

AUTOMATION

# MiTek®

OPERATION AND MAINTENANCE MANUAL



## Floor Web Saw Equipment

2024 JAN 5



## **Floor Web Saw Equipment**

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Manual applies to United States equipment.

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### Safety Operating Notes


#### WARNING ELECTROCUTION, HIGH PRESSURE, AND CRUSH HAZARDS.

<b>WARNING</b>	<b>ALWAYS TURN OFF POWER AT THE MAIN POWER SOURCE BEFORE OPENING THE MAIN ELECTRICAL ENCLOSURE</b>
	When the disconnect switch is turned to the off position, there is still live power to the main electrical enclosure, where the disconnect switch is mounted. This live power may cause severe electric shock.

<b>WARNING</b>	<b>ELECTROCUTION, HIGH PRESSURE AND CRUSH HAZARDS</b>
	<p>Read this section and the safety section in the preliminary pages before operating or maintaining this machine.</p> <p>Do not operate this machine until you have a thorough understanding of all controls, safety devices, E-stops, and operating procedures outlined in this manual.</p> <p>Read and observe all warnings. Failure to do so may result in economic loss, property damage, and/or personal injury.</p> <p>This manual must always be available to personnel operating and maintaining this machine.</p>

<b>WARNING</b>	<b>CRUSH AND CUT HAZARD</b>
	Before turning on the machine, make sure that all personnel and other machines are out of the restricted zone ( page xviii ).

<b>WARNING</b>	<b>DO NOT OPERATE THIS MACHINE UNLESS ALL GUARDS AND SAFETY DEVICES ARE IN PLACE</b>
	Only qualified maintenance personnel shall repair, remove, or replace guards and safety devices.

<b>WARNING</b>	<b>THE OPERATION OF THIS MACHINE REQUIRES THE USE OF PPE</b>
	Do not operate without wearing the required protective clothing. Operating this machine without proper PPE may result in an injury.

## Lockout/Tagout

### Lockout/Tagout Guidelines

**All lockout/tagout guidelines must be met according to OSHA 29 CFR 1910.147.**

**Lockout/tagout** all energized systems before performing maintenance on them. A specific procedure should be included in your company's energy control program. This manual is not intended to replace your company's deenergizing 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**, such as a keyed padlock, 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.

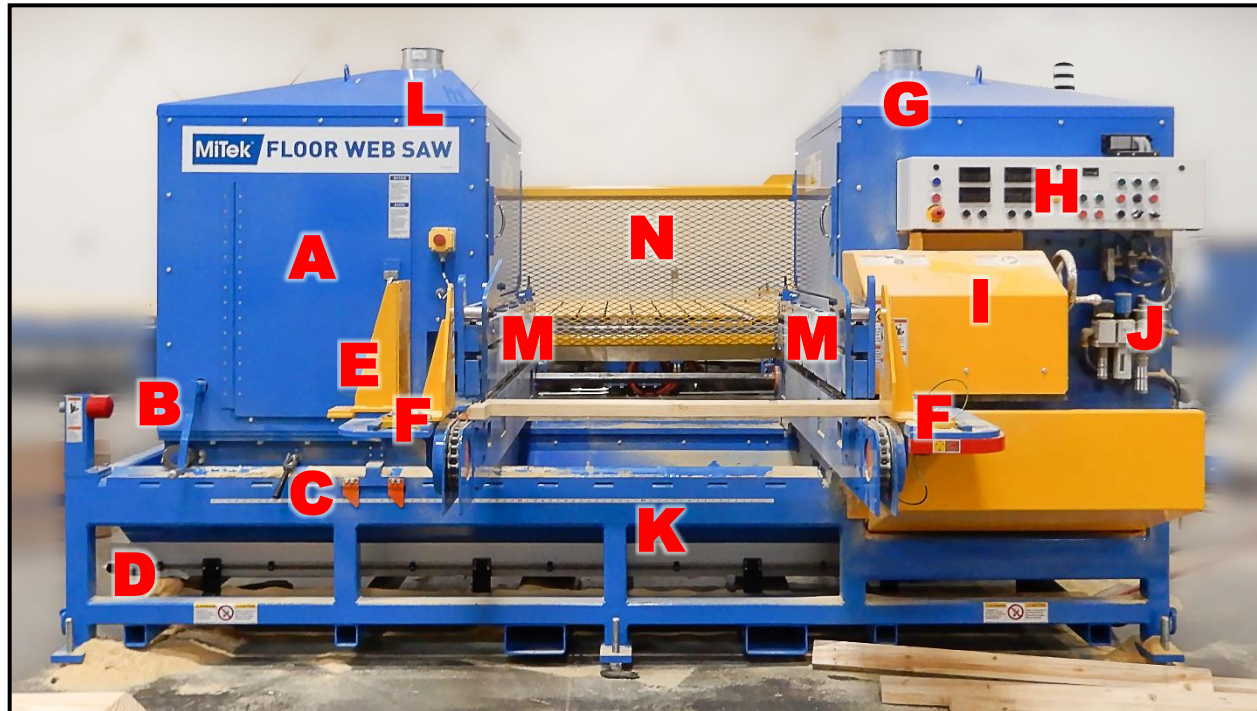
- Energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- In the case of electrical energy sources, the main power and control power to the machinery must be turned off and physically locked in the off position.
- Before performing maintenance on the pneumatic or hydraulic systems, bleed the lines prior to **lockout/tagout** to eliminate pressure.

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 in the margin, **lockout/tagout!**

## Floor Web Saw Overview

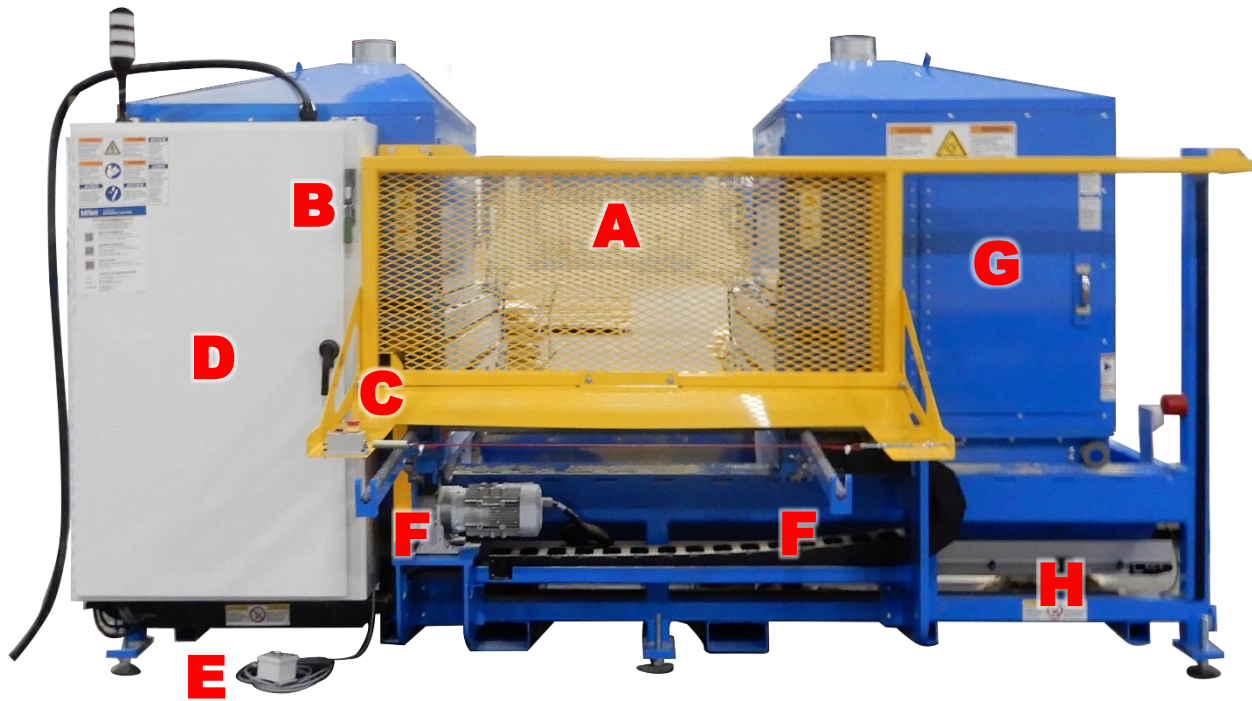
## Front



**A** – Access Door 1 of 6, **B** – Hand Crank to move the cabinet, **C** - Movable Cabinet Lock, **D** - Waste Conveyor, **E** – Board Length End Stop, **F** – Magazine Width Stops, **G** – Fixed Cutting Cabinet, **H** – Operator Control Panel, **I** – Cut-Off Saw Housing, **J** – Air Supply Shut Off, **K** – Lumber Infeed Conveyor, **L** – Movable Cutting Cabinet, **M** – Front Flippers, **N** – Rear Guard.



## Back



**A – Rear Guard, B – Disconnection Switch, C – Emergency Stop, D – Electrical Cabinet, E – Off Load Alarm, F – Outfeed Arms, G – Rear Access Panel, H – Waste Conveyor.**

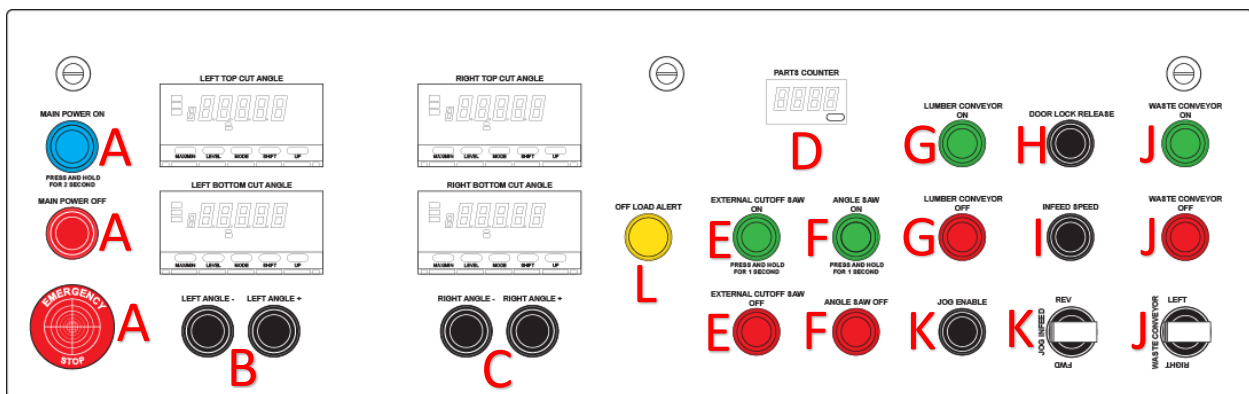
## Operating the Floor Web Saw

The **Floor Web Saw** is designed to cut **2x3, 2x4, and 2x6 boards**. Post-cut board length can range between 5-7/8 inches and 56 inches. If one end is cut square (90°), then the minimum length becomes 7 inches. Up to 10 boards can be loaded into the magazine that feeds the **Floor Web Saw**.

Power must be supplied to the saws before any cutting can occur, but some adjustments are possible with no power supplied to the **Floor Web Saw**.

## Operating Control Panel

Under normal operating conditions, the movements of the conveyors are completely automated. However, some movement of the conveyors is controlled through the control panel.



Button/Display		Function/Description
Main Power On	A	Push and hold for 2 seconds for power on. The Power On pushbutton lights up to indicate power is on. Main Power must be on for all other controls to work.
Main Power Off		Push to turn off power to the floor web saw. The Main Power On pushbutton should be dark.
Emergency Stop Button		Push in to halt all <b>Floor Web Saw</b> and conveyor motions. Pull and twist to reset the Emergency Stop button
Left Top Cut Angle	B	The angle cut by the left, rear saw (top of board)
Left Bottom Cut Angle		The angle cut by the left, front saw (bottom of board)
Left Angle -		Decreases the Left Top Cut Angle



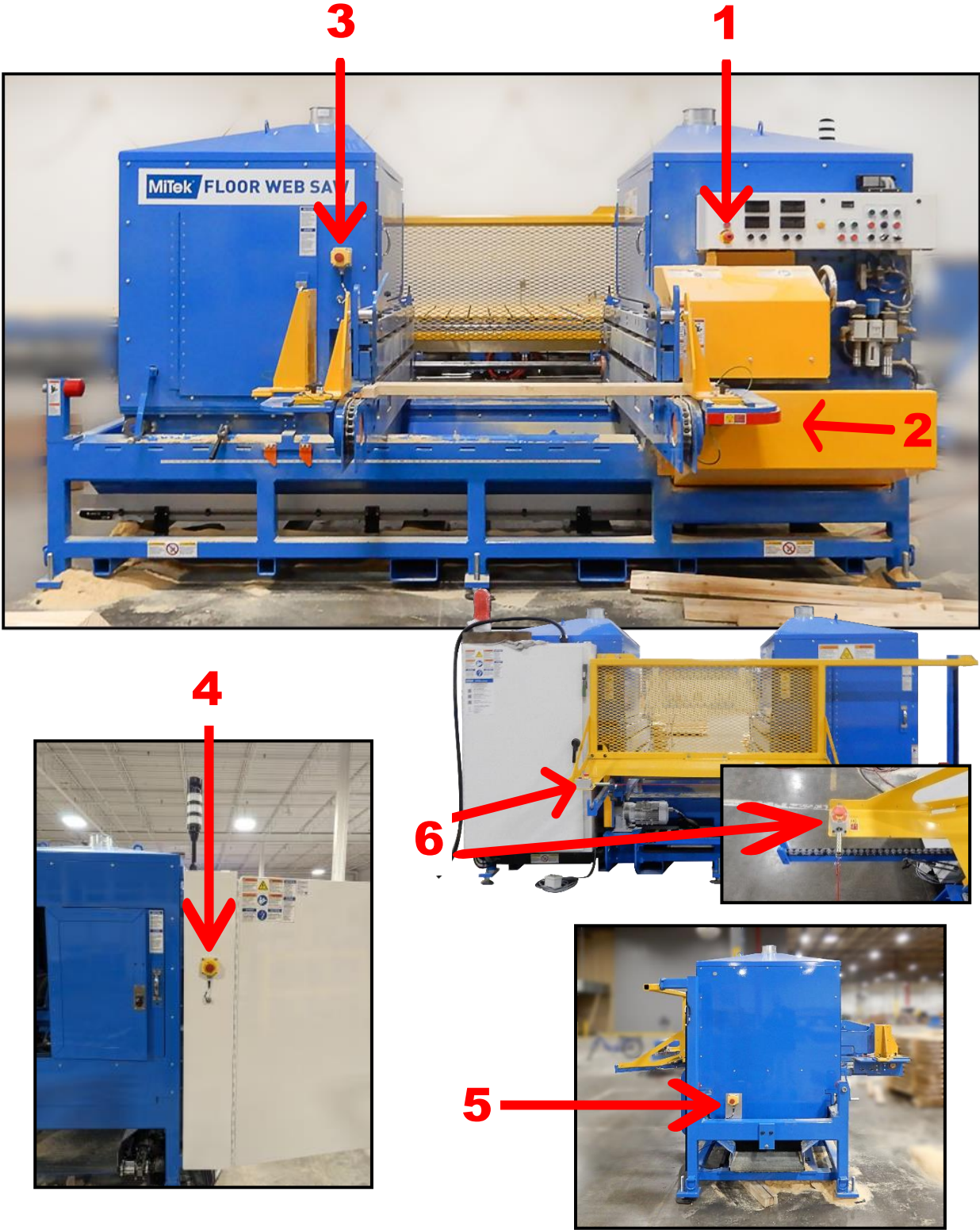
Left Angle +		Increases the Left Top Cut Angle
Right Top Cut Angle	<b>C</b>	Displays the angle cut by the right, rear saw (top of board)
Right Bottom Cut Angle		Displays the angle cut by the right, front saw (bottom of board)
Right Angle -		Decreases the Right Top Cut Angle
Right Angle +		Increases the Right Top Cut Angle
Parts Counter / reset button	<b>D</b>	Counts the number of boards that have been cut by the floor web saw since power was turned on or the count was reset. Touch the reset button to return the counter to zero.
External Cutoff Saw On	<b>E</b>	Push and hold for 1 second for power on. The External Cutoff Saw On pushbutton lights up to indicate power is on.
External Cutoff Saw Off		Push to turn off power to the external cutoff saw. The External Cutoff Saw On pushbutton should be dark.
Angle Saws On	<b>F</b>	Push and hold for 1 second for power on. The Angle Saws On pushbutton lights up to indicate power is on.
Angle Saws Off		Push to turn off power to the angle saws. The Angle Saws On pushbutton should be dark.
Lumber Conveyor On	<b>G</b>	Push and hold for 1 second for power on.
Lumber Conveyor Off		Push to turn off power to the lumber conveyor.
Door Lock Release	<b>H</b>	Push to unlock all guard doors. All saws must be at a complete stop (zero speed sensors) before any door will unlock. Doors remain unlocked for 30 seconds. Door Lock Release button will not unlock any additional doors if there are any already open.
Infeed Speed dial	<b>I</b>	Change the speed of the infeed conveyor. Turn right to increase speed. Turn left to decrease speed.
Waste Conveyor On	<b>J</b>	Push and hold for two seconds for power on. The Waste Conveyor On pushbutton lights up to indicate power is on.
Waste Conveyor Off		Push to turn off power to the angle saws. The Waste Conveyor On pushbutton should be dark.
Waste Conveyor switch		Sets the direction the waste conveyor moves.
Jog Enable	<b>K</b>	Push and hold to move the infeed (lumber) conveyor in the direction indicated by the Jog Infeed switch.
Jog Infeed switch		Sets the direction the infeed (lumber) conveyor moves when the Jog Enable button is pressed. FWD advances the conveyor. REV
Off Load Alert	<b>L</b>	Push this button to engage the Off Load Alert.

## Stopping the Machine

**The Floor Web Saw stops in four ways.**

1. Someone presses any E-stop pushbutton.
2. A change to the tension of Lifeline 5 Safety Cable Pull Switch
3. Someone presses the DOOR LOCK RELEASE button.
4. Pressing EXTERNAL CUTOFF SAW OFF, ANGLE SAWS OFF, and/or MAIN POWER OFF buttons.

Emergency Stop



**There are six Emergency Stop(E-Stop) buttons.** Activating any of the Emergency Stop buttons stops all machine motions. The external cutoff saw should stop in 3 seconds, but the internal angled saws will spin down gradually.

**Use E-stops only in emergencies.** Using an E-stop to stop the machine regularly may cause two problems. First, it causes excessive wear on components. Second, it stops the saw from cutting and may interfere with the workflow.

**(1) The Emergency Stop button on the Operator Control panel:** To activate this E-Stop, push it in. Pull out and twist this E-Stop to reset it.

**(2) The Emergency Stop button behind the red bar near the operator station:** To activate this E-Stop, push the red bar IN. Pull out and twist the button behind the bar to reset.

**(3/4/5) The Emergency Stop buttons on the cutting cabinets:** To activate any of these E-Stops, push it in. Pull out and twist the same E-Stop to reset it.

**(6) The Lifeline 5 Safety Cable Pull Switch:** Activates automatically when the tension wire that spans the space between the cutting cabinets changes enough to trigger the spring. It will also activate if the button is pressed.

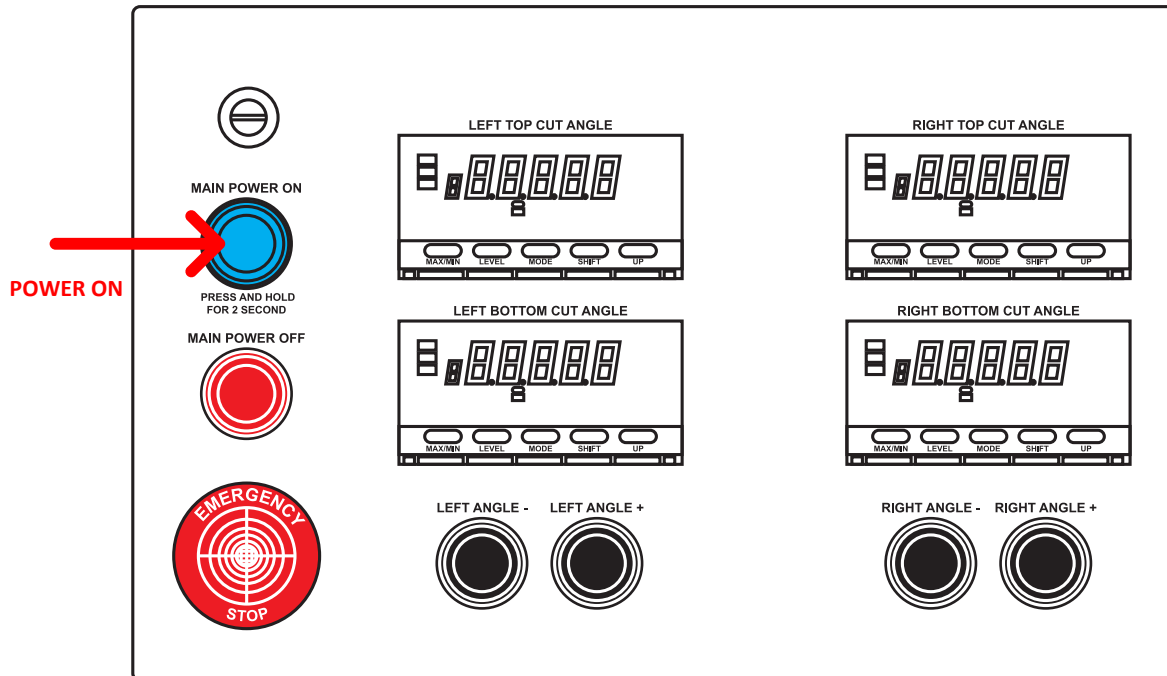
When activated, the status lights on the button will turn red. To reset after a button press, pull out and twist the button and push the blue button.

If the tension wire was triggered, reposition the wire to the correct tension (the status lights will turn amber), then push the blue button to reset. When properly reset, the status lights turn green.

- **Flipping the disconnect switch on the main electrical enclosure to the on-position supplies power to that enclosure.**
- **Flipping the disconnect switch handle on the main electrical enclosure to the Off position removes power from that enclosure.**

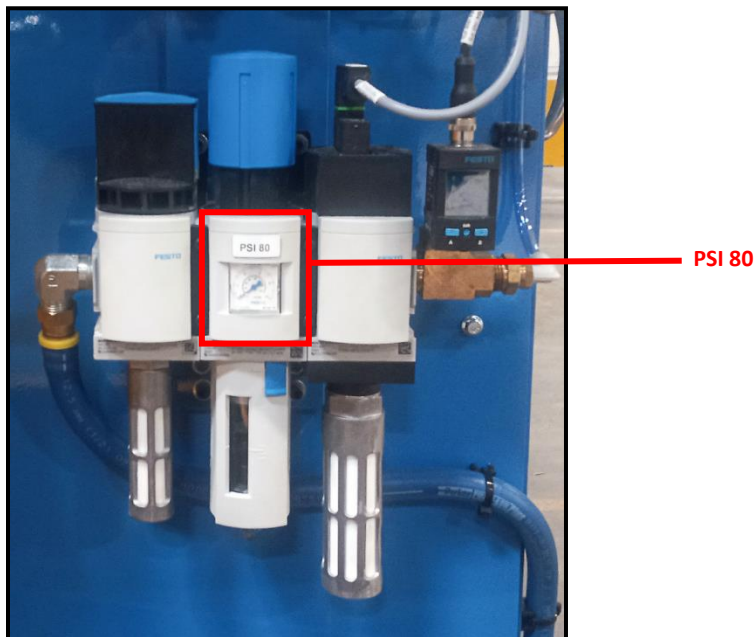
The disconnect switch on the main electrical enclosure should be turned to the Off position when the **Floor Web Saw** is not in use.

## Power On Machine



1. Verify the main electrical disconnect is switched to ON.
2. Verify all E-Stops are released (see Emergency Stop Buttons).
3. Verify the air supply is connected and the shut-off is set to SUP. The brake that is present on the external cutoff saw only has a pneumatic brake that is also operated by the air supply.
4. On the operator panel, **PUSH MAIN POWER ON and hold for 2 seconds.**

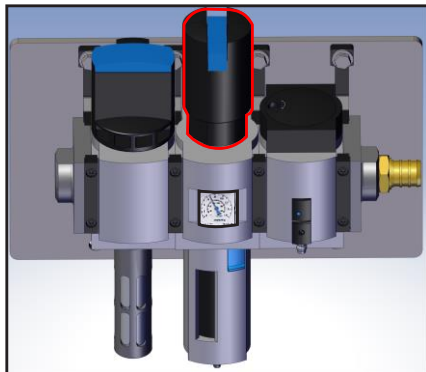
## Main Filter Regulator



There are multiple **Pneumatic Filter/Regulator** on the **Floor Web Saw**. The main **Pneumatic Filter/Regulator** manages incoming air from the air source, keeping it at the pressure needed for the most robust pneumatic component in the **Floor Web Saw** system.

It's the only **Floor Web Saw Filter/Regulator** that needs to be connected to an air source. Some parts have their own filter/regulator to reduce the pressure further.

## Adjusting the Operating Pressure



Pull up on the **Pneumatic Filter/Regulator Knob**, to unlock the adjustment knob.

Next, turn the knob to adjust the pressure.

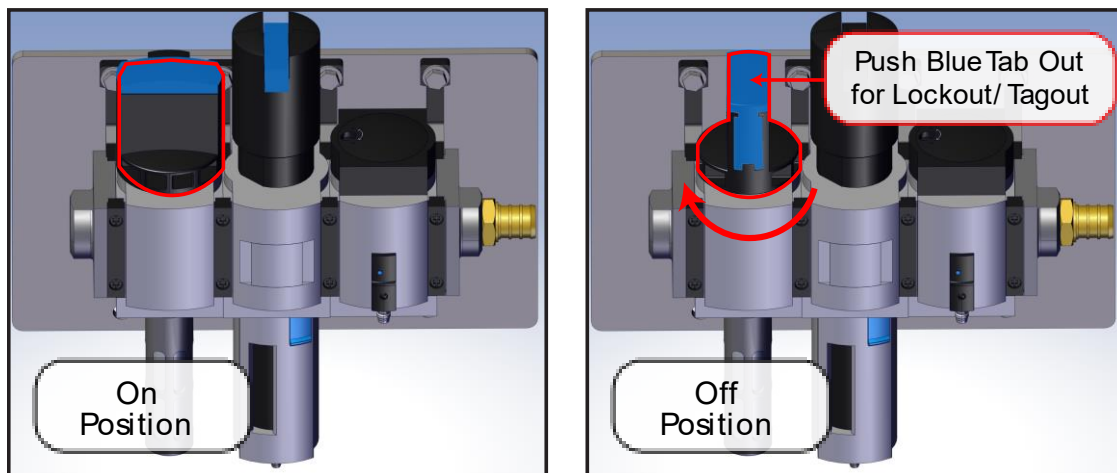
**Turning the knob clockwise increases the pressure, and counterclockwise decreases it.**

Once the gauge reads **80 psi**, push the knob down to lock it into place.

## Lockout/Tagout Guidelines

Perform any Lockout/Tagout procedures according to your company's guidelines and always review all documentation before operating any equipment.

There is a **HIGH-PRESSURE HAZARD** when bleeding pressure from pneumatic lines. Use the following procedure to remove pressure from the system.



First, turn the pressure sensor to the off position and push the blue slide outward so the **LOCKOUT/TAGOUT** hole is visible.

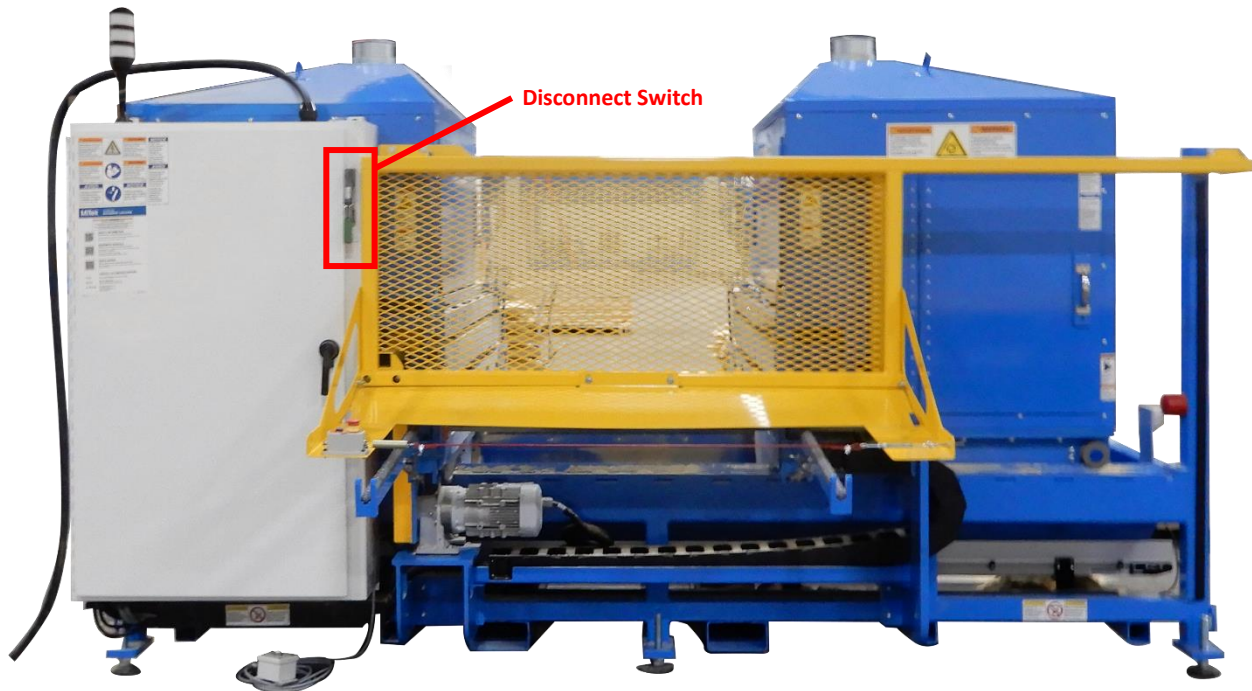


Then, **LOCKOUT/TAGOUT** through the hole on the slide. Following the **LOCKOUT/TAGOUT** procedures, the air pressure will automatically be released from the air lines.

## Disconnect Switch

The main electrical enclosure of the **Floor Web Saw** is mounted to the stationary cutting cabinet and the disconnect switch handle.

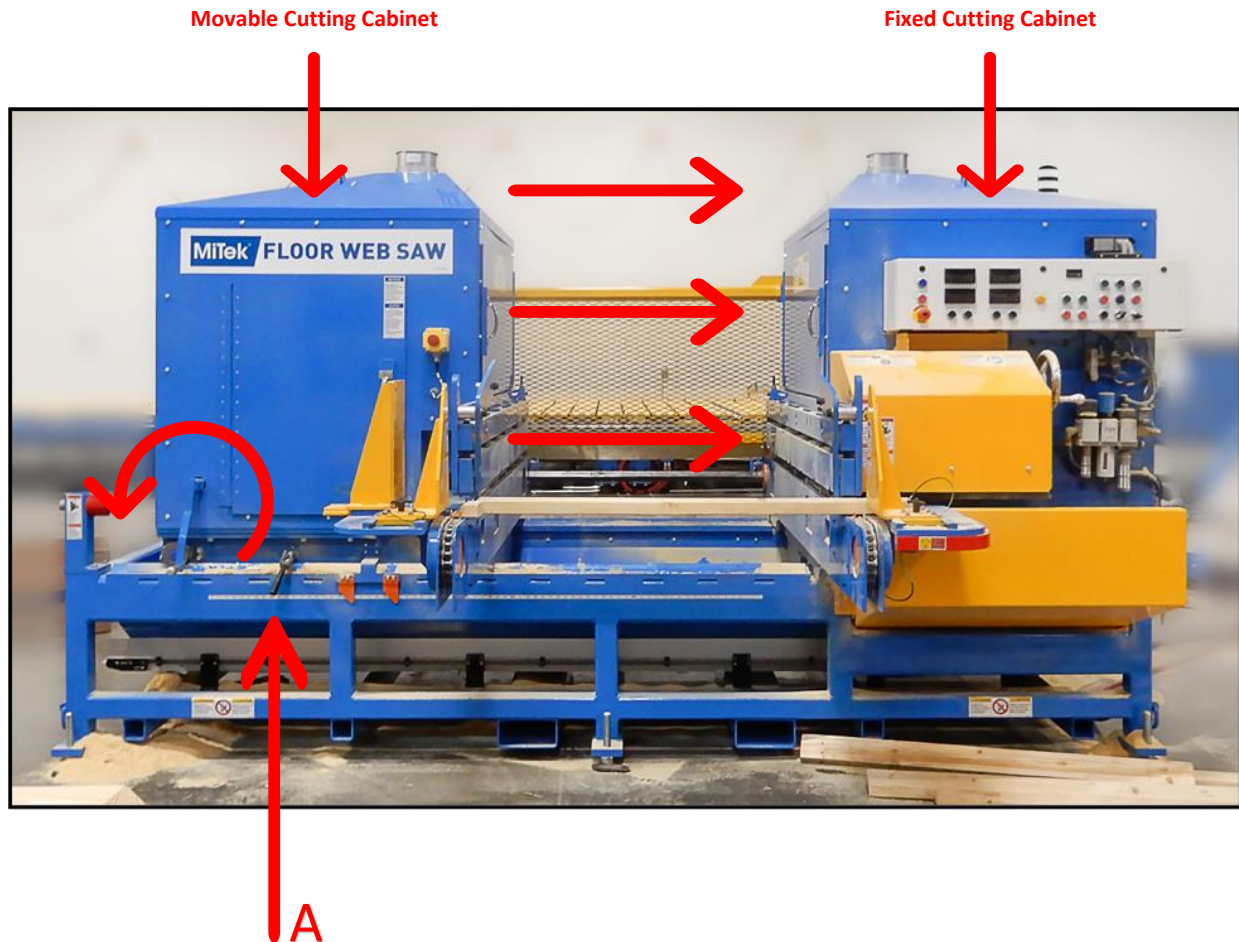
### Main electrical enclosure (On/Off position)





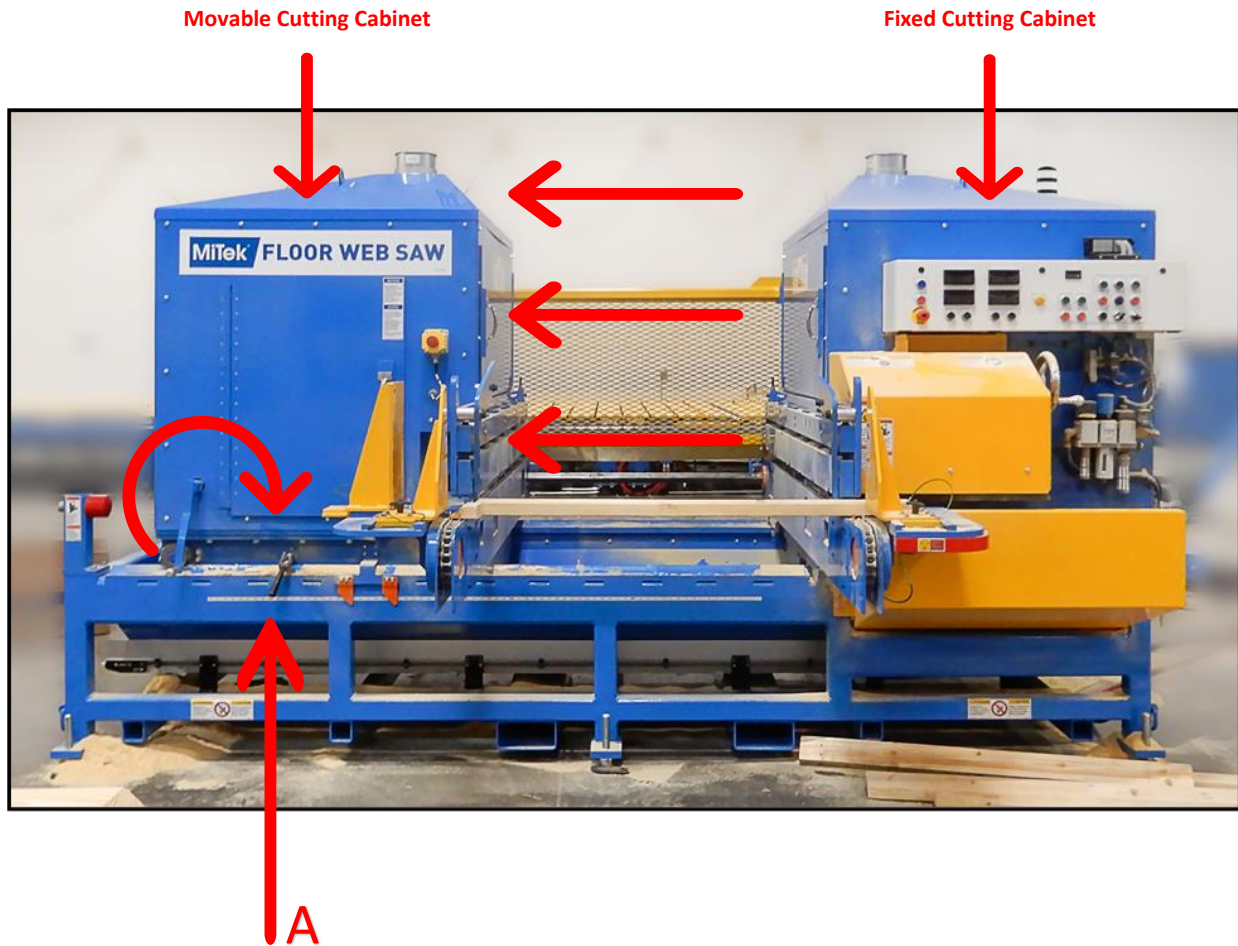
## Adjusting the Distance Between Cutting Cabinets

To adjust the distance between cutting cabinets (and length of cut board), first power down the saw, then release the lock ( **A** ).



Turn the crank on the movable cutting cabinet **counterclockwise** to decrease the distance between cutting cabinets.

Reset the lock ( **A** ) and confirm that it's locked before resuming operation of the saw.



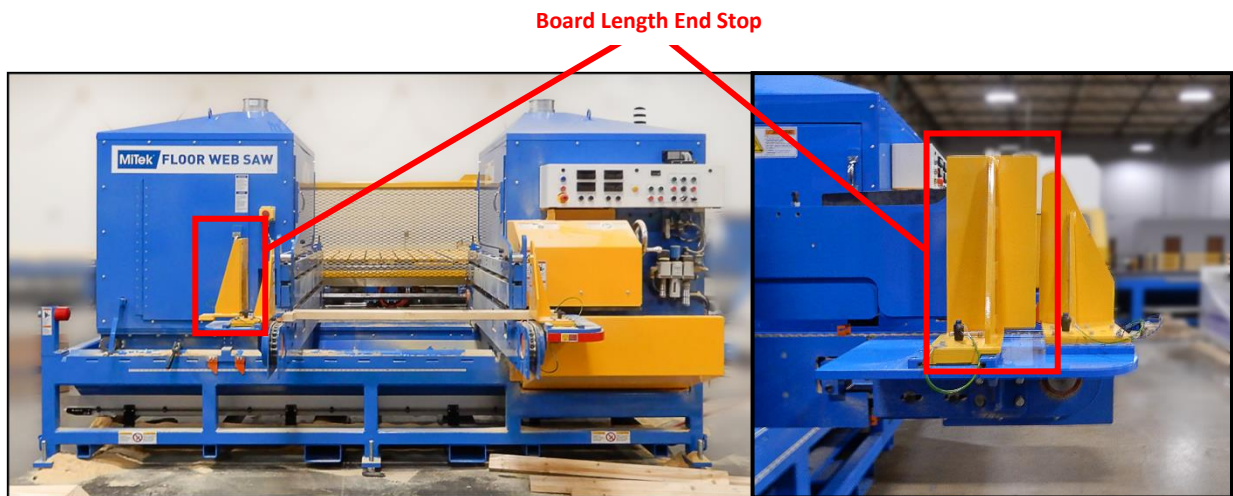
Turn the crank on the movable cutting cabinet **clockwise** to increase the distance between cutting cabinets.

## Adjusting the End Stop Position

- A. Push in blue button on top of the pin to remove it from a hole.

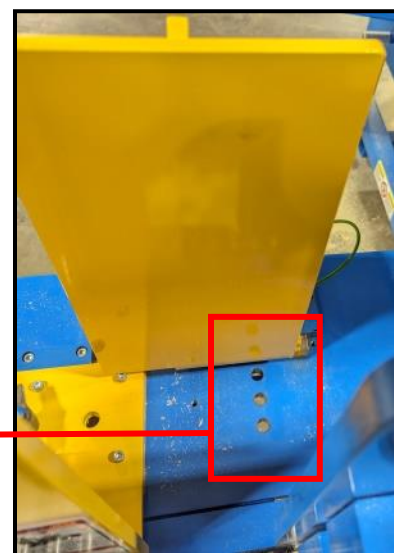


Move the **Board Length End Stop** to its new position, align it with one of the holes, and replace the pin to secure the **Board Length End Stop**.



- B. Adjust the **Board Length End Stop** to help stabilize the boards being loaded into the magazine for cutting.
- C. Push the blue button in on top of the pin to remove it from a hole.
- D. Move the **Board Length End Stop** to its new position, align it with one of the holes, and replace the pin to secure the **Board Length End Stop**.

Board Length End Stop  
pin holes

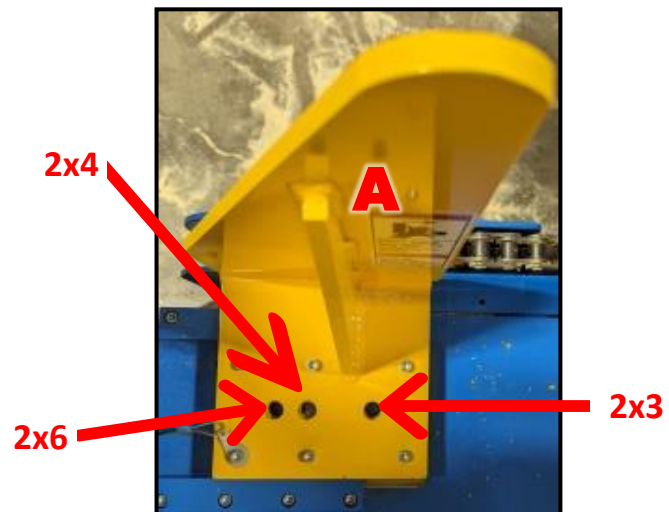


## Adjusting Magazine Width Stops

The **Floor Web Saw** can cut 2x3, 2x4 and 2x6 boards. There are **Magazine Width Stops (A)** on either side of the infeed chain conveyor, held in place with pins (**B**), that should be adjusted to the proper width before boards are loaded into the magazine for cutting.

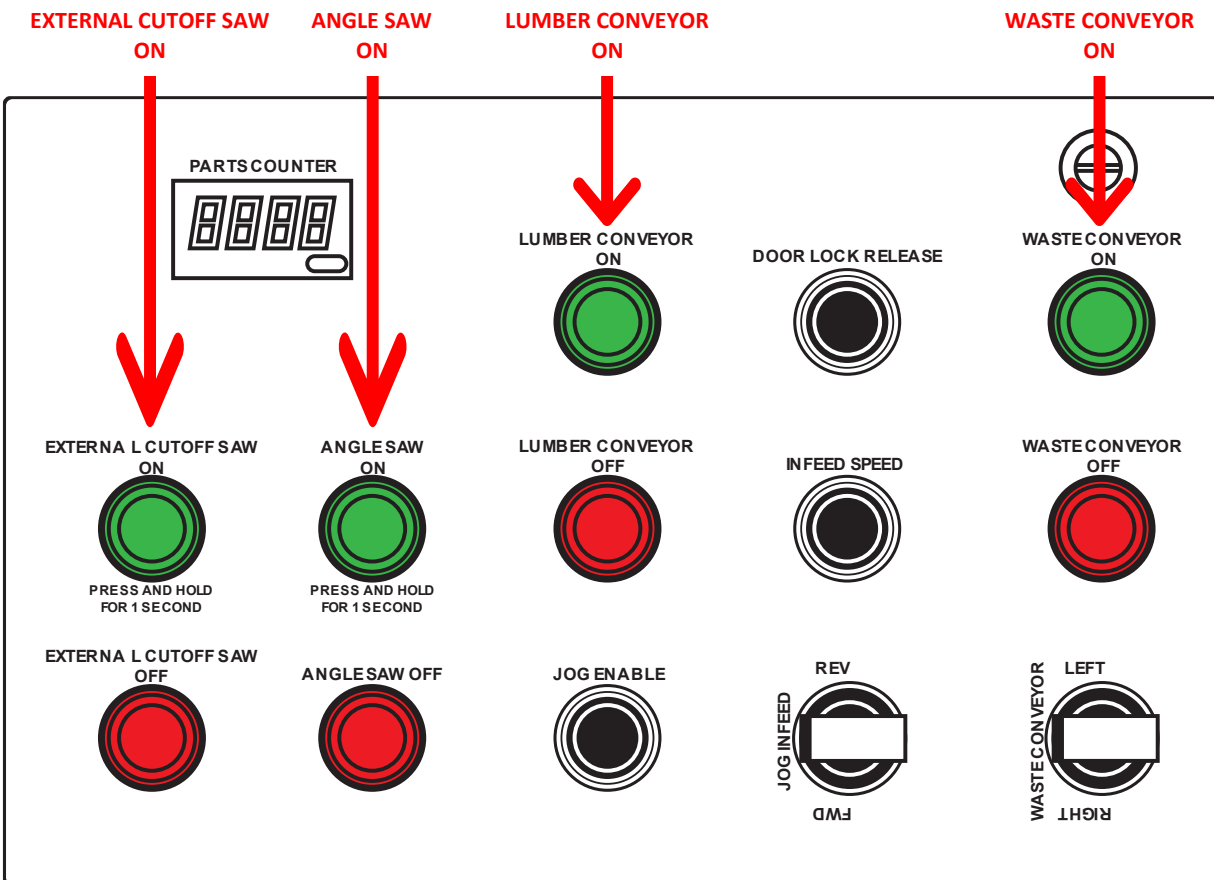


There are **Magazine Width Stops (A)** on either side of the infeed chain conveyor, held in place with pins (**B**), that should be adjusted to the proper width before boards are loaded into the magazine for cutting.



1. To adjust the **Magazine Width Stops (A)**, push the Blue Button in on top of the pin (**B**).
2. Remove the pin (**B**) from the hole.
3. Move the **Magazine Width Stop (A)** to its new position and align it with one of the three holes, and replace the pin (**B**) to secure the **Magazine Width Stops (A)**.
4. Repeat for the other side, ensuring both **Magazine Width Stops (A)** are set to the same width.

## Cutting



Make any necessary adjustments to the Floor Web Saw's settings/configuration:

- Adjust magazine width (the holes are set for 2x3, 2x4, and 2x6) –see **CHANGE MAGAZINE WIDTH**
- Adjust the length of the cut board – see **ADJUSTING THE DISTANCE BETWEEN CUTTING CABINETS/ADJUSTING ANGLED SAW POSITIONS**
- Adjust angles – see **ADJUSTING THE ANGLE OF END CUTS/ADJUSTING ANGLED SAW POSITIONS**

When all adjustments have been made, move to the operator station and verify the cutting area is clear.

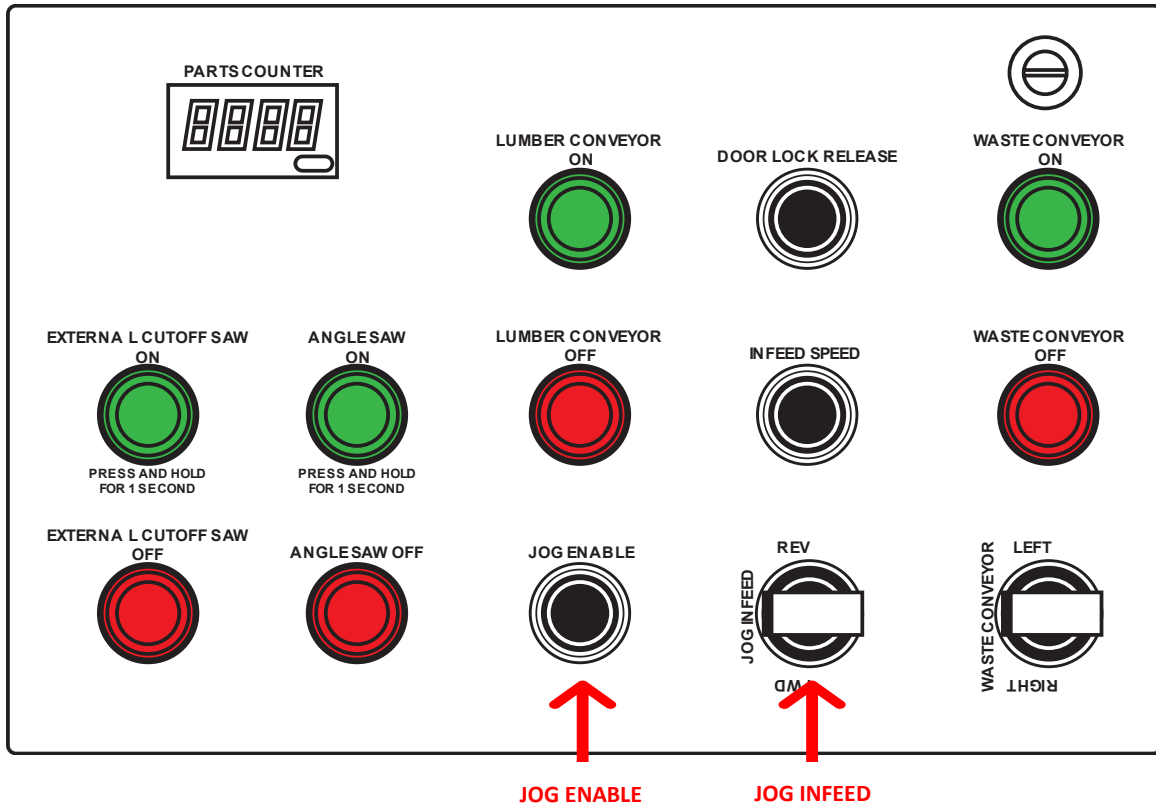
**Push the EXTERNAL CUTOFF SAW ON** and hold for 1 second to turn on the cutoff saw.

**Push ANGLE SAWS ON** and hold for 1 second to turn on the angle saws.

Verify the waste conveyor is moving in the correct direction (see **SET WASTE CONVEYOR DIRECTION**).

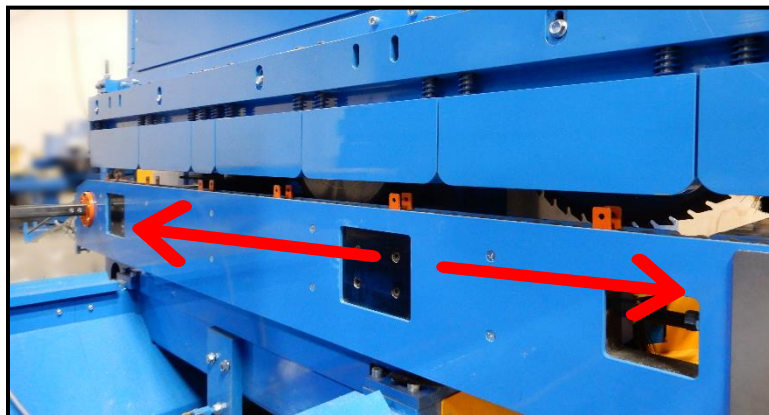
**Push the WASTE CONVEYOR ON** and hold for 1 second to turn it on the waste conveyor.

### Jog Infeed Conveyor

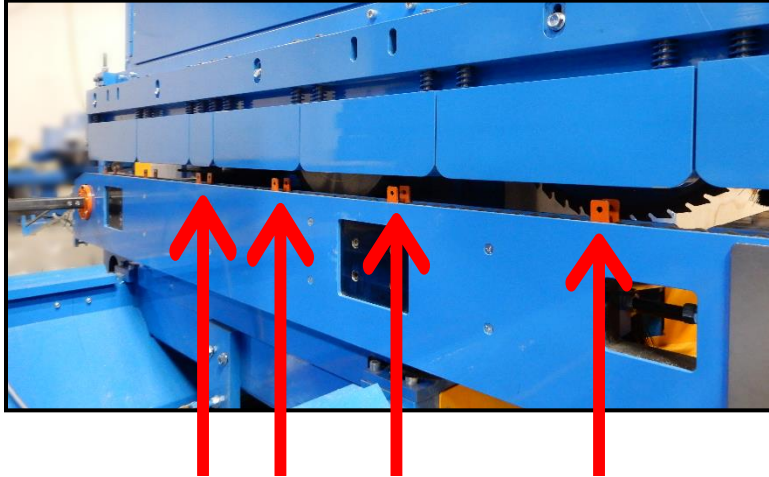


With power supplied to the machine, turn the **JOG INFEED switch** to **FWD (toward cutting cabinets)** or **REV (away from cutting cabinets)**.

Touch and hold **JOG ENABLE** to move the conveyor in the direction set by the **JOG INFEED switch**. There is a slight delay in the chain stopping after the button is released.



The reverse direction is intended to be used to remove any jams that may occur in the lumber conveyor.



**CONVEYOR CHAIN DOG TEETH**

Visually verify that no conveyor chain dog teeth are in the magazine chute; if necessary, jog the lumber conveyor to clear dog teeth from the chute (see **JOG INFEEED CONVEYOR**).

You can load up to 10 boards into the magazine when all preparations are complete. Return to the operator station and push the **LUMBER CONVEYOR ON** to start the infeed conveyor lumber, which moves the boards through the cutting process.

When all cutting is complete, push **LUMBER CONVEYOR OFF** to turn off the infeed conveyor. Push **ANGLE SAWS OFF** and **EXTERNAL CUTOFF SAW OFF** to stop the saws.

Cut boards exit the cutting area, where they must be removed by hand.

## Front Flippers



**FRONT FLIPPERS**

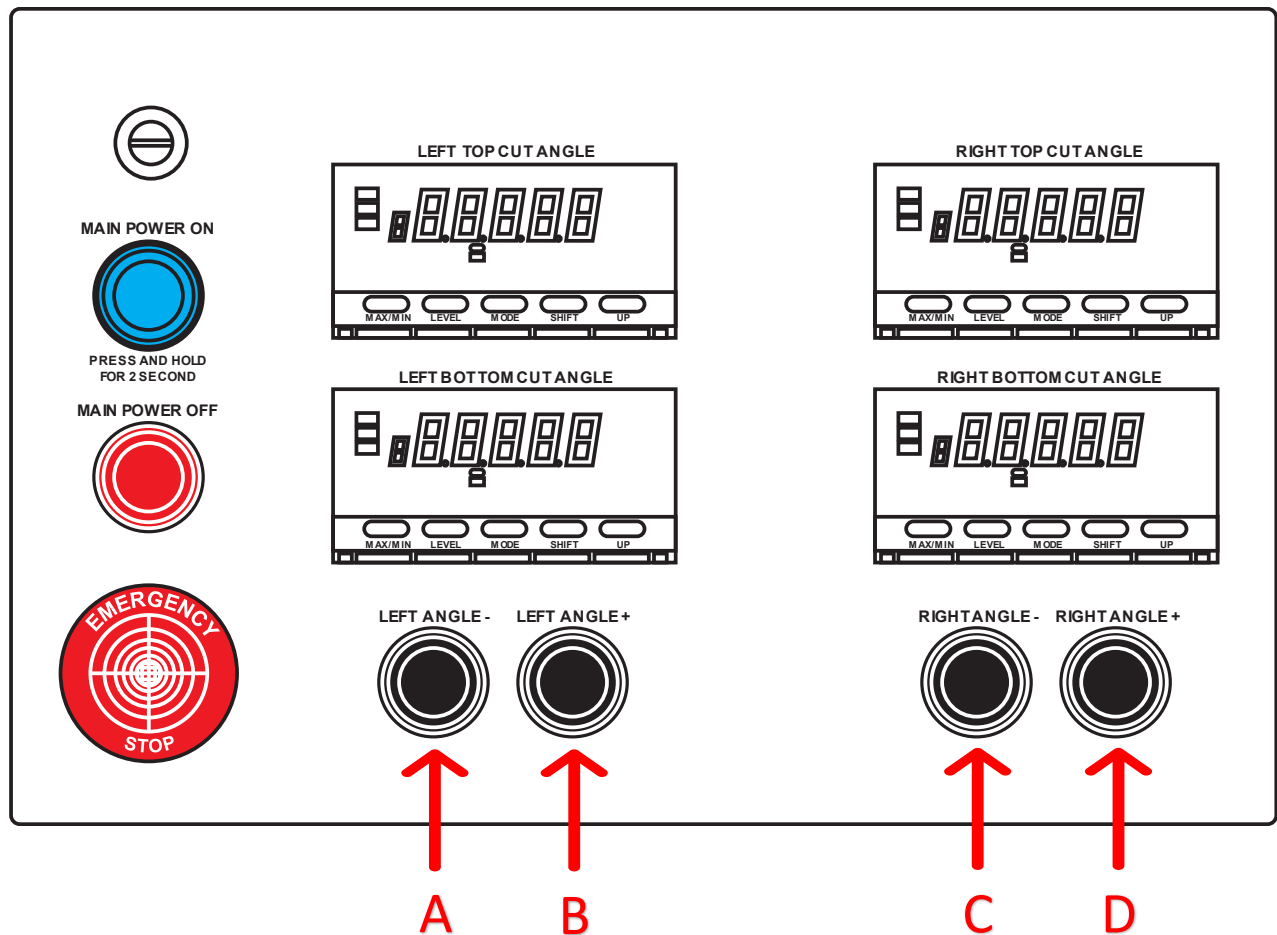
The flippers are designed to align the lumber on the lumber conveyor flush against the conveyor chain dog teeth.

This ensures that each board is held at a consistent angle while being pulled through the saw enclosure.

(This was made to prevent jams that would occur when the boards were quite straight when going through the machine).



## Adjusting the Angle of End Cuts



**A - Touch the Left Angle- button** to decrease the top cut angle/increase the bottom cut angle of the left edge of the boards being cut.

**B - Touch the Left Angle+ button** to increase the top cut angle/decrease the bottom cut angle of the left edge of the boards being cut.

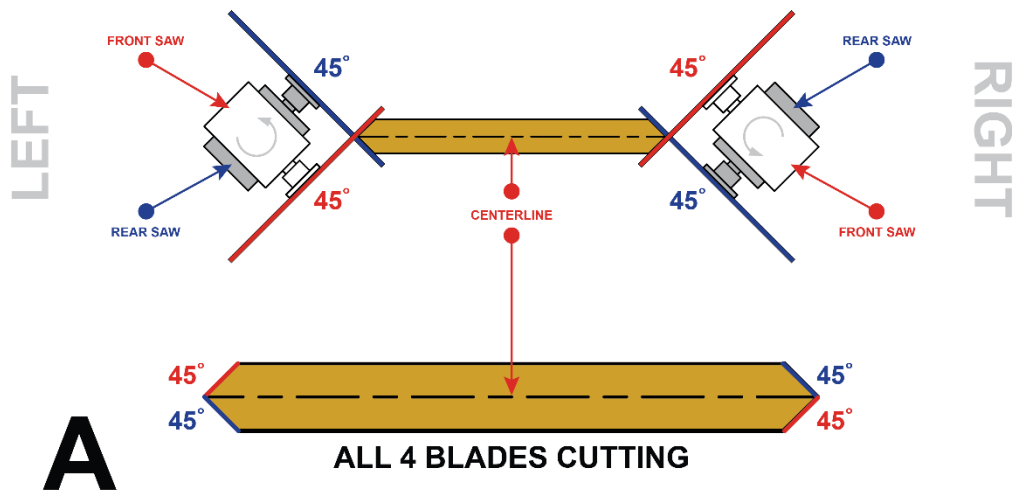
**C - Touch the Right Angle- button** to decrease the top cut angle/increase the bottom cut angle of the right edge of the boards being cut.

**D - Touch the Right Angle+ button** to increase the top cut angle/decrease the bottom cut angle of the right edge of the boards being cut.

Floor Web Saw Cuts

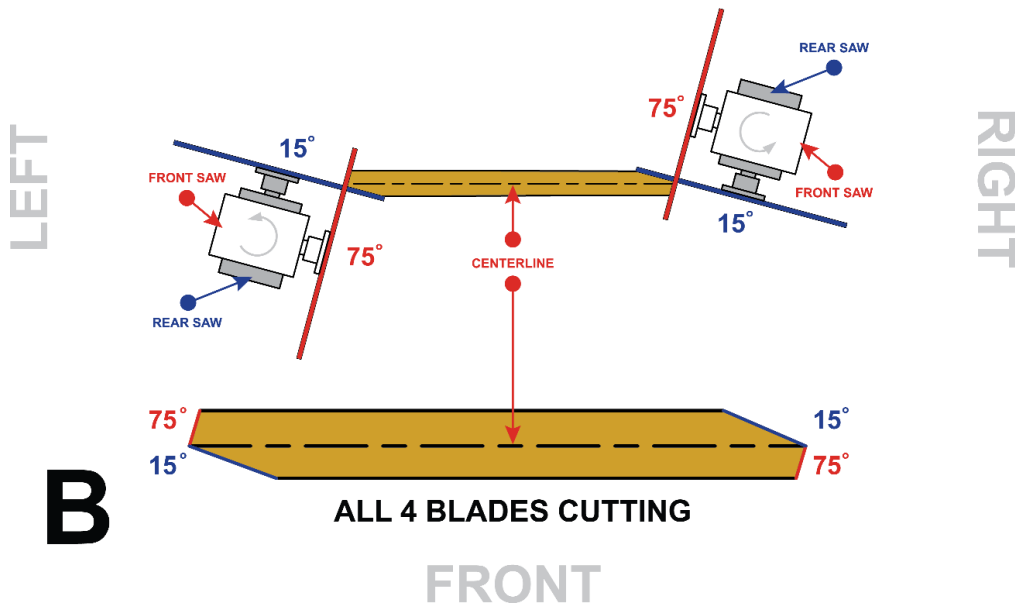
# FLOOR WEB SAW

OPERATOR VIEW



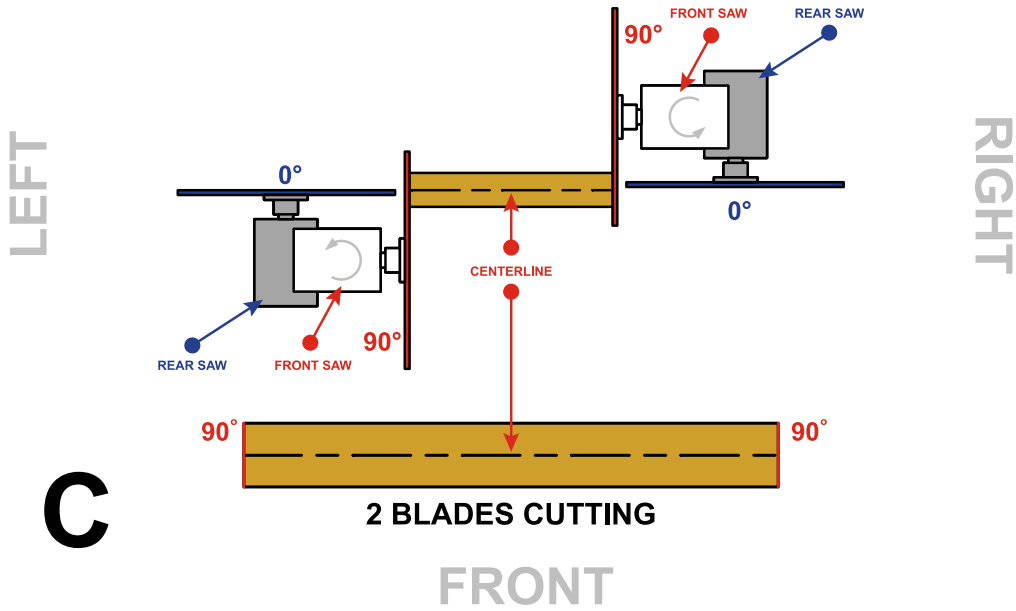
# FLOOR WEB SAW

OPERATOR VIEW



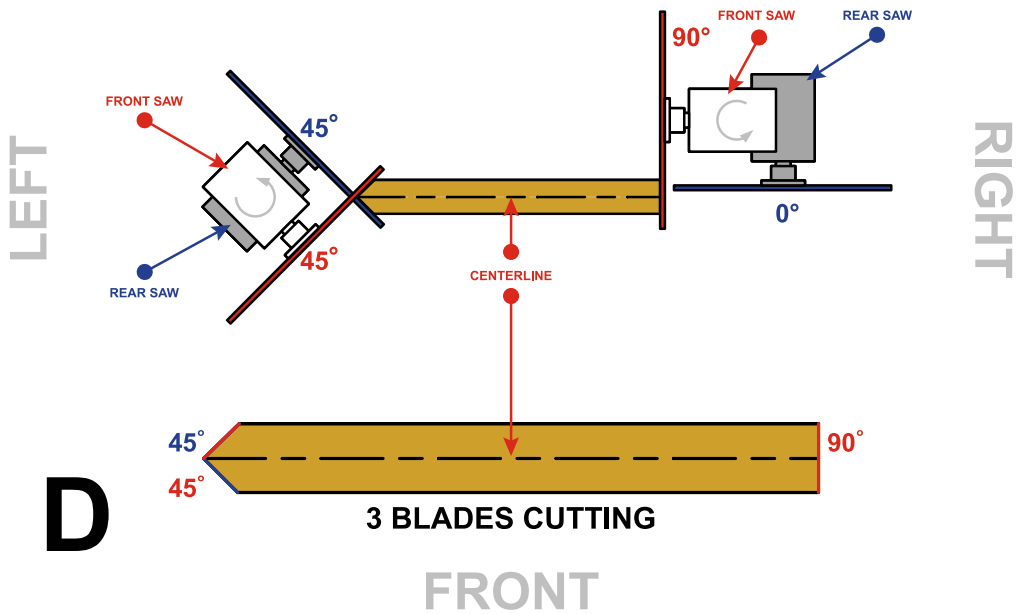
# FLOOR WEB SAW

OPERATOR VIEW



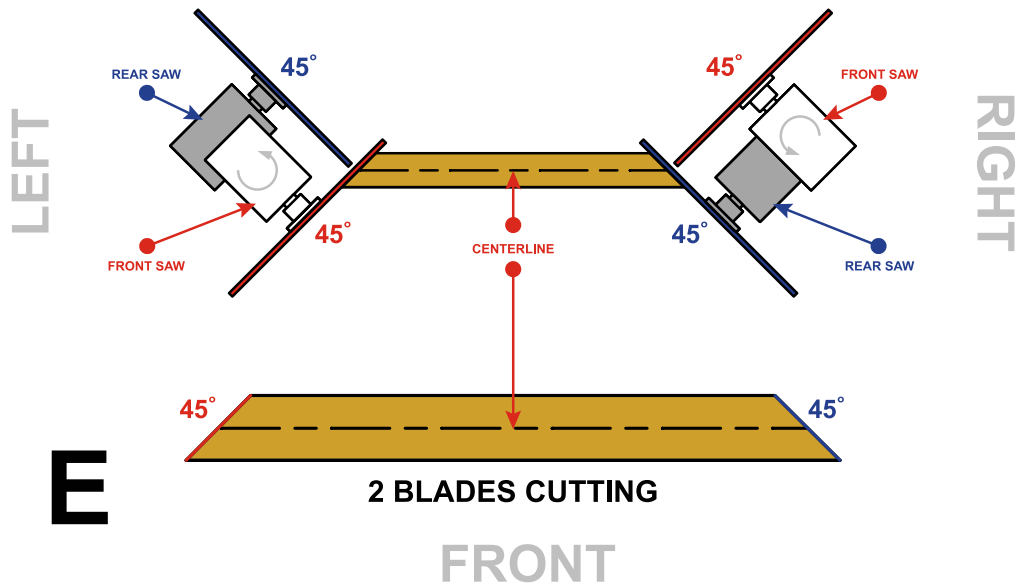
# FLOOR WEB SAW

OPERATOR VIEW



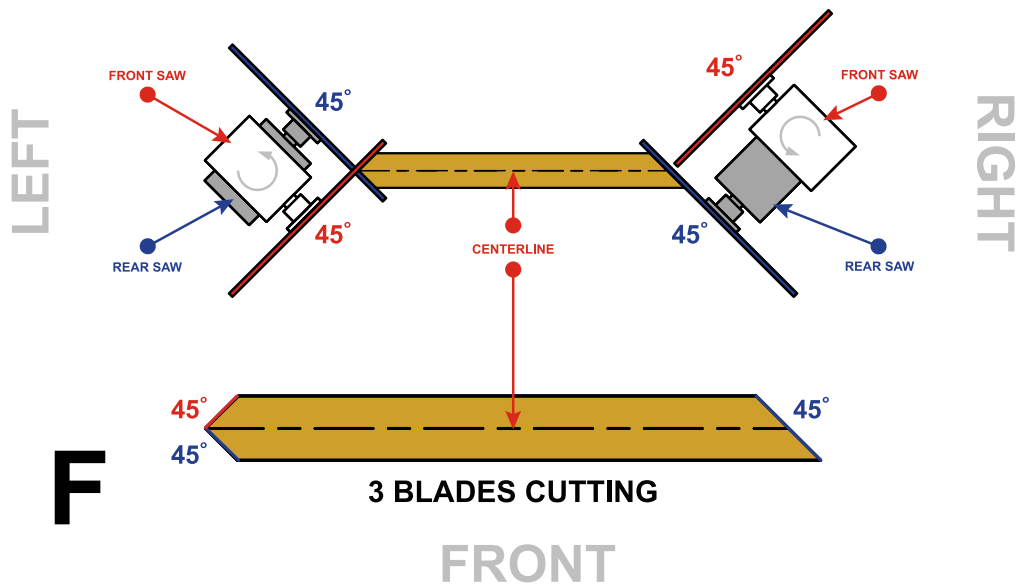
# FLOOR WEB SAW

OPERATOR VIEW



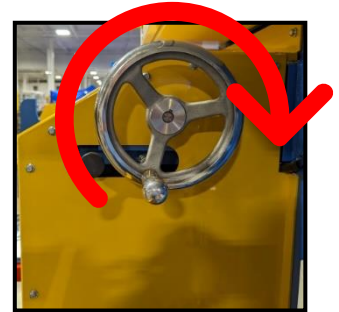
# FLOOR WEB SAW

OPERATOR VIEW



## Adjust Cutoff Saw Position

Turn the cut-off saw hand wheel **CLOCKWISE** to move the saw closer for a shorter board cut from the lumber conveyor.



Turn the cut-off saw hand wheel **COUNTER-CLOCKWISE** to move the saw or farther away for a longer board cut from the lumber conveyor.

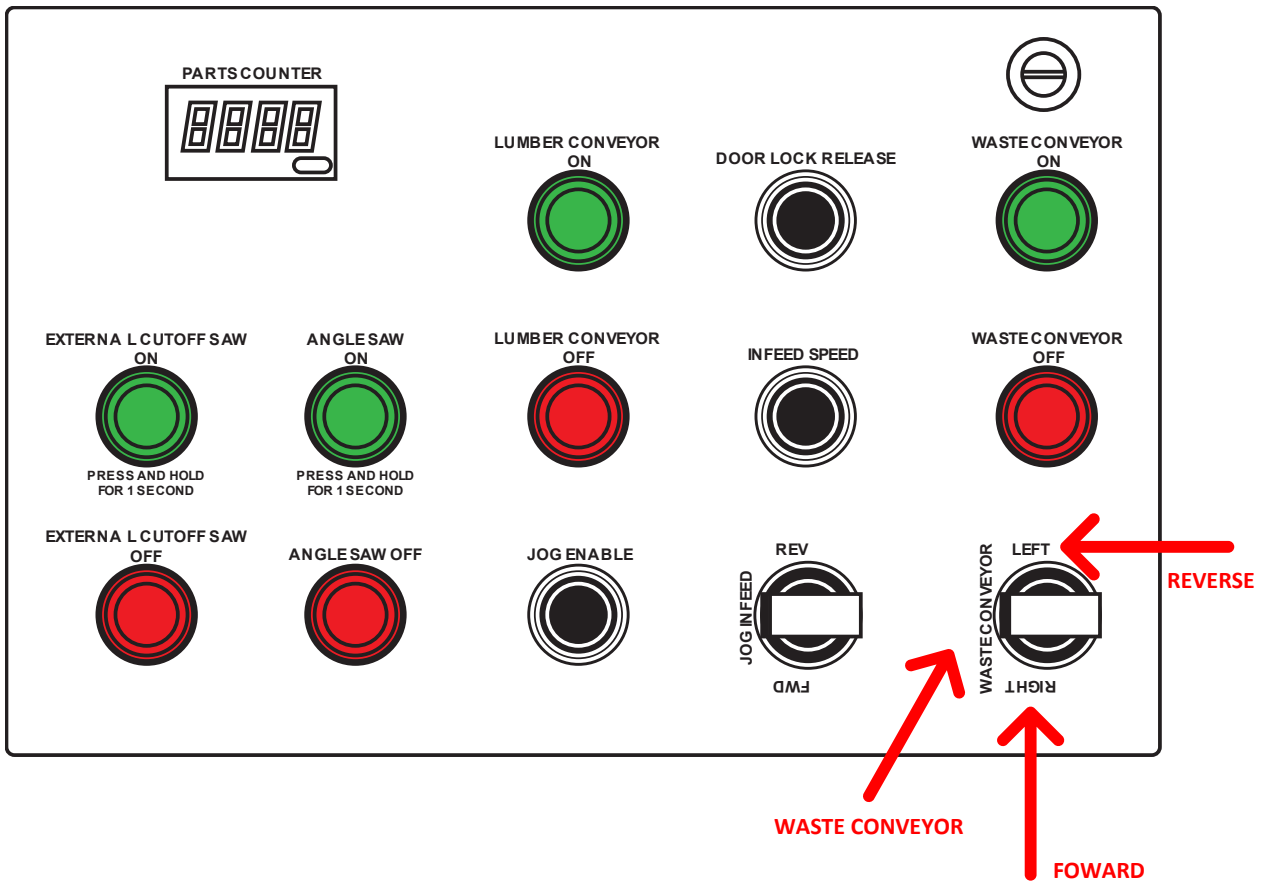


## Adjust Cutoff Saw Waste Roller Conveyor



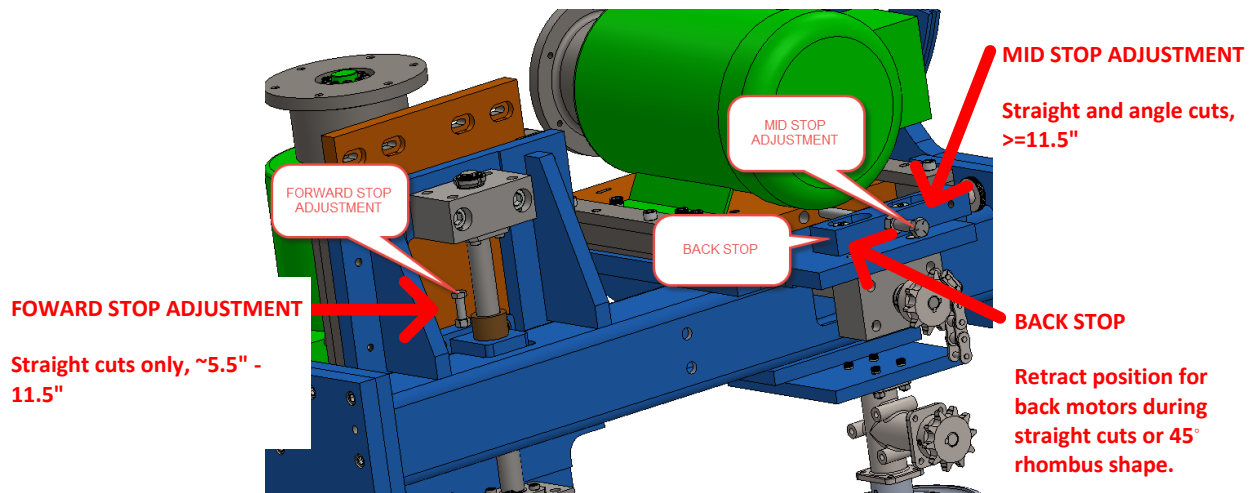
Adjust the position of the waste roller conveyor based on the width of the board being cut. Manually slide the roller conveyor to the proper position. The images above show the farthest left and right positions.

### Set Direction of Waste Conveyor



Turn the **WASTE CONVEYOR SWITCH** to **LEFT** or **RIGHT** to set the direction the waste conveyor carries away waste lumber after cutting.

## Forward/Mid/Back Stop



The forward stop position (the hand wheel is turned to its farthest counterclockwise position) is only used for straight cuts and lengths from 11.5 inches down to approximately 5.5 inches.

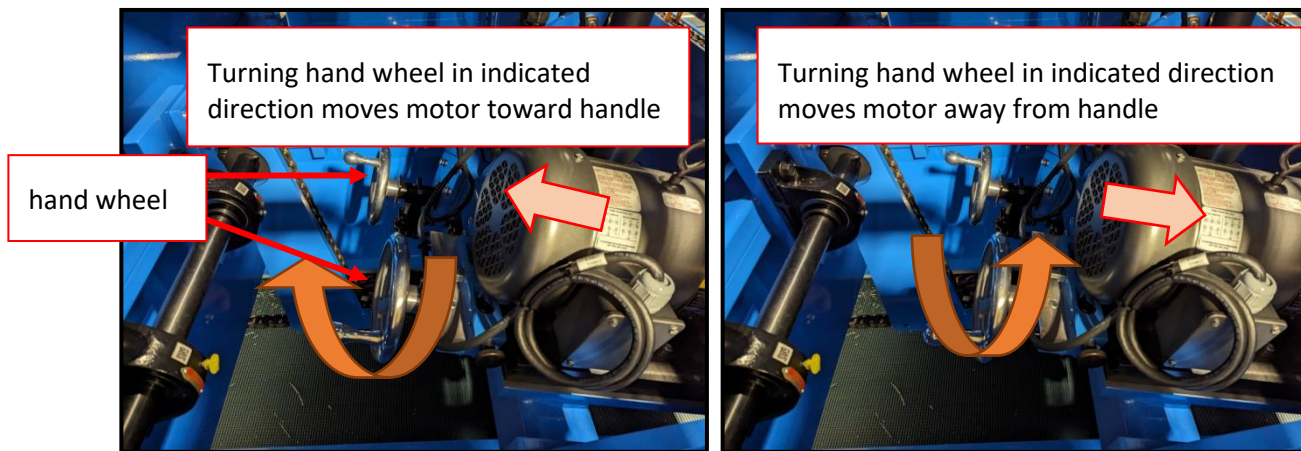
The mid-stop is used for straight and angle cuts greater than or equal to 11.5 inches.

The backstop (the hand wheel is turned to its farthest clockwise position) is a retracted position for the back motors.

During straight cuts or when cutting a 45-degree rhombus shape the front right motor and the back left motor are retracted to the backstop.

**IMPORTANT:** To adjust the centerline of the angle cut, only the mid-stop bolt on the rear motors are to be adjusted.

## Adjusting Angled Saw Positions



See **UNLOCK ACCESS DOORS** for accessing hand wheels. Each of the hand wheels (example shown above) inside a cutting cabinet moves one of the two motors in a cutting cabinet to one of three positions that have stops (see **FORWARD/MID/BACK STOP**) that are initially adjusted during assembly before the trunnions are installed.

**Clockwise hand wheel rotation (above, left) moves the motors toward the handle.**

**Counterclockwise hand wheel rotation (above, right) moves the motors away from the handle.**

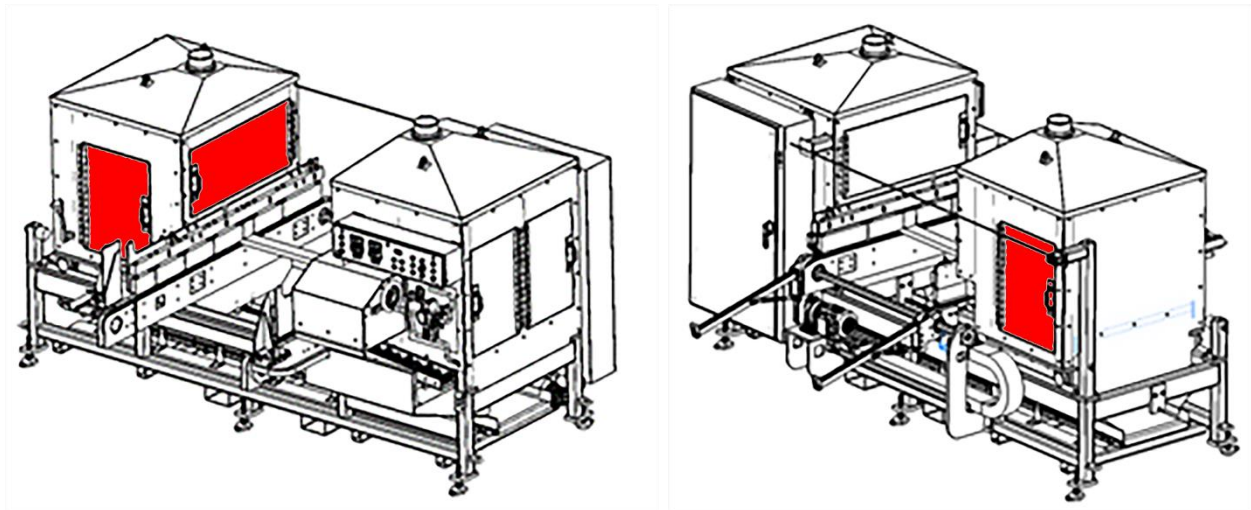


## Unlock Access Doors

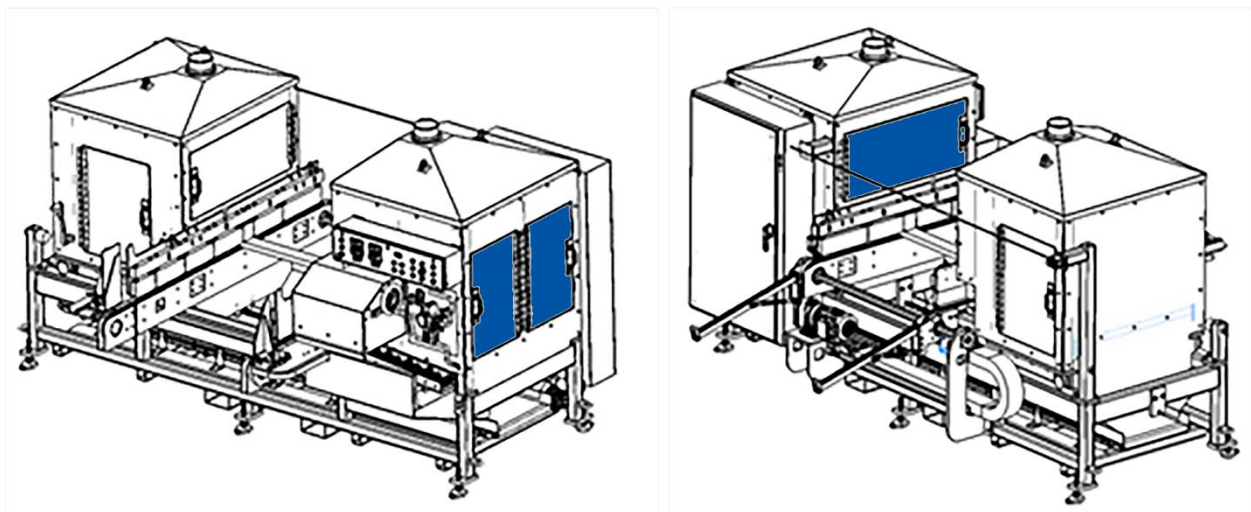
The following conditions must be met for the doors to unlock:

- All saws must be at a complete stop (the doors have zero speed sensors). **Pushing DOOR LOCK RELEASE will cut power to all blades** if they are still powered on, but the doors remain locked until all blade motions are stopped.
- All doors must be closed. If some doors are already open, they must be closed before the machine will unlock additional doors.

**IMPORTANT:** Doors may be manually opened using a hex key. Use light force, only rotating half turn. Locks must be set back to "Lock" before auto modes resume.

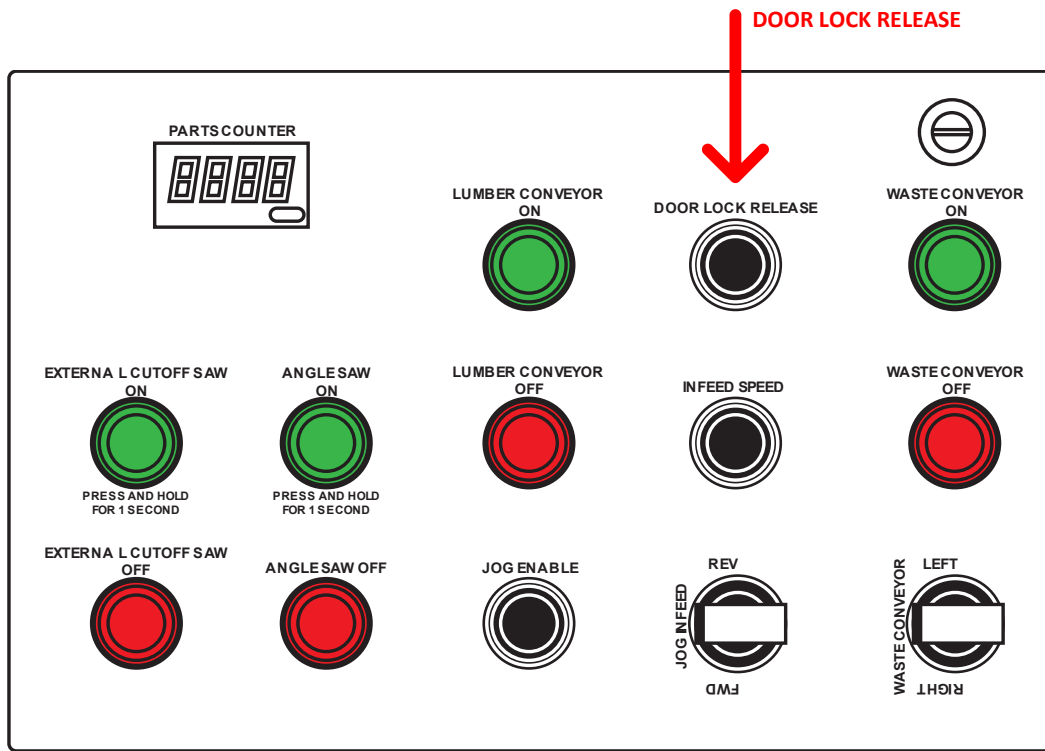


There are three access doors on the movable cutting cabinet.



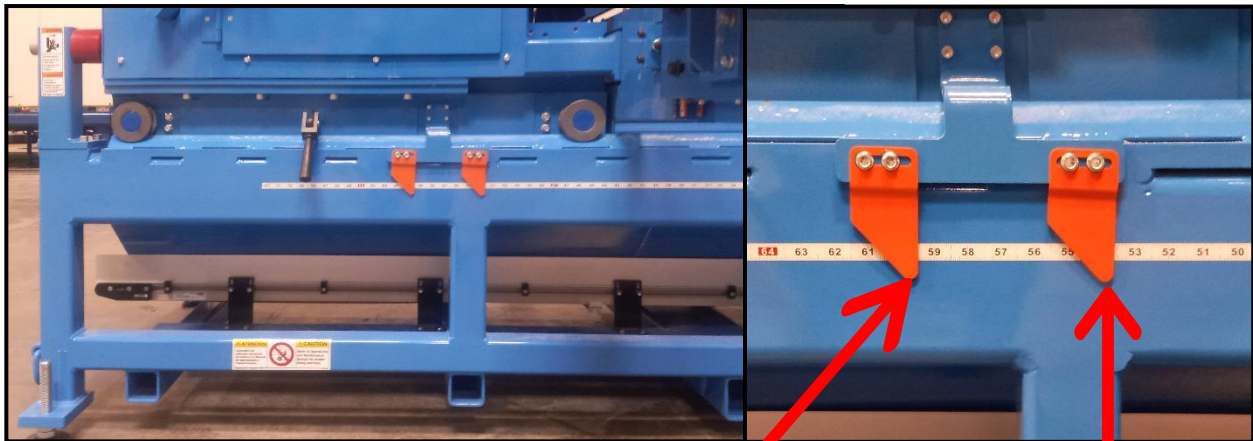
There are three access doors in two locations on the fixed cutting cabinet.

## Door Lock Release



1. With power supplied to the Web Floor Saw, press the **DOOR LOCK RELEASE** on the operator control panel and **hold for 2 seconds to unlock all access doors simultaneously**.
2. Once you hear the release of the solenoid (clicking noise), all doors remain unlocked for 30 seconds.
3. After 30 seconds, the locks re-engage, and no other doors may be opened.
4. Closing any opened door automatically engages that door's interlock and that door will not open until **DOOR LOCK RELEASE** is pressed again and all release conditions are met.

## Orange Flags



The flag at the greater measurement is used when cutting with the motors in the **front position**.

True cut length with angled saws in front position.

The flag at the lower measurement is used when cutting with the motors at the **mid position**.

True cut length with angled saws in mid position.

**IMPORTANT:** The orange flags below the cabinet track indicate the range of the overall length of the board cut, based on the adjustment on the cutoff saw and the different positions of the end stops at the magazine ends. The orange flags reflect true cut lengths.