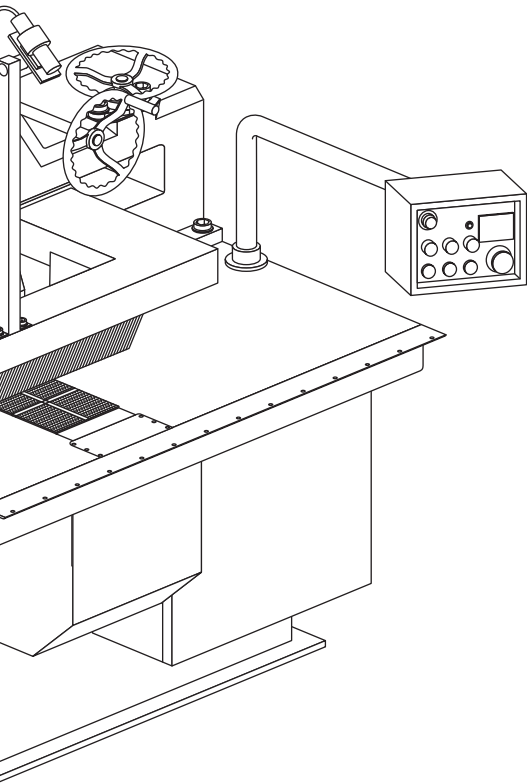


# Ironwood SLR305

## User Manual



**general information.** features.

technical specifications. safety considerations.

**facility preparation.** work space. power.

**delivery and installation.** inspection.

pre-operation cleaning. **assembly.**

install saw blade. connect dust collection system.

**operation and adjustments.**

machine controls. machine operation. rip sawing tips.


**maintenance.** replace saw arbor motor belt.

**IRONWOOD**

**stiles**

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 **PLEASE REVIEW AND OBSERVE ALL SAFETY INFORMATION / DIRECTIVES BEFORE INSTALLING, OPERATING, OR PERFORMING MAINTENANCE ON THIS MACHINERY.**

# 1.0 General Information

## 1.1 Thank You!

Thank you for your purchase of the Ironwood SLR305 straight line rip saw. At Stiles Machinery, our goal is to ensure that you are fully satisfied with your purchase. This manual is provided so that you may properly assemble, operate, and maintain your SLR305. Should you need help, our team of dedicated service personnel are available to answer your questions and provide any resource recommendations you may need.

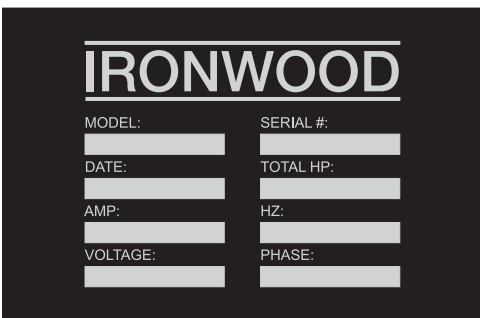
## Warranty and Support

All Ironwood machines are designed to meet the exacting standards demanded by craftsmen like you. Ironwood machines include a one (1) year parts warranty and two (2) years of free 24/7 technical support beginning at date of shipment. Standard technical support remains in effect for free for the lifetime of the machine thereafter. Warranty service work is not covered by manufacturer's warranty. Stiles' service team is available for an additional charge.

## 1.2 Before Contacting Stiles

Please have your machine model and serial number available when contacting Stiles Machinery with questions. The machine's model and serial number are listed on the metallic plate located on the machine's frame.

Information regarding the electrical system is also listed on the metallic plate.



Machine information plate

Stiles Technical Support  
616.698.6615

Stiles Parts  
800.PARTS.80 (800.727.8780)

Website  
[www.stilesmachinery.com/ironwood/SLR305](http://www.stilesmachinery.com/ironwood/SLR305)

Machine Model \_\_\_\_\_

Machine Serial Number \_\_\_\_\_

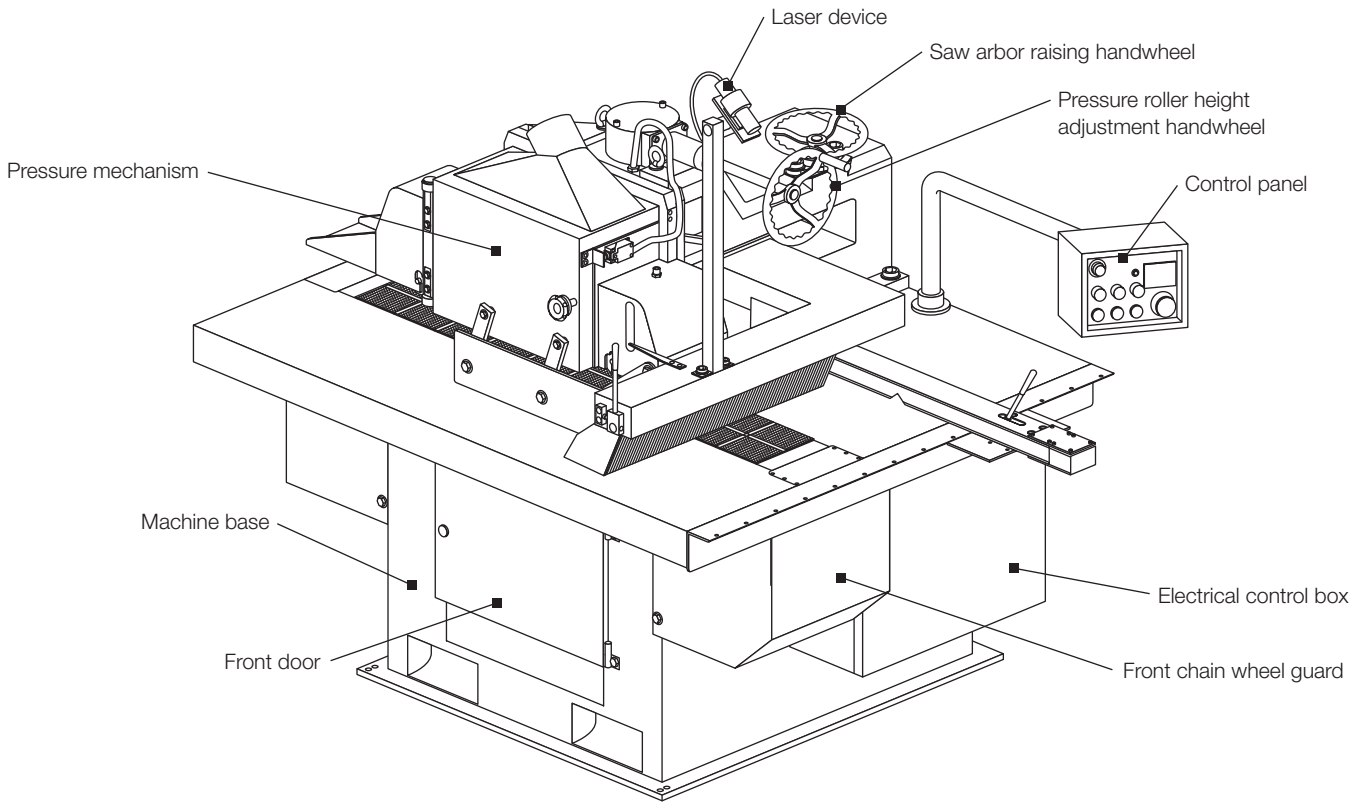
## 1.3 Features

- Cast iron machined feed chain block and guide track
- 18" ripping width capacity
- Easy access to blade and arbor
- 6 aligned pressure rollers provide absolute cutting tolerances, low maintenance, and safe operation
- Saw arbor is machine nickel-chrome steel with a balanced, large-diameter shaft that ensures accuracy
- 15-hp saw arbor motor
- Variable-speed belt allows infinite feed speed adjustment between 16-131 fpm (5-40m/min)
- Rugged cast-iron and steel provide a rigid, strong, and stable cabinet structure
- 3 rows of extended anti-kickback fingers and a side protection guard provide maximum safety
- Electric auto-lubrication system provides constant, consistent lubrication to the chain track
- Pivoting eye-level controller
- Linear guiderail with cast-iron rip fence ensures parallel positioning and provides accurate set-up, fast movement, and dust-free operations
- Laser device provides outline guide for accurate straight-line ripping the entire length of material

## 1.4 Intended Use

The Ironwood SLR305 straight line rip saw provides absolute precision on the first cut to optimize subsequent cutting processes. This heavy-duty, single-blade cutting solution offers superior build and high feed rates, while incorporating enhanced safety features that improve operator protection.

The innovative design of the feed chain ensures durability and accuracy, enabling glue tolerances up to 8 feet. Ground connector pins with diamond-cut, heat-treated chain blocks allow straight line feeding for glue joint rip capabilities.



### 1.5 Technical Specifications

Description	Ironwood SLR305
Min Material Length	10" (250mm)
Material Thickness	min 3/8" (10mm) max 4" (100mm)
Distance Between Blade and Fence	18 3/4" (466mm)
Number of Hold-Down Rollers	6
Rows of Anti-Kickback Fingers	3
Working Table Height	32 1/2" (850mm)
Saw Arbor Motor	15 hp
Saw Arbor Speed	4100 rpm
Saw Blade Diameter	10-12" (250-330mm)
Saw Arbor Diameter	1" (2.54mm)
Feed Speeds	16-131 fpm (5-40 m/min)
Feed Motor	1 hp
Table Area (w x l)	43" x 52" (1100mm x 1330mm)
Machine Dimensions (h x w x l)	97" x 45" x 55" (2469mm x 1150mm x 1403mm)
Net Weight	2400 lbs (1080 kg)
Dust Port Diameter	5" (125mm)
Dust Extraction Requirements	600 cfm @ 4,500 feet/min
Motor Power	230v (3-phase)
Amperage	40 amps
Shipping Dimensions (h x w x l)	68" x 49" x 62" (1720mm x 1240mm x 1580mm)
Shipping Weight	2535 lbs (1150 kg)

## 1.6 Safety Considerations

For your safety, read these instructions thoroughly before you install and operate this machine. Always have these instructions available at the machine for reference.

Observe all codes and regulations that apply to the installation and operation of this machine.

Keep visitors at a safe distance from the work space.

Keep children away from this and all machines. Childproof your work area!

Familiarize yourself with the safety notices used in this manual.

### CAUTION

If cautions are ignored, personal injury and/or machine damage may result.

### WARNING

If warnings are ignored, serious injury or death may result.

### Warning Labels

This machine has warning labels attached to ensure safe operation. These warning labels are very important and should be kept clean and never removed. If warning labels become damaged or lost, contact Stiles Machinery immediately for replacements.

Label 1: Hazardous voltage label

Label 2: Danger, sharp saw blade

Label 3: Warning – Feed workpiece from this end

Label 4: Warning – do not stand in the cut line

Label 5: Safety instructions

Label 6: Notice – power will not start without the door closed

Label 7: Direction of saw rotation

Label 8: Warning – Entanglement hazard/pinchpoint

### WARNING

Never use the SLR305 for purposes other than its intended use. Do not modify or remove any guards or other safety features. Improper use or modifications may affect your warranty or result in serious injury or death.

### Training

This machine is intended for use by authorized, well-trained operators only.

Do not operate until you have a complete working knowledge of the machine have been properly trained for its safe operation, correct adjustment, and use. All operators should thoroughly read and understand this manual and the workings of this machine prior to operation.

It is essential that all operators be aware of the following:

- The dangers associated with the operation of this machine.
- The use of personal protective equipment for ear and eye protection.
- The proper positioning of the operator and operator's hands relative to the saw blade.
- The principles of machine operation.
- The safe handling of the workpiece when cutting.
- The safe stacking of the workpiece before and after cutting.

			
<p><b>SAFETY INSTRUCTIONS</b></p> <ol style="list-style-type: none"> <li>1. Do not operate the machine until all guards are in place.</li> <li>2. Make sure the machine is properly grounded.</li> <li>3. Do not wear loose clothes, neckties, Pull up the long hair.</li> <li>4. Remove all accessories such as rings, watch and bracelets, etc.</li> <li>5. Wear safety glasses and other personal safety equipment.</li> <li>6. Unplug electric power before servicing.</li> <li>7. Do not leave machine running unattended.</li> <li>8. Refer to instruction manual for complete setup, operating and servicing.</li> </ol>	<p><b>NOTICE</b></p> <p>The power will not be started if you did not close the safety door at first.</p>		
<p>LABEL NO. 1</p>	<p>LABEL NO. 2</p>	<p>LABEL NO. 3</p>	<p>LABEL NO. 4</p>
<p>LABEL NO. 5</p>	<p>LABEL NO. 6</p>	<p>LABEL NO. 7</p>	<p>LABEL NO. 8</p>

# 2.0 Facility Preparation

Prior to uncrating your machine confirm that your location can accommodate the Ironwood SLR305. Follow these guidelines:

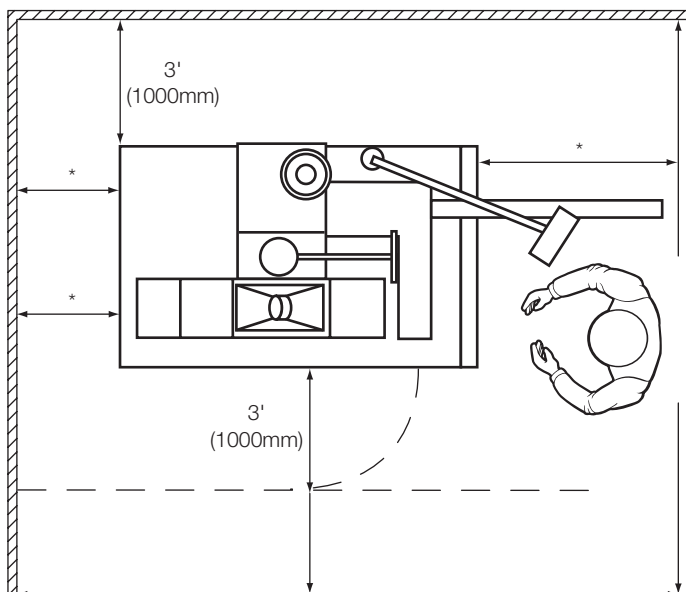
## 2.1 Floor

- The floor must be flat and level.
- Although no special foundations are required, a concrete floor is recommended.
- All floors must have a load-bearing strength suitable for the machine weight of approximately 2,400 pounds (1,080 kg).

## 2.2 Work Space

- Provide adequate work space surrounding the machine.
- Provide proper non-glare, overhead lighting.
- Place the machine so that any potential kickback area is not in line with aisles, doorways, or other work and traffic areas.
- Provide adequate dust extraction system.  
The dust extraction system should have a flow rate with a speed of 4,500 feet per minute at 600 cfm.
- Avoid exposure to any environment where vibration is present.

Standard machine clearance requirements



Machine clearance requirements\*

\*Actual clearance requirements may vary depending on length of material to be cut.

## 2.3 Power

### **⚠ WARNING**

A licensed electrician must connect the SLR305 to the building power source.

- Do not use extension cords.
- Be sure that the electrical current of the power source is of the same characteristics as the 230-volt electrical system supplied with your machine. If other machine voltage capabilities are required, contact Stiles Machinery.

	SLR305
Saw Arbor Motor	15 hp, 230v, 60 hz
Feed Motor	1 hp, 230v, 60 hz
Amperage	40 amps

- Ensure the machine is protected with an external over-current protective device per your local electrical codes.
- Electrical equipment operating conditions:  
Air temperatures between +41°F (+5°C) and +113°F (+45°C).  
Relative humidity not to exceed 50% at a maximum temperature of +113°F (+45°C).
- Electrical equipment is designed and protected to withstand the effects of transportation and storage temperatures within a range of -13°F (-25°C) to +131°F (+55°C), and for short periods of time not exceeding 24 hours at up to +158°F (+70°C).
- Ensure connection to factory ground system is wired correctly (IAW local electrical codes and NEC) and not connected to any electro magnetic interference source such as welders.

# 3.0 Delivery and Installation

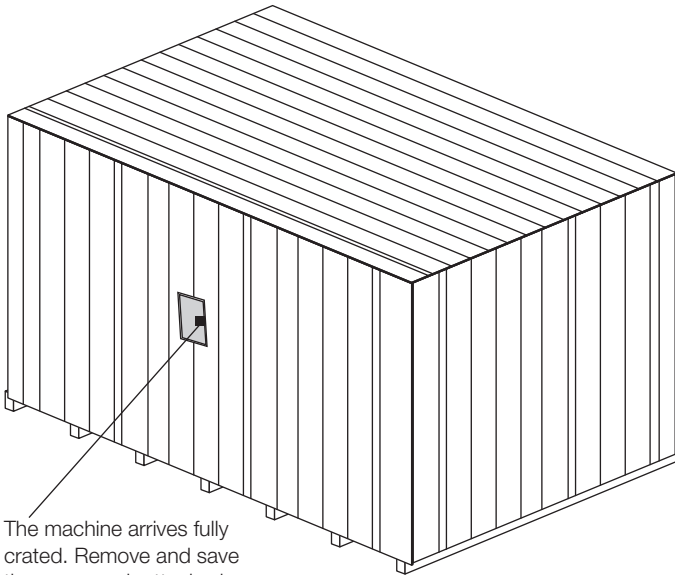
## 3.1 Receiving Your Machine

You will be contacted to arrange delivery. Your machine will be delivered by truck to your location. If there is no loading dock, be sure that you have informed the carrier in advance so that they deliver using a truck with a lift gate to lower the machine to ground level.

Before accepting the machine and signing the bill of lading from the carrier, please inspect crating and machine condition, note potential damage on the bill of lading, take pictures of potential damage, and contact Stiles Machinery immediately at 616.698.7500 and ask to speak with the traffic department.

The machine will arrive fully crated and secured to a pallet. Use a fork lift to move the machine on its pallet as close to its final position as possible.

If you do not intend to install the Ironwood saw immediately after delivery, store it in a protected, cool, and dry location.



The machine arrives fully crated. Remove and save the paperwork attached to the outside.

## 3.2 Unpack the Machine

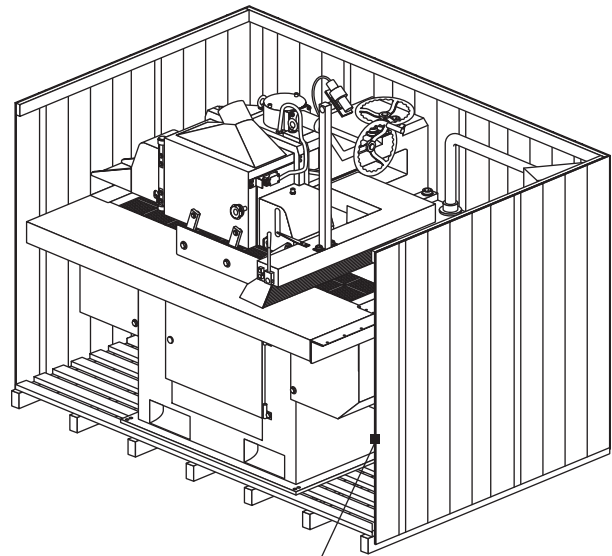
TOOLS REQUIRED:

- Hammer
- Crowbar

Unpack as follows:

Do not remove the machine from the pallet.

1. Remove and save all paperwork attached to the outside of the crate.
2. Remove the crating, starting with the top, then remove the four sides. Use caution to avoid personal injury and prevent damage to the machine's finish.
3. Remove the protective plastic from the machine, starting at the bottom.



Remove the crating, starting with the top, then remove the four sides.

Do not remove the machine from the pallet while uncrating.

### 3.3 Inspection

Save all containers and packing materials until you are satisfied that your machine has arrived in good condition. If you discover the machine is damaged after you've signed for delivery, immediately call Stiles Customer Service at 616.698.7500.

When you are completely satisfied with the condition of your equipment, you should inventory its parts.

Open and check the contents of all containers to ensure all tools, hardware, and accessories are included. The tool kit should contain the following items:

1. Oil pot
2. Open-ended wrench set (3 pieces)
3. Allen wrench set
4. 10mm T-handle Allen wrench
5. 4 leveling pads
6. 4 leveling bolts with nuts
7. Saw arbor wrench
8. Paint (2-color set)
9. Fence assembly
10. User manual

### 3.4 Move Machine to Final Position

Be sure the site is properly prepared. Refer to section 2.0 for details.

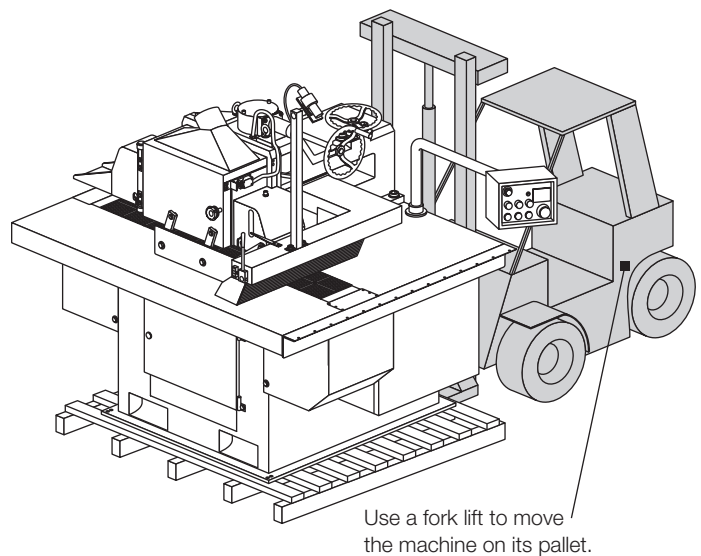
Be sure the access doors are closed and secured before transporting.

TOOLS REQUIRED:

- Fork lift

Use a fork lift to move the machine on its pallet to its final location. Make sure fork travel is clear of any obstacles or wiring. Lift the machine from the front side so that the fork is positioned in the fork slots in the machine base. When transporting the machine, the fork must be over the center of gravity of the machine to avoid hazardous situations.

The infeed and outfeed direction of workpieces must not face areas where people gather or pass through.





### 3.5 Remove Machine from Pallet

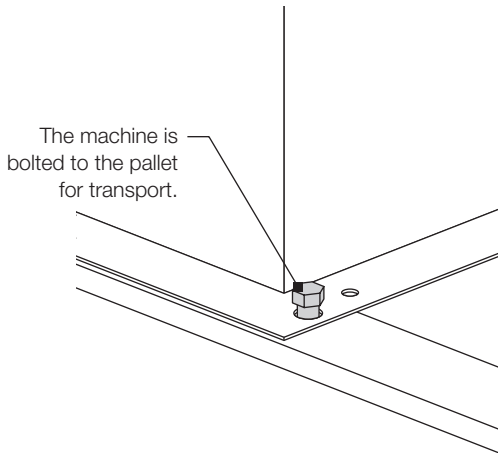
**⚠ CAUTION**

The SLR305 weighs 3,400 pounds (1,450 kg). For this procedure, we recommend using a fork lift.

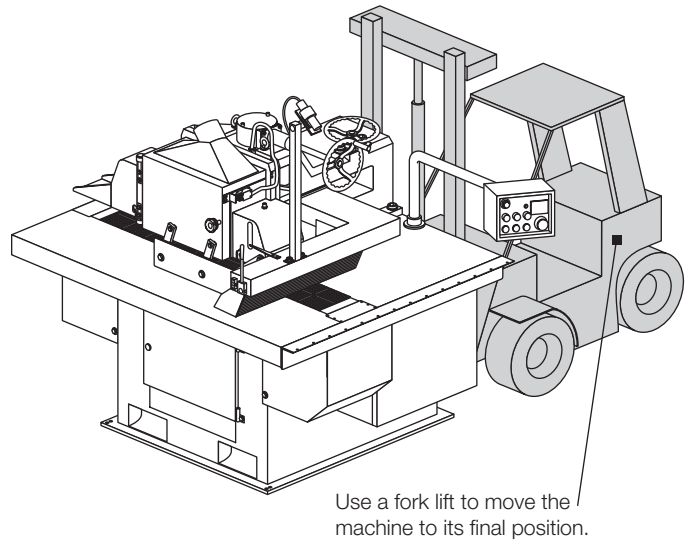
**TOOLS REQUIRED:**

- Adjustable wrench

When the machine has been placed at its final location, carefully remove the machine from the pallet.



1. Remove the bolts securing the machine to the pallet at the 4 corners of the machine.
2. Lift the machine from the pallet with a forklift using the fork holes located in machine base.
3. Carefully place the machine into final position.

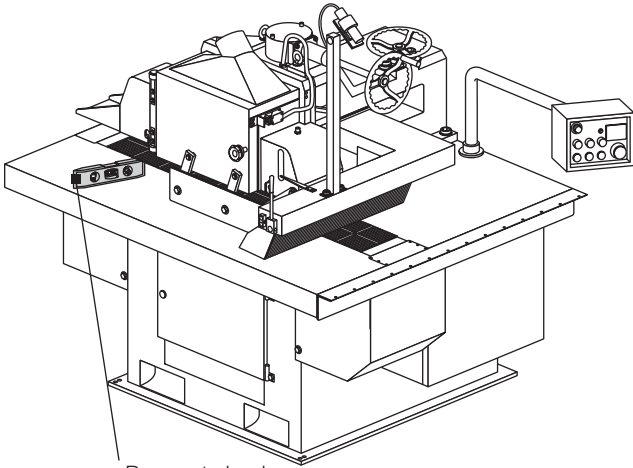


### 3.6 Level

#### TOOLS REQUIRED:

- Bubble Level
- Adjustable wrench

Use a bubble level along the length and width of the tabletop surface to check for level. Use an adjustable wrench to adjust the 4 leveling screws on the lower end of the machine to level machine. After leveling, be sure to retighten the leveling screws.



Be sure to level the machine

### 3.7 Pre-Operation Cleaning

#### **⚠ WARNING**

Use proper cleaning agents and methods described below. Do not use gasoline or other petroleum-based solvents. There is a risk of explosion and burning if these products are used. Serious personal injury may occur.

Use a soft cloth and nonflammable degreasing agent, such as Simple Green or other citrus-based cleaners to carefully clean off all grease and rust preventative oils from all surfaces of the machine and all lubricated parts. Do not use abrasive pads.

#### **⚠ CAUTION**

Use extreme care when cleaning the saw blade. It is very sharp.

Before installing the saw blade, clean its contact faces, saw arbor, and lock washer with a clean cloth.

NOTE: Make sure the saw arbor flanges are completely clean when installing the saw blade.

# 4.0 Connect to Power

- Voltage – Steady state voltage +/- 10% of nominal voltage.
- Machine needs steady voltage at all times.

## **WARNING**

Before connecting power to the machine, make sure all screws and fasteners are tightened, all mechanical functions work freely, and the saw blade turns freely.

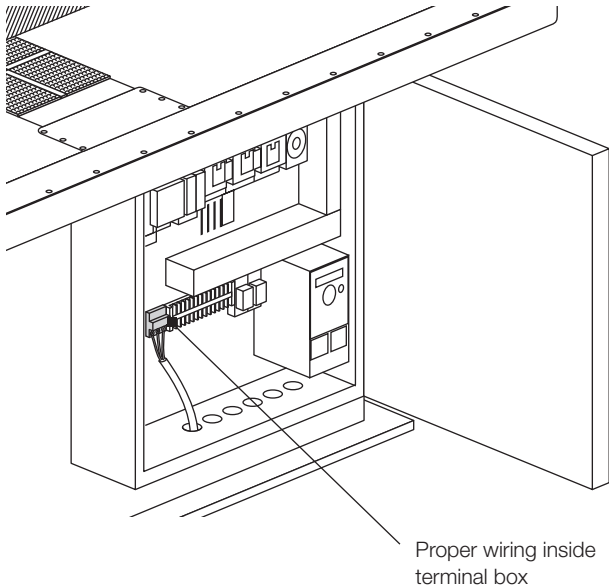
## **WARNING**

A licensed electrician must complete all connections to electrical power.

Before connecting to a power source, confirm that the electrical current of the power source is the same as the electrical system supplied with your machine. Ensure the machine is protected with an external over current protective device per your local regulating authorities.

Machine must be properly grounded to prevent electric shock. Never connect the yellow/green wire to a live terminal.

Once connected to power source, terminals are under power even while the power switch is off.



To connect power source to the machine:

1. Open the electrical cabinet
2. Place cable through electrical fitting on the bottom of the cabinet.
3. Remove the clear plastic insulator that covers the main incoming power terminals.

4. Insert source power cables through the opening of the terminal box.
5. Connect the three power cables to terminals L1, L2 and L3, and the yellow/green ground wire to ground terminal.
6. Replace the clear plastic insulator and close the electrical cabinet
7. Tighten cable fitting on the bottom of the electrical cabinet to properly secure incoming power cable.

## **WARNING**

Always shut off power and lock out at source before opening electrical cabinet. Failure to comply with this action may result in electric shock.

## **CAUTION**

We have covered some basic electrical requirements for the safe installation of your machine. These requirements may not cover all installation requirements. You must confirm that your particular electrical configuration complies with all local codes. Ensure compliance by checking with your local municipality and a licensed electrician.

# 5.0 Safety

## **WARNING**

Like all power equipment, there is danger associated with the Ironwood SLR305. Use caution and follow all safety instructions. Take every precaution to protect yourself, others around you, and the machine itself from improper use. Safety is a combination of common sense, training, and being alert at all times while operating your machine. If instructions, warnings, and cautions are not followed, serious personal injury or death may occur.

**EYE PROTECTION:** Always wear approved safety glasses or a face shield when operating this machine. Only use eye protection that meets or exceeds the standards of the American National Standards Institute (ANSI).

**EAR PROTECTION:** Always wear ear protection during machine operation.

**DRESS CODE:** Do not wear loose clothing, neckties, jewelry, or gloves that can get caught in moving parts. Confine long hair and keep sleeves above the elbow.

**ELECTRICAL GROUNDING:** Your machine must be electrically grounded. If a cord and plug are used, make certain the machine is properly grounded. Follow the grounding procedure indicated by the National Electric Code and local regulating authorities.

**GUARDS:** Make certain that machine guards are in place and in good working order. The machine should never be operated without the safety guards in place.

**TOOLING AND ACCESSORIES:** Use only recommended tooling and accessories. Improper tooling and accessories may cause personal injury or damage to your machine. Always run at the correct speed and feed rate. Regularly maintain your tools and accessories. The saw blade should be sharpened and cleaned for safe, optimal performance. Follow instructions for lubricating and changing tooling and accessories.

**POWER:** Make sure the starter is in the OFF position before connecting power to the machine.

Make certain the machine is either unplugged or electrically disconnected and locked out when performing all maintenance, cleaning, or machine adjustments. Never leave the machine running unattended. Always turn the power off and stay by the machine until the saw blade comes to a complete stop.

**HOUSEKEEPING:** Before turning the machine on, remove all extra items on or around the machine. Keep the work area clean and free of scrap material, sawdust, and other debris to minimize the danger of slipping. Use compressed air or a brush to remove chips or debris. NEVER use your hands.

# 6.0 Assembly

## 6.1 Install Saw Blade

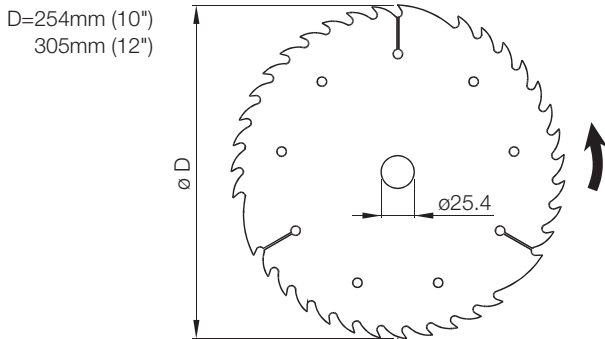
### PARTS REQUIRED:

- Saw blade

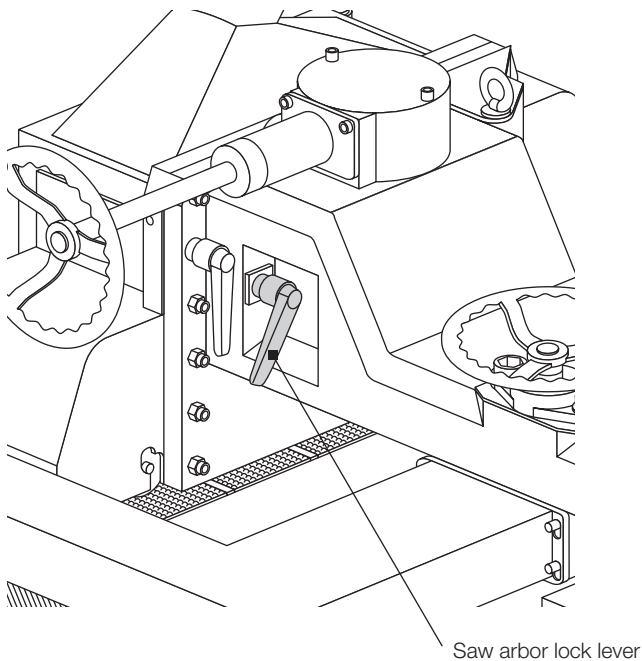
### TOOLS REQUIRED:

- Saw arbor wrench
- Open-ended wrench

Before installing the saw blade, make sure the diameter of the saw blade is correct. Refer to the drawing below:

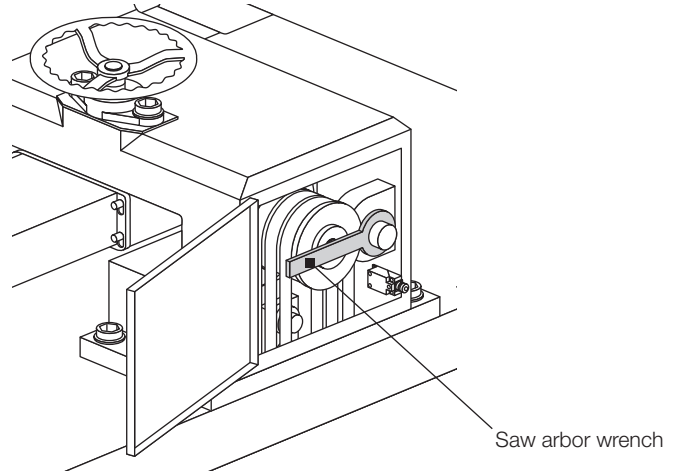


1. Loosen the saw arbor locking lever.
2. Open the blade access door.

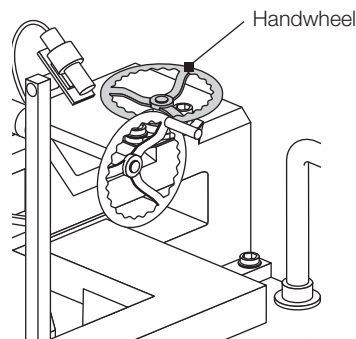


3. Raise the saw arbor by turning the saw arbor handwheel so there is ample room for installing the saw blade without touching the feed chain.
4. Loosen the wing nuts on the small pressure rollers and move them away from the saw blade position.

5. Open the rear door and fit the supplied saw arbor wrench into the cross slot on the pulley for securing the saw arbor.



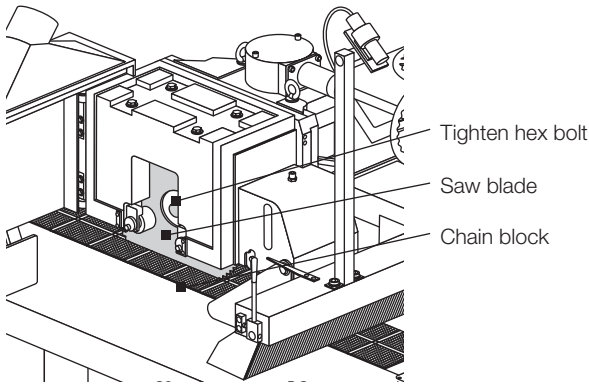
6. Loosen the hex bolt securing the lock washer/hub and remove the hub.
7. Mount the saw blade with the teeth pointing in the same direction as the rotation of the arbor (counterclockwise).



8. Reinstall the lock washer/hub, securing with the supplied hex bolt.

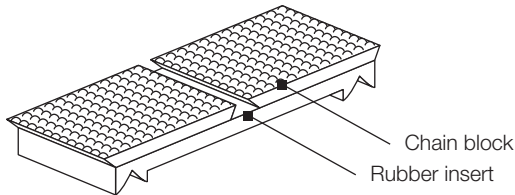
NOTE: Ensure the saw blade and hub are clean and free of any oil or debris before installing the saw blade.

9. Tighten the hex bolt to secure the saw blade.



10. Adjust the small pressure rollers to provide support for the workpiece near the saw blade and secure with wing nuts.

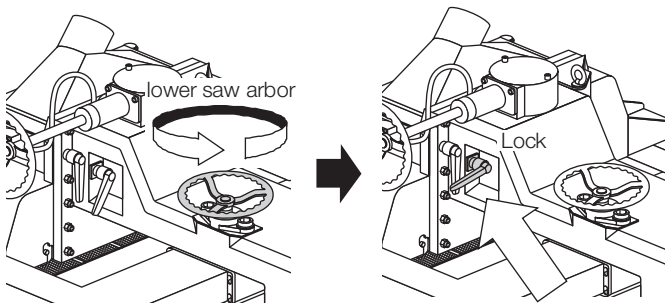
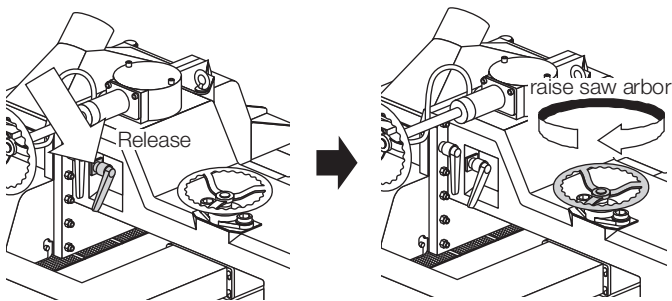
11. Lower the arbor until the saw blade teeth are below the feed chain by 0.5-1.5mm. Ensure the teeth do not touch the feed chain. The rubber inserts in the center of the feed chain allow saw blade depth below the surface of the feed chain.



12. Lock the saw arbor locking lever.

13. Close the blade access door and secure.

14. Remove the saw arbor wrench from the cross slot of the pulley and close the rear access door.



To remove the saw blade:

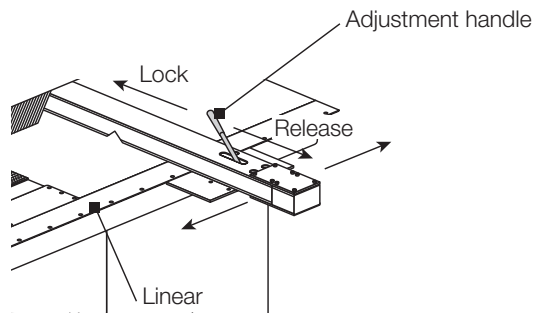
1. Loosen the saw arbor locking lever.
2. Open the blade access door.
3. Raise the saw arbor by turning the saw arbor handwheel so the saw blade teeth are 5-10mm higher than the feed chain.
4. Loosen the wing nuts on the small pressure rollers and move them away from the saw blade position.
5. Open the rear door and fit the supplied saw arbor wrench into the cross slot on the pulley for securing the saw arbor.
6. Loosen the hex bolt securing the lock washer/hub and blade.
7. Remove the saw blade.

## 6.2 Attach Rip Fence Assembly

The rip fence assembly attaches to the front of the machine. Use the rip fence to position and guide the workpiece as you feed it into the machine. The top of the rip fence assembly bracket has a measuring scale that indicates the width of the cut (distance between fence and saw blade).

To mount the rip fence assembly:

1. Hold the assembly up to the front of machine and align it with the predrilled holes.
2. Tighten with the supplied bolts.
3. Check the fence for squareness to the saw blade and adjust as shown below:



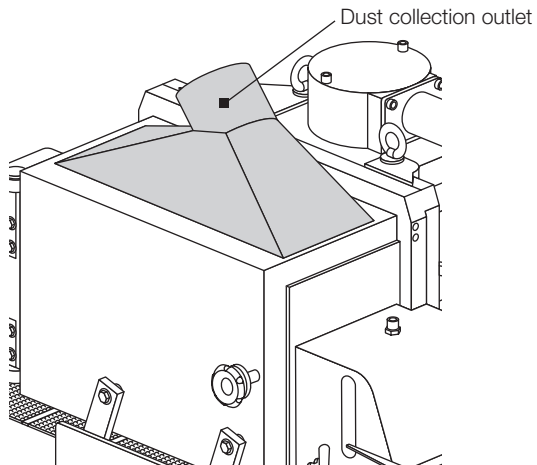
To lock the rip fence in place, push the handle away from you. To release it, pull the handle toward you.

The rip fence should glide easily on the linear guideway for quick and easy ripping width adjustment.

### 6.3 Connect Dust Collection System

The dust collection outlet is 5" (125mm) in diameter. Connect the flexible tube of a suitable dust extraction system to the outlet. The dust extraction system should have a flow rate of 4,500 feet/min at 600 cfm.

NOTE: Flex hose length should not exceed 30 feet or suction velocity will decrease, causing inadequate dust collection.



The dust collection outlet is located in the top of the machine.

# 7.0 Operation and Adjustments

## **⚠ WARNING**

Do not attempt to operate machine if you are not completely familiar with its operation. Obtain immediate advice from a supervisor, instructor, or other qualified personnel.

Use of this machine requires that you give your work your undivided attention, and careless acts or not paying close attention to work being performed may result in serious injury to yourself and/or others. Never operate this or any machine under the influence of drugs, alcohol, or any medication that may impair judgment.

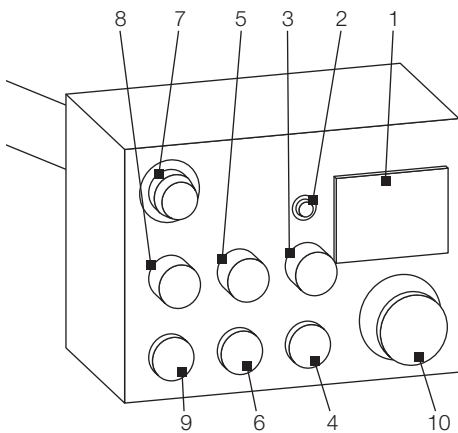
Dust created by manufacturing activities may be harmful to your health.

Your risks from exposure may vary. Always work in a well-ventilated area and wear safety approved, protective dust masks specifically designed to filter out microscopic particles. Utilize wood dust collection systems appropriate to your machine type.

## Avoid Kickback

It is very important that each workpiece be carefully inspected for stock condition and grain orientation before running through the machine. Kickback can result when the workpiece has knots, holes, or foreign materials such as nails. It can also occur when the material is fed against the grain.

## 7.1 Machine Controls



- |                              |                                   |
|------------------------------|-----------------------------------|
| 1. Amp meter for saw motor   | 6. Saw blade stop button          |
| 2. Power indicator lamp      | 7. Feed chain conveyor speed knob |
| 3. Power source start button | 8. Feed chain start button        |
| 4. Power source stop button  | 9. Feed chain stop button         |
| 5. Saw blade start button    | 10. Emergency stop                |

Machine controls are conveniently located at eye level on a pivoting arm.

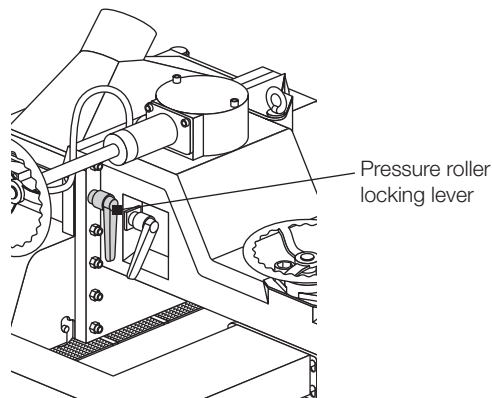
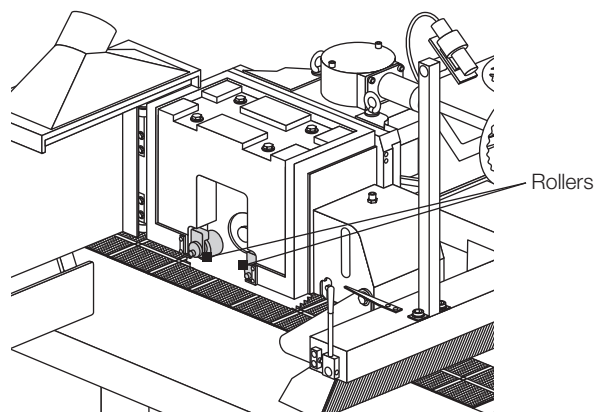
## 7.2 Machine Operation

### Step 1: Adjust Pressure Roller Assembly Height

## **⚠ WARNING**

Pressure rollers must be adjusted to the proper position to prevent kickback.

There are 4 pressure rollers on each side of the saw blade to hold down the workpiece during the cut. Adjust the height of the pressure roller assembly according to workpiece thickness.



An adjustment example is shown above.

1. Release the pressure roller locking lever.
2. Pressure roller height is indicated on the scale on the front of the pressure roller assembly housing. The thickness of the workpiece should be set using the indicator scale. The pressure rollers are 2mm lower than the indicator scale to ensure the correct amount of pressure is applied to the workpiece. When cutting a thicker workpiece, the indicator scale can be adjusted 2-4mm less than the workpiece thickness to increase pressure.
3. Tighten the pressure roller locking lever to secure the pressure rollers before running the saw.



## Step 2: Adjust Rip Fence

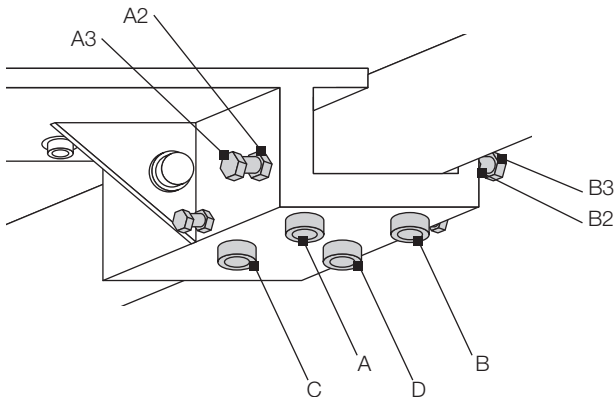
### Rip fence position

1. Pull the handle toward you to release the fence.
2. Hold up the anti-kickback fingers using the handle.
3. Move the fence assembly along the measuring guide to set the width of cut (distance between the saw blade and fence).
4. Push the handle away from you to lock the fence in position for your cut.
5. Release the anti-kickback finger handle to allow the fingers to drop.

### Rip fence squareness

Adjust rip fence squareness on the bottom of the rip fence assembly. Adjustment depends on which direction the rip fence is out of alignment. For example, in the case of fig. 1 below:

1. Loosen screws A, B, and C.
2. Loosen lock nut B2, and turn B3 to the right.
3. Loosen lock nut A2, and turn A3 to the right.
4. Check for squareness.
5. Tighten the lock nuts and securing screws to fix the rip fence in the correct position.



## Step 3: Check Anti-Kickback Fingers

There are three rows of auto-adjust anti-kickback fingers. The anti-kickback fingers do not need to be adjusted.

For safety, be sure the top anti-kickback fingers hang down in a row, point in the direction of the feed chain, and can be lifted smoothly. Be sure the bottom anti-kickback fingers press down and lift up smoothly.

## Step 4: Start the Saw Blade

### WARNING

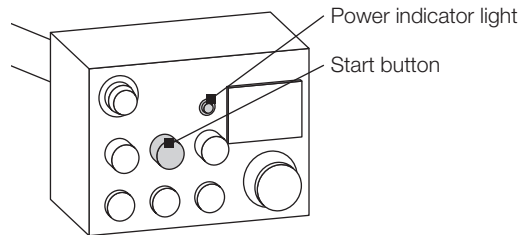
Before starting the machine, inspect it to ensure it is free of all debris. Remove wood chips and sawdust only with the power OFF.

Make certain that the saw blade is installed with the teeth pointing in the same direction as the rotation of the saw arbor.

Never start the machine with the workpiece in contact with the saw blade.

Make sure the workpiece is free of nails, loose knots, and other defects that could cause personal injury or damage the saw blade.

Press the saw blade start button. Make sure the power-on indicator lights up.



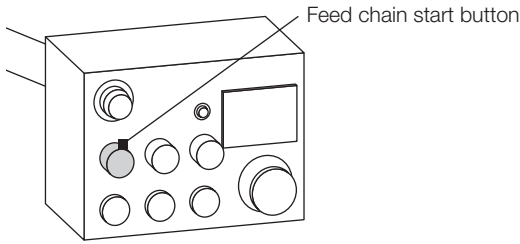
When starting machine for the first time, blade rotation must be checked. If blade rotation is not the same direction as the arrow indicates (against the feed), phasing must be changed.

To re-phase machine:

1. Disconnect the main power supply.
2. Open the electrical cabinet and test power leads to ensure power is off.
3. Switch two of the power legs (e.g., L1 and L2).
4. Close the electrical cabinet.
5. Activate power to the machine.
6. Test rotation again.

### Step 5: Start and Adjust the Feed Chain

Press the feed chain start button.



Adjust the feed speed according to the thickness and type of wood being cut. The range of feed speed is 16-131 ft/min (5-40m/min). The optimal feed speed varies depending on the material being cut and the cut quality desired.

Increase speed by turning clockwise; decrease by turning counterclockwise.

### Step 6: Activate the Laser Outline Guide

To ensure cutting accuracy the entire length of the workpiece, use the laser outline guide.

To activate, plug in the laser on the right side of anti-kickback finger support arm.

The laser should accurately indicate the cut line path. If the laser line does not align with the cut line, use the adjustment screws located on the laser bracket to align.

ADJUSTMENT TIP: Mark the laser line on the board before cutting for reference after the board is cut.

### Step 7: Make Your Cut

#### **WARNING**

If you are inexperienced at rip sawing, become familiar with the machine and its operation before doing normal work. Use scrap pieces of lumber that are not warped, bowed, or too small.

Stand to the side of the workpiece when feeding it through the saw to avoid potential injury from kickback and loose chips.

Keep your hands away from the saw blade area.

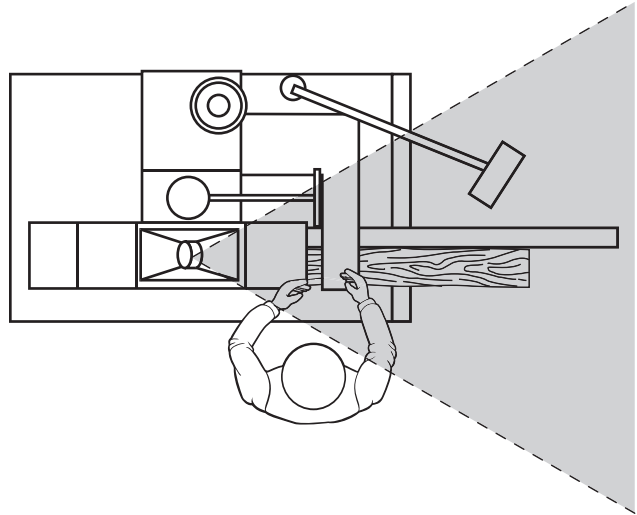
To stop a workpiece before it is entirely fed through the machine, press OFF. Wait until the saw blade has completely stopped before removing material. Attempted removal while saw blade is turning may cause kickback.

The four sides of the workpiece should be even in thickness to obtain a precise straight-line rip. Thickness should not exceed 4" (400mm). The workpiece should not be curved, warped, or deformed.

The workpiece should be at least 10" (250mm) long to ensure the pressure rollers hold the workpiece properly for a high-quality cut.

Stand at the side of the machine. Never stand behind the ripping line. The danger zone includes an angle of 30 degrees on both sides of the ripping line.

Always wear leather gloves, a leather apron, and a face shield.



Place the workpiece on the worktable against the fence and feed it between the feed chain and pressure rollers to begin sawing.

#### **WARNING**

The operator MUST let go of the workpiece as soon as it has been pushed into the machine. If the workpiece does not enter the machine properly, the operator should NEVER attempt to straighten it with his/her hands.

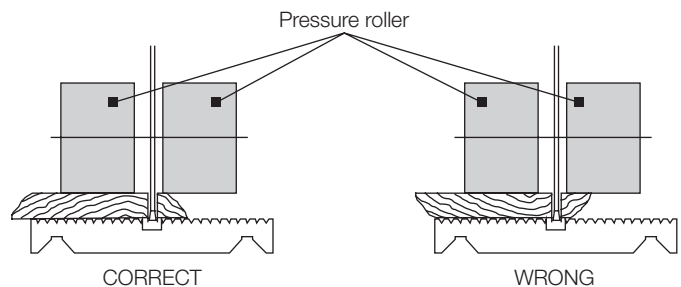
After the cut, check the profiles of the workpiece to verify that the cut quality is acceptable and that the feed speed is correct. Adjust the feed speed if necessary (see Step 5).

#### **WARNING**

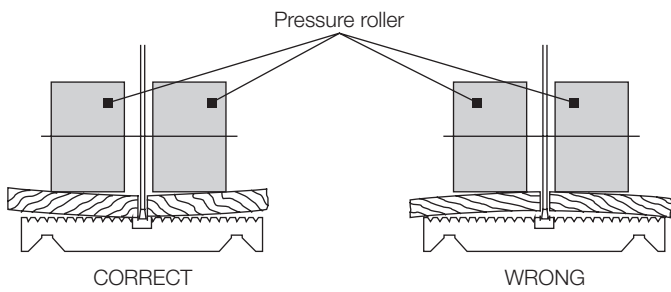
Never leave the machine unattended while in use. After switching off the machine, be certain to wait until the saw blade comes to a complete stop before walking away.

### 7.3 Rip Sawing Tips

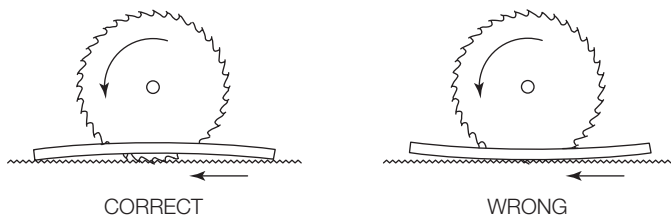
When the edges of a workpiece are not square, the wider side should always face down on the feed chain. The wider portion will maintain more surface area on the feed chain for maximum accuracy.



When a workpiece is warped transverse, the convex side should face down on the feed chain. If the convex side faces up, the saw blade might become clamped by the workpiece, causing kickback.



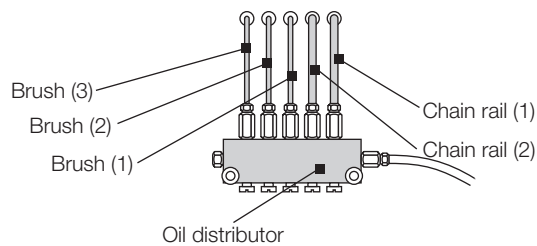
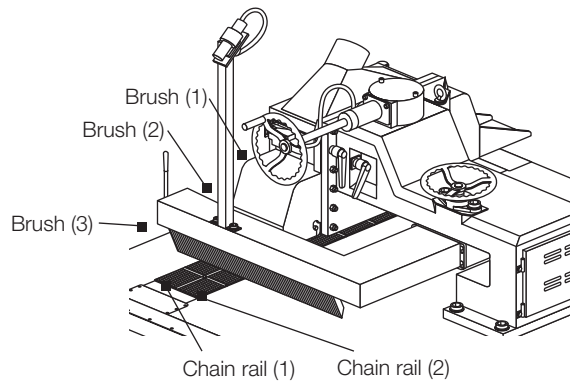
When a workpiece is warped lengthwise, the convex side should face up on the feed chain. If the convex side faces down, the pressure rollers will not work smoothly, which can affect accuracy.



## 7.4 Adjust Oil Supply to Feed Chain

The central lubrication system automatically applies oil at specific intervals. The intervals can be adjusted according to conditions. If the oil in the tank is below the minimum allowed value, the feed chain will stop running automatically to prevent damage.

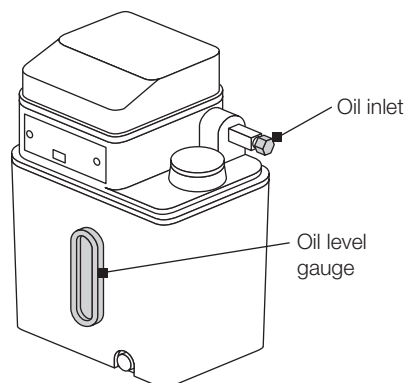
Oil flows from the central lubrication system to the oil distributor, which then distributes oil to various points. The image below shows the lubrication points and which line lubricates which point.



Check every day before machine operation to ensure the oil reservoir is full.

Before starting the machine, press the manual lubrication button located on the front of the lubricator for 10-15 seconds to start the flow of oil to the lubrication points. When starting the machine, make sure the lubricator is in the intermittent OFF position to avoid over lubrication due to repetitive starting.

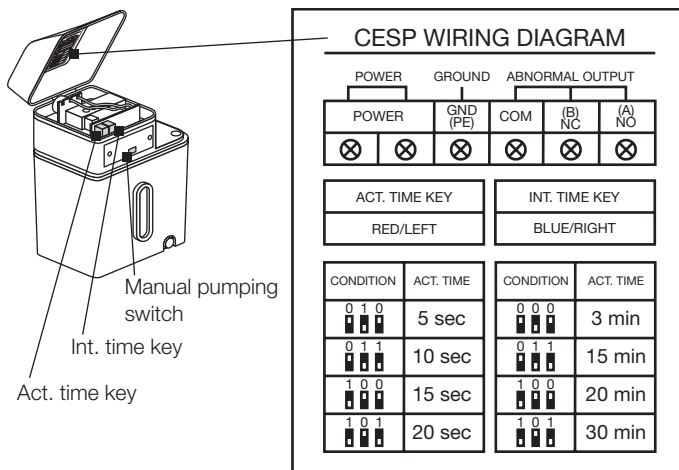
NOTE: The oil pump in the central lubrication device is not intended for continuous pumping for an extended time. Pressing the manual lubrication button for more than 3 minutes may damage the oil pump motor.



The machine comes preset at the factory to provide 10 seconds of active lubrication time and 20 minutes of intermittent time between pumping cycles. These intervals can be adjusted based upon actual operating conditions.

To manually set automatic lubrication time intervals:

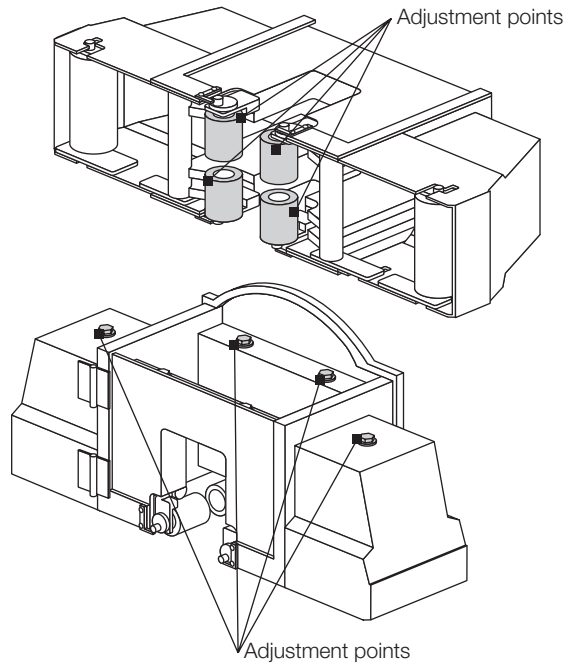
1. Open the control box cover on the top of the central lubrication device.
2. Select active lubrication time. You can choose 5, 10, 15, or 20 seconds of active pumping time. The label on the control box cover shows how to set the pumping time for the various time interval choices.
3. Select intermittent time. You can choose 3, 15, 20, or 30 minute intervals between pumping cycles.
4. Close the control box cover.



## 7.5 Adjust Hold-Down Pressure for Pressure Rollers

Hold-down pressure is adjustable to accommodate the cutting application. To adjust:

1. Locate the adjustment points for the rollers you wish to adjust. The adjustment points are located on the top of the pressure roller assembly housing. To adjust the split pressure rollers located closest to the blade, open the blade access door.
2. Loosen the lock nut on the adjustment screw.
3. Turn the adjustment screw clockwise to increase pressure on the pressure roller. Turn counterclockwise to decrease pressure.
4. Tighten the lock nut.
5. Close the blade access door if opened.



# 8.0 Maintenance

## **⚠ WARNING**

Before performing any type of maintenance or adjustments, make certain that the machine is disconnected from its power source and completely shut off.

## **⚠ WARNING**

Never operate the machine until it has been properly lubricated and all necessary maintenance work has been completed.

NOTE: After changing a setting, making an adjustment, performing repair/maintenance work, or troubleshooting, please check that all applicable safety functions are working properly before performing another operation.

Clean all machinery parts and surrounding areas every day.

Keep a maintenance record and perform recommended maintenance checks.

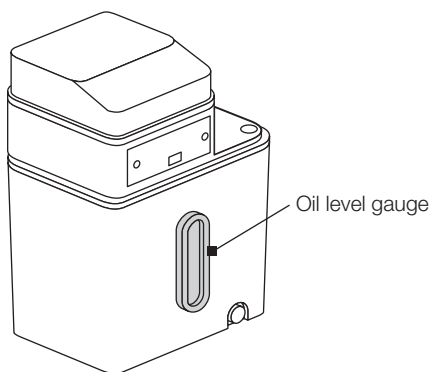
## 8.1 Automatic Lubrication System

Every day, check the oil level in the feed chain lubrication tank before operating the machine. If the oil level is low or if the feed chain stops, refill the oil reservoir immediately. Remove the oil cover and pour the lubricant into the tank until it is 80% full. Do not let the lubricant overflow. When pouring oil into the tank, be sure impurities and debris do not get inside.

To order oil for the central lubrication device, call Stiles Machinery at 1-800-727-8780. The central lubrication device uses the following oil:

Viscosity	Ambient Temp.	Shell Oil	ISO VG
32	0~5°C	Tonna 32	VG32
68	5~40°C	Tonna 68	VG68

Never use recycled oil.



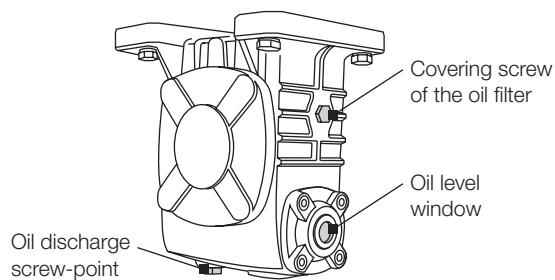
Be sure the lubrication tank has an adequate supply of oil.

## 8.2 Manual Lubrication

After first 100 working hours

Change the oil for the feed-chain reduction gears.

1. Remove the oiler filler plug.
2. Loosen the oil discharge screw.
3. Drain all oil into a measurement cup. The same amount of oil drained should be the same amount of oil used to refill the oil reservoir.
4. Tighten the oil discharge screw.
5. Add oil to the oil inlet until it rises above the oil level window. The gear reducer should have an oil level over half full. Overfilling may cause leakage.
6. Change the oil again after every 2,500 working hours.



To order oil for the reduction gear box, call Stiles Machinery at 1-800-727-8780. The reduction gear box uses the following oil. Lubrication points are indicated on the accompanying drawing.

Load	Ambient Temp.	Shell Oil	Mobil Oil	ISO VG
Mild	0~5°C	Omala 150	Mobil Gear 629	ISO VG EP 150
	5~40°C	Omala 320	Mobil Gear 632	ISO VG EP 320
	40~65°C	Omala 460	Mobil Gear 634	ISO VG EP460

Additional lubrication points and lubrication frequency

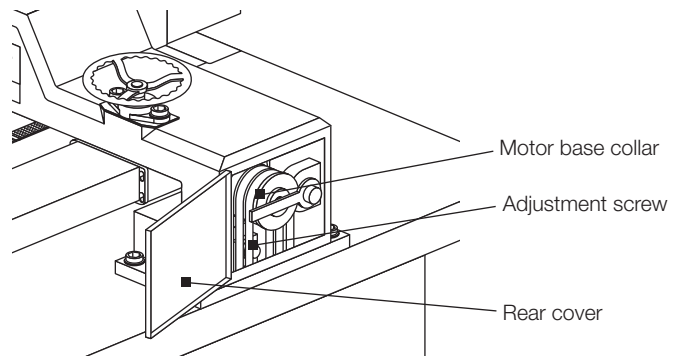
Lubrication Points	Methods	Lubricants	Frequency
1. Oil cups at arbor and both ends of slot pieces	Fill oil	Shell slide oil T08 (Sliway Tonna 08)	Once daily
2. Elevation screw under bevel gear box	Grease with brush	Grease	Once monthly
3. Flange bearing under handwheel	Grease gun	Shell grease R2 (Grease Alvania R2)	Once per 2 weeks
4. Two grease nipples on the arbor	Grease gun	Grease	Once monthly
5. Oil box of lubricator	Fill oil	Shell slide oil T08 (Sliway Tonna 08)	Fill oil when alarm sounds
6. Flange bearing of chain wheel	Grease gun	Shell grease R2 (Grease Alvania R2)	Once per 2 weeks
7. Screw near the arbor	Grease with brush	Grease	Once daily
8. Oil box of gear reducer	Fill oil	Shell Omala 320	Once monthly

### 8.3 Inspection

Feature	Interval/Situation
Saw blade	Daily
Belts	Every 200 hours of use
Emergency stop	Daily: by functional test
Anti-kickback fingers	Daily
Electrical cabinet/system	Monthly: check for loose wiring terminals loose and insulation deterioration; vacuum electrical cabinet

To adjust the V-belt tension:

1. Disconnect the machine from power and tag out.
2. Open the side access door.
3. Loosen the v-belt tension adjustment screws 1 and 2 on the motor base.
4. Adjust the tension until the v-belt is tight.
5. Tighten adjustment screws.
6. Close access door.



### 8.4 Clean Roller Housing

Every week, raise and lower the roller housing several times to prevent sawdust accumulation on the screw and nut. This helps maintain smooth movement of the roller housing and prevent damage to the screw and nut.

### 8.5 Tighten Saw Arbor Motor Belt

To maintain optimum operation, the saw arbor motor belt should be periodically tightened. A new belt should be checked for tension weekly for the first 3 months. From then on, the belt should be inspected and adjusted every 200 working hours.

## 8.6 Replace Saw Arbor Motor Belt

Replace the saw arbor motor belt immediately if it shows signs of wear or appears to be split. Between regular inspections, if you hear a vibrating sound from the belt, inspect the belt immediately and replace if necessary.

1. Disconnect the machine from power and tag out.
2. Open the rear motor and belt access doors.
3. Loosen the two hex head screws using an open-ended wrench. Turn screws clockwise until the old belt can be removed.
4. Install a new belt.
5. Tighten the two hex head screws.

## 8.7 Feed Chain Cleaning

Sawdust dries up lubricant, so it is critical to remove all sawdust from every chain block in the feed chain using compressed air. Clean the feed chain regularly.

6. Open the feed chain safety cover.
7. Check all lubrication inlets. If any are plugged, remove any sawdust or other material.
8. Blow out the bottom of the chain to free up loose debris.
9. Manually jog the chain to clean each chain section until the chain is completely clean.
10. Reattach the feed chain safety cover.

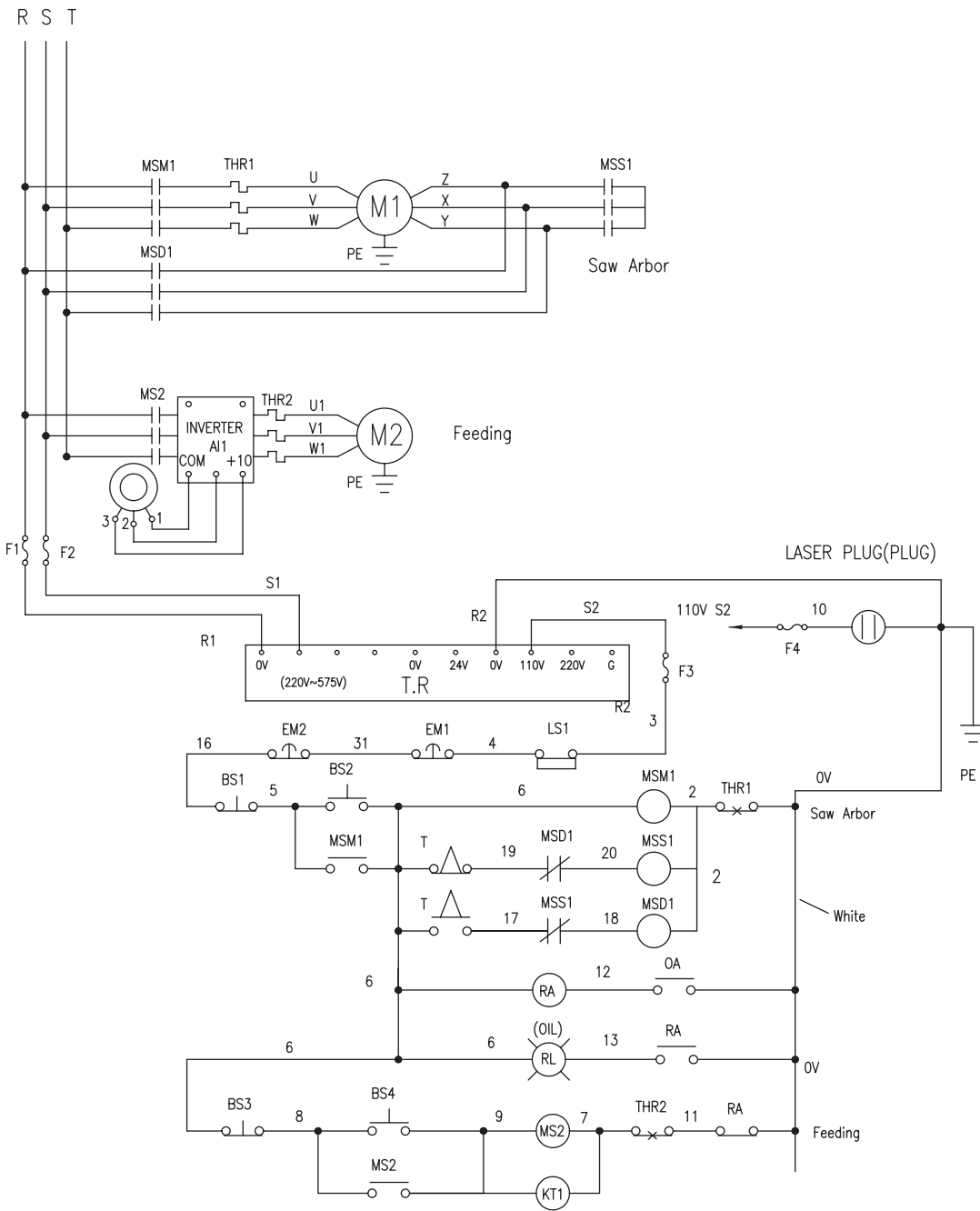
# 9.0 Troubleshooting

Trouble	Possible Cause	Solution
Saw arbor will not start	Saw arbor guard or rear guard not closed properly	Check and close guards/access doors
	Problem with saw arbor belt	Check belt condition
	Problem with saw arbor spindle	Check if saw blade can turn freely, call Stiles Technical Support
Conveyor will not start	Variable speed belt too loose or dropped.	Adjust or replace variable speed belt tension
	Problem with inverter	Call Stiles Technical Support
	Problem with feed chain motor	Call Stiles Technical Support
Loud noise when saw arbor runs but arbor not turning	Saw arbor wrench for securing saw arbor was not removed from the cross slot on the pulley	Remove saw arbor wrench and check belts for damage
	Saw arbor bearing failure	Replace saw arbor bearings
Workpiece is slipping	Pressure rollers are too high	Lower pressure rollers
	Spring tension too loose	Increase spring pressure
Cut is not straight	Saw blade too dull	Replace saw blade
	Rip fence out of alignment	Adjust rip fence assembly
Abnormal speed of feed chain	No oil in lubricator	Refill oil
	Oil distributor jammed	Refer to instruction on lubrication device
	Variable speed belt too loose	Adjust tension of variable speed belt
	No oil in gear reducer	Fill oil in gear reducer
	Problem with inverter	Call Stiles Technical Support
Material is not cut through	Saw blade position is too high and not cutting into the rubber on the chain block	Lower saw blade. Refer to adjustment section for height adjustment instructions.
Saw blade has insufficient power	Improper saw blade for material or application	Use correct saw blade
	Saw arbor belt too loose	Adjust saw arbor belt
	Voltage problem to motor	Check power to motor
Poor glue/squareness of cut	Damage to feed chain or chain rail	Check feed chain and rail and call Stiles Technical Support
	Part is moving during cutting	Adjust pressure rollers
	Dull or improper saw blade	Replace with sharp or correct blade
Saw arbor or pressure roller assembly does not raise and lower freely	Sawdust, dirt, or other debris in raising/lowering mechanisms	Clean off loose debris
	Adjustment devices/components worn	Inspect devices, call Stiles Technical Support.
Power lamp light on but machine won't start	Emergency stop switch is pushed	Check emergency stop switches
	Safety door guards not closed	Close safety guards
	Overload relay tripped	Replace or reset overload relay
	Poor motor starting switch	Replace motor starters MS1 and MS2
Power lamp light on but machine will not stay running	Bad switch or switch connection for stop	Check stop pushbuttons and connections
Power light will not turn on	Bad power connection	Check incoming power
	Motor overload relay tripped	Reset overload relay
	Fuse burned out	Replace fuse
	Poor connection on main switch	Check main switch and replace if necessary
	Poor connection on incoming or outgoing power terminals	Check connections and tighten if necessary
Motor will not run	Motor damaged	Check and replace motor
	Magnetic switch damaged	Replace switch

If you cannot resolve your issue, contact Stiles Technical Support at 616.698.6615.



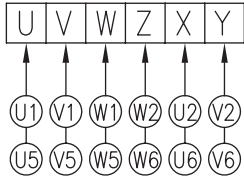
## 9.1 Electrical Diagrams



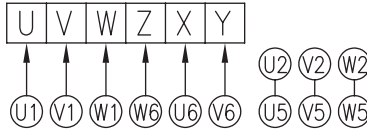
## 9.2 Electrical Diagrams (Continued)

### Saw motor

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



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

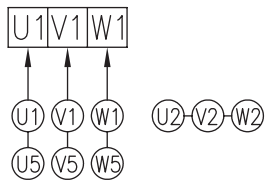


If motor rotation is reverse, please

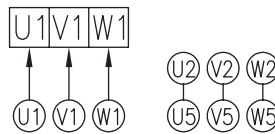
1. Exchange the wiring of U and V on the terminal
2. Exchange the wiring of Z and X on the terminal

### Feed motor

Wired 230V (direct start)  
Terminal pad



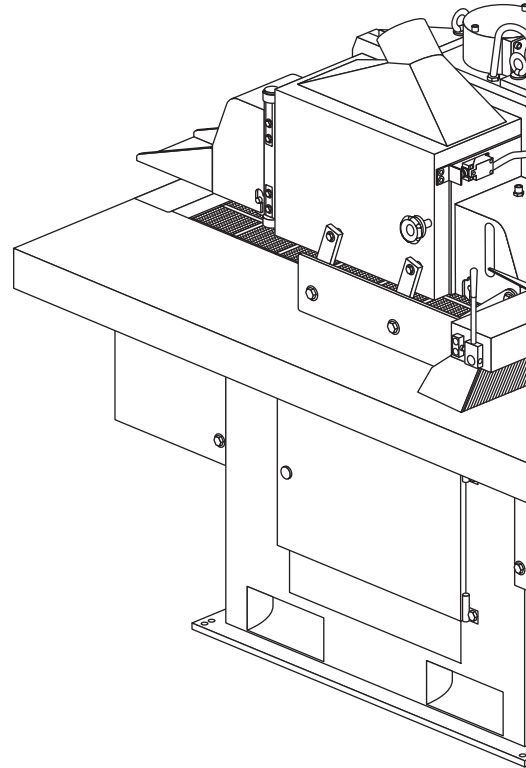
Wired 460V (direct start)  
Terminal pad



If motor rotation is reverse, please

- Exchange the wiring of U1 and V1 on the terminal





## IRONWOOD

Version A  
September 2013

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