECIFICATIONS TABLE

|                                 |                |                       |
|---------------------------------|----------------|-----------------------|
| Mini. length of workpiece       |                | 200 mm                |
| Max. cutting thickness          |                | 85 mm                 |
| Distance between saw and column |                | 460 mm                |
| Saw arbor motor                 |                | 7.5,10 or 15 HP       |
| Saw arbor speed                 |                | 4500 R.P.M.           |
| Saw blade diameter              |                | Ø200-Ø300 mm (8"-12") |
| Saw blade bore                  |                | Ø25.4 mm              |
| Feed motor                      |                | 2 HP                  |
| Feed speed                      | Variable speed | 17 ~ 40 M/min         |
|                                 | 5-Step speed   | 18、22、28、34、42 M/min  |
| Number of holding rollers       |                | 8 pcs                 |
| Dust hole diameter              |                | Ø100 mm               |
| Work table height (H)           |                | 800 mm                |
| Table area(W×L)                 |                | 1000×1450 mm          |
| Overall dimension (W×L×H)       |                | 1200×1720×1560 mm     |
| Shipping dimension (W×L×H)      |                | 1400×1650×1510 mm     |
| Net weight                      |                | 950 kgs               |
| Shipping weight                 |                | 1150 kgs              |

- We reserve the right to amend any of the above specifications without prior notice.

## 1-2 FEATURES

### PRECISION-PROCESSED FEED CHAIN AND GUIDE TRACK

The feed chain block and guide track are made of special cast iron. The high-grade steel connecting pin are heat-treated and ground for maximum durability.

### EIGHT PRESSURE ROLLERS HOLD THE WORKPIECE STABLY

Eight pressure rollers arranged in six rows on both sides, the front and rear of sawblade and supported by hinges so that they are smooth and stable in motion.

### PRECISION-BUILT SAW ARBOR MOUNTING

Made of nickel-chrome steel, through heat-treated, accurately ground and dynamically balanced, it runs on precision angular-contact ball bearings which eliminate any radial run-out and axial thrust at high speed of 4500 r.p.m. and then ensure accuracy of sawblade and workpiece profile.

### POWERFUL ARBOR DRIVE MOTOR

Saw arbor is driven with a motor by means of V-belts. There are 3 choices on saw motor: 7.5HP, 10HP or 15HP, depending on work requirement.

### VARIABLE FEEDING SPEEDS

The feeding speed can be adjusted variably at any speed between 17~40 Meter per minute, easy to operate.

### RIGID CABINET CONSTRUCTION

Cabinet machine base is welded with steel plate. The rigid structure ensures the strength and stability of the machine.

### MOVABLE AND FIXED ANTI-KICKBACK FINGERS

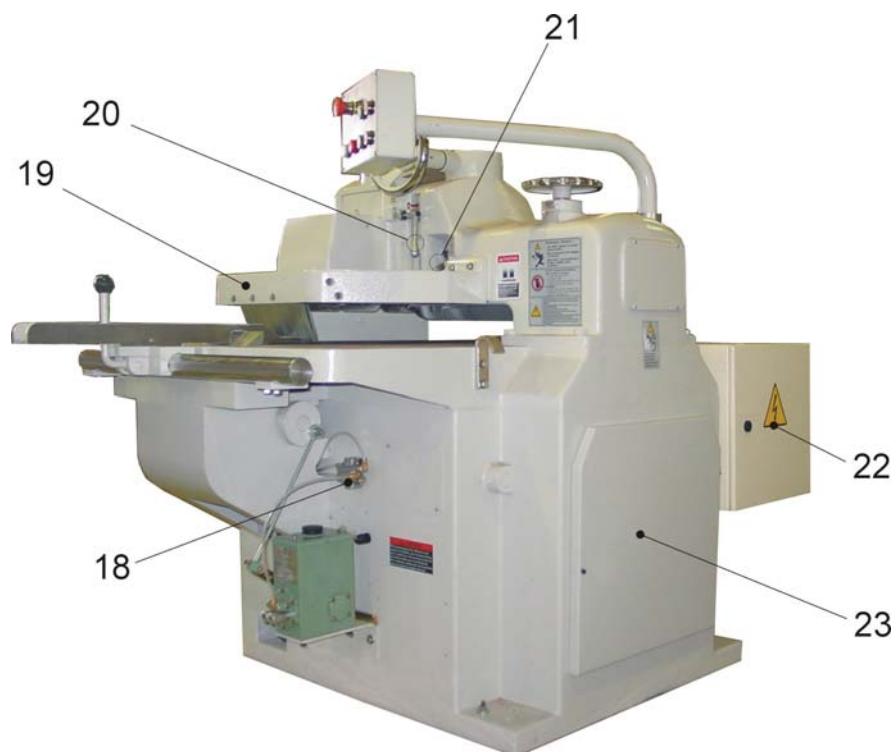
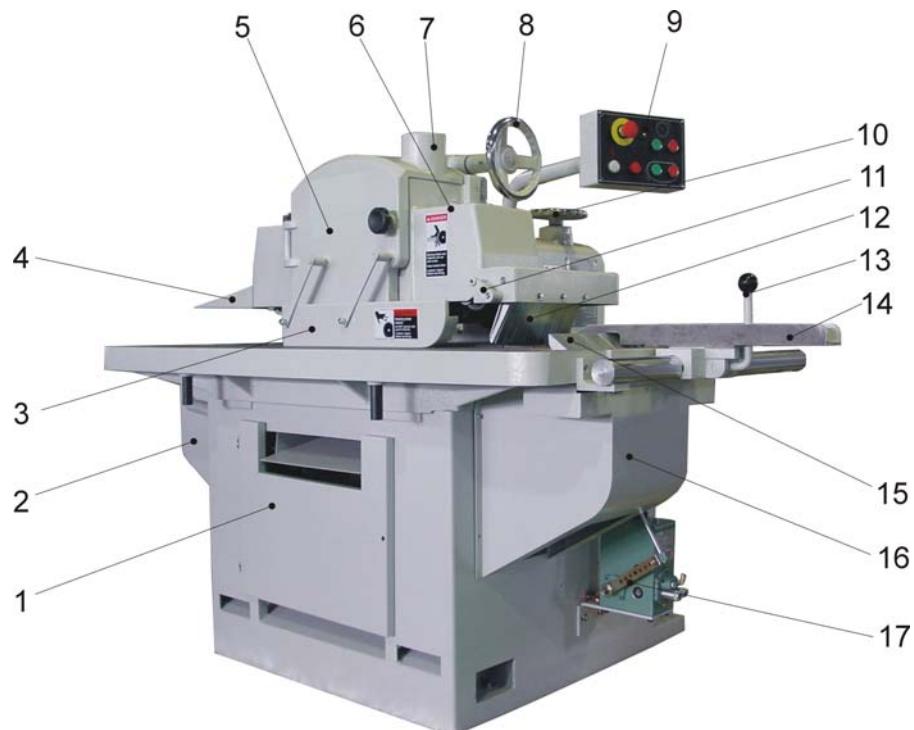
The unique design of auto-adjust anti-kickback fingers to be installed between the first and the second rollers. This anti-kickback fingers will always retain at the most safe position while raising or lowering pressure rollers. The operators need not to adjust the fingers. Also, the first row of upper anti-kickback fingers is independently mounted on an overarm hanger, and one row of bottom anti-kickback fingers is fitted in front of feed chain.

These three rows of anti-kickback fingers and lateral safety guard prevent the operator from the dangers of workpiece kickback, ensure the operator's safety completely.

## SELF LUBRICATION

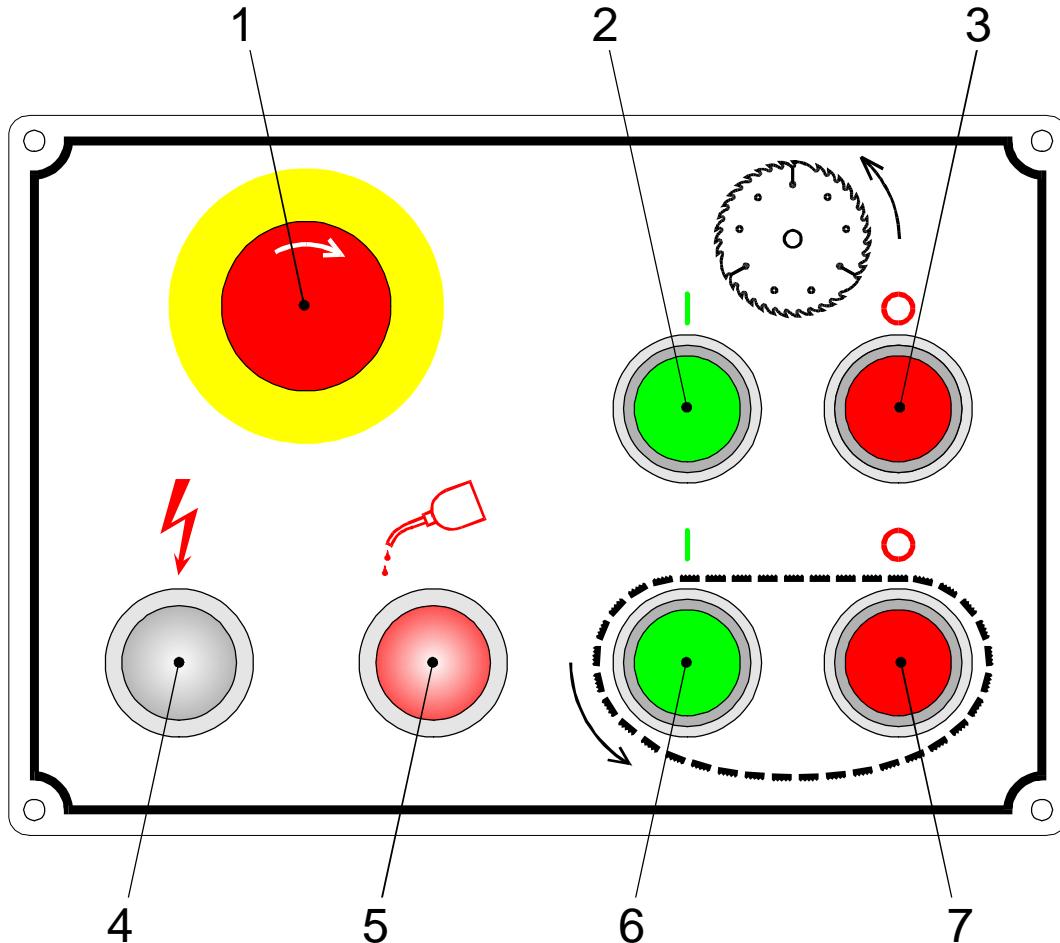
The central lubrication system ensures a permanent oil film between feed chain and guide track. If the oil in tank is below the safety level, the warning lamp will light up and the feed chain will stop running automatically. This fully ensures the service life of the feed chain and track.

## 1-3 LOCATION OF PARTS



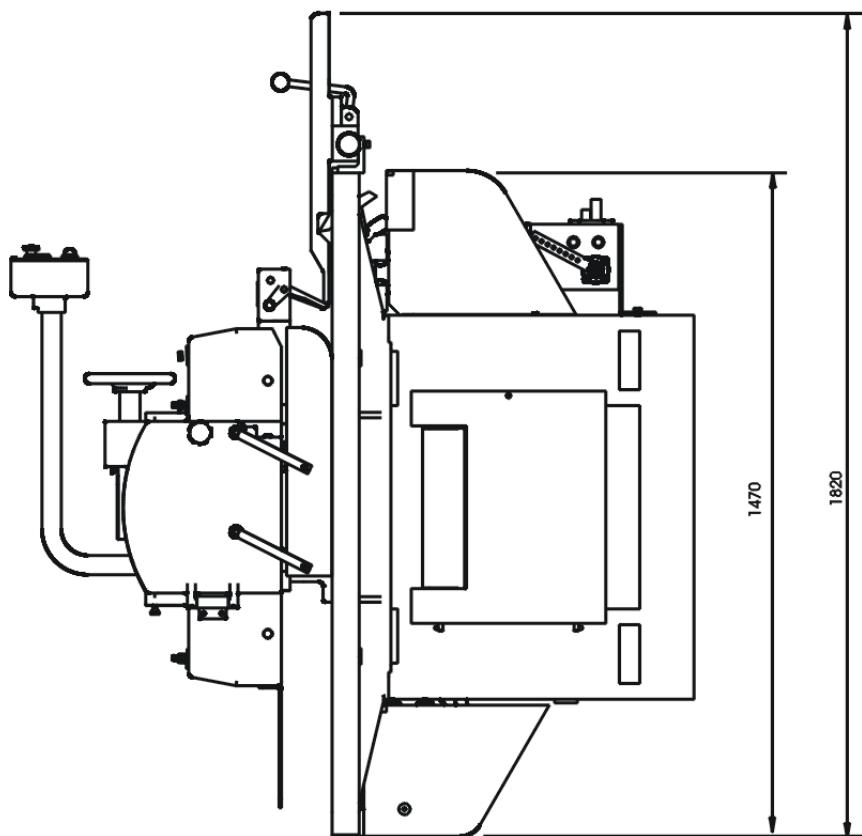
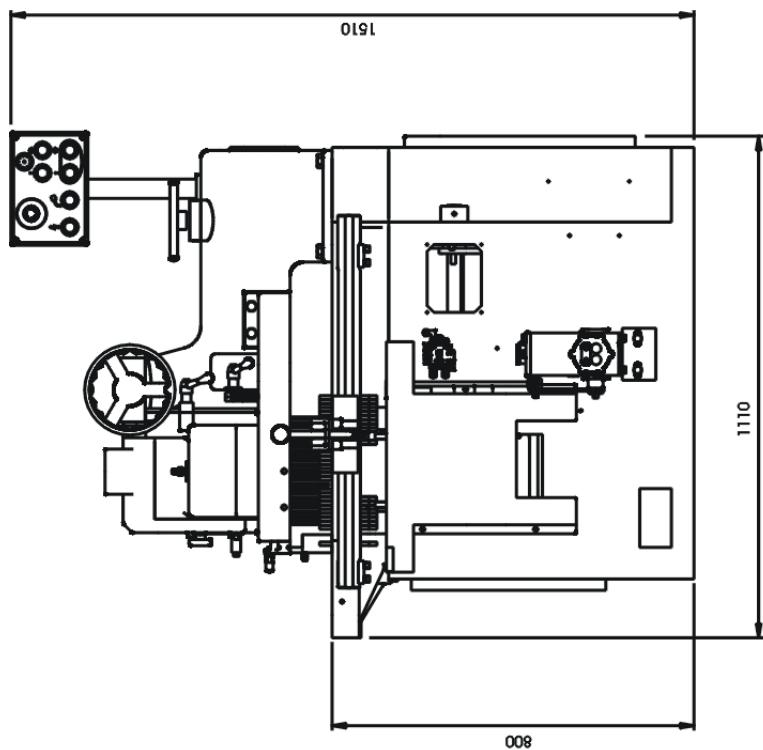
1. Feed chain cover
2. Driving sprocket cover
3. Lateral safety guard
4. Outfeed safety plate
5. Saw arbor cover
6. Pressure roller housing
7. Dust suction outlet
8. Pressure roller height-adjustment Hand wheel
9. Control panel
10. Saw arbor height-adjustment hand wheel
11. Anti-kickback finger operation handle
12. First row of upper anti-kickback fingers
13. Fence clamp handle
14. Rip fence
15. Lower anti-kick fingers
16. Driven sprocket cover
17. Mechanical lubricator
18. Oil distributor
19. Anti-kick finger bracket
20. Pressure roller locking lever
21. Saw arbor locking lever
22. Electric box
23. Arbor pulley cover

## Control panel :



1. Emergent STOP button
2. Sawblade START button
3. Sawblade STOP button
4. Power indicator
5. Feed chain insufficient lubrication indicator
6. Feed chain START button
7. Feed chain STOP button

## Machine size :



# CHAPTER 2: INSTALLATION

## 2-1 PRE-INSTALLATION INSPECTION

To ensure optimum performance from your machine, the following checks should be made before installation:

- ◎ Is there any damage to the package of the machine?
- ◎ Does the appearance of machine show any sign of having been hit after opening the package?

If either of the above situations has been happened, please contact the local dealer immediately. Let the qualified technicians manage this matter.

## 2-2 MOVING THE MACHINE

There are 2 ways to move the machine :

1. Firstly, remove the bolts which fixed the machine on the base of the crate. Then, lift the machine up by using a strong cable or chain as shown below :



2. Pick up the machine from the bottom by a forklift of grade at least 2 tons.

## 2-3 FIX THE MACHINE IN POSITION

### 1. PROPER LOCATION FOR THE MACHINE :

- ◎ The floor must be strong enough to support the machine's weight as well as the vibrations produced while it is running.
- ◎ The directions of feed workpiece in and out from the machine must not be facing the area where people may be passing frequently.

### 2. LEVELING THE MACHINE :

Place a leveler on the top of feed chain blocks. According to the indication of the leveler to adjust the height of 4 sets of foundation screws on the lower of the machine until the axial tolerances of the X and Y axes are all within 0.3mm/m. After complete the leveling process, be sure to re-tighten the foundation screws.

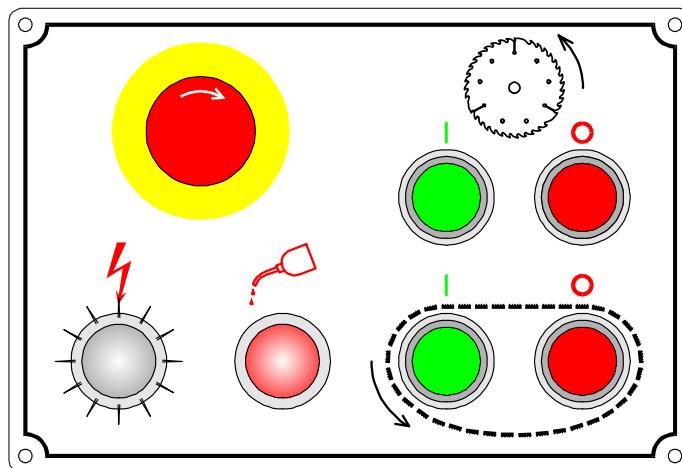
## 2-4 POWER CONNECTION

- ☞ The power source should be connected by a qualified electrician.
- ◎ All wirings must conform to international safety guidelines, choose a most suitable size of cable subject to the voltage and mounting motors.
- ◎ A suitable breaker should be installed on the cable that between the main power supply and the machine, so that the power supply to the machine can be shut off when not in use.
- ◎ **Check and confirm the machine is proper grounded while in use to protect the operator from electric shock.**

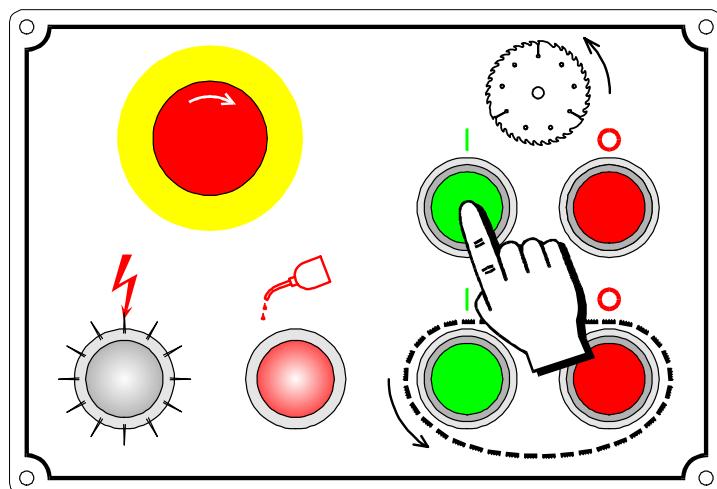
## 2-5 START-UP TEST

After the machine has been installed in accordance with the above regulations and a check has been made to ensure that there is no obstruction surrounding the machine, the following start-up test should be performed:

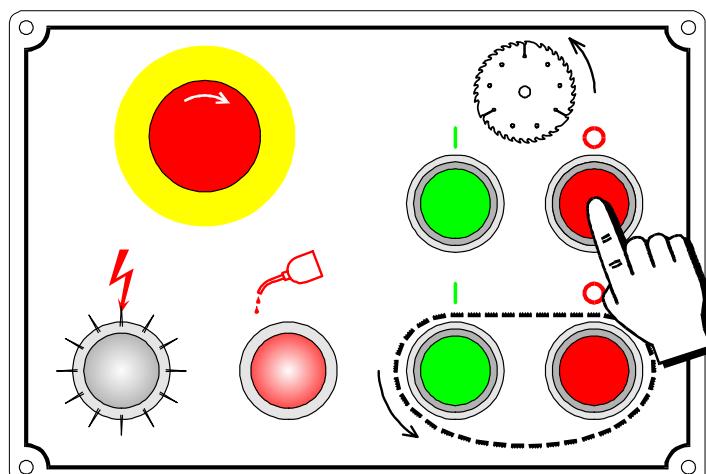
- 1) Be sure the power supply has been connected and check if the power indicator lights up.



- 2) Press the sawblade START button to start the saw arbor. Make sure the saw arbor is turning in **counter-clockwise direction**. If not, the operator must **shut off the power supply immediately**. Exchange any two of cables and rewire the machine, then start the saw arbor again. The green lamp of sawblade START button will light up.

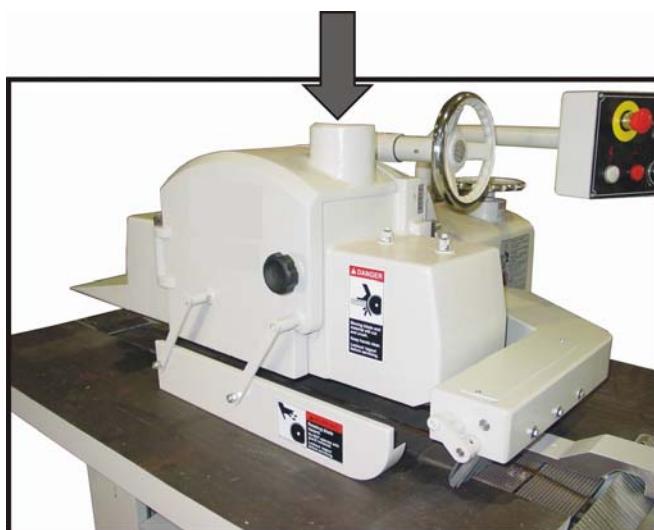


- 3) Make sure the machine can be started normally and then press the saw blade STOP button to stop the running of saw arbor.



## 2-6 CONNECTION OF DUST COLLECTION APPARATUS

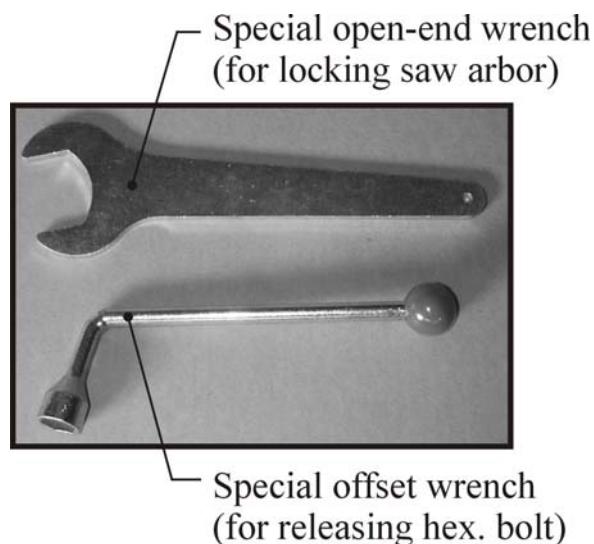
The dust collection outlet is Ø100mm which can connect with one flexible tube of caliber 4 inches. The air speed has to be higher than 25m/sec and the air consumption can not be less than 700m<sup>3</sup>/h.



# CHAPTER 3: OPERATION

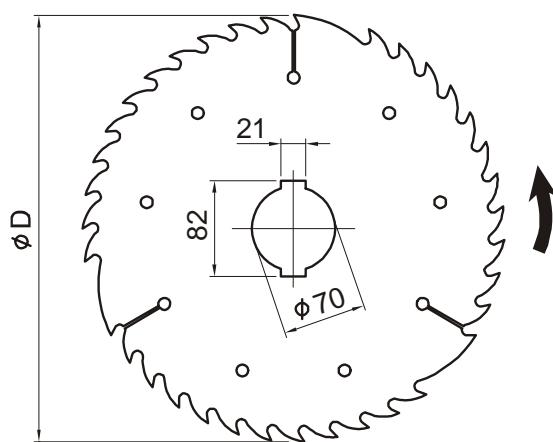
## 3-1 INSTALLING AND REMOVING BLADES

- 1) Take out the “special open-end wrench” and “special offset wrench” from tool box (see the picture below). Open the saw arbor cover. Use the “special open-end wrench” to fix the saw arbor, then, take the hex. bolt off by turning the “special offset wrench” in anticlockwise. Then, you can take off the “lock washer” in order to install/remove saw blade.



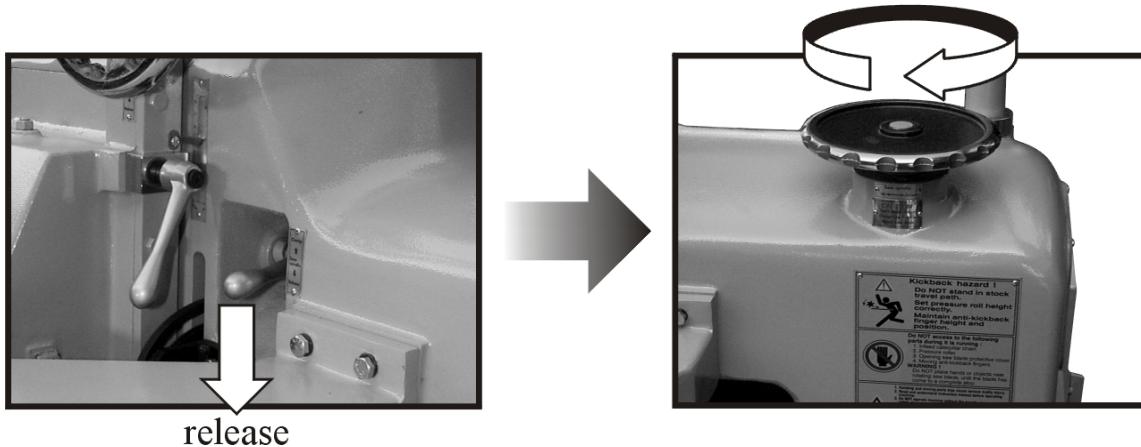
- 2) Before install saw blade, the user has to make sure the diameter of saw blade is correct (refer to the following drawing). Also, clean the contact faces of saw blade, saw arbor and the lock washer with a clean cloth. Any wood chips or foreign substances (objects) between them will cause sway and vibration while the saw blade is running. These sway and vibration will make the sawn wood imprecise, even cause the inaccuracy of machine.

D=203mm (8")  
254mm (10")  
305mm (12")

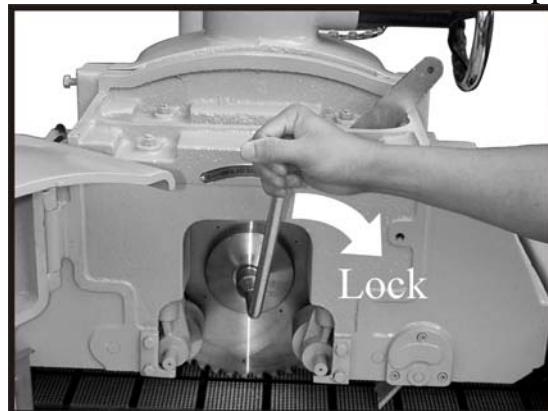


- 3) Release “saw arbor locking lever”, then, raise the saw arbor by turning “saw arbor height-adjustment handwheel” until it is up to the place for installing the saw blade on it.

\* **Notice:** the direction of the sawblade teeth (refer to the above picture)!  
raise saw arbor

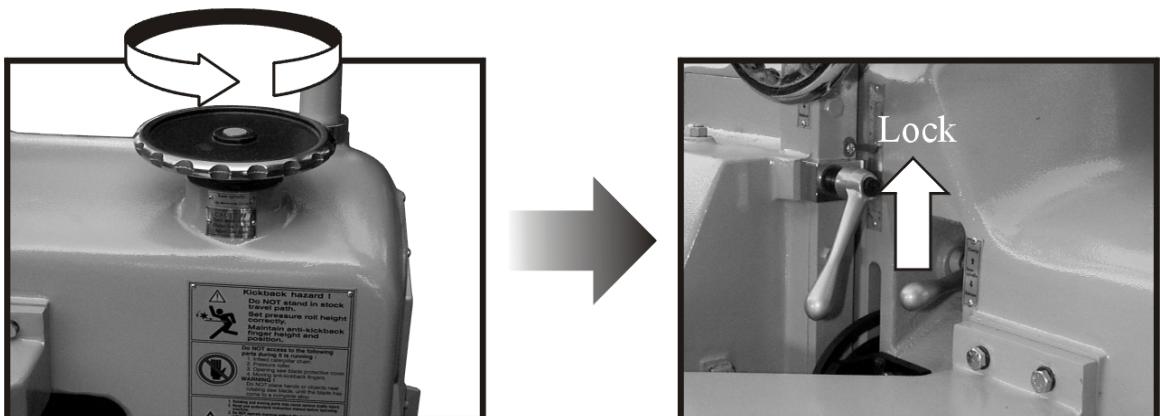


- 4) Installed the saw blade and put the lock washer back. Then, fix the hex. bolt of saw blade with the wrenches we mentioned at the step 1.



- 5) When saw blade is placed back, lower saw arbor till the sawblade teeth is below feed chain by 0.5mm~1mm and then twist “clamp lever of saw arbor rise/down” tight. (Notice: If lower the sawblade too much, it will both damage feed chain and the sawblade teeth!)

raise saw arbor

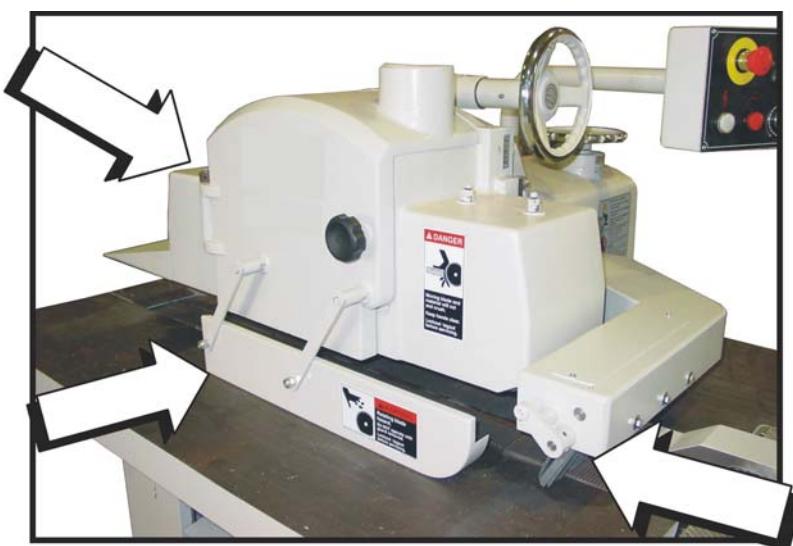


In the case of sawblade removal, the user has to raise the saw arbor slightly at first (same as the step 3). Raise the saw arbor for 3-5mm so that the sawblade teeth may not be damaged while removal. Then loosen the hex. bolt of sawblade.



## 3-2 CHECKING SAFETY DEVICES

- 1) Close the saw arbor cover, check and make certain all limit switches and the lateral safety guard are at the functional position. And, the top anti-kickback fingers hang down in a row and point to the direction of feed chain, also, can be lifted up smoothly. The bottom anti-kickback fingers can be pressed down and lifted up smoothly when the fence moving on the table.



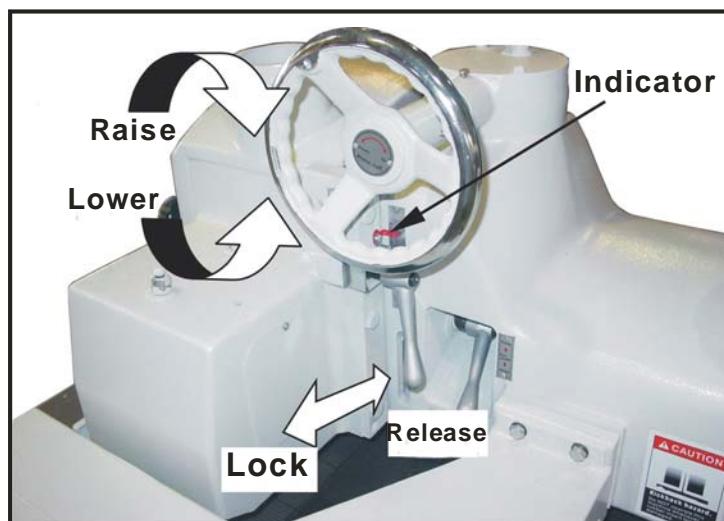
- 2) Make sure the electricity power is connected and the “power-on indicator” lights up. Also, the emergency stop button does not be pressed.

### 3-3 RAISE/LOWER PRESSURE ROLLERS ASSEMBLY

The height of pressure rollers ( \*It is a complete assembly of pressure rollers and housing, but we will only mention with pressure rollers in the following description. ) depends on how thick the to-be-cut wood is. First release “pressure roller locking lever”, turn “pressure roller height-adjustment handwheel” (clockwise - UP, anticlockwise- DOWN) till the rollers reach desired height. And then pull tight the “clamp lever” to secure pressure rollers. Pressure roller height is read with an indicator. (The scale reading is in fact 2~3mm lower than wood, in order to have additional pressure on the wood.)

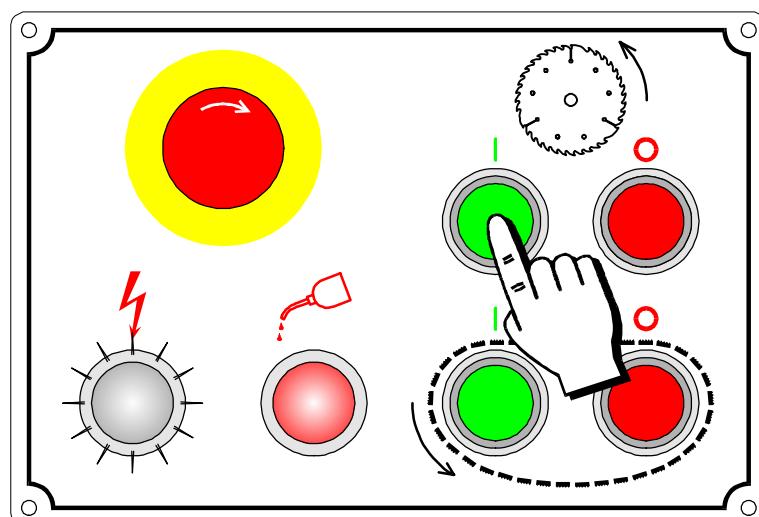
\* For example :

Presume the to-be-cut wood is 50mm thick. The user should only adjust the height of pressure rollers till the scale is indicated at the position of 47~48mm.

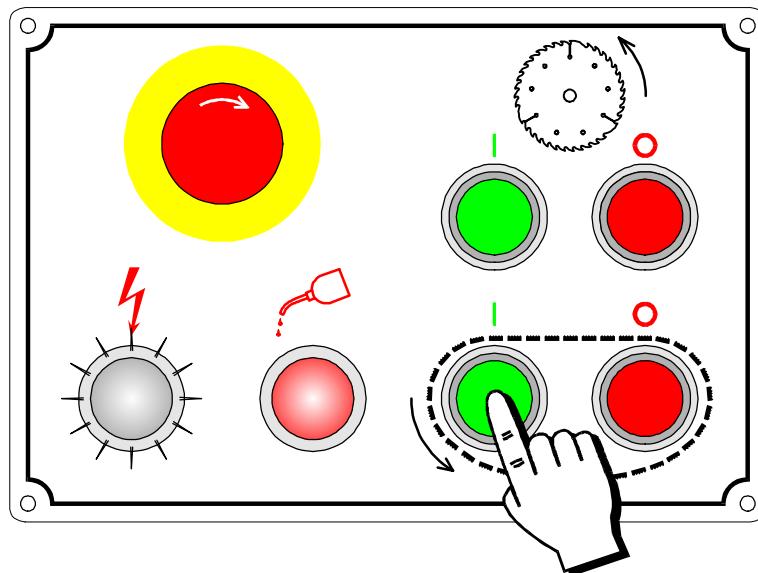


### 3-4 START SAW BLADE

Press “ saw blade start button” to start the saw blade



### 3-5 START FEED CHAIN

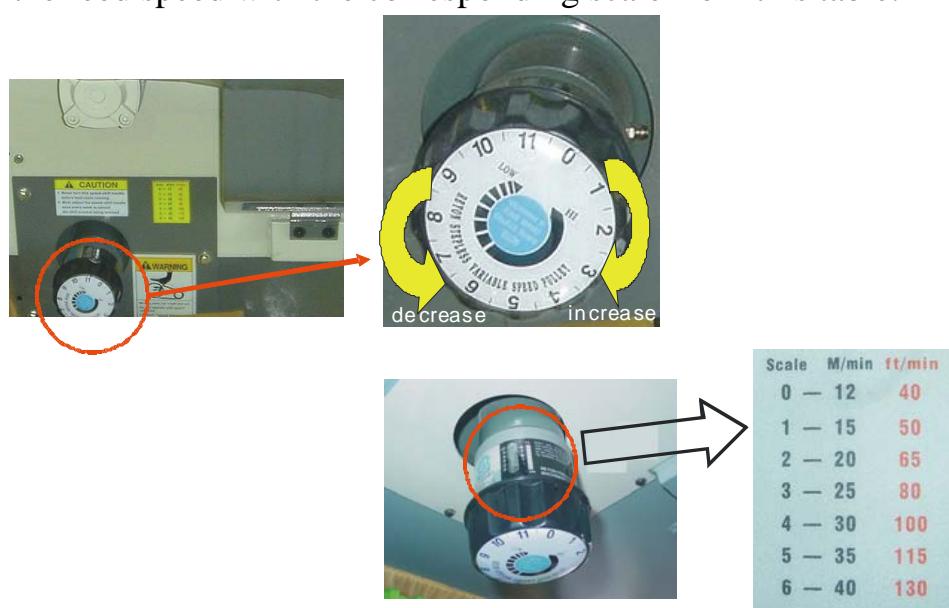


Press “feed chain start button” to start feed chain.

The feeding speed should be adjusted according to the thickness and race of the wood to-be-cut. There are 2 choices on the feeding system: “Variable speed (option)” and “5-Step speed”.

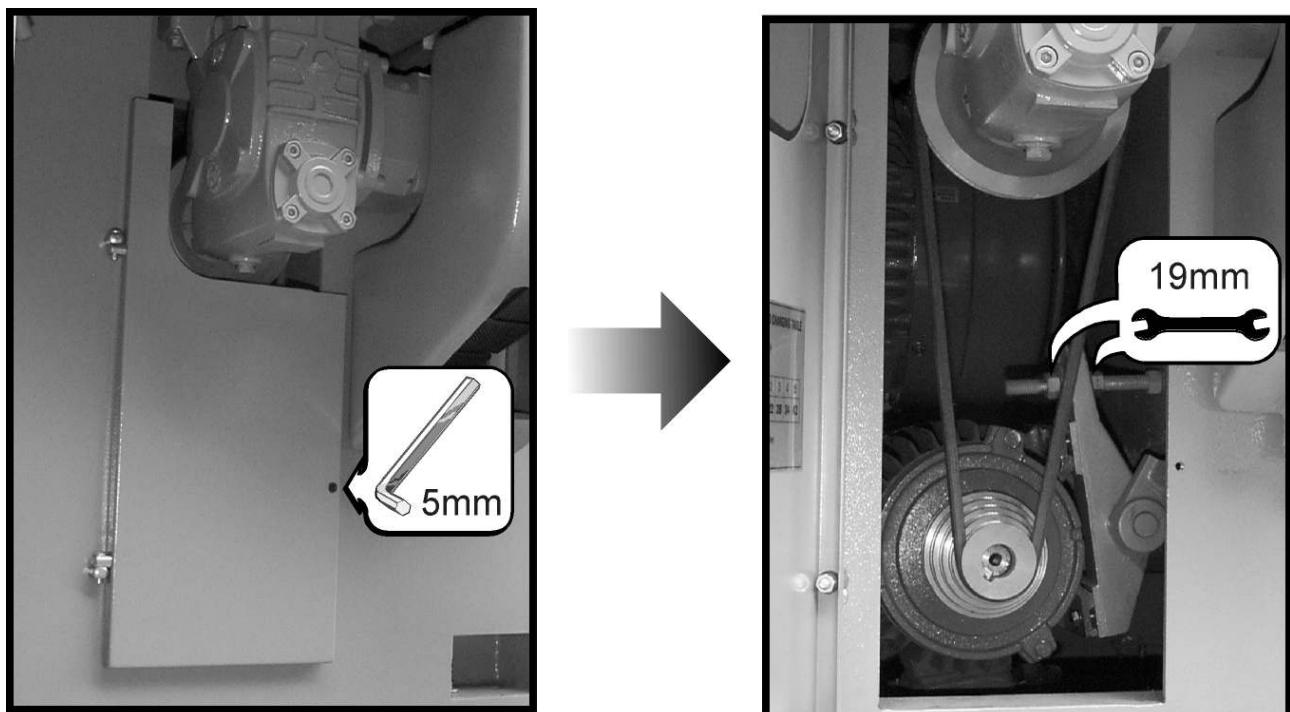
#### **(1) Variable Speed (Option):**

- ◎ How to adjust: Turn the “speed shift knob” until the indicator points the speed you desired. Decrease the speed by turning clockwise; Increase the speed by turning counter-clockwise. The range of speed is 17~42 M/min, the users can choose any speed of the range.
- ◎ There is a speed scale table aside the speed shift knob. The user can observe the feed speed with the corresponding scale from this table.

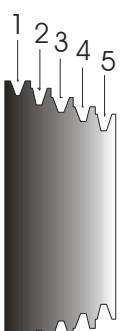


**(2) 5-Step Speed:**

- How to adjust: To adjust the feed speed by changing the feed belt to different groove. \* **IMPORTANT:** For safety, be sure to SHUT OFF the power supply and make sure the “Power indicator” is OFF before adjustment.
- Use an open-end wrench to open the feed motor cover, then use a 19mm Open-end wrench to adjust the 2 Hex. bolts (turning clockwise to release) as pointed in the following picture. Refer to the “FEED SPEED CHANGING TABLE”, which is attached on the inner side of cover, to change the belt to the groove you want. Then adjust the 2 Hex. bolts to make the belt to a proper tension (adjust counter-clockwise to get tight).



**FEED SPEED CHANGING TABLE**

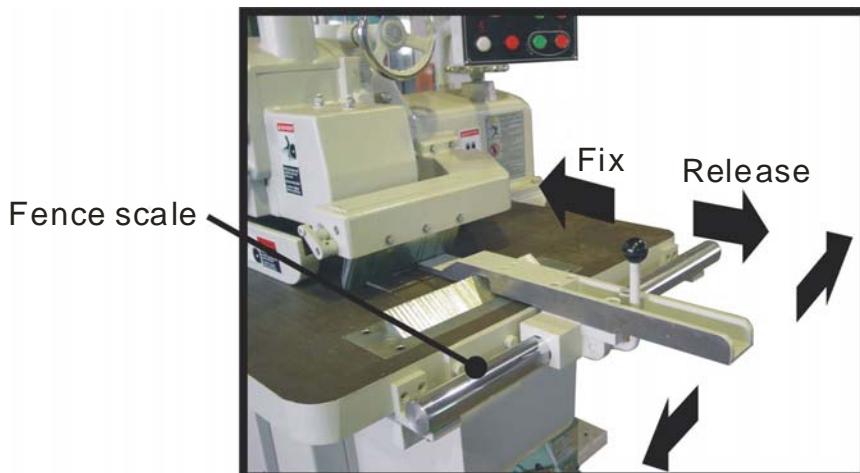
|  | The groove of pulley  | 1         | 2         | 3         | 4         | 5         |
|---|-----------------------|-----------|-----------|-----------|-----------|-----------|
|   | Feed speed (M / min.) | <b>18</b> | <b>22</b> | <b>28</b> | <b>34</b> | <b>42</b> |

Decelerator pulley

Feeding motor pulley

## 3-6 ADJUSTING THE POSITION OF RIP FENCE

The Fence is positioned with a clamp handle, to fix it by pushing the handle forward, to release it by pulling the handle backward in order to move the fence. The distance between fence and sawblade can be read by the sideline. There must be a distance between fence and sawblade while handling edge-trimming. The width of this distance depends on how neat of the edge of workpiece. It needs more distance between them if the edge of workpiece is more irregular.



## 3-7 FEEDING

- ◎ In order to obtain a precise straight-line ripping, the four sides of workpiece should be better in the same thickness. Also, the workpiece can not be bent or deformed too much, and its thickness can not be over 85mm.
- ◎ In order the pressure rollers can hold the workpiece fully, the length of workpiece can not be shorter than 200mm.
- ◎ Put the workpiece on the worktable and against the fence, then feed it between feed chain and pressure rollers to begin sawing. The operator MUST let go of the workpiece as soon as it has been pushed into the machine. Even if the workpiece does not enter into the machine straightly, the operator should NEVER attempt to straighten it with his hands.
- ◎ Check the profiles of the workpiece after sawed, to find out if the feeding speed is proper or not. If not, please adjust the machine to the optimum feeding speed according to the paragraph 3-5.

# CHAPTER 4

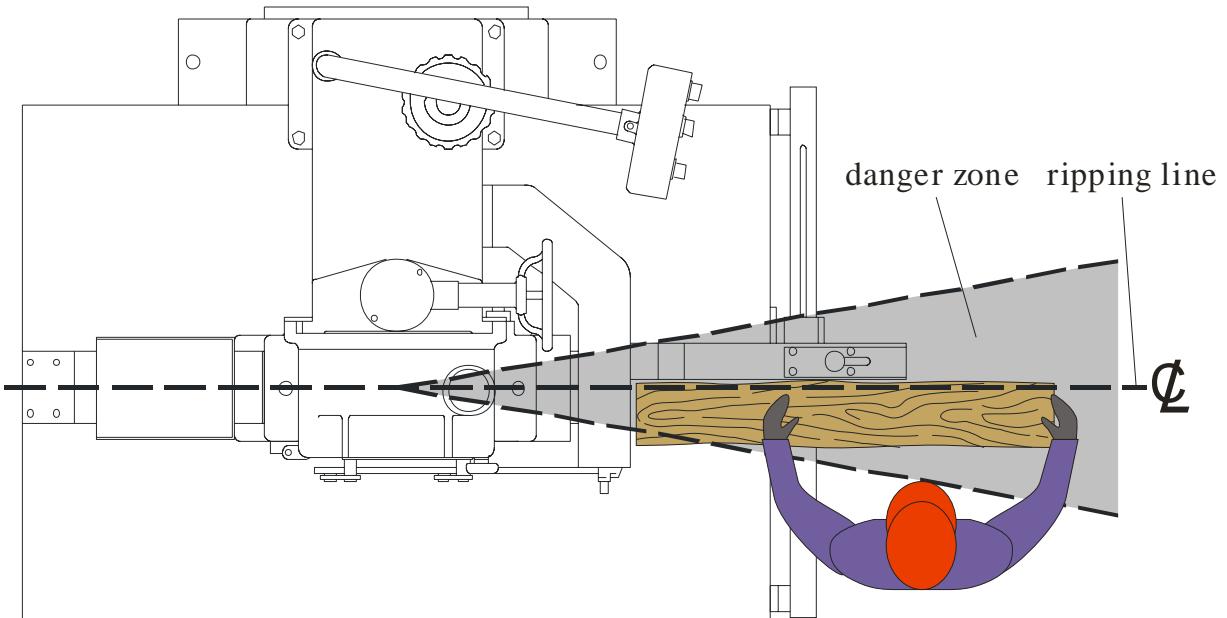
## SAFETY PRECAUTIONS

There are some precautions and warnings to be stuck on the machine. The operator must read them carefully before handling this machine, and remind himself all the time to avoid the abnormal operation causing danger.



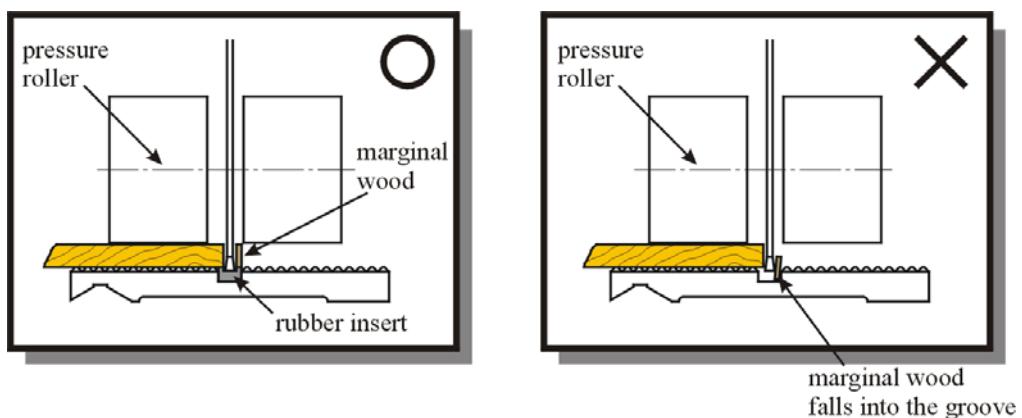
To operate this machine incorrectly might cause danger to people (the operator), therefore we strongly request the operator complies with the following safety guidelines:

- The operator must read the operation manual very carefully, before handling the machine.
- A qualified operator must take enough training and have the related working experience.
- The saw arbor rotation of this machine is 4500 r.p.m. and the power used is 7.5~15HP. The workpiece that fed by chain takes a large of reacting force during ripping. If the pressure rollers could not hold down the workpiece properly, the workpiece will kick back anytime and hurt the operator. To prevent the accident, the pressure rollers must be adjusted to a proper position while changing the thickness of workpiece. (see page 13)
- As the sawdust will be stuck between the anti-kickback fingers to influence their function, it is necessary to clear the sawdust from them very often. Before operate the machine, be sure the anti-kickback fingers are not stuck with any sawdust or other substances.
- The operator should wear leather gloves and leather apron, and should stand at the side of the machine. Never stand in line with the sawing line. The danger zone includes the angle of 30 degree both sides of sawing line.

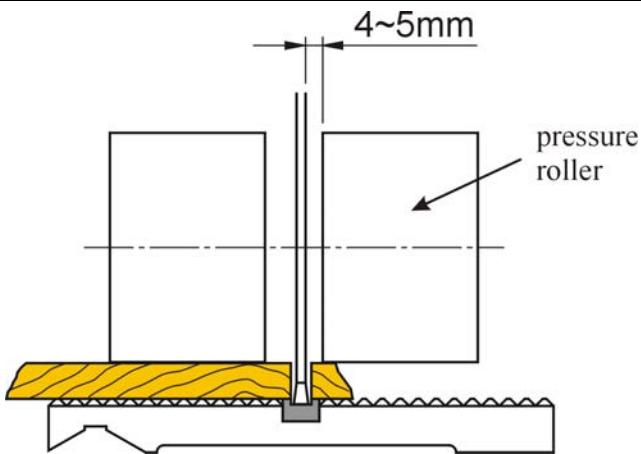


- Never touch, either directly or indirectly, any moving parts of the machine while operation, and workpiece which is presently being sawed.
- Before sawing, the workpiece should be cleared of any foreign objects such as metal, sand, coal cinder and earth.
- Never feed two or more pieces of planks into the machine at the same time.

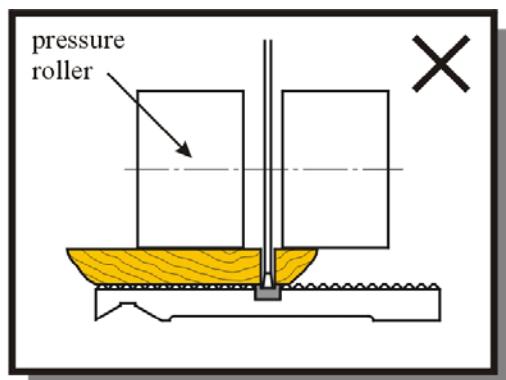
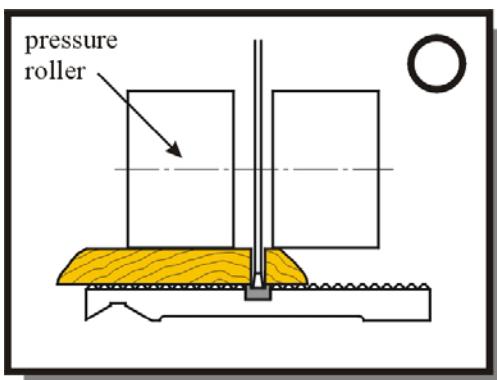
- If there is only one pressure roller function while ripping short workpiece, it will influence the accuracy of the ripping. Therefore, if short or small finished product is needed, we suggest the operator rips the width at first, and then cut-off the workpiece at the necessary length by other machines. Never use the material of the length shorter than 200mm and the thickness over 85mm.
  
- At the center of each feed chain block, there is a groove, in which rubber insert is pasted. The rubber-insert can prevent the marginal wood from falling into the groove and thus fly out during operation. After a longtime operation, the rubber-insert will wear out or even fall off. When these happen, the operator has to replace with new rubber inserts. The method of replacement; [1] Before replacement, must be sure that the surface of groove is clean, dry and dust free completely. [2] Use “3M Scotch-Grip 847 Rubber & Gasket Adhesive” to fix the new rubber insert. [3] Brush or flow a thin coat of adhesive evenly to the surface of groove or/and rubber insert. Coating both surfaces is preferred since it gives greater strength and permits longer open time before bonding. Bond while adhesive is still wet or aggressively tacky. Join surfaces with firm pressure. [\*remark: Excess adhesive may be removed with a solvent such as methyl ethyl ketone (MEK)]



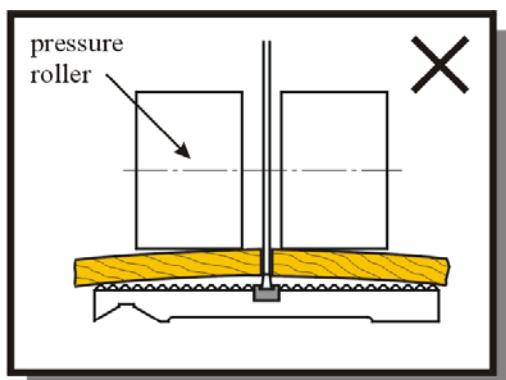
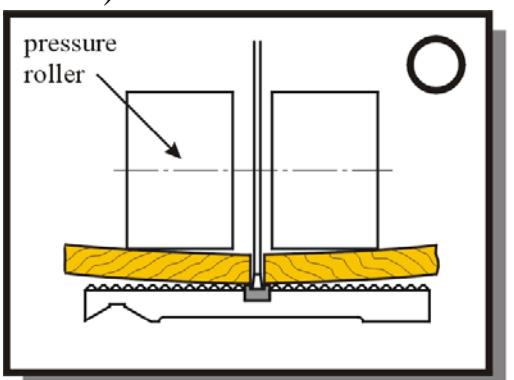
- There are 4 pressure rollers on both sides of sawblade. In order to take off sawblade easily, the sawblade is set at a distance of 4~5mm from the inner pressure rollers. Once the rubber insert falls off or the ripping groove become wider and the part to be cut off is too slim, the pressure rollers may not press the stock properly or let it falls into the groove, the potential for kickback is increased and even to hurt the operator. Therefore, we strong suggest avoiding trimming off the narrow edge.



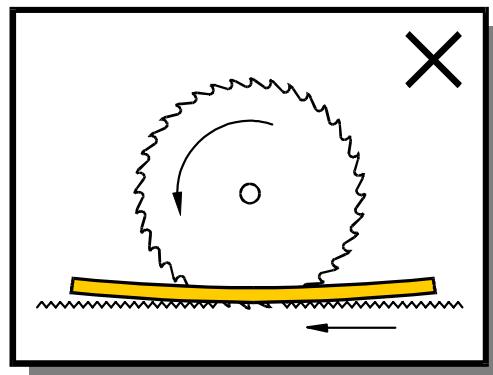
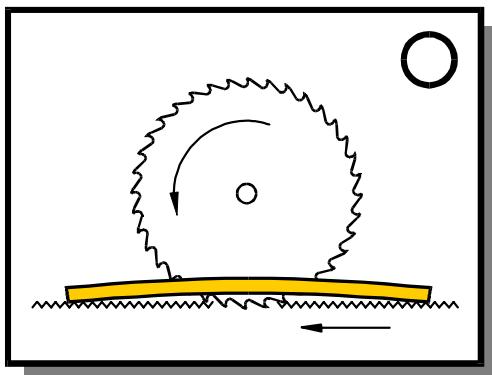
- Checks should be made regularly to ensure that there are no foreign objects jammed in the gaps between the feed chain. Be sure to remove sawdust from these gaps by an air gun everyday.
- If the lumber that has not been edged square, the wider side should always be facedown on the feed chain. Otherwise, the margin of wood will be fallen because of pressed with pressure rollers and then influence the accuracy of workpiece.



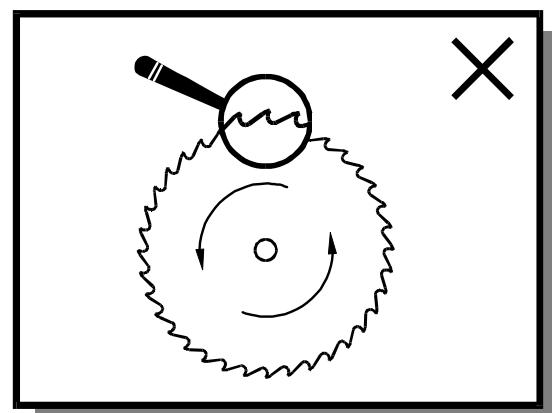
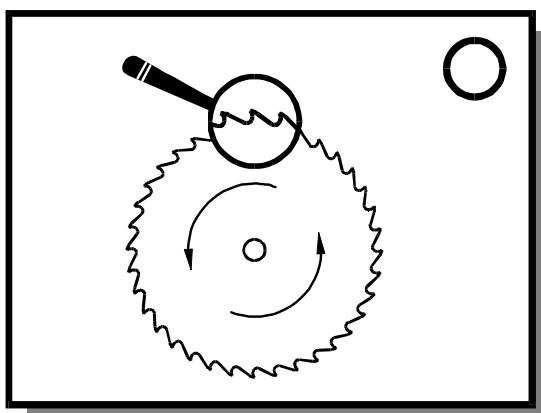
- It is dangerous to rip a workpiece which is warped in transverse by put it with the convex side upward on the feed chain. After pressure rollers press the warped workpiece, the sawblade might be clamped by the workpiece and then cause kickback. The correct ripping method is to place the workpiece with the convex side **downward** on the feed chain. (see the drawings as below).



- The stock which is warped lengthwise should be placed with the convex side **upward** on the feed chain. Otherwise the pressure rollers can not work smoothly and then influence the accuracy of workpiece.



- Make certain that sawblade is installed with the teeth pointing in the same direction as the rotation of saw arbor turns.
- Always use the circular sawblade which is suitable for woodcutting. The blades should be checked regularly and make sure it is no bluntness, crack, and accumulation of sawdust on it.



- Make certain that the power supply to the machine is disconnected before conduct any cleaning, lubrication, maintenance, repair, adjustments, or part replacements.
- The operator should NEVER leave the machine unattended when in use. Similarly, after switching off the machine, the operator must be certain to wait until the machine comes to a complete standstill before walking away.

# CHAPTER 5:

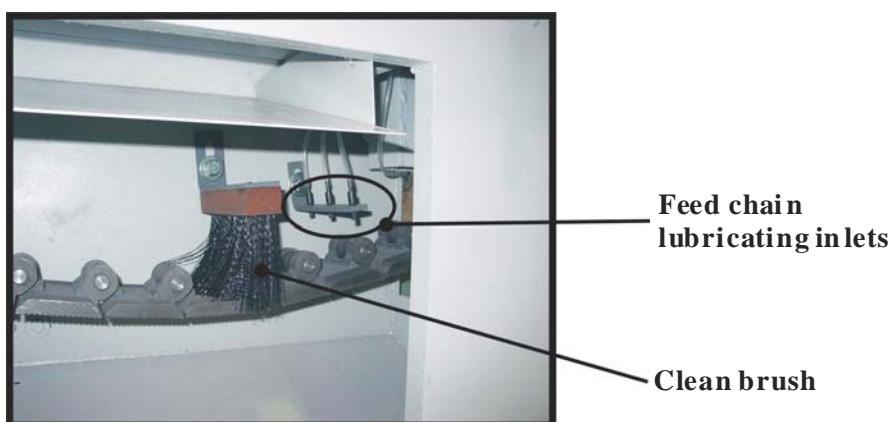
## MAINTENANCE & REPLACEMENT

Must disconnect the power supply from the machine before doing any maintenance or replacement. The operator must obey the following rules to avoid any serious injury.

### 5-1 CLEANING

Regularly clean all machine parts and the surrounding environment can help a safer operation and prolong the machine life. The correct procedures for cleaning your machine are:

- Regularly remove sawdust from the feed chain by using a compressed-air gun, because the sawdust on the feed chain will suck lubricant. If the feed chain slide on guide track without enough lubricant, it will cause serious wear on feed chain. The operator must clean up the sawdust on every chain block completely.
- Open “feed chain safety cover”, you can see clearly there are one clean-brush and three (3) lubrication inlets for feed chain. They are the important components to protect and prolong the lifespans of feed chain and track. Never let sawdust be accumulated on the clean-brush and lubrication inlets. Especially the lubrication inlets will be stuck with sawdust easily and make the lubricant can not fall on the feed chain. In case the feed chain and track are not lubricated properly for a period of time, these two expensive parts will be worn away very quickly.



- The wood should be cleared of any foreign objects such as metal, sand and soil etc... before ripping. Those objects will also damage the feed chain and guide track.
- Pay attention to the dust extracting apparatus all the time to ensure the maximum efficiency of dust-collection is being maintained.
- At the same time as performing the machine's regular lubrication checks, clean away dust and sawdust from all parts of the machine.
- The operator must make a maintenance record. Do the time maintenance exactly to protect the machine.

## 5-2 LUBRICATION

Regular lubrication is essential to maintain the lifespan and optimum performance of the machine. The following inspections and lubrications should be performed at the time intervals specified or required.

### \* Every day:

Check the oil level in the feed chain lubrication tank each day before operation and fill it up if necessary. If the lubricant insufficient indicator lights up during operation, the machine will stop running automatically. Please add the required lubricant immediately. When pouring oil into the tank, the operator must take care not to allow any impurities objects (eg. sawdust...) to get inside.

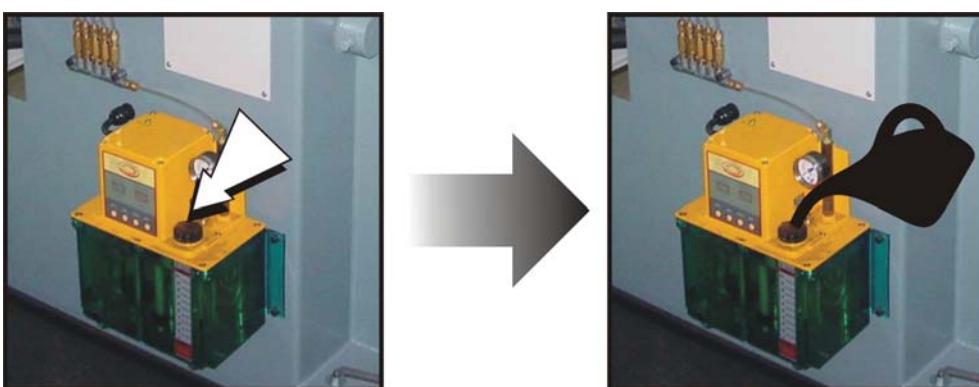
Be sure to use the good quality of lubricant to ensure an effective lubrication on the machine running. We suggest using the lubricant offered by the machine manufacturer or its agents.

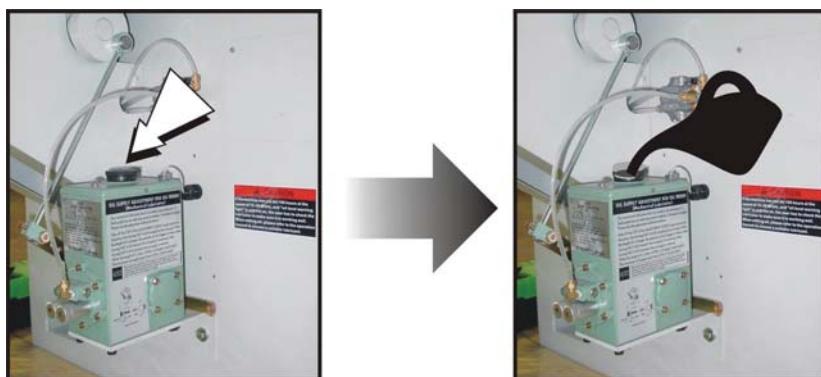
- ※ When stores the lubricant, it is very important to always keep it clean.  
Never use the polluted lubricant.
- ※ The recycled oil is prohibited.

This machine is equipped with Electric lubricator.

Take off the arrowed "oil filler cap" and then pour in oil for 80% full. Be sure not to let the oil be overflowed, otherwise sawdust and wood chips will stick on the lubricator easily.

Electric Lubricator:

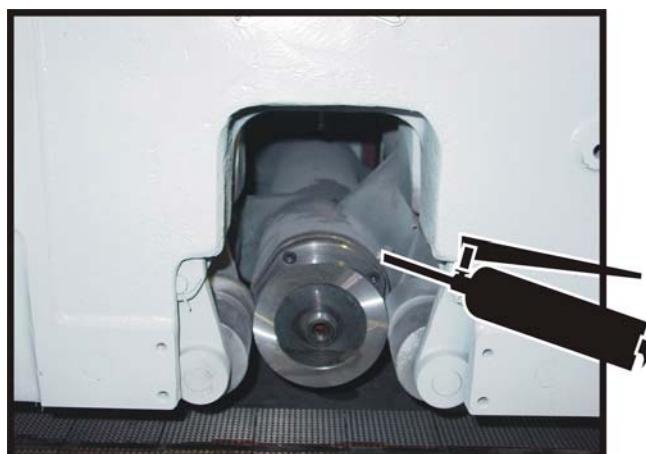


**Mechanical Lubricator :****\* Every 2400-2500 working hours:**

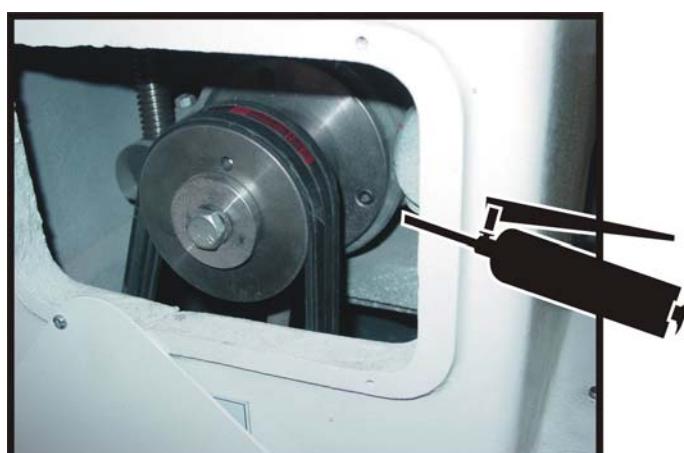
After every 2400-2500 working hours, the operator should use a grease gun to add grease to the bearings of the saw arbor. Before lubrication, the nozzle of grease gun should be cleaned completely at first, to avoid any impurity object following the grease into the bearings and damage them.

◻ Please check the position of oil nozzles on the machine as the pictures below:

1. Open the saw arbor cover and take off the saw blade. There is one oiling nozzle located on the top of the outer shell of saw arbor.



2. Open the saw arbor pulley cover, there is one oiling nozzle located on the bottom of the outer shell of saw arbor.



### \* Changing the oil for the feed chain reduction gears:

After 300 working hours, the inside of the feed chain speed-reducer should be cleaned and the oil for the gears should be changed. Thereafter, the gear oil should be changed for every 2500 working hours. When changing the oil, take off the “covering screw of the oil filler point” at first, and then turn on the “oil discharge screw”. After all the old oil has drained out, turn the “oil discharge screw” tight again. Add proper lubricant to the oil inlet until it rises above the oil level window. (In order to maintain the operation life of the machine, it is important to choose the good quality of grease. We suggest using the grease offered by the machine manufacturer or its agents.)

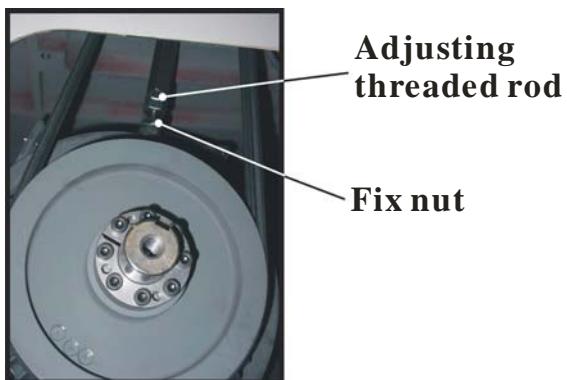
Add SAE 90# lubricating oil to the “oil filler point” until it rises above the “oil level window”.



## 5-3 ADJUST AND REPLACE SAW ARBOR BELT

The drive belts of the machine will surely happen the loosening situation after an extended operation and then influence work efficiency. In order to minimize wearing of the belts and the loss of machine's power, the belts should be re-tightened by increasing an appropriate distance between the saw arbor pulley and the motor pulley.

The distance between the saw arbor pulley and the motor pulley is adjusted by a “threaded rod” (using an adjustable spanner or 26mm open-end wrench as tools). Before adjusting or changing the belts, loosen the “lock nut” by turning clockwise. Then, the threaded rod can be turned until the desired position is reached (to loosen by turning clockwise; to tighten by turning counter-clockwise). After finish the adjustment, the “lock nut” must be tightened again by turning it counter-clockwise.



New belts should be re-tightened after the first 4 working hours. Then, after 8 working hours they should be re-tightened again. Thereafter, the belts should be inspected and adjusted after every 200 working hours. If the belts show the signs of wear, they should be replaced with new belts of the same brand and the same production batch. Old and new belts should never be used together.

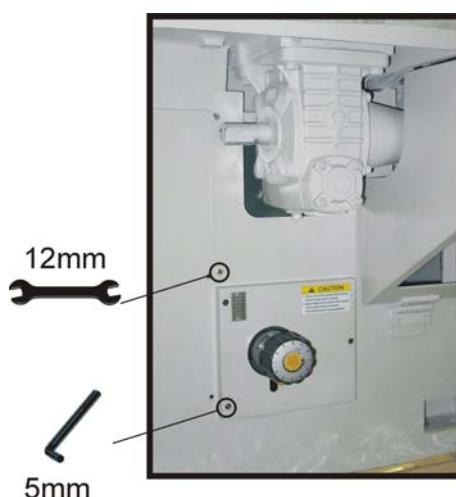
For the specifications of the saw arbor belts used on this machine, please see the "SPECIFICATIONS" chapter at the front of this manual.

## 5-4 INSPECT AND REPLACE THE VARIABLE SPEED BELT

### **(1) Variable Speed :**

If a vibrating sound can be heard from the variable speed pulley, the operator needs to remove the cover and inspect the belt immediately. If the belt shows signs of wear or appears to be split, it should be replaced according to the following procedures:

1. Start the feed chain and adjust the feed to the slowest speed. **The operator MUST then shut off the power.** Make sure the “power indicator” does not light up.
2. Loosen the screws and take off the safety cover with a 12 mm open-ended wrench and a 5 mm allen key, therefore obtaining a bigger space for replacing the variable speed belt.
3. In a “no power” position, turn the speed adjustment knob to the fastest position.
4. Remove the old belt and replace with a new belt. For the specifications of the triangle belt used on this machine, please refer to the "**TECHNICAL SPECIFICATIONS**" section at the front of this manual. Finally, re-tighten the two hex set screws properly by tightening in a counter-clockwise direction.



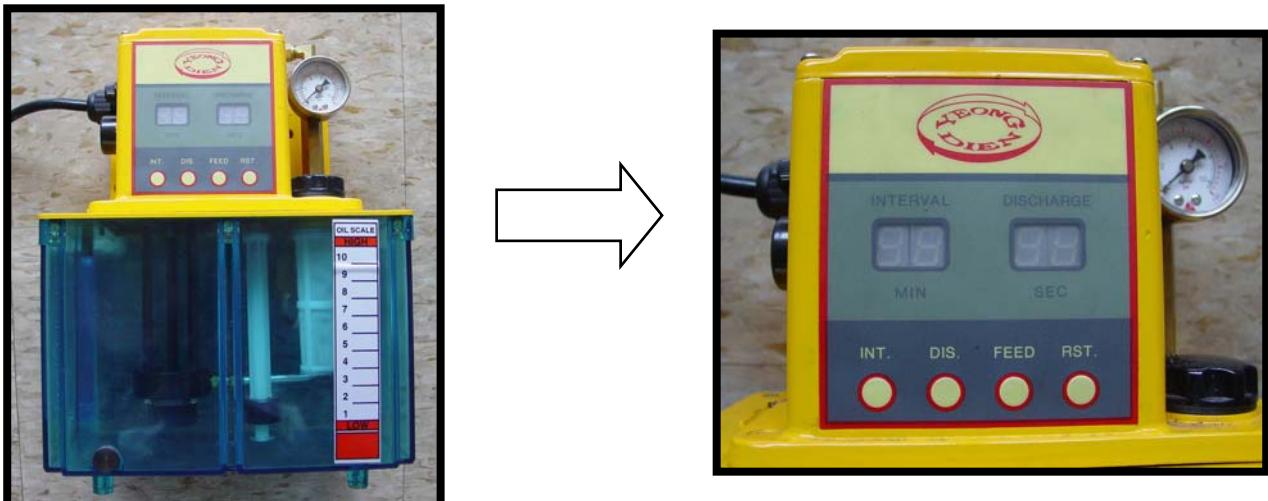
**(2) 5-Step Speed:**

Please refer to Page 22 of 5-Step Speed adjustment for the replacement of new belt (check the “SPECIFICATIONS” chapter of the manual for the specifications of belt).

## 5-5 ADJUST THE OIL SUPPLY TO FEED CHAIN

This machine is designed with an auto-lubrication system to supply necessary lubricant for feed chain and guide track. There are 2 types of lubricators available for this machine: “Electric lubricator” and “Mechanical lubricator (Option)”.

- ◎ Electric lubricator: It adopts the method of periodic lubrication to output a certain volume of oil every 5 minutes.
- ◎ Mechanical lubricator: The volume of oil output follows the feed speed by means of a crank coupling. The faster of feed speed, the quicker of oil output. On the contrary, oil output will be slower.

**\* Adjustment method:****(1) Electric Lubricator:**

MIN : Showing the interval between two lubrifications (unit: minute).

SEC : Showing the lubrication time (unit: second).

INT : This is to set the interval between two lubrifications (9~99 minutes).  
It has set at 3 minutes at our factory.

DIS : This is to set the duration of each lubrication (discharge time: 0~99 seconds).  
It has set at 5 seconds.

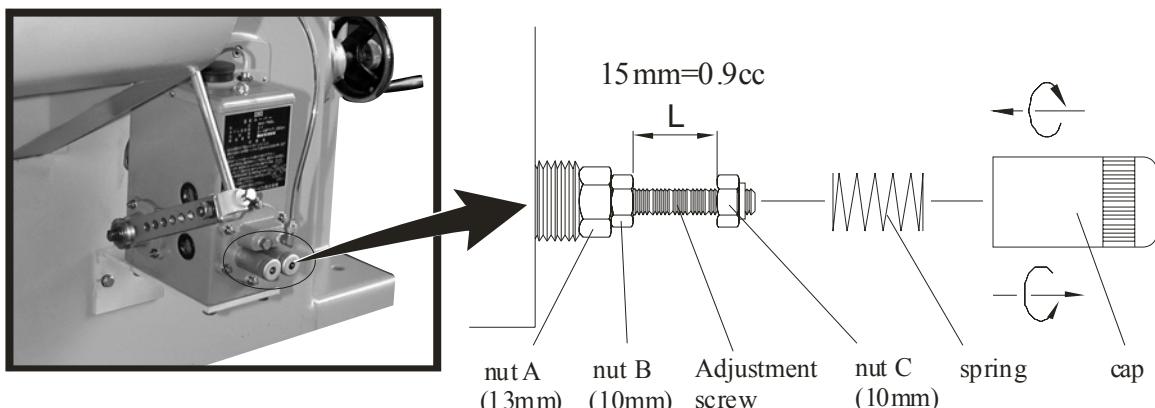
FEED : Compulsory lubrication (discharge oil manually).

RST : Recount the interval time after compulsory lubrication.

## (2) Mechanical Lubricator:

The mechanical lubricator has 2 oil outlets. Each outlet has an **ADJUST SCREW** to reduce / increase oil supply. The maximum oil supply by each **ADJUST SCREW** is 0.9 c.c. (each outlet), so, the total is 1.8 c.c.

1. Take off the **CAP** and **SPRING** of the **ADJUST SCREW** in anti-clockwise direction.
2. Use a 13mm and 10mm open-end spanners to adjust the **NUT A** and **NUT B**. When turning these two nuts inward, the oil supply is increased; when turning them outward, the oil supply is reduced. Please refer the picture as below, when the distance of “L” getting bigger, the oil supply is getting more. When “L” getting shorter, the oil supply is getting less. (Before we ship the machine, we have adjusted each “adjust screw” at the oil supply 0.45 c.c./ per shot, the total quantity of 2 outlets is 0.9c.c.).
3. Use 2 spanners to fix the **NUT A** and **NUT B** to avoid moving.
4. After finish the adjustment, put back the **CAP** and **SPRING** and tighten the **CAP** in a clockwise direction.



**【 Every adjust screw “L” = 1mm = 0.06c.c. , the maximum oil supply is 0.9c.c. / per shot】**

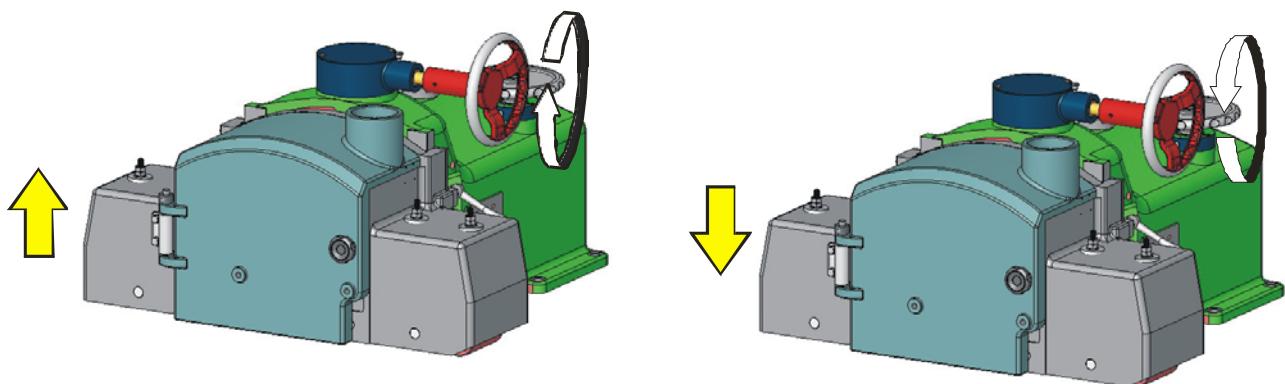
### \* **NOTICE:**

Because the oil supply is according to the changes of the feeding speed, there is no standard on the adjustment each time. The user can adjust a little per time depends on the actual operation in order to get a most proper oil supply (oil drops) each shot. After the machine has run for 100 hours at the speed of 17 M/min, in case the “**oil level warning light**” is **not on**, the user has to check the lubrication to make sure it is working well or not. When adding oil please refer to the operation manual to choose a suitable lubricant.

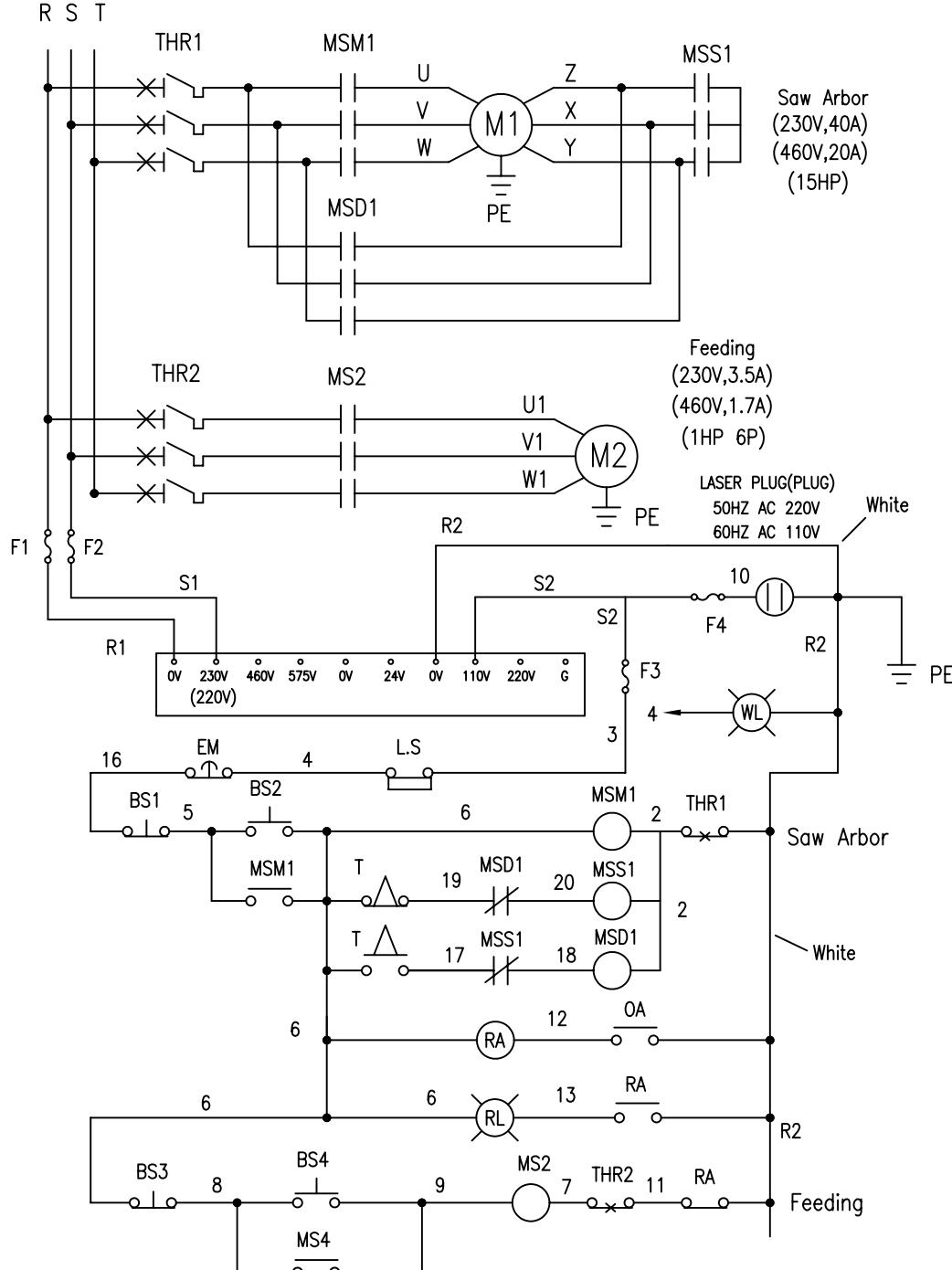
## 5-6 WEEKLY CLEANUP

Except the daily cleanup and maintenance, it is necessary to clean the Roller Housing weekly. See the cleaning method as below:

1. Clean and lubricate the Screw, Nut and Slide Way of roller housing. When clean up and lubricate these parts, be sure to adjust the Roller Housing to the highest and lowest position.
2. Repeat to raise and lower the Roller Housing several times, thus to avoid the sawdust accumulating on the Screw and Nut. This will make the Roller Housing move smoothly. Also, to avoid the thread of the Screw and Nut damaged due to the sawdust on them.



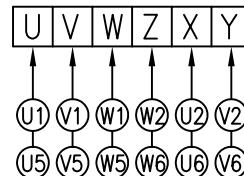
VI . ELECTRIC WIRING DIAGRAM  
(AC 3Ø 230V)



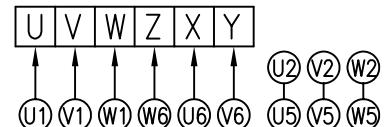
BS12H310

Saw motor

Wired 230V ( $\text{Y}-\Delta$ )  
Terminal pad



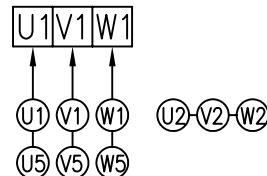
Wired 460V ( $\text{Y}-\Delta$ )  
Terminal pad



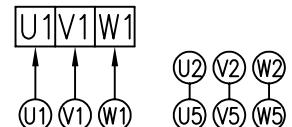
If motor rotation is reverse, please  
1. Exchange the wiring of U and V on the terminal  
2. Exchange the wiring of Z and X on the terminal

Feed motor

Wired 230V(direct start)  
Terminal pad



Wired 460V(direct start)  
Terminal pad



If motor rotation is reverse, please  
Exchange the wiring of U1 and V1 on the terminal