



USER MANUAL

Instrukcja obsługi | Руководство пользователя
Manuel de l'Utilisateur | Betriebsanweisung
Bruksanvisning | Manual del Usuario
Betjeningsvejledning | Gebruikershandleiding
Käyttöohjeet | Manual de utilizare | Bruksanvisning
Manuale d'uso | Příručka uživatele | Navodila
za uporabo



Wood-Mizer®
from forest to final form

Wood-Mizer®

Safety, Setup, Operation & Maintenance Manual

WM5500MEC50HS5U-F

rev.A1.05



Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

Form #2672_USA

**This is the original language
for the manual**

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SECTION 1 INTRODUCTION

Thank you for choosing Wood-Mizer wood processing equipment!

Wood-Mizer is committed to providing you with the latest technology, best quality and strongest customer service available on the market today. We continually evaluate our customers' needs to ensure we're meeting current wood-processing demands. Your comments and suggestions are welcome.

The present documentation contains information that should be used when preparing the machine for operation, working with it and when servicing or repairing it, as well.

1.1 Machine Description

The WM5500 sawmill is intended for sawing wood only. The sawmill must not be used for any other purposes such as cutting ice, metal or any other materials.

Using the machine correctly, you will obtain a material of the highest quality and high degree of accuracy.

The WM5500 sawmill should be operated only by an adult (over 18 year old) who has read and understood the entire operator's manual. The sawmill is not intended for use by or around children.

The WM5500 sawmill is intended to work with loading deck or similar equipment for automatic log loading and with boards or cants removal system. It is not allowed to load the log or remove already cut boards or cants manually.

The machine is built to be durable and easy to operate and maintain.

1.2 Machine and Site Preparation

The sawmill is delivered and installed at customer's premises by the Wood-Mizer Customer Service.

The major components of the WM5500 sawmill are shown in the figure below.

See Figure 1-1. .

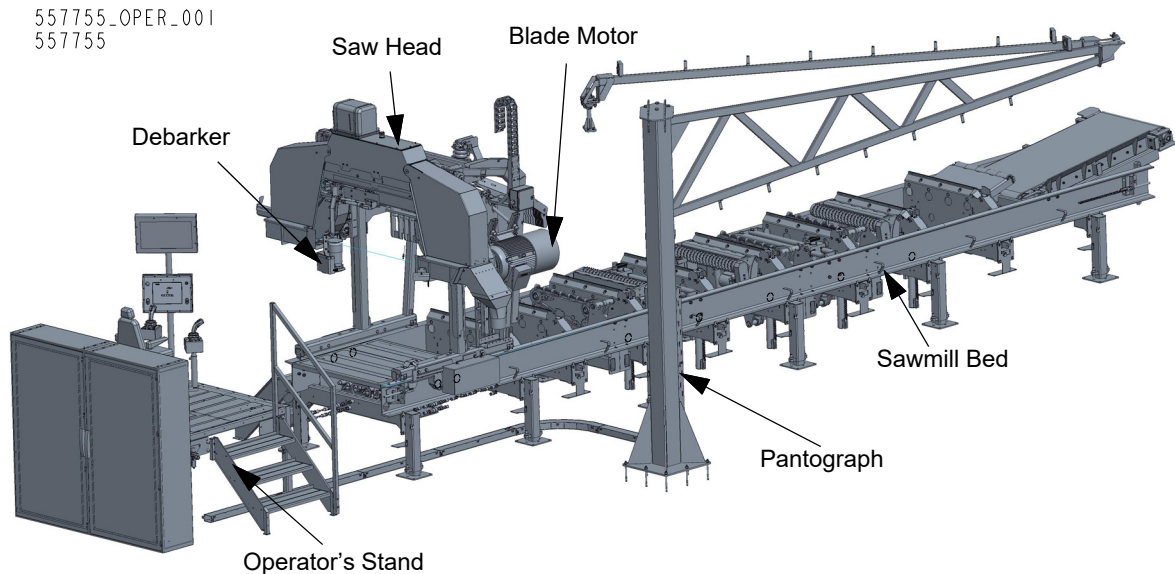


FIG. 1-1

1.3 If You Need To Order Parts

From Europe call your local distributor or our European Headquarters and Manufacturing Facility in Kolo, Nagórna 114 St, Poland at +48-63-2626000. From the continental U.S., call our toll-free Parts hotline at **1-800-525-8100**. Please have the machine identification number and your customer number ready when you call. Wood-Mizer will accept these methods of payment:

- Visa, Mastercard, or Discover
- COD
- Prepayment
- Net 15 (with approved credit)

Be aware that shipping and handling charges may apply. Handling charges are based on size and quantity of order. In most cases, items will ship on the day they are ordered. Second Day and Next Day shipping are available at additional cost.

From the continental U.S., call our toll-free Parts hotline at **1-800-525-8100**.

1.4 If You Need Service

From Europe call your local distributor or our European Headquarters and Manufacturing Facility in Kolo, Nagórna 114 St, Poland at +48-63-2626000. From the continental U.S., call us toll-free at **1-800-525-8100**. Ask to speak with a Customer Service Representative. Please have your machine identification number and your customer number ready when you call. The Service Representative can help you with questions about the operation and maintenance of your sawmill. He also can schedule you for a service call.

Office Hours:

Country	Monday - Friday	Saturday	Sunday
Poland	7 a.m.- 4 p.m.	Closed	Closed
US	8 a.m.- 5 p.m.	8 a.m.- 5 p.m	Closed

SECTION 2 SAFETY



This symbol calls your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. This symbol accompanies a signal word. The word **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. **WARNING!** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury to persons or equipment. Read all safety instructions before operating this machine and observe all safety warnings!



Warning stripes are placed on areas where a single decal would be insufficient. To avoid serious injury, keep out of the path of any equipment marked with warning stripes.

Read all safety instructions before operating this sawmill and observe them during operation of the machine! Also read any additional manufacturer's manuals and observe any applicable safety instructions including dangers, warnings, and cautions.

Always be sure that all safety decals placed on the machine are clean and readable. Replace immediately all damaged safety decals to prevent personal injury or damage to the equipment. Contact your local Wood-Mizer dealer, or call Wood-Mizer Customer Service Department to order more decals.

IMPORTANT! It is always the owner's responsibility to comply with all applicable federal, state and local laws, rules and regulations regarding the ownership, operation and towing of your Wood-Mizer sawmill. All Wood-Mizer mill owners are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using or towing the mill. Always properly dispose of all sawing by-products, including sawdust and other debris, coolant, oil, fuel, oil filters and fuel filters.

Safety instructions are listed in this section by the following operations:

- Blade Handling,
- Sawmill Setup,
- Sawmill Operation,
- Sawmill Maintenance.

2.1 Blade Handling



DANGER! Always disengage the blade and shut off the sawmill motor before changing the blade. Failure to do so may result in serious injury.



WARNING! Always wear gloves and eye protection when handling bandsaw blades. Changing blades is safest when done by one person! Keep all other persons away from area when coiling, carrying or changing a blade. Failure to do so may result in serious injury.

2.2 Sawmill Setup



WARNING! Securely fasten rails of a sawmill to the floor before operating the sawmill. Failure to do so may result in serious injury or death.

WARNING! The sawmill should be set up on firm, level ground and must be fastened to the ground.



CAUTION! Changes in temperature could cause blade tension changes. Release the blade tension when the sawmill is not in use.

2.3 Sawmill Operation



IMPORTANT! The sawmill is intended for sawing wood only. See [Section 6.3 Cutting Capacity](#) for log size capacities of the machine.

IMPORTANT! The sawmill's operator should get training in operation and adjustment of the machine.



DANGER! Make sure all guards and covers are in place and secured before operating. Failure to do so may result in serious injury.

Be sure the blade housing and pulley covers are in place and secured, and the safety switches located on them are engaged. Use the rubber latches to fasten the blade housing covers shut.

DANGER! Always keep hands away from moving bandsaw blade. Failure to do so may result in serious injury.

DANGER! Keep all persons out of the path of moving equipment and logs when operating the sawmill or loading and turning logs. Failure to do so may result in serious injury.

DANGER! Maintain a clean and clear path for all necessary movement around the mill and lumber stacking areas. Failure to do so may result in serious injury.

DANGER! Always be sure all persons are out of the path of the blade before starting the motor. Failure to do so may result in serious injury.

WARNING! When operating or servicing the machine, always wear eye, ear and foot protection as well as safety clothing. Failure to do so may result in serious injury.



WARNING! Secure all loose clothing and jewelry before operating the sawmill. Failure to do so may result in serious injury or death.

WARNING! Always make sure a log is clamped securely before sawing. Failure to do so may result in serious injury or death.

WARNING! Use ONLY oil specified in Section [6.9 Lube System Specifications](#) with the blade lube system. Never use flammable fuels or liquids! If these types of liquids are necessary to clean the blade, remove it and clean with a rag. Failure to do so may result in serious injury or death. When cutting in freezing temperatures, use an anti-freeze, non-flammable additive.



CAUTION! Make sure the log handling accessories are below bed level before loading a log onto the bed. Failure to do so may result in machine damage or cause misalignment.

CAUTION! Before loading a log, make sure the saw head is moved far enough so the log does not hit it. Failure to do so may result in sawmill damage.

CAUTION! Do not try to force the saw head beyond its upper and lower travel limits. Damage to the up/down system may result.



CAUTION! Never clean the blade or the blade wheels with a brush or a scraper during sawmill operation.

CAUTION! Before installation of the blade, inspect it for damage and cracks. Use only properly sharpened blades. Always handle the blade with extreme caution. Use suitable carrier equipment for transporting blades.

CAUTION! When not in use, coil the blade as described in Blade Handbook (WM Form #600). Wipe blade dry and store in a warm, dry place.

CAUTION! If the blade breaks during sawmill operation, the blade motor will be stopped automatically. Wait until both wheels have come to a complete stop before you open the blade housing covers.

CAUTION! Be sure to stop the blade when returning the saw head. This will not only prevent the blade from being pulled off and ruined by a wood sliver, but also will increase the life of the blade.

CAUTION! The sawmill's work-stand should be equipped with a 4 kg or bigger dry powder extinguisher.

CAUTION! If at any time you need to immediately stop the blade motor, press the emergency stop button located on the control box.

CAUTION! Always wear gloves when handling the blade. Never grab the blade with bare hands!

CAUTION! The sawmill should be operated with a sawdust extraction system only.



WARNING! Always wear eye, ear, respiration, and foot protection when operating or servicing the resaw.



WARNING! Always secure the saw head with a chain or a brace before adjusting the up/down chain. The saw head may fall, causing severe injury or death.

WARNING! Always secure the saw head with a chain or a brace before adjusting the saw head guide rollers. The cutting head may fall, causing severe injury or death.

CAUTION! Do not use chain lube. It causes sawdust buildup in chain links.

CAUTION! Due to variations in the vertical mast, the guide roller spacing may vary throughout the travel of the saw head. Check the guide roller spacing at the top and bottom ends of the mast only. Rollers adjusted too tight will cause premature up/down motor failure.



DANGER! Always disconnect and lock out power supply before performing any maintenance work, cleaning or servicing the sawmill!



IMPORTANT! No exchange with a different type of laser is permitted. No additional optical equipment shall be used.



DANGER! Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.



IMPORTANT! Adjust the adjustable blade guard arm as close to the workpiece as practicable to clear the widest section of the log.

See Table 2-1 Pictographic safety decals placed on the WM5500 sawmill are shown in the table below.

TABLE 2-1

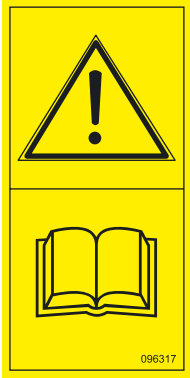
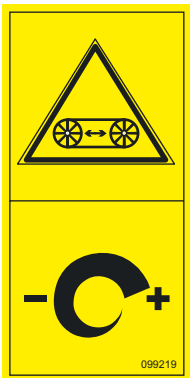
Decal View	Decal No.	Description
	096317	CAUTION! Read thoroughly the manual before operating the machine. Observe all safety instructions and rules when operating the sawmill.
	099220	CAUTION! Close all guards and covers before starting the sawmill.
	099219	Blade tension. Turning the bolt clockwise will increase the blade tension, and turning the bolt counterclockwise will decrease the tension.

TABLE 2-1

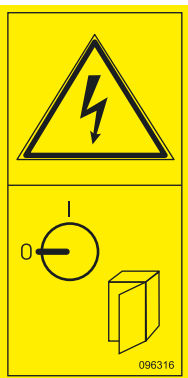
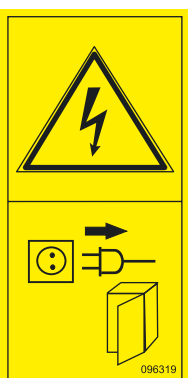
	099221	CAUTION! Keep all other persons at a safe distance from work area when operating the machine.
	098176	CAUTION! Keep a safe distance from the debarker blade!
	096316	CAUTION! Do not open or close the electric box when the switch is not in the "0" position.
	096319	CAUTION! Disconnect power supply before opening the box.

TABLE 2-1

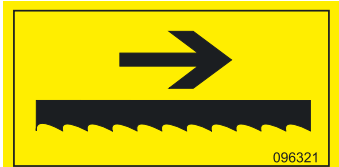
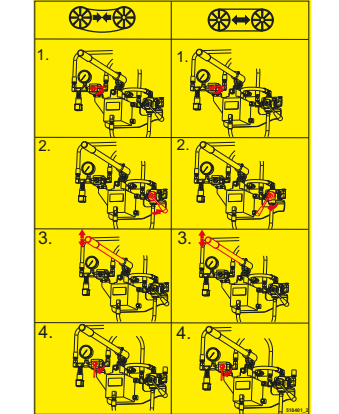
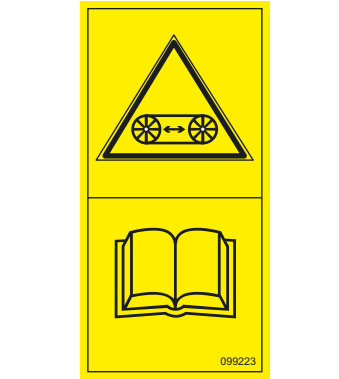
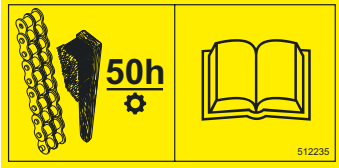
	099222	CAUTION! Sawdust chute. Protect eyes!									
	096321	Blade movement direction									
<table border="1"> <thead> <tr> <th>Type</th><th>psi</th><th>bar</th></tr> </thead> <tbody> <tr> <td>2", 3"</td><td>900-1000</td><td>62-69</td></tr> <tr> <td>4", 5"</td><td>1000-1100</td><td>69-75</td></tr> </tbody> </table>	Type	psi	bar	2", 3"	900-1000	62-69	4", 5"	1000-1100	69-75	621240	Decal, WM5500 Blade Tension Values
Type	psi	bar									
2", 3"	900-1000	62-69									
4", 5"	1000-1100	69-75									
	518401-2	Blade tension									
	099223	Blade tension - See manual.									
	512235	Clean chain from sawdust every 50 hours of operation or once a week									

TABLE 2-1

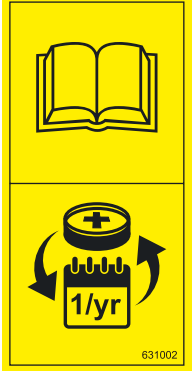
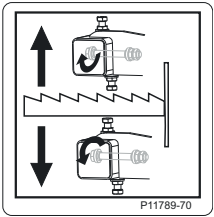
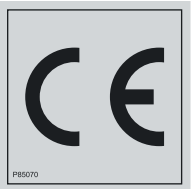
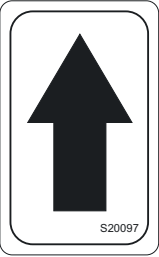
	512157	Lubricate chain every 50 hours of operation or once a week
	099504	Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.
	631002	Replace the battery every year.
	S12004G	CAUTION! Always wear safety goggles when operating the sawmill!
	S12005G	CAUTION! Always wear protective ear muffs when operating the sawmill!

TABLE 2-1

	501465	CAUTION! Always wear safety boots when operating the sawmill!
	P11789-70	Aligning the blade on the wheels
	P85070	CE sign
	S20097	Motor rotation direction

SECTION 3 SETUP & OPERATION

3.1 Sawmill Setup

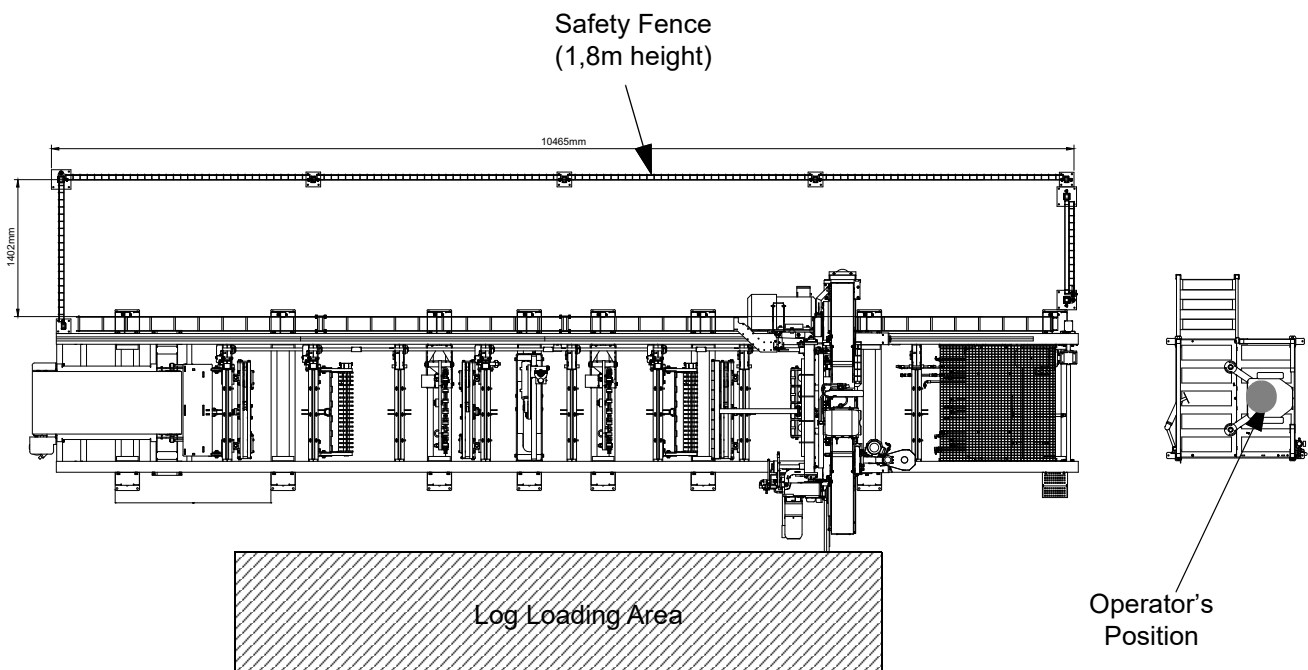


IMPORTANT! Before starting to use the sawmill you have to meet the following conditions:

- The sawmill should be operated with a sawdust extraction system only.
- The sawmill should be operated under roof only.
- The sawmill equipped with electric motor must not be operated outdoors when it is raining/snowing and in case of rain/snow the sawmill must be stored under a roof or indoors.
- The sawmill should be operated in temperature range from -15°C do 40° (5°F to 104°F) only.
- The illumination at the operator's position should be at least 300lx¹.
- The sawmill operator's position is shown below.
- A protective fence must be mounted according to the drawing below. Fence height - 1,8m.



IMPORTANT! In spite of necessity to mount the fence it is not possible to protect both sides of the sawmill from bystanders because of the cutting material loading and receiving. Keep all bystander persons at a safe distance from work area when operating the machine!



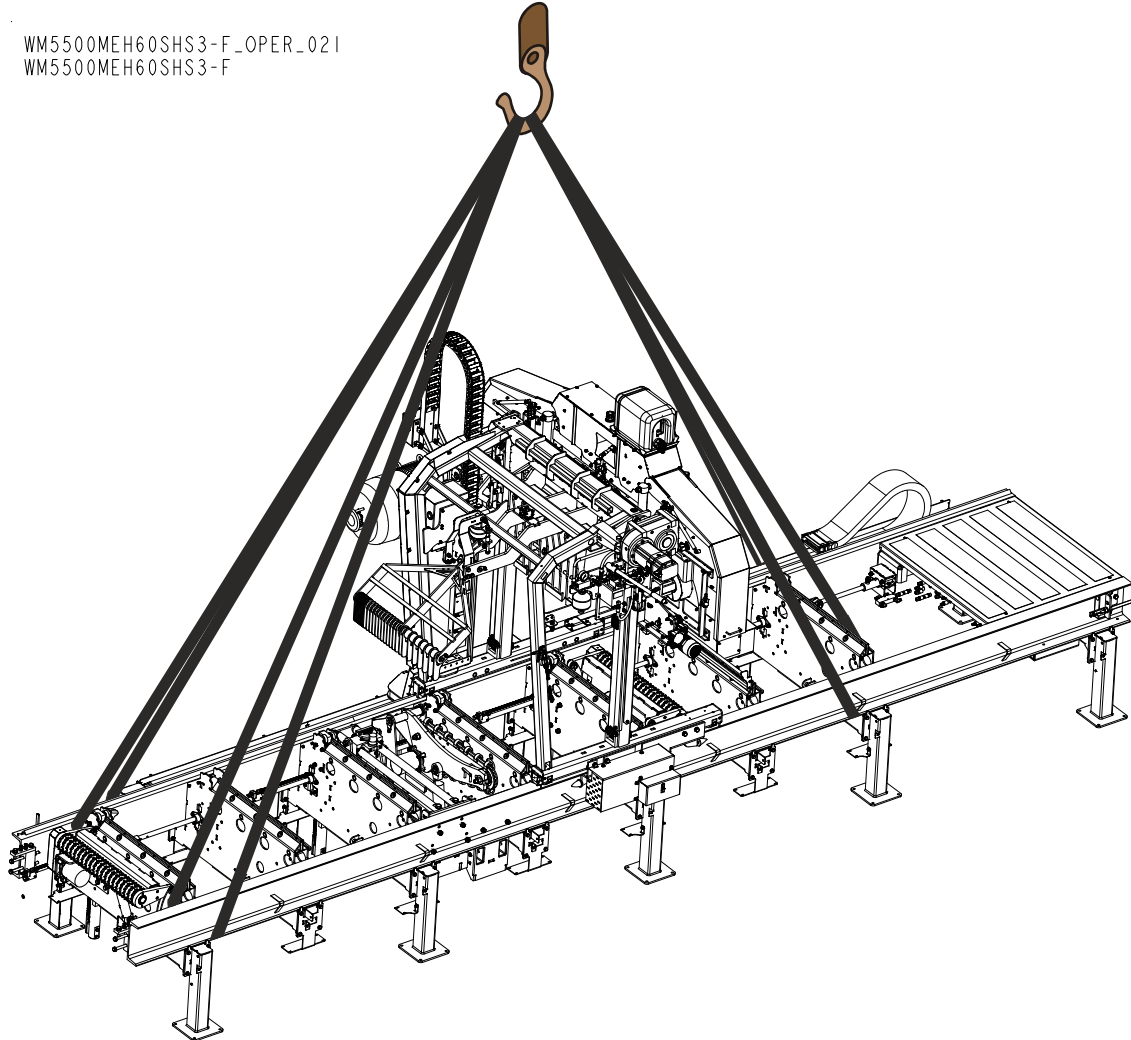
1. The light source can not cause stroboscopic effect.

- Tie the belts in the places shown on the picture below. The sawmill can be lifted using a forklift, a winch or a crane. The belts and the lifting equipment must be rated for at least 10.000kg (22000 lb).



WARNING! When lifting sawmill, use extreme caution and keep all persons at a safe distance. Failure to do so may result in serious injury or death.

WM5500MEH60SHS3-F_OPER_021
WM5500MEH60SHS3-F



See Table 3-1. Have a qualified electrician install the power supply (according to EN 60204 Standard). The power supply must meet the specifications given in the table below.

3-Phase Volts	Fuse Disconnect	Suggested Wire Size
EH50, EC50 37 KW 400 VAC 460 VAC	108 A	16 mm ² to 15m in length 5 AWG to 49 ft in length
EH60, EC60 45 KW 400 VAC 460 VAC	150 A	25 mm ² to 15m in length 3 AWG to 49 ft in length

TABLE 3-1

3 Setup & Operation

Sawmill Setup



IMPORTANT! When starting the machine for the first time, check that main motor rotation direction is as indicated by the arrow located on the motor body. If the rotation direction is incorrect, invert the phases in the phase inverter located in the power socket. Setting the phases in the phase inverter correctly will ensure correct rotation directions of all sawmill motors.



DANGER! A 30mA Ground Fault Interrupter (GFI) must be used.

Set up the sawmill on firm and level footing. Fasten the machine to the floor to prevent any movement. It is highly recommended that concrete foundation with 21mm (0.827") diameter anchor bolts be made under the bed. The concrete foundation should be rated to support 40 t/m² (8192 pound/foot).



WARNING! Set up the resaw on firm and level ground. The machine must be fastened to the floor. Failure to do so may cause the sawhead to tip, resulting in serious injury or death.

The machine can be lifted with a forklift or a winch only. The forklift must be rated for at least 4 t (8818 lb.).

- Locate the air assembly at the right side of the machine. Connect the incoming air supply line to the fitting. Make sure the air gauge indicates 0,6MPa (6bar) Adjust the pressure if needed. To adjust the pressure, lift the black cap located behind the air gauge. Turn the cap clockwise to increase pressure, turn the cap counterclockwise to decrease pressure. Push the cap down to secure when adjustment is complete. Air supply cut-off valve should be used to disconnect air supply and release compressed air from the pneumatic system. Set the cut-off valve to "SUP." position for normal operation or to "Exh." to release compressed air.



WARNING! Disconnect air supply and release compressed air from the air system before servicing the saw! Failure to do so may result in serious injury.

See Figure 3-1.

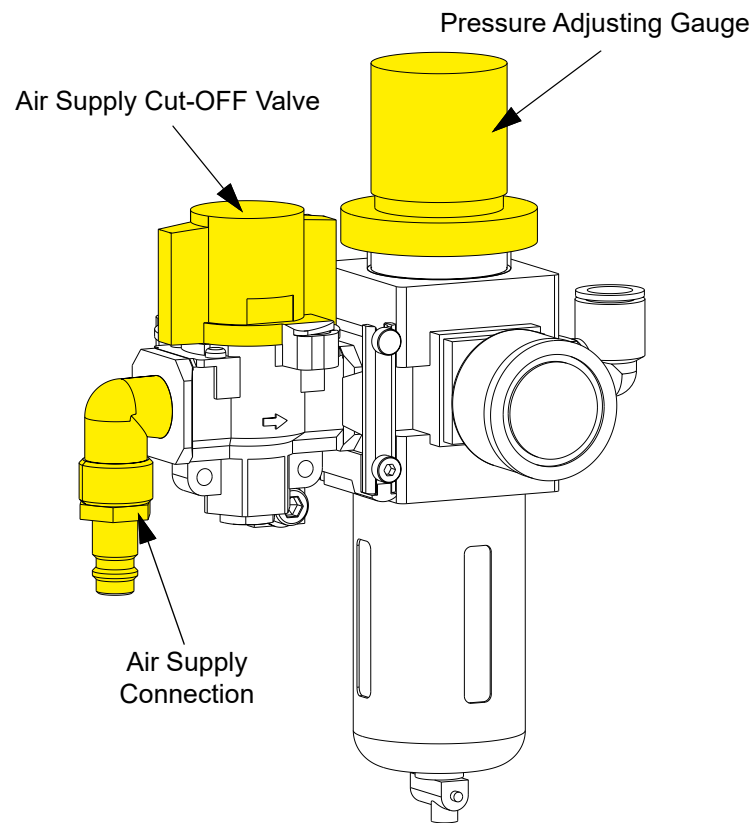


FIG. 3-1

3.2 Control Overview

See **Figure 3-1** The control box includes controls to start and stop the machine. The operator interface also contains the touch screen used to set up the machine and diagnose problems.

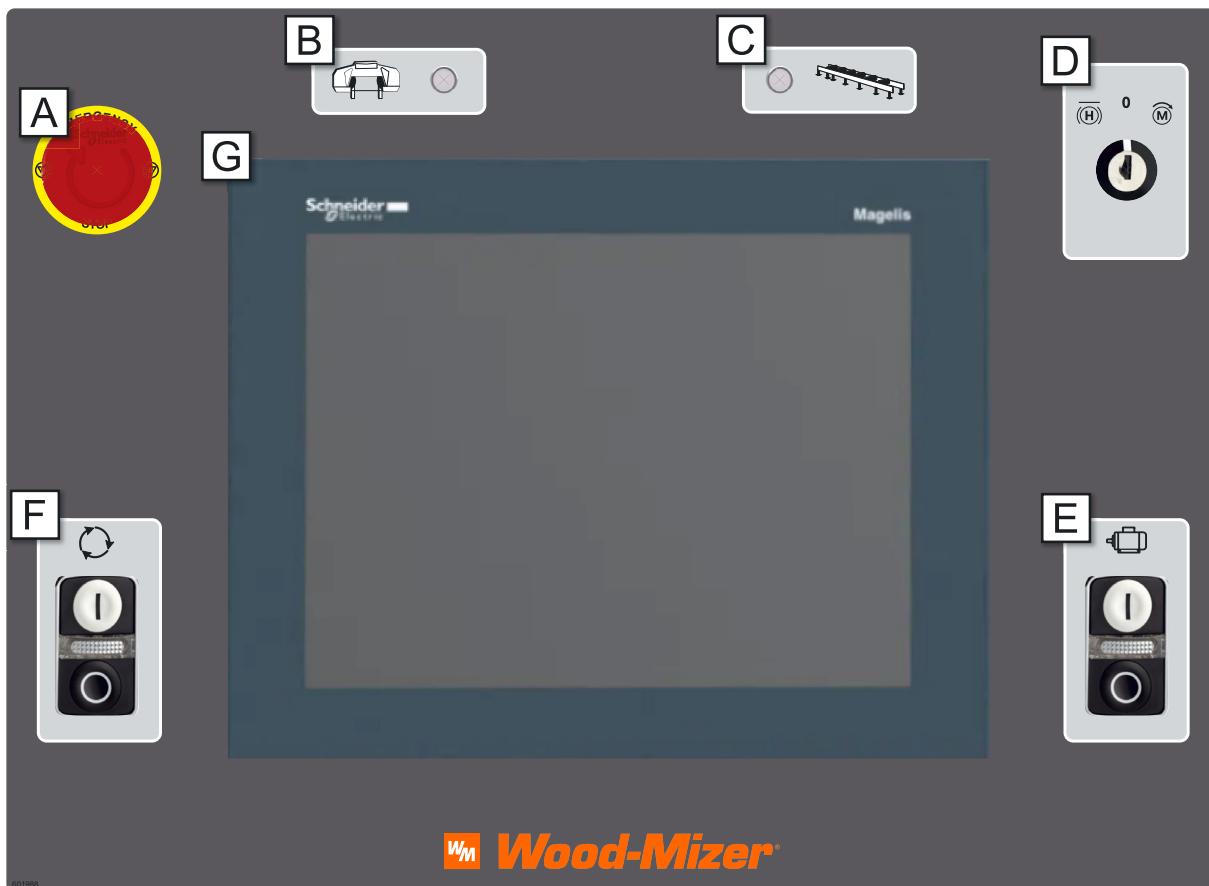


FIG. 3-1

- A. E-STOP button
- B. “Head Mode” control light
- C. “Bed Mode” control light
- D. Motor/Brake switch
- E. Main motor On/Off button
- F. Control panel On/Off button
- G. Touchscreen control panel

Control panel overview:

A. Emergency Stop

Push the emergency stop button to stop the machine. Turn the emergency stop clockwise to release the stop button. The machine will not restart until the emergency stop button is released.

B. Control panel Power button

Turns the power of the control panel on and off.

C. Main motor START/STOP button

Turns the main motor on and off.



To start the blade motor, turn the key switch to the  position. Then press the START button. To stop the blade motor, press the STOP button.

D. Motor/Brake key switch

The key switch has three positions:

- “0” position - all electrical circuits are off,
-  position - all electrical circuits are on,
-  position - releases the main motor disk brake, allowing the blade wheels to rotate to track the blade.

E. “Bed Mode” indicator lamp

Indicates operation mode of the control panel. In this mode, the operator controls the operation of the bed accessory.

F. Control Touch Panel

The touchscreen is used to setup how the mill works and control its operation. After the first startup, the screen will display the home screen.

G. “Head Mode” indicator lamp

Indicates operation mode of the control panel. In this mode, the operator controls the operation of the saw head.

3.3 Control Overview (CRD)

See Figure 3-2 The control panel includes controls for operating the CRD table.

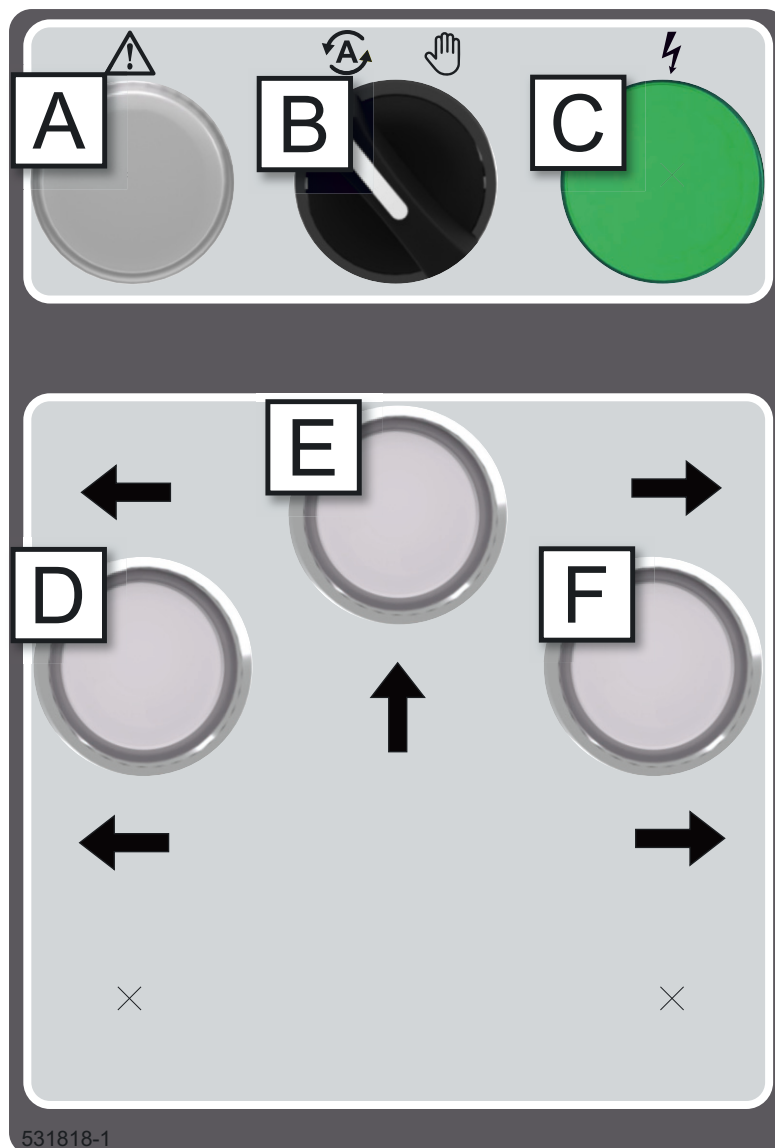


FIG. 3-2

- A. Error indicator light
- B. Auto / Manual switch
- C. Power on indicator light
- D. Movement to the left
- E. Forward movement
- F. Movement to the right

3.4 Joystick Control Overview

See Figure 3-3 Joysticks located at the operator's seat control all functions of the sawmill. Each joystick can be moved forward, backward, left and right, each movement is responsible for a different function. Each joystick also has a thumbstick, three front buttons and a rear switch for additional functions.

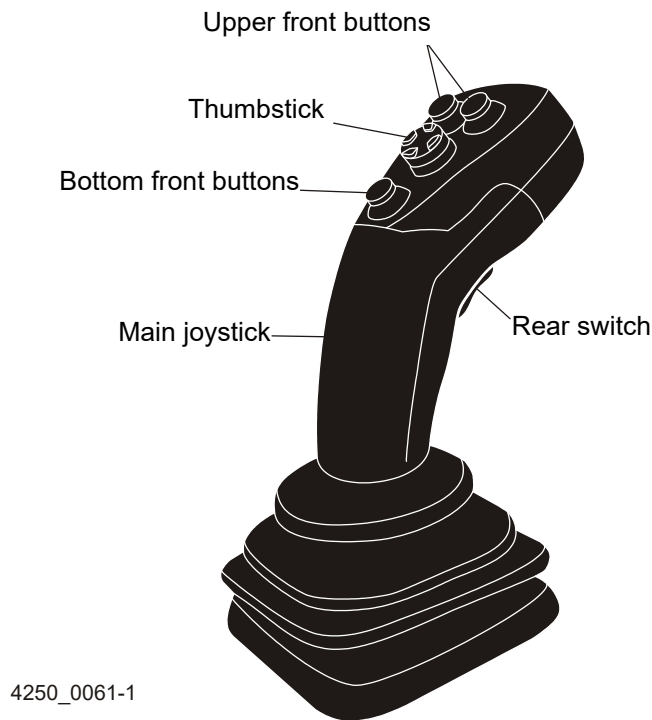


FIG. 3-3

The device comes with three joystick control configurations: Default, User 1 and User 2. If the operator prefers to have some functions assigned to other buttons, he can create his button layout as one of the user modes and save the layout. All references in this section will refer to the default layout.

To toggle between “head mode” and “bed mode” functions, press the rear switch of the left joystick. The “MODE” indicator light on the control panel will indicate whether the controls are in “bed mode” or “head mode”. The mode the controls are in is also indicated on the touchscreen if the touchscreen displays one of the setworks screens.

3 Setup & Operation

Joystick Control Overview

See Figure 3-4 In "head mode", push the left joystick forward to lower the saw head. The further the joystick is pushed, the faster the head moves down. Pull the joystick backward to raise the saw head. The further the joystick is pulled, the faster the head moves up.

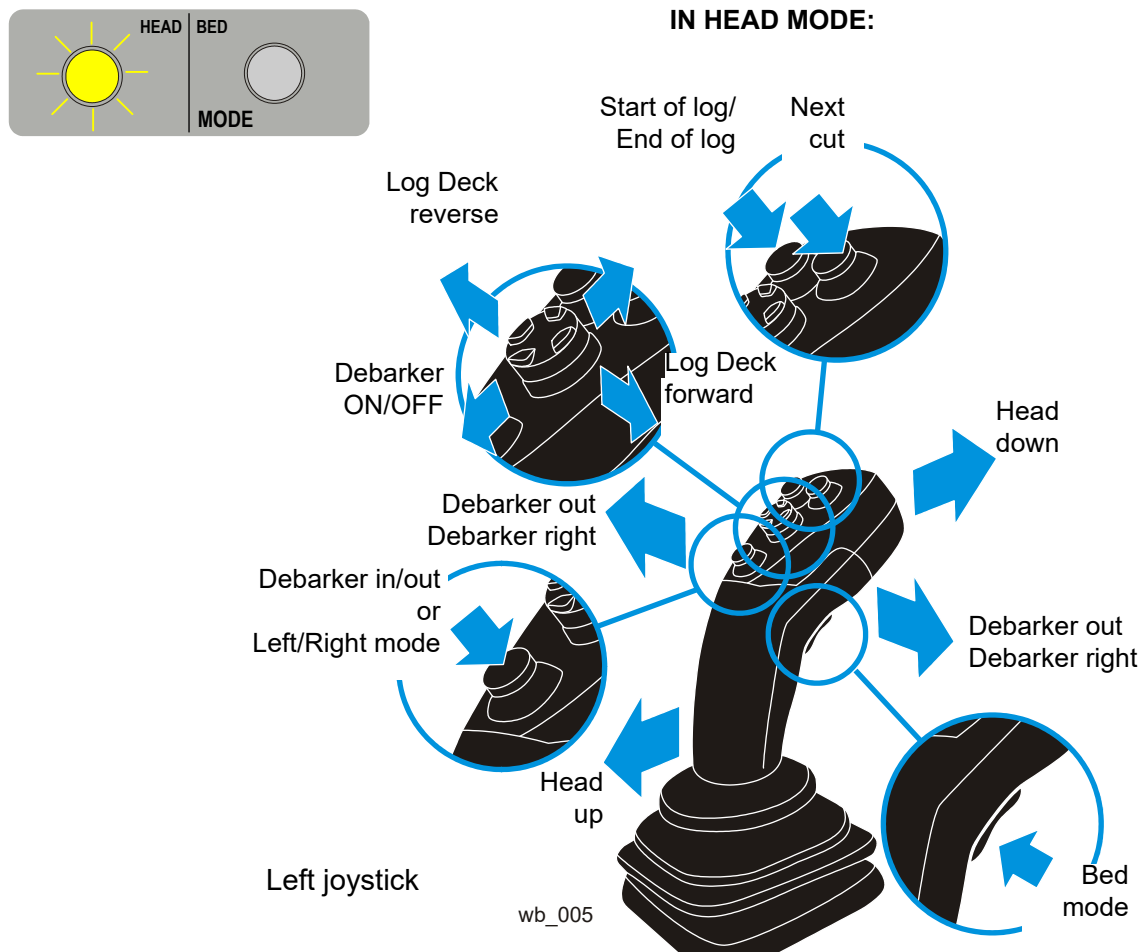


FIG. 3-4

Press the top left button to set the log start position or log end position. Press the upper right button to enable/disable the Next Cut function. Press the bottom button to start the debarker. Press the rear button to enter bed mode. Press the thumbstick to the left to reverse the log deck, or to the right to move the log deck forward. Press the thumbstick up to increase the number of cants in pattern mode, or down to decrease it.

See Figure 3-5 In "head mode", push the right joystick forward to make the head move backward. The further the joystick is pushed, the faster the head moves backward. Pull the joystick backward to move the head forward. The further the joystick is pulled, the faster the head moves forward.

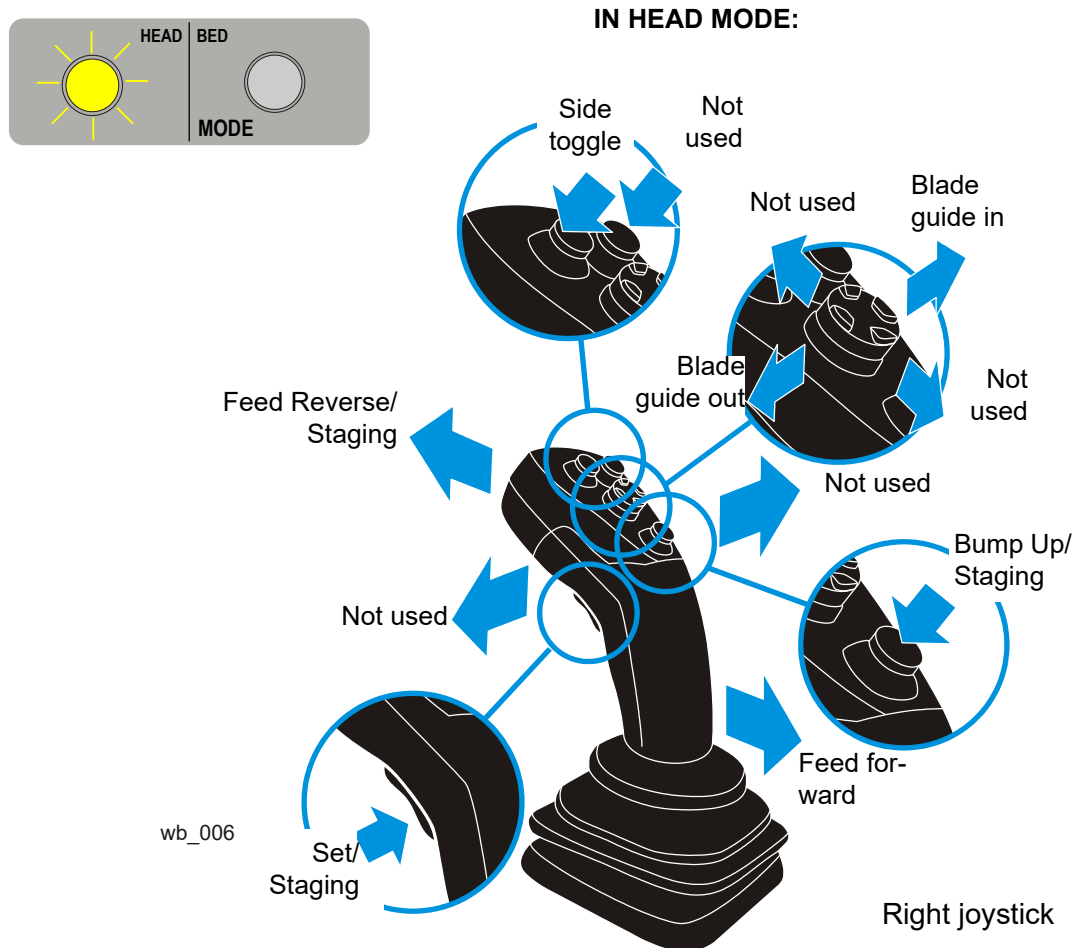


FIG. 3-5

Press the top left button to switch between pages in Networks. Press the bottom button to initiate the "bump up" function. Press the back button to activate the setting function. Press the thumbstick left to move the blade guide out, or right to move the blade guide in. When moving the head backward, pressing the "set" and "bump up" functions at the same time initiates movement to the staging position.

3 Setup & Operation

Joystick Control Overview

See Figure 3-6 In “bed mode”, push the left joystick forward to lower the clamp. The further the joystick is pushed, the faster the clamp moves down. Pull the joystick backward to raise the clamp. The further the joystick is pulled, the faster the clamp moves up. Push the joystick to the left to move the clamp out. The further the joystick is pushed, the faster the clamp moves out. Push the joystick to the right to move the clamp in. The further the joystick is pushed, the faster the clamp moves in.

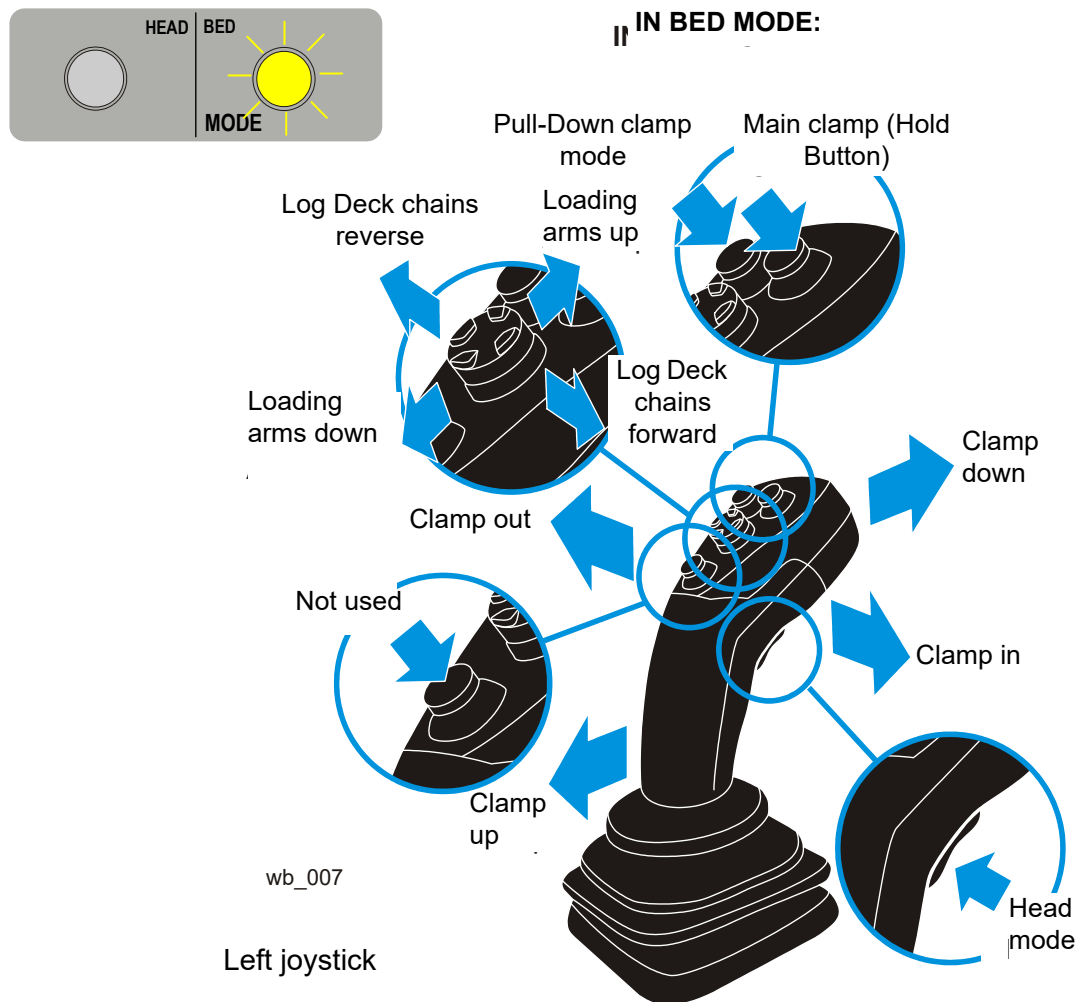


FIG. 3-6

Press the thumbstick forward to raise the loading arms, press it down to lower the loading arms. Press the thumbstick to the left to make the log deck chains move backward. Press the thumbstick to the right to make the log deck chains move forward. Press the rear button to switch to the “head mode”.

See Figure 3-7 In “bed mode”, pushing the right joystick forward lowers the side supports. The further the joystick is pushed, the faster the side supports move down. Pull the joystick backward to raise the side supports. The further the joystick is pulled, the faster the side supports move up. Pull the joystick to the left to lower the chain turners. The farther the joystick is pulled, the faster the chain turners move down. Push the joystick to the right to raise the chain turners. The further the joystick is pushed, the faster the chain turners move up.

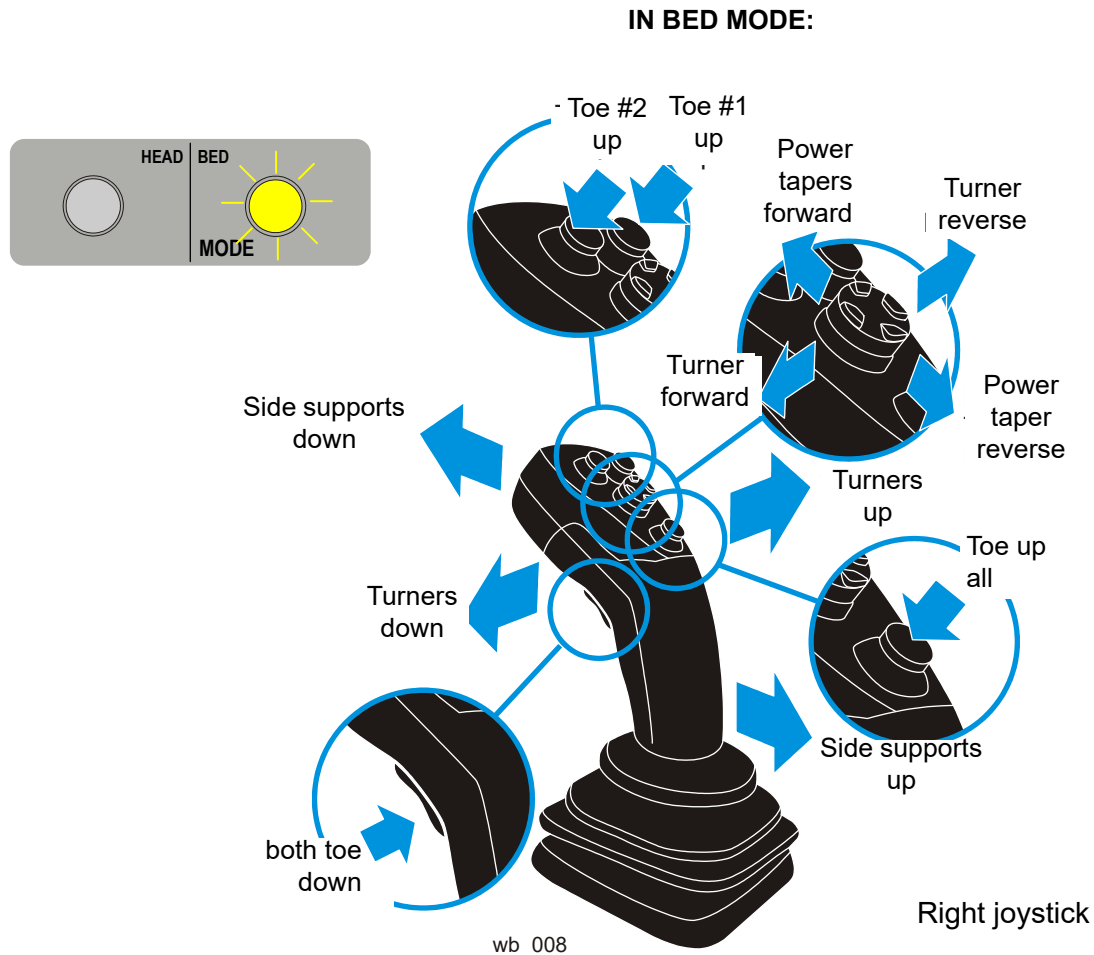


FIG. 3-7

Press the top left button to raise toe #2. Press the top right button to raise toe #1. Press the bottom button to raise all the toe boards. Press the rear button to lower all the toe boards. Press the thumbstick forward to turn the power taper rollers forward and press it down to move the power taper rollers backward. Press the thumbstick left to rotate the change turners forward and press it right to rotate the change turners backward.

3.5 Programming the Control

3.5.1 System Setup

From the Main Screen, push the Setup button.

See Figure 3-8

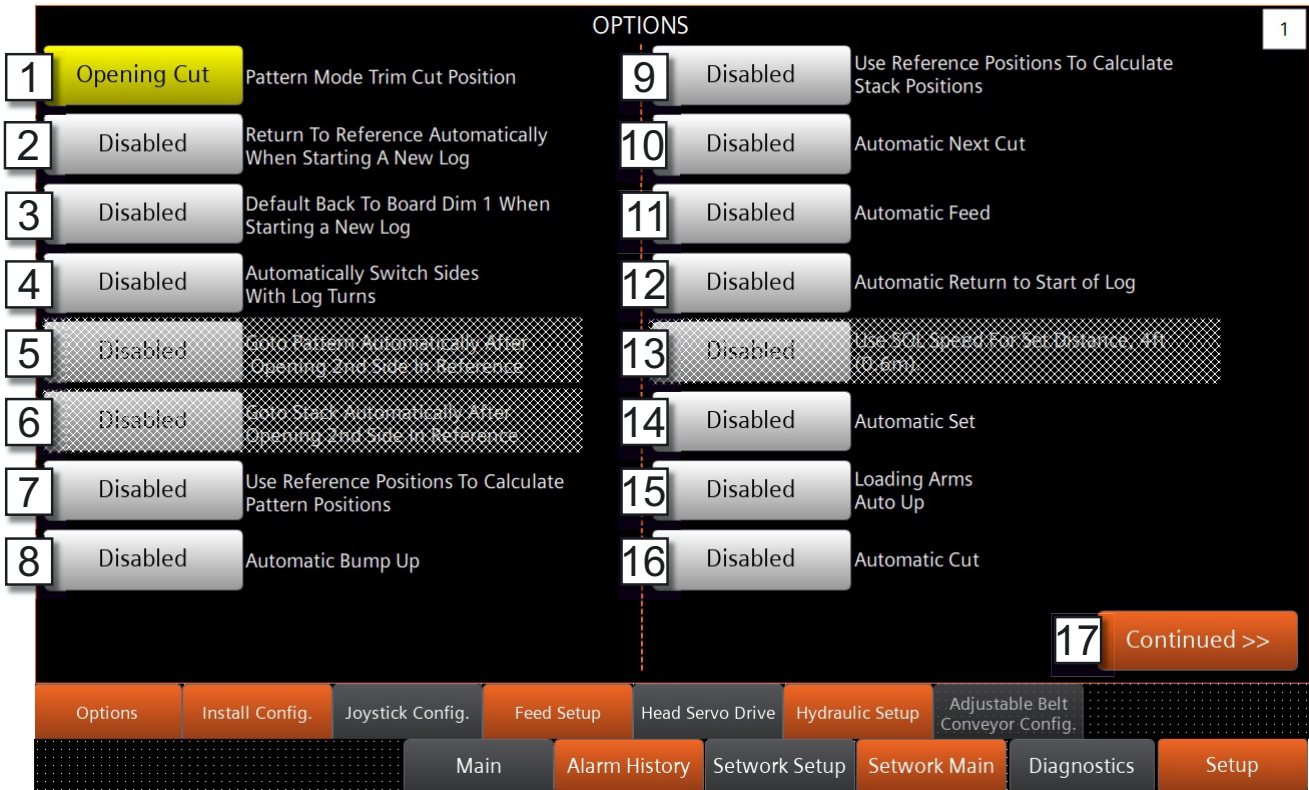


FIG. 3-8

3.5.2 Options

There are several optional functions built into the mill to help automate some of the steps for sawing a log. These steps were developed around the most common cutting method.

Typically the method followed is to open two sides in reference mode. Switch to pattern mode and cut down to the desired number of cants with the dimensions selected.

(1) Pattern Mode Trim Cut Position - in pattern mode you can select where to take the trim but, either on the opening cut or before the first cant/last board.

(2) Return To Reference Automatically When Starting A New Log - When enabled the touch screen will automatically switch back to Reference mode each time a new log is started. There are two ways to signal the start of a new log; performing a Staging function, or lowering the loading arms all the way.

(3) Default Back To Board Dim 1 When Starting A New Log - When enabled the board size in the first board size button, from left to right, will be selected each time a new log is started. There are two ways to signal the start of a new log; performing a Staging function, or lowering the loading arms all the way.

(4) Automatically Switch Sides With Log Turns - When enabled the machine will switch sides, i.e. Reference 1 to Reference 2, unclamped and any of the four chain turner functions are activated; Up/Down or Forward/Reverse. The machine will not keep changing sides each time one of these functions is activated. There must be a cut taken on the side switched to before the machine will switch again.

(5) Go to Pattern Automatically After Opening 2nd Side In Reference - When enabled the touch screen will automatically switch to Pattern mode after a cut has been taken in Reference 2 and a log turn is sensed. This option is not available unless the option to Automatically Switch Sides With Log Turns is enabled.

(6) Go to Stack Automatically After Opening 2nd Side In Reference - When enabled the touch screen will automatically switch to Stack mode after a cut has been taken in Reference 2 and a log turn is sensed. This option is not available unless the option to Automatically Switch Sides With Log Turns is enabled.

(7) Use Reference Position To Calculate Pattern Positions - When enabled, and the trim cut position is set to opening cut, the last cut taken in Reference 1 will be used as the position to reference for the position of the head in pattern mode for calculating the pattern based off the cant size selected, number of cants, and board size selected. This prevents having to search for best position for possible opening cut. When enabled, and the trim cut position is set to first cant/last board, the last cut taken in Reference 1 will be used as the last cut taken in Pattern 1 and just set to the next board size. Reference 2 last cut position will be used for Pattern 2.

(8) Automatic Bump Up - When enabled the saw head will automatically bump up after the saw head has exited to cut and passed the End of Log position.

(9) Use Reference Position To Calculate Stack Positions - When enabled the last cut taken in Reference 1 will be used as the position to reference for the position of the head in stack mode for calculating the starting position in the stack. Reference 2 last cut position will be used for Stack 2.

(10) Automatic Next Cut - When enabled Next Cut will automatically turn on when taking the opening cut on all four sides when the machine senses a cut is active based on the blade motor power engage threshold setting.

(11) Automatic Feed - When enabled the machine will automatically control the feed speed based on the two settings, maximum speed and maximum power, set on the "Dashboard". If the maximum speed is reached before the maximum power the feed will not increase anymore, otherwise it will continue to increase until it reaches the maximum power setting. The operator still has control over the speed, the automatic feed will just prevent them from feeding too fast, per the maximum power setting. If the operator backs off on the joystick the machine will choose which ever speed is lower and use that, either the Automatic Feed or the Joystick.

(12) Automatic Return to Start of Log - When enabled after the head has exited the cut, performed a bump up, and started to move backwards this function will take control of the feed and automatically return to the position set for Start of the Log (**SOL**). The operator does not need to worry about letting off the joystick in time to stop the head before it travels too far past the log, the machine will stop it automatically, just keep the joystick pressed all the way forward until the head comes to a complete stop.

(13) Use SOL Speed For Set Distance, 2ft (0.6m) - When enabled the start of log speed set on the "Dashboard" will only be used for a distance of 2ft (0.6m) from the point where it was set. Once the head has moved past this point, the speed is completely controlled by the position of the joystick.

3 Setup & Operation

Options

(14) Automatic Set - When enabled the head will automatically set to the next cut when the head has returned to the Start of the Log position.

(15) Loading arms auto up - When enabled, loading arms are lifted automatically after pressing the appropriate button on the joystick.

(16) Automatic Cut - When enabled the machine can run the cutting process automatically when the operator holds down the foot pedal. To initiate this the operator must have the Start of Log and End of Log positions set, Next Cut on, then hold down the foot pedal when either at the Start of Log or End of Log positions. The head will automatically cut using the Automatic Feed, Bump Up, Return, and Set, all on its own, and continue this process until the foot pedal is released.

(17) Use this button go to the second page of options.

See Figure 3-9 The second page of options is shown below.

The screenshot shows the 'OPTIONS' screen, page 2. It contains several sections for configuration:

- 1 LMS**: LMS OPEN TIME is set to 0 ms.
- 2 BUMP UP SETUP**: Bump Up Distance is set to 0.0 mm.
- 3 HOUR METER**: Temporary and Permanent hour meters are both set to 0.00 h. A 'Reset Temporary' button is present.
- 4 BLOW OFF THE BED**: On time and Off time are both set to 0 ms. A 'Disabled' button is also shown.
- 5 BLOW OFF THE LOG**: On time and Off time are both set to 0 ms. A 'Disabled' button is also shown.
- 6 CONVEYOR CONTROL**: On Delay and Off Delay are both set to 0 ms.
- 7 UNITS**: Three buttons for 'Imperial Fractions', 'Imperial Decimal', and 'Metric' are shown.
- 8 <<Back**: A button to return to the previous screen.

A bottom menu bar contains the following options: Options, Install Config., Joystick Config., Feed Setup, Head Servo Drive, Hydraulic Setup, Adjustable Belt Conveyor Config., Main, Alarm History, Setwork Setup, Setwork Main, Diagnostics, and Setup.

FIG. 3-9

(1) **LMS** - LMS open time.

(2) **Bump Up Setup** - Bump Up distance.

(3) **Hour Meter** - There is a permanent hour meter that is not resettable, and a temporary hour meter that can be reset by pressing the numeric display. **NOTE:** If the PLC is ever replaced, the permanent hour meter will start back over at 0.

(4) **Blow Off the Bed** - "On time" Valve activation time, "Off time" Valve deactivation time.

(5) **Blow Off the Log** - "On time" Valve activation time, "Off time" Valve deactivation time.

(6) **Conveyor Control** - "On Delay" This timer sets how long the feed must be in reverse before the conveyor will start. "Off Delay" This timer sets how long the conveyor will keep running after the feed has stopped moving in reverse.

(7) **Units** - There are three unit options: Imperial Fractions, Imperial Decimals, and Metric. The active unit has a green indicator. To change units, press the desired button and the indicator for that unit will turn on.

(8) **Back** - Use this button to go back to the first page of options.

3 Setup & Operation

Joystick Configuration

3.5.3 Joystick Configuration

See Figure 3-10 The machine is equipped with a programmable joystick configuration. There is a default Joystick Configuration and two User-Defined Configurations. During the installation of the machine it may be necessary to configure some of the parameters of the joysticks.

From the System Setup Screen, push the Joystick Config. button to go to the Joystick Configuration screen.

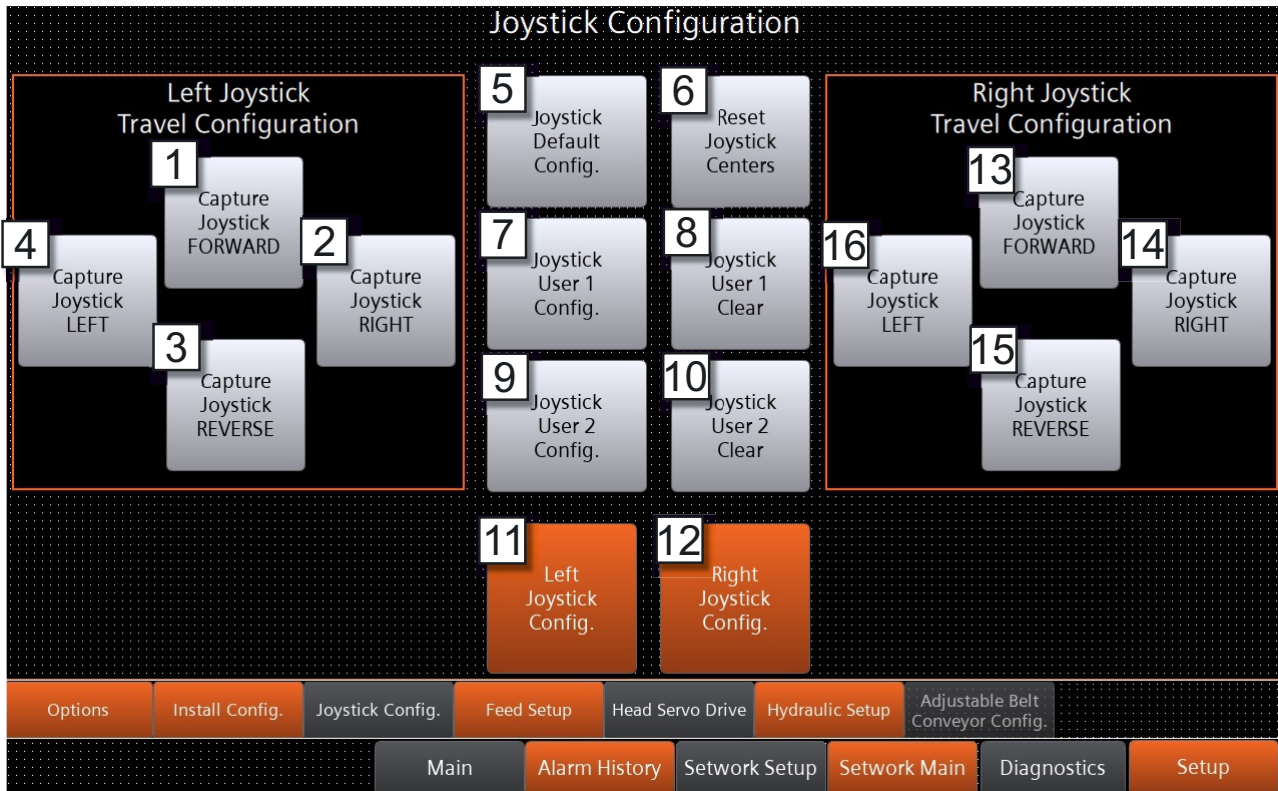


FIG. 3-10

Left Joystick Travel Configuration - Under any of the three conditions explained for the joystick centers the travel configuration will also have to be set. These buttons also flash when the machine knows they need to be set.

(1) Capture Joystick Forward - To capture the joystick forward value, press the joystick all the way forward. While maintaining the joystick all the way forward, press this button.

(2) Capture Joystick Right - To capture the joystick right value pull the joystick all the way right. While maintaining the joystick all the way right, press this button.

(3) Capture Joystick Reverse - To capture the joystick reverse value, pull the joystick all the way backward. While maintaining the joystick all the way backward, press this button.

(4) Capture Joystick Left - To capture the joystick left value press the joystick all the way left. While maintaining the joystick all the way left, press this button.

Right Joystick Travel Configuration - Under any of the three conditions explained for the joystick centers. The travel configuration will also have to be set. These buttons also flash when the machine knows they need to be set.

(5) Joystick Default Config. - This button selects the default layout of all the joystick functions. When the default configuration is active, the indicator on the button will be green.

(6) Reset Joystick Centers - During the very first power up of a mill, replacement of a joystick, or replacement of the PLC, the centers of the joysticks will have to be set. If the machine knows the centers need set it will be flashing and there will be an active "Joystick Configuration" error. Every joystick varies a little to its exact center point so it is critical to the operation of the machine that the centers be adjusted to the joysticks. Before pressing the button make sure the joysticks are in their relaxed position with nothing pushing them in any direction. When the centers are captured the PLC also configures a dead band area around the centers that has to be exceeded to make the joystick control any motion.

User Defined Joystick Configurations - These buttons control the user defined joystick configurations.

(7) Joystick User 1 Config. - This button selects the user 1 configuration. When the user 1 configuration is active the indicator on the button will be green.

(8) Joystick User 1 Clear - This button clears the user 1 configuration from memory.

(9) Joystick User 2 Config. - This button selects the user 2 configuration. When the user 2 configuration is active the indicator on the button will be green.

(10) Joystick User 2 Clear - This button clears the user 2 configuration from memory.

(11) Left Joystick Config. - This button takes you to a page where you can view the joystick configuration.

(12) Right Joystick Config. - This button takes you to a page where you can view the joystick configuration.

(13) Capture Joystick Forward - To capture the joystick forward value, press the joystick all the way forward. While maintaining the joystick all the way forward, press this button.

(14) Capture Joystick Right - To capture the joystick right value press the joystick all the way right. While maintaining the joystick all the way right, press this button.

(15) Capture Joystick Reverse - To capture the joystick reverse value, pull the joystick all the way backward. While maintaining the joystick all the way backward, press this button.

(16) Capture Joystick Left - To capture the joystick left value, pull the joystick all the way left. While maintaining the joystick all the way left, press this button.

3 Setup & Operation

Joystick Configuration

User Defined Joystick Configurations

This section will explain how to define a user configuration for the joysticks and save it. In this section the User 1 configuration will be referenced. Setting for the User 2 configuration is the same - just substitute the User 2 buttons for the User 1 in the instructions below.

1. Press the “Joystick User 1 Config.” button (7). The green indicator on the button should come on.
2. Press the “Left Joystick Config.” button (11) to begin setting the functions.

See Figure 3-11

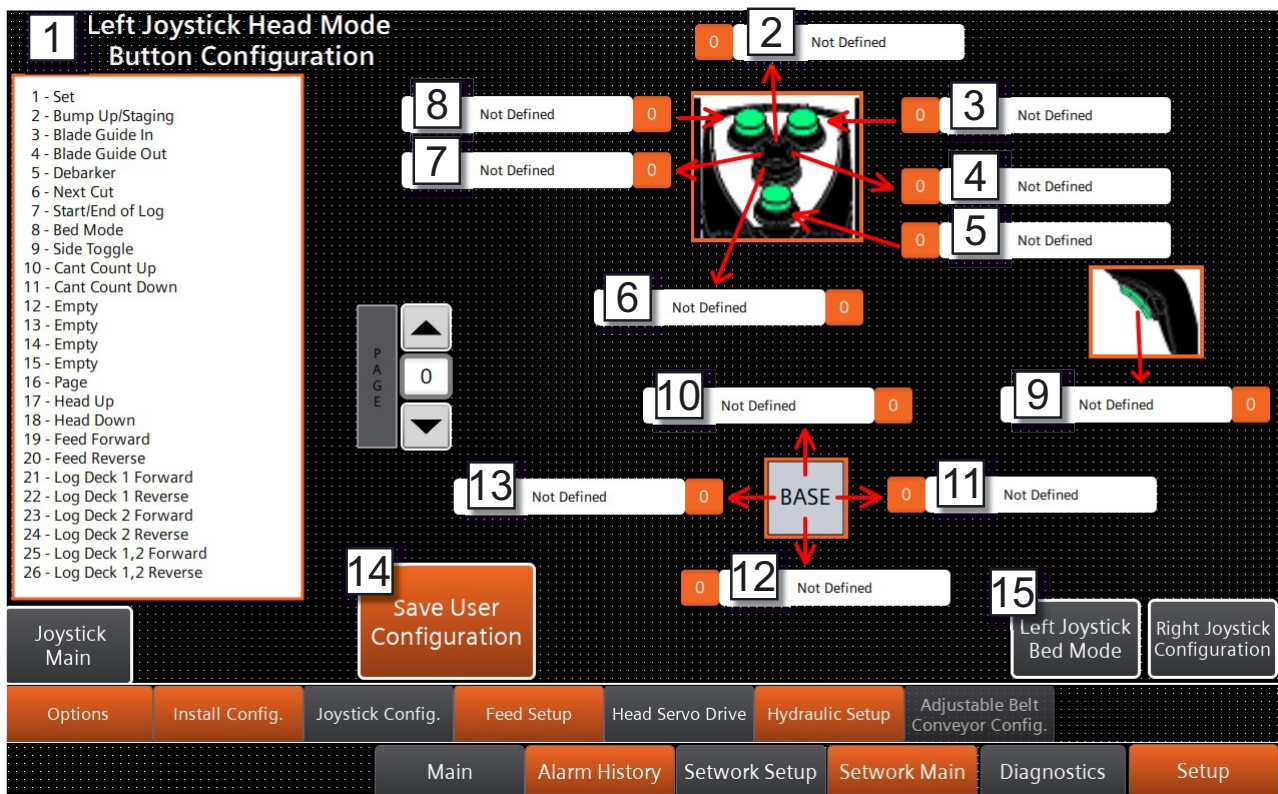


FIG. 3-11

3. (1) This is the legend that lists all the available head mode functions and their number that is used to set that function to a specific joystick function.
4. (2-13) To assign a function to any joystick function, press the gray button (numeric entry), with a red arrow pointing to the function you want to program.
 - Enter the value of the function you want to assign and press enter.
 - Now that number will be displayed in the gray box and the function will be displayed next to the gray box.
 - Do this for all functions. There doesn't have to be a function assigned to each joystick function.
 - Functions (10-13) have to be assigned to the base of the joysticks. Between the two joysticks you have 8 locations for these functions. When you assign function 10, Head Up, to a base

location, function 12, Head Down, will automatically be assigned to the opposite joystick function on the same joystick. These functions have to be put together on the same joystick. The same goes for functions 11 and 13, for the feed. These four functions are not allowed to be used on the discrete buttons of the joysticks and the touch screen will not allow you to enter them into those spots.

5. **(14)** When you are finished setting up the joystick for head mode, you can save the configuration by pressing the “Save User Config.” button.
6. **(15)** Now you are ready to set up bed mode for this joystick. Press the “Left Joystick Bed Md.” button.

See Figure 3-12 The BED MODE screen for the Left Joystick Button Configuration is shown below.

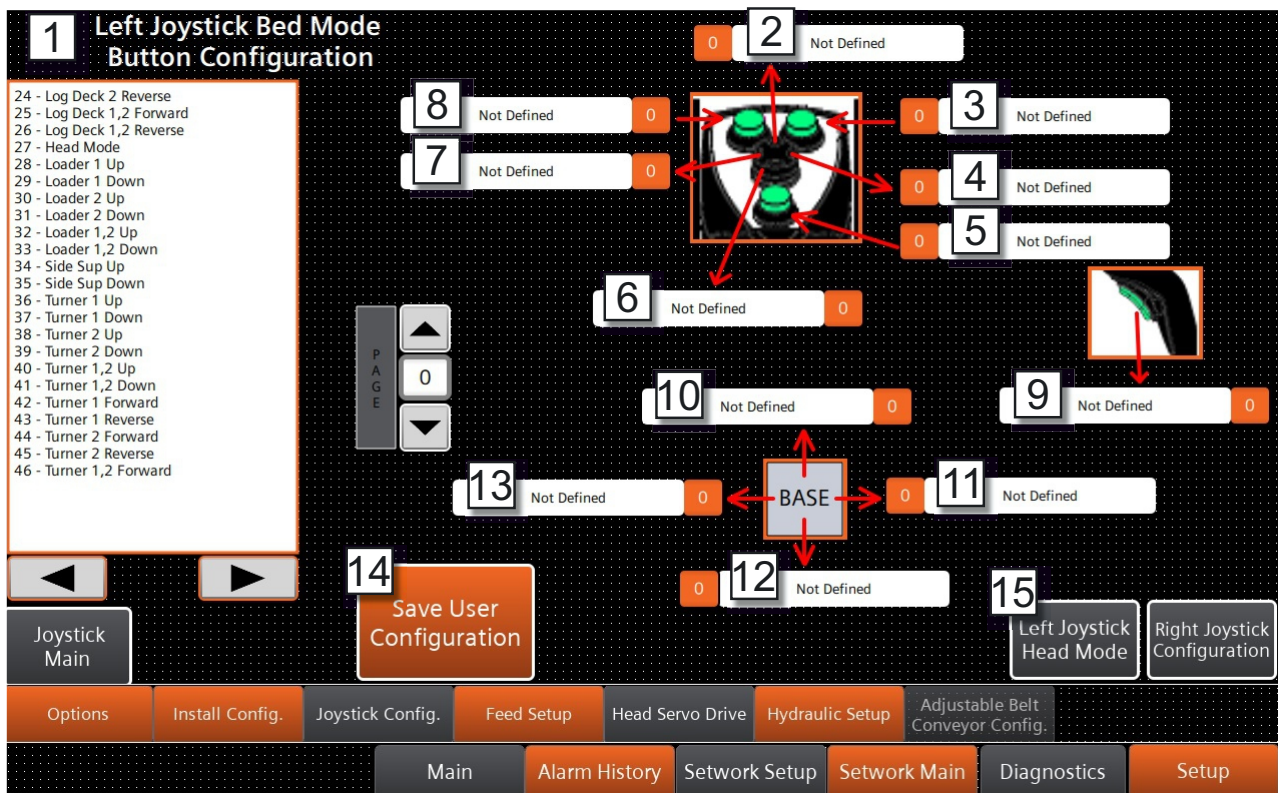


FIG. 3-12

7. **(1)** This is the legend that lists all the available head mode functions and their number that is used to set that function to a specific joystick function.
8. **(2-13)** All the functions are set just as in head mode referenced in step 4.
9. **(14)** When you are finished setting up the joystick for head mode, you can save the configuration by pressing the “Save User Config.” button.
10. The left joystick configuration is finished. Follow the same procedure for the right joystick. Press the “Right Joystick Config.” button on the “Joystick Configuration” to enter the right joystick configuration instead.

3 Setup & Operation

Feed Setup

3.5.4 Feed Setup

The Feed Setup screen is where the Return To Start Of Log function can be tuned and the position of feed calibrated. You can also reference feed speed from this screen.

See Figure 3-13



FIG. 3-13

Return To Start Of Log

This section of the Feed Setup is used to tune the Return To Start of Log function. When tuning it you are trying to get the "Pos. Error" to be as small as possible, meaning that you are as close as possible to the target you are trying to reach.

There are three positions captured for the Start of Log Position; Actual Start of Log Position, Offset, and Target. The actual position is the one captured by pressing the button either on the touch screen or joystick. This position is used to signal the machine that the head has moved into a safe position behind the log and it is okay to perform a set. The offset position is the position the feed will stop at when feeding forward until it is in position for the next cut. The target is the position the feed system is shooting for during the return. During the return, after the head has passed the Start of Log Position a set will initiate. The feed will continue returning to the Target and then stop. Now you can feed forward, the head may stop at the Offset position, if the head is not in position for the next cut. If the head is in position, there will not be a stop, it will continue to feed forward and start the cut.

Tuning Return To Start Of Log

1. Move the head to where you want to set "Start of Log" and press the **"Start of Log" (1)**. The indicator will turn green to show that the position has been set, and the position will display under **"SOL Target"**.
2. Now run the feed about 12 ft from that position.
3. Push the Right joystick forward and maintain it until the head comes to a complete stop.
4. Check the **"Pos. Error"**. If it is within a couple of inches of the target, leave it as is. The tuning is fine. The control for returning to start of log is not designed to be extremely accurate, because it is not necessary, so a couple inch tolerance is fine. Process is complete. If the **"Pos. Error"** is too large then continue to step 5.
5. You can modify the Slow Positions and Final Pos. frequencies, until you achieve the accuracy wanted.
 - **Slow Pos. 1 (4)** - Default = 2.75. This is the position, distance from Start of Log Target, at which the feed drive will slow to 60Hz. Prior to reaching this point the feed will travel in reverse at maximum speed.
 - **Slow Pos. 2 (5)** - Default = 1.5. This is the position, distance from Start of Log Target, at which the feed drive will slow to the "Final Pos. Max Freq." **(8)**.
 - **Slow Pos. 3 (6)** - Default = 0.75. This is the position, distance from Start of Log Target, at which the feed drive will ramp from the "Final Pos. Max Freq." **(8)**, to the "Final Pos. Min Freq." **(7)**. The deceleration of the drive is proportional to the distance from "Slow Pos. 3" **(6)** to "SOL Target" **(2)**. The drive will begin at the frequency in "Final Pos. Max Freq." **(8)** at "Slow Pos. 3" **(6)** and does a linear slope to the frequency in "Final Pos. Min Freq." **(7)** at "SOL Target" **(2)**.
 - **Final Pos. Min Freq.** - Default = 1.
 - **Final Pos. Max Freq.** - Default = 35.

Position Calibration

This mill uses an encoder to track feed position for different locations (e.g. Start of Log Position and End of Log Position). With the ability to have these values more functions can be automated during the sawing cycle.

Feed Position Calibration Procedure

If the machine requires calibration, the HMI will automatically switch to the Feed Setup screen after control power is turned on. The only time this may not be the first screen shown after a power cycle is when a Joystick Configuration fault is present and the joystick centers and full-travel positions must be re-learned. This typically occurs only during the initial machine installation, and usually not again unless the PLC is replaced.

1. If the Feed Setup screen is already displayed, proceed to Step 4.
2. From the Main screen, press Setup.
3. On the Setup screen, press Feed Setup.
4. In the upper-right area of the Feed Setup screen, locate the Position Calibration section.
 - If calibration is required, the Calibration Status indicator will be RED.
 - If you are re-calibrating, it will typically be GREEN.
5. Ensure there are no obstructions in the saw head travel path. The head will travel fully to the reverse hard stop.
6. Verify the drive is not in a fault condition and control power is ON.
7. Press the **“Calibrate Feed Position” (11)** button.
8. The head will slowly travel to the reverse hard stop. During calibration, the feed drive pushes against the hard stop until a spike in feed motor current is detected.
9. After the reverse hard stop is detected, the head will travel in the opposite direction to the forward hard stop.
10. When the process is complete, **“Calibration Status” (12)** will turn GREEN.
11. If required, press **“Feed Setup Factory Defaults” (9)** to restore factory settings for the Feed Setup parameters.

3.5.5 Head Setup

The Head Setup screen is where the Head Position can be tuned and the position of head calibrated.

See Figure 3-14 The Head Setup screen is shown below.

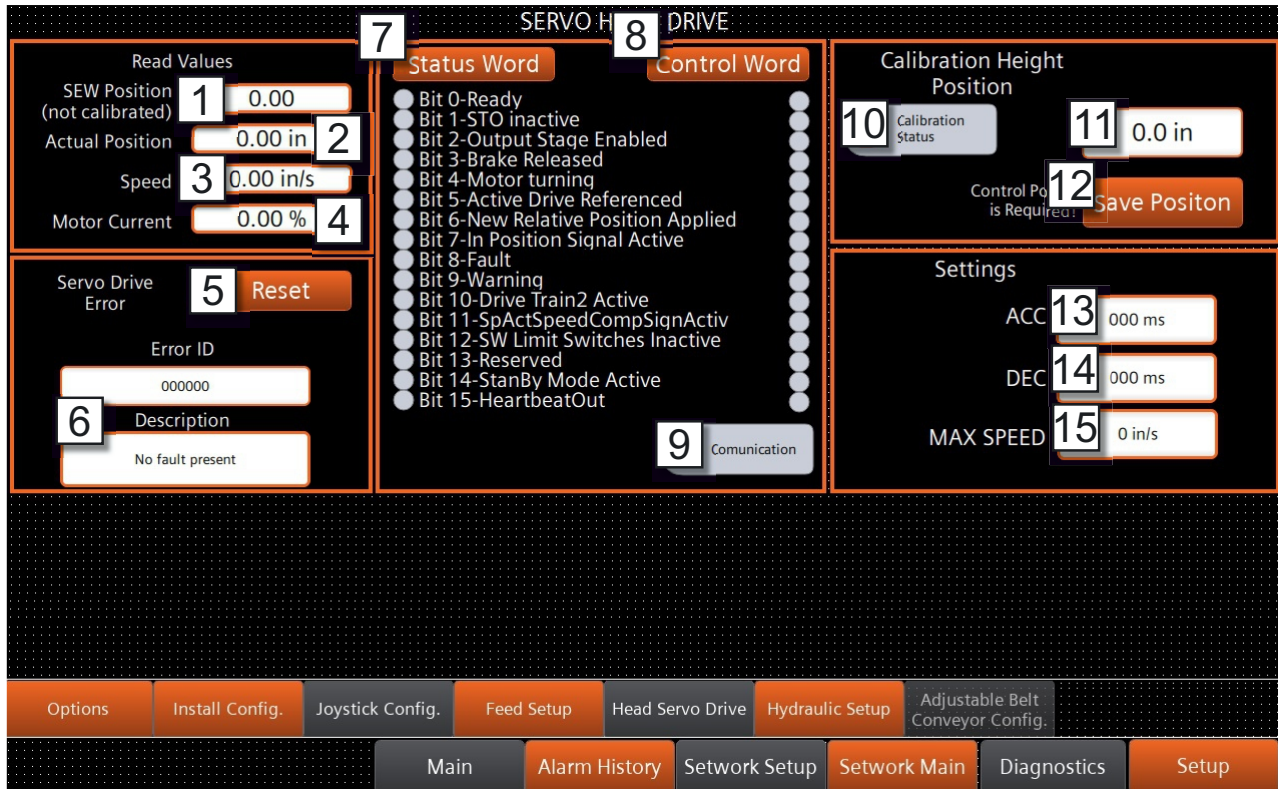


FIG. 3-14

- (1) **Sew Position** - displays the raw encoder value of the up/down drive.
- (2) **Actual Position** - shows the current height of the up/down drive.
- (3) **Speed** - shows the current speed of the up/down drive.
- (4) **Motor current** - shows the motor load of the up/down drive as a percentage.
- (5) **Reset** - when pressed, allows clearing faults of the up/down drive.
- (6) **Error ID** - shows the number of the current up/down drive fault. The fault description is displayed in the Description field.
- (7) **Status Word** - is used to view the status word of the up/down drive.
- (8) **Control Word** - is used to view the control word of the up/down drive.
- (9) **Communication** - shows the status of communication between the drive and the PLC controller.
- (10) **Calibration status** - shows the calibration status of the up/down drive.

(11) **Head height calibration** - is used to enter the machine calibration value.

(12) **Save Position** - when pressed, transfers the value from field to the up/down drive memory – head height calibration.

(13) **ACC** - is used to set the drive acceleration – default 500 mm/s².

(14) **DEC** - is used to set the drive deceleration – default 400 mm/s².

(15) **Max Speed** - is used to set the maximum head speed – up to 9 in/s.

Position Calibration

The servo has an internal encoder for tracking head position.

Position Calibration Procedure

If the machine needs calibrated, the HMI will automatically switch to the “Head Setup” screen after control power is turned on.

1. If the “**Head Setup**” screen is already active then proceed to Step 3.
2. From the “**Main**” screen press the “**Setup**” button.
3. On the “**Setup**” screen press the “**Head Setup**” button.
4. At the top right of the “Head Setup” screen is the “**Calibration Height Position**” section.
 - If calibration is required, the Calibration Status indicator will be RED.
 - If you are re-calibrating, it will typically be GREEN.
5. Position the head over a bed rail and measure from a down set tooth to the bed rail.
 - Enter this value in the “**Calibration Position**” (11) numeric entry box.
6. Press the “**Save Position**” (12) button.
7. Calibration complete.

Hydraulic Setup

The hydraulic power unit on this machine is equipped with a proportional valve on the supply line to all the valve packs. Since only 8 functions can be assigned to the joystick bases for full proportional control, a setup screen for all functions has been added so that a set-point for flow to each function can be set from 5-100%. If multiple functions are selected with set-points then that proportional valve will open fully to give sufficient flow. If a proportional function is used with a discrete function the proportional valve will use the proportional signal. If multiple proportional functions are activated then the proportional valve will open fully to give sufficient flow.

See Figure 3-15 The Hydraulic Functions Speeds screen is shown below.

1

HYDRAULIC SETUP

000 % Clamp #1 Up 000 % Clamp #1 Down 000 % Clamp #1 In 000 % Clamp #1 Out 000 % Clamp #2 Up 000 % Clamp #2 Down 000 % Clamp #2 In 000 % Clamp #2 Out 000 % Power Taper #1 Up 000 % Power Taper #2 Up 000 % Power Taper #3 Up 000 % Power Taper #4 Up 000 % Power Tapers All Up 000 % Power Tapers All Down	000 % Power Tapers Forward 000 % Power Tapers Reverse 000 % Pull Down Clamp #1 In 000 % Pull Down Clamp #1 Out 000 % Pull Down Clamp #1 Up 000 % Pull Down Clamp #1 Down 000 % Pull Down Clamp #2 In 000 % Pull Down Clamp #2 Out 000 % Pull Down Clamp #2 Up 000 % Pull Down Clamp #2 Down 000 % Pull Down Clamp #3 In 000 % Pull Down Clamp #3 Out 000 % Pull Down Clamp #3 Up 000 % Pull Down Clamp #3 Down	000 % Pull Down Clamp #4 In 000 % Pull Down Clamp #4 Out 000 % Pull Down Clamp #4 Up 000 % Pull Down Clamp #4 Down 000 % Turners #1 Up 000 % Turners #1 Down 000 % Turners #2 Up 000 % Turners #2 Down 000 % Turners #1 Forward 000 % Turners #1 Reverse 000 % Turners #2 Forward 000 % Turners #2 Reverse
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Continued >>

Options
Install Config.
Joystick Config.
Feed Setup
Head Servo Drive
Hydraulic Setup
Adjustable Belt Conveyor Config.

Main
Alarm History
Setwork Setup
Setwork Main
Diagnostics
Setup

FIG. 3-15

2

HYDRAULIC SETUP

000 % Loader #1 Up 000 % Loader #1 Down 000 % Loader #2 Up 000 % Loader #1 Down 000 % Side Supports Down 000 % Side Supports Up 000 % Turner #1 2 Forward 000 % Turner #1 2 Reverse 000 % Turner #1 2 Up 000 % Turner #1 2 Down 000 % Loader #1 2 Up 000 % Loader #1 2 Down 000 % Log Deck #1 Forward 000 % Log Deck #1 Reverse	000 % Log Deck #1 Arms Forward 000 % Log Deck #1 Arms Reverse 000 % Log Deck #1 2 Forward 000 % Log Deck #1 2 Reverse 000 % Pull Down Clamp #1234 In 000 % Pull Down Clamp #1234 Out 000 % Pull Down Clamp #1234 Up 000 % Pull Down Clamp #1234 Down 000 % Clamp #1 2 Out 000 % Clamp #1 2 In 000 % Clamp #1 2 Up 000 % Clamp #1 2 Down 000 % Side Supports 2 Down 000 % Side Supports 2 Up	000 % Conveyor 000 % Log Deck #2 Arms Forward 000 % Log Deck #2 Arms Reverse 000 % Log Deck #12 Arms Forward 000 % Log Deck #12 Arms Reverse 000 % Log Deck #2 Forward 000 % Log Deck #2 Reverse 000 % Hydraulic Master Speed
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<<Back

Options
Install Config.
Joystick Config.
Feed Setup
Head Servo Drive
Hydraulic Setup
Adjustable Belt Conveyor Config.

Main
Alarm History
Setwork Setup
Setwork Main
Diagnostics
Setup

FIG. 3-16

Changing Hydraulic Set-Points

(1) To modify one of the hydraulic set-points, just press the number display for the function you want to change, then enter the new value and press Enter.

3.5.6 Networks Setup

From the Home screen, touch the Networks Setup button.

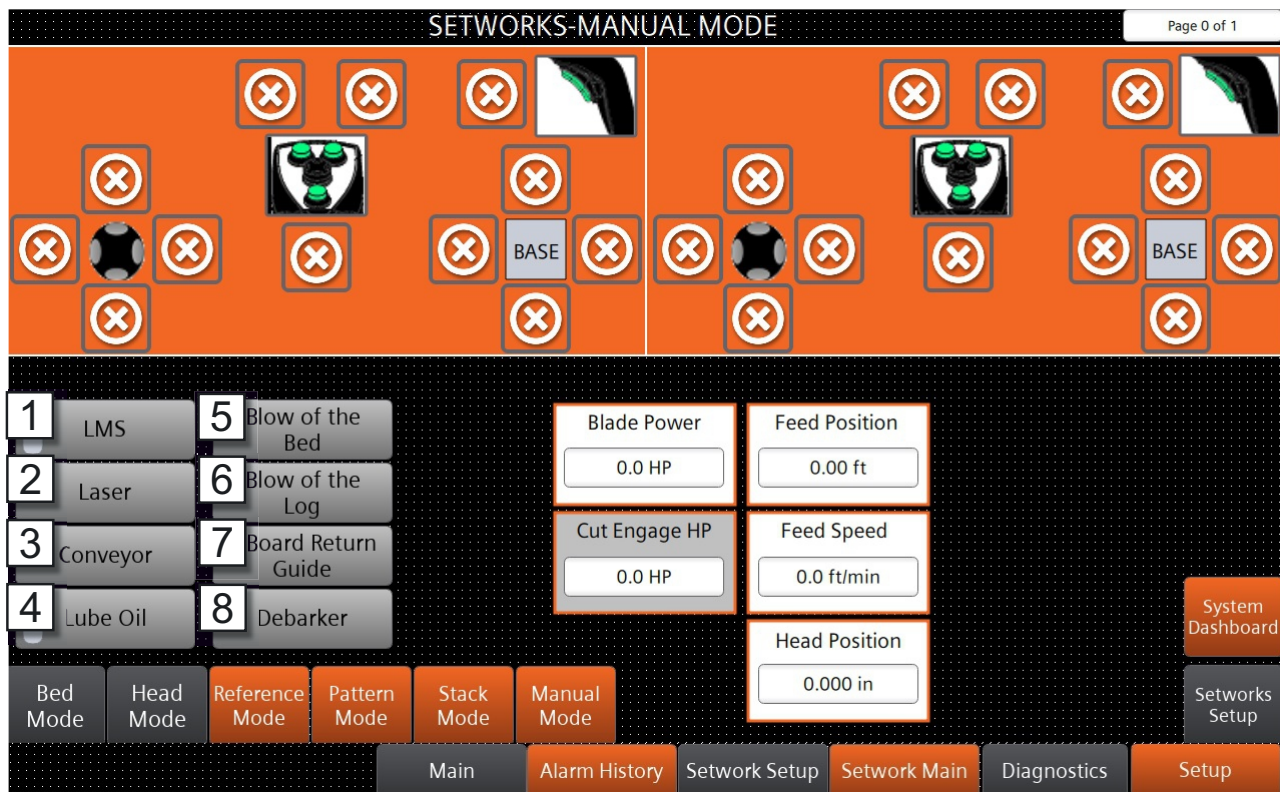


FIG. 3-17

(1) LMS (LubeMizer System). This button turns on the automatic operation of the LMS. The indicator turns green when the automatic operation of the LMS is on.

(2) Laser. This button turns the laser line on and off. When the indicator is green the laser is on, when gray it is off.

(3) Conveyor. This button activates the automatic option of the conveyor. The indicator turns green when the automatic option is enabled.

(4) Lube Oil. This button turns the blade lube on. When the indicator is green the lube is on, when gray it is off. The lube only works when the blade motor is running and the head is moving forward.

(5) Bed Blow-Off – activates the blow-off valve for the machine bed/guide rails. When enabled, this function opens the valve supplying the nozzles that blow sawdust off the head guide rails. The function operates during forward travel with the main motor running, according to the programmed ON time and pause interval.

(6) Log Blow-Off – activates the blow-off valve for the log. When enabled, this function opens the valve supplying the nozzles that blow sawdust off the cut log. The function operates during reverse travel with the main motor running, according to the programmed ON time and pause interval.

(7) Board Return Guide – activates the board drop and guiding function. When enabled, the board drop mechanism operates in automatic mode after the log start and log end positions have been set. Upon reaching the log end, the board drop arms lower and allow the board to slide onto the conveyor.

3 Setup & Operation

Networks Setup

at the rear of the machine. When the head returns to the log start, the arms raise automatically.

(8) Debarker - activation of the debarker engagement function. When forward feed is commanded, the debarker automatically approaches the log and engages.

Decimal Size Setup

See Figure 3-16 The Networks Setup screen is shown below.

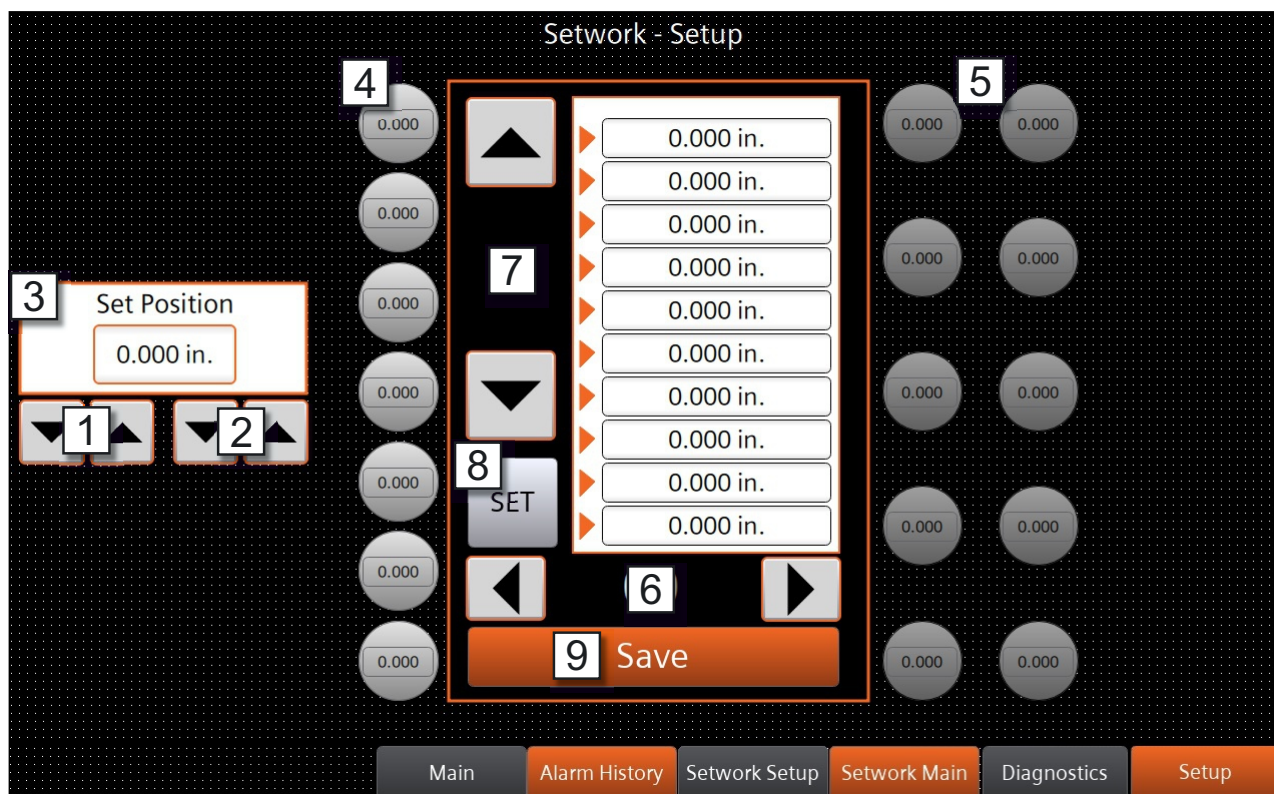


FIG. 3-18

- (1) Use these arrows to increase or decrease the size by whole inches.
- (2) Use these arrows to increase or decrease the size by a thirty-second of an inch.
- (3) This display shows the size selected.
- (4) Press one of the board size buttons to set it to the size selected.
- (5) Press one of the cant size buttons to set it to the size selected.
- (6) Choose the Stack to set with these buttons.
- (7) Choose the position of the stack to edit.
- (8) Press the **"Set"** button to set the position of the stack to the size selected.
- (9) When the Stack is full, press the **"Save"** button to keep it in memory.

3.5.7 Adjustable Belt Conveyor Configuration

See Figure 3-17

The picture below shows the Adjustable Belt Conveyor configuration window. Its most important element is "**Conveyor Auto Mode**" (9) button which activates the conveyor.

Note: Upon activation, the table will rise automatically to the preset height that is read based on the saw head position. When the table is deactivated, it lowers to the minimum position.

ADJUSTABLE BELT CONVEYOR SETUP

ADJUSTABLE BELT CONVEYOR SETUP

1 0.0 deg 2 0.0 "

Lower conveyor to basic/lowest position
Press Calibrate Position 0 of Conveyor

3 Calibrate Position 0 of Conveyor

Raise conveyor all the way up, measure/read conveyor height.
Enter value: Height Highest Conveyor Position

Angle Highest Conveyor Position 4 0.0 deg

Height Highest Conveyor Position 5 0.0 "

6 Maximum Conveyor Tilt 7 Minimum Conveyor Tilt

Conveyor-Saw Head Distance Difference 8 0.0 "

Automatic Mode.
Raising after activation.
Return of conveyor to basic position after cutting

9 Conveyor Auto Mode

Options Install Config. Joystick Config. Feed Setup Head Servo Drive Hydraulic Setup Adjustable Belt Conveyor Config.

Main Alarm History Setwork Setup Setwork Main Diagnostics Setup

FIG. 3-19

In the upper left part of the configuration window you can see the table position in degrees (1) and the calculated table height in inches (2).

In order for the displayed table height to be the actual height, height calibration should be performed — for the first time or when the displayed value is incorrect.

3.5.8 Conveyor Height Calibration

1. Make sure the Auto Mode - **"Conveyor Auto Mode" (9)** is disabled and the saw head is not above the Adjustable Belt Conveyor.
2. Use the button **"Minimum Conveyor Tilt" (7)**. After pressing this button, the table will move to its lowest position.
3. Push the button **"Calibrate Position 0 of Conveyor" (3)**. The minimum position will be overwritten.
4. Press the button **„Maximum Conveyor Tilt" (6)**. The table will be tilted to the maximum position.
5. Read the table angle in the first window **(1)** and enter this value into the window **"Angle. Highest Conveyor Position" (4)** - just click on the existing value and use the numeric keypad that will appear on the screen.
6. Measure from the bed to the highest point of the table and enter this value into the window showing the maximum table height **(5)**.

„Conveyor-Saw Head, Distance Difference" (8)

This is the difference between the saw head height and the table height. The difference should be increased when extremely low table speed is preset to avoid collision of the table with the saw head.

3.5.9 Dashboard

See Figure 3-18

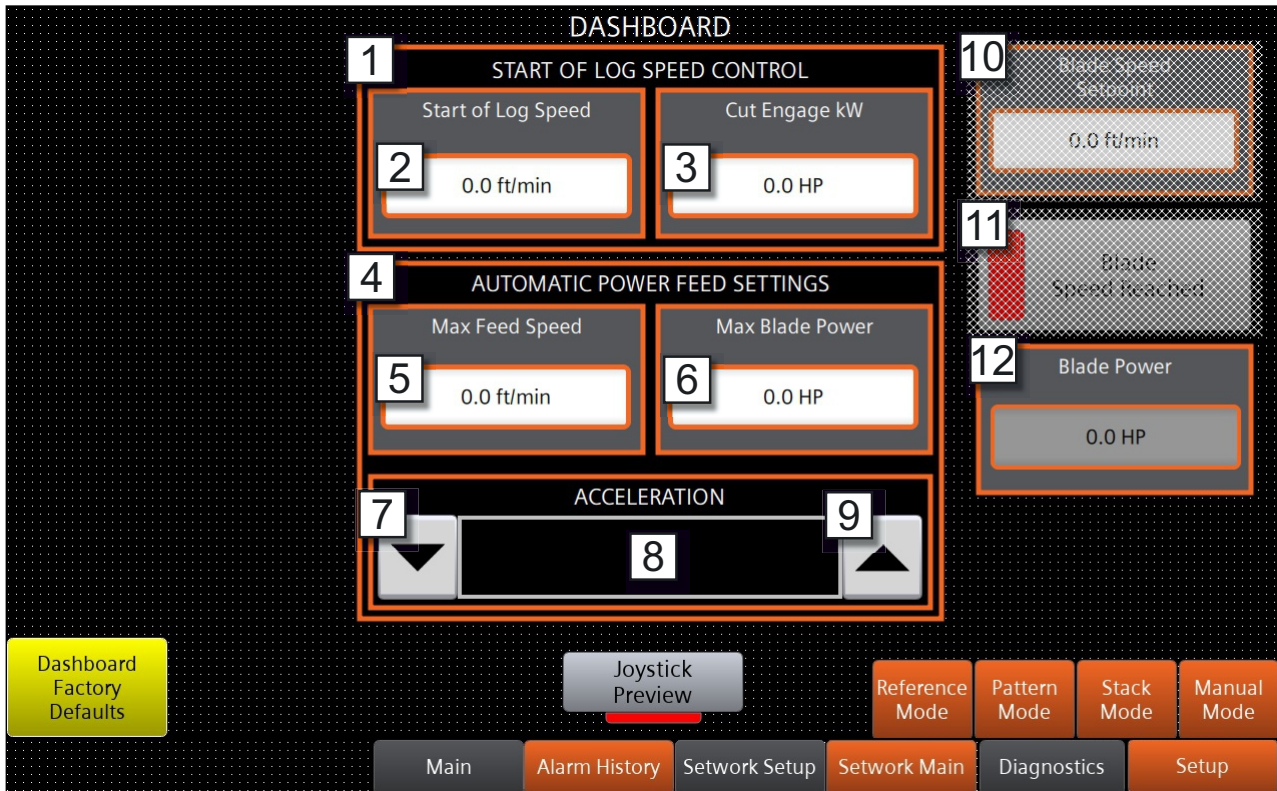


FIG. 3-20

(1) Start of Log Speed Control. These settings control the speed of the feed at the start of the log and when it turns off based on entering a cut.

(2) Start of Log Speed. This numeric display shows the current speed for start of log. To change it just press the numeric display and enter the value you want then press enter.

(3) Cut Engage HP. This numeric display shows the current threshold at which the machine assumes it is in an active cut based on blade motor power. To change it just press the numeric display and enter the value you want then press enter.

(4) Automatic Power Feed Settings. These settings control how the automatic power feed reacts.

(5) Max Feed Speed. This numeric display shows the maximum feed speed the automatic feed will go to when trying to achieve the maximum blade power **(6)**. To change it just press the numeric display and enter the value you want then press enter.

(6) Max Blade Power. This numeric display shows the maximum blade power the automatic feed will try to achieve. To change it just press the numeric display and enter the value you want then press enter.

(7) Acceleration-Decrease. This button decreases the acceleration.

(8) Acceleration-Indicator. An orange bar graphically indicates the feed rate. The closer the orange bar is to the right edge, the greater the value of the feed rate. Some woods will need lower feed rate for best cutting performance.

(9) Acceleration-Increase. This button increases the acceleration.

(10) Blade Speed Set-Point (option). This numeric display shows the current blade speed. To change this value, just press the numeric display and enter the value you want, then press enter.

(11) Blade Speed (option). This indicator turns red when the blade reaches the set speed.

(12) Blade Power. Displays the current power the blade motor is running at.

3.6 Replacing the Blade



DANGER! Always shut off the sawmill motor before changing the blade. Failure to do so may result in serious injury.



WARNING! Always wear gloves and eye protection whenever handling a bandsaw blade. Changing blades is safest when done by one person! Keep all other persons away from work area when changing blades. Failure to do so may result in serious injury.



WARNING! In case of the blade or drive belt brake, wait until all rotating parts are completely stop. Failure to do so may result in serious injury.

Move the blade guide arm out.

Open the blade housing covers. Release the blade tension ([See Section 3.7](#)) until the wheel is pulled in and the blade is lying loose in the blade housing. Carefully remove the blade from the blade housing.

Install the blade so it is lying around the wheels. When installing the blade, make sure the teeth are pointing the correct direction. The teeth should be pointing toward the operator side of the sawmill when you are looking at the blade below the blade guides, as shown on the label located on the blade housing.

Position 3.5" (90mm) wide blades on the wheels so the gullet is 8 mm (0.314") out from the front edge of the wheel

Close the blade housing. Next, use the blade tension handle to tension the blade correctly.



CAUTION! When adjusting the blade position, be extremely careful, because your fingers can get pinched.

3.7 Tensioning the Blade

See Table. 3-1. WM5500 pneumatic and hydraulic approximate tension values are shown below.

Hydraulic presure PSI/Bar	Operating pneumatic pressure PSI	Preload pneumatic pressure PSI
715/50	20	15
1100/75	30	22
1300/90	40	30
1450/100	50	37
1600/110	65	50

TABLE. 3-1

See Figure 3-19

1. According to used blade, inflate Bellow Cylinder to Preload Pneumatic PSI.

To inflate Bellow Cylinder connect air pressure hose to the fitting shown on the picture below.

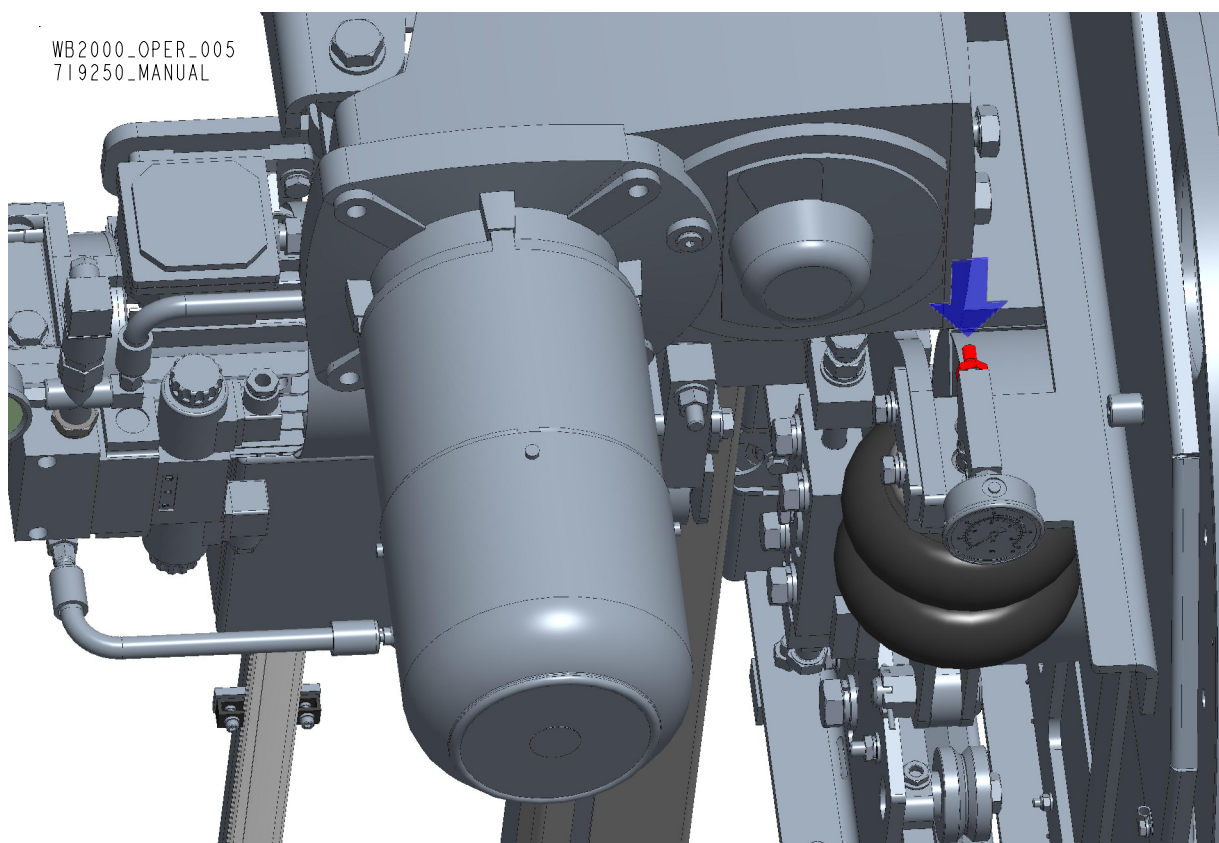


FIG. 3-21

See Figure 3-20

2. According to used blade, set hydraulic pressure. To set hydraulic pressure use buttons on the box show on the picture below. At the same time observe the Bellow Cylinder to see if it deforms. If necessary adjust the air pressure in the Bellow Cylinder.

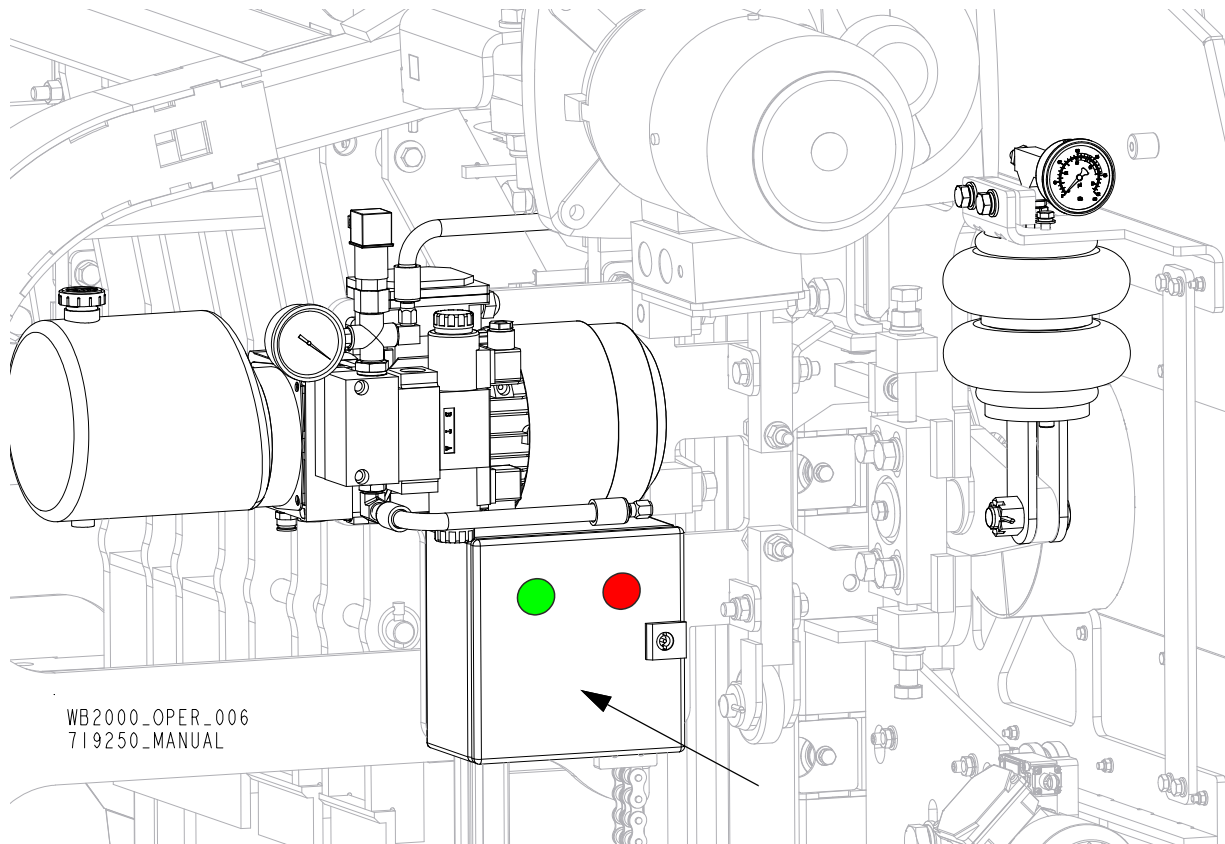


FIG. 3-22

3 Setup & Operation

Tensioning the Blade



IMPORTANT! Adjust the air in the Bellow Cylinder so that the Compensation Arm is horizontal.

See Figure 3-21.

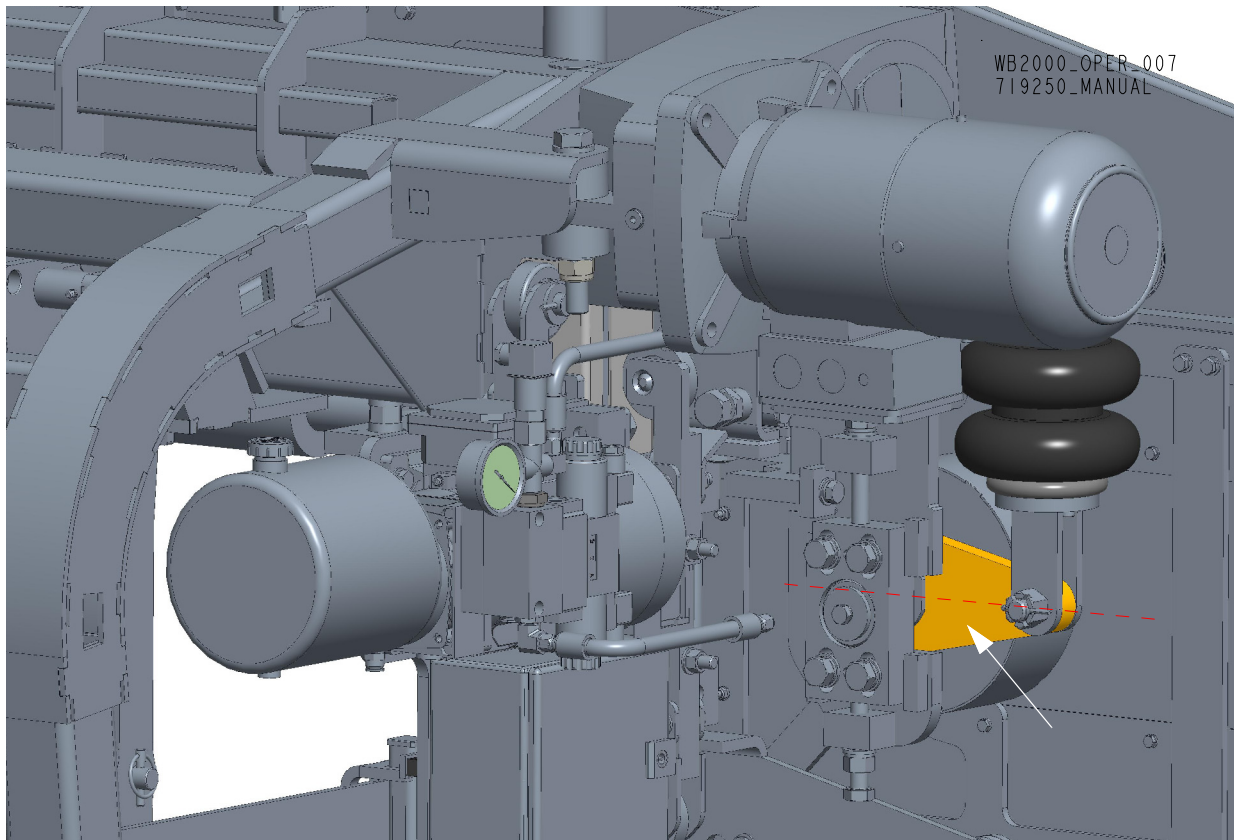


FIG. 3-23

Check the blade tension occasionally when adjusting the cant control or while cutting. Also, ambient temperature changes can cause tension to change.



CAUTION! Release the blade tension when the resaw is not in use (for example at the end of a shift). Tension the blade again before starting the motor.



WARNING! In case of a blade or drive belt brake, wait until all rotating parts are completely stop. Failure to do so may result in serious injury.

The WM5500 sawmill is equipped with a safety switch that disengage the motor until the blade is properly tensioned (the motor is stopped also when the blade breaks).

3.8 Tracking the Blade

1. Open the blade housing.
2. Turn the key switch to the "H" position.



3. Carefully spin by hand one of the blade wheels until the blade positions itself on them.
4. Check if the blade is properly positioned on the blade wheels.

See Figure 3-22 Position 3.5" (90mm) wide blades on the wheels so the gullet is 8 mm (0.314") out from the front edge of the wheel.

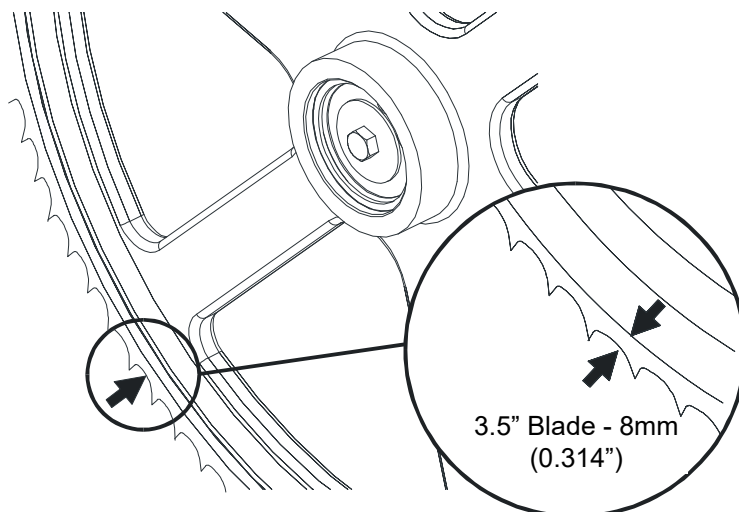


FIG. 3-24

See Figure 3-23

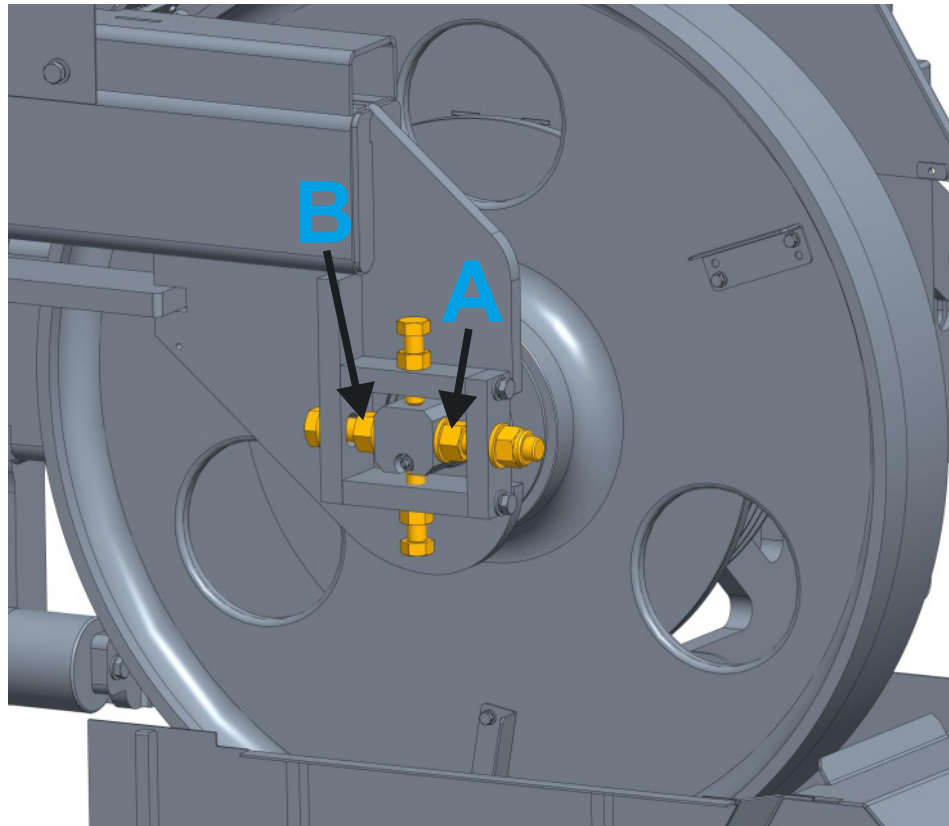


FIG. 3-25

5. Use the cant adjustment nuts (**A,B**), shown in **Figure 3-23**, to adjust when the blade travels on the blade wheels.

To move the blade out on the blade wheel, turn the cant adjustment nuts clockwise. To move the blade in on the blade wheel, turn the nuts counterclockwise.

6. After making the cant adjustment, tension the blade properly and then re-check the cant adjustment.
7. Close the blade housing.



DANGER! Make sure all guards and covers are in place and secured before operating or towing the sawmill. Failure to do so may result in serious injury. Be sure the blade housing covers are in place and secured.

DANGER! After adjusting the blade wheels, always recheck the blade tracking.

3.9 Starting the Motor

See the appropriate manual supplied with your specific motor configuration for detailed starting and operating instructions.



IMPORTANT! For safe operation of the sawmill, one person is sufficient, however in case of manual collection of sawn material, at least two persons should be assigned to these activities in order not to exceed the manual lifting standard.



CAUTION! Before starting the sawmill, the operator must warn all persons who are nearby of the intention of starting the machine.



IMPORTANT! The sawmill should be operated only by a qualified person of age, being in good state of health confirmed by a medical certificate.

IMPORTANT! When starting the machine for the first time, check that the main motor rotation direction is as indicated by the arrow located on the motor body (fan guard). If the rotation direction is incorrect, invert the phases in the phase inverter in the power socket (electric box). Setting the phases in the phase inverter correctly will ensure correct rotation directions of all sawmill motors.



CAUTION! Make sure all guards and covers are in place and secured before operating. Failure to do so may result in serious injury. Be sure the blade housing covers are in place and secured.



CAUTION! Always wear eye, ear, respiration and foot protection when operating the machine. Secure all loose clothing and jewelry before operating the sawmill.

CAUTION! Before starting the sawmill, connect a sawdust extraction system to the sawdust chute and start the extraction system. For the sawdust extractor specifications.

CAUTION! If at any time you need to immediately stop the blade motor, press the emergency stop button located on the control box.

Before starting the sawmill at a new location, at least once a year or after every repair have a qualified electrician (having appropriate measurement qualifications) check the insulation resistance and the electric shock protection of the electrical system.

The electric box should be protected against dust and moisture. Regularly disconnect the power supply and clean the inside of the electric box of dust, sawdust, etc. Do not operate or leave the sawmill with the electric box door open.



CAUTION! Hazardous voltage inside the electric box (even if disconnected with the main disconnect switch) and at the motor can cause shock, burns, or death. Always disconnect the power supply before servicing!

3.10 Lube System Operation

The Lube System keeps the blade and the wheels clean and cools them. The coolant (ACP-1 oil) flows from a 5-liter tank through hoses to both sides of the blade and surfaces of the wheels. Drip feed lubricators located on the saw head control the amount of oil flow.

Use just as much coolant as it is necessary to keep the blade clean. Usually, it is sufficient to set the drip feed lubricators so that one drop flows every 3 seconds.



WARNING! Never use flammable fuels or liquids! If these types of liquids are necessary to clean the blade, remove it and clean with a rag. Failure to do so may result in serious injury or death.

Before removing the blade, start the motor with the START button. Let the blade spin with oil running on it for about 15 seconds. This will clean the blade of sap buildup. Wipe the blade dry with a rag before storing or sharpening.

If you are sawing in temperatures below -20 °C (-4 °F), remove the oil tank from the sawmill when done sawing and store it in a warm place. Blow any remaining oil from the lube hose.

3.11 Vision Camera

See Figure 3-24 Mount vision camera as shown in the picture below.

WB2000MEC50HS5U_001
WB2000MEC50HS5U_MANUAL

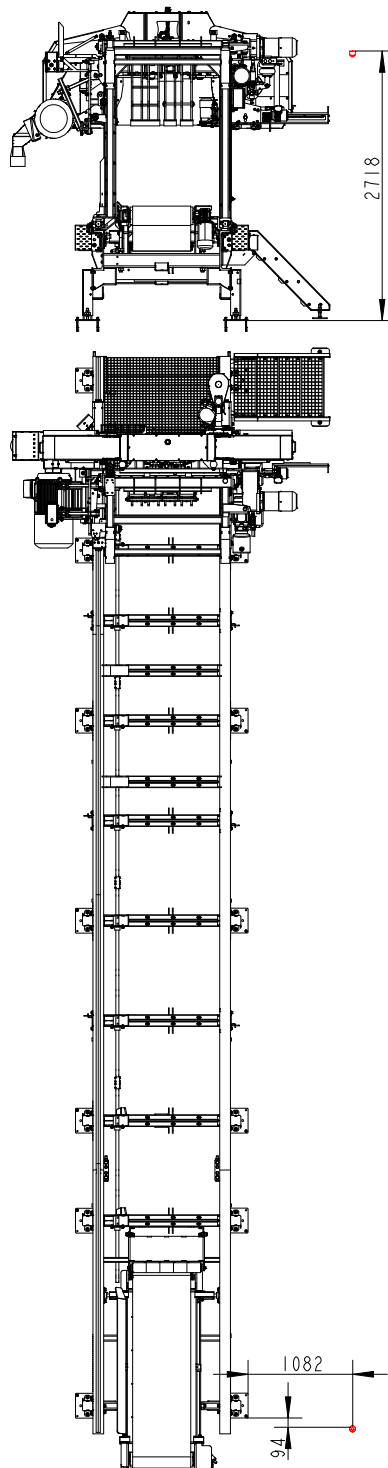


FIG. 3-26

3.12 Pantograph Cable Boom

IMPORTANT! Make sure there is enough room around the sawmill for the pantograph movement after the pantograph assembly installation is complete.

See **Figure 3-25** Position the pantograph next to the sawmill bed as shown. (**NOTE:** The assembled pantograph is shown below.)

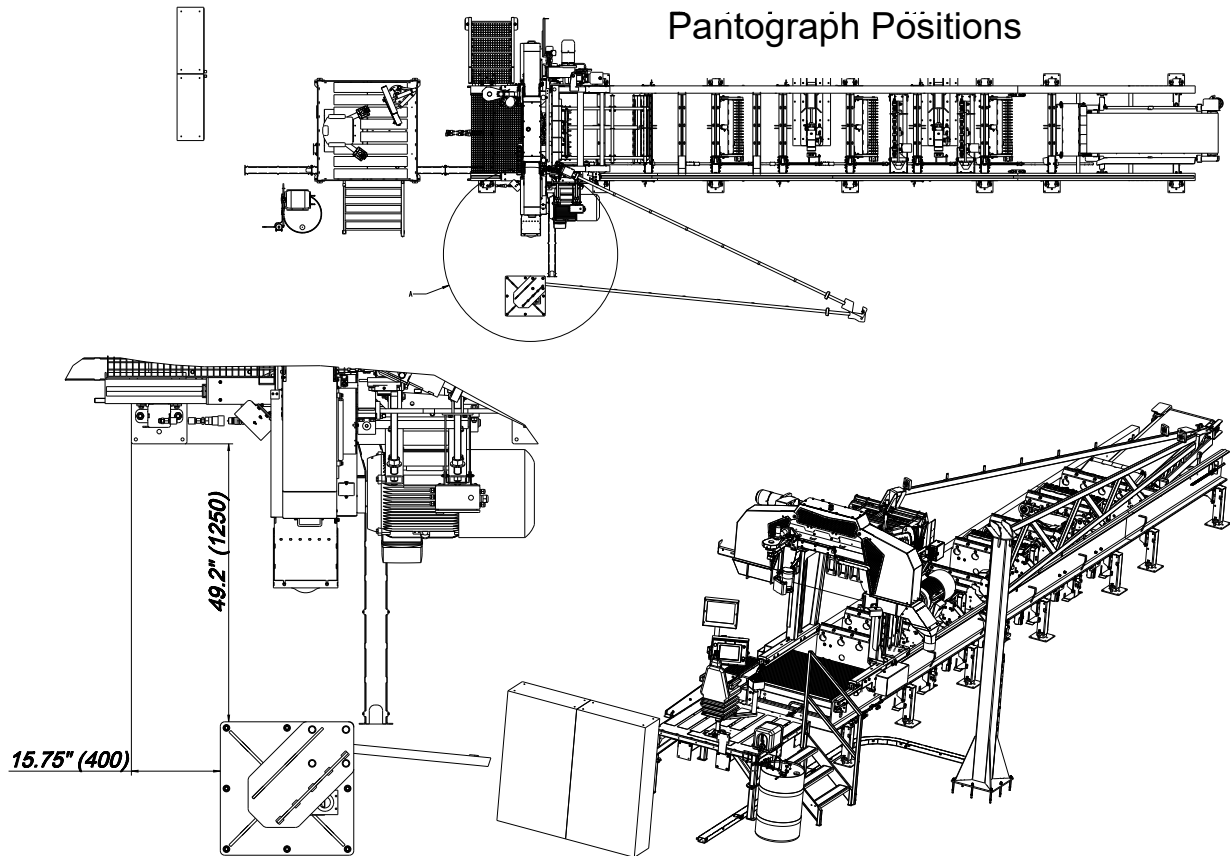


FIG. 3-27

8. Secure the pantograph main tube weldment to the ground with eight anchor bolts. A cement pad with 1/2" diameter anchor bolts is recommended.
9. Install the pantograph frame weldment to the main tube. Install the two provided flange bearings to the upper and lower pivot ends on the frame weldment. Use the provided 5/8-11 x 2 1/2" hex head bolts and 5/8-11 nylon lock nuts to secure the frame weldment to the main tube.

See Figure 3-26

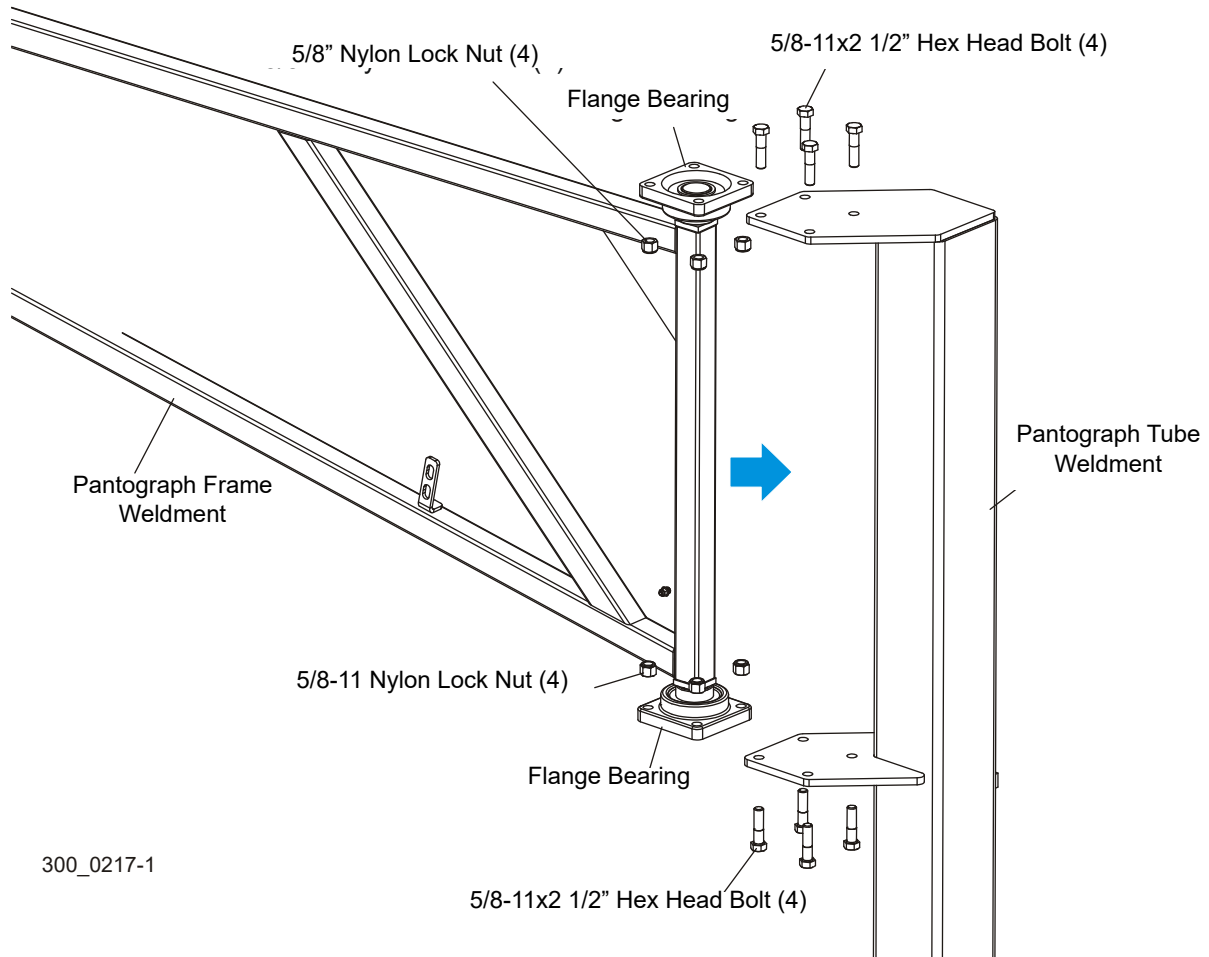


FIG. 3-28

10. Install the connector weldment to the end of the frame weldment as shown below. Use the provided parts to make the required connection.

See Figure 3-27

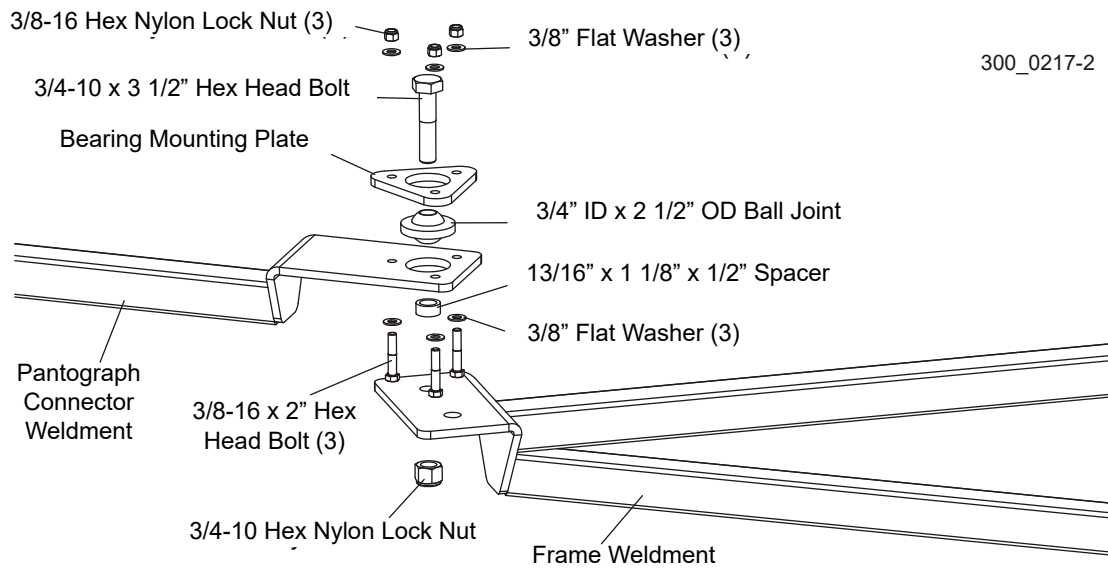
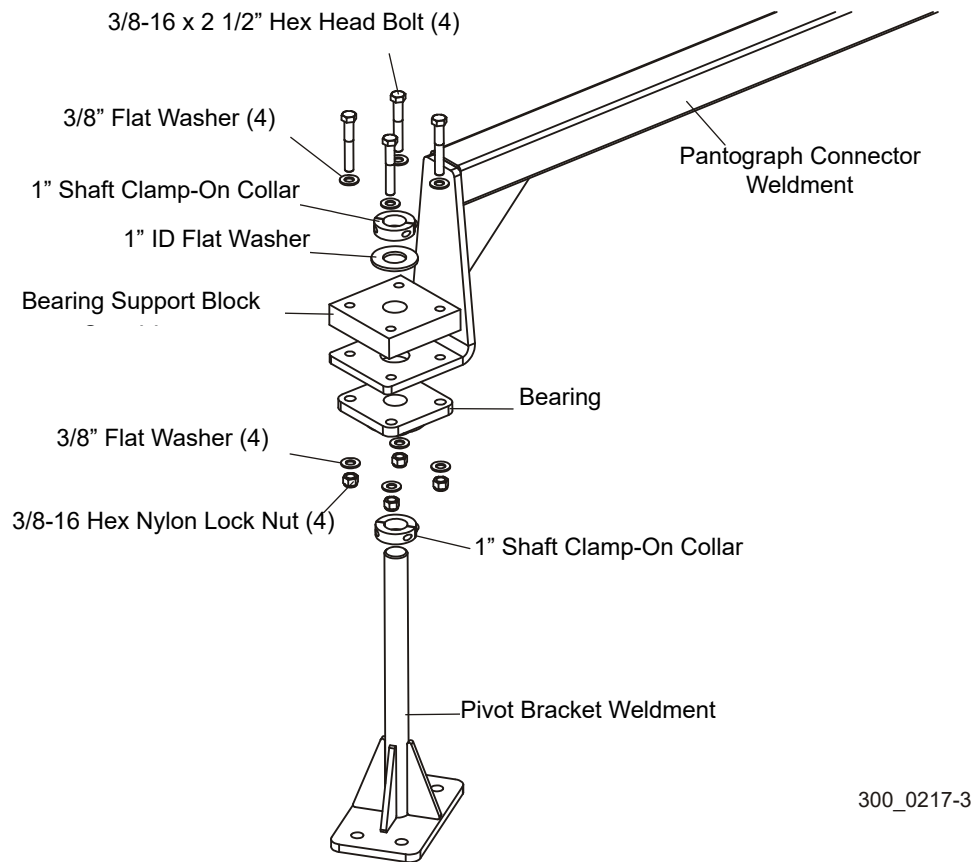


FIG. 3-29

11. Install the pantograph pivot bracket to the end of the connector weldment. Assemble the provided parts as shown below.

See Figure 3-28



300_0217-3

FIG. 3-30

3 Pantograph Cable Boom

12. Move the pantograph connector weldment so that the pivot bracket is located directly above the sawmill mast. Remove the four bolts and lock washers securing the top bellow mount plate to the sawmill mast assembly. Use the provided 1/2-13 x 1 1/2" hex head bolts and the existing lock washers to secure the pivot bracket to the mast.

See Figure 3-29

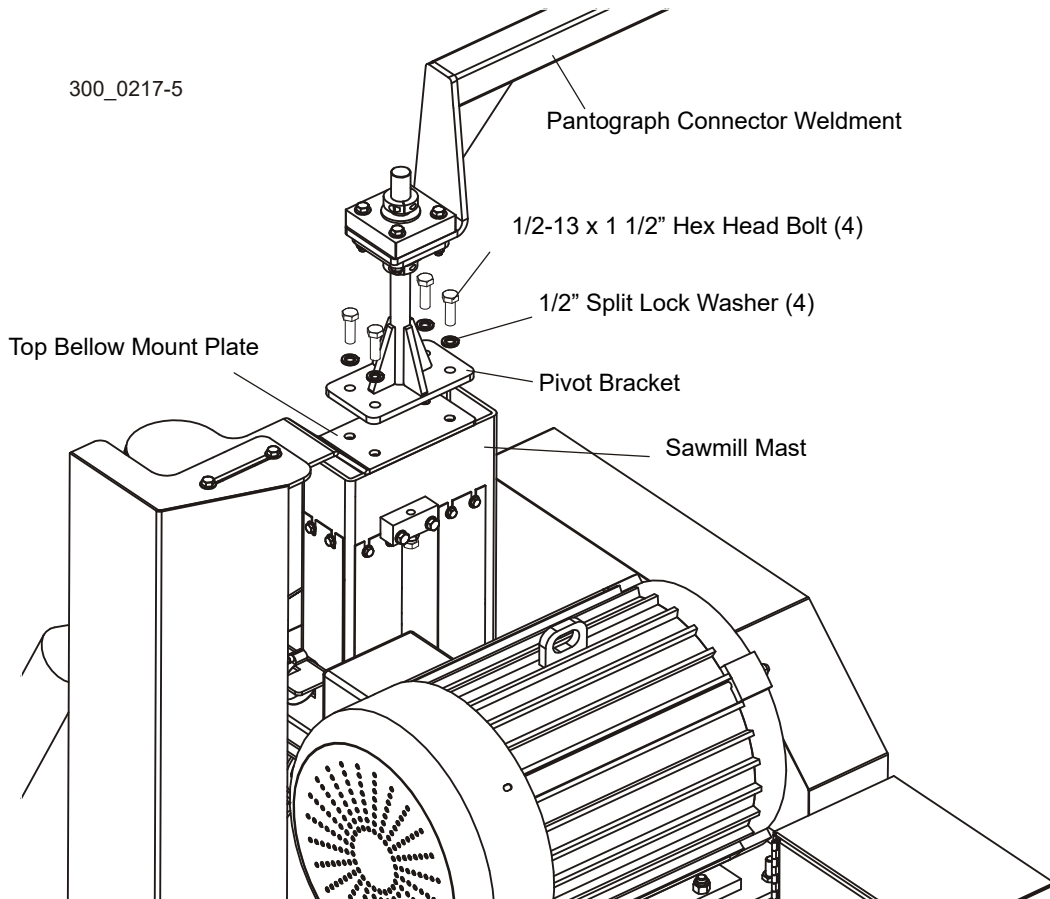


FIG. 3-31

13. Route all the cables, air line and lube hose through the cable glands on the pantograph and secure properly. Use the provided tie wraps to secure the cables, air line and lube hose to the pantograph cable brackets.

See Figure 3-30

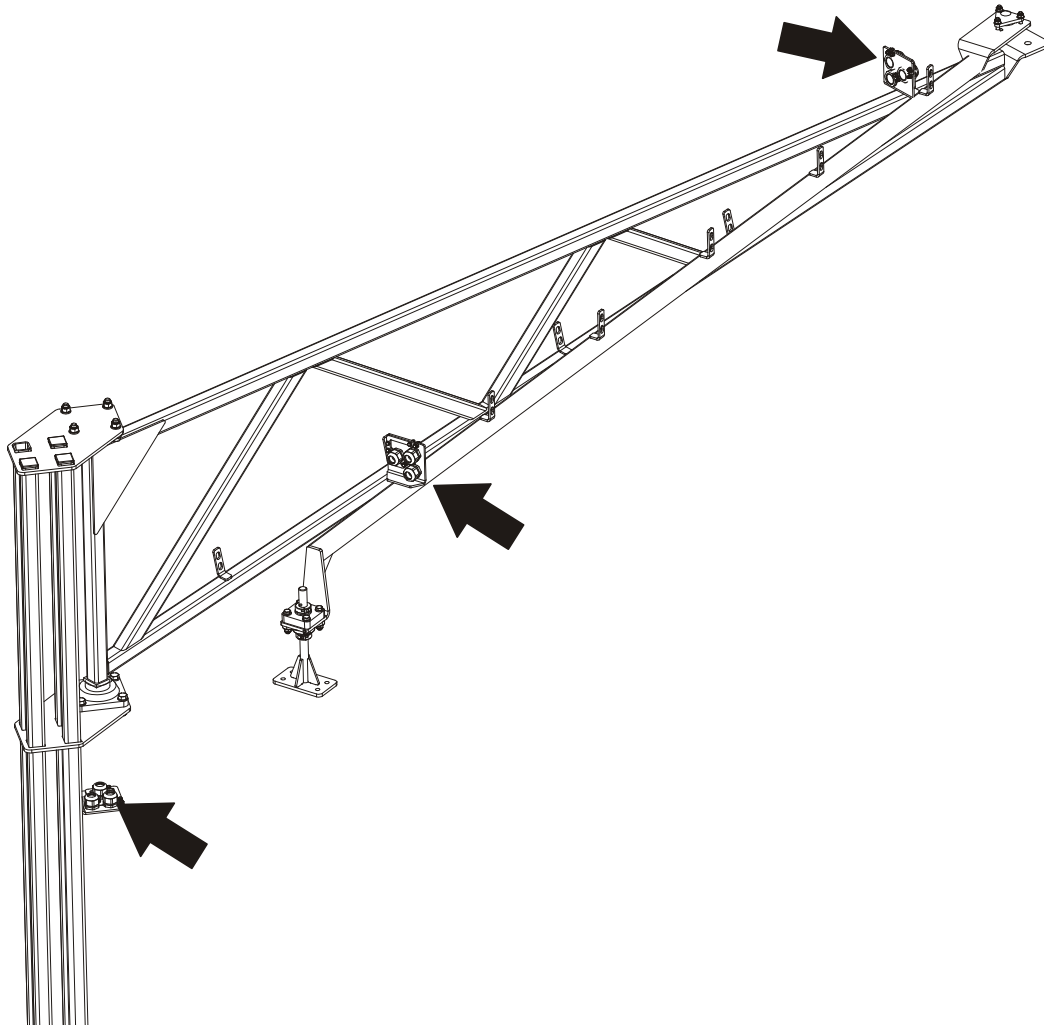


FIG. 3-32

IMPORTANT! Make sure the cables, air line and lube hose are looped at each end of the pantograph weldment to avoid damage when operating the sawmill. Make a larger loop between the pantograph assembly and the saw head for the saw head up/down movement. When pantograph electrical installation is finished, move the saw head to test the pantograph movement. Readjust the loop sizes as necessary.

SECTION 4 MAINTENANCE

This section lists the maintenance procedures that need to be performed.

The Short Interval Maintenance Schedule lists procedures that need to be performed every 4, 8 or 25 hours. The Maintenance Log lists procedures that need to be performed every 50, 100, 200, or 1000 hours. Keep track of machine maintenance by filling in the machine hours and the date you perform each procedure.

 **WARNING!** Disconnect and lock out power supply before servicing, cleaning and doing maintenance to the saw! Failure to do so may result in serious injury.

 **WARNING!** Disconnect air supply and release compressed air from the air system before servicing the saw! Failure to do so may result in serious injury.

 **This symbol** identifies the interval (hours of operation) at which each maintenance procedure should be performed.

4.1 Inspection and Maintenance

See **Table. 4-1**. The table below lists the maintenance procedures that need to be performed.

Maintenance Procedure	Maintenance Interval
Replace the blade	every 4 hours of operation
Check the condition of the blade wheels, scrapers and felt wipers	every 40 hours of operation
Check the condition of the up/down chain	every 40 hours of operation
Check the hydraulic oil level and add oil if necessary	every 50 hours of operation
Check the condition and tension of the main motor belts	every 400 hours of operation
Change the Hydraulic Oil Filter	every 500 hours of operation

TABLE. 4-1

4.2 Cleaning and Maintenance

Only guards and covers listed below can be dismounted by the operator for maintenance and cleaning purposes.

- Blade wheel covers

See Figure 4-1

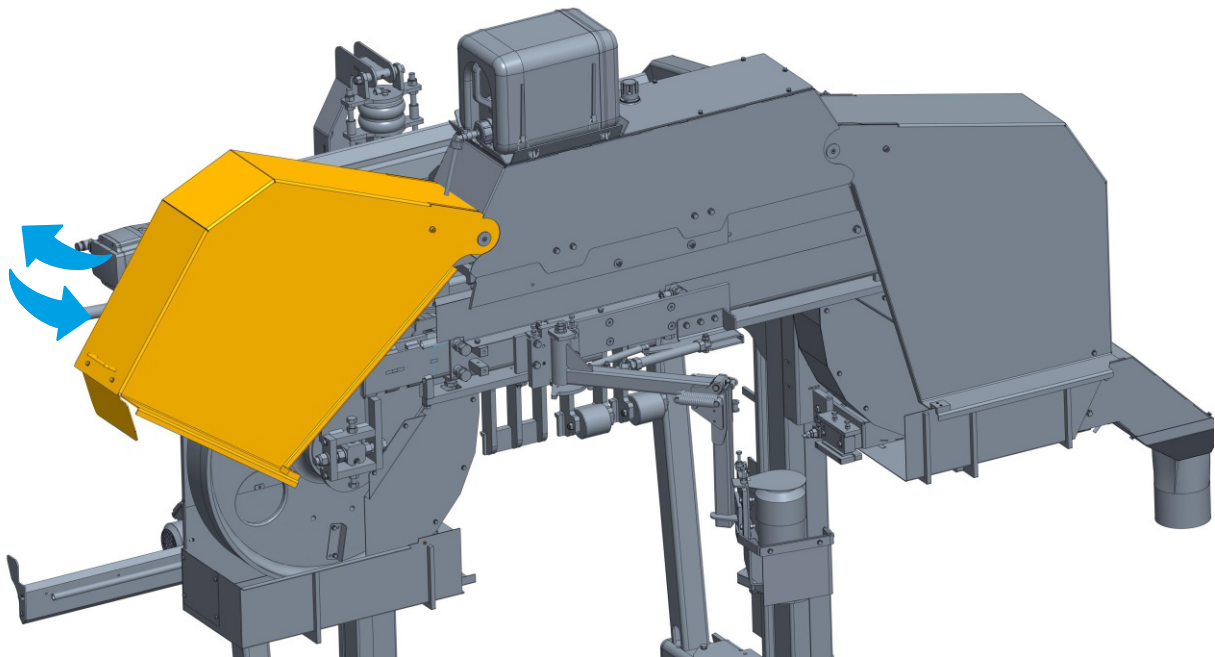


FIG. 4-1

4 Maintenance

Cleaning and Maintenance

- Blade drive belt cover

See Figure 4-2

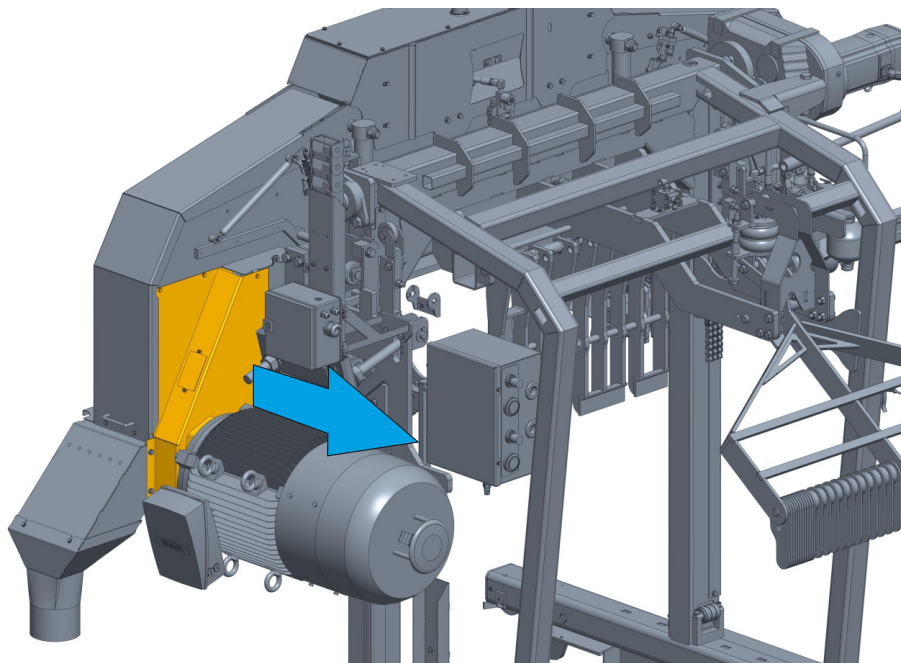


FIG. 4-2

4.3 Power Feed

50

Check the feed chain tension every 40 hours of operation and adjust as needed.

See Figure 4-3

1. Move the saw head (A) all the way to the edge of the bed

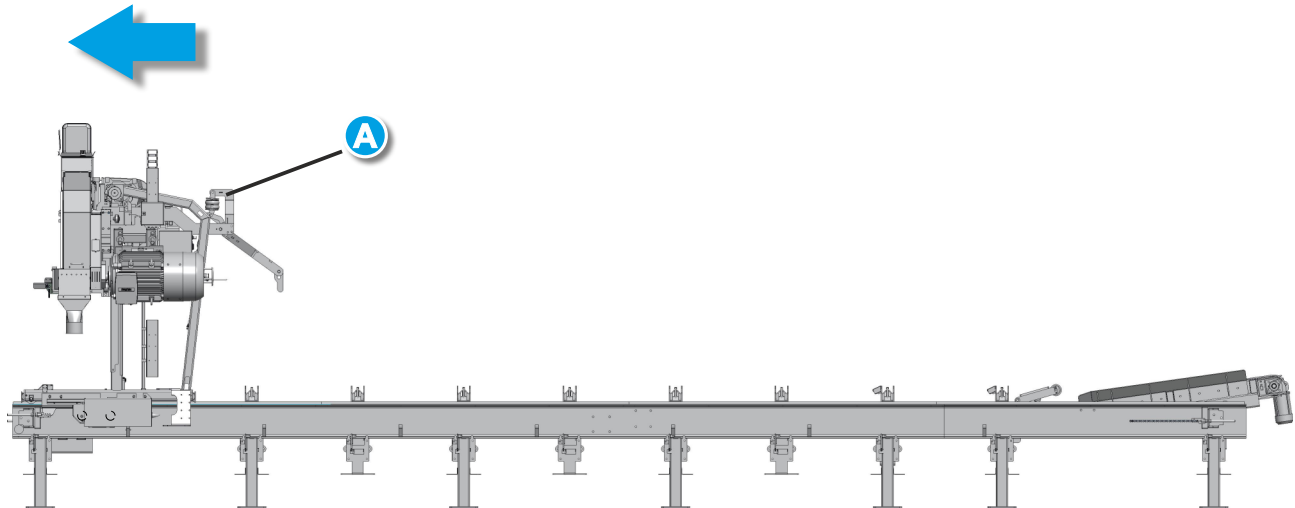


FIG. 4-3

See Figure 4-4

2. Tension the feed chain on one side of the bed using feed tensioners (B). Tension the feed chain evenly at the both ends of the bed (at the front and the back of the bed).

557554_OPER_004
557554

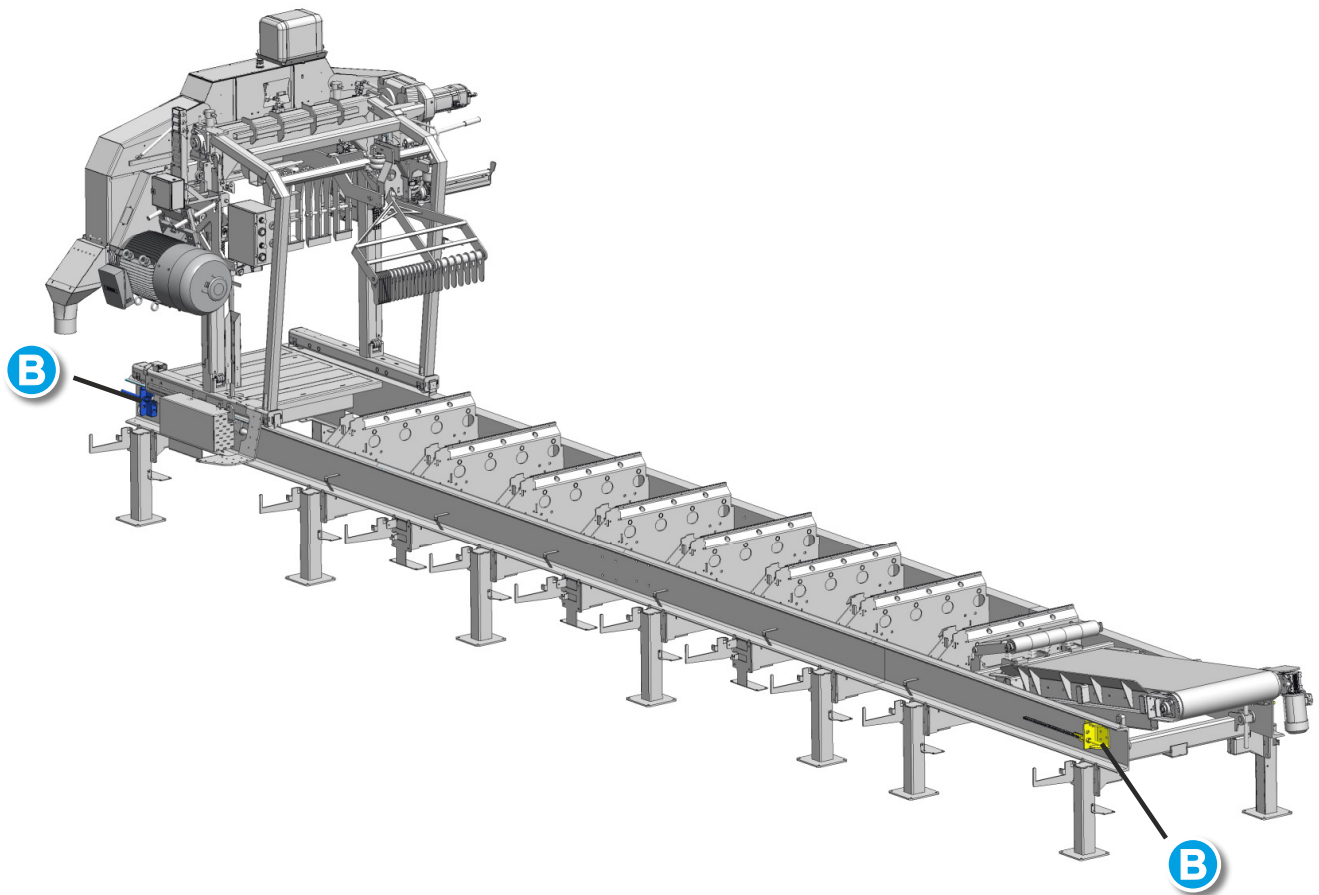


FIG. 4-4

See Figure 4-5

3. Tension the feed chain on the other side of the bed using feed tensioners (C). Tension the feed chain evenly at the both ends of the bed (at the front and the back of the bed).

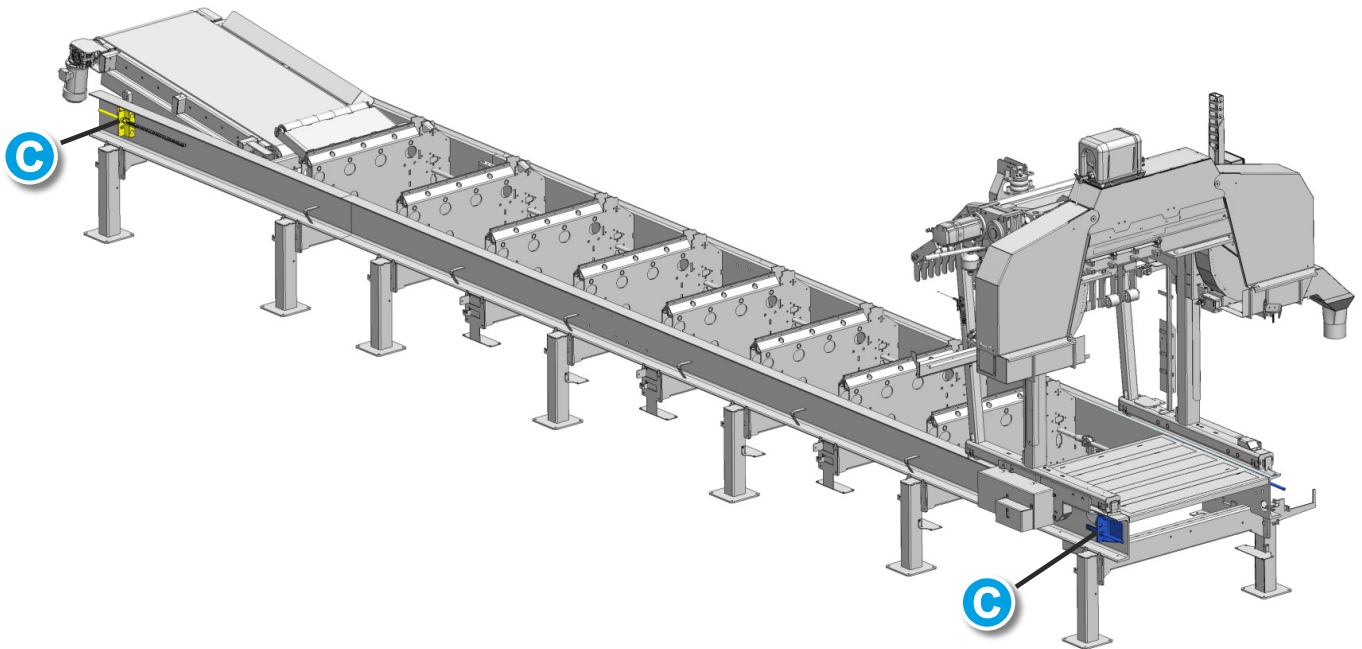


FIG. 4-5



CAUTION! Do not overtighten the feed chain. Damage to the power feed drive may result.



CAUTION! Tension the feed chain evenly at the both ends of the bed (at the front and the back of the bed).

See Figure 4-6

4. To tighten or loosen the power feed chain use adjustments nuts (D) .

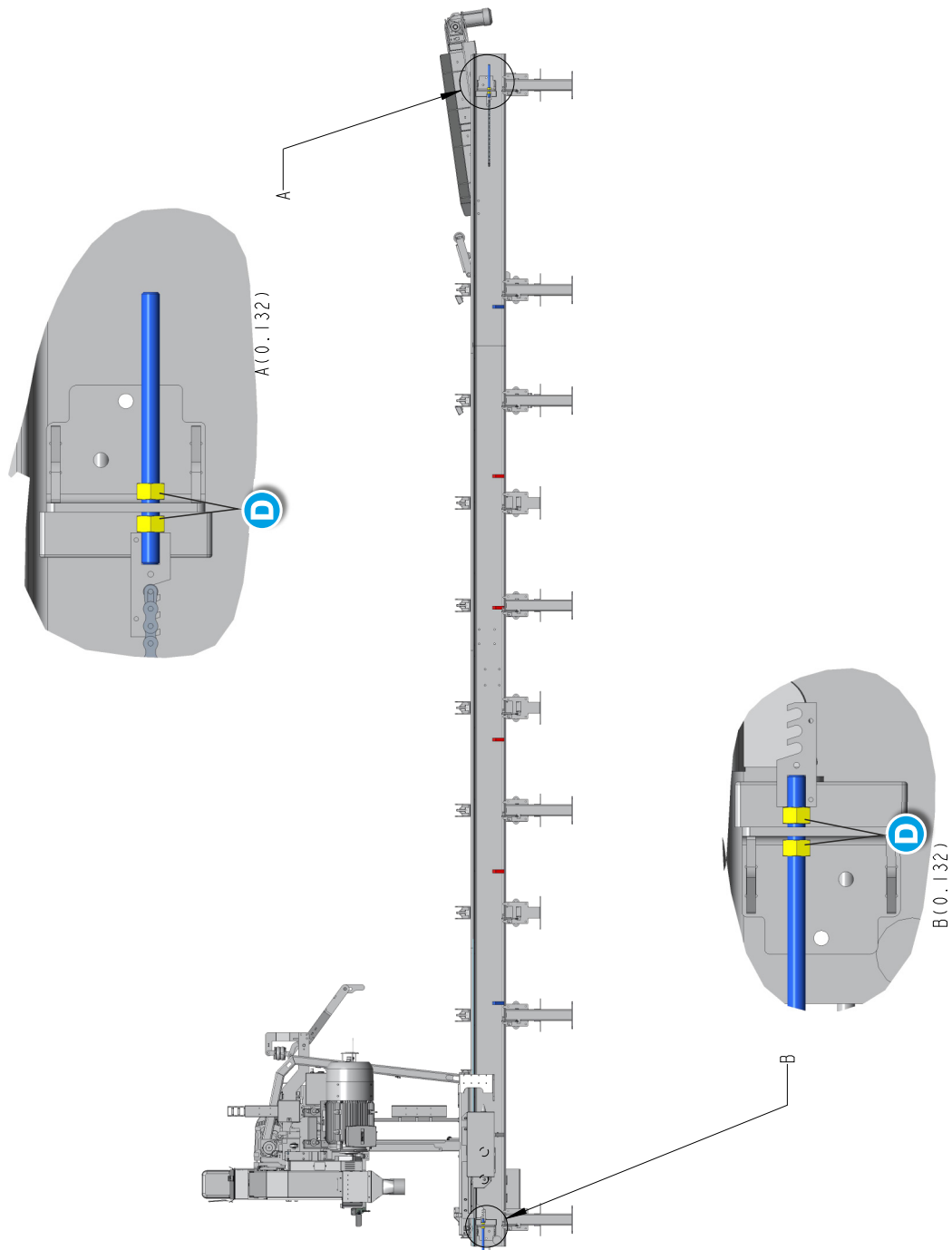


FIG. 4-6

See Figure 4-7

5. Tension the feed chain so that it touches the middle chain supports (E) but does not touch the outer ones (F).

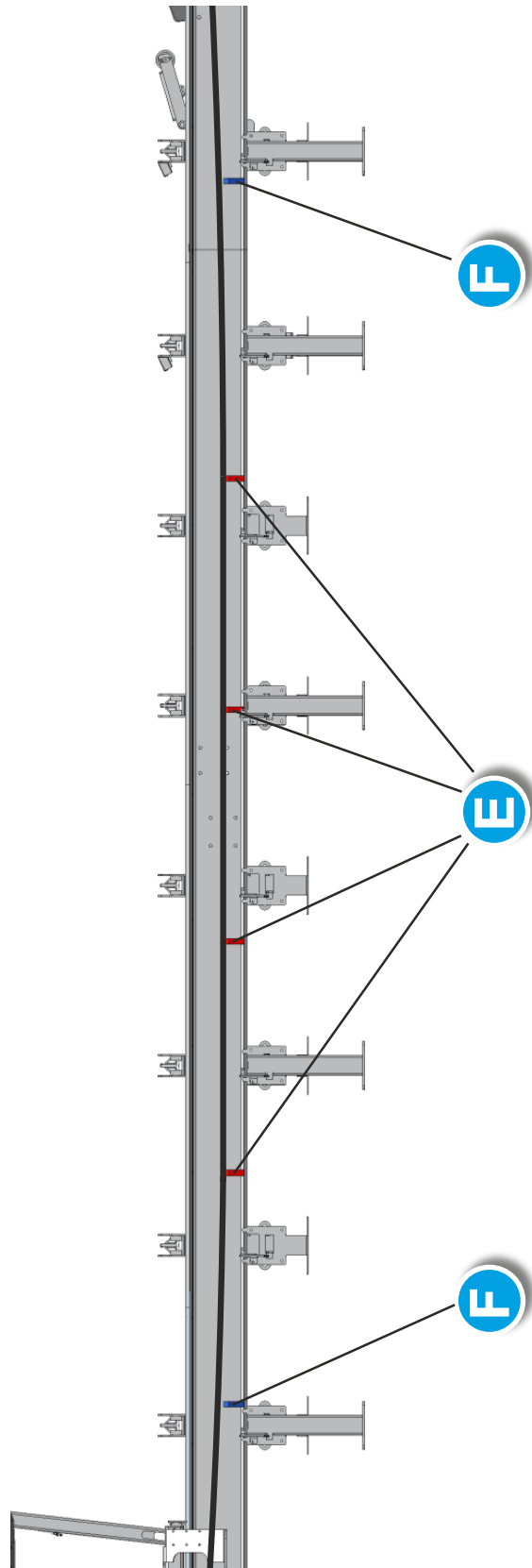


FIG. 4-7

4 Maintenance

Power Feed

Lubricate the feed chain with a Dexron III ATF oil every 40 hours of operation.



CAUTION! Tension the feed chain evenly at the both ends of the bed (at the front and the back of the bed).

500

Inspect the power feed drive system for worn sprockets, chain links, etc. every 500 hours of operation. Replace or repair components as necessary.

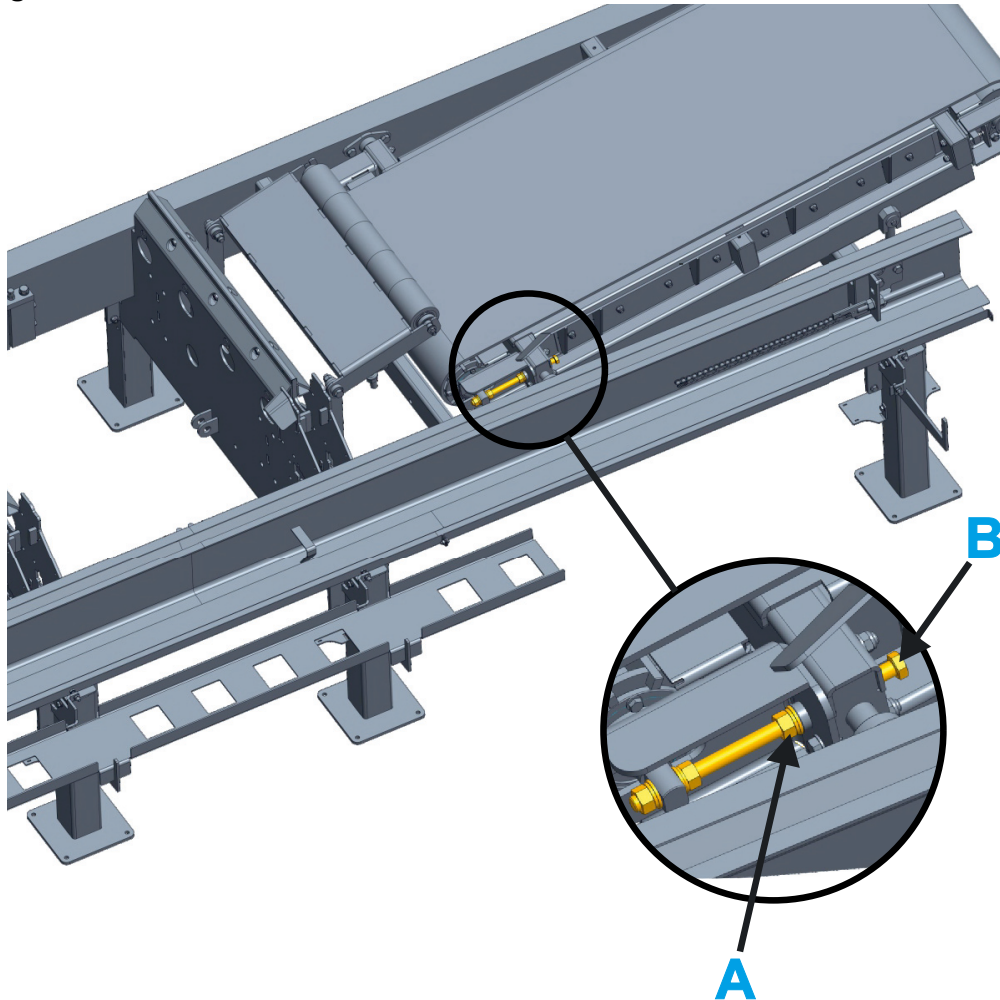
4.4 Belt Conveyor Alignment

- 0 The belt conveyor is factory-aligned. Periodically check and realign the conveyor belt if necessary. Make sure the belt remains centered on the drive roller and idle wing pulley while running. If the conveyor belt keeps travelling to the side of the drive roller and/or idle wing pulley, follow the alignment procedure below.

To align the conveyor belt:

6. Loosen the jam nuts on one or both idle wing pulley adjustment bolts.

See Figure 4-8



7. Turn one of the adjustment bolts clockwise to move the idle wing pulley downward and away from the side being adjusted. Turn the adjusted bolt counterclockwise to move the idle wing pulley upward.
8. Start the drive roller motor and check if the conveyor belt still needs to be aligned. Repeat the adjustment procedure until the conveyor belt stays in place on the drive roller and idle wing pulley while running.
9. Tighten the jam nuts when the belt alignment procedure is complete.

- 0 Periodically check the conveyor belt for wear. Replace the belt if damaged or worn. Always check the conveyor belt alignment after installing a new belt. Align the conveyor belt after replacing if necessary.

4.5 Hydraulic System

1. Check the hydraulic fluid level every fifty hours of operation. Add fluid as necessary. The level in the hydraulic pump should be 3/4" (19mm) from the top with all cylinders collapsed.

If humidity is a problem or the mill is used outside in humid weather, drain and replace two quarts (.95 liters) of fluid every six months. This will drain any accumulated water and help prevent pump failure due to water ingestion. It also will prevent excessive fluid wear and allow the fluid to maintain its hot end performance. If humidity is not a problem, drain and replace one gallon (3.8 liters) of fluid every year to prevent fluid wear.

See Figure 4-9 If you are operating in temperatures -20° to 100° F (-29° to 38° C), use an all-weather hydraulic fluid such as Exxon Univis J26. For alternate fluids and/or other temperature ranges, refer to the chart below. Operating above the recommended temperature range of a fluid could result in excessive pump wear. Operating below the recommended temperature range could result in reduced hydraulic cylinder speed.

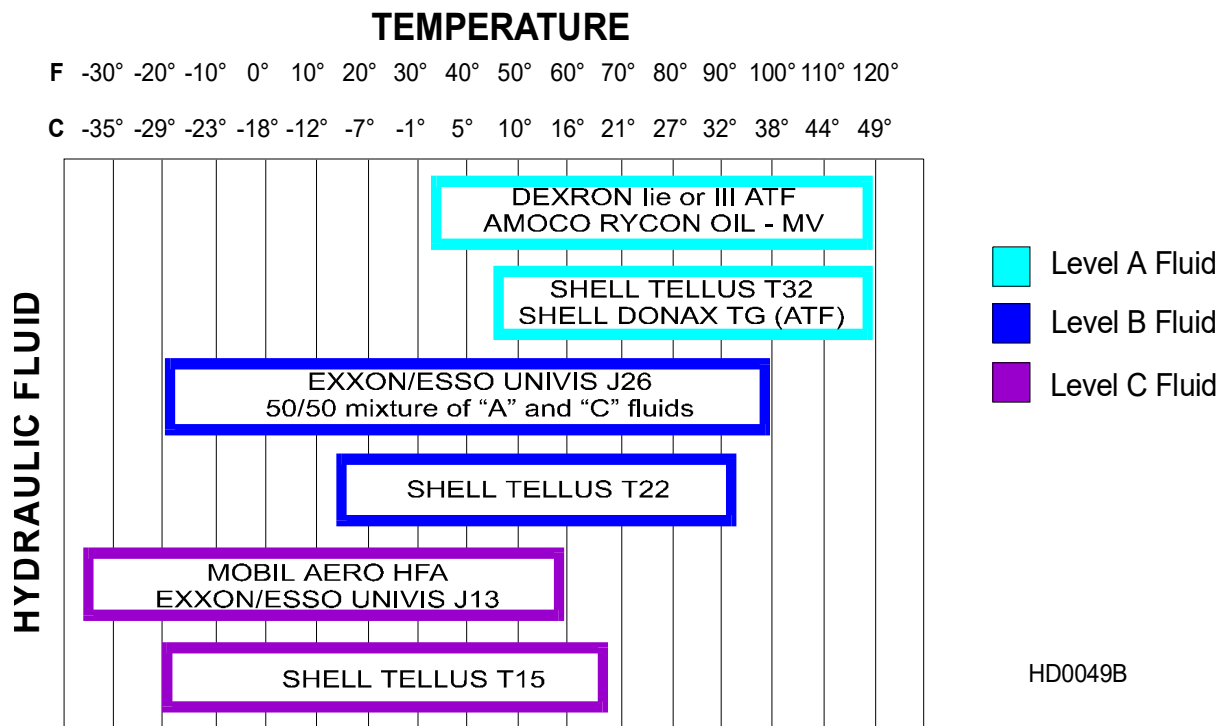


FIG. 4-8

2. Replace the hydraulic system cartridge filter every 500 hours of operation.
3. Periodically check all hydraulic lines and fitting as needed. Replace as necessary.

4.6 Safety Devices Inspection

WM5500 – Safety Devices Inspection

Safety devices on the WM5500 machine which must be checked before every shift:

- E-STOP button and its circuit
- Control circuits with the E-STOP button pressed
- Blade cover safety switch #1 and its circuit
- Blade cover safety switch #2 and its circuit
- Motor brake and its circuit

1. E-STOP button and its circuit inspection

- Turn on the blade motor;
- Press the E-STOP button located on the left side of the control box. The blade motor should be stopped. Pressing the START button should not start the motor until the E-STOP button is released.

2. Inspection of the control circuits with the E-STOP button pressed

- Turn on the blade motor;
- Press the E-STOP button located on the left side of the control box. The blade motor should be stopped.
- With the E-STOP button pressed, try to move the saw head up and down using the switch and the Networks buttons, and forward/backward using the power feed switch. Both systems should not start.
- With the E-STOP button pressed, try to start the debarker blade motor and move the debarker arm in and out. The debarker should not work.
- With the E-STOP button pressed, try to move the blade guide arm in and out. The blade guide arm should not work.
- With the E-STOP button pressed, try to start the board return system. The board return system should not work.

3. Blade cover safety switch #1 and its circuit inspection

- Turn on the blade motor;
- Open the blade housing cover #1;
- The blade motor should be stopped;
- Try to start the motor. The blade motor should remain stopped;
- Close the blade housing cover #1;
- The blade motor should remain stopped until it is restarted with the START button.

4. Blade cover safety switch #2 and its circuit inspection

- Turn on the blade motor;
- Open the blade housing cover #2;
- The blade motor should be stopped;
- Try to start the motor. The blade motor should remain stopped;
- Close the blade housing cover #2;
- The blade motor should remain stopped until it is restarted with the START button.

5. Motor brake and its circuit inspection

- Turn on the blade motor. Stop the motor using the STOP button. Measure the braking time.
- Turn on the blade motor. Stop the motor by switching the key to the “0” position. Measure the braking time.
- Turn on the blade motor. Stop the motor by switching the key to the “2” position. Measure the braking time.

The braking time should always be shorter than 10 seconds. If the braking time is longer, it is necessary to adjust or replace the motor disk brake. See your motor option manual.

6. Mode selection inspection.

- Install and tension the blade.
- Open the blade cover.
- Set the key switch to “H” position (see below).
- It should be possible to spin the blade wheels by hand.

7. Operator seat safety switch and its circuit

- Turn on the blade motor;
- Rise from operator seat;
- The blade motor should be stopped;
- Try to start the motor. The blade motor should remain stopped;
- Sit down on the operator seat. The blade motor should remain stopped;
- Try to start the motor. The blade motor should be started.

4.7 Battery Replacement - M251 PLC

The controller's backup battery maintains the RTC (Real-Time Clock) and preserves non-volatile memory contents, including user-defined variables such as machine settings and configuration parameters.



WARNING! Turn OFF the power before opening the cabinet. If power is left ON during replacement, wear appropriate electrical safety PPE.

NOTE: Risk of data loss. When the battery is replaced, the PLC memory may be cleared and machine settings can be lost. To minimize downtime and ensure the machine can be returned to its previous operating condition, take photos of all important settings before replacing the PLC battery.

See Table 4-1. for battery characteristics.

Characteristics	Description
Use	In the event of a transient power outage, the battery powers the RTC.
Backup life	At least 2 years at 25°C maximum (77°F). At higher temperatures, the time is reduced.
Battery monitoring	Yes
Replaceable	Yes
Controller battery type	Lithium carbon monofluoride, type BR2032 or CR2032X

TABLE 4-1



WARNING! Replacement of the battery in the controllers other than with the type specified in this documentation may present a risk of fire or explosion.

Replace the battery **every 12 months** if any of the following conditions apply:

- The machine is frequently powered off.
- The battery has not been replaced within the last 12 months and the machine will be powered off for more than 10 days.
- The machine is located in a high-temperature environment year-round.

Otherwise, replace the battery **at least every 24 months** (do not exceed 24 months).

NOTE: Replace within 120 s after switching off the power.

See Figure 4-1. Use an insulated screwdriver to pull out the battery holder.¹

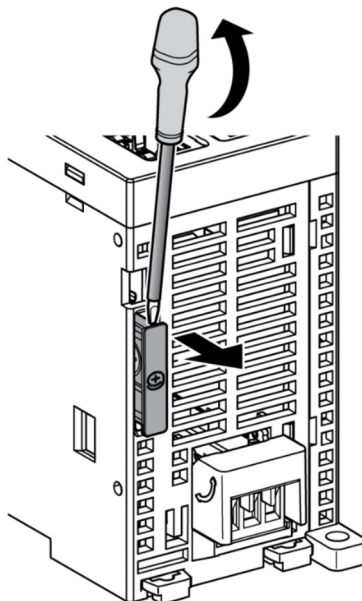


FIG. 4-1

See Figure 4-2. Insert the new battery into the battery holder in accordance with the polarity markings on the battery.

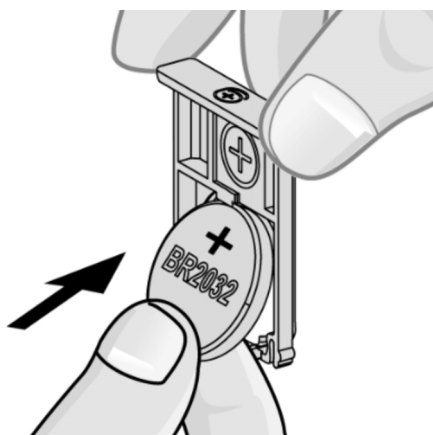


FIG. 4-2

See Figure 4-3. Slide in the battery holder of the controller.

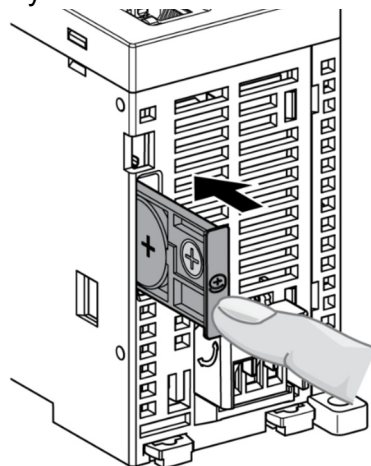


FIG. 4-3

1. Illustration sourced from Schneider Electric.

SECTION 5 ALIGNMENT

5.1 Sawmill bed

5.1.1 Level the mast

The saw head mast must be leveled in the horizontal plane. To do this, place the level (**A**) on the mast tubes as shown below. If the mast is not leveled, use the mast adjustment bolts. Their location is marked with blue circles below.

See Figure 5-1

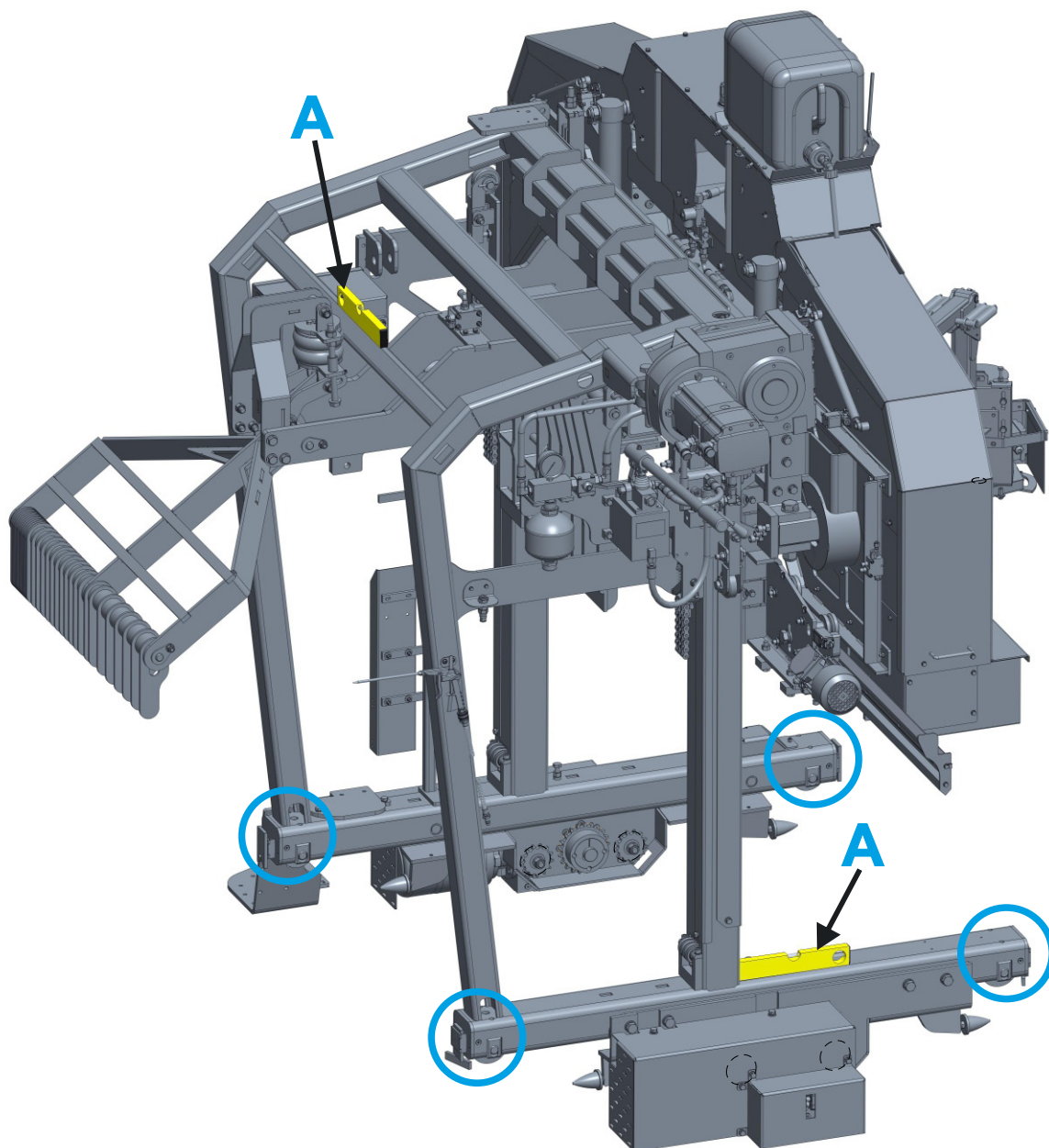


FIG. 5-1

5 Alignment

Level the mast

See Figure 5-2 Remove the mounting screws (A) and four scraper brackets (B).

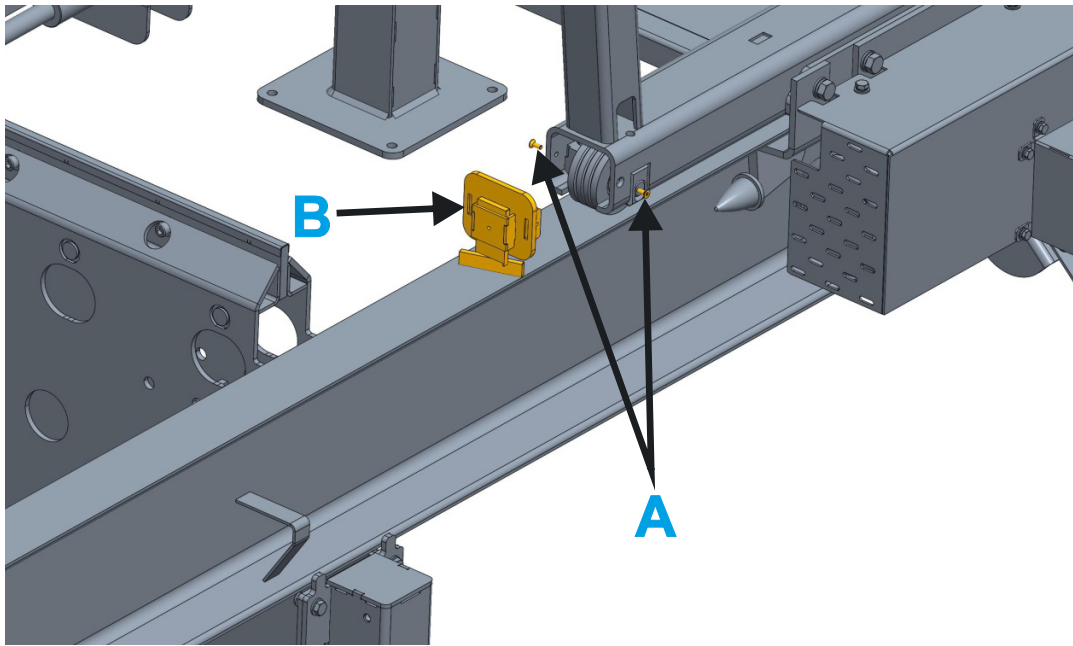


FIG. 5-2

See Figure 5-3 Use the adjustment bolts (A) of the mast rollers to level the mast. Adjust the bolts on each roller evenly.

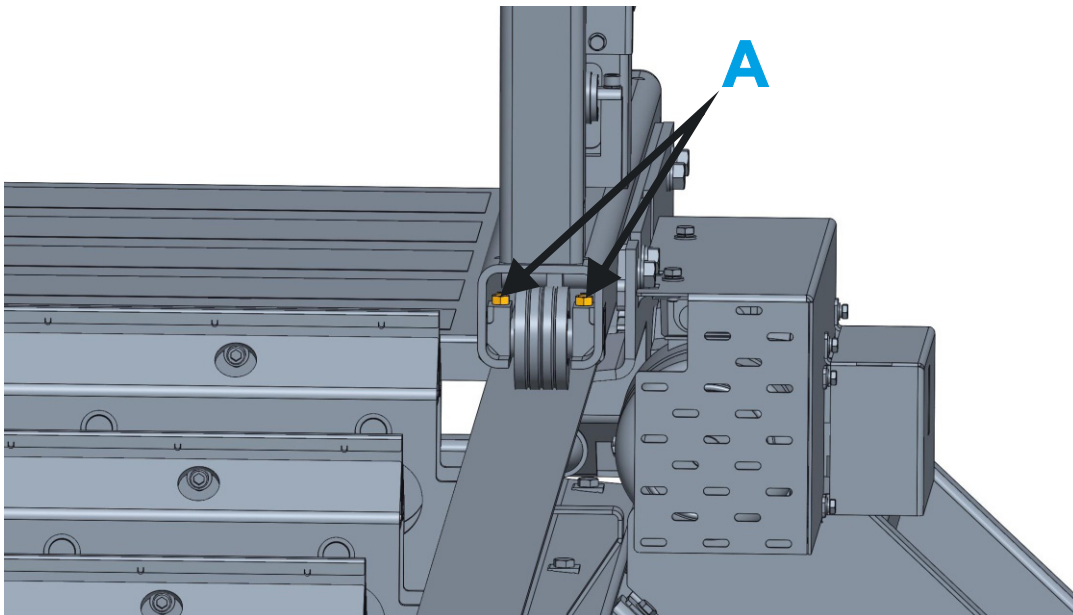


FIG. 5-3

5.1.2 Adjustment of the bed rails

Position the saw head over the front bed rail (from the belt conveyor side). Measure the distance from the bed rail to the blade, near the left (A) and right (B) blade guides. The measurements should be the same.

See Figure 5-4 To adjust the bed rail, loosen the locking bolts (D). Then, using the adjustment bolts (C), adjust the bed rail so the measurements A and B are the same. The distance between the bed rail and cant stop should not be larger than 18mm. When the adjustment is done, tighten the locking nuts.

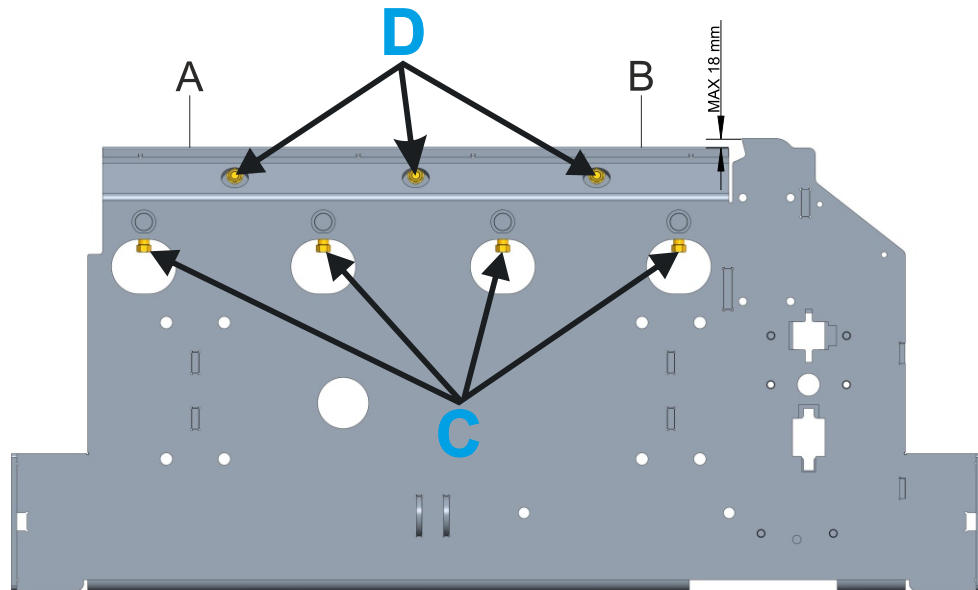


FIG. 5-4

Move the saw head over the last bed rail. Adjust the last bed rail so the distances from the blade to the last bed rail are the same. Then attach a rope to the first and last bed rails.

5 Alignment

Adjustment of the bed rails

See Figure 5-5 Adjust the remaining bed rails so they touch the rope.

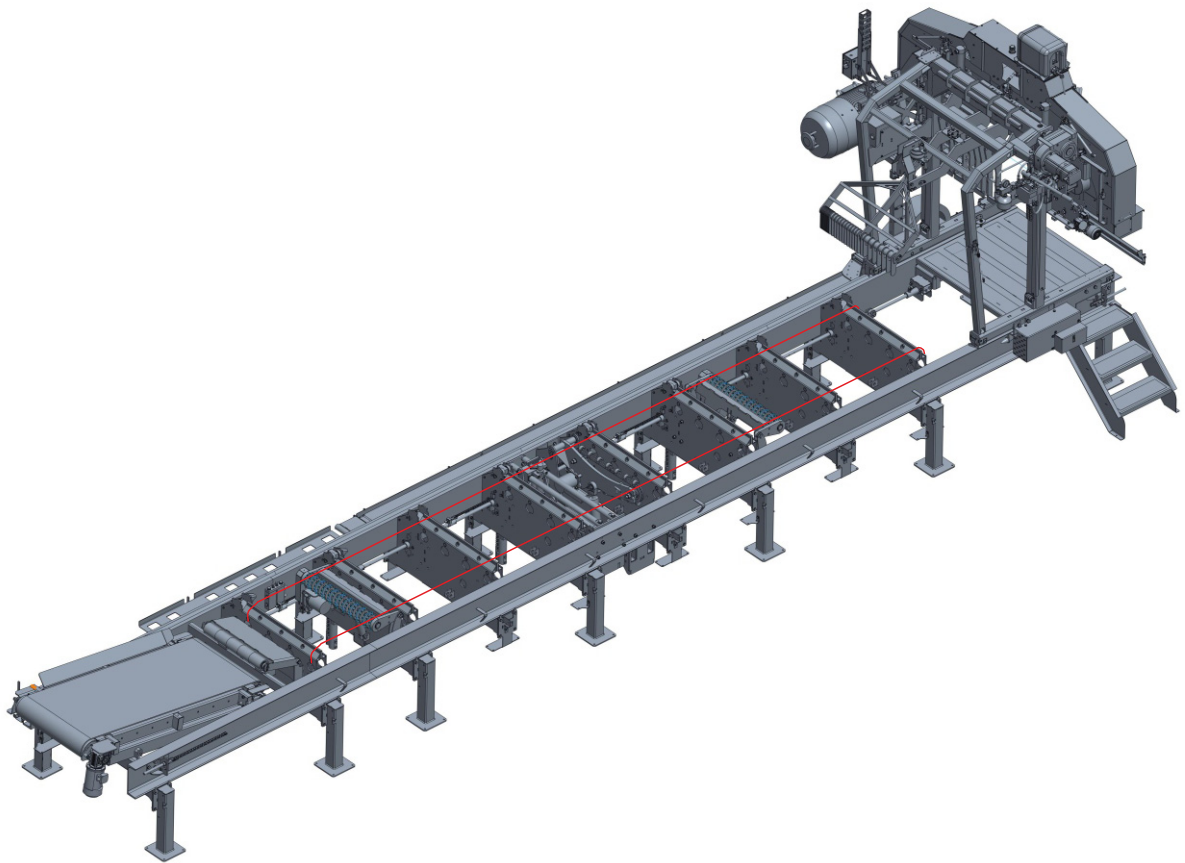


FIG. 5-5

5.1.3 *Adjustment of the side supports*

Adjust the side supports so they stop at the upper and lower limits at the same moment.

See Figure 5-6 To adjust the side support, use the adjustment nuts **(A)** shown below. Adjust both chains evenly so they do not have slack.

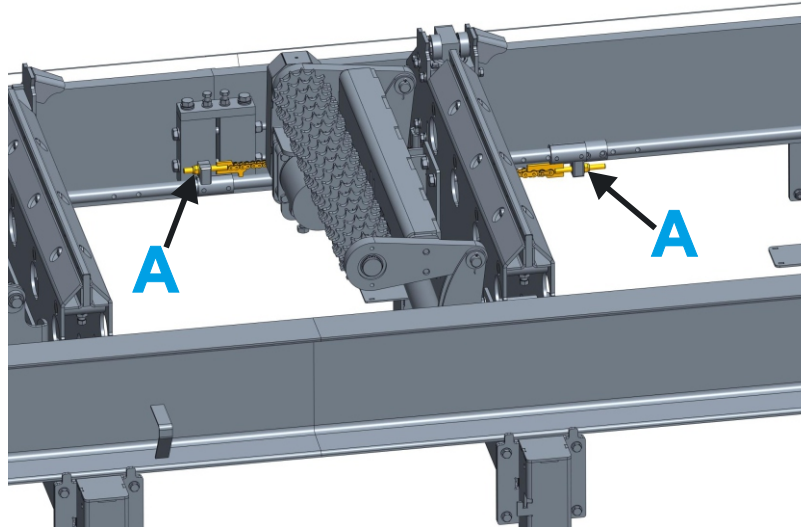


FIG. 5-6

5.2 Sawmill Head

5.2.1 Level the saw head

Install a blade and apply the appropriate tension as shown in [Section 3.6](#).

See Figure 5-7 Make sure the blade guide blocks do not touch the blade. Position the saw head over the log clamp. Measure the distance from the rod of the blade clamp near the left (A) and right (B) blade guides. The measurements should be the same. If not, it is necessary to adjust the saw head tilt.

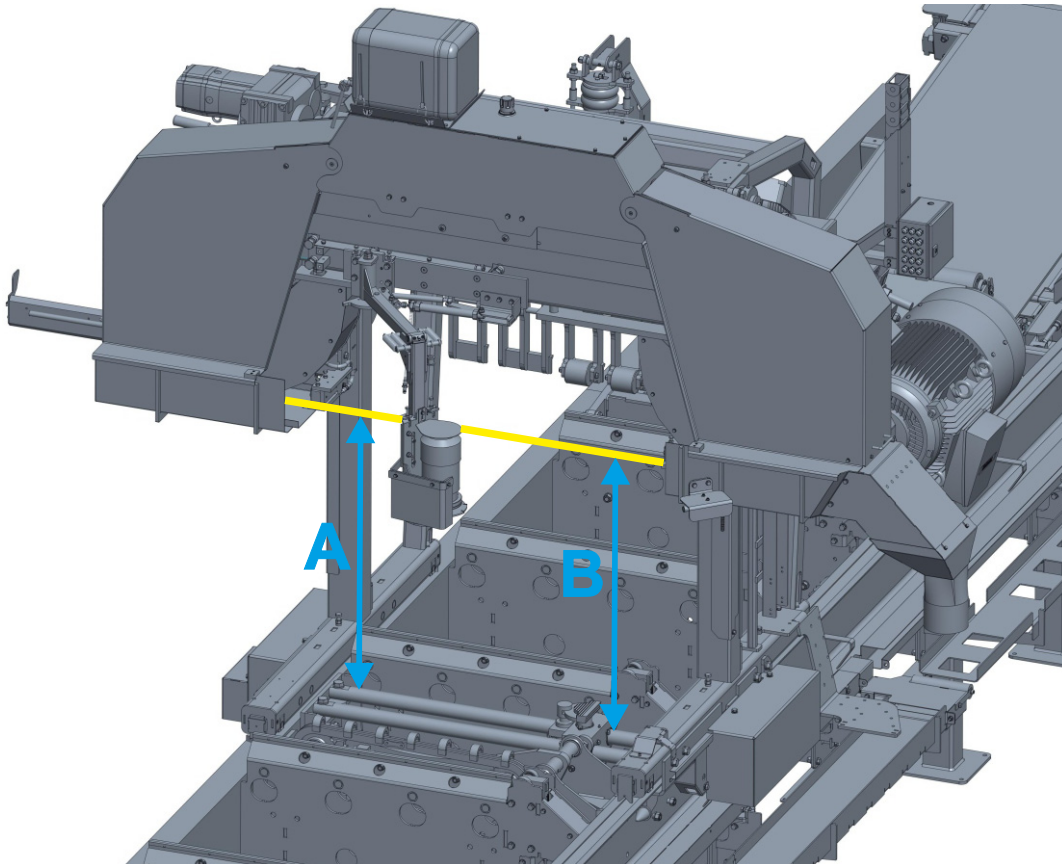


FIG. 5-7

See Figure 5-8 Use the adjustment bolt of the up-down system chains to level the saw head.

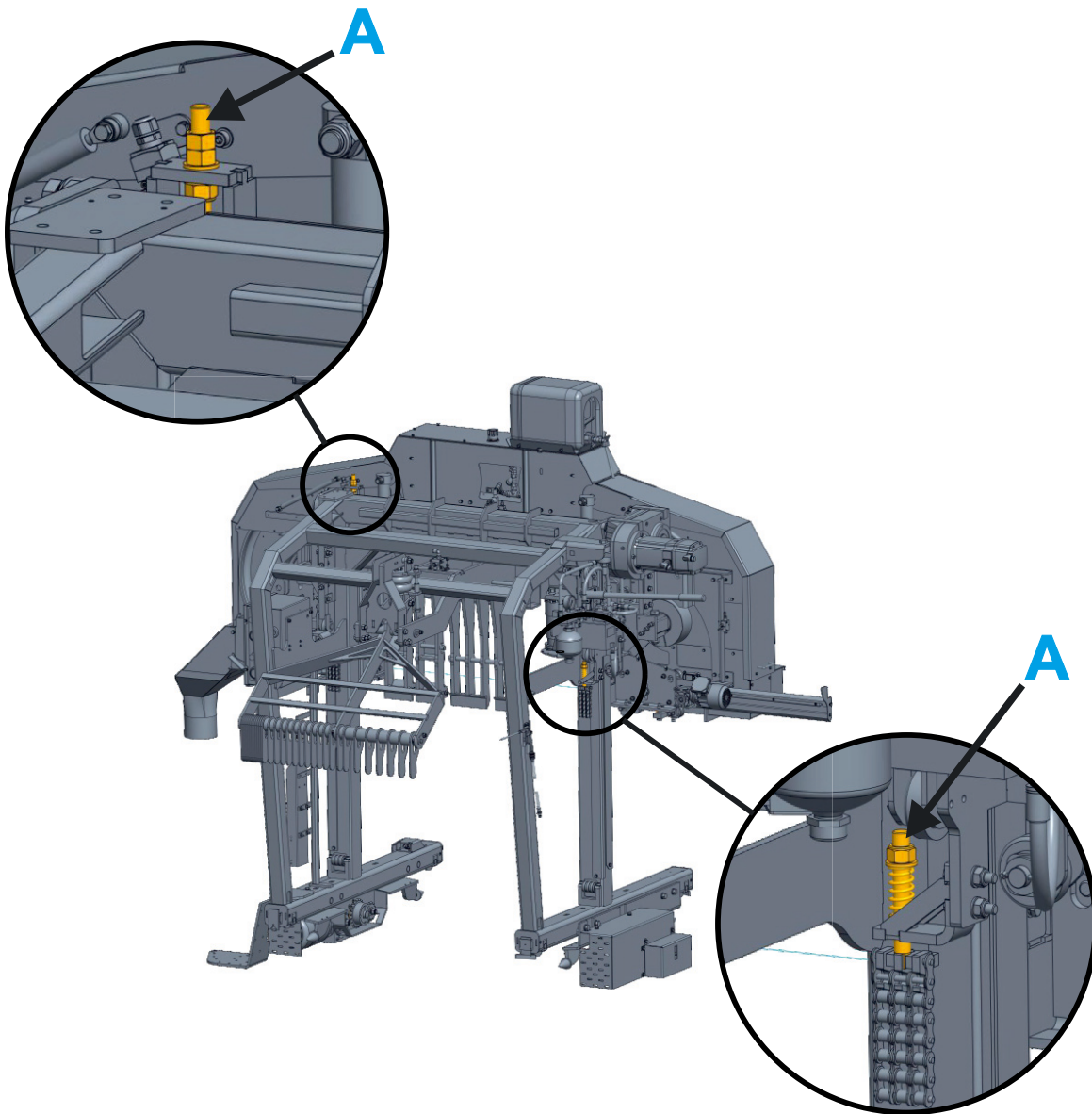


FIG. 5-8

5 Alignment

Up-down system rollers

5.2.2 Up-down system rollers

See Figure 5-9 Check if each of the six up-down rollers (**A**) touches the mast. Use the adjustment bolts if necessary.

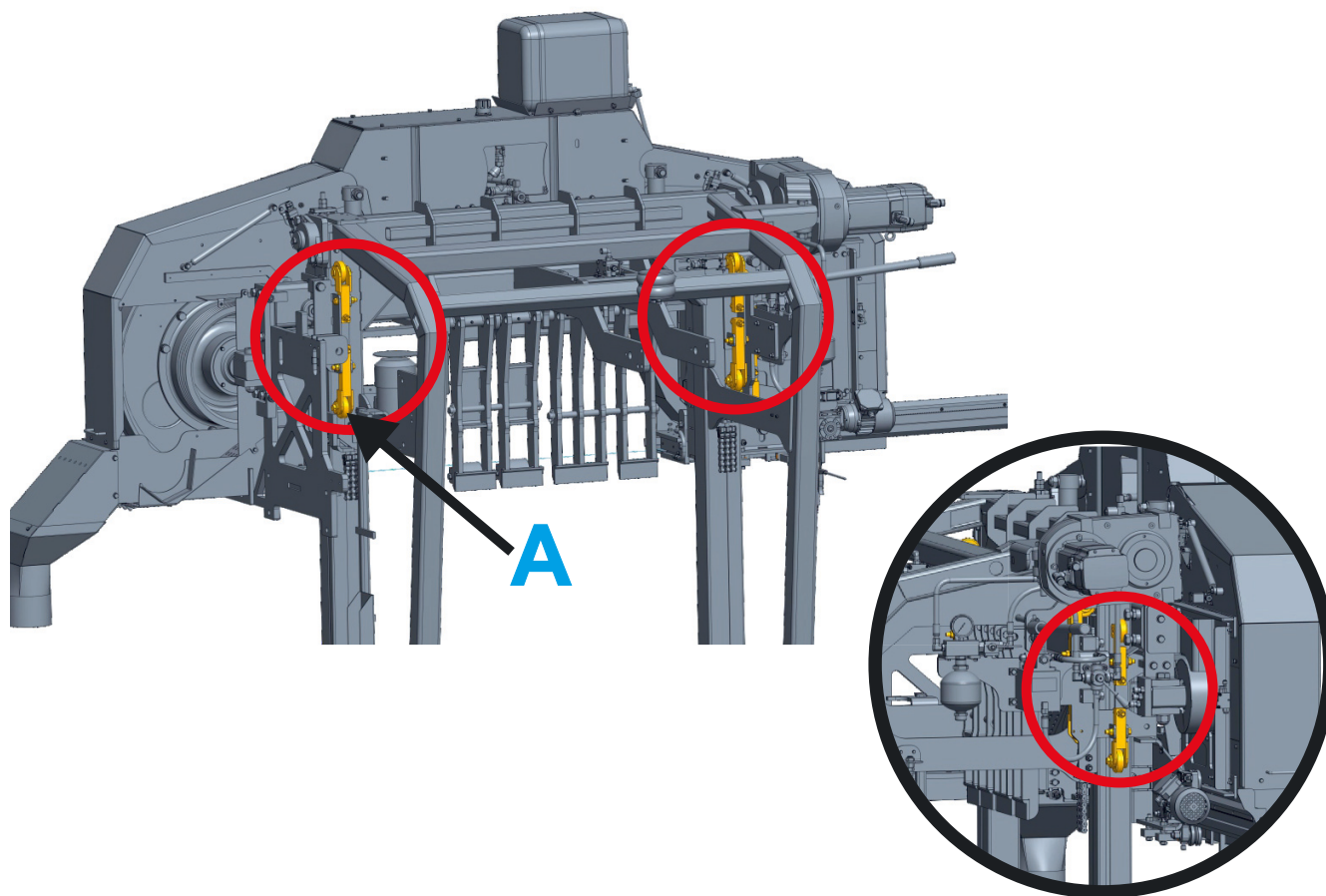


FIG. 5-9

5.2.3 Adjustment of the Blade Wheels

The blade wheels should be adjusted so they are level in the vertical and horizontal planes. If the blade wheels are tilted up or down, the blade will want to travel in the tilted direction. If the blade wheels are tilted horizontally, the blade will not track properly on the wheels.

1. Set the blade guide arm all the way out. Be sure the blade guide blocks do not deflect the blade. Use the blade guide alignment tool to check the vertical alignment of idle blade wheel. Attach the tool to the blade near the idle blade wheel. Be sure the tool does not rest on a tooth or burr, and is lying flat against the bottom of the blade.

See Figure 5-10

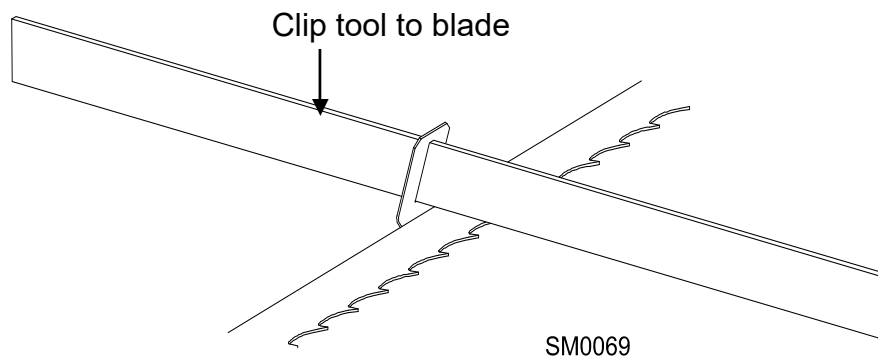


FIG. 5-10

2. Choose a reference point on the floor or bed frame.
3. Move the saw head so the front end of the tool is positioned over the reference point. Measure the distance from the bottom of the tool to the reference point.
4. Move the saw head so the rear of the tool is positioned over the reference point. Measure the distance from the bottom of the tool to the reference point.

See Figure 5-11 If the two measurements differ by more than 1.5 mm (1/16"), adjust the vertical tilt of the idle-side blade wheel. Open the cover of the idle side wheel. Use the vertical adjustment bolts **(A, D)** to adjust the idle-side blade wheel.

To tilt the wheel down, loosen the horizontal adjustment bolt **(C)** and lock nuts. Then loosen the top vertical adjustment bolt one quarter turn. Loosen the lock nut on the bottom vertical adjustment bolt **(D)** and tighten the bolt. Tighten the top and bottom lock nuts and horizontal adjustment bolt **(D)**.

To tilt the wheel up, loosen the horizontal adjustment bolt **(C)** and lock nuts. Then loosen the bottom vertical adjustment bolt **(D)** one quarter turn. Loosen the lock nut **(B)** on the top vertical adjustment bolt and tighten the bolt. Tighten the top and bottom lock nuts and horizontal adjustment bolt **(B)**.

Close the cover of the the idle side wheel.

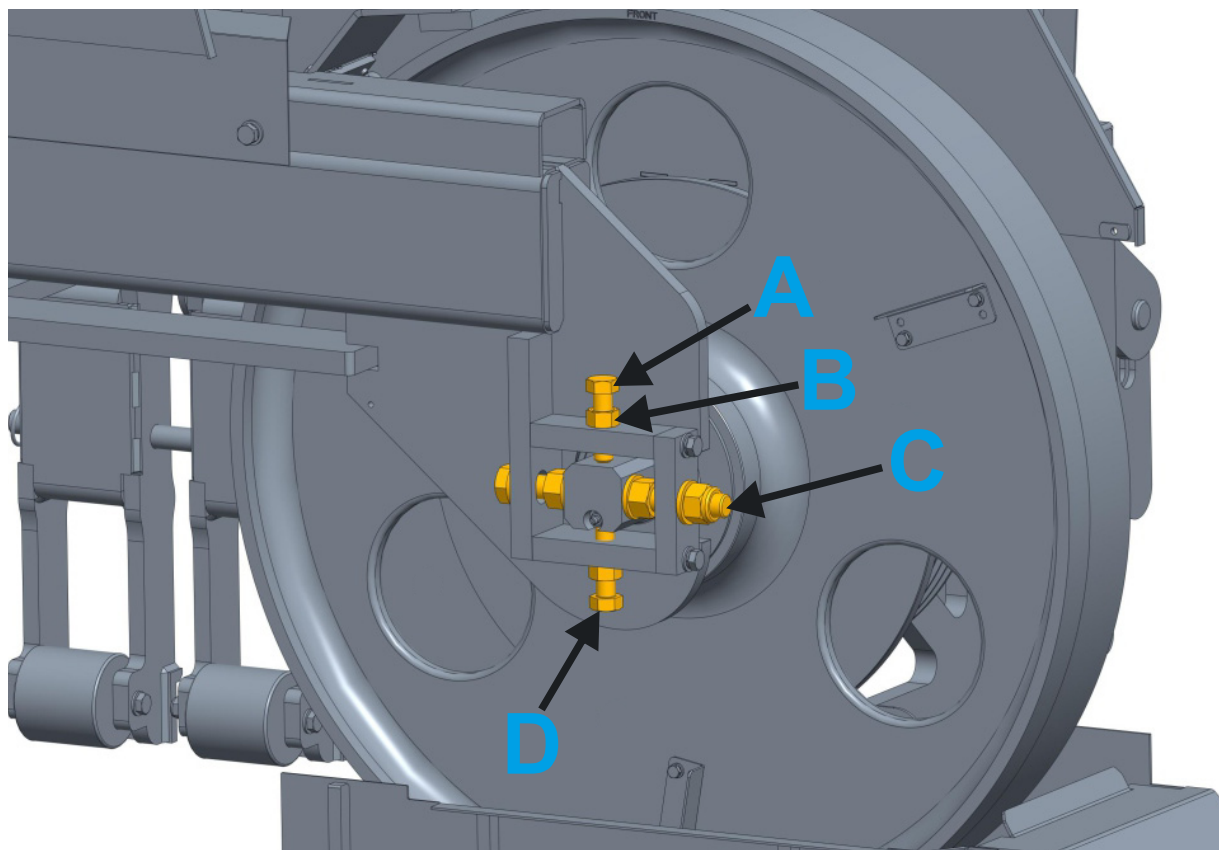


FIG. 5-11 IDLE SIDE WHEEL VERTICAL ADJUSTMENT

5. Recheck the vertical tilt of the idle-side blade wheel with the blade guide alignment tool. Readjust the blade wheel as necessary until the front and rear of the tool are the same distance from the reference point (1.5mm) (1/16").
6. Check the position of the blade on the idle-side and drive-side blade wheels. Open the cover of the drive-side and idle-side wheels. Turn the key switch to the "H" position (If the machine is equipped with a motor brake). Carefully spin one of the blade wheels by hand until the blade positions itself on them.

See Figure 5-12 The horizontal tilt of the blade wheel should be adjusted so that the gullet of a 3" (75 mm) and 4" blade (75 mm) is 3-4 mm (0.12"- 0.16") out from the front edge of the wheel. Do not let the teeth ride on the wheels.

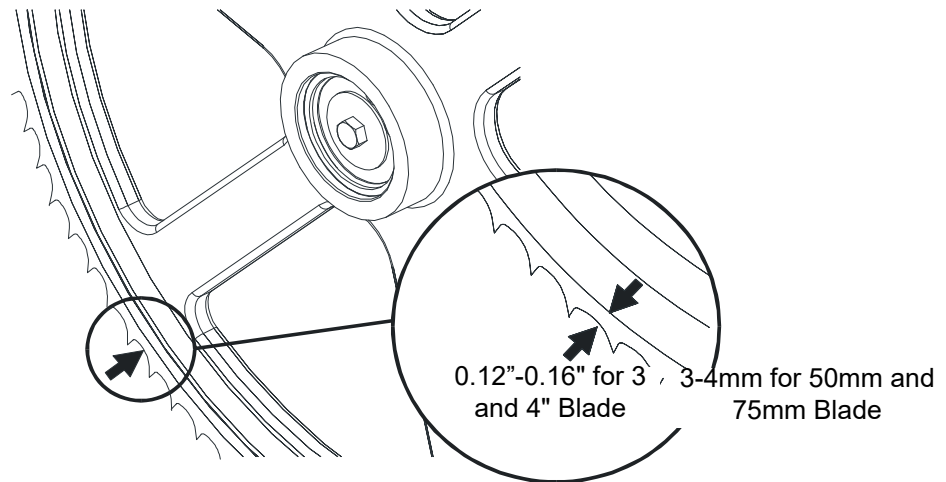


FIG. 5-12

See Figure 5-13 Use the nuts of the horizontal adjustment bolt to adjust the drive-side and idle-side blade wheel. To move the blade back on the wheel, turn the right nut **(A)** counterclockwise and the left nut **(B)** clockwise on the adjustment bolt.

To move the blade out on the wheel, turn the right nut **(A)** clockwise and the left nut **(B)** counterclockwise on the adjustment bolt. After finishing the adjustment, close the saw head side covers.

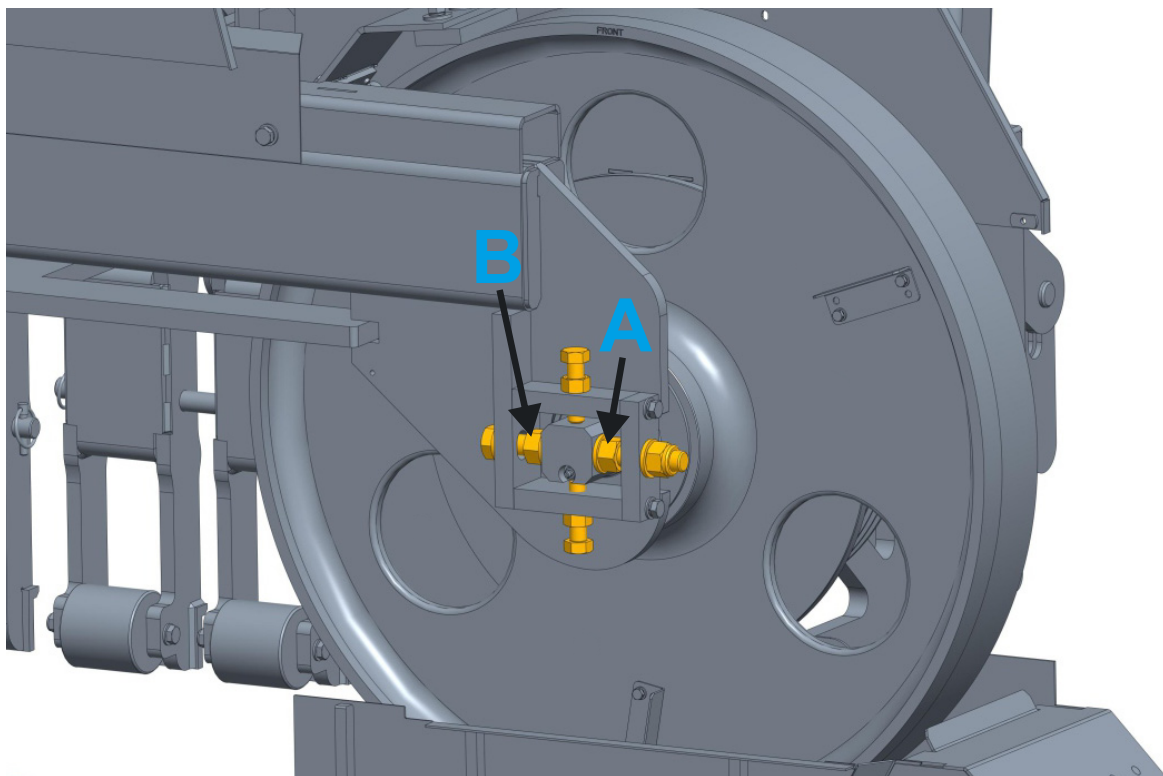


FIG. 5-13

5 Alignment

Adjustment of the Blade Wheels

See Figure 5-14 If the blade is not in line between idle and drive blade wheels, adjust idle-blade wheel.

- To move out the idle blade wheel “A” (direction of move **A**) loosen nuts “D”, turn clockwise bolts “E” and “G”. After adjustment tighten nuts “D”.
- To move in the idle blade wheel “A” (direction of move **B**) loosen nuts “D”, turn clockwise bolt “F”. After adjustment tighten nuts “D”.

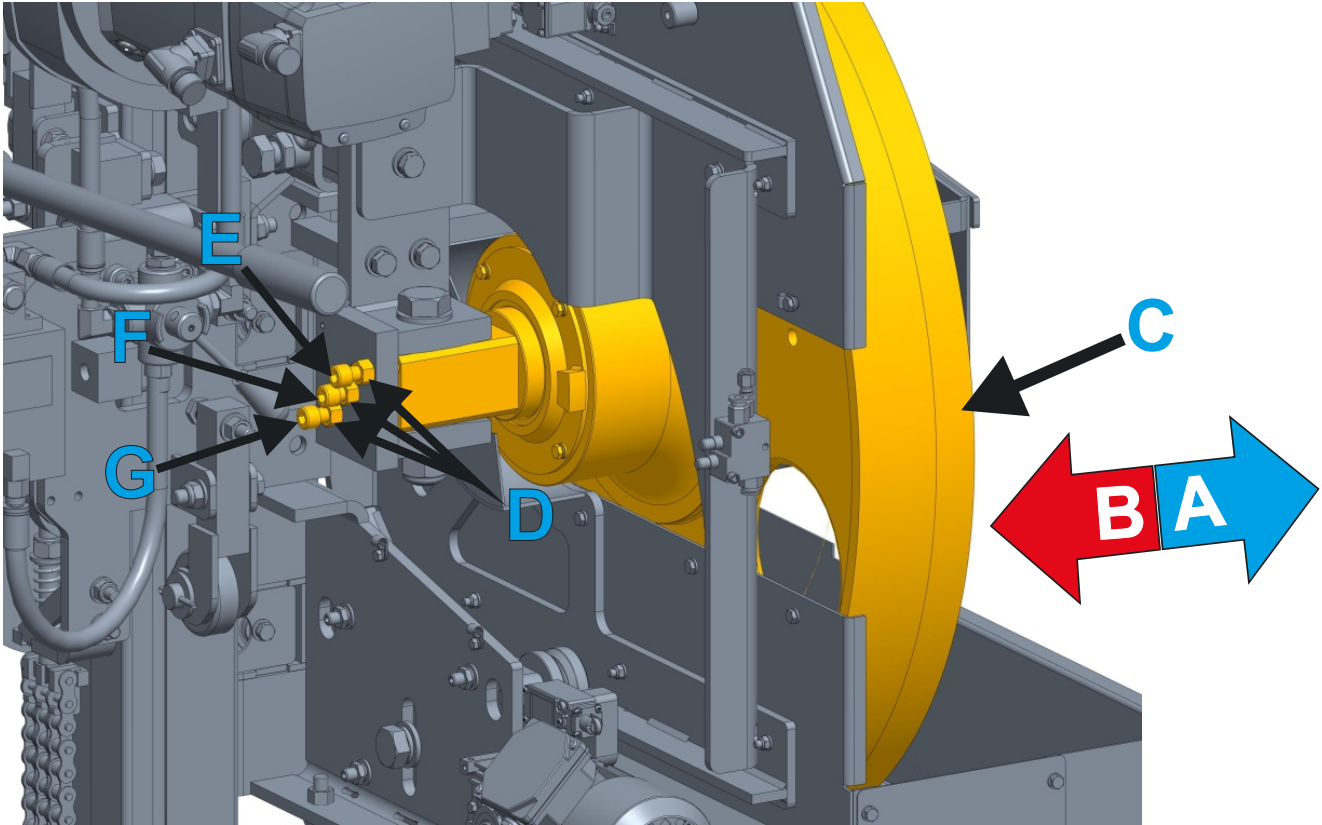


FIG. 5-14

7. After adjusting the blade wheels, always check the drive belt tension and blade tension. Close the cover of the the drive-side and idle-side wheels. Start the blade motor for a few seconds at full r.p.m. Stop the motor, open the blade wheel covers and recheck the adjustment of blade wheels, drive belt tension and blade tension.

See Figure 5-15:

- Remove the drive belt cover using M6x12 bolts (A).

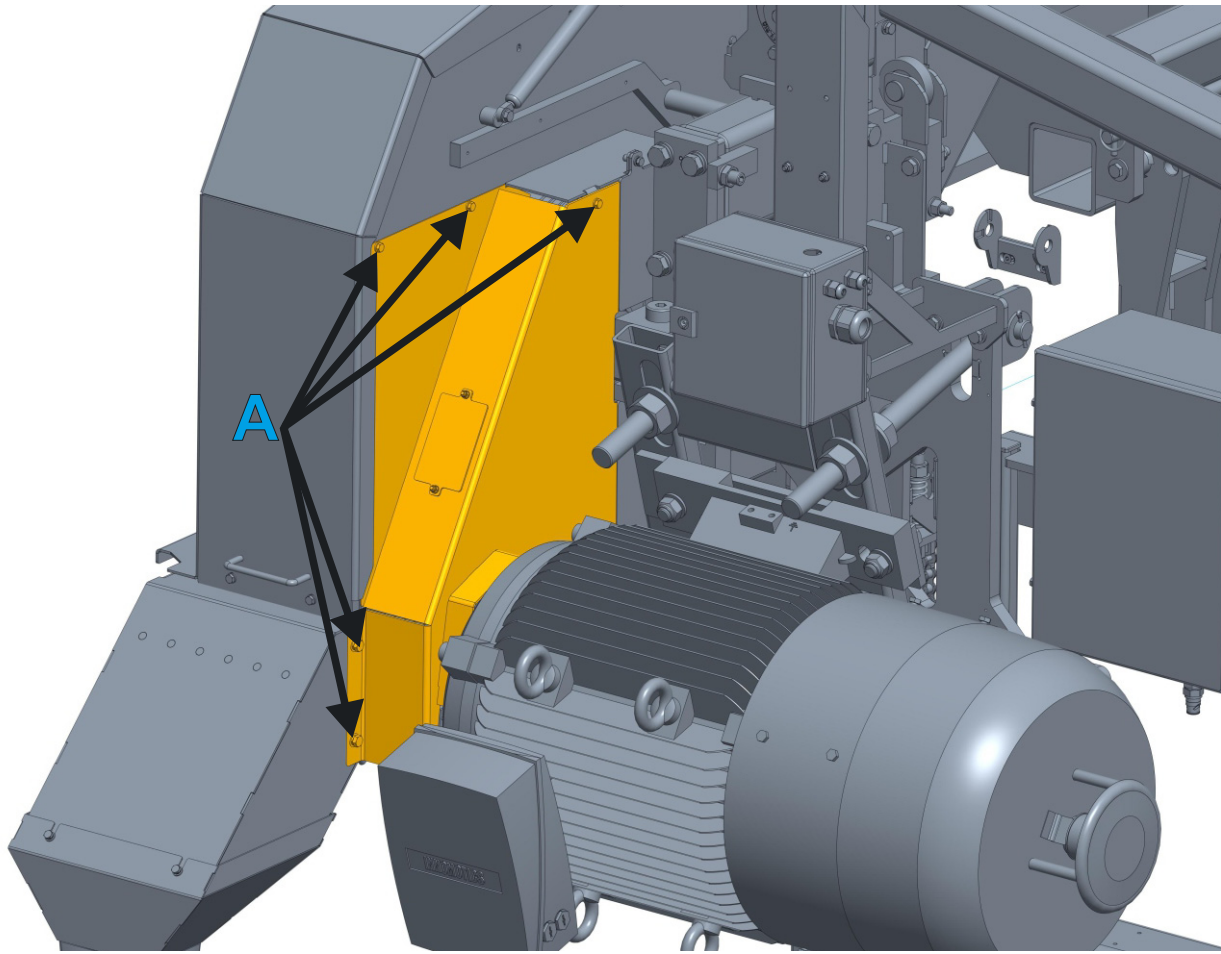


FIG. 5-15

5 Alignment

Adjustment of the Blade Wheels

See Figure 5-16:

- Use the nuts (A) to tension the drive belts.

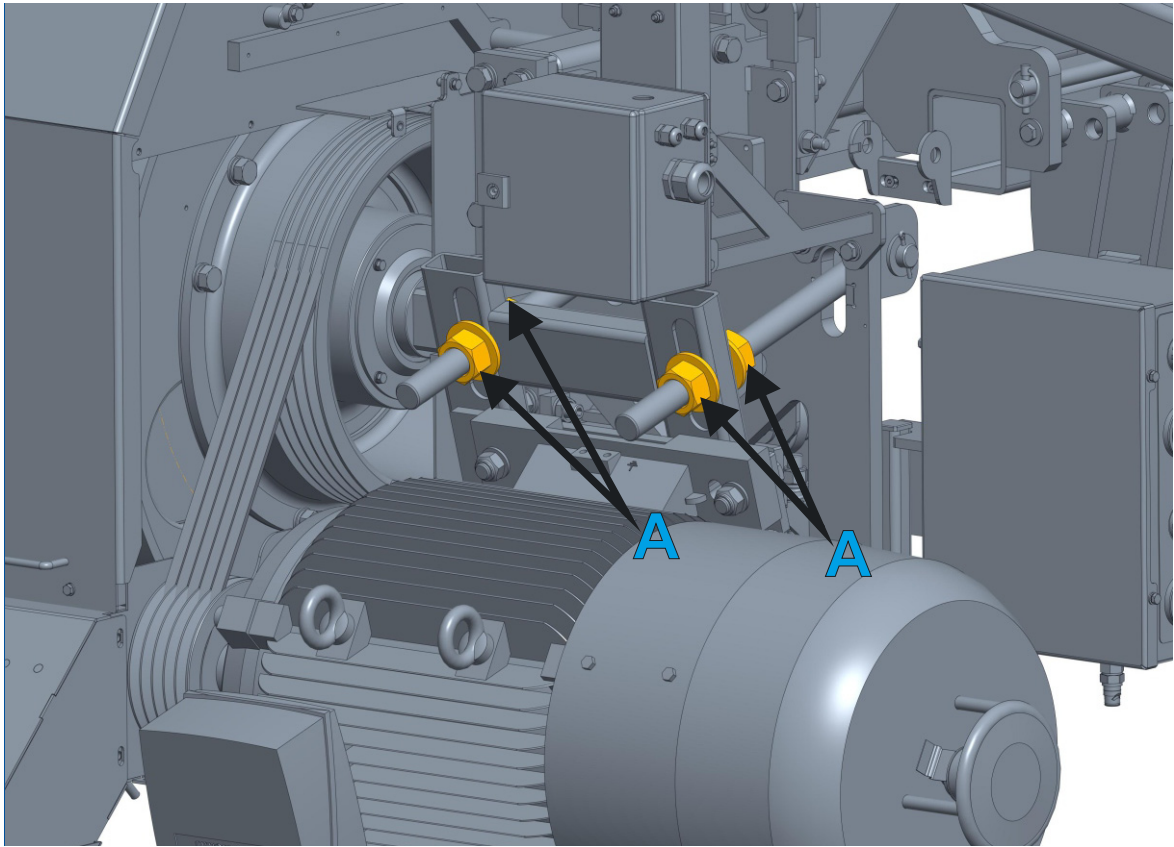


FIG. 5-16

See Figure 5-17:

See Table 5-1. See the table below for drive belt tension specifications.

Belt Wear	Belt Tension
New Belt	0.35" (9mm) deflection with 14 lbs. (6.5 kg) of deflection force (F)
Used Belt	0.35" (9mm) deflection with 13 lbs. (6 kg) of deflection force (F)

TABLE 5-1.

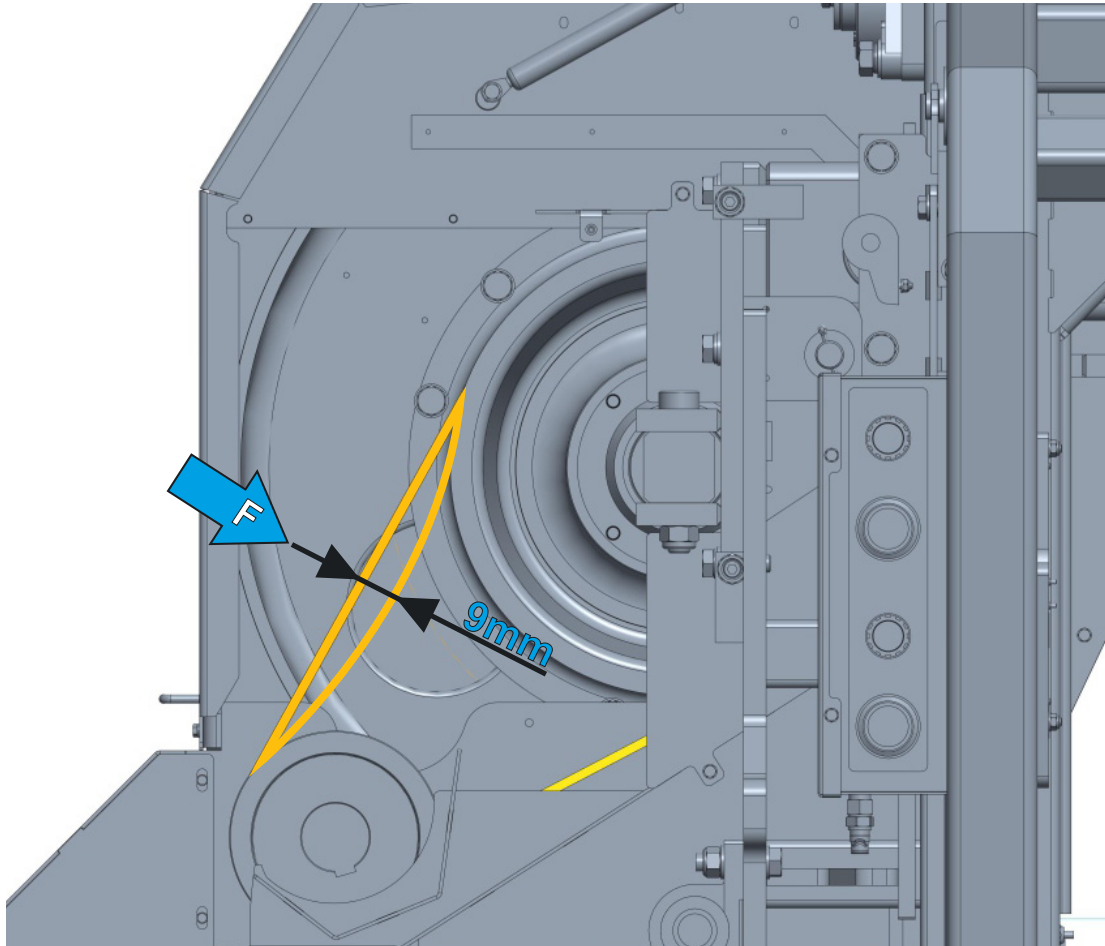


FIG. 5-17

5 Alignment

Adjustment of the Blade Wheels

See Figure 5-18:

See Table 5-2. See the table below for EAGLE drive belt tension specifications.

Belt Wear	Belt Tension
New Belt	0.31" (8mm) deflection with 22 lbs. (10kg) of deflection force (F)

TABLE 5-2.

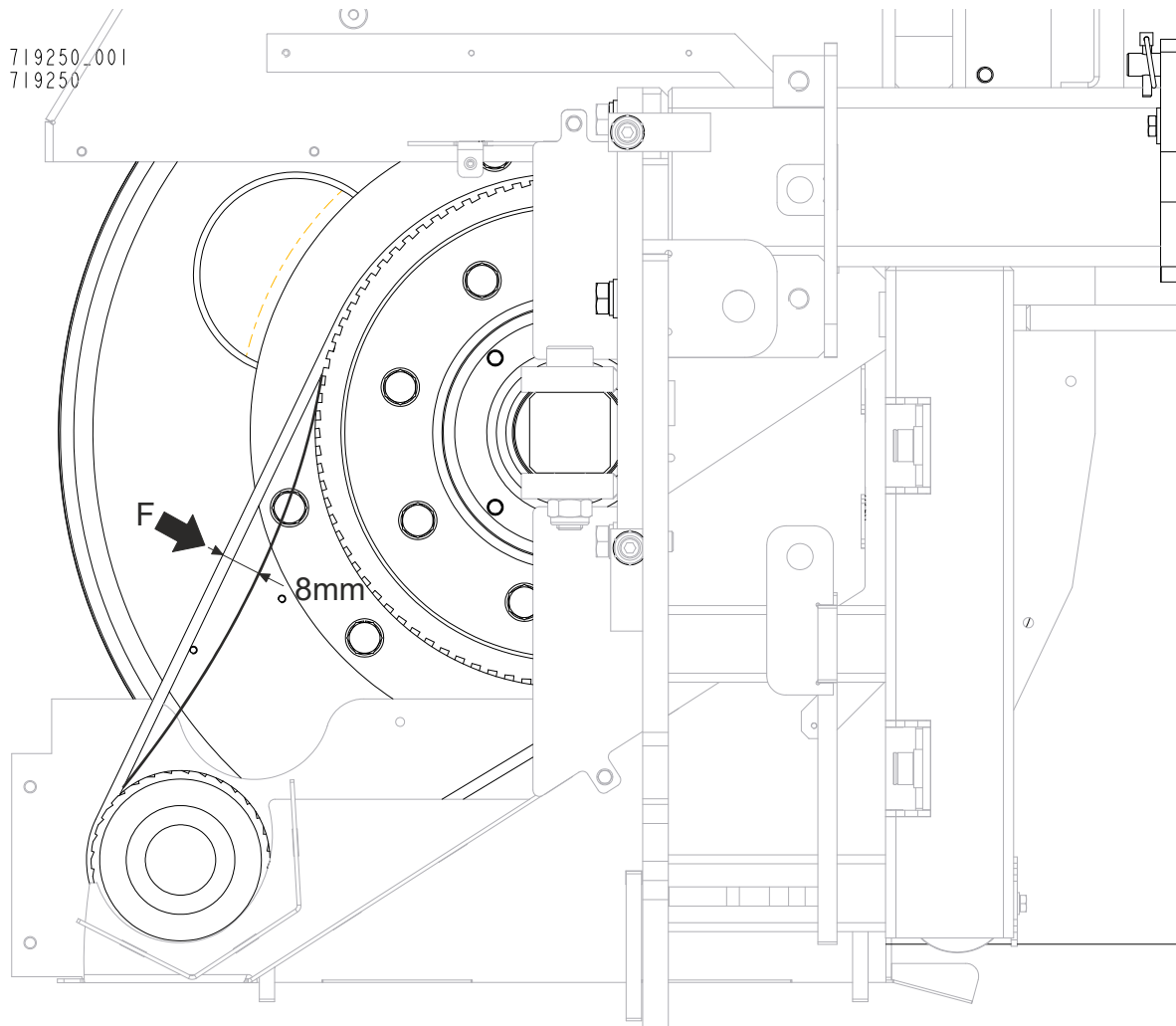


FIG. 5-18

- Mount the drive belts cover.
- Periodically check the belts for wear. Replace if the belt is damaged or worn.

SECTION 6 SAWMILL SPECIFICATIONS

6.1 Belt Sizes

See Table 6-1. Belt sizes for the WM5500 sawmill are shown below.

Description	Belt Size	Wood-Mizer Part #
Motor Drive Belt	W=52.5 L=1750	719599

TABLE 6-1.

6.2 Blade

See Table 6-2. Blade specifications for the WM5500 sawmill are shown below.

Parameter	Value
Blade Width	50 mm (2") 75 mm (3") 100 mm (4") 125mm (5")
Blade Length	6270mm 247"
Blade Linear Speed	22-40m/s
Blade Tension System	Hydraulic
Blade Lubrication	Oil only

TABLE 6-2.

See **The Blade Handbook** for blade hook angle, tooth height, and tooth set specifications.

6.3 Cutting Capacity

See Table 6-3. The log size capacities of the WM5500 sawmill are listed below.

Parameter	Value
Min. Log Diameter	250mm (10")
Max. Log Diameter	1050mm (41")
Min. Log Length	1000mm (39")
Max. Log Length ¹	depends on bed frame length: S-Bed: 5,2m (4,5m with board removal system) S-Bed Eco 4,5m M-Bed: 8,2m (7,5m with board removal system) M-Bed Eco 7,5m

TABLE 6-3.

¹ Each additional bed extension module adds approximately 2016mm or 4032mm to length capacity.

6.4 Motor Specifications

See Table 6-4. The power options available for the WM5500 sawmill are listed below.

Motor Type	Manufacturer	Power	Other Specifications
Electric E40	Siemens	30 kW	70 A, 1782 r.p.m.
Electric E50	Siemens	37 kW	70 A, 1782 r.p.m.
Electric E60	Siemens	45 kW	70 A, 1782 r.p.m.

TABLE 6-4.

See Table 6-5. The other motors used in sawmills are listed below.

Motor Type	Power
Up/Down	1,88 kW
Power Feed	2x1.5 kW
Hydraulic Pump Motor	WM5500EH: 7,5 kW WM5500EHB: 5,5 kW

TABLE 6-5.

6.5 Noise Level

See Table 6-6. The average noise level is given in the table below¹²³.

Sawmill	Noise Level
WM5500	$L_{EX8} = 93,2 \text{ dB (A)}$

TABLE 6-6.

6.6 Overall Dimensions

See Table 6-7. The overall dimensions of the WM5500 sawmill are listed below.

Sawmill Model	Length	Length with Operator's Station	Width	Height	Weight
WM5500M	11280mm (444")	13064mm (514")	3180mm (125")	3330mm (131")	8000kg 17636 lbs
WM5500S	8620mm (339")	10404mm (410")	3180mm (125")	3330mm (131")	6800kg 14991 lbs

TABLE 6-7.

1. The noise level measurement was taken in accordance with PN-EN ISO 3746 Standard. The noise exposure level given above concerns an 8-hour work day. Value for associated uncertainty $K=4\text{dB}$.
2. The measured values refer to emission levels, not necessarily to noise levels in the workplace. Although there is a relation between emission levels and exposure levels, it is not possible to determine with certainty if preventives are needed or are not needed. The factors affecting a current level of noise exposure during work are inter alia room characteristics and characteristics of other noise sources, e.g. number of machines and machining operations nearby. Also, the permissible exposure level value may vary depending on country. This information enables the machine's user to better identify hazards and a risk.
3. **IMPORTANT!** The total value of hand-arm vibration the operator may be exposed to does not exceed 2.5 m/s^2 . The highest root mean square value of weighted acceleration to which the whole operator's body is subjected does not exceed 0.5 m/s^2 .

6.7 Chains

See Table 6-8. The load capacity of the chains is listed below.

Load Capacity According to ISO Nr 08A-1	
Up/Down Chains	6800 KG

TABLE 6-8.

6.8 Sawdust Extractor Specifications



CAUTION! Always turn on the dust extraction system before starting the machine.



CAUTION! The sawdust extraction system must be grounded or made with materials not accumulating electrostatic charge.

See Table 6-9. See the table below for specifications of the dust extractor ¹.

Maximum Capacity	1200 m ³ /h (1569 yd ³ /h)
Collector Inlet Diameters (in front of fan)	150 mm (5.9 ")
Motor Power	1.5 kW
Number of Sacks for Waste	1 pcs
Total Capacity of Sacks	0,25 m ³ (8.8 ft) ³
Weight	110 kg (242.5 lb)
Pressure drop	1,5 kPa (0.22 psi) ¹
Conveying Speed When 10 m Long Hose Is Used	20 m/s (65.6 ft/s)

TABLE 6-9.

¹ The pressure drop between the inlet of the capture device and the connection to the CADES should be maximum 1.5 kPa (for the nominal air flow rate). If the pressure drop exceeds 1.5 kPa the machine might not be compatible with conventional CADES.

1. External chip and dust extraction equipment with fixed installations are dealt with in EN 12779:2016-04.

6.9 Lube System Specifications

The blade lubricating oil specifications are listed below.

Oil Type	Manufacturer	Freezing Temperature	Ignition Temperature	Autoignition Temperature
ACP-1E ¹	Orlen	-20° C (-4° F°)	Above 140° C (284° F)	250° C (482° F)

TABLE 6-10.

¹ Waste oil must be disposed of in compliance with applicable national and local regulations.

6.10 Hydraulic Oil Specifications

The hydraulic oil specifications are listed below.

Oil Type	Manufacturer	Freezing Temperature	Ignition Temperature
MOBIL DTE 10 EXCEL 32 ¹	Mobil	-45° C (-49° F°)	>210° C (>410° F)

TABLE 6-11.

¹ Waste oil must be disposed of in compliance with applicable national and local regulations.

SECTION 7 LASER INFORMATION

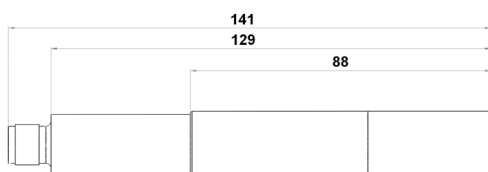
SEMICON SP. Z O. O., 43 /43a, Zwolenska Str., 04-761 Warsaw, Poland
T +48 22 615 73 71, +48 22 615 64 31, F +48 22 615 73 75, info@semicon.com.pl
PRODUCTION BUSINESS UNIT, 71a Ezopa Str., 04-805 Warsaw, T +48 22 825 24 64



LP-520L-10

Industrial hermetic focusable laser line generator with rectilinearity correction.

Laser for industrial applications.



Technical data:

- Safety Class 2M from EN 60825-1:2014;
- Wavelength $\lambda=520\text{nm}$;
- Average Output Power 10mW;
- Operating Voltage 9V÷28VDC;
- Operating Current <100mA;
- Optics: aspherical acrylic lens F=8mm; NA=0,28; rod lens $\phi 5$;
- Line generating angle $\sim 90^\circ$;
- Possibility to adjust the focus from few cm to several meters (external focus mechanism);
- Dimensions $\Phi 20 \times 130$;
- International Protection Rating IP65;
- Aluminium housing (black anodized);
- Chromed brass mounting
- Operating temperature: M18 x 1;
- Storage temperature: 0 do +60°C;
- Laser diode electrically isolated from housing; -40 do +85°C;
- M12 plug, 4-pin
- Pin configuration: M12 x 1;
- 1: voltage supply (+)
 - 3: voltage supply (-)



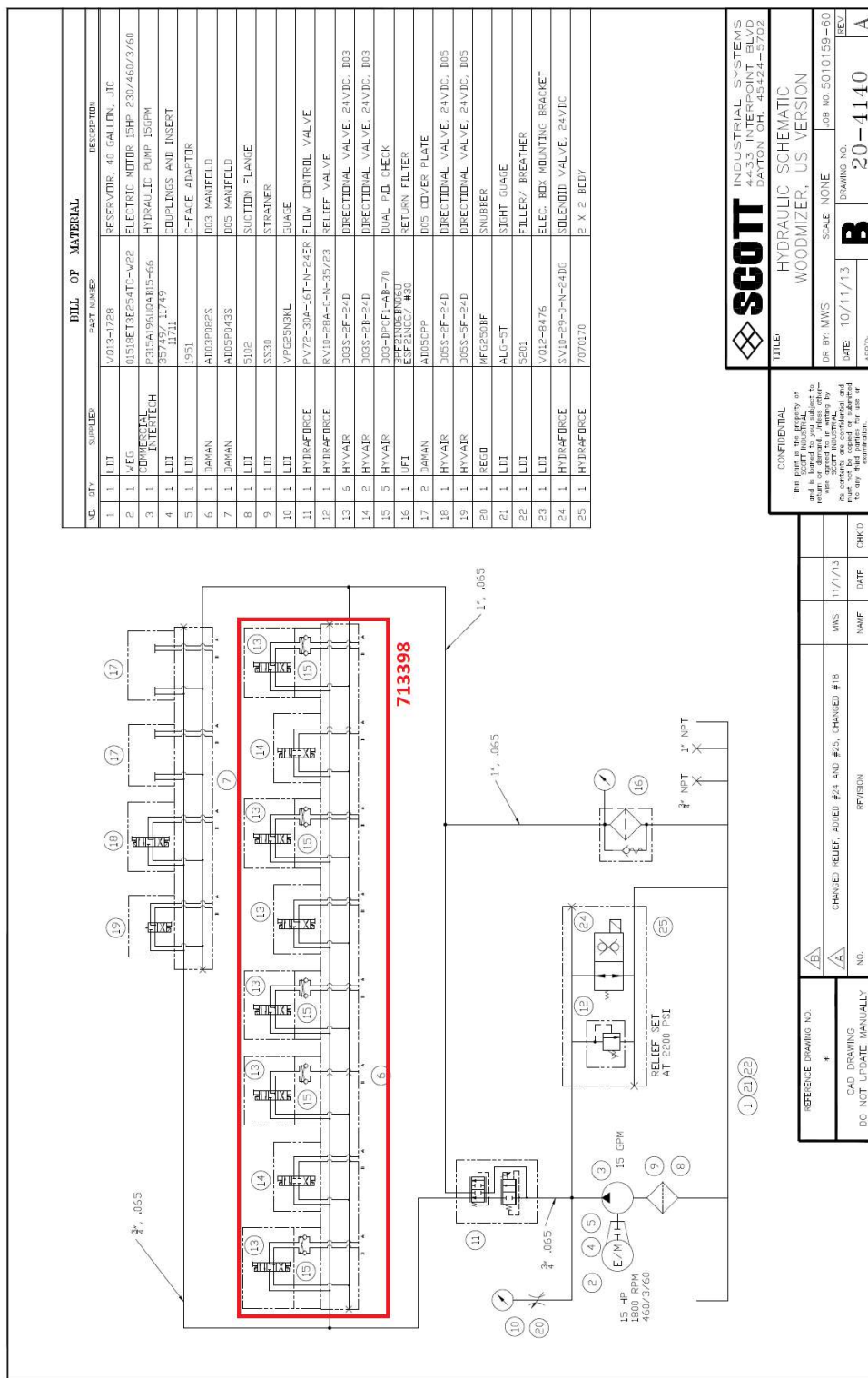
OPTIONS:

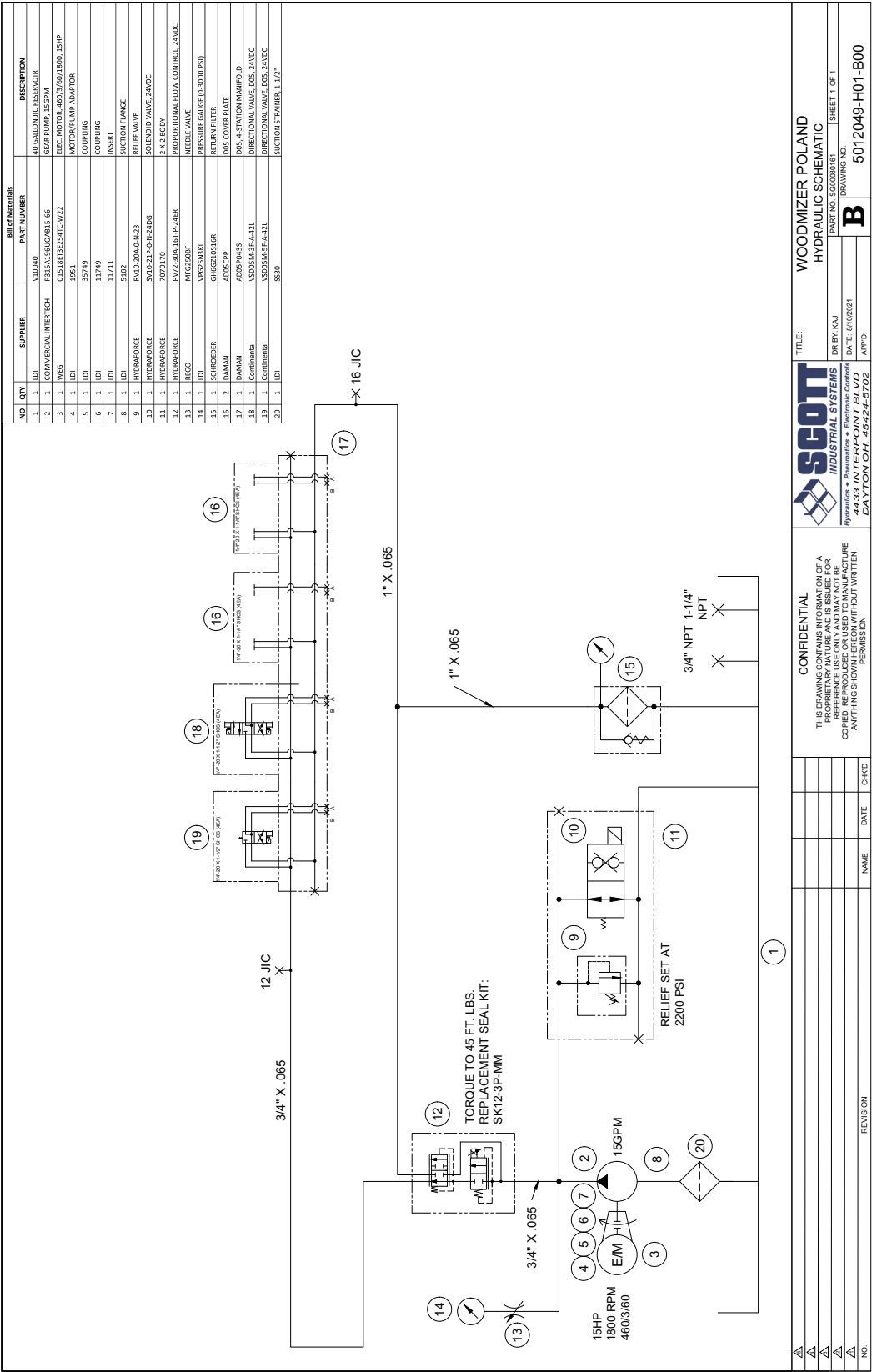
- different optical power, wavelength, line generating angle, gaussian or uniform line optics,
- modulation.



RAIFFEISEN BANK POLSKA S.A.
PLN 96 1750 0009 0000 0000 0272 8238, EUR 15 1750 0009 0000 0000 0272 8338
USD 55 1750 0009 0000 0000 0272 8297, CHF 90 1750 0009 0000 0000 0272 8346
NIP PL5260303208, D&B 422320739

SECTION 8 HYDRAULIC USA





SECTION 9 MOTOR BRAKE

9.1 Motor Brake Maintenance

Maintenance intervals

Service brakes	after 4000 hours of operation at the latest or every six months
-----------------------	---

TABLE 9-1.



IMPORTANT! Brakes with defective armature plates, cheese head screws, springs or flanges must be replaced completely.

Please observe the following for inspections and maintenance operations:

- Remove impurities through oil and grease using brake cleaning agents, if necessary, replace brake after finding out the cause of the contamination. Dirt deposits in the air gap between stator and armature plate impair the function of the brake and must be removed.
- After replacing the rotor, the original braking torque will not be reached until the run-in operation of the friction surfaces has been completed. After replacing the rotor, run-in armature plates and flanges have an increased initial rate of wear.

Checking the rotor thickness



DANGER! The motor must not be running when checking the rotor thickness.

- Remove the motor cover and seal ring (if mounted).
- Measure the rotor thickness with a caliper gauge. On brakes with friction plates, observe edging on outer diameter of friction plate.
- Compare measured rotor thickness with minimally permissible rotor thickness. [See Table 9-2.](#)
- Replace the complete rotor if necessary.

Check the air gap

- Measure the air gap "sLü" between armature plate and rotor using a feeler gauge (see chapter 3.3).
- Compare the measured air gap to the maximum permissible air gap "sLümax." (see table below).
- If necessary, adjust the air gap to "sLü-rated".

Brake type	sLü-rated +0.1mm -0.05mm	sLümax Service brake	Max. adjustment permissible wear	Rotor thickness		Excess of the adjuster nut h _E max. [mm]
				min. ¹⁾ [mm]	max. [mm]	
INTORQ BFK458-25	0,4 mm (1/64")	1,0 mm (3/64")	4,0 mm (5/32")	12 mm (15/32")	16 mm (5/8")	17 mm (43/64")

TABLE 9-2.

EC declaration of conformity according to EC Machinery Directive 2006/42/EC Annex II, 1.A

Manufacturer:

Wood-Mizer Industries sp. z o.o.
Nagórna 114, 62-600 Koło; Poland
Tel. +48 63 26 26 000

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Following machine in our delivered version complies with the appropriate essential safety and health requirements of the EC Machinery Directive 2006/42/EC based on its design and type, as brought into circulation by us. In case of alteration of the machine, not agreed by us, this declaration is no longer valid.

We, the undersigned herewith declare, that:

Designation of the machine: **Log Horizontal Bandsaw**

TYPE:

No. of manufacturer:

**Is in conformity with the following
EC directives:**

EC Machinery Directive 2006/42/EC
EC Electromagnetic Compatibility Directive
2014/30/EU

**And is in conformity with the following
Harmonized Standards:**

PN-EN 1807-2:2013-08

Notified Body according to annex IV:

Sieć Badawcza Łukasiewicz
Krakowski Instytut Technologiczny
Zakopiańska 73
30-418 Kraków

Notification No: 1455

EC type-examination certificate no.: 1455-MD-010/22

Responsible for Technical Documentation:

Piotr Adamiec / Engineering Manager
Wood-Mizer Industries Sp. z o.o.
62-600 Koło, Nagórna 114, Poland
Tel. +48 63 26 26 000

Place/Date/Authorized Signature:

Koło, 31.01.2022



Title :

Engineering Manager