

**Wood-Mizer® SLPT 011
Conveyors and MR6000
Operation Manual**

SLPT-011 Conveyors	rev. A1.00
MR6000	rev. A1.00

Safety is our #1 concern!

Form #2475



WARNING! Read and understand this manual before using this machine.

California
Proposition 65 Warning



WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection.

For more information go to **www.P65Warnings.ca.gov/wood**.

Active Patents assigned to Wood-Mizer, LLC

Wood-Mizer, LLC has received patents that protect our inventions which are a result of a dedication to research, innovation, development, and design. Learn more at: woodmizer.com/patents

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December 13, 2021

MR6000-SLPT-011 Operator Manual

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Control Overview

Operator Controls

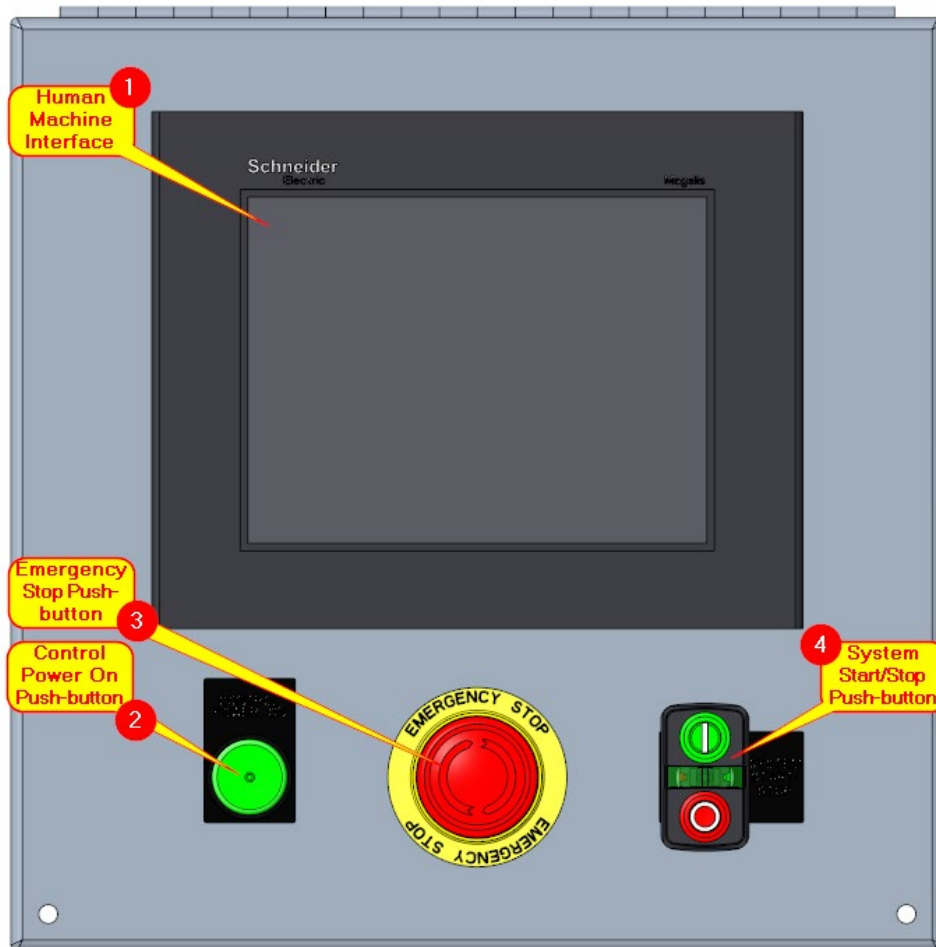


Figure 1 – Operator Layout

1. HMI, Human Machine Interface
 - a. Operator can monitor system status and adjust system settings.
2. Control Power On Push-button
 - a. Activates control power to the system so that functions can be activated.
3. Emergency Stop Push-button
 - a. Turns control power off to the system.
4. System Start/Stop Push-button
 - a. Starts and stops the automatic operation of the system.

Setup

Main Setup

1. From the main screen press the “Setup” button, shown below.

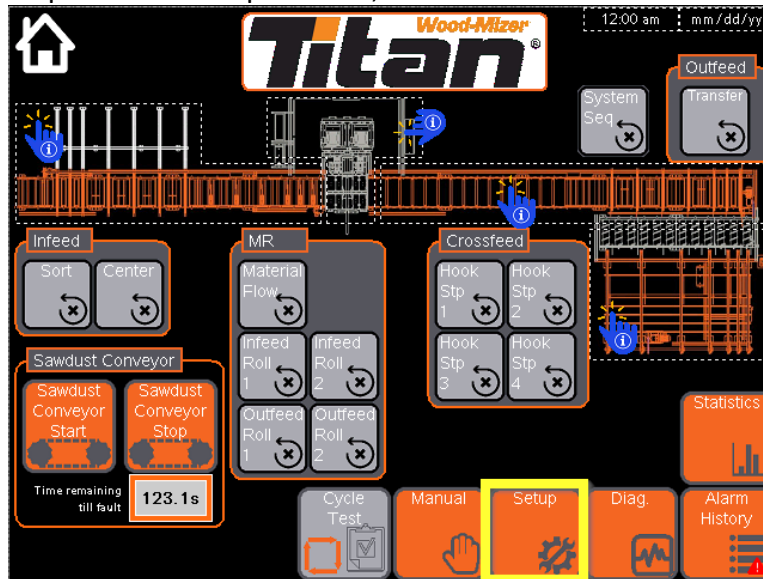


Figure 2 – Main Screen: Setup Button

Setup Main

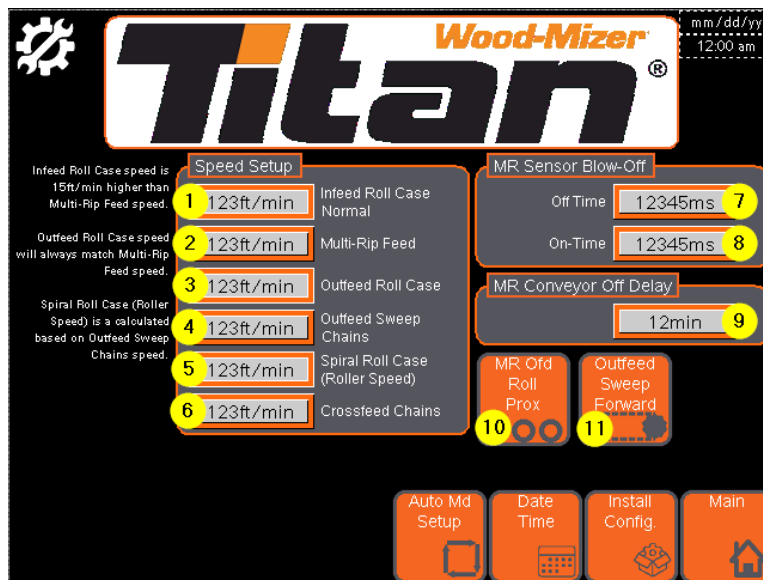


Figure 3 – Setup Screen Labels

1. Infeed Roll Case speed.
 - a. Fixed at 15ft/min faster than the multi-rip feed speed.
 - i. Minimum speed of 36ft/min.
 - ii. Maximum speed of 108 ft/min.

2. Multi-Rip Feed speed.
 - a. Adjustable feed rate.
 - i. Minimum speed of 24ft/min.
 - ii. Maximum speed of 72ft/min.
3. Outfeed Roll Case speed.
 - a. Fixed at the same speed as the multi-rip.
 - i. Minimum speed of 36ft/min.
 - ii. Maximum speed of 108 ft/min.
4. Outfeed Sweep Chains speed.
 - a. Adjustable sweep speed.
 - i. Minimum speed of 14ft/min.
 - ii. Maximum speed of 41ft/min.
5. Spiral Roll Case speed.
 - a. Fixed speed calculated from the Outfeed Sweep Chain speed.
 - i. Minimum roller speed of 56ft/min.
 1. Material transfer speed of 15.5ft/min.
6. Crossfeed Chain speed.
 - a. Adjustable feed rate.
 - i. Minimum speed of 25ft/min.
 - ii. Maximum speed of 76ft/min.
7. MR Sensor Blow-Off Off Time
 - a. Time in milliseconds the Blow-Off solenoid is off.
8. MR Sensor Blow-Off On Time
 - a. Time in milliseconds the Blow-Off solenoid is on.
9. MR Conveyor Off Delay
 - a. Time in minutes that the multi-rip can run without the saw dust conveyor running.
 - i. When this time runs out the system will shut off.
 - ii. There is a countdown on the main screen with the conveyor on/off buttons.
10. MR Outfeed Sensor
 - a. Toggles between the two types of sensors for the outfeed
 - i. Default is the proximity sensors for the press rolls being fully extended.
 1. The proximity switches will have to be connected with the M12 cables that are plugged into the photo-eyes if this mode is selected.
 - ii. Pressing the button allow the machine to switch back to the photo-eyes.
 1. The photo-eyes will have to be connected with the M12 cables that are plugged into the proximity switches if this mode is selected.
11. Outfeed Sweep Direction
 - a. Toggles between forward sweep toward the chop saw and reverse sweep off the system.
 - i. Default is forward sweep.
 - ii. Pressing the button switches it to reverse sweep.
 1. Pressing it again puts it back to forward sweep.

Install Configuration

1. The “Installation Configuration” screens are used to setup the drive systems on the line.
 - a. The information in these screens should not need modified unless components that do not match what was originally installed on the line are used for replacements.
2. From the “Setup” screen press the “Install Config” button, shown below.



Figure 4 – Setup Screen: Install Config Button

Install Configuration Main

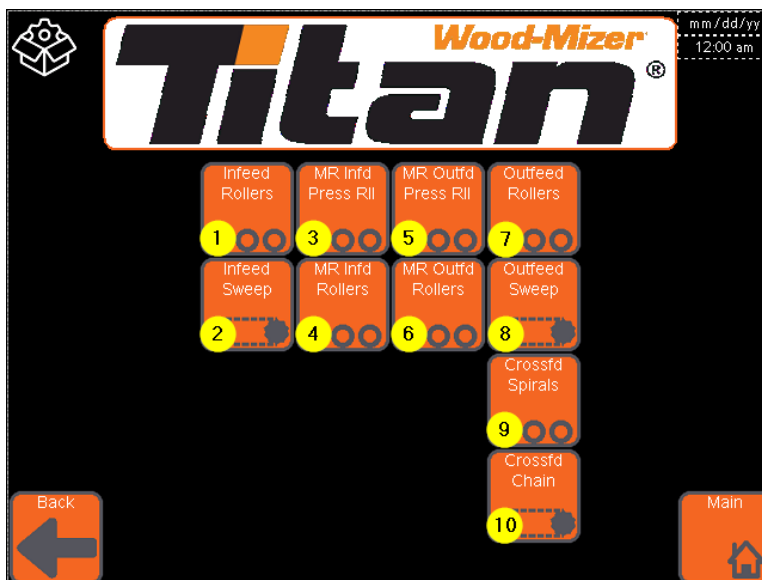


Figure 5 – Installation Configuration Labels

1. Infeed Rollers
 - a. Infeed roll case drive configuration.

2. [Infeed Sweep](#)
 - a. Infeed roll case sweep chain drive configuration.
3. [MR Infeed Press Rollers](#)
 - a. Multi-rip infeed press rollers drive configuration.
4. [MR Infeed Rollers](#)
 - a. Multi-rip infeed rollers drive configuration.
5. [MR Outfeed Press Rollers](#)
 - a. Multi-rip outfeed press rollers drive configuration.
6. [MR Outfeed Rollers](#)
 - a. Multi-rip outfeed rollers drive configuration.
7. [Outfeed Rollers](#)
 - a. Outfeed roll case drive configuration.
8. [Outfeed Sweep](#)
 - a. Outfeed roll case sweep chain drive configuration.
9. [Crossfeed Spirals](#)
 - a. Crossfeed spiral rollers drive configuration.
10. [Crossfeed Chain](#)
 - a. Crossfeed chain drive configuration.

Infeed Roll Case Drive Configuration



Figure 6 – Infeed Roll Case Drive Configuration Labels

Access from the “Install Configuration” screen press the “Infeed Rollers” button.
All these values are used to calculate speeds for the infeed roll case.

1. Motor Power, in Horsepower
 - a. Infeed roll case drive motor horsepower.
 - b. Default value = 5HP.

2. Motor RPM
 - a. Infeed roll case drive motor standard RPM.
 - b. Default value = 1770.
3. Motor Frequency, in Hertz
 - a. Infeed roll case drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 40:1
5. Gearbox Sprocket Teeth
 - a. Number of teeth on the gearbox output sprocket.
 - b. Default value = 15
6. Driven Sprocket Teeth
 - a. Number of teeth on the drive sprocket.
 - b. Default value = 16
7. Roller Diameter, in inches
 - a. Default value = 6.625in.
8. Back
 - a. Returns to the previous screen.
9. Factory Defaults
 - a. When pressed, fills all the infeed roll case drive variables with their default values.
10. Install Config
 - a. Returns to the “Installation Configuration” screen.

Infeed Roll Case Sweep Chain Drive Configuration

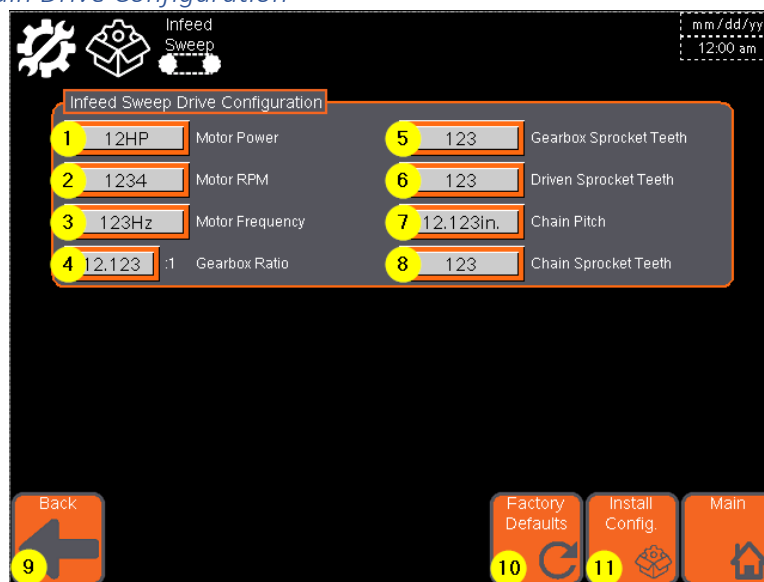


Figure 7 – Infeed Roll Case Sweep Chain Drive Configuration Labels

Accessed From the “Install Configuration” screen press the “Infeed Sweep” button. All these values are used to calculate speeds for the infeed roll case sweep chain.

1. Motor Power, in Horsepower
 - a. Infeed roll case sweep chain drive motor horsepower.
 - b. Default value = 5HP.
2. Motor RPM
 - a. Infeed roll case sweep chain drive motor standard RPM.
 - b. Default value = 1770.
3. Motor Frequency, in Hertz
 - a. Infeed roll case sweep chain drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 40:1
5. Gearbox Sprocket Teeth
 - a. Number of teeth on the gearbox output sprocket.
 - b. Default value = 18
6. Driven Sprocket Teeth
 - a. Number of teeth on the drive sprocket.
 - b. Default value = 32
7. Chain Pitch, in inches
 - a. Default value = 1in.
8. Chain Sprocket Teeth
 - a. Number of teeth on the actual sweep chain sprocket.
 - b. Default value = 16
9. Back
 - b. Returns to the previous screen.
10. Factory Defaults
 - a. When pressed, fills all the infeed roll case sweep chain drive variables with their default values.
11. Install Config
 - a. Returns to the “Installation Configuration” screen.

MR Infeed Press Rollers Drive Configuration

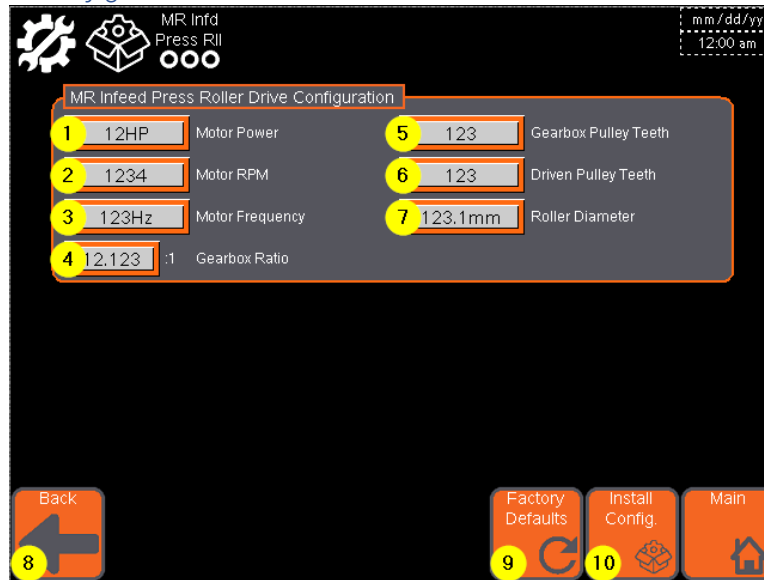


Figure 8 – MR Infeed Press Rollers Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “MR Infd Press Rll” button. All these values are used to calculate speeds for the multi-rip infeed press rollers.

1. Motor Power, in Horsepower
 - a. Multi-rip infeed press rollers drive motor horsepower.
 - b. Default value = 2.95HP.
2. Motor RPM
 - a. Multi-rip infeed press rollers drive motor standard RPM.
 - b. Default value = 1762.
3. Motor Frequency, in Hertz
 - a. Multi-rip infeed press rollers drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 57.68:1
5. Gearbox Pulley Teeth
 - a. Number of teeth on the gearbox output pulley.
 - b. Default value = 40
6. Driven Pulley Teeth
 - a. Number of teeth on the drive pulley.
 - b. Default value = 40
7. Roller Diameter, in millimeters
 - a. Default value = 152mm.
8. Back
 - c. Returns to the previous screen.

9. Factory Defaults

- a. When pressed, fills all the multi-rip infeed press rollers drive variables with their default values.

10. Install Config

- a. Returns to the “Installation Configuration” screen.

MR Infeed Rollers Drive Configuration

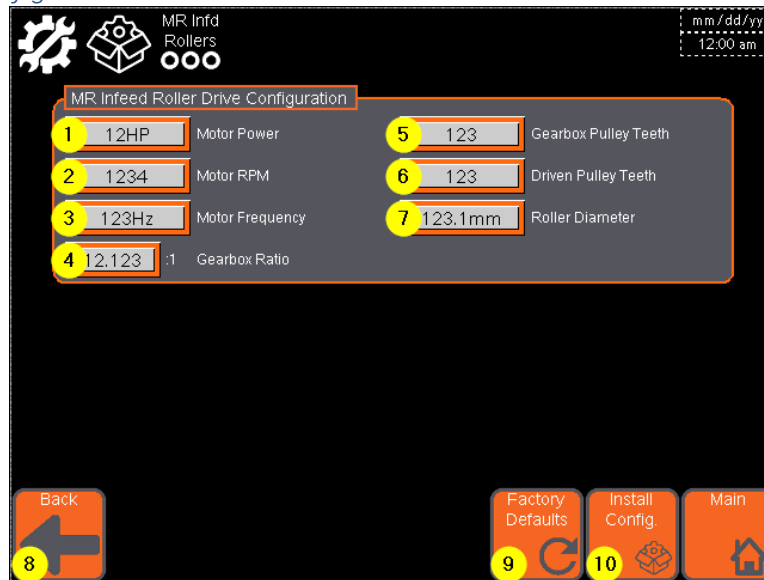


Figure 9 – MR Infeed Rollers Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “MR Infd Rollers” button. All these values are used to calculate speeds for the multi-rip infeed rollers.

1. Motor Power, in Horsepower
 - a. Multi-rip infeed rollers drive motor horsepower.
 - b. Default value = 2.95HP.
2. Motor RPM
 - a. Multi-rip infeed rollers drive motor standard RPM.
 - b. Default value = 1762.
3. Motor Frequency, in Hertz
 - a. Multi-rip infeed rollers drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 57.68:1
5. Gearbox Pulley Teeth
 - a. Number of teeth on the gearbox output pulley.
 - b. Default value = 40
6. Driven Pulley Teeth
 - a. Number of teeth on the drive pulley.
 - b. Default value = 40
7. Roller Diameter, in millimeters

- a. Default value = 152mm.
8. Back
 - d. Returns to the previous screen.
9. Factory Defaults
 - a. When pressed, fills all the multi-rip infeed rollers drive variables with their default values.
10. Install Config
 - a. Returns to the “Installation Configuration” screen.

MR Outfeed Press Rollers Drive Configuration

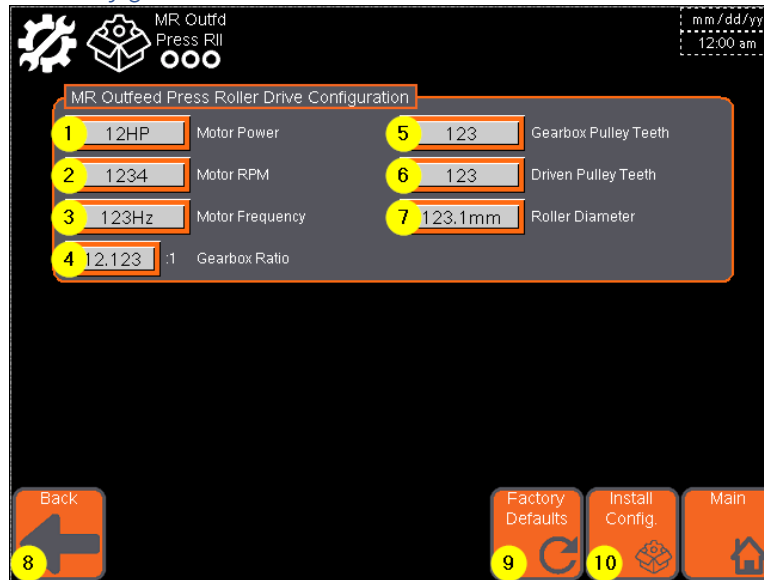


Figure 10 – MR Outfeed Press Rollers Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “MR Outfd Press Rll” button. All these values are used to calculate speeds for the multi-rip outfeed press rollers.

1. Motor Power, in Horsepower
 - a. Multi-rip outfeed press rollers drive motor horsepower.
 - b. Default value = 2.95HP.
2. Motor RPM
 - a. Multi-rip outfeed press rollers drive motor standard RPM.
 - b. Default value = 1762.
3. Motor Frequency, in Hertz
 - a. Multi-rip outfeed press rollers drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 57.68:1
5. Gearbox Pulley Teeth
 - a. Number of teeth on the gearbox output pulley.
 - b. Default value = 40
6. Driven Pulley Teeth

- a. Number of teeth on the drive pulley.
 - b. Default value = 40
7. Roller Diameter, in millimeters
 - a. Default value = 152mm.
8. Back
 - e. Returns to the previous screen.
9. Factory Defaults
 - a. When pressed, fills all the multi-rip outfeed press rollers drive variables with their default values.
10. Install Config
 - a. Returns to the “Installation Configuration” screen.

MR Outfeed Rollers Drive Configuration



Figure 11 – MR Outfeed Rollers Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “MR Outfd Rollers” button. All these values are used to calculate speeds for the multi-rip outfeed rollers.

1. Motor Power, in Horsepower
 - a. Multi-rip outfeed rollers drive motor horsepower.
 - b. Default value = 2.95HP.
2. Motor RPM
 - a. Multi-rip outfeed rollers drive motor standard RPM.
 - b. Default value = 1762.
3. Motor Frequency, in Hertz
 - a. Multi-rip outfeed rollers drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 57.68:1

5. Gearbox Pulley Teeth
 - a. Number of teeth on the gearbox output pulley.
 - b. Default value = 40
6. Driven Pulley Teeth
 - a. Number of teeth on the drive pulley.
 - b. Default value = 40
7. Roller Diameter, in millimeters
 - a. Default value = 152mm.
8. Back
 - f. Returns to the previous screen.
9. Factory Defaults
 - a. When pressed, fills all the multi-rip outfeed rollers drive variables with their default values.
10. Install Config
 - a. Returns to the “Installation Configuration” screen.

Outfeed Roll Case Drive Configuration



Figure 12 – Outfeed Roll Case Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “Outfeed Rollers” button. All these values are used to calculate speeds for the outfeed roll case.

1. Motor Power, in Horsepower
 - a. Outfeed roll case drive motor horsepower.
 - b. Default value = 5HP.
2. Motor RPM
 - a. Outfeed roll case drive motor standard RPM.
 - b. Default value = 1770.

3. Motor Frequency, in Hertz
 - a. Outfeed roll case drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 40:1
5. Gearbox Sprocket Teeth
 - a. Number of teeth on the gearbox output sprocket.
 - b. Default value = 15
6. Driven Sprocket Teeth
 - a. Number of teeth on the drive sprocket.
 - b. Default value = 16
7. Roller Diameter, in inches
 - a. Default value = 6.625in.
8. Back
 - g. Returns to the previous screen.
9. Factory Defaults
 - a. When pressed, fills all the outfeed roll case drive variables with their default values.
10. Install Config
 - a. Returns to the “Installation Configuration” screen.

Outfeed Roll Case Sweep Chain Drive Configuration

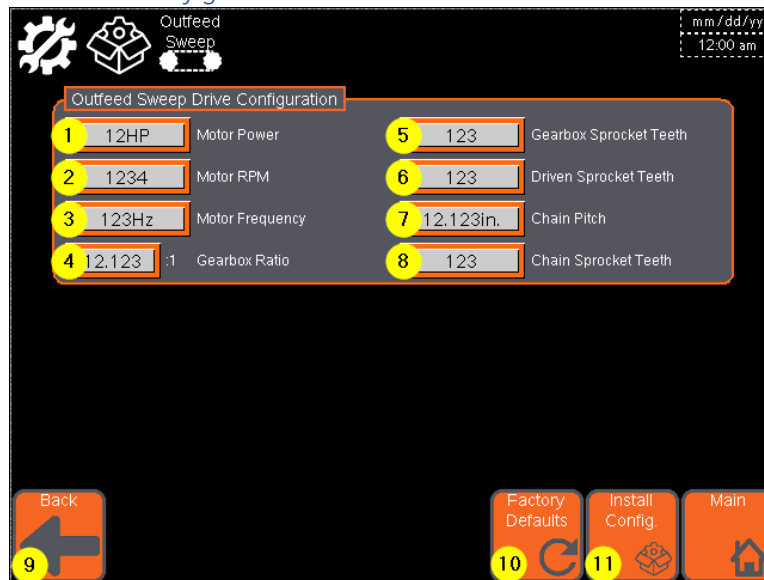


Figure 13 – Outfeed Roll Case Sweep Chain Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “Outfeed Sweep” button. All these values are used to calculate speeds for the outfeed roll case sweep chain.

1. Motor Power, in Horsepower
 - a. Outfeed roll case sweep chain drive motor horsepower.
 - b. Default value = 5HP.

2. Motor RPM
 - a. Outfeed roll case sweep chain drive motor standard RPM.
 - b. Default value = 1770.
3. Motor Frequency, in Hertz
 - a. Outfeed roll case sweep chain drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 40:1
5. Gearbox Sprocket Teeth
 - a. Number of teeth on the gearbox output sprocket.
 - b. Default value = 15
6. Driven Sprocket Teeth
 - a. Number of teeth on the drive sprocket.
 - b. Default value = 32
7. Chain Pitch, in inches
 - a. Default value = 1in.
8. Chain Sprocket Teeth
 - a. Number of teeth on the actual sweep chain sprocket.
 - b. Default value = 16
9. Back
 - h. Returns to the previous screen.
10. Factory Defaults
 - a. When pressed, fills all the outfeed roll case sweep chain drive variables with their default values.
11. Install Config
 - a. Returns to the “Installation Configuration” screen.

Crossfeed Spiral Rollers Drive Configuration



Figure 14 – Crossfeed Spiral Rollers Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “Crossfd Rollers” button. All these values are used to calculate speeds for the crossfeed spiral rollers.

1. Motor Power, in Horsepower
 - a. Outfeed roll case drive motor horsepower.
 - b. Default value = 5HP.
2. Motor RPM
 - a. Outfeed roll case drive motor standard RPM.
 - b. Default value = 1770.
3. Motor Frequency, in Hertz
 - a. Outfeed roll case drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 40:1
5. Gearbox Sprocket Teeth
 - a. Number of teeth on the gearbox output sprocket.
 - b. Default value = 18
6. Driven Sprocket Teeth
 - a. Number of teeth on the drive sprocket.
 - b. Default value = 16
7. Roller Diameter, in inches
 - a. Default value = 8.625in.
8. Roller Spiral Pitch, in inches
 - a. Distance the roller moves the piece sideways per rotation.
 - b. Default value = 7.5in.

9. Back
 - i. Returns to the previous screen.
10. Factory Defaults
 - a. When pressed, fills all the outfeed roll case drive variables with their default values.
11. Install Config
 - a. Returns to the “Installation Configuration” screen.

Crossfeed Chain Drive Configuration

Figure 15 – Crossfeed Chain Drive Configuration Labels

Accessed from the “Install Configuration” screen press the “Crossfd Chain” button. All these values are used to calculate speeds for the crossfeed chain.

1. Motor Power, in Horsepower
 - a. Crossfeed chain drive motor horsepower.
 - b. Default value = 5HP.
2. Motor RPM
 - a. Crossfeed chain drive motor standard RPM.
 - b. Default value = 1764.
3. Motor Frequency, in Hertz
 - a. Crossfeed chain drive motor standard frequency.
 - b. Default value = 60Hz.
4. Gearbox Ratio
 - a. Default value = 119.2:1
5. Gearbox Sprocket Teeth
 - a. Number of teeth on the gearbox output sprocket.
 - b. Default value = 16
6. Driven Sprocket Teeth
 - a. Number of teeth on the drive sprocket.

- b. Default value = 36
- 7. Chain Pitch, in inches
 - a. Default value = 2.609in.
- 8. Chain Sprocket Teeth
 - a. Number of teeth on the actual sweep chain sprocket.
 - b. Default value = 14
- 9. Back
 - j. Returns to the previous screen.
- 10. Factory Defaults
 - a. When pressed, fills all the crossfeed chain drive variables with their default values.
- 11. Install Config
 - a. Returns to the “Installation Configuration” screen.

Auto Mode Setup

From the “Setup” screen press the “Auto Md Setup” button, shown below.



Figure 16 – Setup Screen: Auto Mode Setup Button

Auto Mode Setup 1

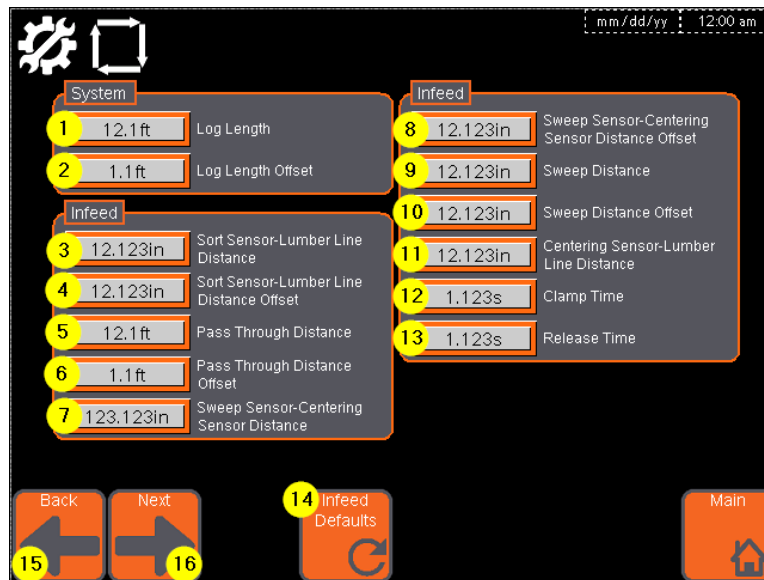


Figure 17 – Auto Mode Setup 1 Labels

System

1. Log Length, in feet
 - a. Used to calculate how long material should take based on feed rates to clear sensors so that material jams can be detected.
 - b. Default value = 16ft.
2. Log Length Offset, in feet
 - a. Added to the Log Length if calculations need more delay because material is not exactly the length setup.

Infeed

3. Sort Sensor to Lumber Line Distance, in inches
 - a. Distance from the sensor that detects material coming onto the infeed roll case to the lumber line for sorting material out of the system.
 - b. Used to calculate how long after the sort sensor clears until the roll case pauses to sweep material off.
 - c. Makes sure material accurately stops on the sweep chains to be sorted correctly.
 - d. Default value = 30in.
4. Sort Sensor to Lumber Line Distance Offset, in inches
 - a. Offset for the distance from the sensor that detects material coming onto the infeed roll case to the lumber line for sorting material out of the system.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 1in.
5. Pass Through Distance, in feet
 - a. Distance from the Sort Sensor above to the Sweep Chains Clear Paddle Bracket.

- b. Used to calculate how long it will take material to travel from the sort sensor to the paddle bracket based on the feed speed of the roll case.
 - c. Default value = 17.4ft.
- 6. Pass Through Distance Offset, in feet
 - a. Offset for the pass-through distance.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
- 7. Sweep Sensor to Centering Sensor Distance, in inches
 - a. Distance from the Sweep Chains Clear Paddle Bracket to the Photo-eye for triggering the centering process.
 - b. Used to calculate how long it take material to travel between the two points based on roll case feed speed.
 - c. Default value = 148in.
- 8. Sweep Sensor to Centering Sensor Distance Offset, in inches
 - a. Offset for the distance between the sweep chains clear paddle bracket and centering sensor.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 0in.
- 9. Sweep Distance, in inches
 - a. Distance from the fence on one side of the roll case to where the material will slide off the chain on the opposite side.
 - b. Used to calculate how long the chains need to run so that material fully sweeps off the chains.
 - c. Default value = 55in.
- 10. Sweep Distance Offset, in inches
 - a. Offset for the sweep distance.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 0in.
- 11. Centering Sensor to Lumber Line Distance, in inches
 - a. Distance from the centering sensor to where the material needs to stop for centering.
 - b. Used to calculate the time it takes for material to travel to the lumber line based on the roll case feed speed.
 - c. Default value = 8in.
- 12. Clamp Time, seconds, entered as milliseconds
 - a. Time for the centering arms to move in on the material.
 - b. Default value = 2000ms
- 13. Release Time, seconds, entered as milliseconds
 - a. Time for the centering arms to release before the next step of the process begins.
 - b. Default value = 1000ms
- 14. Infeed Defaults
 - a. When pressed, fills all the infeed variables with their default values.

15. Back
 - a. Returns to the previous screen.
16. Next
 - a. Moves to the next screen of Auto Mode Setup.

Auto Mode Setup 2

From the Auto Mode Setup screen 1, press the “Next” button, shown below.

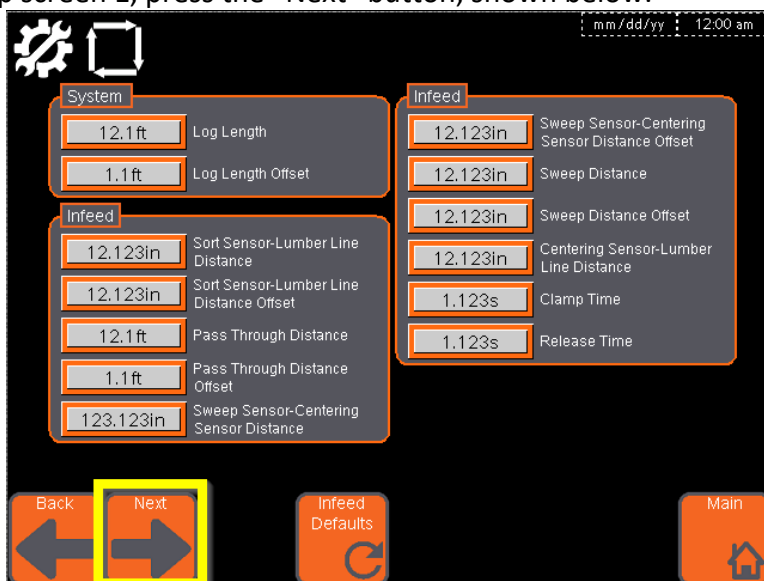


Figure 18 – Auto Mode Setup 1: Next Button

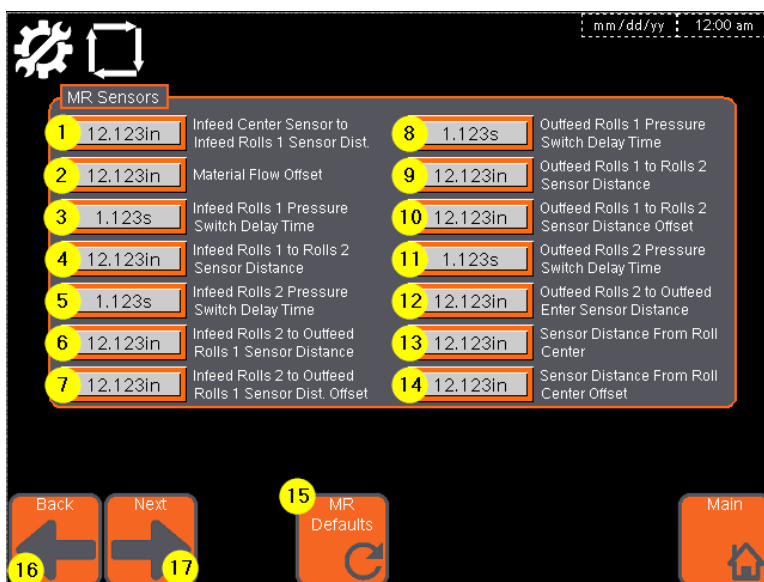


Figure 19 – Auto Mode Setup 2 Labels

MR Sensors

1. Infeed Center Sensor to Infeed Rolls 1 Sensor Distance, in inches
 - a. Distance from the Infeed Roll Case centering sensor to the Multi-Rip Infeed Roller sensor.
 - b. Used to calculate the time it takes material to travel from the centering arms to the multi-rip infeed roller.
 - c. Default value = 30in.
 - d. Material Flow Offset, below is used in the calculation also.
2. Material Flow Offset
 - a. Offset to distances used to calculate material flow as it passes through the multi-rip.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - i. Added to (4) in the material flow sequence as a buffer for the sensor to make on infeed roller 2.
 - ii. Added to (6) in the material flow sequence as a buffer for the sensor to make on outfeed roller 1.
 - iii. Added to (8) in the material flow sequence as a buffer for the sensor to make on outfeed roller 2.
 - c. Default value = 2in.
3. Infeed Rolls 1 Pressure Switch Delay Time, seconds, entered as milliseconds
 - a. The time for the pressure switches on infeed rolls 1 to make before faulting once the extend command is active.
 - b. Default value = 300ms
4. Infeed Rolls 1 To Rolls 2 Sensor Distance, in inches
 - a. Distance between the sensors of infeed roller 1 and infeed roller 2.
 - b. Used to calculate the time before and extend command for the press roller can be extended.
 - i. This time along with the sensor being made are required before an extend command can be given to help prevent false trips of the sensor by flying debris in the machine.
 - c. Default value = 9in.
5. Infeed Rolls 2 Pressure Switch Delay Time, seconds, entered as milliseconds
 - a. The time for the pressure switches on infeed rolls 2 to make before faulting once the extend command is active.
 - b. Default value = 300ms
6. Infeed Rolls 2 To Outfeed Rolls 1 Sensor Distance
 - a. Outfeed Photo-eyes
 - i. Distance between the sensors of infeed roller 2 and outfeed roller 1.
 - ii. Used to calculate the time before an extend command for the press roller can be activated.
 1. This time along with the sensor being made are required before an extend command can be given to help prevent false trips of the sensor by flying debris in the machine.

- b. Outfeed Proximity Switches
 - i. Distance between the sensors of infeed roller 2 and outfeed roller 1 when photo-eyes are used.
 - ii. Used to calculate the time before an extend command for the press roller can be activated.
 - 1. This distance is also used with the distance from the sensor to roll center when photo-eyes are used along with an offset distance to calculate the time the piece needs to travel before the extend command.
- c. Default value = 24in.
- 7. Infeed Rolls 2 To Outfeed Rolls 1 Sensor Distance Offset
 - a. Offset for the distance above.
 - b. Default value = 2in.
- 8. Outfeed Rolls 1 Pressure Switch Delay Time, seconds, entered as milliseconds
 - a. The time for the pressure switches on outfeed rolls 1 to make before faulting once the extend command is active.
 - b. Default value = 300ms
- 9. Outfeed Rolls 1 To Outfeed Rolls 2 Sensor Distance
 - a. Outfeed Photo-eyes
 - i. Distance between the sensors of outfeed roller 1 and outfeed roller 2.
 - ii. Used to calculate the time before and extend command for the press roller can be activated.
 - 1. This time along with the sensor being made are required before an extend command can be given to help prevent false trips of the sensor by flying debris in the machine.
 - b. Outfeed Proximity Switches
 - i. Distance between the sensors of outfeed roller 1 and outfeed roller 2 when photo-eyes are used.
 - ii. Used to calculate the time before an extend command for the press roller can be activated.
 - 1. This distance is also used with an offset distance to calculate the time the piece needs to travel before the extend command.
 - c. Default value = 9in.
- 10. Outfeed Rolls 1 To Outfeed Rolls 2 Sensor Distance Offset
 - a. Offset for the distance above.
 - b. Default value = 2in.
- 11. Outfeed Rolls 2 Pressure Switch Delay Time, seconds, entered as milliseconds
 - a. The time for the pressure switches on outfeed rolls 2 to make before faulting once the extend command is active.
 - b. Default value = 300ms
- 12. Outfeed Rolls 2 To Outfeed Enter Sensor Distance

- a. Distance from the sensor for outfeed roller 2 to the material entering sensor for the outfeed roll case.
 - b. Used to calculate the time it takes material to travel from the outfeed roller 2 sensor to the outfeed roll case material entering sensor.
 - c. Default value = 31in.
- 13. Sensor Distance to Roll Center
 - a. Distance the sensors in the multi-rip are from the center of the rollers.
 - b. Used to calculate the delay time before completing the command to retract the press rollers.
 - c. Used to calculate the delay time for the roller to be clear after the roller sensor has cleared.
 - d. Default value = 4in.
- 14. Sensor Distance to Roll Center Offset
 - a. Offset for the sensor distance.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 0in.
- 15. MR Defaults
 - a. When pressed, fills all the multi-rip variables with their default values.
- 16. Back
 - a. Returns to the previous screen.
- 17. Next
 - a. Moves to the next screen of Auto Mode Setup.

Auto Mode Setup 3

From the Auto Mode Setup screen 2, press the “Next” button, shown below.



Figure 20 – Auto Mode Setup 2: Next Button

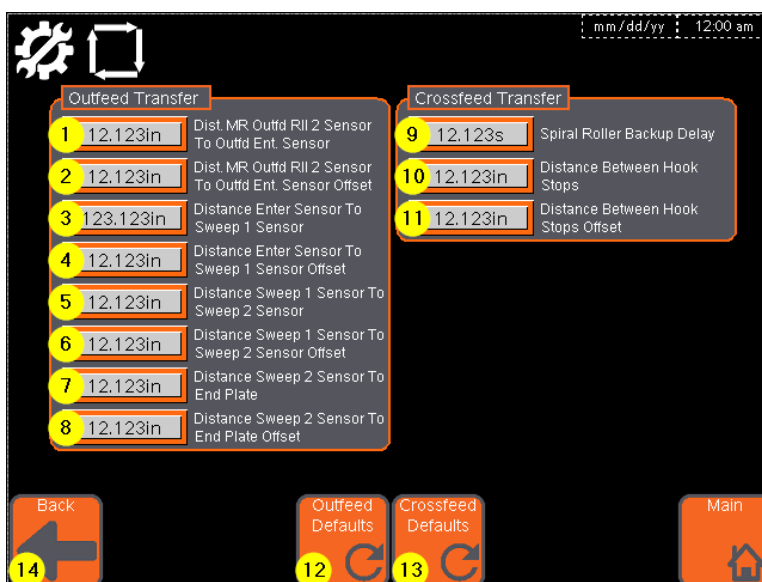


Figure 21 – Auto Mode Setup 3 Labels

Outfeed Transfer

1. Distance From MR Outfeed Roller 2 Sensor to Outfeed Entering Sensor, in inches
 - a. Not Used
2. Distance From MR Outfeed Roller 2 Sensor to Outfeed Entering Sensor Offset, in inches
 - a. Not Used
3. Distance From Entering Sensor to Sweep 1 Sensor, in inches
 - a. Not Used

4. Distance From Entering Sensor to Sweep 1 Sensor Offset, in inches
 - a. Not Used
5. Distance From Sweep 1 Sensor to Sweep 2 Sensor, in inches
 - a. Distance from the outfeed roll case Sweep Section 1 paddle bracket to the Sweep Section 2 paddle bracket.
 - b. Used to calculate the time it takes material to travel between the two points based on the outfeed roll case feed rate.
 - c. Default value = 72in.
6. Distance From Sweep 1 Sensor to Sweep 2 Sensor Offset, in inches
 - a. Offset for the paddle bracket distance.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 0in.
7. Distance From Sweep 2 Sensor to End Plate, in inches
 - a. Distance from the outfeed roll case Sweep Section 2 paddle bracket to the end plate.
 - b. Used to calculate the time it takes material to travel between the two points based on the outfeed roll case feed rate.
 - c. Default value = 56in.
8. Distance From Sweep 2 Sensor to End Plate Offset, in inches
 - a. Offset for the end plate distance.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 0in.

Crossfeed Transfer

9. Spiral Roller Backup Delay, seconds, entered in milliseconds
 - a. The time before a warning comes up if the limit switches after the spiral rollers are not cleared.
 - b. Default value = 10000ms
10. Distance Between Hook Stops, in inches
 - a. Distance material can travel between hook stops on the crossfeed chain.
 - b. Used to calculate how long to hook stops need to stay lowered for material to transfer completely between.
 - c. Default value = 12in.
11. Distance Between Hook Stops Offset, in inches
 - a. Offset for the hook stop distance.
 - b. Used to add or take away from the distance so that the actual distance can be kept accurate and fine-tuned with the offset.
 - c. Default value = 0in.
12. Outfeed Defaults
 - a. When pressed, fills all the outfeed variables with their default values.
13. Crossfeed Defaults
 - a. When pressed, fills all the crossfeed variables with their default values.

14. Back

- a. Returns to the previous screen.

Operation

Manual Mode

Enable Test mode

1. Turn on control power.
 - a. Make sure all E-stops are released.
 - i. Operators stand e-stop button.
 - ii. Chop Saw Operator stand e-stop-button.
 - iii. Remote e-stop button from the main control.
 - iv. Any additional e-stop added to the system.
 - b. Press the “Control Power On” push-button on the operator stand.
 - i. If successful, the indicator of the button will light up green.
 - ii. The system siren will play the control power on tone for 5 seconds.
 1. During those 5 seconds you cannot turn on “Test Enabled” for safety reasons.
2. From the main screen press the “Manual” button, shown below.

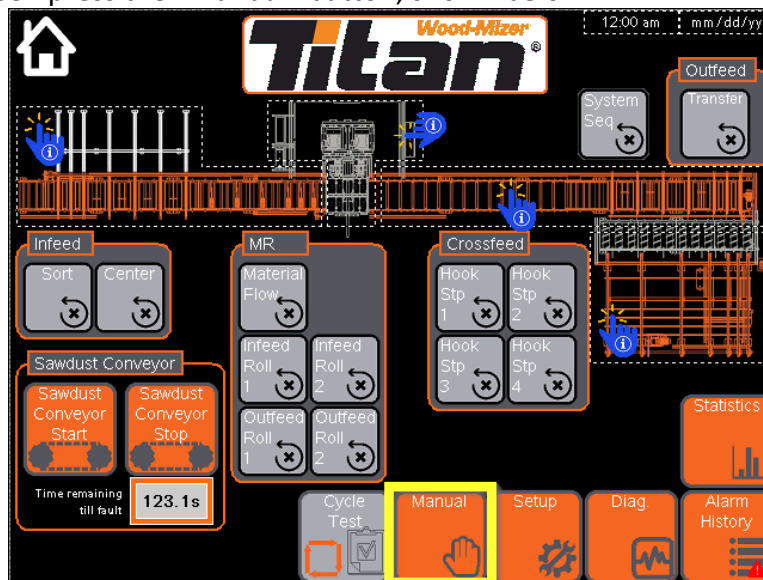


Figure 22 – Main Screen: Manual Button

3. To manually operate any function, you have to enable “Test Mode”.
 - a. On any manual screen press the button that says, “Test Disabled”.

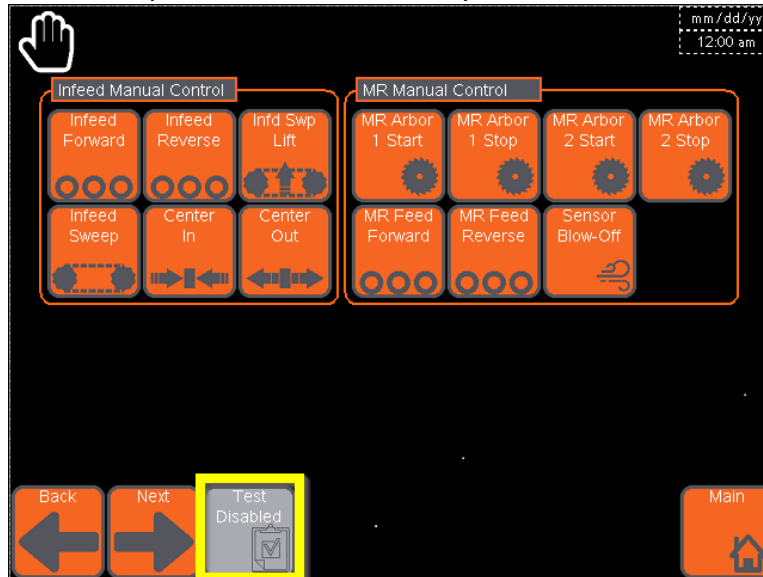


Figure 23 – Manual 1: Test Button

- b. The button will turn Green, and show “Test Enabled”.



Figure 24 – Test Button Enabled Status

- c. Once test mode is enabled you can manually operate/test different functions.
 - i. Any function that uses a maintained button is reset when test mode is disabled.

Manual Screen 1



Figure 25 – Manual 1 Labels

Infeed Manual Control

1. Infeed Forward
 - a. Maintained button.
 - b. Press to run the infeed roll case forward.



Figure 26 – Manual Button Status

- i. Buttons turn gray when active.
 - ii. Press again to stop the roll case.
- c. Turns off “Infeed Reverse” if it is on.
2. Infeed Reverse
 - a. Maintained button.
 - b. Press to run the infeed roll case backward.
 - i. Press again to stop the roll case.
 - c. Turns off “Infeed Forward” if it is on.
3. Infd Swp Lift
 - a. Maintained button.
 - b. Press to lift the infeed sweep chains
 - i. Press again to lower the infeed sweep chains

4. Infeed Sweep
 - a. Momentary button.
 - b. Press to run the sweep chains.
 - i. Release to stop the sweep chains.
5. Center In
 - a. Maintained button.
 - b. Press to move the centering arms in.
 - i. Press again to turn the output for the solenoid off.
 1. The arms will stay in because the valve just returns to center where all ports are blocked.
 - c. Turns off “Center Out” if it is on.
6. Center Out
 - a. Maintained button.
 - b. Press to move the centering arms out.
 - i. Press again to turn the output for the solenoid off.
 1. The arms will stay out because the valve just returns to center where all ports are blocked.
 - c. Turns off “Center In” if it is on.

MR Manual Control

7. MR Arbor 1 Start
 - a. Momentary button.
 - i. Indication is based on the motor run signal.
 - b. Press to start the lower arbor blade motor.
8. MR Arbor 1 Stop
 - a. Momentary button.
 - b. Press to stop the lower arbor blade motor.
9. MR Arbor 2 Start
 - a. Momentary button.
 - i. Indication is based on the motor run signal.
 - b. Press to start the upper arbor blade motor.
10. MR Arbor 2 Stop
 - a. Momentary button.
 - b. Press to stop the lower arbor blade motor.
11. MR Feed Forward
 - a. Maintained button.
 - b. Press to run all the multi-rip feed motors forward.
 - i. Press again to stop the feed motors.
 - c. Turns off “MR Feed Reverse” if it is on.

12. MR Feed Reverse

- Maintained button.
- Press to run all the multi-rip feed motors backward.
 - Press again to stop the feed motors.
- Turns off “MR Feed Forward” if it is on.

13. Sensor Blow Off

- Momentary button.
- Press to activate the solenoid to blow off the sensor faces in the MR and the first Outfeed Roll Case sensor.
 - Release to turn the solenoid off.

14. Back

- Returns to the previous screen.

15. Next

- Goes to next manual screen.

Manual Screen 2

From Manual screen 1, press the “Next” button, shown below.

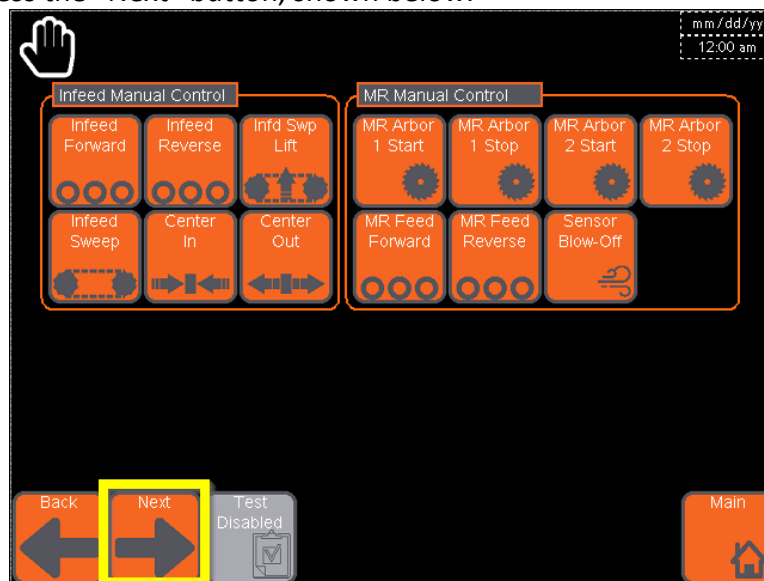


Figure 27 – Manual 1: Next Button

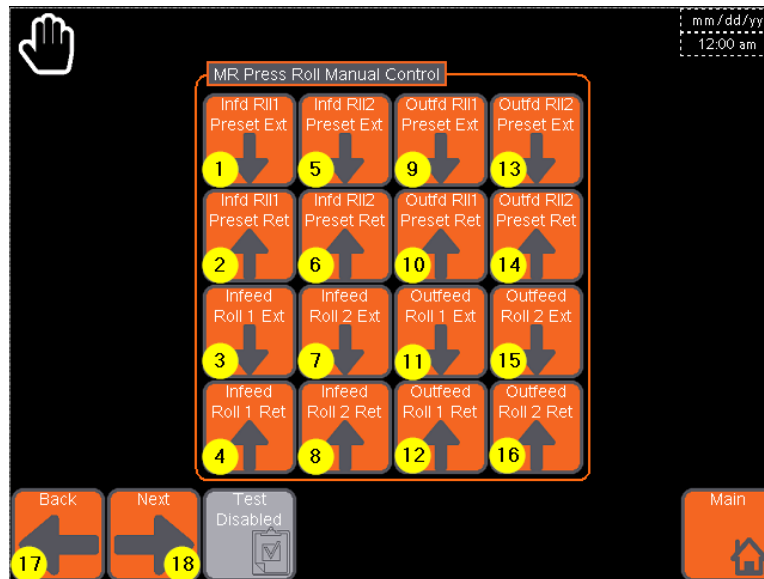


Figure 28 – Manual 2 Labels

MR Press Roll Manual Control

1. Infd RII 1 Preset Ext
 - a. Infeed Rollers 1 Preset Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the preset cylinder of roller 1.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infd RII1 Preset Ret” if it is on.
2. Infd RII1 Preset Ret
 - a. Infeed Roller 1 Preset Cylinder Retract.
 - b. Maintained button.
 - c. Press to raise(retract) the preset cylinder of roller 1.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infd RII1 Preset Ext” if it is on.
3. Infeed Roll 1 Ext
 - a. Infeed Roller 1 Press Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the press cylinder of roller 1.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infeed Roll 1 Ret” if it is on.

4. Infeed Roll 1 Ret
 - a. Infeed Roller 1 Press Cylinder Retract.
 - b. Maintained button.
 - c. Press to raise(retract) the press cylinder of roller 1.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infeed Roll 1 Ext” if it is on.
5. Infeed Roll 2 Preset Ext
 - a. Infeed Rollers 2 Preset Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the preset cylinder of roller 2.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infeed Roll 2 Preset Ret” if it is on.
6. Infeed Roll 2 Preset Ret
 - a. Infeed Roller 2 Preset Cylinder Retract.
 - b. Maintained button.
 - c. Press to raise(retract) the preset cylinder of roller 2.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infeed Roll 2 Preset Ext” if it is on.
7. Infeed Roll 2 Ext
 - a. Infeed Roller 2 Press Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the press cylinder of roller 2.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infeed Roll 2 Ret” if it is on.
8. Infeed Roll 2 Ret
 - a. Infeed Roller 2 Press Cylinder Retract.
 - b. Maintained button.
 - c. Press to raise(retract) the press cylinder of roller 2.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
 - d. Turns off “Infeed Roll 2 Ext” if it is on.

9. Outfd Rll 1 Preset Ext
 - a. Outfeed Rollers 1 Preset Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the preset cylinder of roller 1.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off "Outfd Rll1 Preset Ret" if it is on.
10. Outfd Rll1 Preset Ret
 - a. Outfeed Roller 1 Preset Cylinder Retract.
 - b. Maintained button.
 - c. Press to raise(retract) the preset cylinder of roller 1.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
 - d. Turns off "Outfd Rll1 Preset Ext" if it is on.
11. Outfeed Roll 1 Ext
 - a. Outfeed Roller 1 Press Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the press cylinder of roller 1.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off "Outfeed Roll 1 Ret" if it is on.
12. Outfeed Roll 1 Ret
 - a. Outfeed Roller 1 Press Cylinder Retract.
 - b. Maintained button.
 - c. Press to raise(retract) the press cylinder of roller 1.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
 - d. Turns off "Outfeed Roll 1 Ext" if it is on.
13. Outfd Rll 2 Preset Ext
 - a. Outfeed Rollers 2 Preset Cylinder Extend.
 - b. Maintained button.
 - c. Press to lower(extend) the preset cylinder of roller 2.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
 - d. Turns off "Outfd Rll2 Preset Ret" if it is on.

14. Outfd Rll2 Preset Ret

- a. Outfeed Roller 2 Preset Cylinder Retract.
- b. Maintained button.
- c. Press to raise(retract) the preset cylinder of roller 2.
 - i. Press again to turn the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
- d. Turns off “Outfd Rll2 Preset Ext” if it is on.

15. Outfeed Roll 2 Ext

- a. Outfeed Roller 2 Press Cylinder Extend.
- b. Maintained button.
- c. Press to lower(extend) the press cylinder of roller 2.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay down because the valve just returns to center where all ports are blocked.
- d. Turns off “Outfeed Roll 2 Ret” if it is on.

16. Outfeed Roll 2 Ret

- a. Outfeed Roller 2 Press Cylinder Retract.
- b. Maintained button.
- c. Press to raise(retract) the press cylinder of roller 2.
 - i. Press again to run the output for the solenoid off.
 1. The roller will stay up because the valve just returns to center where all ports are blocked.
- d. Turns off “Outfeed Roll 2 Ext” if it is on.

17. Back

- a. Returns to the previous screen.

18. Next

- a. Goes to next manual screen.

Manual Screen 3

From Manual screen 2, press the “Next” button, shown below.

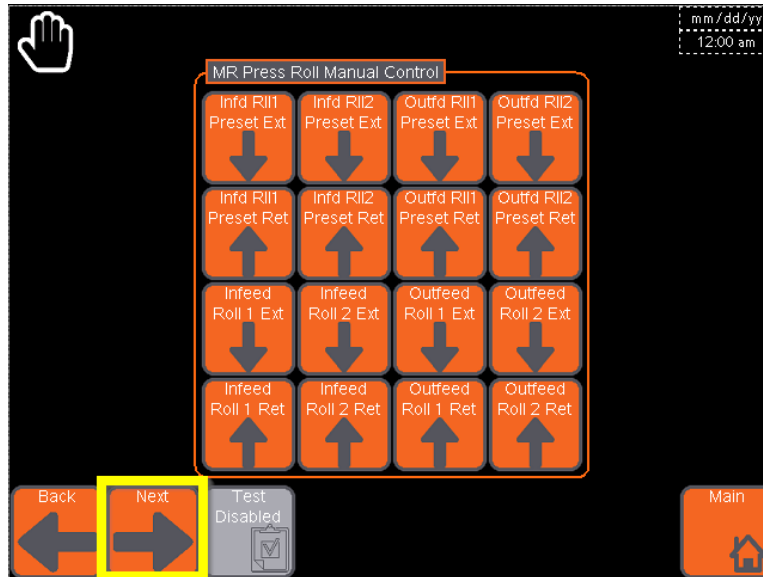


Figure 29 – Manual 2: Next Button

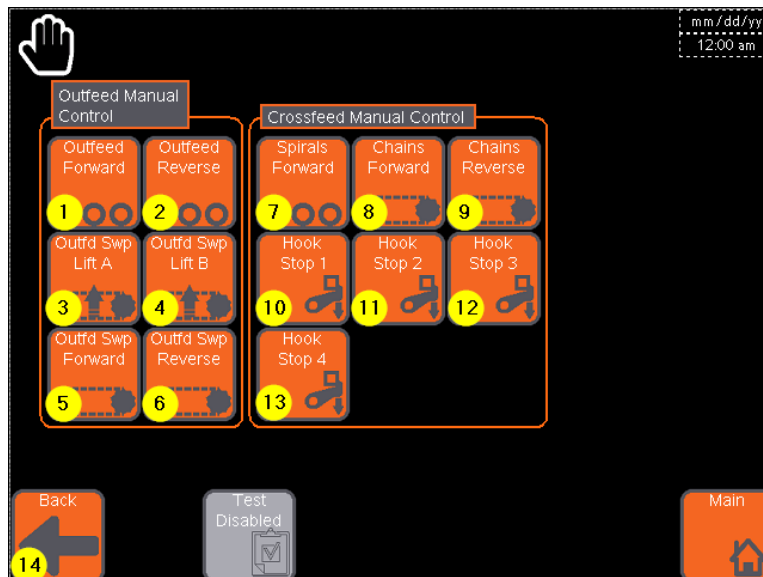


Figure 30 – Manual 3 Labels

Outfeed Manual Control

1. Outfeed Forward
 - a. Maintained button.
 - b. Press to run the outfeed roll case forward.
 - i. Press again to stop the roll case.
 - c. Turns off “Outfeed Reverse” if it is on.

2. Outfeed Reverse
 - a. Maintained button.
 - b. Press to run the outfeed roll case backward.
 - i. Press again to stop the roll case.
 - c. Turns off “Outfeed Forward” if it is on.
3. Outfd Swp Lift A
 - a. Maintained button.
 - b. Press to lift the first section of outfeed sweep chains
 - i. Press again to lower the first section of outfeed sweep chains
4. Outfd Swp Lift B
 - a. Maintained button.
 - b. Press to lift the second section of outfeed sweep chains
 - i. Press again to lower the second section of outfeed sweep chains
5. Outfd Swp Forward
 - a. Momentary button.
 - b. Press to run the sweep chains forward, toward the spiral rollers.
 - i. Release to stop the sweep chains.
6. Outfd Swp Reverse
 - a. Momentary button.
 - b. Press to run the sweep chains backward, away from the spiral rollers.
 - i. Release to stop the sweep chain.

Crossfeed Manual Control

7. Spirals Forward
 - a. Maintained button.
 - b. Press to run the spiral rollers forward.
 - i. Press again to stop the spiral rollers.
8. Chains Forward
 - a. Maintained button.
 - b. Press to run the crossfeed chains forward.
 - i. Press again to stop the crossfeed chains.
 - c. Turns off “Chains Reverse” if it is on.
9. Chains Reverse
 - a. Maintained button.
 - b. Press to run the crossfeed chains backwards.
 - i. Press again to stop the crossfeed chains.
 - c. Turns off “Chains Forward” if it is on.
10. Hook Stop 1
 - a. Maintained button.
 - b. Press to lower the hook stop.
 - i. Press again to raise the hook stop.

11. Hook Stop 2
 - a. Maintained button.
 - b. Press to lower the hook stop.
 - i. Press again to raise the hook stop.
12. Hook Stop 3
 - a. Maintained button.
 - b. Press to lower the hook stop.
 - i. Press again to raise the hook stop.
13. Hook Stop 4
 - a. Maintained button.
 - b. Press to lower the hook stop.
 - i. Press again to raise the hook stop.
14. Back
 - a. Returns to the previous screen.

Cycle Test Mode

1. This mode allows the line to be tested without running the arbors on the multi-rip or the sawdust conveyor.
2. Turn on control power.
 - a. Make sure all E-stops are released.
 - i. Operators stand e-stop button.
 - ii. Chop Saw Operator stand e-stop-button.
 - iii. Remote e-stop button from the main control.
 - iv. Any additional e-stop added to the system.
 - b. Press the “Control Power On” push-button on the operator stand.
 - i. If successful, the indicator of the button will light up green.
 - ii. The system siren will play the control power on tone for 5 seconds.
 1. During those 5 seconds you cannot turn on “Cycle Test” for safety reasons.

3. To enter “Cycle Test Mode” on the main screen press the “Cycle Test Mode” button.

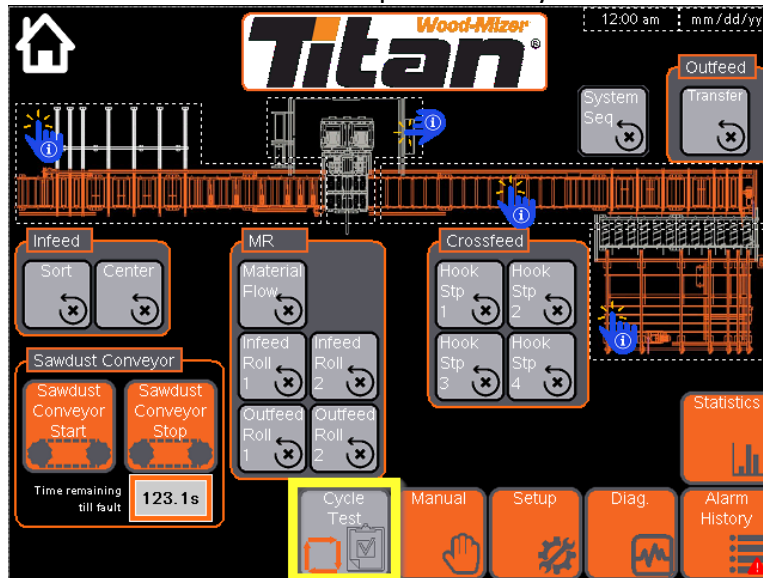


Figure 31 – Main Screen: Cycle Test Button

- a. The button will turn green.



Figure 32 – Cycle Test Button Status

4. Press the “System Start” button on the operator stand.
 - a. The infeed roll case will start moving forward.
 - b. After a time delay, the multi-rip feed rollers will start moving forward.
 - c. After another time delay, the outfeed roll case will start moving forward.
 - d. After another time delay, the spiral roll case will start moving forward.
 - e. After another time delay, the crossfeed chains will start moving forward.
 - f. Now you can test material running through the system.
 - i. See “Auto Mode” for information on the system sequence.

Auto Mode

1. Turn on control power.
 - a. Make sure all E-stops are released.
 - i. Operators stand e-stop button.
 - ii. Chop Saw Operator stand e-stop-button.
 - iii. Remote e-stop button from the main control.
 - iv. Any additional e-stop added to the system.

- b. Press the “Control Power On” push-button on the operator stand.
 - i. If successful, the indicator of the button will light up green.
 - ii. The system siren will play the control power on tone for 5 seconds.
 1. During those 5 seconds you cannot turn on the system for safety reasons.
2. Press the “System Start” button on the operator stand.
 - a. The multi-rip blades starting siren will start playing the startup tone.
 - i. After 5 seconds the lower blade arbor will begin starting.
 - ii. Once the lower blade arbor has reaches full speed the upper blade arbor will begin starting.
 - b. Once the upper blade arbor reaches full speed the infeed roll case will start moving forward.
 - c. After a time delay, the multi-rip feed rollers will start moving forward.
 - d. After another time delay, the outfeed roll case will start moving forward.
 - e. After another time delay, the spiral roll case will start moving forward.
 - f. After another time delay, the crossfeed chains will start moving forward.
 - g. Now you can run material through the system.
3. If the WB2000 operator sees an issue on the infeed of the system, they have a “Cycle Interrupt” push-button next to the left joystick that will shut the MR system down.
4. The sawdust conveyors can be started by the WB2000 operator, or the MR operator once control power is on at the WB2000.
 - a. For continued operation of the MR the conveyors must be turned on.
 - b. If the MR operator needs to stop the conveyors so that sawdust bins can be emptied, you just press the “Sawdust Conveyor Stop” button on the main screen.
 - i. The conveyors can only be off for a preset time and there is a countdown on the main screen with the buttons.
 - ii. There will also be a warning on the bottom of the screen letting you know the conveyor is not running



Figure 33 – Main Screen: Sawdust Conveyor Control

Auto Mode System Sequences

Infeed Sorting

1. There is a queue for sweeping material off the infeed roll case.
 - a. The WB2000 operator decides if material is to be swept off the infeed roll case with a “Sort” button next to the left joystick of the sawmill.
 - i. When a sweep is going to be processed, the sort button indicator will light up solid.
 - ii. The MR system can store 3 sweep commands in a queue.
 - iii. The queue can be cleared by pressing and holding the sort button for 2 seconds at which time the light for sorting will blink.
 - iv. If material is already in the sorting process the “Sort” button selection is ignored and used on the following piece.
 1. The decision to sort must be done before the material is in front of the photo-eye array on the infeed roll case.
2. Main Sorting Sequence
 - a. Material Entering
 - i. Material transfers onto the infeed roll case from the sizing conveyor of the WB2000.
 - ii. A photo-eye array detects material entering the system.
 - iii. The photo-eye array must clear after a time delay, or a warning will appear on the screen letting the operator know there is a material jam, and the siren will sound.
 1. The time delay is calculated by the length of material setup for the system and the feed rate of the roll case
 2. The warning does not stop the system.
 - iv. Once the photo-eye array clears, if material is to be swept off the infeed roll case a timer will begin to properly position the material for sweeping.
 1. The timer is calculated by the distance to the lumber line for sweeping from the photo-eye array and the feed rate of the infeed roll case.
 - b. Sort
 - i. 2 Possible sorting sub sequences.
 1. Sweep.
 - a. Once the timer for the photo-eye array being clear completes the sweep chains will lift.
 - b. Then the sweep chains will turn on for a calculated time
 - i. The time is calculated by the maximum travel distance material can move across the sweep chains and clear along with the speed the chains are moving.
 - c. Then the chains will lower and be ready for another cycle.

2. Pass through.

- a. There is a time delay in which the material needs to make the sensor on the sweep chains clear paddle bracket, or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance between the photo-eye array for material entering and the sweep chains clear paddle bracket along with the feed rate of the roll case.
 - ii. The warning does not stop the system.
- b. Once the paddle bracket sensor is made there is a time delay for it to clear or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the roll case
 - ii. The warning does not stop the system.

c. Sorting sequence complete.

Infeed Centering

1. Once the photo-eye for centering is blocked, there is a time delay to properly position the material for centering.
 - a. The time delay is calculated by the distance from the photo-eye to the lumber line for centering along with the feed rate of the roll case.
2. After the time delay completes the roll case pauses.
3. The centering arms come in for a preset time set on the HMI.
 - a. The arms will not come in until the following conditions are met for a time delay to properly space pieces on the outfeed roll case:
 - i. Infeed Roll 1 clear
 - ii. Infeed Roll 2 clear
 - iii. Outfeed Roll 1 clear
4. The centering arms then release.
5. After a preset time for the arms to start releasing and clear the material the roll case starts back up.
6. The photo-eye must clear after a time delay, or a warning will appear on the screen letting the operator know there is a material jam and the siren will sound.
 - a. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - b. The warning does not stop the system.
7. Centering complete.

MR Material Thickness Selection

1. When the infeed centering sequence starts to release the material, the photo-eye for material thickness is checked.
 - a. If it is on, thick material is selected, and the MR preset cylinders will be raised as material enters.
 - b. If it is off, thin material is selected, and the MR preset cylinders will be lowered as material enters.

MR Material Flow Sequence

1. Infeed Rolls 1 Material Present
 - a. When the infeed roll case is started back up after centering there is a time delay for the material to make the sensor for infeed roller 1 or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance from the centering sensor to the infeed roll 1 sensor, plus the material offset, along with the feed rate of the infeed roll case.
 - ii. The warning will stop the system for safety in the MR.
2. Infeed Rolls 2 Material Present
 - a. Once material makes the infeed roller 1 sensor there is a time delay for the material to make the sensor for infeed roller 2 or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance between infeed roll 1 and infeed roll 2 sensors, plus the material offset, along with the feed rate of the MR.
 - ii. The warning will stop the system for safety in the MR.
3. Outfeed Rolls 1 Material Present
 - a. Once material makes the infeed roller 2 sensor there is a time delay for the material to make the sensor for outfeed roller 1 or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance between infeed roll 2 sensor and outfeed roll 1 sensor, plus the material offset, along with the feed rate of the MR.
 - ii. The warning will stop the system for safety in the MR.
 - b. Bypassed if using the Proximity Switches.
4. Outfeed Rolls 2 Material Present
 - a. Once material makes the outfeed roller 1 sensor there is a time delay for the material to make the sensor for outfeed roller 2 or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance between outfeed roll 1 and outfeed roll 2 sensors, plus the material offset, along with the feed rate of the MR.
 - ii. The warning will stop the system for safety in the MR.
 - b. Bypassed if using the Proximity Switches.
5. Outfeed Roll Case Material Entering Present
 - a. Once material makes the outfeed roller 2 sensor there is a time delay for the material to make the sensor for outfeed roll case material entering or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance between outfeed roll 2 sensor and outfeed roll case material entering sensor, plus the material offset, along with the feed rate of the MR.
 - ii. The warning will stop the system for safety in the MR.
6. Material Flow Sequence Complete

Press Roll 1 Sequence

1. Retract Press Roller
 - a. When the infeed centering sequence is releasing the material, if the infeed roll case is not starting back up and the MR is not sensing a cut, the press roller cylinder will retract for material to enter.
 - i. If the material selection is thick, the preset cylinder will also retract.
 - ii. If the material selection is thin, the preset cylinder will extend.
2. Extend Press Roller
 - a. The preset cylinder and press cylinder extend together.
 - b. Once material has made the infeed roller 1 sensor a time delay starts before the cylinder will extend.
 - i. The time delay is calculated by the distance from the infeed roll 1 sensor to the center of the roller, plus an offset, along with the feed rate of the MR.
 - c. Once the output comes on for extending the press roller there is a time delay for the pressure switches for the preset cylinder and press cylinder to make or a warning will be displayed on the screen and the siren will sound.
 - i. The warning will stop the system for safety in the MR.
3. Press Roll Clear
 - a. Once the pressure switches are made there is a time delay for material to travel past the roller sensor or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - ii. The warning will stop the system for safety in the MR.
4. Press Roll Sequence Complete

Press Roll 2 Sequence

1. Retract Press Roller
 - a. When the infeed centering sequence is releasing the material, if the infeed roll case is not starting back up and the MR is not sensing a cut, the press roller cylinder will retract for material to enter.
 - i. If the material selection is thick, the preset cylinder will also retract.
 - ii. If the material selection is thin, the preset cylinder will extend.
2. Extend Press Roller
 - a. The preset cylinder and press cylinder extend together.
 - b. Once infeed roller 1 extends there is a time delay before infeed roller 2 is permitted to extend in case debris in the MR makes the infeed roller 2 sensor early.
 - c. Once material has made the infeed roller 2 sensor a time delay starts before the cylinder will extend.
 - i. The time delay is calculated by the distance from the infeed roll 2 sensor to the center of the roller, plus an offset, along with the feed rate of the MR.

- d. Once the output comes on for extending the press roller there is a time delay for the pressure switches for the preset cylinder and press cylinder to make or a warning will be displayed on the screen and the siren will sound.
 - i. The warning will stop the system for safety in the MR.

3. Press Roll Clear

- a. Once the pressure switches are made there is a time delay for material to travel past the roller sensor or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - ii. The warning will stop the system for safety in the MR.

4. Press Roll Sequence Complete

Press Roll 3 Sequence – Photo-eyes

1. Retract Press Roller

- a. When the infeed centering sequence is releasing the material, if the infeed roll case is not starting back up and the MR is not sensing a cut, the press roller cylinder will retract for material to enter.
 - i. If the material selection is thick, the preset cylinder will also retract.
 - ii. If the material selection is thin, the preset cylinder will extend.

2. Extend Press Roller

- a. The preset cylinder and press cylinder extend together.
- b. Once infeed roller 2 extends there is a time delay before outfeed roller 1 is permitted to extend in case debris in the MR makes the outfeed roller 1 sensor early.
- c. Once material has made the outfeed roller 1 sensor a time delay starts before the cylinder will extend.
 - i. The time delay is calculated by the distance from the outfeed roll 1 sensor to the center of the roller, plus an offset, along with the feed rate of the MR.
- d. Once the output comes on for extending the press roller there is a time delay for the pressure switches for the preset cylinder and press cylinder to make or a warning will be displayed on the screen and the siren will sound.
 - i. The warning will stop the system for safety in the MR.

3. Press Roll Clear

- a. Once the pressure switches are made there is a time delay for material to travel past the roller sensor or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - ii. The warning will stop the system for safety in the MR.

4. Press Roll Sequence Complete

Press Roll 3 Sequence – Proximity Switches

1. Retract Press Roller
 - a. When the infeed centering sequence is releasing the material, if the infeed roll case is not starting back up and the MR is not sensing a cut, the press roller cylinder will retract for material to enter.
 - i. If the material selection is thick, the preset cylinder will also retract.
 - ii. If the material selection is thin, the preset cylinder will extend.
2. Extend Press Roller
 - a. The preset cylinder and press cylinder extend together.
 - b. Once infeed roller 2 extends there is a time delay before outfeed roller 1 is extended.
 - c. Once the output comes on for extending the press roller there is a time delay for the pressure switches for the preset cylinder and press cylinder to make or a warning will be displayed on the screen and the siren will sound.
 - i. The warning will stop the system for safety in the MR.
3. Press Roll Clear
 - a. Once the pressure switches are made there is a time delay for material to travel out from under the roller and the proximity switch get made by the roller fully extending or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - ii. The warning will stop the system for safety in the MR.
4. Press Roll Sequence Complete

Press Roll 4 Sequence – Photo-eyes

1. Retract Press Roller
 - a. When the infeed centering sequence is releasing the material, if the infeed roll case is not starting back up and the MR is not sensing a cut, the press roller cylinder will retract for material to enter.
 - i. If the material selection is thick, the preset cylinder will also retract.
 - ii. If the material selection is thin, the preset cylinder will extend.
2. Extend Press Roller
 - a. The preset cylinder and press cylinder extend together.
 - b. Once outfeed roller 1 extends there is a time delay before outfeed roller 2 is permitted to extend in case debris in the MR makes the outfeed roller 2 sensor early.
 - c. Once material has made the outfeed roller 2 sensor a time delay starts before the cylinder will extend.
 - i. The time delay is calculated by the distance from the outfeed roll 2 sensor to the center of the roller, plus an offset, along with the feed rate of the MR.
 - d. Once the output comes on for extending the press roller there is a time delay for the pressure switches for the preset cylinder and press cylinder to make or a warning will be displayed on the screen and the siren will sound.
 - i. The warning will stop the system for safety in the MR.

3. Press Roll Clear

- a. Once the pressure switches are made there is a time delay for material to travel past the roller sensor or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - ii. The warning will stop the system for safety in the MR.

4. Press Roll Sequence Complete

Press Roll 4 Sequence – Proximity Switches

1. Retract Press Roller

- a. When the infeed centering sequence is releasing the material, if the infeed roll case is not starting back up and the MR is not sensing a cut, the press roller cylinder will retract for material to enter.
 - i. If the material selection is thick, the preset cylinder will also retract.
 - ii. If the material selection is thin, the preset cylinder will extend.

2. Extend Press Roller

- a. The preset cylinder and press cylinder extend together.
- b. Once outfeed roller 1 extends there is a time delay before outfeed roller 2 extends.
- c. Once the output comes on for extending the press roller there is a time delay for the pressure switches for the preset cylinder and press cylinder to make or a warning will be displayed on the screen and the siren will sound.
 - i. The warning will stop the system for safety in the MR.

3. Press Roll Clear

- a. Once the pressure switches are made there is a time delay for material to travel out from under the roller and the proximity switch get made by the roller fully extending or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the length of material setup for the system and the feed rate of the multi-rip rollers since the material is flowing through it now and the speed is lower.
 - ii. The warning will stop the system for safety in the MR.

4. Press Roll Sequence Complete

Outfeed Transfer

1. Sweep Section 2 Material Present

- a. Once the sensor for sweep section 1 is made there is a time delay for material to travel to sweep section 2 paddle bracket before a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by the distance between sweep section 1 paddle bracket and sweep section 2 paddle bracket, plus the offset, along with the feed rate of the roll case.
 - ii. The warning will not stop the system.

2. Lift the Sweep Chains

- a. After the sensor for sweep section 2 is made there is a time delay for material to travel to the end stop.

- i. The time delay is calculated by the distance from sweep section 2 paddle bracket to the end plate along with the feed rate of the roll case.
 - b. Once the time delay completes the sweep chains will lift.
 - i. Sweep section 2 always lifts.
 - ii. Sweep section 1 will only lift if material is still present at sweep section 2 paddle bracket when the lift is initiated.
3. Sweep
 - a. After a short, fixed time delay for the chains to they will begin to sweep material toward the spiral rollers for a time limit.
 - i. The time is calculated by the maximum travel distance material can move across the sweep chains and clear along with the speed the chains are moving.
4. Lower Chains
 - a. The chains will then lower and after a time delay the sweep section paddle brackets must be clear or a warning will show up on the screen and the siren will sound.
 - i. The warning does not stop the system.
5. Transfer Sequence Complete.

Hook Stop 1

1. Material Transfer
 - a. If material is present at the hook stop and the next hook stop is clear and not in a material transfer process, then the hook stop will lower for a time.
 - i. The time is calculated by the distance between hook stops, plus an offset, along with the feed rate of the chains.
 - b. The hook stop must be clear after a time delay, or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by adding 1 second to the time above.
 - ii. The warning does not stop the system.
 - c. Once the material is clear and the time delay complete the hook stop will raise back up.
2. Transfer Complete

Hook Stop 2

1. Material Transfer
 - a. If material is present at the hook stop and the next hook stop is clear and not in a material transfer process, then the hook stop will lower for a time.
 - i. The time is calculated by the distance between hook stops, plus an offset, along with the feed rate of the chains.
 - b. The hook stop must be clear after a time delay, or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by adding 1 second to the time above.
 - ii. The warning does not stop the system.
 - c. Once the material is clear and the time delay complete the hook stop will raise back up.
2. Transfer Complete

Hook Stop 3

1. Material Transfer

- a. If material is present at the hook stop and the next hook stop is clear and not in a material transfer process, then the hook stop will lower for a time.
 - i. The time is calculated by the distance between hook stops, plus an offset, along with the feed rate of the chains.
- b. The hook stop must be clear after a time delay, or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by adding 1 second to the time above.
 - ii. The warning does not stop the system.
- c. Once the material is clear and the time delay complete the hook stop will raise back up.

2. Transfer Complete

Hook Stop 4

1. Material Transfer

- a. If material is present at the hook stop, the end stop is clear, and chop saw has given a clear signal, then the hook stop will lower for a time.
 - i. The time is calculated by the distance between hook stops, plus an offset, along with the feed rate of the chains.
- b. The hook stop must be clear after a time delay, or a warning will appear on the screen and the siren will sound.
 - i. The time delay is calculated by adding 1 second to the time above.
 - ii. The warning does not stop the system.
- c. Once the material is clear and the time delay complete the hook stop will raise back up.

2. Transfer Complete

Line Status

Main Status

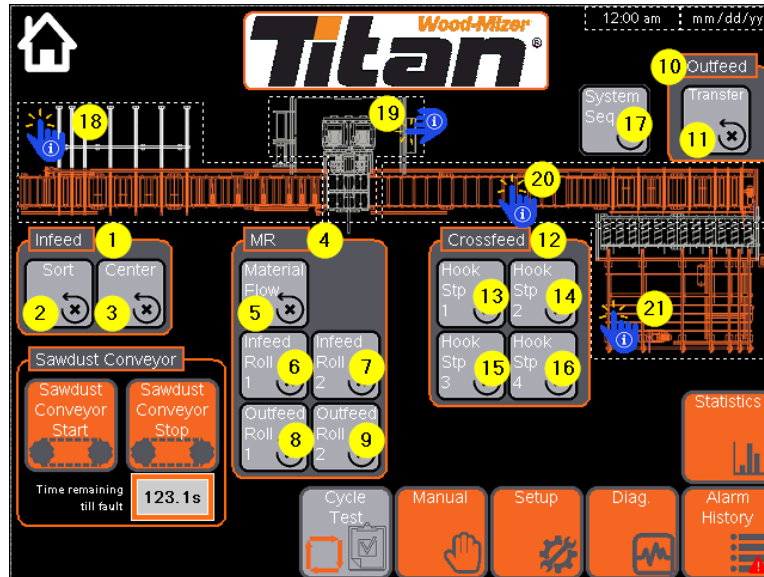


Figure 34 – Main Screen: Status Labels

1. Infeed Roll Case Sequence Status
 - a. Box fills in with grey from left to right as the roll case feed is starting up.
 - b. (2) Sort Sequence Indicator.
 - i. Blinks green when the sequence is in process.
 - ii. Blinks red when a sequence fault is active.
 - iii. Pressing the indicator resets the sequence and any of its faults.
 - c. (3) Centering Sequence Indicator.
 - i. Status same as above for the [Sorting Sequence Indicator](#)
2. (4) MR Sequence Status
 - a. Box fills in with grey from left to right as the roll case feed is starting up.
 - b. (5) Material Flow Sequence Indicator.
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - c. (6) Infeed Roll 1 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - d. (7) Infeed Roll 2 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - e. (8) Outfeed Roll 1 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - f. (9) Outfeed Roll 2 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)

3. (10) Outfeed Roll Case Sequence Status
 - a. (11) Transfer Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
4. (12) Crossfeed Sequence Status
 - a. (13) Hook Stop 1 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - b. (14) Hook Stop 2 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - c. (15) Hook Stop 3 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
 - d. (16) Hook Stop 4 Sequence Indicator
 - i. Status same as above for the [Sorting Sequence Indicator](#)
5. (17) System Sequence Reset
 - a. Press this to reset all system sequences.
6. (18) Infeed Status Viewer
 - a. Press in this area to view detailed status of the infeed roll case section.
7. (19) MR Status Viewer
 - a. Press in this area to view detailed status of the MR section.
8. (20) Outfeed Status Viewer
 - a. Press in this area to view detailed status of the outfeed roll case section.
9. (21) Crossfeed Status Viewer
 - a. Press in this area to view detailed status of the crossfeed section.

Infeed Status Viewer

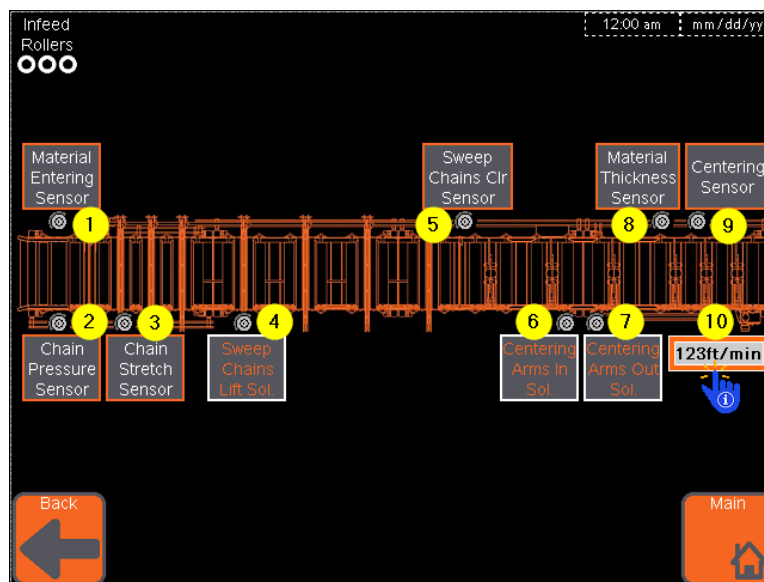


Figure 35 – Infeed Status Screen

Accessed by pressing the box around the infeed on the main screen.

1. Material Entering Sensor
 - a. Photo-eye array
 - b. Gray when no material present
 - c. Green when material present
2. Chain Pressure Sensor
 - a. Pressure switch
 - i. Monitors air pressure on the drive chain tension cylinder.
 - b. Gray when low
 - c. Green when okay
3. Chain Stretch Sensor
 - a. Reed switch
 - i. Monitors the chain tension cylinder to know if the chain has stretched too much over time.
 - b. Gray when the chain is okay
 - c. Green when the chain has stretched too far
4. Sweep Chains Lift Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
5. Sweep Chains Clear Sensor
 - a. Proximity switch
 - b. Gray when no material present
 - c. Green when material present
6. Centering Arms In Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
7. Centering Arms Out Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
8. Material Thickness Sensor
 - a. Photo-eye
 - b. Gray when no material present
 - c. Green when material present
9. Centering Sensor
 - a. Photo-eye
 - b. Gray when no material present
 - c. Green when material present
10. Roll Case Feed Rate
 - a. Press to view infeed roll case drive diagnostics.
 - b. Reference the Diagnostics section for more information.

MR Status Viewer

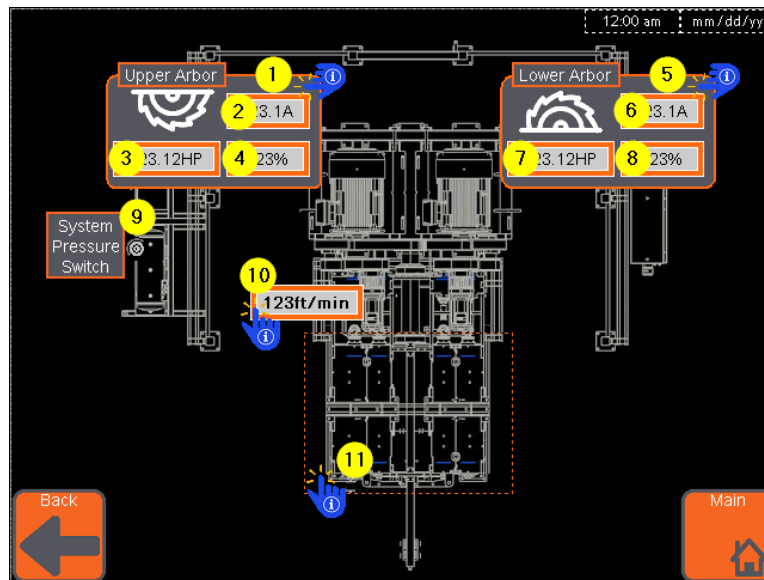


Figure 36 – MR Main Status Screen

Accessed by pressing the box around the MR on the main screen.

1. Upper Arbor Status Box
 - a. Box fills in with grey from left to right as the arbor is starting up.
2. Upper Arbor Motor Current
3. Upper Arbor Motor Horsepower
4. Upper Arbor Motor Temperature Percent
5. Lower Arbor Status Box
 - a. Box fills in with grey from left to right as the arbor is starting up.
6. Lower Arbor Motor Current
7. Lower Arbor Motor Horsepower
8. Lower Arbor Motor Temperature Percent
9. System Pressure Switch
 - a. Pressure Switch
 - i. Monitors air pressure for the entire system.
 - b. Gray when low
 - c. Green when okay
10. Feed Roller Feed Rate
 - a. Press to view feed roller drive diagnostics.
 - b. Reference the Diagnostics section for more information.
11. MR Sensor/Solenoid Status Viewer
 - b. Press in this area to view detailed status of the MR Sensors/Solenoids.

MR Sensor Status Viewer

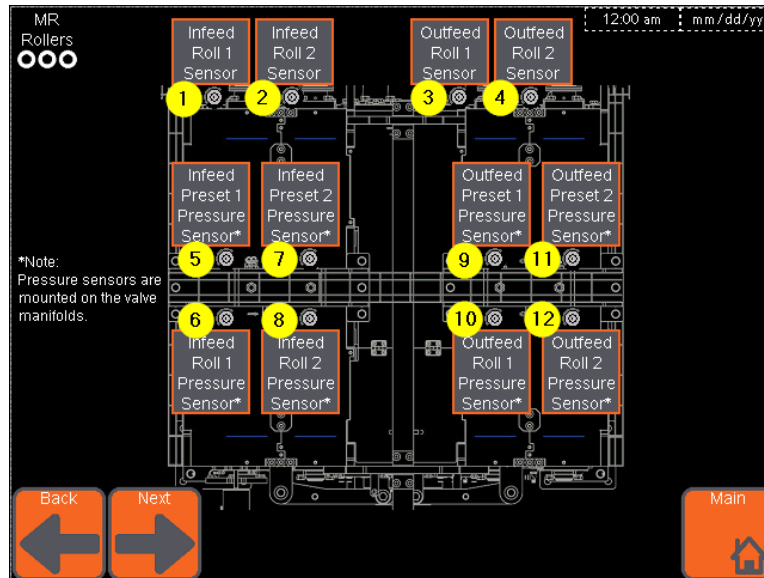


Figure 37 – MR Sensor Status Screen

Accessed by pressing the box around this section of the MR on the MR Status Viewer Screen.

1. Infeed Roll 1 Sensor
 - a. Photo-eye
 - b. Gray when no material present
 - c. Green when material present
2. Infeed Roll 2 Sensor
 - a. Photo-eye
 - b. Gray when no material present
 - c. Green when material present
3. Outfeed Roll 1 Sensor
 - a. Photo-eye/Proximity Switch
 - b. Gray when no material present
 - c. Green when material present
4. Outfeed Roll 2 Sensor
 - a. Photo-eye/Proximity Switch
 - b. Gray when no material present
 - c. Green when material present
5. Infeed Preset 1 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the infeed roll 1 preset cylinder extend.
 - b. Gray when low
 - c. Green when okay

6. Infeed Roll 1 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the infeed roll 1 press cylinder extend.
 - b. Gray when low
 - c. Green when okay
7. Infeed Preset 2 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the infeed roll 2 preset cylinder extend.
 - b. Gray when low
 - c. Green when okay
8. Infeed Roll 2 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the infeed roll 2 press cylinder extend.
 - b. Gray when low
 - c. Green when okay
9. Outfeed Preset 1 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the outfeed roll 1 preset cylinder extend.
 - b. Gray when low
 - c. Green when okay
10. Outfeed Roll 1 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the outfeed roll 1 press cylinder extend.
 - b. Gray when low
 - c. Green when okay
11. Outfeed Preset 2 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the outfeed roll 2 preset cylinder extend.
 - b. Gray when low
 - c. Green when okay
12. Outfeed Roll 2 Pressure Sensor
 - a. Pressure Switch
 - i. Monitors air pressure for the outfeed roll 2 press cylinder extend.
 - b. Gray when low
 - c. Green when okay

MR Solenoid Status Viewer

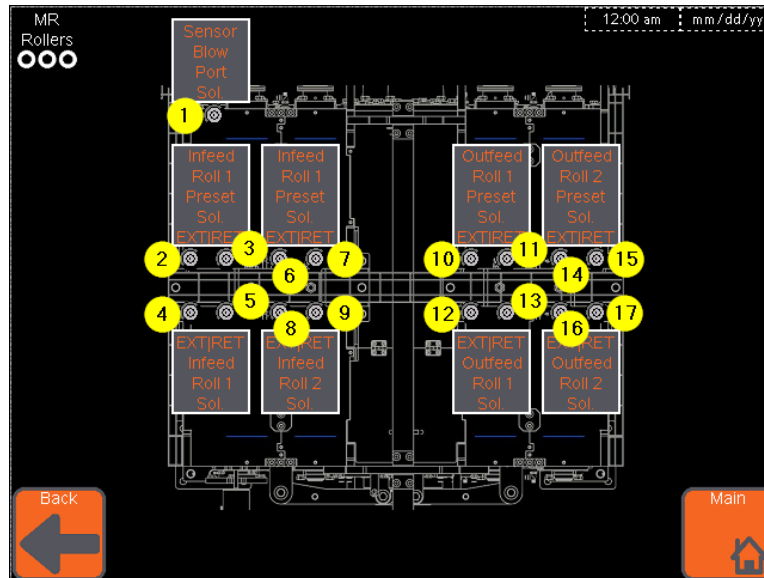


Figure 38 – MR Solenoid Status Screen

Accessed by pressing “Next” on the MR Sensor Status Viewer Screen.

1. Sensor Blow Port Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
2. Infeed Roll 1 Preset Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
3. Infeed Roll 1 Preset Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
4. Infeed Roll 1 Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
5. Infeed Roll 1 Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
6. Infeed Roll 2 Preset Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
7. Infeed Roll 2 Preset Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on

8. Infeed Roll 2 Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
9. Infeed Roll 2 Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
10. Outfeed Roll 1 Preset Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
11. Outfeed Roll 1 Preset Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
12. Outfeed Roll 1 Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
13. Outfeed Roll 1 Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
14. Outfeed Roll 2 Preset Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
15. Outfeed Roll 2 Preset Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
16. Outfeed Roll 2 Solenoid Extend
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
17. Outfeed Roll 2 Solenoid Retract
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on

Outfeed Status Viewer

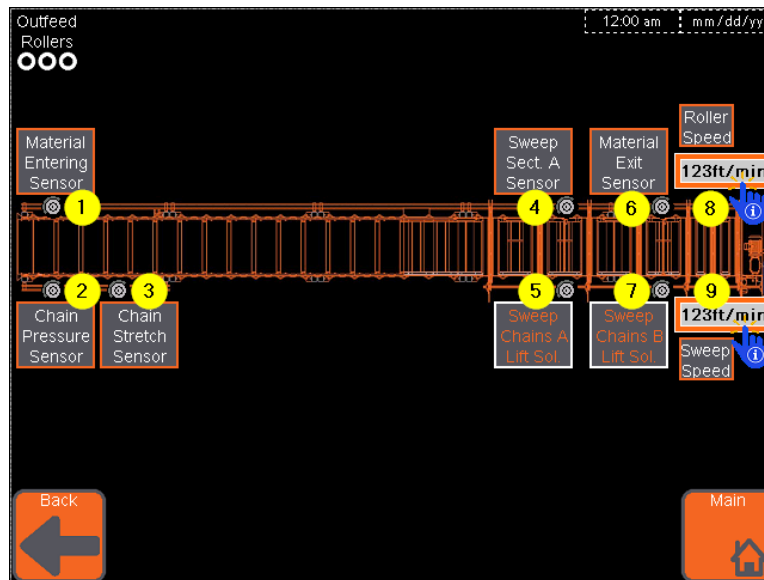


Figure 39 – Outfeed Status Screen

Accessed by pressing the box around the outfeed on the main screen.

1. Material Entering Sensor
 - a. Photo-eye array
 - b. Gray when no material present
 - c. Green when material present
2. Chain Pressure Sensor
 - a. Pressure switch
 - i. Monitors air pressure on the drive chain tension cylinder.
 - b. Gray when low
 - c. Green when okay
3. Chain Stretch Sensor
 - a. Reed switch
 - i. Monitors the chain tension cylinder to know if the chain has stretched too much over time.
 - b. Gray when the chain is okay
 - c. Green when the chain has stretched too far
4. Sweep Section A Sensor
 - a. Paddle bracket with a proximity switch
 - b. Gray when no material present
 - c. Green when material present
5. Sweep Chains A Lift Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on

6. Material Exit Sensor
 - a. Paddle bracket with a proximity switch
 - b. Gray when no material present
 - c. Green when material present
7. Sweep Chains B Lift Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
8. Roll Case Feed Rate
 - a. Press to view outfeed roll case drive diagnostics.
 - b. Reference the Diagnostics section for more information.
9. Sweep Chain Speed
 - a. Press to view sweep chain drive diagnostics.
 - b. Reference the Diagnostics section for more information.

Crossfeed Status Viewer

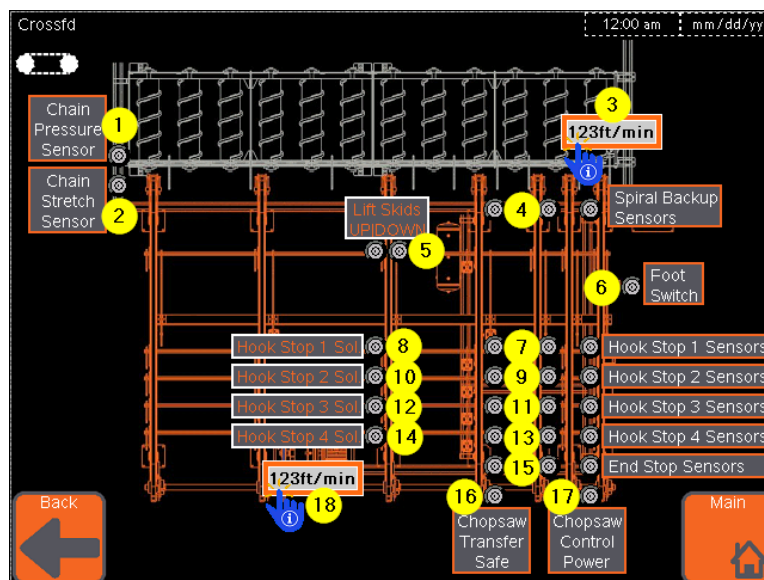


Figure 40 – Crossfeed Status Screen

Accessed by pressing the box around the crossfeed on the main screen.

1. Chain Pressure Sensor
 - a. Pressure switch
 - i. Monitors air pressure on the drive chain tension cylinder.
 - b. Gray when low
 - c. Green when okay

2. Chain Stretch Sensor
 - a. Reed switch
 - i. Monitors the chain tension cylinder to know if the chain has stretched too much over time.
 - b. Gray when the chain is okay
 - c. Green when the chain has stretched too far
3. Spiral Roll Case Feed Rate
 - a. Press to view spiral roll case drive diagnostics.
 - b. Reference the Diagnostics section for more information.
4. Spiral Backup Sensors
 - a. Limit switches
 - b. Gray when no material present
 - c. Green when material present
5. Lift Skids Up/Down Solenoids
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
6. Foot Switch
 - a. Gray when not pressed
 - b. Green when pressed
7. Hook Stop 1 Sensors
 - a. Limit switches
 - b. Gray when no material present
 - c. Green when material present
8. Hook Stop 1 Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
9. Hook Stop 2 Sensors
 - a. Limit switches
 - b. Gray when no material present
 - c. Green when material present
10. Hook Stop 2 Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
11. Hook Stop 3 Sensors
 - a. Limit switches
 - b. Gray when no material present
 - c. Green when material present
12. Hook Stop 3 Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on

13. Hook Stop 4 Sensors
 - a. Limit switches
 - b. Gray when no material present
 - c. Green when material present
14. Hook Stop 4 Solenoid
 - a. Gray when the solenoid is off
 - b. Green when the solenoid is on
15. End Stop Sensors
 - a. Limit switches
 - b. Gray when no material present
 - c. Green when material present
16. Chopsaw Transfer Safe
 - a. Gray when it is not okay to send material to the end stop
 - b. Green when it is okay to send material to the end stop
17. Chopsaw Control Power
 - a. Gray when control power is off
 - b. Green when control power is on
18. Chain Speed
 - a. Press to view chain drive diagnostics.
 - b. Reference the Diagnostics section for more information.

Diagnostics

From the main screen press the “Diagnostics” button, shown below.

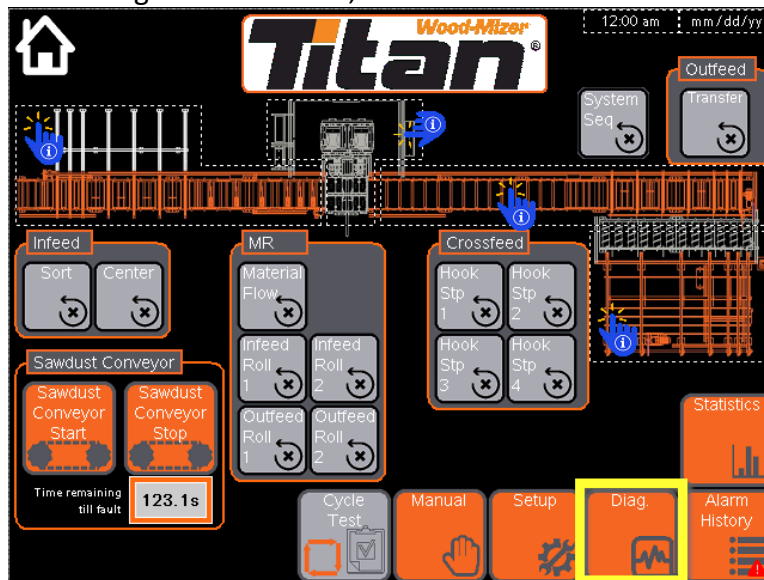


Figure 41 – Main Screen: Diagnostics Button

Diagnostics Main



Figure 42 – Diagnostics Main Screen

1. WB2000 Communication
 - a. When communication is not active the indicator is gray as shown above.
 - b. When communication is active the indicator is green as shown below.



Figure 43 – Communication Status

2. [Infeed Rollers](#)
 - a. Infeed roll case drive diagnostics screen.
3. [MR Infd Press Rll](#)
 - a. Multi-rip infeed press rollers drive diagnostics screen.
4. MR Infd Rollers
 - a. Multi-rip infeed rollers drive diagnostics screen.
 - b. Reference [MR Infd Press Rll](#) for screen information.
5. MR Outfd Press Rll
 - a. Multi-rip outfeed press rollers drive diagnostics screen.
 - b. Reference [MR Infd Press Rll](#) for screen information.
6. MR Outfd Rollers
 - a. Multi-rip outfeed rollers drive diagnostics screen.
 - b. Reference [MR Infd Press Rll](#) for screen information.
7. [Blades Starter 1](#)
 - a. Lower blade arbor soft start diagnostics screen.

8. Blades Starter 2
 - a. Upper blade arbor soft start diagnostics screen.
 - b. Reference [Blades Starter 1](#) for screen information.
9. Outfeed Rollers
 - a. Outfeed roll case drive diagnostics screen.
 - b. Reference [Infeed Rollers](#) for screen information.
10. Outfeed Sweep
 - a. Outfeed roll case sweep chain drive diagnostics screen.
 - b. Reference [Infeed Rollers](#) for screen information.
 - i. Chain speed will be displayed instead of roller speed.
11. Crossfeed Spirals
 - a. Crossfeed spiral roll case drive diagnostics screen.
 - b. Reference [Infeed Rollers](#) for screen information.
12. Crossfeed Chain
 - a. Crossfeed chain drive diagnostics screen.
 - b. Reference [Infeed Rollers](#) for screen information.
 - i. Chain speed will be displayed instead of roller speed.
13. PLC
 - a. PLC main diagnostics screen.
14. Blade Power Log
 - a. Blade power log screen.
15. Sequence Log
 - a. Sequence log screen.
16. Alarm History
 - a. Alarm history screen.

Infeed Roll Case Drive Diagnostics

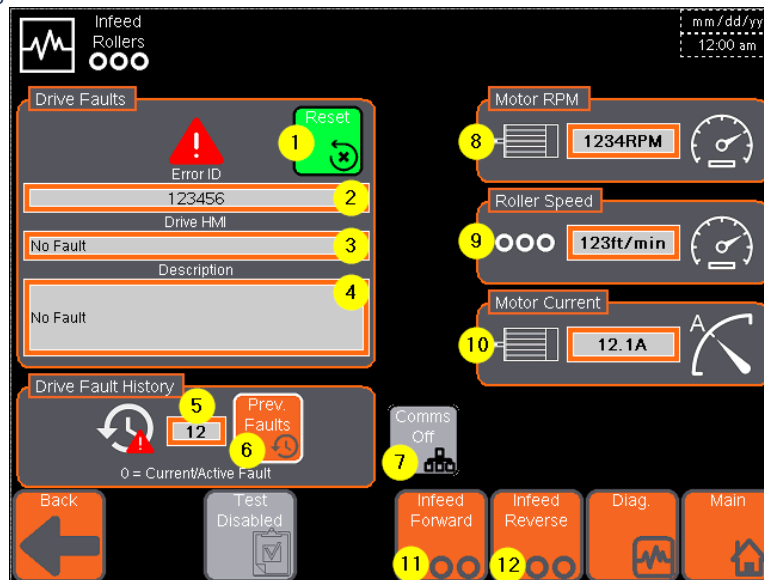


Figure 44 – Infeed Roll Case Drive Diagnostics Screen

1. Drive Reset Button
 - a. Indicator is green when there is not a fault on the drive.
 - b. Indicator is red when there is an active fault on the drive.
 - c. Can be pressed to reset faults than can be cleared without cycling drive power.
2. Drive Error ID
 - a. Displays the decimal value of the fault from the drive.
3. Drive HMI
 - a. Displays characters shown on the drive HMI for the fault.
4. Fault Description
 - a. Displays the fault description from the fault table of the drive's manual.
5. Previous Fault Number
 - a. The drive stores 10 previous faults, this display shows which one is being displayed above.
 - i. When the value is 0, the current/active fault is displayed.
6. Previous Fault Button
 - a. Press this to increment through the previous faults.
7. Communication Status
 - a. Indicator works like the [WB2000 Communication Indicator](#).
8. Motor RPM
 - a. Displays the RPM the motor is running.
9. Roller Speed
 - a. Displays the actual speed of the rollers.
10. Motor Current
 - a. Displays the current reading of the motor.

11. Infeed Forward

- a. When the system is not running in Auto mode and “Test” is enabled, you can manually run the rollers forward.

12. Infeed Reverse

- a. When the system is not running in Auto mode and “Test” is enabled, you can manually run the rollers backward.

Multi-Rip Infeed Press Rollers Drive Diagnostics

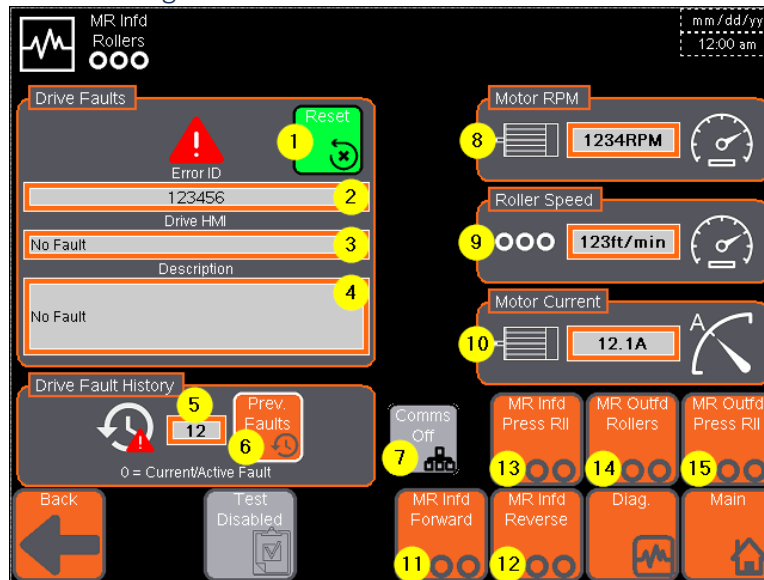


Figure 45 – Multi-rip Infeed Press Rollers Drive Diagnostics Screen

1. Drive Reset Button

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

2. Drive Error ID

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

3. Drive HMI

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

4. Fault Description

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

5. Previous Fault Number

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

6. Previous Fault Button

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

7. Communication Status

- a. Indicator works like the [WB2000 Communication Indicator](#).

8. Motor RPM

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

9. Roller Speed

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

10. Motor Current

- a. Reference [Infeed Roll Case Drive Diagnostics](#)

11. MR Infd Forward

- a. When the system is not running in Auto mode and “Test” is enabled, you can manually run the rollers forward.

12. MR Infd Reverse

- a. When the system is not running in Auto mode and “Test” is enabled, you can manually run the rollers backward.

13. MR Infd Press Rll

- a. Goto diagnostics screen for infeed press rollers drive.

14. MR Outfd Rollers

- a. Goto diagnostics screen for outfeed rollers drive.

15. MR Outfd Press Rll

- a. Goto diagnostics screen for outfeed press rollers drive.

Multi-Rip Lower Blades Arbor Soft Start Diagnostics

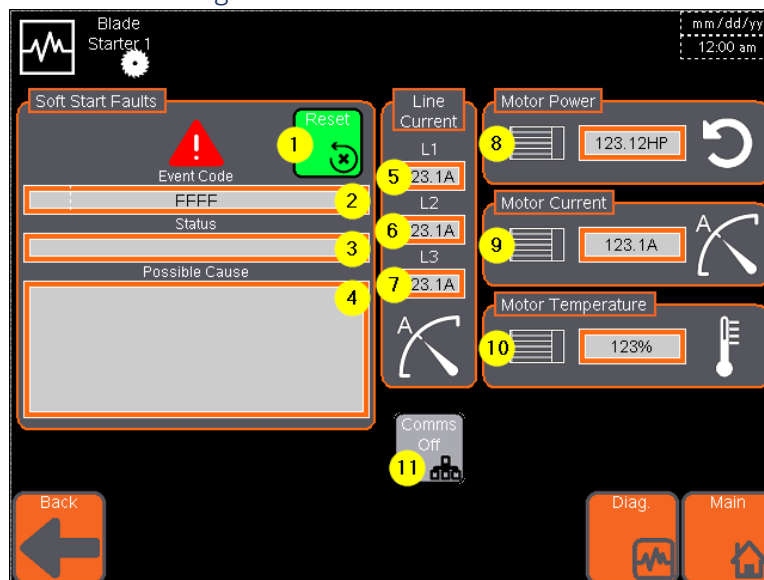


Figure 46 – Multi-rip Lower Blade Arbor Soft Start Diagnostics Screen

1. Soft Start Reset Button

- a. Indicator is green when there is not a fault on the starter.
- b. Indicator is red when there is an active fault on the starter.
- c. Can be pressed to reset faults than can be cleared without cycling starter power.

2. Event Code

- a. Displays the Event Group and Hex value of the fault from the starter.

3. Status

- a. Displays the starter fault.

4. Possible Cause

- a. Displays possible cause of the event from the fault table of the starter manual.

5. Line Current L1
 - a. Current reading of incoming power on L1.
6. Line Current L2
 - a. Current reading of incoming power on L2.
7. Line Current L3
 - a. Current reading of incoming power on L3.
8. Motor Power
 - a. Displays the actual motor horsepower.
9. Motor Current
 - a. Displays the actual motor current.
10. Motor Temperature
 - a. Displays the percentage of motor temperature.
11. Communication Status
 - a. Indicator works like the [WB2000 Communication Indicator](#).

PLC Main Diagnostics Screen

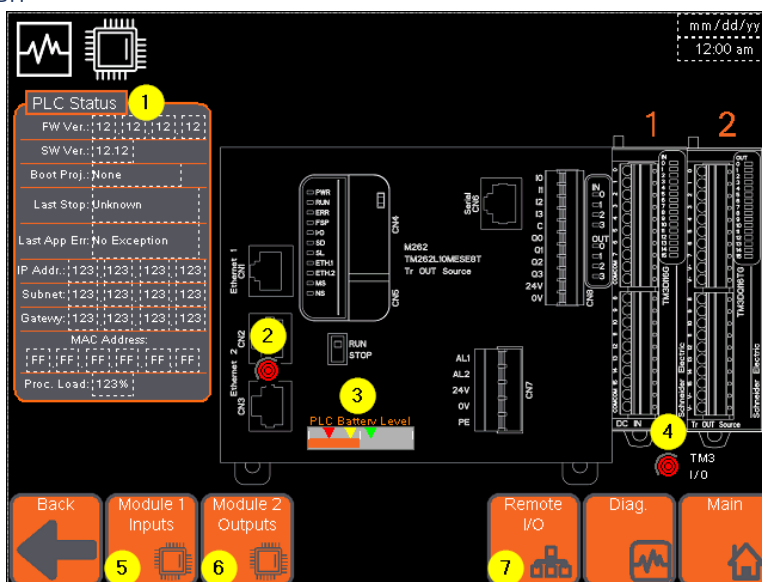


Figure 47 – PLC Main Screen

1. PLC Status
 - a. FW Ver.
 - i. Firmware version.
 - b. SW Ver.
 - i. Software version.
 - c. Boot Proj.
 - i. Status of the PLC boot project.
 - d. Last Stop
 - i. Cause of the last PLC stop.
 - e. Last App Err

- i. Last PLC application error.
 - f. IP Addr.
 - i. IP address of the PLC.
 - g. Subnet
 - i. Subnet mask of the PLC.
 - h. Gateway
 - i. Gateway address of the PLC.
 - i. MAC Address
 - i. MAC address of the PLC.
 - j. Proc. Load
 - i. PLC processor load percentage.
2. Ethernet 2 Status Indicator
 - a. Red for error.
 - b. Green for okay.
 3. PLC Battery Level
 - a. Bar graph of the battery power status.
 4. TM3 I/O Status Indicator
 - a. Red for error.
 - b. Green for okay.
 5. [Module 1 Inputs](#)
 - a. Goto screen for PLC module 1 input status.
 6. [Module 2 Outputs](#)
 - a. Goto screen for PLC module 2 output status.
 7. [Remote I/O](#)
 - a. Goto main remote I/O screen.

PLC Module 1 Inputs

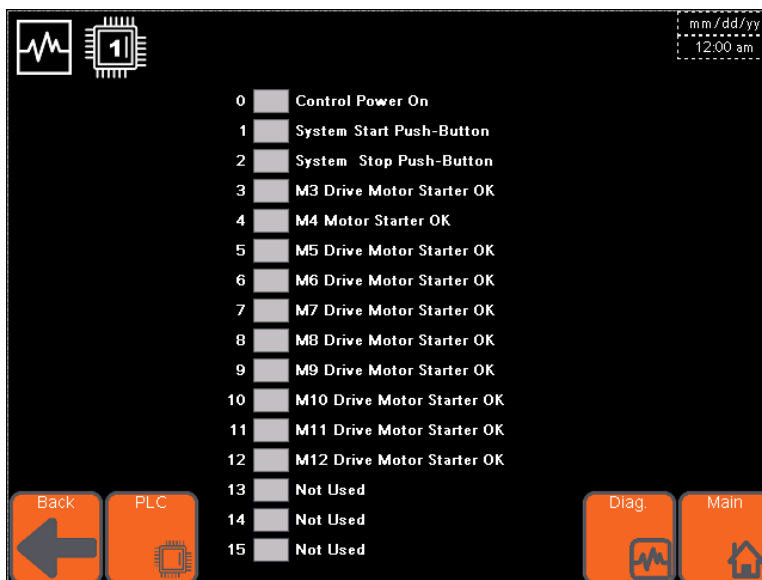


Figure 48 – PLC Module 1 Screen

1. Displays the input status of all the inputs on module 1.
 - a. Gray means the input is low/off.
 - b. Green means the input is high/on.

PLC Module 2 Outputs

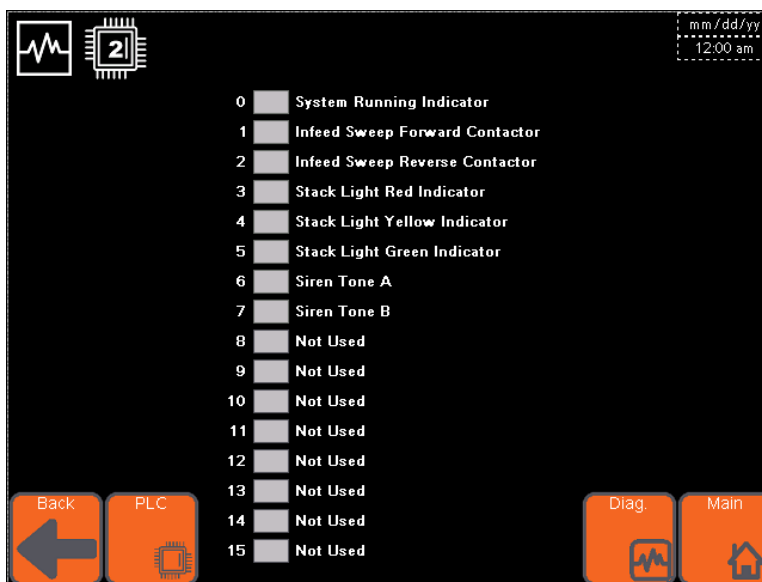


Figure 49 – PLC Module 2 Screen

1. Displays the output status of all the outputs on module 2.
 - a. Gray means the output is low/off.
 - b. Green means the output is high/on.

Remote I/O Main

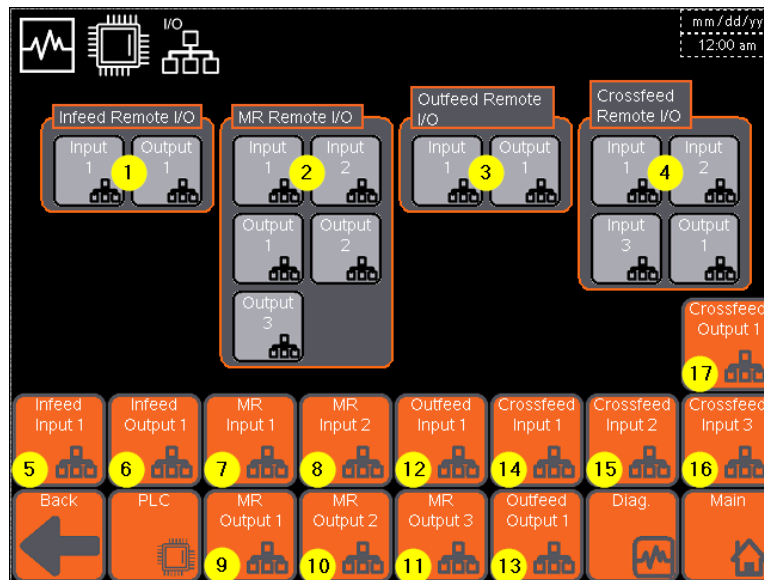


Figure 50 – Remote IO Main Screen

1. Infeed Remote I/O Status
 - a. Indicators for communication status of each I/O module on the infeed roll case.
 - b. Indicator works like the [WB2000 Communication Indicator](#).
2. MR Remote I/O Status
 - a. Indicators for communication status of each I/O module on the MR.
 - b. Indicator works like the [WB2000 Communication Indicator](#).
3. Outfeed Remote I/O Status
 - a. Indicators for communication status of each I/O module on the outfeed roll case.
 - b. Indicator works like the [WB2000 Communication Indicator](#).
4. Crossfeed Remote I/O Status
 - a. Indicators for communication status of each I/O module on the crossfeed roll case.
 - b. Indicator works like the [WB2000 Communication Indicator](#).
5. [Infeed Input 1](#)
 - a. Goto the screen for the infeed roll case remote input module 1.
6. Infeed Output 1
 - a. Goto the screen for the infeed roll case remote output module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
 - i. Instead of input status it will be output status.
7. MR Input 1
 - a. Goto the screen for the multi-rip remote input module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
8. MR Input 2
 - a. Goto the screen for the multi-rip remote input module 2.
 - b. Reference [Infeed Input 1](#) for information about the screen.

9. MR Output 1
 - a. Goto the screen for the multi-rip remote output module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
 - i. Instead of input status it will be output status.
10. MR Output 2
 - a. Goto the screen for the multi-rip remote output module 2.
 - b. Reference [Infeed Input 1](#) for information about the screen.
 - i. Instead of input status it will be output status.
11. MR Output 3
 - a. Goto the screen for the multi-rip remote output module 3.
 - b. Reference [Infeed Input 1](#) for information about the screen.
 - i. Instead of input status it will be output status.
12. Outfeed Input 1
 - a. Goto the screen for the outfeed roll case remote input module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
13. Outfeed Output 1
 - a. Goto the screen for the outfeed roll case remote output module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
 - i. Instead of input status it will be output status.
14. Crossfeed Input 1
 - a. Goto the screen for the crossfeed roll case remote input module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
15. Crossfeed Input 2
 - a. Goto the screen for the crossfeed roll case remote input module 2.
 - b. Reference [Infeed Input 1](#) for information about the screen.
16. Crossfeed Input 3
 - a. Goto the screen for the crossfeed roll case remote input module 3.
 - b. Reference [Infeed Input 1](#) for information about the screen.
17. Crossfeed Output 1
 - a. Goto the screen for the crossfeed roll case remote output module 1.
 - b. Reference [Infeed Input 1](#) for information about the screen.
 - i. Instead of input status it will be output status.

Infeed Input 1

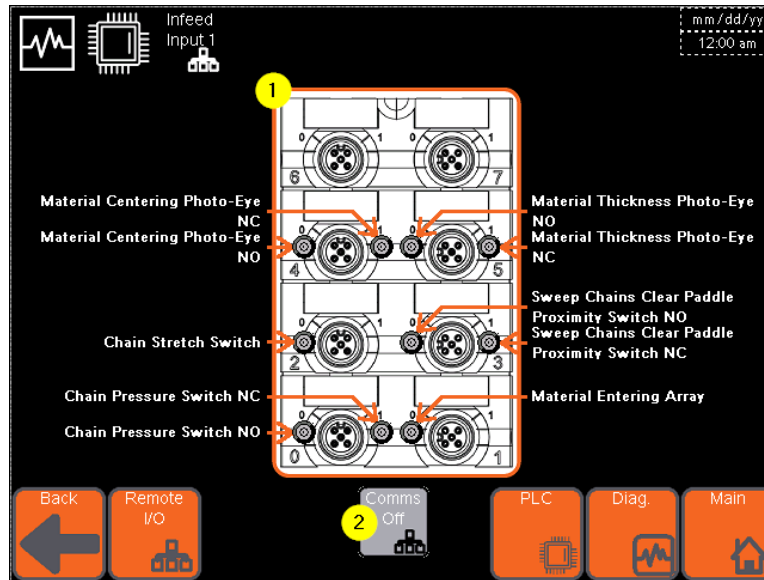


Figure 51 – Infeed Input 1 Module Screen

1. Module Port Status
 - a. Gray means the input is low/off.
 - b. Green means the input is high/on.
2. Communication Status
 - a. Indicator works like the [WB2000 Communication Indicator](#).

Blade Power Log

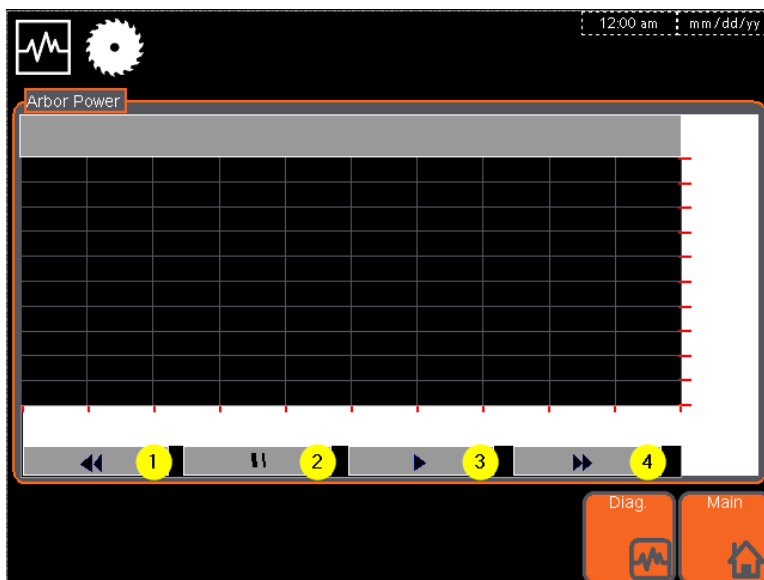


Figure 52 - Blade Power Log

Shows a log of the blade motors power readings after infeed roll 2 has extended and before outfeed roll 1 clears. That way it is only showing data during a cut.

1. Rewind: Scrolls the display back one sample.
2. Pause: Pauses the display of the latest values.
3. Play: Resumes displaying the latest value.
4. Fast Forward: Scrolls the display forward one sample.

Lower arbor graph will be white and the upper arbor graph will be yellow.

Sequence Log



Figure 53 - Sequence Log

1. Message Summary
 - a. Displays the date, time, and state, of different sequence steps of the line process.
 - i. Green messages are when the step turned on.
 - ii. Gray messages are when the step turned off.
 - b. This allows someone to follow what was happening when diagnosing issues.
2. Scroll Up a message
3. Scroll down a message
4. Page Up messages
5. Page Down messages

Alarm History



Figure 54 – Alarm History

1. Message Summary
 - a. Displays the date, time, and state, of faults.
 - i. Red messages are when the fault condition is active.
 - ii. Yellow messages are when the fault condition is acknowledged, but still active.
 - iii. Green messages are when the fault condition has cleared.
2. Acknowledge Button
 - a. Use this to acknowledge the highlighted fault when scrolling through the faults.
3. Scroll Up a message
4. Scroll down a message
5. Page Up messages
6. Page Down messages

Alarm List

	Alarm	Cause	Remedy
1	Crossfeed Chain Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
2	Crossfeed Chain Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
3	Crossfeed Sprial Roller Chain Pressure Fault	The pressure switch is not reading proper pressure when control power is on and the drive is given a run command	Low air pressure No air pressure
4	Crossfeed Chain Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
5	Crossfeed Spiral Roller Chain Stretch Limit-Needs Shortened	The cylinder has extended too far and made the reed switch when control power is on	Shorten the chain
6	Crossfeed End Stop Limit Switch A Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
7	Crossfeed End Stop Limit Switch B Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
8	Crossfeed End Stop Limit Switch C Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
9	Crossfeed Jam-Material Not Leaving Hook Stop 1	Material is not clearing all the limit switches in the time it takes to travel 12 inches while control power is on	Check for material hang up Check the limit switches
10	Crossfeed Hook Stop 1 Limit Switch A Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
11	Crossfeed Hook Stop 1 Limit Switch B Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed

	Alarm	Cause	Remedy
12	Crossfeed Hook Stop 1 Limit Switch C Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
13	Crossfeed Jam-Material Not Leaving Hook Stop 2	Material is not clearing all the limit switches in the time it takes to travel 12 inches while control power is on	Check for material hang up Check the limit switches
14	Crossfeed Hook Stop 2 Limit Switch A Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
15	Crossfeed Hook Stop 2 Limit Switch B Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
16	Crossfeed Hook Stop 2 Limit Switch C Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
17	Crossfeed Jam-Material Not Leaving Hook Stop 3	Material is not clearing all the limit switches in the time it takes to travel 12 inches while control power is on	Check for material hang up Check the limit switches
18	Crossfeed Hook Stop 3 Limit Switch A Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
19	Crossfeed Hook Stop 3 Limit Switch B Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
20	Crossfeed Hook Stop 3 Limit Switch C Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
21	Crossfeed Jam-Material Not Leaving Hook Stop 4	Material is not clearing all the limit switches in the time it takes to travel 12 inches while control power is on	Check for material hang up Check the limit switches
22	Crossfeed Hook Stop 4 Limit Switch A Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
23	Crossfeed Hook Stop 4 Limit Switch B Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed

	Alarm	Cause	Remedy
24	Crossfeed Hook Stop 4 Limit Switch C Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
25	Crossfeed Input Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
26	Crossfeed Input Module 2 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
27	Crossfeed Input Module 3 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
28	Crossfeed Lift Skids Foot Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
29	Crossfeed Output Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
30	Crossfeed Spiral Rollers Backup Limit Switch A Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
31	Crossfeed Spiral Rollers Backup Limit Switch B Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
32	Crossfeed Spiral Rollers Backup Limit Switch C Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
33	Crossfeed Spiral Roller Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
34	Crossfeed Spiral Roller Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system

	Alarm	Cause	Remedy
35	Crossfeed Spiral Roller Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
36	Crossfeed Sprial Roller Drive Power up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
37	Material At Centering Sensor, Clear Before Startup	Material is present at the centering station when the system is trying to start	Remove the material and clear the centering sequence from the HMI
38	Infeed Roller Chain Pressure Fault	The pressure switch is not reading proper pressure when control power is on and the drive is given a run command	Low air pressure No air pressure
39	Infeed Chain Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
40	Infeed Roll Case Chain Stretch Limit-Needs Shortened	The cylinder has extended too far and made the reed switch when control power is on	Shorten the chain
41	Infeed Jam-Material Not Clearing Centering Sensor	Material is not clearing the centering sensor in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run
42	Infeed Centering Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
43	Infeed Input Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
44	Infeed Jam-Material Not Clearing Lumber Line Sensor	Material is not clearing the lumber line sensor at the start of the infeed rollers in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run
45	Infeed Lumber Line Proximity Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed

	Alarm	Cause	Remedy
46	Infeed Output Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
47	Infeed Jam-Material Not Making Sweep Chains Clear Sensor	Material is not making to the sweep chains clear paddle bracket in the time it takes for material to travel the distance from the lumber line sensor	Check for hang ups
48	Infeed Roller Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
49	Infeed Roller Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system
50	Infeed Roller Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
51	Infeed Roller Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
52	Infeed Jam-Material Not Clearing Entering Sensor Or Not Making Lumber Line Sensor	Material is not clearing the lumber line sensor at the start of the infeed rollers in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run
53	Infeed Sweep Chains Motor Protector Tripped	The motor protector is tripped when control power is on and the starter is given a run command	Reset the motor protector Check for a jam on the drive system
54	Infeed Jam-Material Not Clearing Sweep Chains Clear Sensor	Material is not clearing the sweep chains clear paddle bracket in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run

	Alarm	Cause	Remedy
55	Infeed Sweep Chains Clear Proximity Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
56	Infeed Sizing Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
57	MR Blade 1 Soft Start Fault	The soft start has a fault active when control power is on and communication is active	When a soft stat fault occurs a popup window appears for that soft start to give you the Event Code along with the Status and Possible cause If that window has been acknowledged you can also view the active fault information on the soft start diagnostic screen
58	MR Blade 1 Soft Start Ethernet Communication Error	The soft start is not available on the EtherNet/IP network when control power is on	Confirm the soft start has control power Confirm the ethernet connection is connected and secure
59	MR Blade 2 Soft Start Fault	The soft start has a fault active when control power is on and communication is active	When a soft stat fault occurs a popup window appears for that soft start to give you the Event Code along with the Status and Possible cause If that window has been acknowledged you can also view the active fault information on the soft start diagnostic screen
60	MR Blade 2 Soft Start Ethernet Communication Error	The soft start is not available on the EtherNet/IP network when control power is on	Confirm the soft start has control power Confirm the ethernet connection is connected and secure
61	MR Infeed Material Not Centered	When the system is running and material is present at the MR Infeed Roll 1 Sensor but it has not been centered	Clear the material and reset the centering and MR sequences before restarting
62	MR Infeed Press Rolls Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
63	MR Infeed Press Rolls Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system

	Alarm	Cause	Remedy
64	MR Infeed Press Rolls Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
65	MR Infeed Press Rolls Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
66	MR Feed Jam-Material Not Clearing Infeed Roll 1 Photo-eye	Material is not clearing the infeed roll 1 sensor in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run
67	MR Feed Jam-Material Not Feeding From Infeed Rolls 1 to Rolls 2	Material is not making it to infeed roll 2 sensor in the time it take material to travel the distance from infeed roll 1 sensor	Check for hang ups
68	MR Infeed Rolls 1 Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
69	MR Infeed Rolls 1 Preset Pressure Fault	The pressure switch on infeed roll 1 preset cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
70	MR Infeed Rolls 1 Preset Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
71	MR Infeed Rolls 1 Pressure Fault	The pressure switch on infeed roll 1 cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
72	MR Infeed Rolls 1 Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
73	MR Feed Jam-Material Not Clearing Infeed Roll 2 Photo-eye	Material is not clearing the infeed roll 2 sensor in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run

	Alarm	Cause	Remedy
74	MR Feed Jam-Material Not Feeding From Infeed Rolls 2 to Outfeed Rolls 1	Material is not making it to outfeed roll 1 sensor in the time it take material to travel the distance from infeed roll 2 sensor	Check for hang ups
75	MR Infeed Rolls 2 Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
76	MR Infeed Rolls 2 Preset Pressure Fault	The pressure switch on infeed roll 2 preset cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
77	MR Infeed Rolls 2 Preset Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
78	MR Infeed Rolls 2 Pressure Fault	The pressure switch on infeed roll 2 cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
79	MR Infeed Rolls 2 Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
80	MR Infeed Rolls Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
81	MR Infeed Rolls Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system
82	MR Infeed Rolls Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
83	MR Infeed Rolls Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual

	Alarm	Cause	Remedy
84	MR Input Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
85	MR Input Module 2 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
86	MR Feed Jam-Material Not Feeding From Infeed Roll Case to Infeed Rolls 1	Material is not making it to infeed roll 1 sensor in the time it take material to travel the distance from infeed centering sensor	Check for hang ups
87	MR Outfeed Press Rolls Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
88	MR Outfeed Press Rolls Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system
89	MR Outfeed Press Rolls Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
90	MR Outfeed Press Rolls Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
91	MR Feed Jam-Material Not Clearing Outfeed Roll 1 Photo-eye	Material is not clearing the outfeed roll 1 sensor in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run
92	MR Feed Jam-Material Not Feeding From Outfeed Rolls 1 to Rolls 2	Material is not making it to outfeed roll 2 sensor in the time it take material to travel the distance from outfeed roll 1 sensor	Check for hang ups
93	MR Feed Jam-Outfeed Roll 1 Extended Fully, Material Not Present	Material did not make it to outfeed roll 1 before it was extended so it came all the way down and made the extend prox	Shut down the system and back the material out of the MR manually

	Alarm	Cause	Remedy
94	MR Outfeed Rolls 1 Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
95	MR Outfeed Rolls 1 Preset Pressure Fault	The pressure switch on outfeed roll 1 preset cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
96	MR Outfeed Rolls 1 Preset Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
97	MR Outfeed Rolls 1 Pressure Fault	The pressure switch on outfeed roll 1 cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
98	MR Outfeed Rolls 1 Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
99	MR Outfeed Rolls 1 Proximity Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
100	MR Feed Jam-Material Not Clearing Outfeed Roll 2 Photo-eye	Material is not clearing the outfeed roll 2 sensor in the time it takes for the rollers to make a log the length entered on the Auto Mode Setup screen along with the offset of that length travel that distance	Check for hang ups Check the log length is long enough for the material being run
101	MR Feed Jam-Material Not Feeding From Outfeed Rolls 2 to Outfeed Roll Case	Material is not making it to outfeed roll case sensor in the time it take material to travel the distance from outfeed roll 2 sensor	Check for hang ups
102	MR Feed Jam-Outfeed Roll 2 Extended Fully, Material Not Present	Material did not make it to outfeed roll 2 before it was extended so it came all the way down and made the extend prox	Shut down the system and back the material out of the MR manually
103	MR Outfeed Rolls 2 Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
104	MR Outfeed Rolls 2 Preset Pressure Fault	The pressure switch on outfeed roll 2 preset cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch

	Alarm	Cause	Remedy
105	MR Outfeed Rolls 2 Preset Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
106	MR Outfeed Rolls 2 Pressure Fault	The pressure switch on outfeed roll 2 cylinder is not making pressure when extended to press on the material	Low air pressure Check pressure switch
107	MR Outfeed Rolls 2 Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
108	MR Outfeed Rolls 2 Proximity Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
109	MR Outfeed Rolls Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
110	MR Outfeed Rolls Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system
111	MR Outfeed Roller Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
112	MR Outfeed Roller Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
113	MR Output Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
114	MR Output Module 2 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
115	MR Output Module 3 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure

	Alarm	Cause	Remedy
116	MR System Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
117	Outfeed Roller Chain Pressure Fault	The pressure switch is not reading proper pressure when control power is on and the drive is given a run command	Low air pressure No air pressure
118	Outfeed Chain Pressure Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
119	Outfeed Roll Case Chain Stretch Limit-Needs Shortened	The cylinder has extended too far and made the reed switch when control power is on	Shorten the chain
120	Outfeed Material Entering Photo-eye Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
121	Outfeed Input Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
122	Outfeed Transfer Jam-Material Still On Sweep Chains	Material has not cleared the sweep chain paddle brackets within 2 seconds after the sweep chains have lowered	Check for hang ups
123	Outfeed Output Module 1 Communication Error	The module is not available on the EtherNet/IP network when control power is on	Confirm the module has power Confirm the ethernet connection is connected and secure
124	Outfeed Roller Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
125	Outfeed Roller Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system
126	Outfeed Roller Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication

	Alarm	Cause	Remedy
127	Outfeed Roller Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
128	Outfeed Sweep Section 1 Proximity Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
129	Outfeed Transfer Jam-Material Not Making It To Sweep Section 2	Material is not making it to sweep chain section 2 paddle bracket in the time it takes material to travel the distance from outfeed sweep section 1 paddle bracket	Check for hang ups
130	Outfeed Sweep Section 2 Proximity Switch Fault	Either both the normally open and normally closed contacts are made or both are not made when control power is on	Check for damage to the sensor cable Replace cable as needed Replace sensor as needed
131	Outfeed Sweep Drive Fault	The drive has a fault or warning active when control power is on and the power stage of the drive is in the operational state	When a drive fault occurs a popup window appears for that drive to give you the error ID along with what is displayed on the drive HMI and a description of the fault If that window has been acknowledged you can also view the active fault information on the drive diagnostic screen
132	Outfeed Sweep Drive Motor Protector Tripped	The motor protector is tripped when control power is on and the drive is given a run command	Reset the motor protector Check for a jam on the drive system
133	Outfeed Sweep Drive Communication Error	The drive is not available on the EtherNet/IP network when control power is on	Confirm the drive has power Confirm the ethernet connection is connected and secure Confirm the drives prior to in on the EtherNet/IP daisy chain are powered and have communication
134	Outfeed Sweep Drive Power Up Failure	The drive power stage has not switched to the operational state after control power was turned on and a 5 second delay had lapsed	Possible drive fault preventing power up Possible motor wiring issue Refer to drive manual
135	PLC Battery Low Warning	The PLC battery has been less than 25 percent for at least one hour	Replace the battery
136	Sawdust Conveyor Not Running Fault	The sawdust conveyor was not started from the time the MR blades were started until a timer timed out that is set on the setup screen	Start the conveyors
137	System Air Pressure Fault	System air pressure was low when the system was started or while it was running	Low air pressure No air pressure

	Alarm	Cause	Remedy
138	Test/Manual Mode Still Active, Turn Off To Start System	Test mode is still turned on when the system attempts to start	Turn off test mode
139	WB2000 PLC Communication Error	The WB2000 is not available on the EtherNet/IP network when control power is on	Confirm the WB2000 has power Confirm the ethernet connection is connected and secure
140	WB2000 System Interrupt Button Pushed	The WB2000 operator pressed the interrupt button because they saw something incorrect on the infeed roll case	

Error Active Popup Window



Figure 55 – Error Active Popup Window

This window appears over any screen when a fault occurs.

1. Message Summary
 - a. Displays the date, time, and state, of faults.
 - i. Red messages are when the fault condition is active.
 - ii. Yellow messages are when the fault condition is acknowledged, but still active.
 - iii. Green messages are when the fault condition has cleared.
2. Scroll Up a message
3. Scroll down a message
4. Page Up messages
5. Page Down messages
6. Acknowledge Button
 - a. Use this to acknowledge the highlighted active fault when scrolling through the faults.
7. Acknowledge All Button
 - a. Use this to acknowledge all active faults.

Drive Fault Popup Window

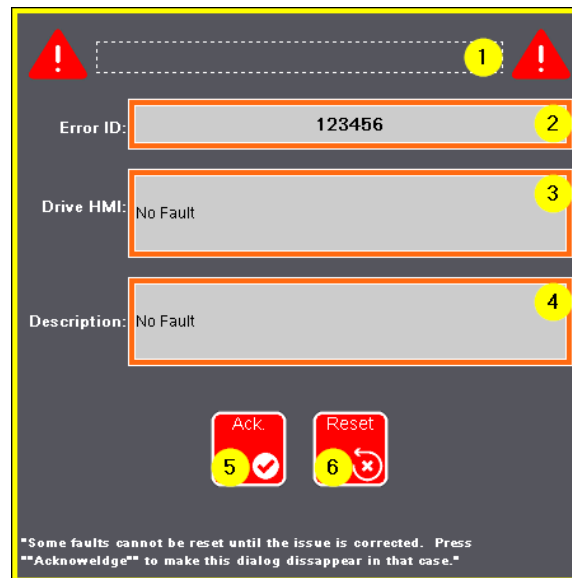


Figure 56 – Drive Fault Popup Window

This window appears over any screen when a drive fault occurs.

1. Drive
 - a. Displays the name of the drive with the active error.
2. Error ID
 - a. Displays the decimal value of the fault from the drive.
3. Drive HMI
 - a. Displays characters shown on the drive HMI for the fault.
4. Description
 - a. Displays the fault description from the fault table of the drives manual.
5. Acknowledge Button
 - a. Acknowledges errors that cannot be reset without a power cycle of the drive so that the window will close.
6. Reset Button
 - a. Resets errors that can be reset without a power cycle of the drive.

Soft Start Fault Popup Window

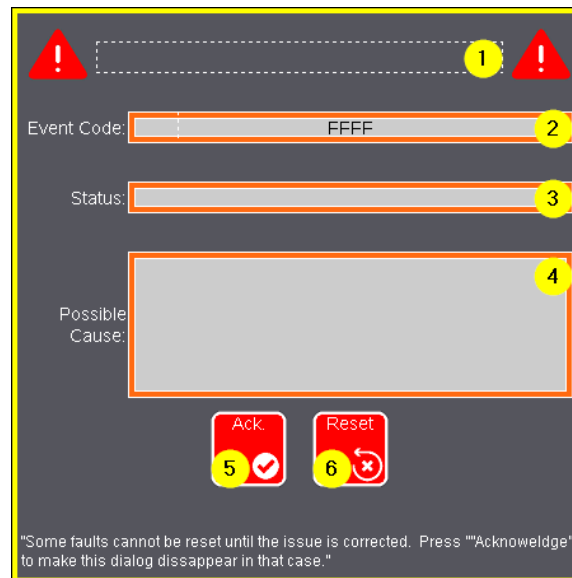


Figure 57 – Soft Start Fault Popup Window

This window appears over any screen when a soft start fault occurs.

1. Soft Start
 - a. Displays the name of the soft start with the active error.
2. Event Code
 - a. Displays the Event Group and Hex value of the fault from the starter.
3. Status
 - a. Displays the starter fault.
4. Possible Cause
 - a. Displays possible cause of the event from the fault table of the starter manual.
5. Acknowledge Button
 - a. Acknowledges errors that cannot be reset without a power cycle of the soft start so that the window will close.
6. Reset Button
 - a. Resets errors that can be reset without a power cycle of the soft start.

Line Statistics

From the main screen press the “Statistics” button, shown below.

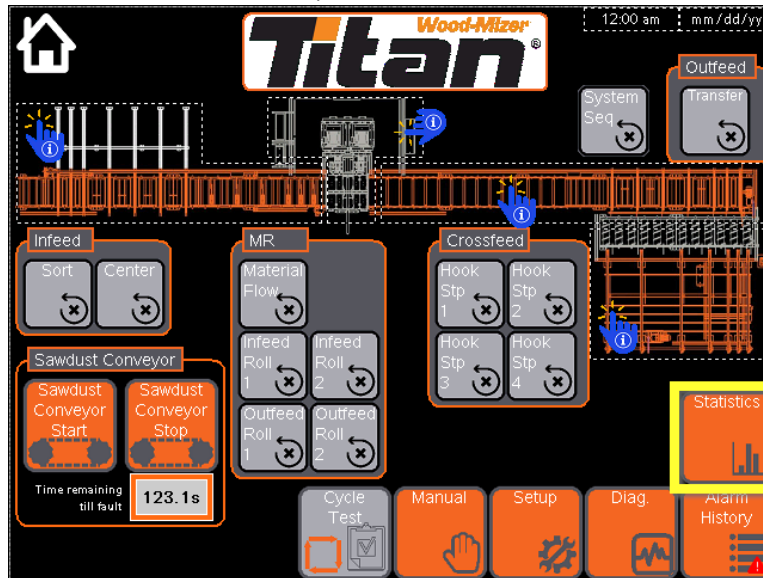


Figure 58-Main Screen:Statistics Button

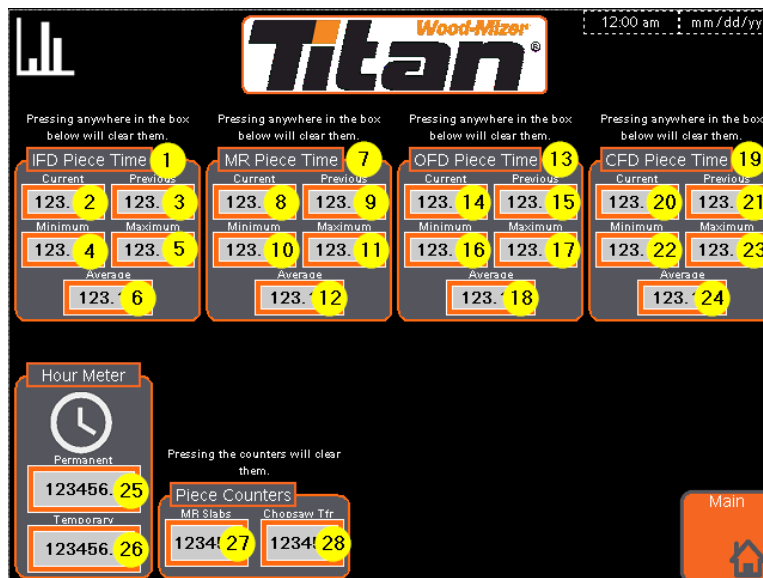


Figure 59-Statics Screen

1. Infeed Piece Time
 - a. Timer that is started/reset each time the sorting sequence is started by a piece blocking the photo array.
2. Current(live) infeed piece timer.
3. Previous infeed piece time.
4. Minimum infeed piece time.

5. Maximum infeed piece time.
6. Average infeed piece time.
7. MR Piece Time
 - a. Timer that is started/reset each time the infeed roll 1 is given an extend command.
8. Current(live) MR piece timer.
9. Previous MR piece time.
10. Minimum MR piece time.
11. Maximum MR piece time.
12. Average MR piece time.
13. Outfeed Piece Time
 - a. Timer that is started/reset each time the transfer sequence is started by a piece contacting the sweep 1 paddle bracket.
14. Current(live) outfeed piece timer.
15. Previous outfeed piece time.
16. Minimum outfeed piece time.
17. Maximum outfeed piece time.
18. Average outfeed piece time.
19. Crossfeed Piece Time
 - a. Timer that is started/reset each time a piece is present at the end stop.
20. Current(live) crossfeed piece timer.
21. Previous crossfeed piece time.
22. Minimum crossfeed piece time.
23. Maximum crossfeed piece time.
24. Average crossfeed piece time.
25. Hour Meter – Permanent
 - a. Non-resettable hour meter
26. Hour Meter – Temporary
 - a. Resettable hour meter.
 - i. Press to reset.
27. Piece Counter – MR Slabs
 - a. Resettable counter for slabs entering the MR.
 - i. Press to reset.
28. Piece Counter – Crossfeed Transfer
 - a. Resettable counter for pieces transferring to the Chop Saw.
 - i. Press to reset.

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