Safety & Operations Guide

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Safety First!

- **Always** - Read and understand this manual before operating this machine and before you start any electric motor.

- **Always** - Disconnect and lock out the main power source every time before you open any access door to the saw chamber and/or service the machine.

- ***EVERYONE WHO IS WORKING ON THE MACHINE MUST HAVE THEIR OWN LOCK ON THE DISCONNECT.***

- **Always** - Wait for the arbor motor and blades to come to a complete stop before leaving your work station or attempting to perform any maintenance or adjustments to the machine.

- **Never** - Assume that the power is off. Verify that the lock out tag out is in effect when servicing the machine.

- There are many forms of energy. Follow OSHA's standard entitled *"Control of Hazardous Energy Sources (Lock Out/ Tag Out)"*; which can be found in 29 CFR 1910.147, page 19.

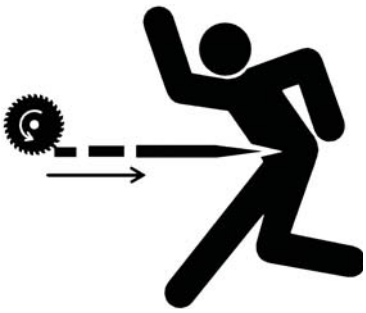
- A copy is available at https://www.osha.gov/OshDoc/data_General_Facts/factsheet-lockout-tagout.pdf

Introduction

Mereen-Johnson is committed to providing equipment, information and training to reduce the risk of injury. Our machinery is equipped with material containment systems designed to have material exit the outfeed or dust chute. However, Mereen-Johnson's material containment system is only one component of a comprehensive program to reduce the risk of injury.

This manual provides guidelines for minimizing the risk of injury. In order for you, the owner of the equipment, to provide the best in injury prevention for your people, we recommend that you contact your local OSHA office for local and national information on the latest in risk minimization strategies and put those recommendations in place.

Mereen-Johnson's machinery, at the time of manufacture, is designed and manufactured to meet or exceed ANSI standards for guarding and risk minimization. Changes in these standards regularly occur.



Management's Role in Operator Safety

Make the Safety of your employees your top priority - A low risk plant environment is the responsibility of both management and workers. Managers and employees must work together to identify problem areas and identify solutions. Ensuring that the proper safety procedures are clearly definedandenforcedistheresponsibilityof management. Be sure shortcuts are not being taken and that all safety equipment including: personal protective equipment, guards and access limiting screens and switches are frequently checked to assure operation.

Management's Responsibility - Managers who directly oversee and manage the rip saw operators play a critical role in establishing, maintaining and enforcing safety policies. Be certain your safety, operations and maintenance personnel have read this manual and viewed all the information on operation, kickback containment and minimizing the danger of a kickback.

Operator Selection & Training

Operator Selection

Hire competent operators - The majority of accidents occur when there has been a change in operators and/or personnel who are unfamiliar with the risk with ripsaw operation and operating the equipment. The selection of a qualified machine operator is critical. The operator must have the ability to recognize a dangerous situation and quickly decide what to do. The operator must have a safe attitude, understanding of the operation and material, and take the time to protect his well-being and the well-being of his co-workers.

When selecting a rip saw operator it is important to realize that not all individuals are ***mechanically inclined or capable of recognizing imminent danger.*** The manager must judge the competence of an operator and make certain that the operator has the technical skills, knowledge and practical judgment to operate a machine such as a ripsaw. It is imperative the operator displays practical judgment on a consistent basis.

Operator Training

Training of the Operator - Only a rigorous training program conducted by a qualified operator or instructor, with rip saw operation experience, will adequately prepare a new operator to safely operate the equipment.

Mereen-Johnson's Field Service Department provides a comprehensive training program with the installation of a new machine.

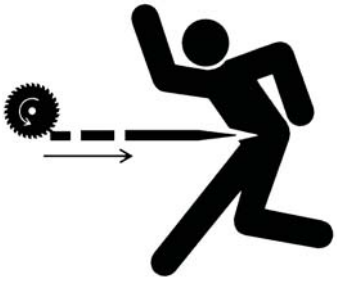
Operator Selection & Training

Operators and those who do and will provide future training should attend the installation training period. Should you need additional personnel trained contact our customer service team. They will explain your options.

Training is most effective when all operators have read the entire ripsaw operating manual before training is conducted. Training must include viewing all Mereen-Johnson's operations and safety videos. The new operator should be aware that when starting the machine, they must wait and listen for any unusual noises which may indicate a malfunction. All operators must be trained to recognize unusual events. Sounds may be one of the first signs of a problem. Occurrences such as frequent jams, vibration, poor performance and feeding problems are all circumstances that operators should be trained to observe and report.

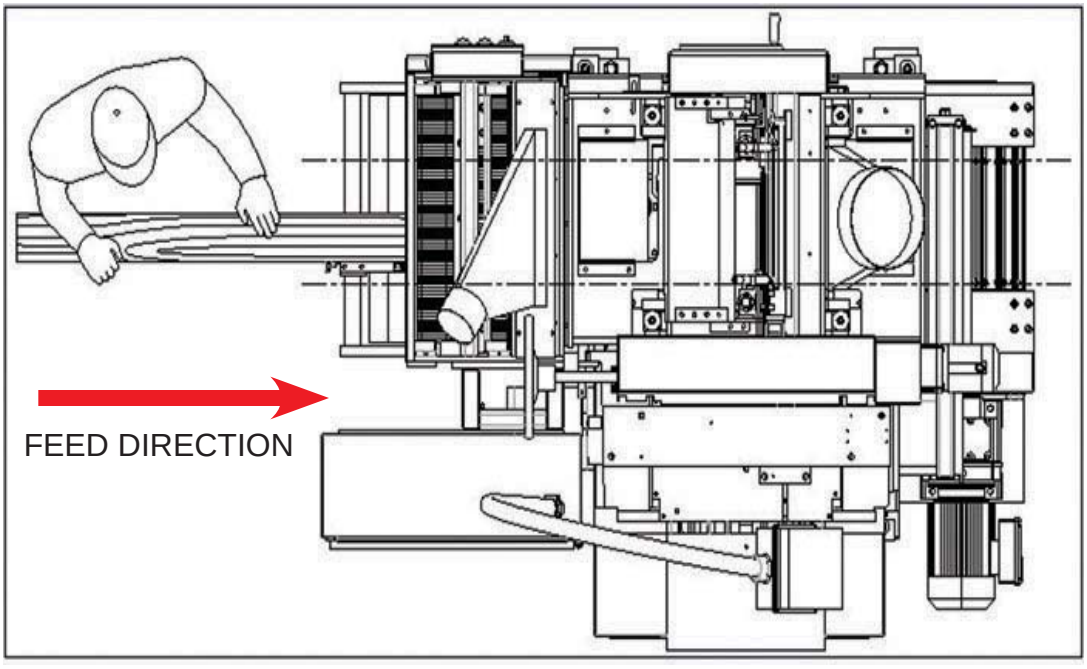
Personal Protective Equipment

- Employees must always wear Personal Protective Equipment
- Eye protection should be at minimum as described in the ANSI/ISEA Standard Z87.1.2015. Always wear certi fiedfull face shield protectors and safety glasses.
- Always wear ear protection in the form of approved commercially available earplugs or ear muffs.
- Wear steel-toed, rubber soled shoes to provide solid footing and foot protection in the event material is dropped.
- Do not wear loose fitting gloves or clothing, or clothing with ragged sleeves or the like, when operating any machine. Loose gloves or clothing could become entangled and pull the operator into the machine.
- Always wear a ballistic apron designed for rip saw operator protection. At minimum it should cover the operator from the neck to mid-thigh. One is supplied free with every new Mereen-Johnson rip saw. Additional aprons are available from Mereen-Johnson and also commercially available.



Operating the Rip Saw

- Before operating the rip saw always check for wrenches and other tools that may have been left in the machine.
- Insist that the lumber stack be located where the operator will not have to pass across the feed path to get the next board.
- Never run any machine without all guards, interlocks and anti-kickbacks in place and fully operational.
- Feed material only from the infeed of the rip saw. Never feed material or any item in the machine from the outfeed because the blades will eject the material toward the infeed.
- **Stand to the side of the lumber to manually load as shown here.**



Operating the Rip Saw

- Erect a barrier behind the infeed to protect non-operating personnel.
- The barrier should extend from below the feed bed to the height of the saw and extend to the right and left of each side of the saw.
- **NO ONE SHOULD PASS BEHIND THE INFEED OR OUTFEED UNTIL ALL THE MATERIAL HAS LEFT THE MACHINE.**

This barrier design is intended for use with an infeed system.

Operating the Rip Saw

- Never modify the mechanical or electrical design in any way without written consent of Mereen-Johnson.

- Keep clear of the moving feed bed at all times.

- Never attempt to remove strips or debris of any kind while the machine is in operation.

- Start the feed bed only when the arbor is running at full speed or when the saw blades on the arbor have been adjusted clear of the cut. Clean the machine at the end of each shift using an air hose connected to a filtered dry supply to blow dust and chips off of the anti-kickback fingers.

Note: If this method of cleaning the machine is in violation of your local ordinances related to combustible dust or you are processing material with inhalation risk, use an approved vacuum system to remove dust.

- Operate the machine only with sharp tooling. Monitor the performance of the machine to insure that only sharp blades are used. The cut will deteriorate and the sound of the saw will change as the tooling dulls and as pitch and/or resin builds up.

- Insure that sharp saw blades with matched diameter are used on each setup. A setup using saws of different diameters will cut into the feed slats which will affect the straightness and quality of cut, as well as increase the chance of a kickback.

Lock Out Tag Out

Always disconnect and lock out the main power when changing the tooling, performing maintenance or removing jammed material. Every person performing maintenance must have, and use, their own lock. It is important to conform to all local, state and Federal lock out laws. There are many forms of energy. Follow OSHA's standard entitled "Control of Hazardous Energy Sources (Lock Out/Tag Out)"; which can be found in 29 CFR 1910.147 a copy is available at https://www.osha.gov/OshDoc/data_General_Facts/factsheet-lockout-tagout.pdf

With the main Power on, stop the saw with the E-stop. Wait for the motor and arbor to come to a complete stop and then:

1. Lock Out and Tag Out the Machinery before performing maintenance.

2. Open the saw chamber access door now that the mechanical door interlock has been deactivated.

3. Be certain that each person working on the equipment has, and uses, their own lock on the power supply.

Kickback Cause & Reducing the Risk

A kickback is a accidental ejection of debris or material out of the ripsaw. Any kickback can range from a minor event to major injury of an operator or other person. Kickbacks occur without warning and vary in intensity. This table lists common causes of increased risk of kickbacks and injury:

Increased Kickback Risk	Information
Improper personal protective equipment.	See personal protective equipment on page 7.
Sticky, bent, or worn anti-kickback fingers.	See the section on Anti-kickback system maintenance on the following pages.
Incorrect machine settings for the material being processed.	Use an infeed conveyor to remove operators from the infeed area. The feed speed and press roll settings must match the material to be processed. Different species, thickness, number of rips and many other factors affect the risk of a kickback.
Quality of lumber.	Be cautious with lumber that is rough, split, round edged, tapered in length or thickness, withered or with lose knots. Processing lumber with these characteristics increases the likelihood of a kickback as they may become loose and subject to ejection.
Frozen or ice covered lumber.	Allow the lumber to thaw completely to minimize slippage, feed malfunction and binding creating increased kickback potential.

Kickback Cause & Reducing the Risk

Increases Risk Of Kickback	Information
Improper pressure head adjustment.	Material that is too thin for the pressure head setting will lose contact with the material containment system increasing Kickback Risk.
Improper feeding of lumber in layers.	Never “book”, stack, or feed more than one layer of material. The anti-kickback system contacts only the upper board permitting the lower to lose contact with the containment system.
Improper feeding of lumber side by side.	Never feed boards side by side as differences in thickness and the potential for interference with the anti-kickback system increasing Kickback Risk.
Improper feeding of lumber Do not attempt to change direction of the material once the feed system has taken hold.	Once the feed system has taken control of the material do not attempt to push or pull the lumber in any direction as this may bind the blades into the material and result in increasing Kickback Risk.
If the smallest net rip width is less than 1/2 the thickness of the material.	There is a strong possibility that the material will fall during the operation. This increases the likelihood of a dangerous kickback.
Condition of and the correct adjustment of the anti-kickback system.	Kickback fingers that are not adjusted properly or have excess wear permit gaps between the feed bed and the kickback system greatly increasing the likelihood of a dangerous kickback
Condition of the feed bed slats and press roll covers.	If slats become bent or inserts become worn they may not properly contain material. This increases the likelihood of a dangerous kickback.

Kickback Containment

The anti-kickback devices will not reduce the risk of kickbacks, but they will reduce the likelihood of operator injury. Due to the unpredictable nature of lumber, there is always the possibility that part, or all, of the lumber being fed into the saw will be kicked back out of the machine Kickbacks happen randomly.

The use of properly maintained and operating safety devices reduce the chance that the material will be ejected out of the machine. It is the responsibility of management and the operator to use personal protective equipment and risk management procedures in order to avoid serious or fatal injury.

Kickback System Maintenance & Adjustment - Types of Anti-kickback Assemblies

Figure 1 - Movable material guard for passing wide material.

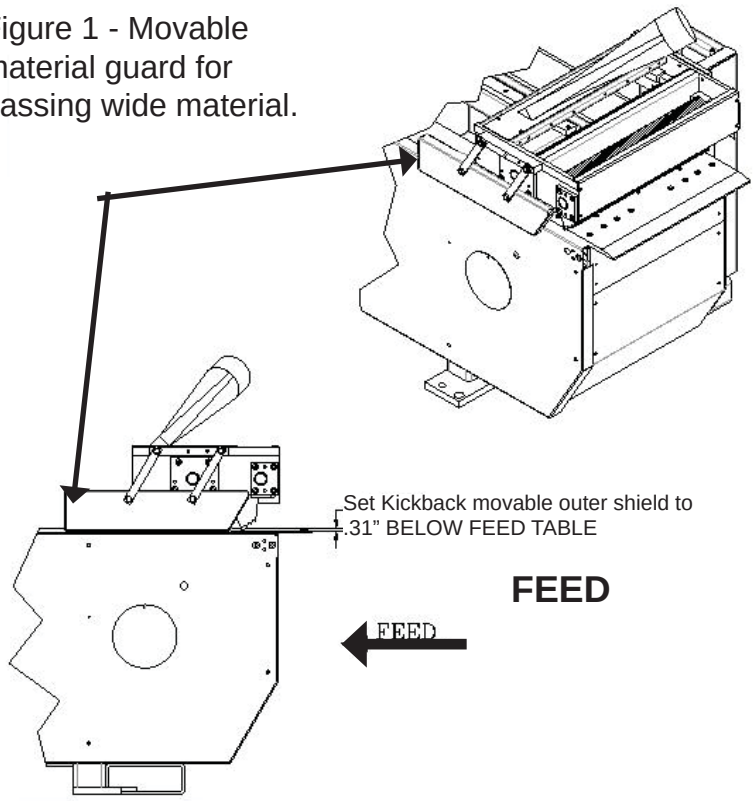
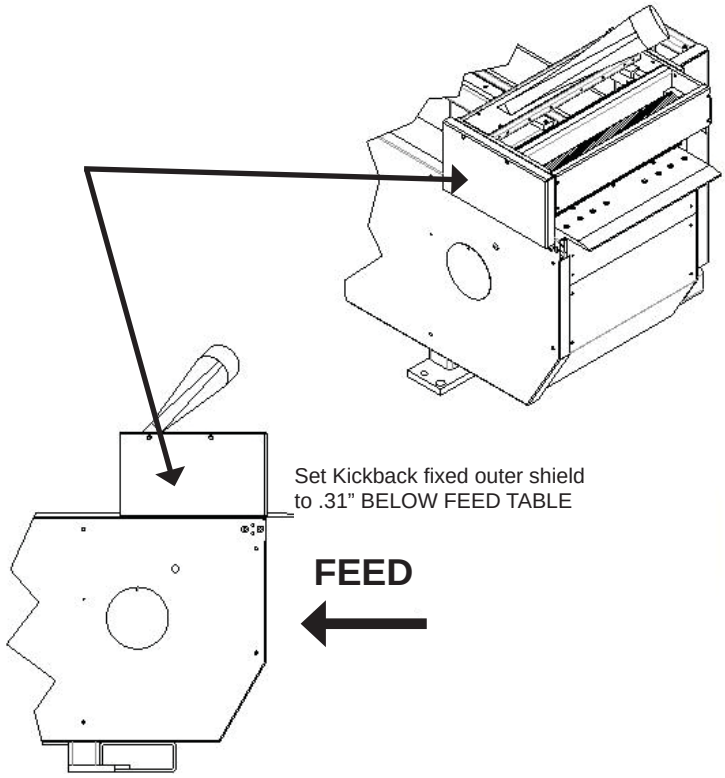
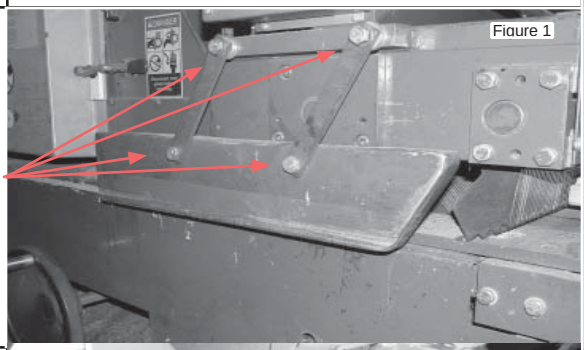
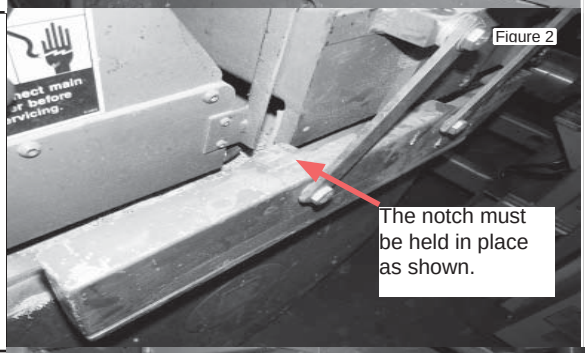
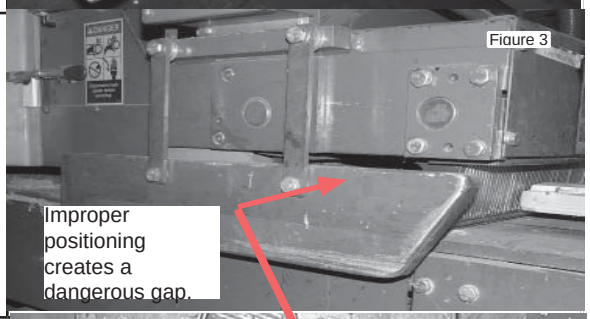
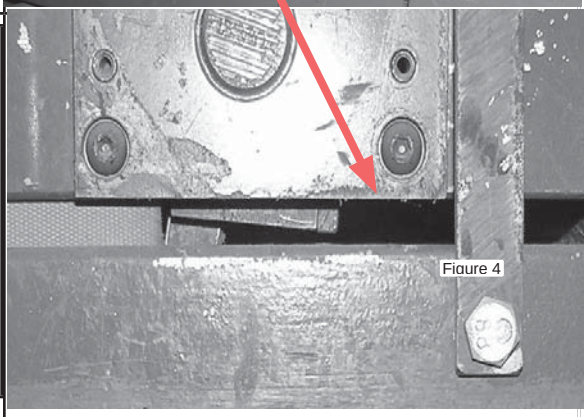


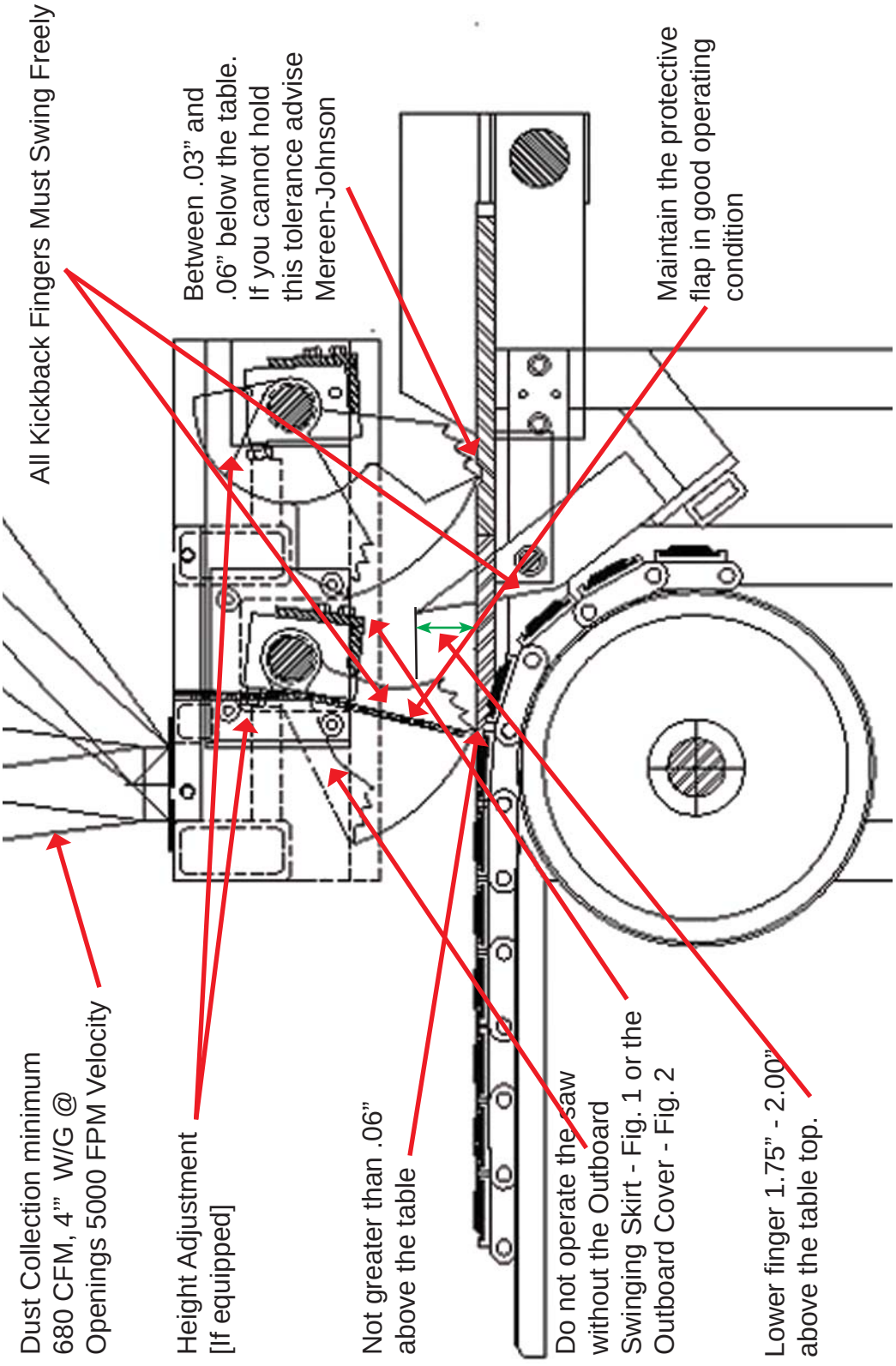
Figure 2 - Fixed Material Guard.



Kickback System Maintenance
Movable Wide Material Guard

Description	Image
The Kickback Movable Wide Material Guard shown in the photograph to the right must be positioned to keep kickbacks trapped in the material containment system. Regularly check the 4 bolts to make sure they are tight.	 Figure 1
The notch must be positioned as shown to prevent the guard from swinging back to the position shown in figure 3.	 Figure 2
This is the wrong position for the Movable Wide Material Guard. Adjust by tightening the bolts and notching the guard as shown in figure 2.	 Figure 3
Figure 4 shows the wrong position for the Movable Wide Material Guard. The gap is from improper positioning that may allow material to escape and could cause an injury to the operator or another employee. Adjust the guard to the proper position as shown in figures 1 and 2.	 Figure 4

Kickback System Maintenance & Adjustment



Kickback System Maintenance & Adjustment

- Make a daily check for proper adjustment, free-fall ability and excess wear of the anti-kickback system. Anti-kickback fingers should always swing freely and return to their original positions. To check for excess wear, compare fingers in the area of greatest use to the sharpness of the anti-kickback fingers at the ends where they are seldom used. Replace all worn or bent anti-kickback fingers immediately.

- Keep the anti-kickback fingers clean, free of any debris, including dust, edgings, slivers, strips and chips by using an air line connected to filtered dry air supply to blow debris off the machine at least once per eight (8) hour shift. Be sure that you are in compliance with both national and local codes on dust containment before blowing off any equipment. Do not oil the anti-kickback fingers as this will cause saw dust to accumulate and will make the anti-kickback fingers less effective.

- ***Upper anti-kickback fingers.*** Keep the upper anti-kickback fingers in the lowered position until the machine is turned off and the saw arbor has completely stopped running.

- ***Lower anti-kickback fingers.*** Keep the lower anti-kickback fingers in the up position until the machine is turned off and the arbor has completely stopped running.

Kickback System Maintenance & Adjustment

- Only rip material with the anti-kickback fingers swinging free. The anti-kickback fingers help lower the risk of kickback injuries only if they are clean, sharp, adjusted properly so that they swing freely and are in the recommended operating position. Anti - Kickback finger wear depends on:
  - Your material
  - Surface preparation
  - Speed of operation

- Replace ALL anti-kickback fingers at least once every 1,600 hours of operation and every time if they are worn, bent, dull, dirty or stuck in the up or down position.

- Never re-sharpen anti-kickback fingers as you will change the angle of the fingers to the material and potentially defeat the anti-kickback system. Contact Mereen-Johnson for precision laser cut hardened OEM equipment.

- Keep the anti-kickback devices free of oil. Oil causes dirt and sawdust to accumulate which in turn causes the upper anti-kickback fingers to stick in the up position and the lower anti-kickback fingers to stick in a down position.

- Always keep the anti-kickback fingers properly adjusted

- Always keep the Kickback protective belting – (flap on the inside of the second set of upper infeed fingers) in place and in good operating condition.

How to Remove A Lumber Jam

- **PRESS THE E-STOP TO SHUT DOWN POWER TO THE MACHINE.**
- TURN OFF ALL POWER AFTER THE MACHINE COMES TO A COMPLETE STOP.
- LOCK OUT & TAG OUT THE MACHINE AND THEN EITHER:
- If the material has not contacted the saw blade - lock out and tag out the machine. Insert a piece of sheet steel of the proper size to deflect the fingers upward and off of the board. Pull the board through the infeed and remove the sheet steel.
- If the material has contacted the saw blade, lock out and tag out the machine and then raise the arbor and press roll mechanisms, pull the material through the outfeed.

Safety Labels

Safety Labels

Safety Labels

Conveyor Safety

Mereen-Johnson LLC is committed to your safety. The basic conveyor safety rules depicted here should instill awareness in those who work around conveying equipment.

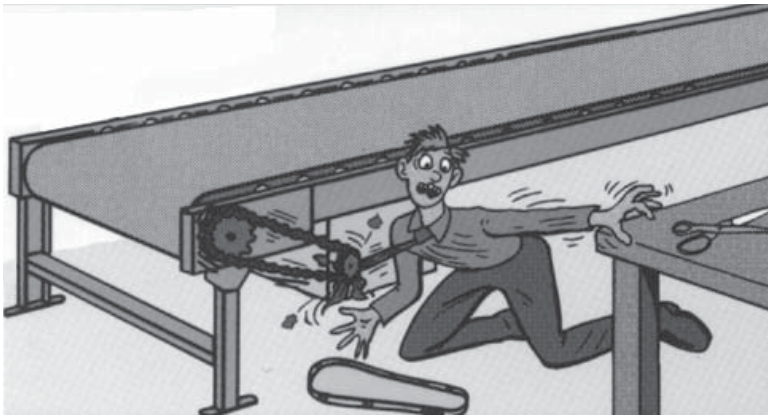
Do not start the conveyor until all personnel are clear.

All stopping and starting devices should be kept free from obstructions, allowing easy access.

Conveyor Safety

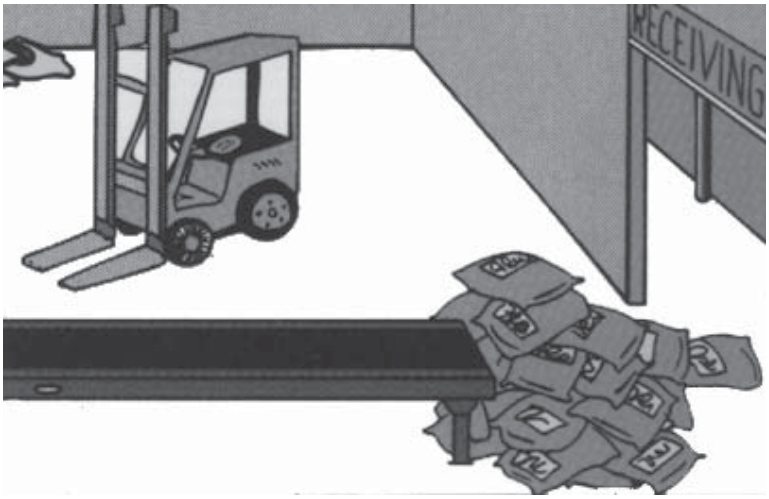
Do not ride on, stand on, sit on , walk on or run on the conveyor at any time.

The conveyor must not be loaded beyond its capacity and design limits.

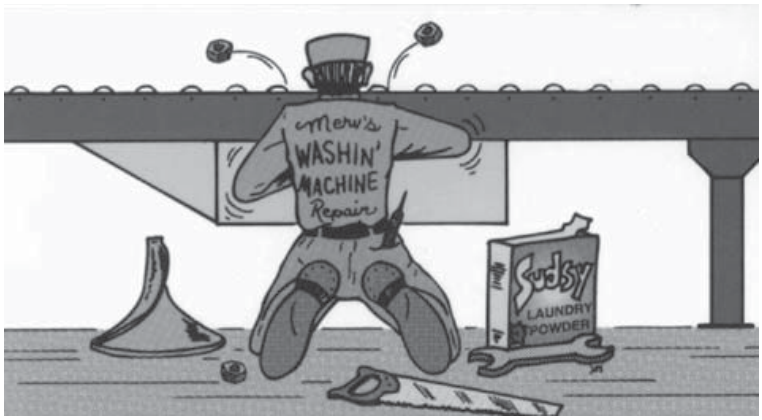


Keep all safety guards on the conveyor and in safe repair while running.

Conveyor Safety



Loading and unloading points around the conveyor should be kept clear of obstructions.

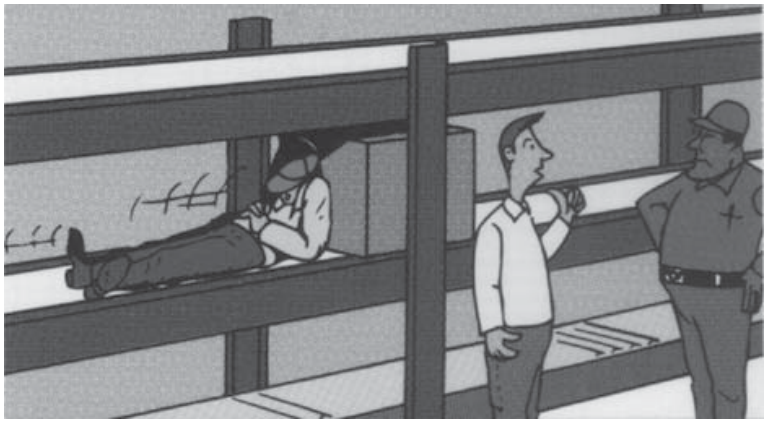


Only trained personnel should perform maintenance procedures.

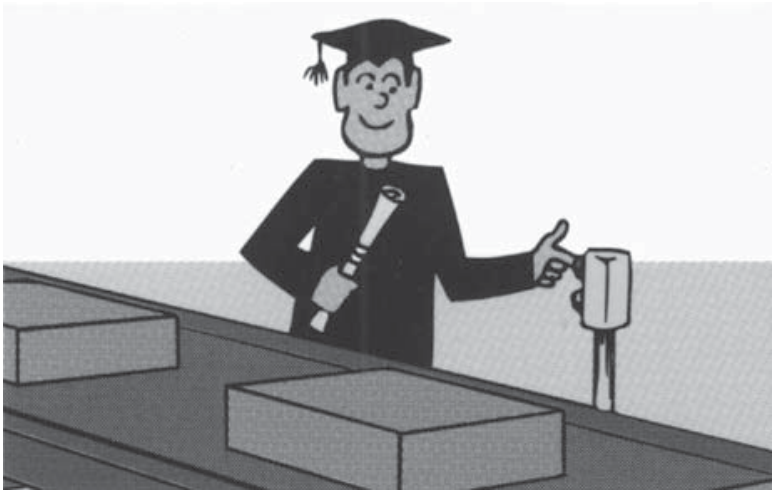
Personnel should be alerted to the potential hazards of entanglement in conveyors caused by items such as long hair, loose clothing and jewelry.

Conveyor Safety

Before performing any maintenance procedures, starting devices must be locked out.

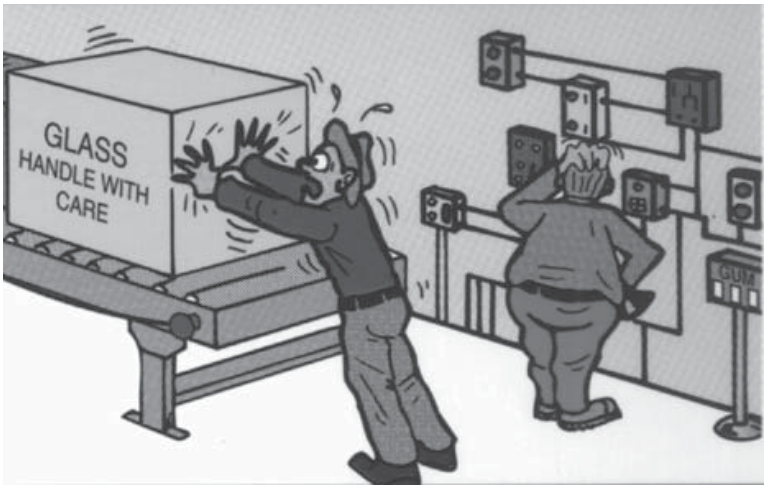


Unsafe practices must be reported to your supervisor.



Only trained employees should operate conveyors.

Conveyor Safety



All personnel should know the location and function of all start/stop controls.

Dust Inhalation & Combustibility

- Depending on the type, species and condition of the material you are processing, air born contaminants may pose a risk to your employees. OSHA has expanded its regulation and they may be found at http://www.osha.gov/SLTC/wooddust/standards.html.
- There are a number of state regulations that also specify acceptable conditions. Mereen-Johnson asks you to contact your state and local authorities for information on inhalation risk.
- Dust is combustible. Inadequate containment, removal and material are a few of the factors that may contribute to an explosion.
- Mereen-Johnson recommends that you contact your local, state and national fire prevention agencies for information concerning the prevention of what may be an extremely dangerous hazard.

WARNING
DUST
HAZARD