

Safety (English)



Refiérase a la
página SAFETY-
29 para español.

For safety
information in
Spanish, refer to
page SAFETY-29.

Safety Indicators: Signal Words

The following signal words and colors are used throughout this document to indicate safety hazards. Pay careful attention when you see them. The level of severity differs for each signal word and color.

Signal words are accompanied by graphics showing what personnel should or should not do. The graphics are called safety symbols and are defined on page 19, but more specific text is provided every time a graphic is used throughout the manual. Everyone near the machine must be trained on how to read these safety indicators.

Failure to comply with the instructions accompanying each signal word may result in property damage, personal injury, or even death. Personnel must follow all safety procedures and practices to ensure the safest possible operation of this equipment. However, at no time is this document a substitute for common sense. Personnel must ensure that the work environment is safe and free of distractions.

DANGER

Indicates an imminently hazardous situation which, if not avoided, is likely to result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.

CAUTION

When CAUTION is used **with** the safety alert symbol (yellow triangle), it indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

When CAUTION is used **without** the safety alert symbol, it indicates a potentially hazardous situation which may result in equipment damage.

NOTICE

Calls attention to information that is significant to understanding the operation at hand.

ENVIRONMENTAL

Applies to conditions that may affect the environment but do not have an immediate, direct effect on personnel or equipment.

General Equipment Safety Rules



Because it is impossible to anticipate every circumstance that might involve a hazard, the safety information provided in this equipment manual and on the machine is not all-inclusive. If this machine is operated or serviced using a procedure not specifically recommended by the manufacturer, the procedure shall be approved by a professional engineer to ensure it will not render the equipment unsafe. Use extreme caution and common sense at all times!

Know Your Equipment

- Read this manual completely before using or maintaining the equipment. Do not operate this machine unless you have a thorough knowledge of the controls, safety devices, emergency stops, and operating procedures outlined in this manual.
- Read and follow all safety notes. Failure to comply with these instructions may result in economic loss, property damage, and/or personal injury including death.
- Refer to the lockout/tagout guidelines on the following pages to safely perform maintenance and troubleshooting of this equipment.
- Observe and obey all safety labels. Replace worn labels immediately.
- Use this equipment solely for the purpose described in this manual.
- Only qualified personnel should attempt to operate or perform maintenance on this equipment. “Qualified personnel” is defined as:

...a person or persons who, by possession of a recognized degree or certificate of professional training, or who, by extensive knowledge, training, or experience, has successfully demonstrated the ability to solve problems relating to the subject matter and work—ANSI B30.2-1983

...one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training on the hazards involved—NEC 2002 Handbook

Personal Safety

- Always wear safety glasses and hearing protection in an industrial environment.
- Utilize a filtering face piece (dust mask) when working near sawdust.
- Wear proper clothing and appropriate personal protective equipment (e.g., safety glasses and hearing protection.) Do not wear loose clothing or jewelry. Confine long hair by tying it back.
- Use caution when lifting heavy parts or material.

Installing the Equipment

- Follow installation instructions completely.
- This equipment is not for use in a residential area.



Lockout/Tagout

- Before performing maintenance on the pneumatic or hydraulic systems, bleed the lines to eliminate pressure.
- Lockout/tagout all energized systems before performing maintenance on them. Refer to the *Lockout/Tagout Guidelines* section on page 5.

Keeping a Safe Environment

- Keep children away. All visitors should be kept a safe distance from the work area. Hazards may not be apparent to individuals unfamiliar with the machine.
- Keep work areas well lit.
- Keep the work area clean and free of any trip or slip hazards.
- Do not use the equipment in damp or wet locations, or expose it to rain or snow.
- Minimize dust clouds and protect your equipment by cleaning dust in this manner:
 - Vacuum dust prior to blowing with air
 - Shut down electrical power and sources of ignition
 - If using compressed air, it should be a low compression (no more than 15 psi)
 - Powered cleaning equipment such as vacuums must be consistent with local governmental codes for use in dusty conditions.

Operating and Maintaining the Equipment

- Ensure that all people, tools, and foreign objects are clear of the restricted zones before operating this equipment. The restricted zones are shown on page 17.
- Perform safety tests to ensure all E-stops are working properly before operating the equipment at the initial startup, after performing any maintenance, and in accordance with the maintenance schedule.
- In case of machine malfunction, stop the machine immediately using an E-stop and report the malfunction to a supervisor.
- Never leave the machine running unattended. Turn the power off! Do not leave the machine until all parts have come to a complete stop and all electrical power has been shut off.
- Check for worn or damaged parts regularly. Repair or replace them immediately.
- Keep the hydraulic, pneumatic, and electrical systems in good working order at all times. Repair leaks and loose connections immediately. Never exceed the recommended pressure or electrical power.



- Check that all safety devices are in working order before each shift starts. All protective guards and safety devices must be in place before and during use of the machine. Never disconnect or bypass any safety device or electrical interlock.
- Only qualified maintenance personnel shall remove or install safety devices.
- Periodically inspect the quality of the finished product.

Electrical Safety

- Do not use any liquids in the interior of electrical cabinets.
- When using solvents on and around the machine, remove power to the machine to eliminate the chance of sparking, resulting in explosion or fire. Wear a respirator approved for use with solvents. Wear protective clothing, gloves, and safety glasses.

Lockout/Tagout

Lockout/Tagout Guidelines

All lockout/tagout guidelines must be met according to OSHA 29 CFR 1910.147. A specific procedure should be included in your company's energy control program. This manual is not intended to replace your company's de-energizing or lockout/tagout procedure required by OSHA, but merely to provide general guidance.

The term "lockout," as used in this manual, means placing a lockout device on any and all energy sources to ensure that the energy isolating device and the equipment being controlled cannot be re-energized or operated until the lockout device is removed. The photos on the next page show where the electrical disconnects are located for this machine.



- Energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- In the case of electrical energy sources, the main power and control power to the machinery must be turned off and physically locked in the "off" position.
- A lockout device is usually a keyed padlock.
- If more than one person is working in a restricted zone, use a group lockout device that will allow each person to use a lock that can be removed only by the person performing the maintenance.

"Tagout" means that a prominent warning is securely fastened to an energy-isolating device to indicate that the equipment shall not be operated.

Whenever you see this symbol, lockout/tagout!



Electrical Lockout/Tagout Procedures



When Working on a Machine Outside the Machine's Main Electrical Enclosure



If working on the electrical transmission line to the machine, follow the procedure on page 9.

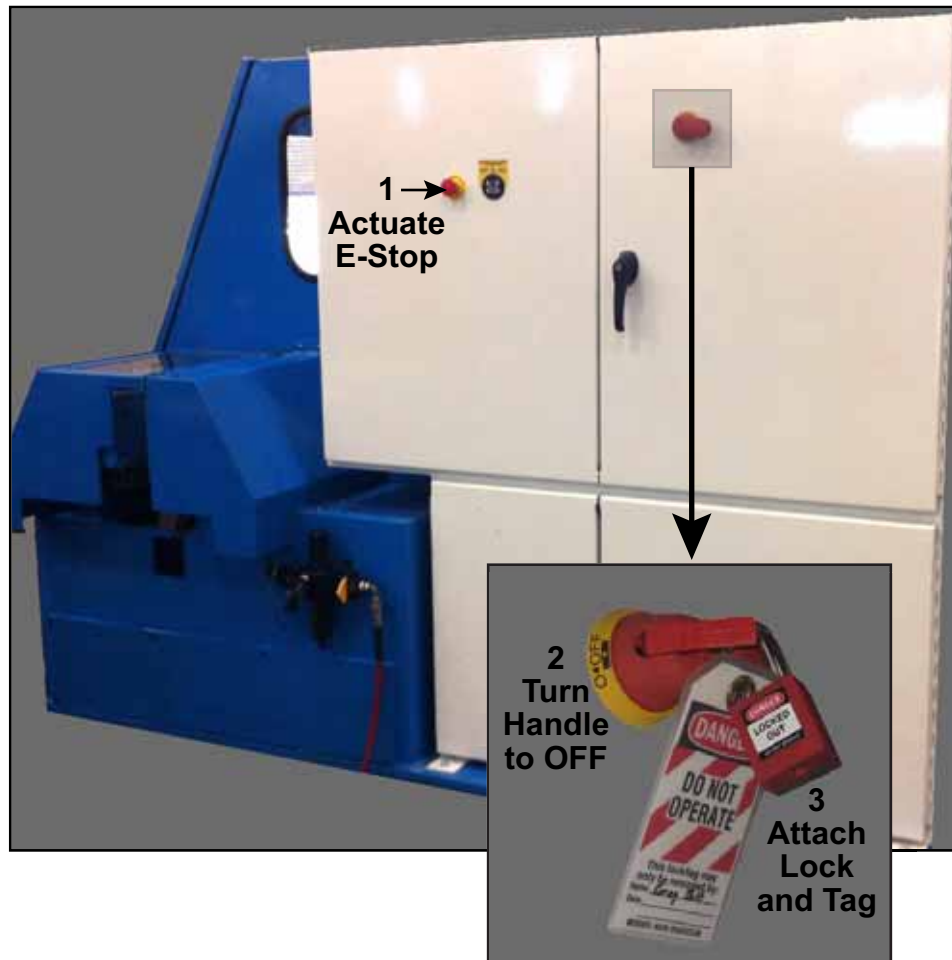
Before performing maintenance on any machine with electrical power, lockout/tagout the machine properly. When working on a machine outside of the machine's main electrical enclosure, not including work on the electrical transmission line to the machine, follow your company's approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Engage an E-stop on the machine.
2. Turn the disconnect switch handle to the "off" position. See Figure SAFETY-1.

	 WARNING
	ELECTROCUTION HAZARD. When the disconnect switch is off, there is still live power within the disconnect switch's enclosure. Always turn off power at the building's power source to the equipment before opening this electrical enclosure!

3. Attach a lock and tag that meet OSHA requirements for lockout/tagout.
4. Restrain or de-energize all pneumatic components, hydraulic components, and other parts that could have live or stored power.

Figure SAFETY-1: Lockout/Tagout Mechanism on Main Electrical Enclosure



The **Auto Deck** staging conveyor has power cut off when the saw's main disconnect switch shown in Figure SAFETY-1 is shut off.

The **Powered Skewed Conveyor** option has control power shut off with the saw's main disconnect, but 3-phase power still exists.

The **WoodRunner** lumber retrieval system is not affected by the saw's main disconnect switch.

Figure SAFETY-2: Lockout/Tagout on Additional Equipment in the System



Auto Deck Enclosure

May be replaced with optional infeed equipment.

Power can also be disconnected using saw's main disconnect switch.



Powered Skewed Conveyor Enclosure

(optional equipment)



Main Pneumatic Filter/Regulator

- Located on right side of saw.
- Yellow plate is shown in lockout position. Place lock and tag through holes in yellow plate.
- Pneumatic lines will bleed naturally when yellow plate is in lockout position.
- Ensure gauge reads 0 before performing replacing a supply bottle for the printer or performing any maintenance!



Each of the disconnect switches shown in Figure SAFETY-2 shut down power to that piece of equipment only. It does not affect the saw or any other peripheral equipment.

**When Working on a Machine Inside the Machine's Main Electrical Enclosure or in the Electrical Transmission Line to the Machine**

Before opening the main electrical enclosure, or attempting to repair or replace an electrical transmission line to the machine, lockout/tagout the machine properly. Follow your company's approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Engage an E-stop on the machine.
2. Shut the power to the machine off at the machine's power source which is usually an electrical service entry panel on the facility wall. One example of a locked-out power source panel is shown in Figure SAFETY-3.
3. Attach a lock and tag that meets OSHA requirements for lockout/tagout.
4. Open the door to the enclosure in which you need access, and using a multimeter, verify that the power is off.

Figure SAFETY-3: Sample of a Lockout/Tagout Mechanism on a Power Source Panel



Pneumatic System Lockout/Tagout Procedure

When Lockout/Tagout is Not Required

If working on components other than the pneumatic system, but that requires you to be near the vicinity of movable pneumatic components, you must, at a minimum, physically restrain the pneumatic components from moving. If this is not possible, lockout/tagout the entire pneumatic system.



When Lockout/Tagout is Required

Before attempting repair or maintenance on a pneumatic line or component, lockout/tagout the machine properly. Follow your company's approved lockout/tagout procedures.

Troubleshooting With an Energized Machine

Only a qualified electrician, using the personal protective equipment and following the procedures recommended in NFPA 70E should ever attempt service or repair of or near an energized area or component of the machine.

Whenever maintenance is performed while the equipment is electrically energized, there is a potential electric arc flash hazard. Refer to NFPA 70E for the personal protective equipment required when working with electrically energized components. Pneumatic and hydraulic components may move unexpectedly if not de-energized. Physically restrain any components capable of movement when working on or near those components.

Understanding and Finding E-Stops

This section is not translated in the Spanish safety section.

Refer to page MT-123 in the *Maintenance Manual* for training on how the E-stop circuit works.

Refer to page OP-107 in the *Operation Manual* to see the location of E-stops and other safety devices in use on this equipment.

Safety Tests

These test procedures **MUST** be performed by qualified personnel every day at startup and after ANY maintenance, adjustment, or modification. Testing ensures that the safety system and machine control system work together to properly stop the machine.

	 WARNING
 	CRUSH AND CUT HAZARD. Before turning on the equipment, make sure that all personnel and equipment are clear.

Inspecting Indicators

1. While performing any of the following safety tests, check to ensure the *Blade In Motion* light located on the operator interface panel lights up when the blade is running.
2. While performing any of the following safety tests, check to ensure the beacon on top of the main electrical enclosure lights up when cutting is taking place.
3. Verify that all safety labels are present and legible.

Testing the E-stop Pushbuttons and Pull-Cords

 	 WARNING CRUSH AND CUT HAZARD. Before turning on the equipment, make sure that all personnel and equipment are clear.
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1. Start running the saw and all integrated components:
 - a) Power up the saw using the instructions on page OP-134.
 - b) Press the RESET button on the saw's operator interface panel.
 - c) Start any optional infeed and outfeed equipment. To start the Powered Skewed Conveyor, refer to page OP-158.
 - d) Press the Saw Motor START button on the saw's operator interface panel to start the motor.
 - e) Wait approximately 5 seconds, until the blade is up to full speed.
2. Prepare a stopwatch to time how long it takes for the saw blade to stop.
3. Activate any one of the E-stops listed here and measure the time between pressing the E-stop and when the blade comes to a complete stop.
 - Pushbutton on saw's operator interface panel
 - Pushbutton on main electrical enclosure
 - Pushbutton on Auto Deck operator interface
 - Pull-cord on Infeed Rail
4. Ensure that the blade and integrated components stop motion in a timely manner:
 - If the saw blade does not stop within 5-10 seconds, contact MiTek machinery Division Customer Service immediately for resolution.
 - If all integrated components do not stop in a timely manner, lockout/tagout the entire wood processing system and arrange for a qualified service technician to troubleshoot and repair the equipment.
 - If the blade and integrated components stop as expected, repeat the procedure to test all E-stops listed in step 3.

Testing Movement While E-stop is Active

	 WARNING
 	CRUSH AND CUT HAZARD. Before turning on the equipment, make sure that all personnel and equipment are clear.



An E-stop must be activated for this test to be useful.



1. Use the touch screen to manually move an axis.
2. Watch the axis that was chosen to see if it moves. Because an E-stop is activated, no movement should occur.
3. If movement does occur, Lockout/Tagout immediately and repair the problem.

Testing E-Stops for Optional Equipment

	 WARNING
 	CRUSH AND CUT HAZARD. Before turning on the equipment, make sure that all personnel and equipment are clear.

Test E-stops for all optional equipment. The procedure below applies to the Powered Skewed Conveyor only.

1. Ensure that the Powered Skewed Conveyor's disconnect switch is in the ON position.
2. Ensure all system E-stops and safety devices are reset.
3. Turn the selector switch located on the Powered Skewed Conveyor to the START position and release the switch. The conveyor will begin movement.
4. Activate an E-stop on the Powered Skewed Conveyor.
5. Ensure that the Powered Skewed Conveyor, saw, and all peripheral equipment stop motion.
6. If any piece does not stop, lockout/tagout and arrange for a qualified service technician to repair the equipment.

Testing Interlocked Doors

Certain doors are interlocked with the E-stop system and should not open when certain parts are in motion.



SAW CHAMBER DOOR should not open if the blade is moving.

STROKE/ ELEVATION CHAMBER door should not open if any axes are in motion.

1. Test that the **SAW CHAMBER DOOR** interlock is functioning by performing this procedure:

	 WARNING
 	CRUSH AND CUT HAZARD. Before turning on the equipment, make sure that all personnel and equipment are clear.

- a) Turn the saw blade on (see step 1 on page SAFETY-12).
- b) Attempt to open the saw chamber door while pressing the *Request to Unlock* button (see page OP-112 and page OP-113).
 - The door should NOT open while the saw blade is running.
- c) Press the STOP button.
- d) Watch the lights on the operator interface panel.
 - A red *Blade In Motion* light should be illuminated when blade is moving.
 - A green *Blade Motion Stopped* light should illuminate when blade stops.
- e) Wait until the blade stops spinning, then attempt to open the saw chamber door again as described in step 1b.
 - The door should open now.
- f) With the door open, attempt to start the blade by pressing the green START button on the saw's operator interface panel.
 - The blade should NOT move.

g) Resolve any inconsistencies:

- 1) If the door opens while the blade is still moving OR the blade spins with the door open, lockout/tagout the saw and arrange for a qualified service technician to repair the equipment.
- 2) If the indicator lights are not behaving as expected, replace the bulb or repair the light.

	 WARNING
	CUT AND CRUSH HAZARD. Never attempt to stop the saw blade with your hand or a hand-held object.



There may be instances when access is given into the saw chamber while the saw blade is coasting at a speed less than 5 RPM. This is normal and not a cause for alarm. Do not force the blade to stop.

2. Test that the **STROKE/ELEVATION CHAMBER DOOR** interlock is functioning by performing this procedure:

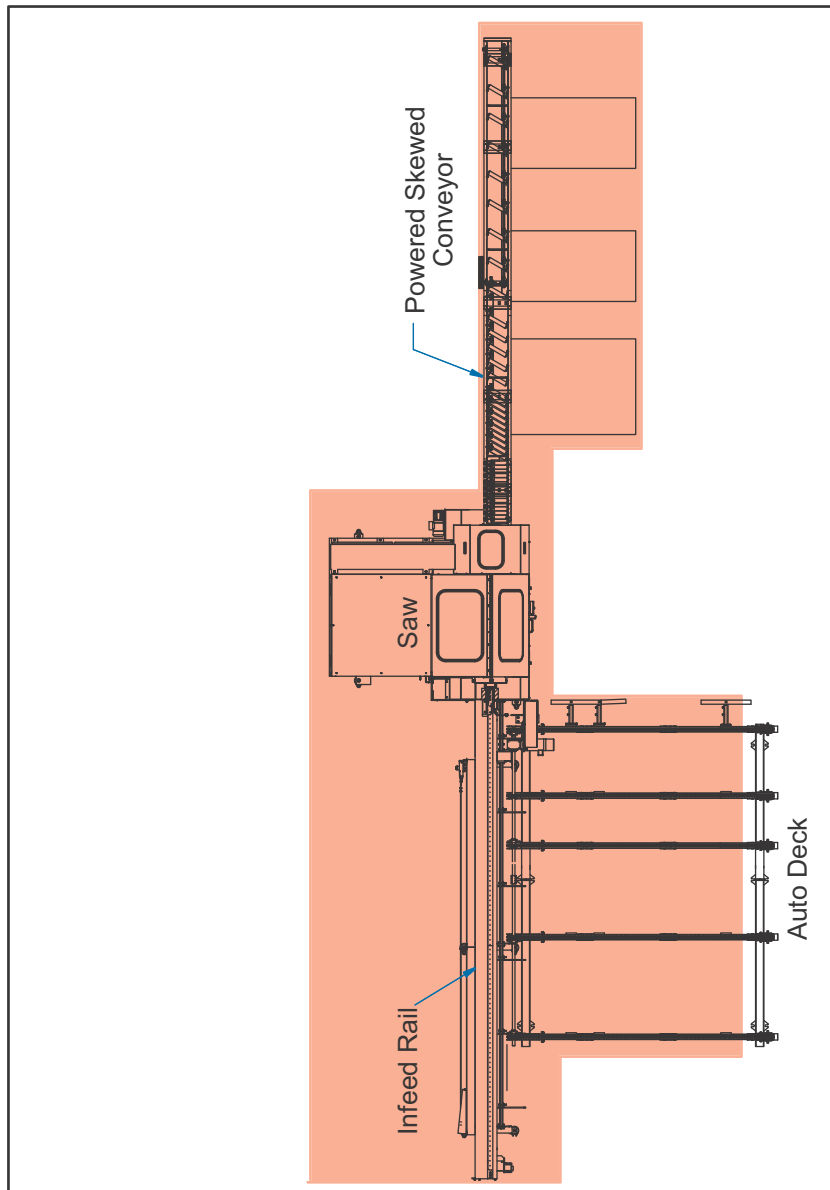
	 WARNING
 	CRUSH AND CUT HAZARD. Before turning on the equipment, make sure that all personnel and equipment are clear.

- a) Open the stroke/elevation chamber door (see page OP-112 and page OP-113).
- b) Ensure that the E-stop circuit is not engaged (no E-stops active).
- c) Attempt to manually move either the angle, elevation, or stroke axis (refer to instructions in step 1 on page SAFETY-13).
 - The axis should NOT move while a door is open.
- d) If an axis moves while the door is open, lockout/tagout the saw and arrange for a qualified service technician to repair the equipment.

Restricted Zone

	⚠ DANGER
	Stay out of the restricted zone when equipment is in use. Serious injury or death may result if personnel are in the restricted zone. Always look for personnel in the restricted zone before operating equipment.

Know the Restricted Zone



Marking the Restricted Zone

The restricted zone must be marked so everyone near the equipment can clearly see the area where danger may exist.



MiTek offers Restricted Zone Tape that is easy to apply and has text in English and Spanish. Some equipment comes with restricted zone tape. If your machine did not come with restricted zone tape, you may order it from MiTek Machinery Division Customer Service.

Instructions for where and how to apply restricted zone tape can be found in this manual, starting on page IN-94.

Safety Symbol Definitions

The safety symbols shown in this section can be found throughout the manual to indicate hazards that are related to this equipment. All personnel expected to operate or maintain this equipment should become familiar with these safety symbols and what they mean.



This is the Electrical Hazard Symbol. It indicates that there are dangerous high voltages present inside the enclosure of this product and/or that a power source is present. To reduce the risk of fire or electric shock, do not attempt to open the enclosure or gain access to areas where you are not instructed to do so. Refer servicing to qualified service personnel only.



This product should be operated only from the type of source indicated on the manufacturer's identification label. Installation should be in compliance with applicable sections of the national electric code. Consult your local building code before installing.

This is the user caution symbol. It indicates a condition where damage to the equipment resulting in injury to the operator could occur if operational procedures are not followed. To reduce the risk of damage or injury, refer to accompanying documents, follow all steps or procedures as instructed.



Hot surface! Surface temperature can exceed greater than 70°C during normal operation. Do not touch.



Ventilation - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product. To protect the unit from overheating, those openings must not be blocked or covered. This product should not be placed in a built-in installation, such as a wall cutout unless proper ventilation is provided. Hot temperatures will result.



- (1) Pressurized source
- (2) Contents under pressure



Operation of this equipment may result in flying debris and excessive noise. To reduce the risk of injury, wear only approved PPE.



Crush hazard! Keep hands clear.



Keep feet away from moving parts.



Keep hands away from moving parts.



High pressure hose. Use appropriate PPE when working on equipment. Maintain safe pressure levels at all times.



Equipment produces loud noise in excess of 100 DBA during operation. Use appropriate hearing protection when in vicinity of this equipment.



Do not use sling equipment rated for less than ____ lbs/____ kgs when lifting this equipment.



Crush hazard.



Crush hazard from above



Machine is provided with auto restart capability. Lock out and tagout upstream disconnect before service.



Slip hazard! Use of approved footwear is required.



Trip hazard! Pay attention when walking in this area.



Kickback hazard



Keep hands clear of cutting parts.



Keep hands and body clear.



WARNING! THREE MAN LIFT REQUIRED TO SAFELY MOVE THIS EQUIPMENT. REFER TO INSTALLATION MANUAL.





The operation of this equipment requires the use of PPE.
Do not operate without wearing required protective clothing.





Refer to manual- After installation, read the user's guide carefully before operating. Follow all operating and other instructions carefully.



Circuits are live -lockout/tagout the upstream disconnecting means prior to opening for service.



Lockout in a de-energized state



Lift Point - In order to reduce the likelihood of damage to the equipment, use only the lift points indicated in the manual.



Open switch before adjusting equipment.



To reduce the risk of personnel or equipment damage, maintain pressure at safe levels.



Use of lift equipment is mandatory.



Consult material safety data sheet.



Read all safety warnings and instructions before proceeding.



Unplug equipment before servicing.



Hazardous moving parts are located behind this access panel. Do not operate this equipment without all guards and covers in place.



Do not place containers with liquids such as coffee, water, sodas, etc. on this unit.

Do not operate this equipment in a wet environment.



Do not expose to water



No lift point. Do not lift this device with a hook/crane assembly. Damage to the equipment will be incurred. Refer to the installation instructions.



Do not step or stand upon this equipment. Risk of serious injury may result.

No step! Do not step or stand at this location.



Do not use non-approved lubricants in this machine.



Do not operate without guards and covers in place



Do not discard into municipal waste stream

	Automatic cycle - MII PN 691373 This label is used to refer to AUTO when using the MAN/AUTO selector switch
	Manual Control - MII PN 691374 This label is used to refer to MANUAL when using the MAN/AUTO selector switch
	Off for part of the equipment - MII PN 691372 This label is used to refer to OFF when using the ON/OFF selector switch The label is used to denote that when the selector switch is OFF part of the equipment is still energized. Only the 120V control wiring is OFF.
	On for part of the equipment - MII PN 691371 This label is used to refer to ON when using the ON/OFF selector switch The label is used to denote that when the selector switch is ON, the switch is controlling the part of the electrical circuit. It is the counterpart to the above symbol.



oil drop

Declaration of Noise Emissions

This equipment does not have a certified noise emissions document at this time. Readings taken by MiTek in February 2013 were as follows:

Front side, 3" off saw chamber window	86-88 dB
Loading at Infeed Rail	90 dB
Outfeed opening	92-96 dB
Infeed side, at entrance to saw chamber	99 dB

	 CAUTION
	Wear hearing protection!