

# Operations Manual



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## R18

### HEAVY DUTY STRAIGHT LINE RIPSAW

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

Cantek America Inc. | 1.888.982.2683 | **Parts:** [sales@cantekamerica.com](mailto:sales@cantekamerica.com) | **Service:** [service@cantekamerica.com](mailto:service@cantekamerica.com)

This manual gives you easy-to-follow and important instructions for installing, using and maintaining the Straight Line Rip Saw.

We advise you to read the manual carefully before you start to operate the machine.

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# CHAPTER 1: GENERAL INFORMATION

## 1-1 Identification Of The Machine

Your machine is identifiable by the plate fixed on the front left-hand side of the machine, with the following information on it:

1. Model No.
2. Serial Number
3. Date of Manufacture



## 1-2 Technical Data Of The Machine

<b>Max. depth of cut</b>	<b>120mm</b>
<b>Max. dai. of saw blade</b>	<b>455mm(18")</b>
<b>Min. dai of saw blade</b>	<b>305mm(12")</b>
<b>Feed speed</b>	<b>13-50M/min</b>
<b>RPM of saw spindle</b>	<b>3500RPM(60HZ)</b>
<b>Horse power of saw spindle</b>	<b>15-20HP</b>
<b>Horse power of feed</b>	<b>2-3HP</b>
<b>Diameter of blade's hole</b>	<b>50.8mm</b>
<b>Dimensions of working table</b>	<b>L2000xW1015xH850</b>
<b>Distance between column and saw blade</b>	<b>660mm</b>
<b>Net weight of the machine</b>	<b>2000kg</b>

## 1-3 When You Need Assistance

Please contact your local agents or the manufacturer, and always include the following information:

1. Model No.
2. Serial number
3. Date of purchase
4. Detailed description of the problem of the machine

## CHAPTER 2: DESCRIPTION OF THE MACHINE

### 2-1 Brief Introduction

The Straight Line Rip Saw is designed to offer operators the machine with high precision cutting, durable, safe, reliable and easy handling.

Our production emphasizes on how to reduce the failure and maintenance requirements to the minimum. To achieve this, we insist to use components with high quality and expensive manufacturing method shown as follows:

- The machine body is made of high tension steel plates that are cut with laser technology.
  - The partition design inside the machine.
  - The chain links and feed track are made of cast steel.
  - Thorough and complete lubricant system.
  - The enlarged design of the bearing of saw spindle.
  - High quality electrical parts.
  - More than 95% of the screws are made of steel.
- (Material: SCM435. Tensile strength: 120KG/mm<sup>2</sup>)



A patent of the mechanical lubricant system

### 2-2 Description Of Major Parts

#### A.>Saw Spindle

The saw spindle consists of two high-speed pedestal angular ball bearings (7012CYDB/P5) and one roller bearing (6210CM), being assembled inside the saw spindle tube. The saw spindle tube is blocked oil in the labyrinth seal, the lubricant system needs to be offered R2 grease gun to lubricate regularly and quantitatively.

#### B.>Feeding Mechanism

The material, manufacturing method and assembly of chain links affect machine life directly. Therefore, we have paid a special attention to the quality control of this mechanism.

The chain links and feed track are made of high tensile cast steel. With the mechanical lubricant system, there is even lubricant between the chain links and feed track to prolong its life.

This lubricant system has an installation that turns off the power automatically without oil.

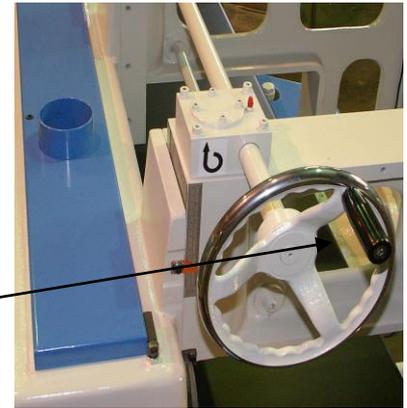
A motor of high torsion, one worm gear and a set of belt wheels drive the feed track.



### C.>Pressure Mechanism

The mechanism includes eight rollers in a row, together with two heavy-duty supports. The lumber can be pressed securely on the feed track and slide.

The height of the press rollers can be adjusted by the hand-wheel at the upper front of the machine.



### D.>Electrical Control Panel

The electrical control panel consists of:

1. One “START” button for starting saw spindle motor.
2. One “START” button for starting feed track.
3. One “STOP” button to stop the main motor and feed track motor. To release the stop position, rotate the top of the button.

The feed track motor can only be started after saw spindle motor has been started and keeps running normally. It is to ensure the safety of the operator.



Button to stop

Button to start feed

Button to start saw spindle

### E. >Electrical Box

The combination of the components inside the box varies with the horsepower and the power requirements; in case of 220V and horsepower of more than 12HP, saw spindle is started with low voltage. In other cases, it is started directly.

- a) When the saw spindle is started with low voltage, the electrical box will include:
  1. One pair of starting switch with low voltage start the saw spindle and turn off the power automatically when the motor is overloaded. And this installation includes:
    - Three magnetic relays use to start and operate the saw spindle.

- Two timer which presets the delay time in low voltage during starting.
- One temperature relay for motor protection, which turns off the power automatically when the motor is overloaded.

When in this case, to start up the motor again, you should wait for two minutes before pressing the “RESTART ” button of the relay. The relay is factory calibrated, thus you are advised not to tamper the calibration unless by a certified electrician.

The calibration is as follows:

HP\Voltage	220V	380V	415V	440V
15HP	20A	23A	21.5A	20A
20HP	26A	15A	28A	26A

2. One magnetic relay and one temperature relay for protection of the feed track motor.
3. One current transformer to keep the electric circuit at a voltage of 110V.
4. Two fuse for protection of electric circuit.

b) When the saw spindle is started directly, the electrical box will include:

1. One magnetic relay and temperature relay to start the saw spindle and turns off the power automatically when the motor is overloaded.
2. One magnetic relay and temperature relay to start the feed track and turns off the power automatically when the motor is overloaded.
3. One current transformer to keep the electric circuit at a voltage of 110V.
4. Two fuse for protection of electric circuit.

#### **F.> Lubricant System**

The lubricant system is an automatic one that provides the machine with through and complete lubricant. It is unnecessary to adjust the amount of lubricant before operation. When the lubricant is not enough, it will turn off the power automatically. It is used to protect the machine.

## **CHAPTER 3:**

### **MACHINE INSTALLATION**

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#### **3-1 Unloading**

Any dropping or bumping might cause un-repairable damages. Please use only a lifter to lift the machine from its bottom; hooking the machine from the top might damage it.

#### **3-2 Positioning**

The conditions of selecting a suitable location:

- The floor must be strong enough to withstand the weight of the machine and the vibration of it during operation.
- Do not place the feeding side of the machine toward an aisle or passage.
- Place the machine on a location near the power supply.

#### **3-3 Leveling**

To achieve the best performance of the machine, precise leveling of the machine is very crucial and required. Use the leveling gauge and put on the top of the conveyor chain element for indication and confirmation of adjustment result. The allowable tolerance for leveling in X and Y direction is within 1 mm/M.

Four foundation bolts, nuts and support blocks are included for leveling and adjusting the height of the machine, so that the weight of it will be evenly balanced at these four supporting points.

#### **3-4 Electrical Connection**

Please let a professional electrician to perform this job for you.

There is a sealed electrical box at the right front of the machine; the power source connects the machine here.

The manufacturer asks for a fuse-free breaker to be installed between the power source and the cable to the machine. You can turn off the power while the machine is not in use.

Please refer to the following table for the specifications of the fuse-free breaker:

HP\ Vol.	220V	380V	415V	440V
15HP	60A	40A	40A	30A
20HP	75A	50A	40A	40A

Please refer to the following table for the specifications of the cable connecting the machine:

HP\ Vol.	220V	380V	415V	440V
15HP	14mm <sup>2</sup>	8mm <sup>2</sup>	8mm <sup>2</sup>	5.5mm <sup>2</sup>
20HP	22mm <sup>2</sup>	14mm <sup>2</sup>	14mm <sup>2</sup>	8mm <sup>2</sup>

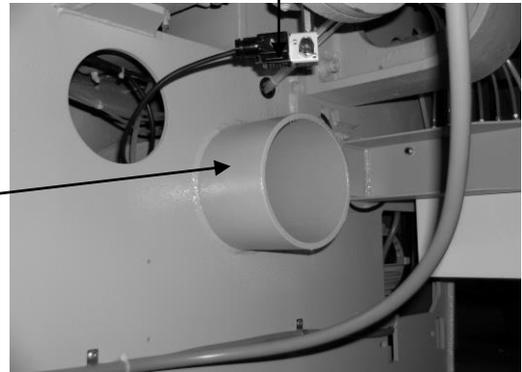
The grounding cable must be connected properly to prevent the operator from being shocked.

### 3-5 Vacuum System Connection

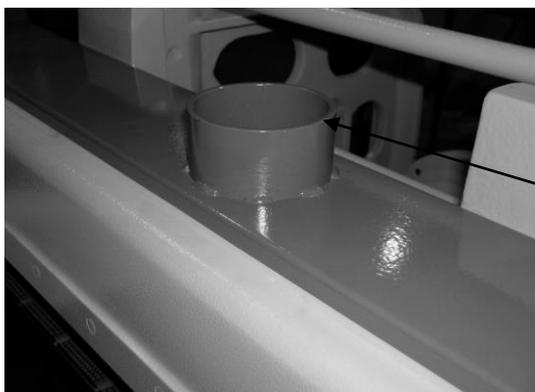
There are two dust vacuum parts at the right side and upon the press seat of the machine:

- The outer diameter of the dust vacuum port at the right side is 150mm.
- The outer diameter of the dust vacuum port upon press seat is 100mm.
- The amount of vacuum suction is about 2000M<sup>3</sup>/ Hour.
- The airflow speed is about 25M/Sec.
- The airflow pressure is about 250mm/Hg.
- The power of wearing the vacuum facility is about 4HP.

The connection of the pneumatic skid in spindle



Dust vacuum port at the right side: outer diameter 150mm



Dust vacuum port upon the press seat: outer diameter 100mm

## CHAPTER 4: HOW TO USE THE MACHINE

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### 4-1 Assembly Of The Blades

1. Open the central door of the machine, take out the wrench of the saw spindle and insert it into the bolt in the center of the saw spindle. Turn clockwise to remove the bolt and hold-disk of the blade.
2. Use a piece of clean cloth or paper towel to clean the blade and the hold-disk.
3. Take the blade, passing the door from the bottom of the blade and hang it on the spindle. When in operation, the blade turns clockwise. Be sure the blade is installed in the correct direction.
4. Take the wrench of the saw spindle, bolt and the hold-disk, tighten the blade counter-clockwise all the way down.



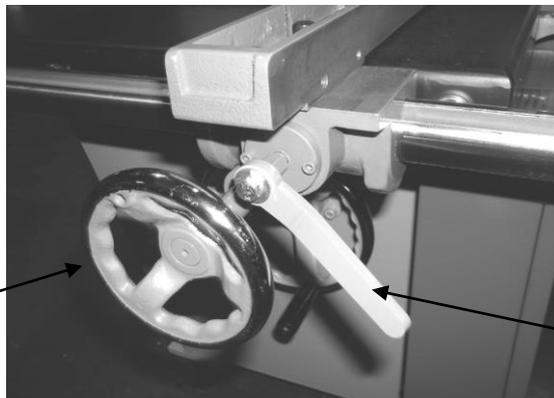
Be sure the saw blade is installed in the correct direction.

### 4-2 The Adjustment In The Height Of The Press Seat

Measure the thickness of the wood with a ruler. Suppose it is 30mm thick. Turn the hand-wheel at the upper front of the machine to adjust the height of the press seat to 28mm.

### 4-3 The Adjustment In The Position Of The Feeding Guide

Loosen the locking wrench of the feeding guide counterclockwise. Turn the hand-wheel of the feeding guide to adjust the guide to the required position. Tighten the locking wrench of the feeding guide clockwise.



The hand-wheel of the adjustment

The locking wrench of the feeding guides

#### **4-4 To Start The Machine**

Press the “START” button to start the motor of the saw spindle, and wait until it runs normally, and then start the motor of the feed track.

#### **4-5 To Start The Vacuum System**

Make sure whether the amount of the vacuum is enough or not. If the vacuum could not carry out the sawdust efficiently, please try to resolve the problem.

#### **4-6 The Adjustment In The Lubricant System**

The amount of distributing lubricant will adjust automatically with the operation speed of the machine. The user should not modify it.

Never use the lubricant that is recycled.

For the specifications of the lubricant, please refer to the sticker on the lubricator.

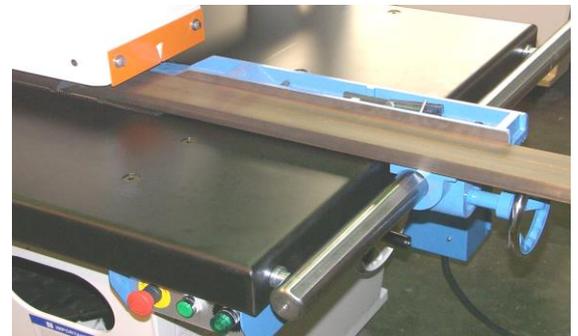
#### **4-7 The Feeding Mechanism**

The feeding mechanism is capable of orienting. The moving direction of the wood on the chains can be controlled depending on the requirements.

Under general condition, the left feed track is factory set for going straightforward, and the right feed track is set for going a little bit rightward. It is so set according to the habit of most operators.

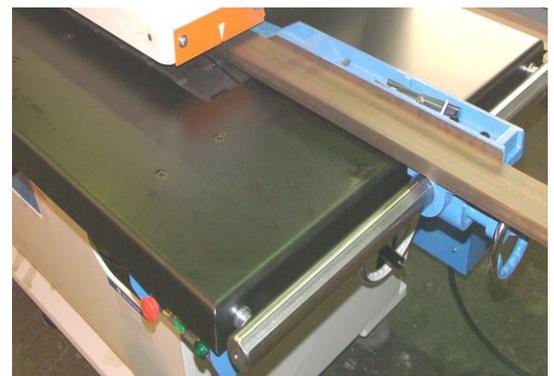
When using the left feed track:

The wood goes straightforward, and shows a straight cutting face. It is suitable for the first time straightening.



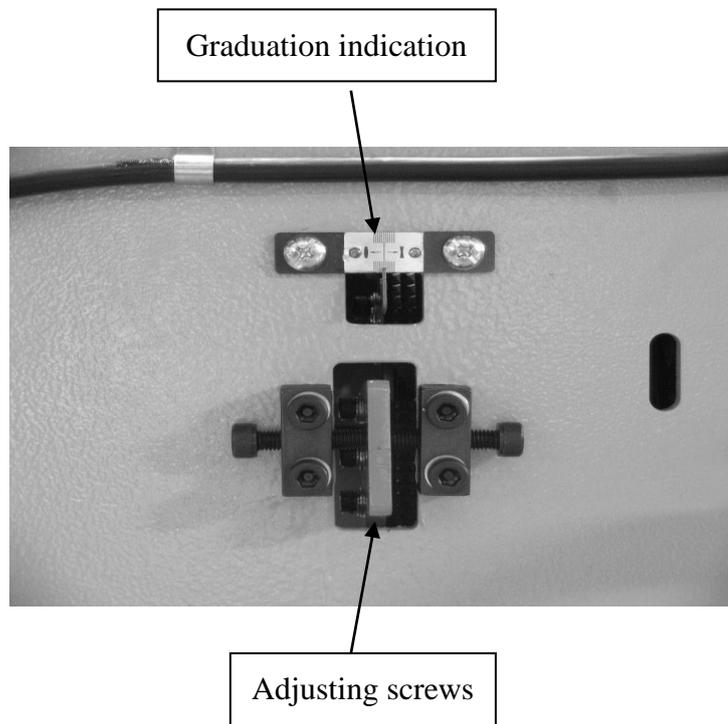
When using the right feed track:

The wood goes a little bit rightward. With the supporting plate on its right, it produces excellent parallelism. It is ideal for specific size cutting.



## 4-8 How To Adjust The Feed Track

When the indicator moves to the left, the wood goes rightward; when the indicator moves to the right, the wood goes leftward.



### ※ The Ways To Adjust:

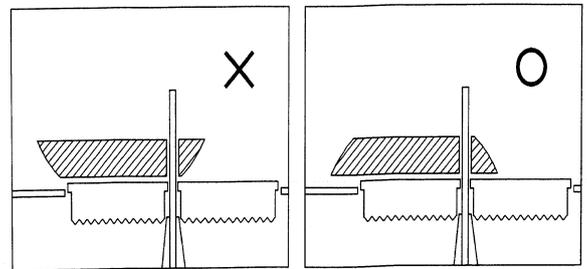
- Take a hexagonal wrench to adjust the screws at the lower front of the machine. From the graduation indicator at the upper side of the machine, you may understand how much it is inclining.
- After the adjustment, be sure to lock the screws on the sides inwardly to prevent them become loose.

## CHAPTER 5: HOW TO OPERATE THE MACHINE CORRECTLY

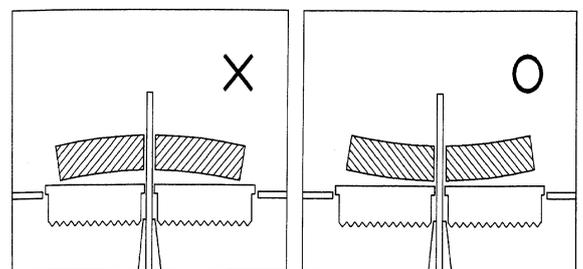
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- A. Use an appropriate blade for different kinds of wood to meet different requirements. About the selection of blades, please consult with your supplier who will give you the best suggestion.
- B. There will be a risk of flying wood chips if the thickness of the wood is not uniform. Before cutting, use a double-side planer to smooth and level the wood piece.
- C. Using suitable pressure of press seat can either make wood be pressed on the chains and slide or have precision cutting. It can prolong the using life of feed chains and feed track.

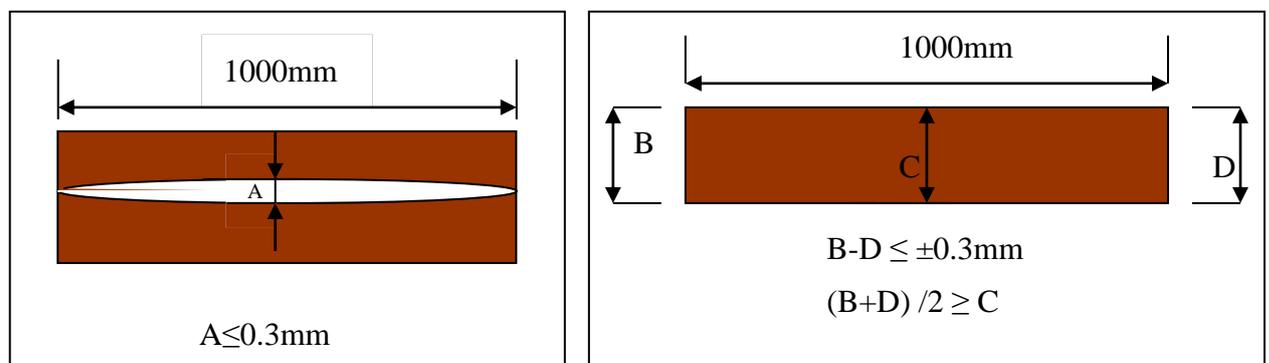
- D. If the wood piece is not edged, have the side that has a wider surface face downward to contact with the chains.



- E. If the wood piece is not deformed, have the stretched side face downward to contact with the chains.



- F. The special function of revising side, as follows:



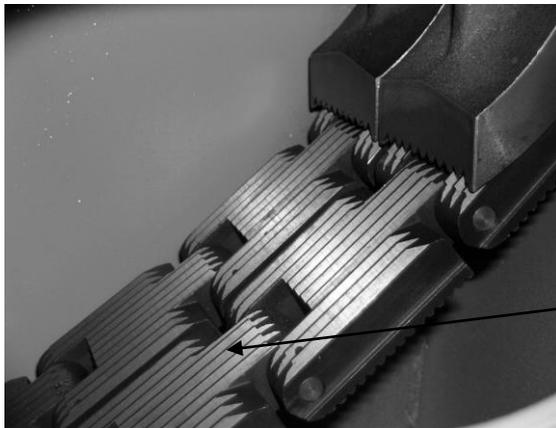
## CHAPTER 6: MAINTENANCE

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※ Before doing maintenance, please be sure to turn off the power.

### 6-1 Cleaning

Daily cleaning of the machine and the surrounding area is a very important job. It is also the only way to maintain the durability and stability and stability of the machine. The cleaning of the feed track is especially important as wood chips on the chains will absorb lubricant. Without enough lubricant, the chain will wear out easily. The manufacturer suggests you use steel-scrub to clean the sawdust on the chains.



Please check this window daily to make sure whether oil exists at the bottom of the feed track. If no oil exists or oil spreads unequally, please stop the machine immediately and ask for repair.

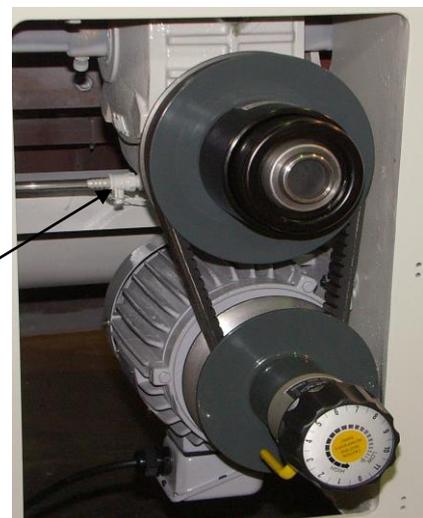
Clean all protection devices, especially anti-kickbacks. Make sure that no wood chips are blocking the movement of these devices.

### 6-2 Lubrication

The lubricant for the reduction gear must be replaced regularly. For more details, please refer to the sticker at the right side of the machine.

When replacing the lubrication, please cut the wire (as the picture), rotate the wrench and the lubrication will flow out.

The wrench for draining oil



Pour new lubricant from the port on the top.  
The capacity is about a half of the oil-mirror.



## **CHAPTER 7:**

### **WARNINGS**

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- This is a machine with potential danger. Please be careful when operating it. Any incorrect use of the machine may endanger the operator's life. Therefore, it is strictly required that only skilled technicians are allowed to operate this machine.
- During operation, there might be flying chips due to unlevelled wood. Though the possibility is not high, the manufacturer strongly recommends operators to put on leather gloves and an apron, and only stand at the side of the machine. Never stand in front of it.
- Read the operation manual carefully before operation.
- Make sure all shields and guards are in their proper places before operation.
- Before clearing, adjusting, maintaining, and repairing the machine, turn it off and disconnect it from its power source.
- Do not touch any moving parts, including the wood that is being cut, with hands or any part of your body.
- Be certain that the machine is properly installed and securely fixed on the floor before operation.