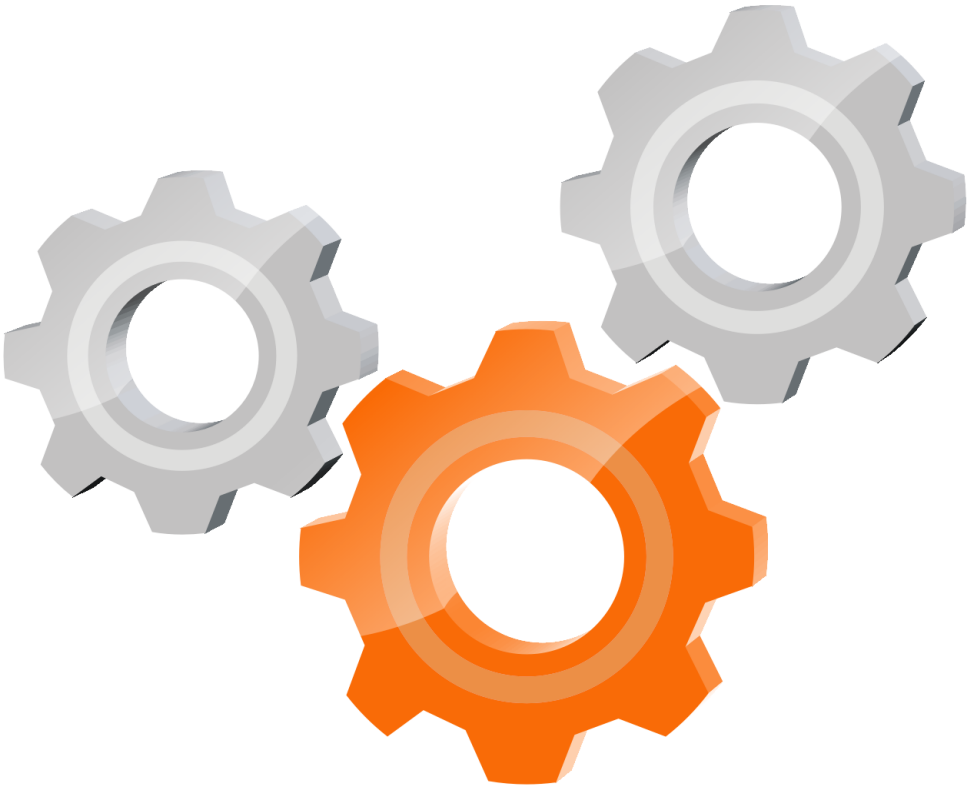
Wood-Mizer®

from forest to final form



user manual

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

Retain for future use
Zachować do przyszłego użytku
Сохраните для последующего использования
A conserver pour une utilisation future
Für zukünftige Benutzung aufbewahren
Behold for senere bruk
Säilytä nämä käyttöohjeet tulevaa tarvetta marten
Opbevar manualen til fremtidig brug
Bewaren voor gebruik in de toekomst
Conservare il presente manuale a l'uso futuro
Păstrați acest manual pentru utilizare viitoare
Conservar para futuras consultas
Behall för framtida användning
Uchovejte pro další použití
Hranite za prihodnjo uporabo

www.wood-mizer.eu

Wood-Mizer®

Safety, Setup, Operation & Maintenance Manual

WB2000-EC **rev. B2.09**

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

Form #664

This is the original language for this manual

Table of Contents Section-Page

Getting Service

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.

General Contact Information

From Europe call your local distributor or our European Headquarters and Manufacturing Facility in Koło, Nagórna 114 St, Poland at **+48-63-2626000**. From the continental U.S., call our U.S. Headquarter 8180 West 10th St.Indianapolis, IN 46214, 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 machine. He also can schedule you for a service call.

Office Hours:

Country	Monday - Friday	Saturday	Sunday
Poland	7 a.m.- 3 p.m.	Closed	Closed
US	8 a.m.- 5 p.m.	8 a.m.- 12 p.m	Closed

Please have your vehicle identification number and your customer number ready when you call.

Wood-Mizer will accept these methods of payment:

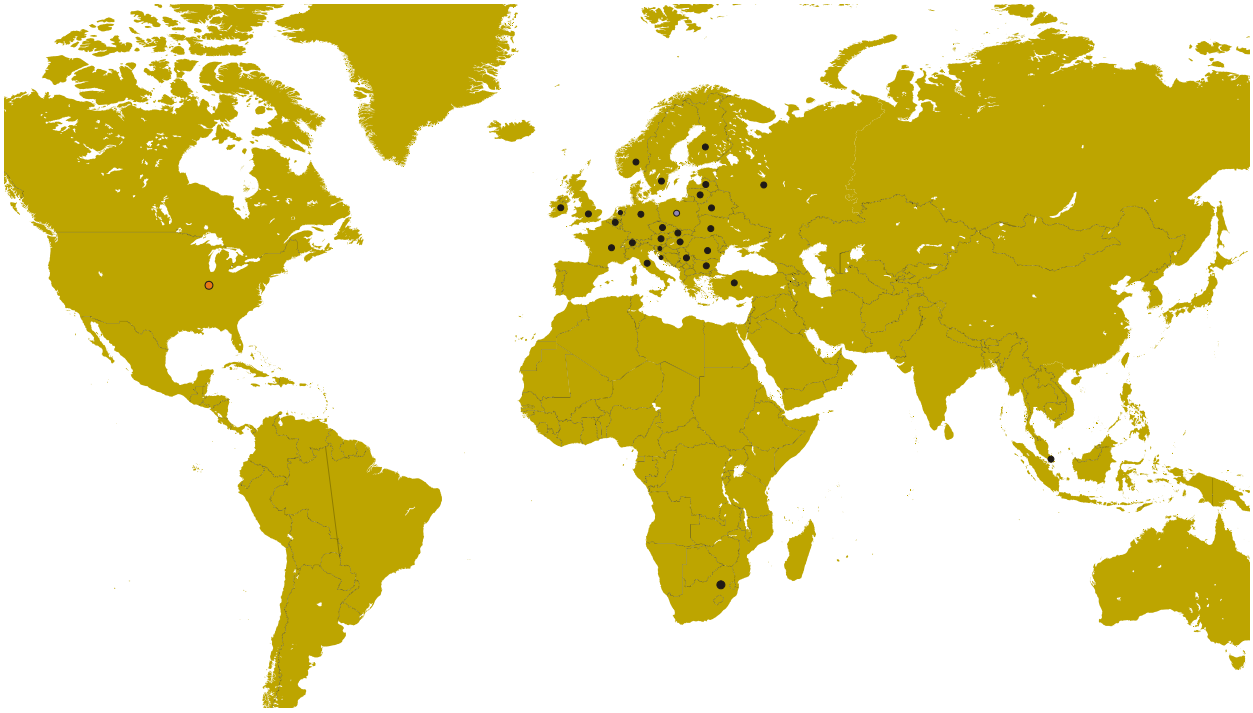
- Visa, Mastercard, or Discover
- COD
- Prepayment
- Net 15 (with approved credit)

Be aware that shipping and handling charges may apply. Handling charges are based on size and quantity of order.

Technical data are subject to change without prior notice.

Actual product may differ from product images. Some illustrations show machines with optional equipment.

Branches & Authorized Sales CentersWood-Mizer Locations (North and South America)



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Branches & Authorized Sales Centers

For a complete list of dealers, visit www.woodmizer.com

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 WB2000EC 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 WB2000EC sawmill should be operated only by adult (over 18 year old) who has read and understood the entire operator's manual.

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 WB2000EC sawmill are shown in the figure below.

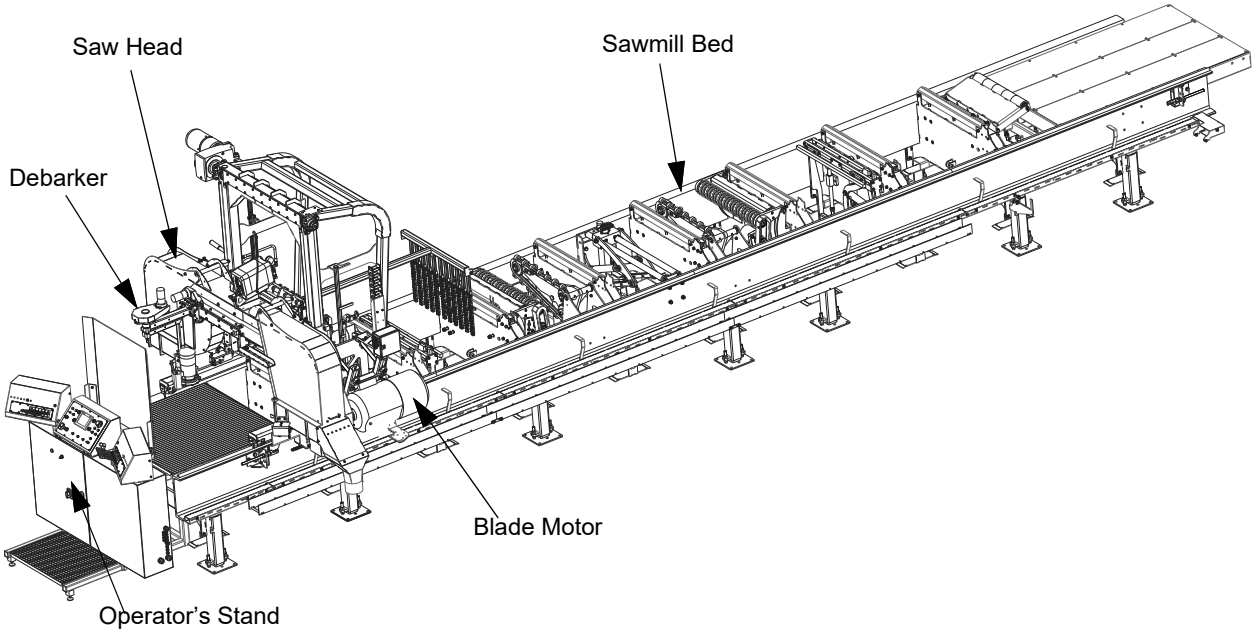


FIG. 1-1

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 worm, 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 WB2000 sawmill are shown in the table below.

TABLE 2-1

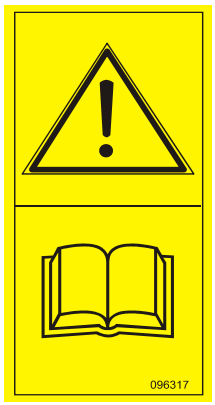
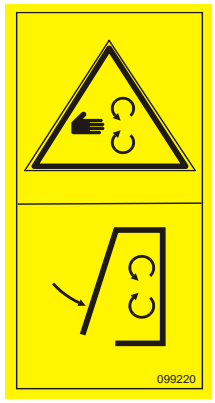
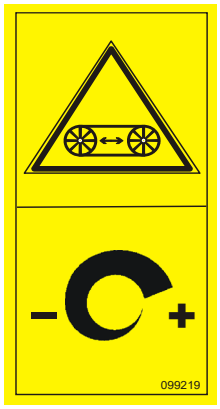
Decal View	Decal No.	Description
	096317	CAUTION! Read thoroughly the manual before operating the machine. Observe all safety instructions and rules when operating the sawmill.
	099220	CAUTION! Close all guards and covers before starting the sawmill.
	099219	Blade tension. Turning the bolt clockwise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

TABLE 2-1

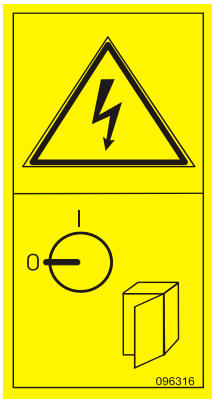
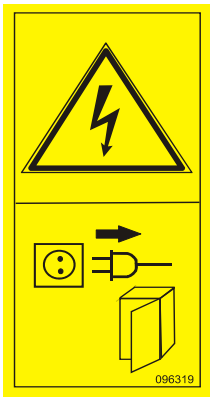
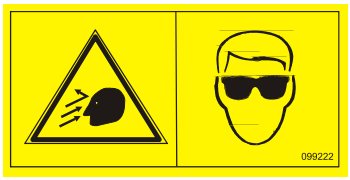
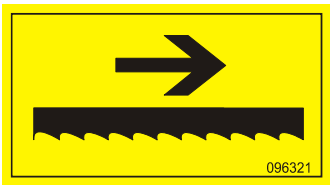
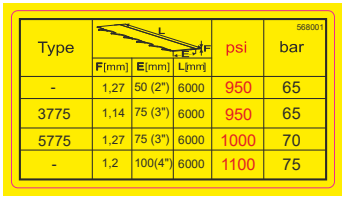
	099221	CAUTION! Keep all other persons at a safe distance from work area when operating the machine.
	098176	CAUTION! Keep a safe distance from the debarker blade!
	096316	CAUTION! Do not open or close the electric box when the switch is not in the ”0” position.

TABLE 2-1

	096319	CAUTION! Disconnect power supply before opening the box.
	099222	CAUTION! Sawdust chute. Protect eyes!
	096321	Blade movement direction
	568001	Blade tension
	099504	Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.

Type	F[mm]	E[mm]	L[mm]	psi	bar
-	1,27	50 (2")	6000	950	65
3775	1,14	75 (3")	6000	950	65
5775	1,27	75 (3")	6000	1000	70
-	1,2	100(4")	6000	1100	75

TABLE 2-1

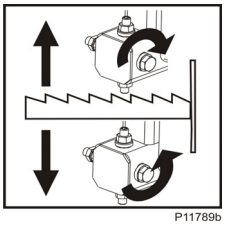
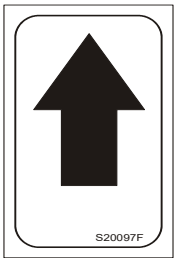
	S12004G	CAUTION! Always wear safety goggles when operating the sawmill!
	S12005G	CAUTION! Always wear protective ear muffs when operating the sawmill!
	501465	CAUTION! Always wear safety boots when operating the sawmill!
	501467	Lubrication point
	P11789	Aligning the blade on the wheels

TABLE 2-1

	P85070	CE sign
	099401	Russian safety certification
	S20097F	Motor rotation direction

SECTION 3 SAWMILL OPERATION

3.1 Control Box Overview

The WB2000EC is designed so, operator can control the sawmill with minimal effort.

See Figure 3-1. Operator's Stand

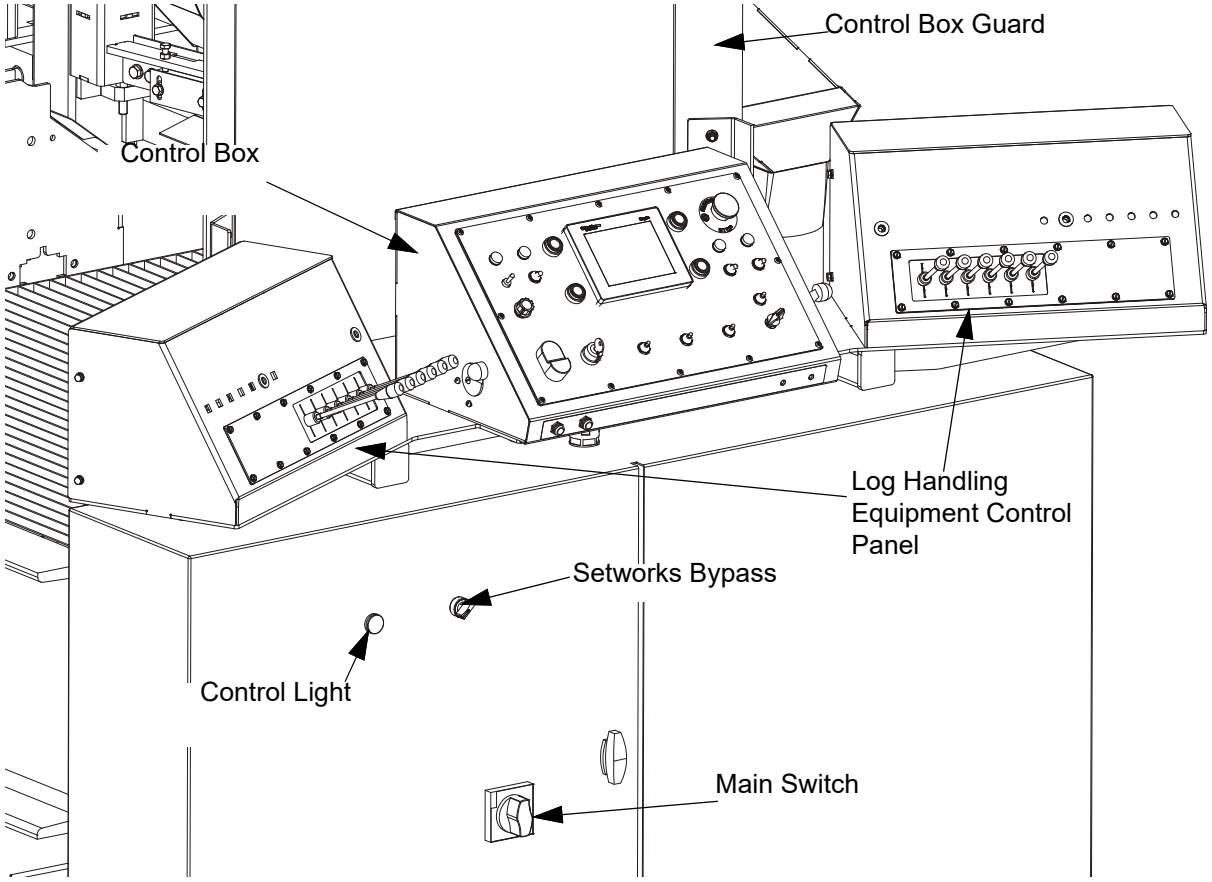


FIG. 3-1.

Operator's stand includes control panel with touch screen, log handling equipment control panels and electric box.

Log handling hydraulic equipment control boxes: Levers are used to control each log handling accessories (clamps, turners, side supports etc.). Number and location of the levers can be different depending on choosen hydraulic option.

Setworks bypass: It is used to switch the Setworks controller off in case of its failure and start manual control of the machine.

Control Light: Indicates the power supply is on.

Main Switch: Disconnects/connects power to all electrical circuits.

Control Box Guard: Protect operator from wood chips. Keep the control box guard clean. If control box guard is damaged, replace it immediately Do not operate the sawmill without control box guard!

See Figure 3-2. The control box includes controls to start and stop the machine. It also contains the touch screen used to set up the machine and diagnose problems.

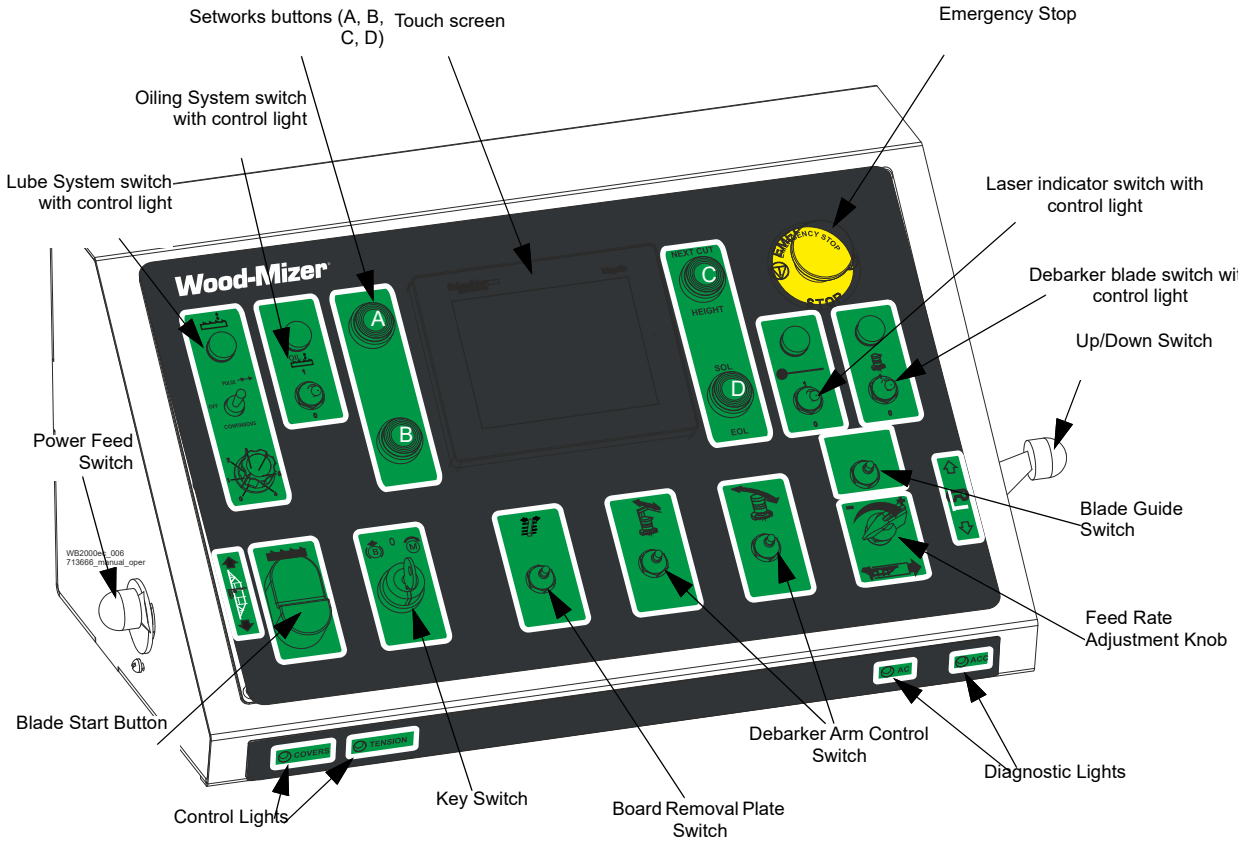


FIG. 3-2.

Emergency Stop: Push the emergency stop button to stop the machine. It stops also the power feed, up/down system and blade motor. Turn the emergency stop button clockwise to release the stop.

Touch screen: The touch screen is used to setup the sawmill functions, controls the setworks and diagnose problems. Upon initial power-up, the screen will display the Home Screen.

Setworks Controller Buttons (A, B, C, D): The Setworks Controller Buttons are described in Section 4.2. *See Section 4.2*

Oiling System switch with control light: Turns on and off the blade oiling system. The light is on when the system is working.

Lube System switch with control light: Turns on and off the blade lube system. The light is on when the system is working. OFF position - system is off. CONTINUOS position - delivers a steady stream of lubricant. PULSE position - Use knob to adjust the desired flow rate.

Key Switch: “0” position - all electrical circuits are off. “M” position - all electrical circuits are on. “B” position - all electrical circuits are off and main motor disk brake is released; it is possible to spin the blade wheels by hand.

Main Motor On/Off Switch: Turns on and off the main motor. The light between switches is glowing when the blade is engaged.

Laser indicator switch with control light: Turns on and off the laser indicator. When laser indicator is on, control light is glowing.

Debarker blade switch with control light: Turns on and off the debarker blade. When debarker is on, control light is glowing.

Blade Guide Switch: Used to adjust the blade guide roller.

Feed Rate Adjustment Knob: The speed at which the saw head travels forward is adjusted by the feed rate knob.

Debarker Arm Control Switches: Moves the debarker arm in or out from the log.

Board Removal Plate Switch: Enables to select board removal direction.

Power Feed Switch: Push the power feed switch down to move the saw head forward. Push the power feed switch up to move the saw head back.

Up/Down Switch: Moves the saw head up and down and to switching automatic modes.

3.2 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 bandsaw blades. 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 blade or drive belt break, 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 3.3* until the wheel is pulled in and the blade is lying loose in the blade housing. Carefully lift the blade out of the blade housing.

When installing the blade, make sure the teeth are pointing the correct direction. The teeth should be pointing toward the operator side of the mill 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 1/8” (8 mm) out from the front edge of the wheel.

Close the blade housing cover. 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.

3.3 Blade tension

See Figure 3-3.

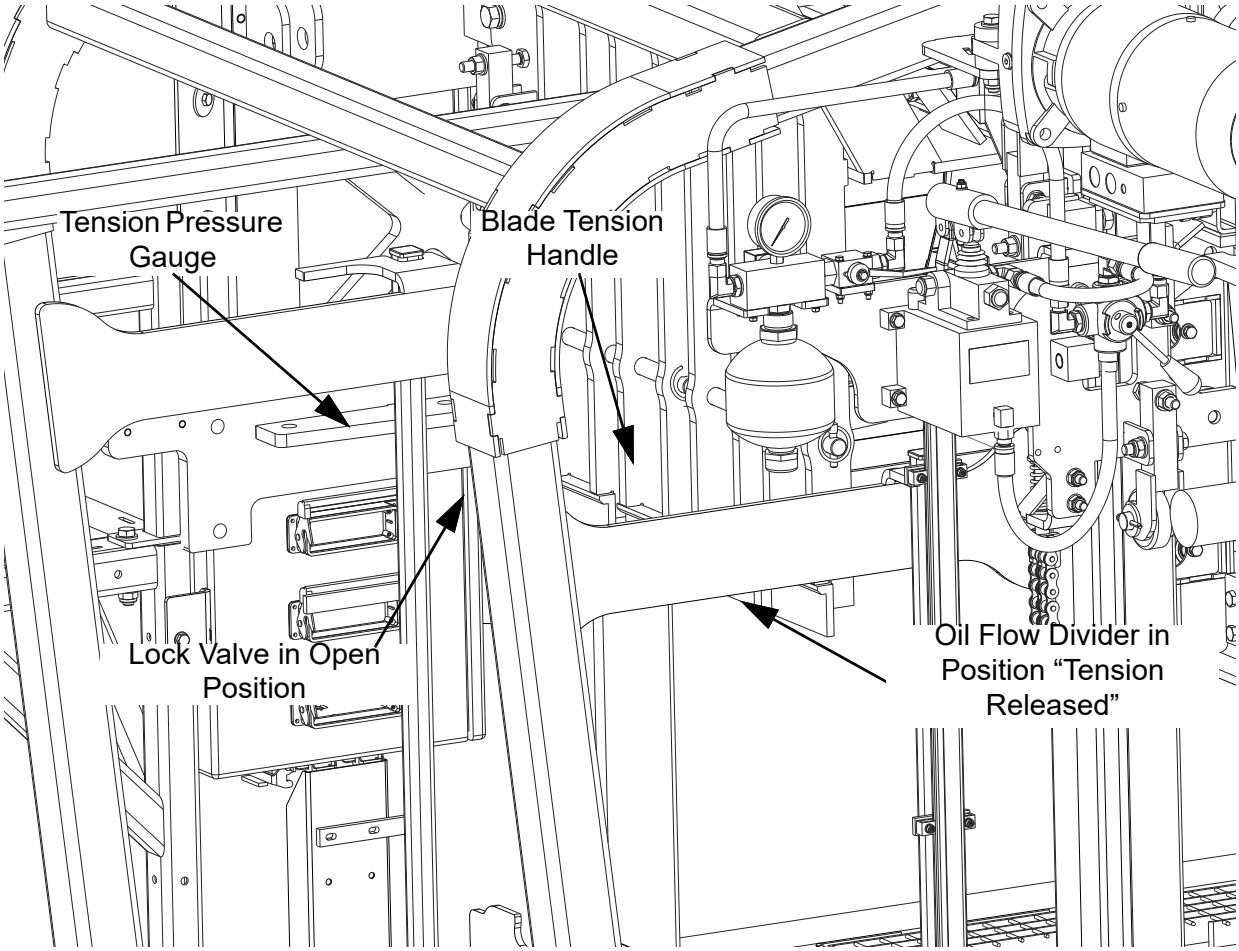


FIG. 3-3.

The blade tension is adjusted with the blade tension handle and by setting properly the oil flow control valves shown on the figure above.

To release the tension, turn the lock valve right. Next turn the oil flow divider to the down position. Move the tension handle up and down to release the blade tension. Turn the lock valve right to the closed position and remove or install the blade.

To tension the blade, turn the lock left and set the oil flow divider in the up position. Moving the tension handle up and down, tension the blade until the tension pressure gauge indicates **62-76 bar (900-1100 PSI)**. Turn the lock valve left to the position “closed” and read again the tension pressure on the gauge.

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 machine is not in use. Tension the blade again before starting the motor.

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

The WB2000 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 breakes).

3.4 Tracking The Blade

1. Open the blade housing cover.
2. Turn the key switch to the “H” position (if machine is equipped with motor brake).

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 3-4. Position 3.5” wide blades on the wheels so the gullet is 1/8” (8 mm) out from the front edge of the wheel.

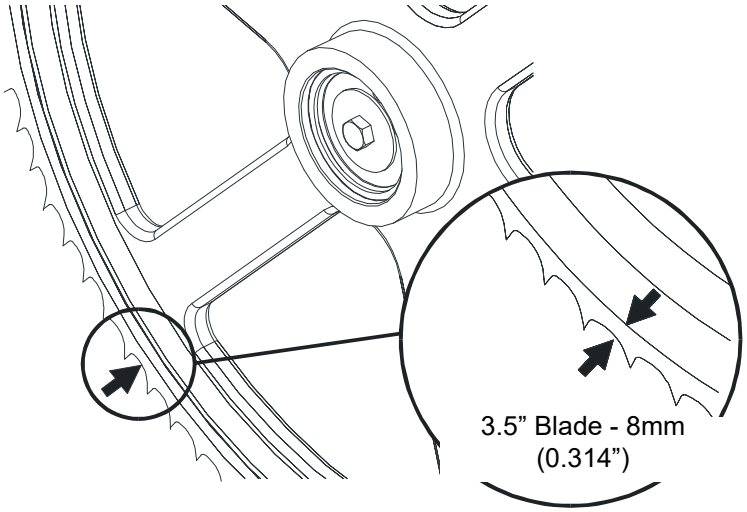


FIG. 3-4.

See Figure 3-5.

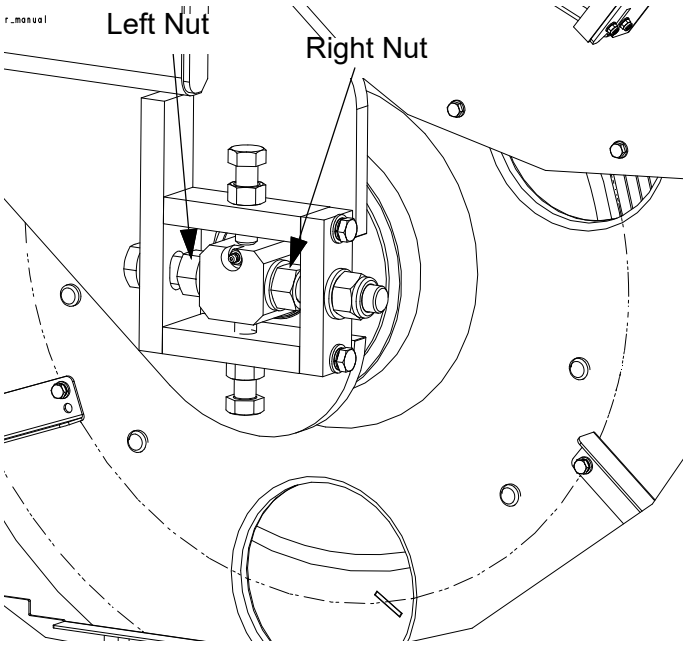


FIG. 3-5.

5. Use the cant adjustment nuts, shown in **Figure 3-5,** 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 cover.

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.

3.5 Vision Camera

See Figure 3-1 Mount vision camera as shown in the picture below

WB2000MEC50HS5U_001
WB2000MEC50HS5U_MANUAL

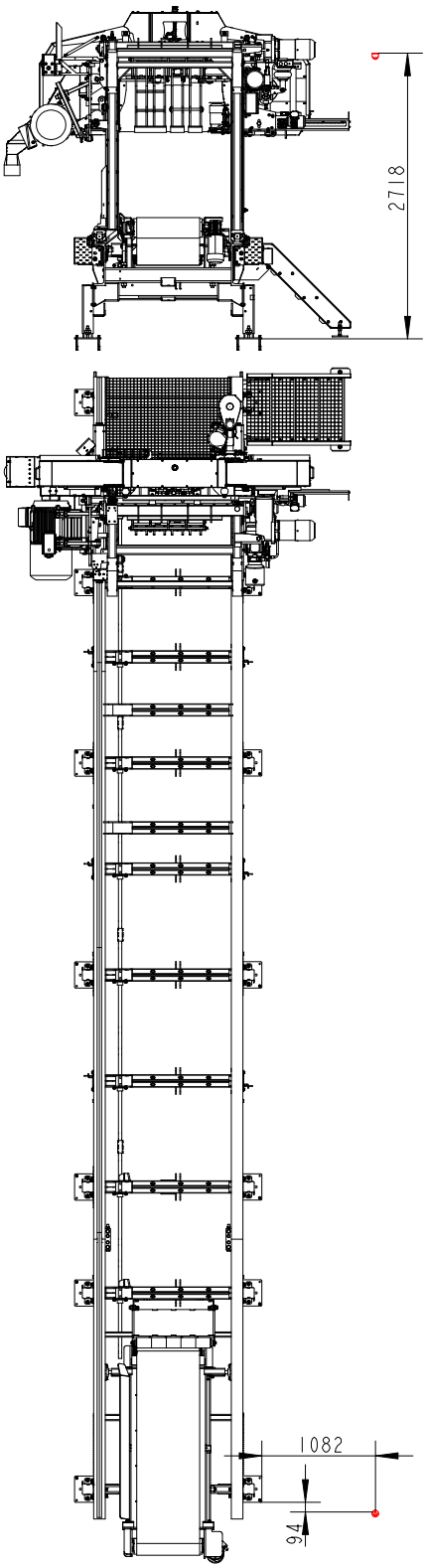


FIG. 3-1

3.6 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 3-2 Position the pantograph next to the sawmill bed as shown. (**NOTE:** The assembled pantograph is shown below.)

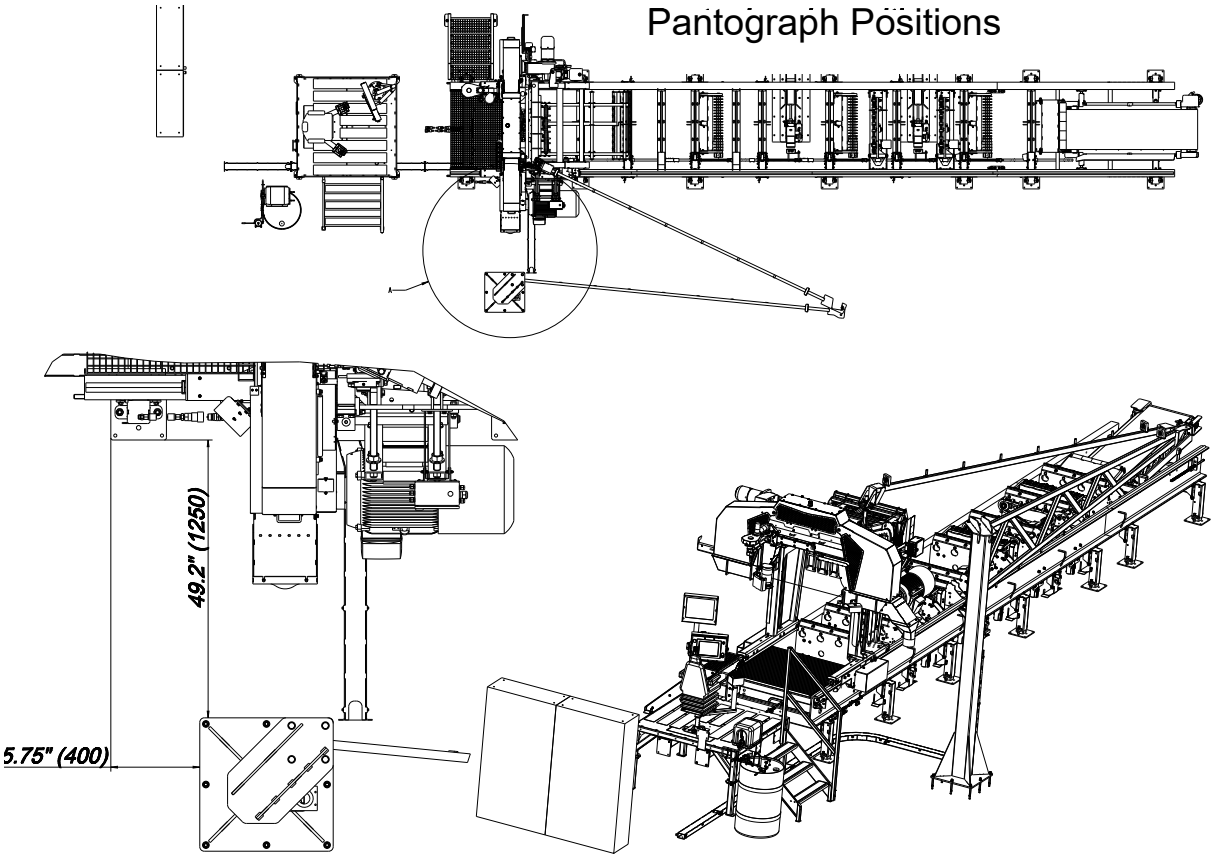


FIG. 3-2

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 3-3

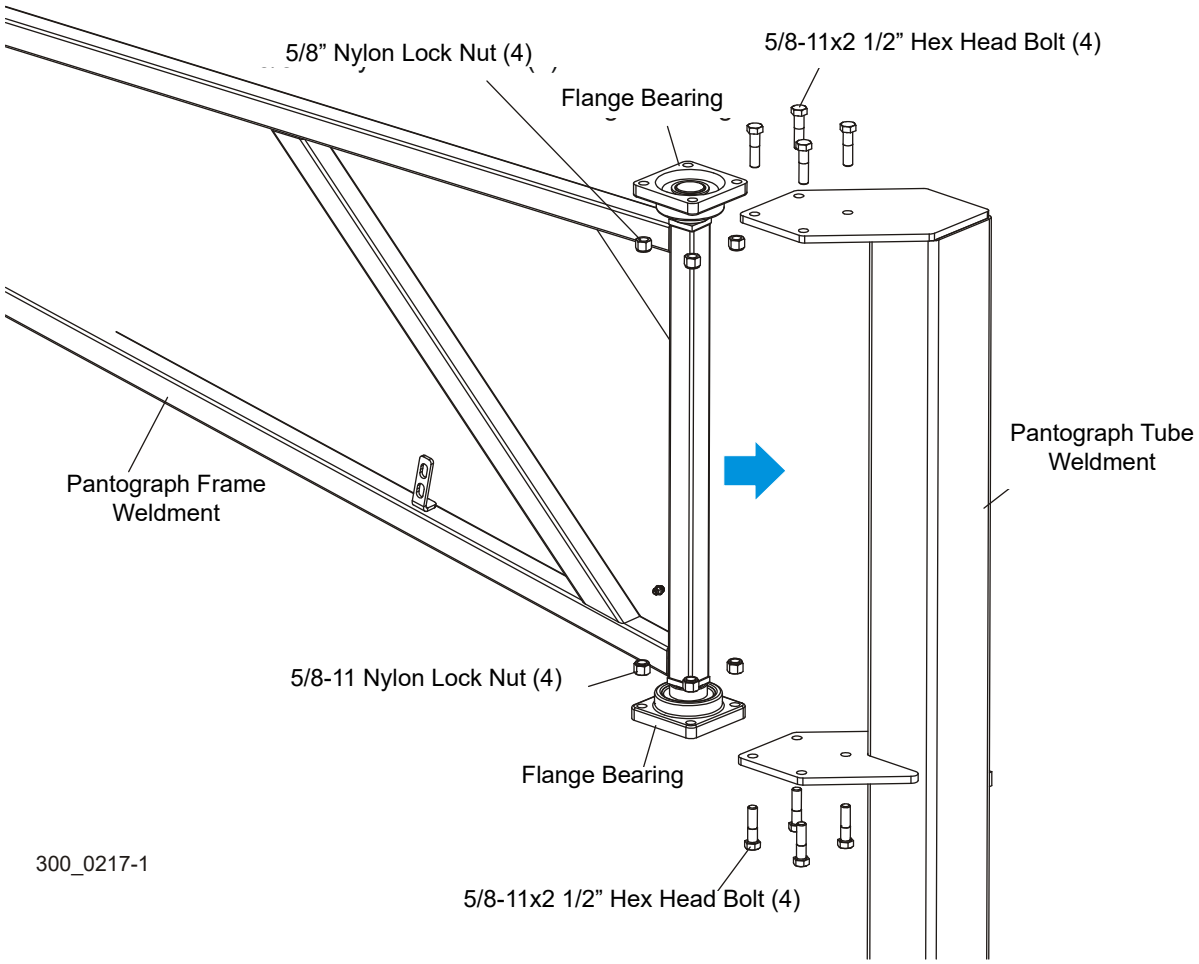


FIG. 3-3

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 3-4

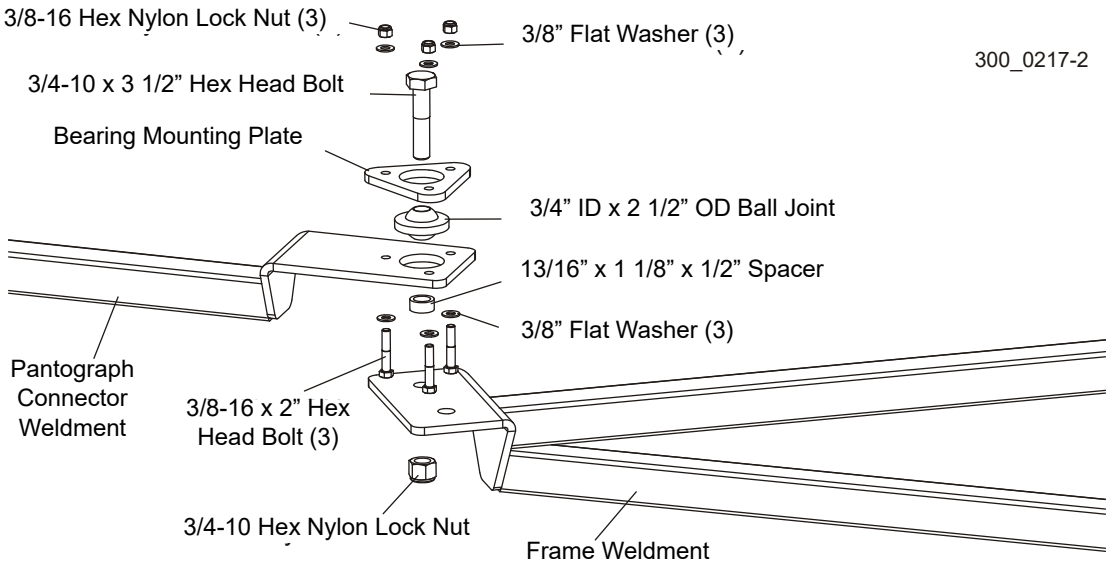


FIG. 3-4

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

See Figure 3-5

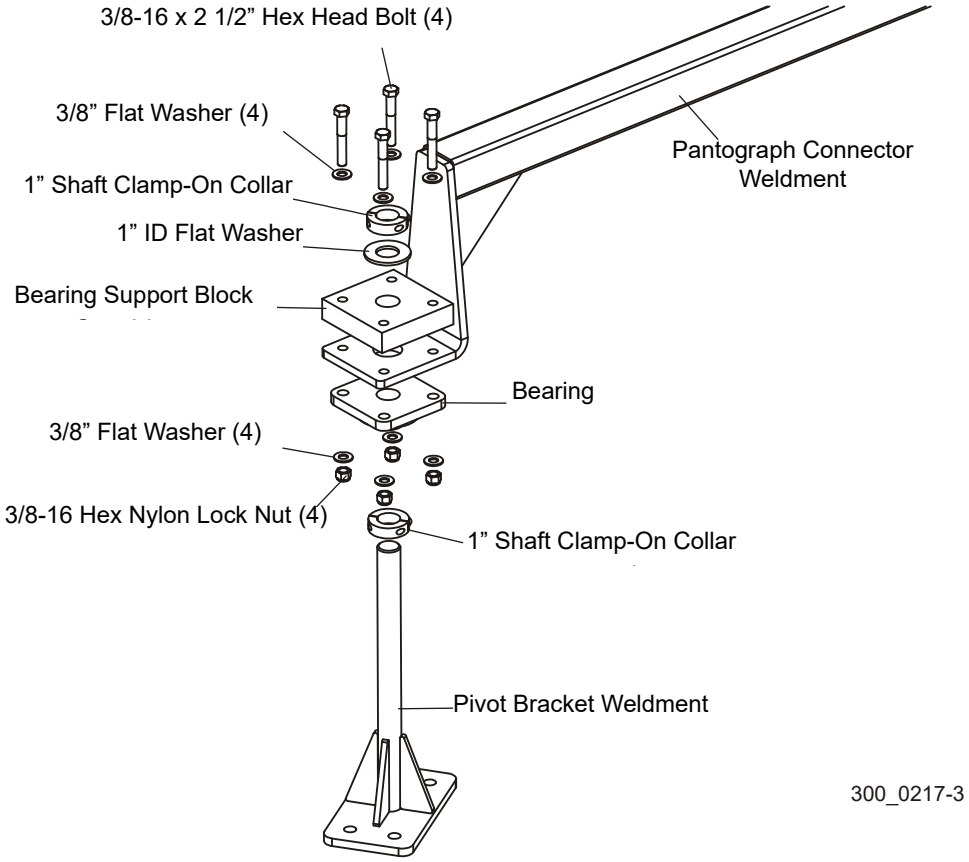


FIG. 3-5

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 3-6

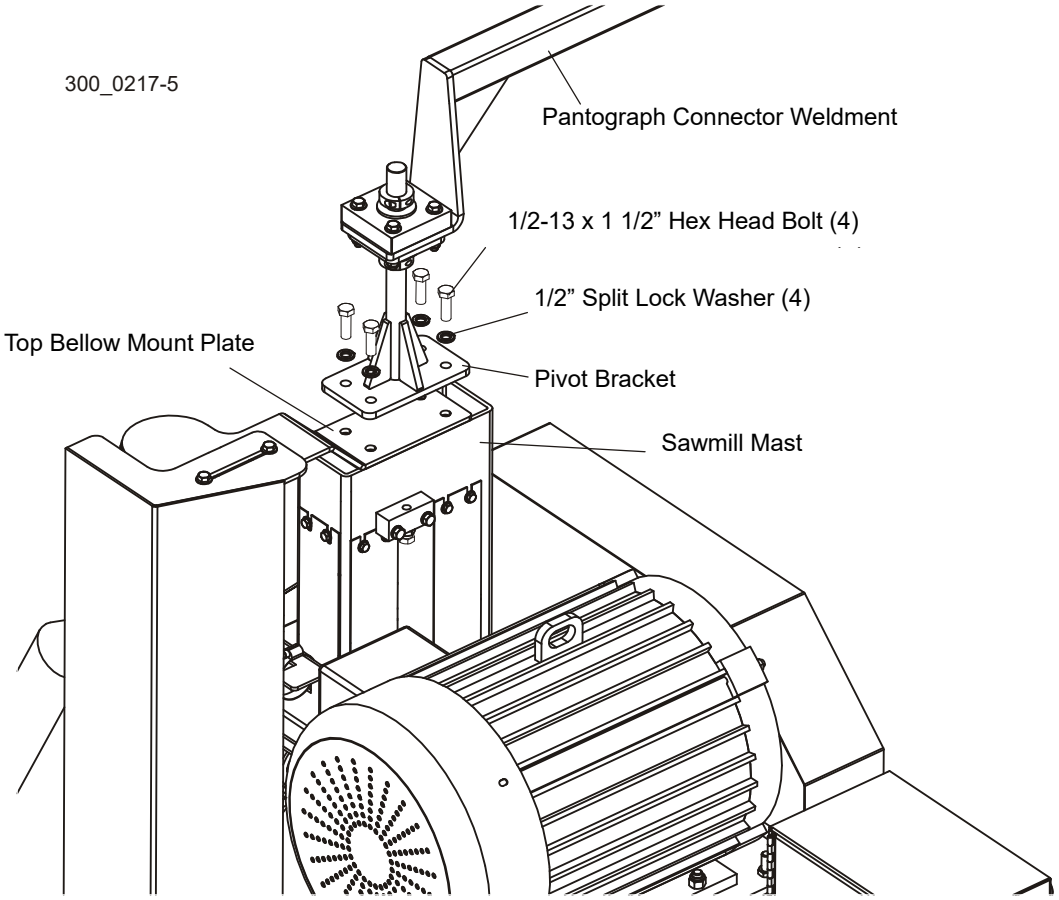


FIG. 3-6

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 3-7

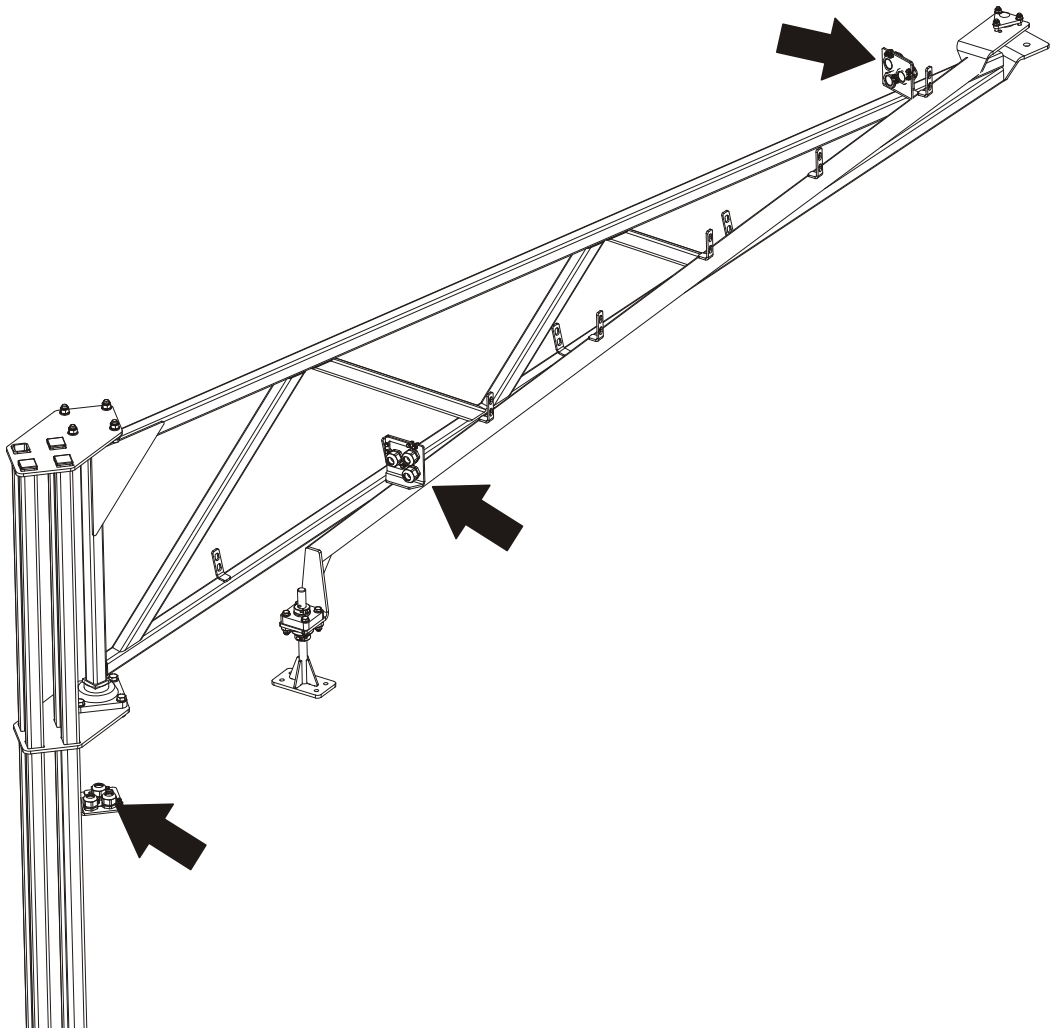


FIG. 3-7

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 SETUP & OPERATION

4.1 Sawmill Setup

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

- The sawmill must not be operated without a sawdust extraction system connected and started.
- The sawmill should be operated under roof only.
- The sawmill can be operated in the temperature range of -15°C to 40°.
- The intensity of light at the operator's work-place must be at least 300lx[1].
- The operator's work-place is shown in the figure below.
- The protective fence should be installed according to the figure below. Fence height - 1.8 m.

IMPORTANT! It is impossible to fence off the persons who are on the other side of the sawmill who feed and remove boards Be sure that all persons are away from the sawmill before starting it.

1. The light can not cause stroboscopic effect.

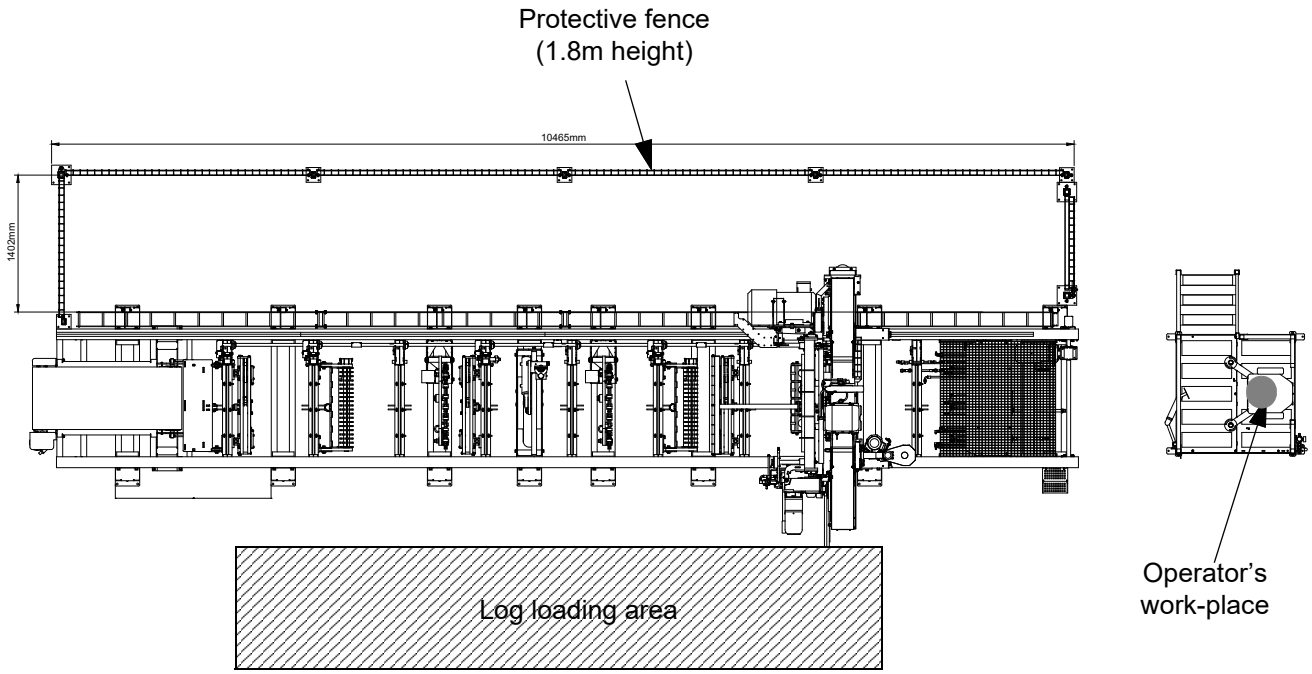


FIG. 4-1 WB2000

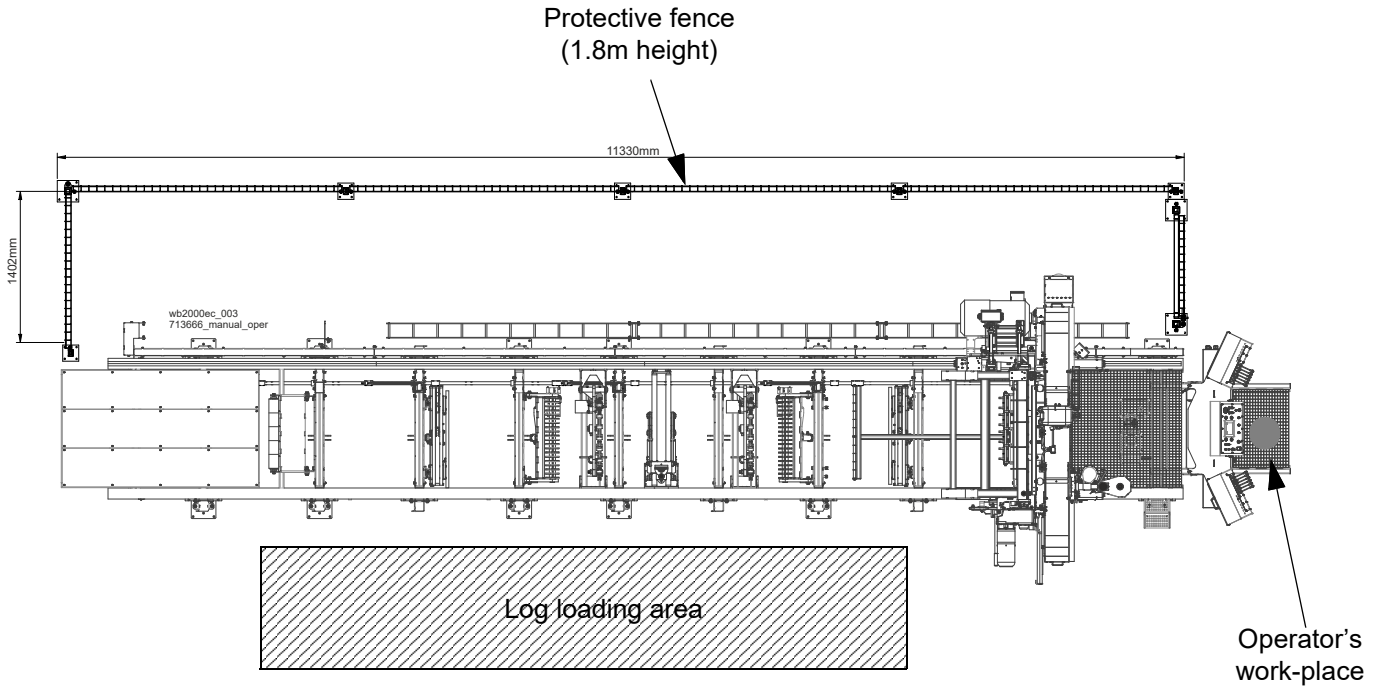


FIG. 4-2 WB2000 EC

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

3-Phase Volts	Fused Disconnect	Suggested Wire Size
EH30, EC30 22 KW 400 VAC 460 VAC	50 A	16 mm^2 up to 15m long
EH40, EC40 30 KW 400 VAC 460 VAC	105 A	16 mm^2 up to 15m long

TABLE 4-1

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 (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.

DANGER! It is recommended that a 30mA Ground Fault Interrupter (GFI) be used.

Set up the sawmill on firm, level ground. Secure the sawmill to the ground to prevent moving during operation. A concrete foundation (rated to support 40 T/m^2 at each sawmill foot position) and 21mm anchored bolts are recommended.

WARNING! Set up the sawmill on firm, level ground. Secure the sawmill to the ground. Failure to do so could cause sawmill to tip over, resulting in serious personal injury or death.

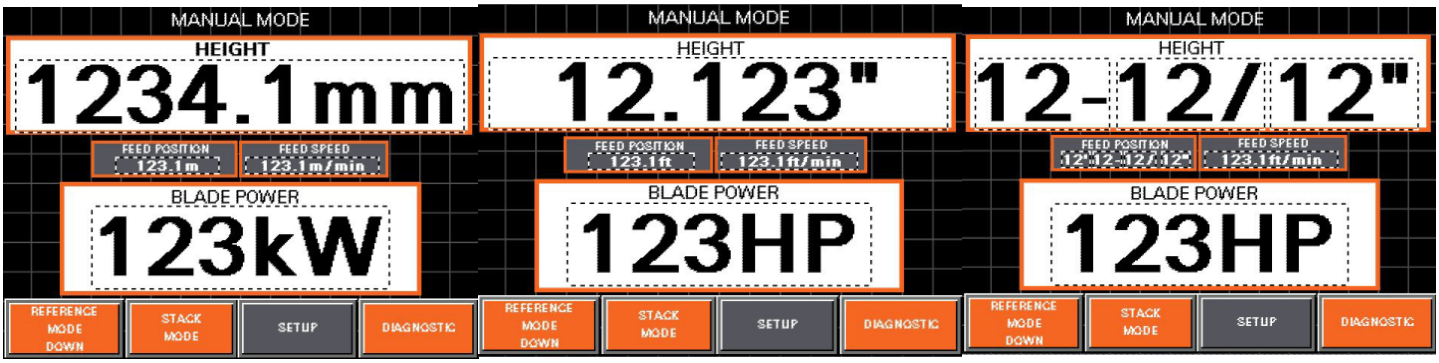
The machine can be lifted using a forklift truck or a winch. The forklift must be rated for at least 4000kg (4409lb.).

4.2 Operating the Setworks controller

4.2.1 Turning on the machine

After turning on the power, the welcome screen will appear:

Depending on the selected system of units, one of the following three screens will be displayed:



Height – current height of the blade from the bed.

Feed Position – position of the saw head on the bed.

Feed speed – feed speed of the saw head on the bed.

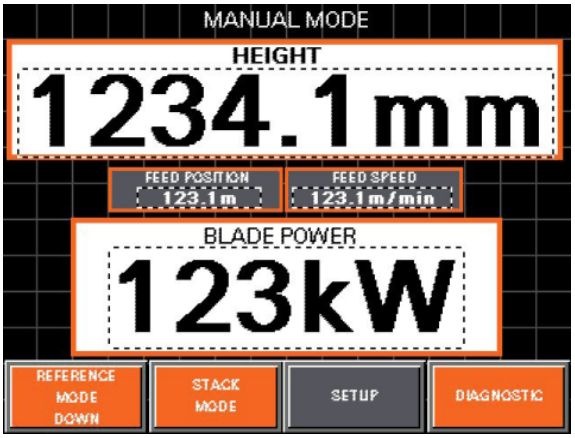
Power – power of the main motor driving the blade.

In the manual mode, the operator controls the movement of the saw head without using the automatic positioning function.

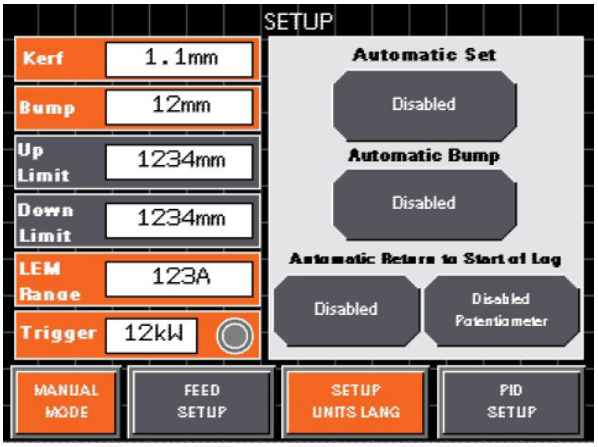
4.2.2 Setting of operating parameters

Before starting the operation of the machine, its settings must be configured.

To do this, in the manual mode press the SETUP button at the bottom of the screen:



After that, the following screen will appear:



Kerf – allows entering the value of the kerf, which enables correct calculation of the position of the blade for the automatic saw head positioning mode – reference up/down mode and stack mode.

Bump – used to determine the saw head return height during automatic cutting in order to remove the board after cutting.

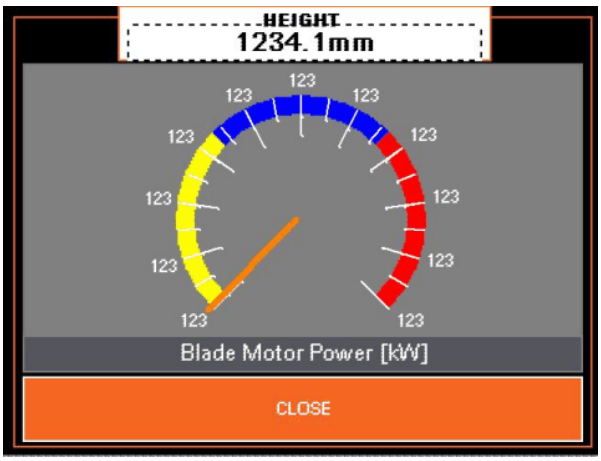
Up Limit – determines the maximum height of the saw head over the bed. It is not recommended to change this value due to the possibility of damaging the saw head.

Down Limit – determines the minimum height of the saw head over the bed. It is not recommended to change this value due to the possibility of damaging the saw head.

LEM range – used to determine the operating range of the current transducer which is used to determine the power of the main motor. The default value is 100A.

Trigger – determines the level of power of the main motor, at which a large screen with power reading will be displayed. This parameter can be used to inform about exceeding the motor power. Such a situation can occur when hardwood or large logs are cut and the rated power of the motor may be exceeded.

The appearance of the window is presented below:



The window is automatically turned off when the motor power falls below the threshold value set or the CLOSE button is pressed.

Automatic set – used for enabling the option of automatic setting of the next position when the saw head gets on the bed to the start of the log position (SOL), which is set with the SOL/EOL (SOL - Start Of the Log, EOL - End Of the Log) button on the panel. This function will be described in more detail in the "Cutting" section.

Automatic BUMP – used to for enabling the function of automatic raising of the saw head by the value entered in the BUMP field, when the saw head gets to the end of the log on the bed (EOL). The EOL position is marked with SOL/EOL button on the panel. *See Section 4.2.8* where you can find the information on how to use this function.

Automatic return to Start of Log – used for enabling or disabling the function of automatic adjustment of the saw head speed during its return to the start of the log (SOL) marked with the SOL/EOL button on the panel. The speed is adjusted to minimize the cases of passing this point. This results in optimization of the cutting time and requires less attention from the operator during the return to SOL.

If this function is disabled, the operator must decide when to stop the saw head on the bed and adjust its speed.

There are two options available when the automatic return function is turned on:

- - Enabled – the saw head moves on the bed with the maximum speed and its speed is decreasing as it approaches SOL.
- - Enabled Potentiometer – the saw head moves with the speed set with the potentiometer and its speed is decreasing as it approaches SOL. This option is especially useful in the case of large logs, where a heavy impact of the board removing arm may cause its damage.

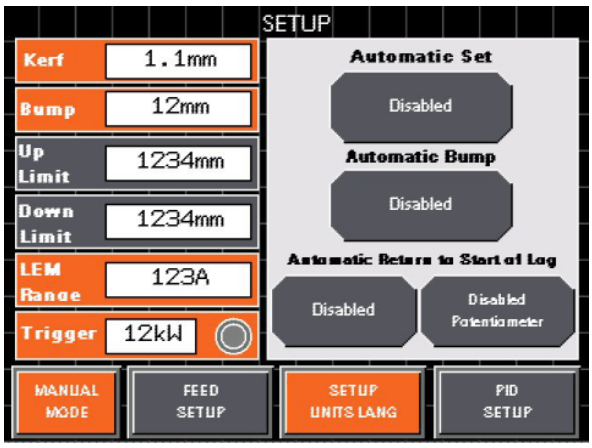
4.2.3 Forward/backward feed calibration

An encoder is installed on the forward/backward feed gearbox, which is used to transmit the data of the saw head position on the bed and to determine the start and end of the log (SOL/EOL). Thanks to this data it is also possible to stop the saw head gradually at the ends of the bed to prevent damage to parts of the machine.

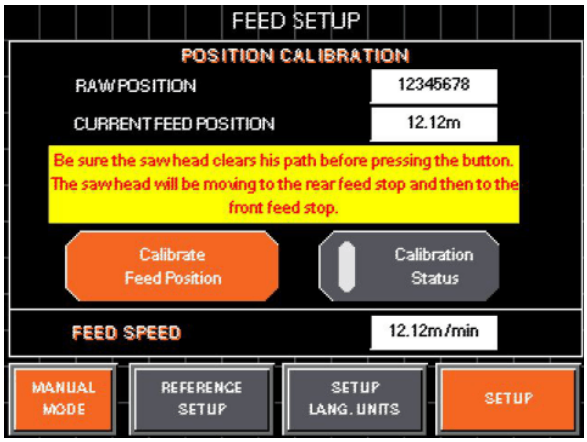
The forward/backward feed is factory calibrated, but it may be needed to recalibrate the position.

This operation must also be performed when replacing the gear motor, encoder, forward/backward chains, or other components, the replacement or adjustment of which results in an incorrect operation of the encoder.

In order to calibrate the forward/backward feed, press the FEED SETUP button on the setup screen:



Then, the Feed Setup screen will be displayed:



RAW Position – position of the saw head on the bed in encoder units

Current Feed Position – position of the saw head on the bed in metric or imperial units

Feed Speed – current saw head speed in m/min. or ft./min.

Calibrate Feed Position – this button starts the calibration procedure

Calibration Status – shows the status of calibration. If the calibration is performed correctly, the indicator light will turn green.

Before pressing the CALIBRATE FEED POSITION button, make sure that there are no obstacles on the path of the saw head.

After the CALIBRATE FEED POSITION button has been pressed, the saw head will move backward and then, after stopping the saw head by the bumper, the movement will take place in the opposite direction (towards the operator's station).

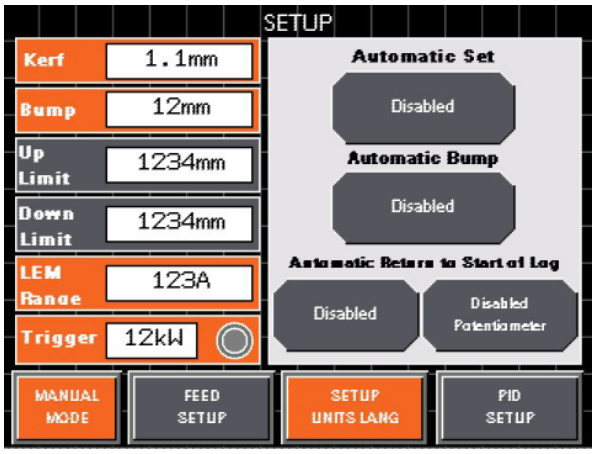
After the bumper at the start of the bed has been reached, the Calibration Status indicator light will turn green.

This ends the calibration process.

If during the calibration the saw head changes direction or stops too early and the controller informs that the calibration process has been completed, check whether dirt or mechanical elements do not increase the movement resistance. If so, the causes should be removed and the calibration process should be performed again.

4.2.4 Setting up units or language

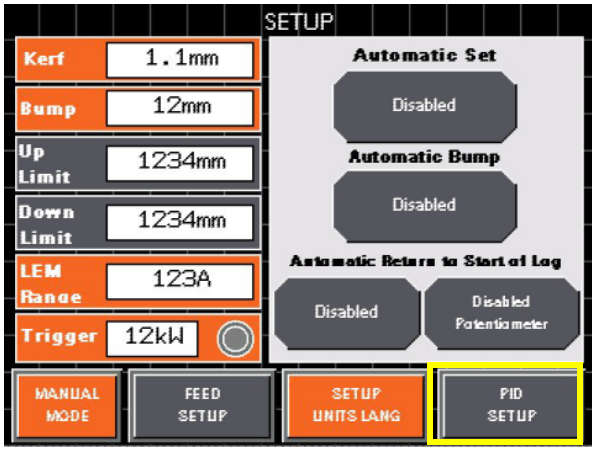
To change units or language on the setup screen, press the SETUP UNITS LANGUAGE button.



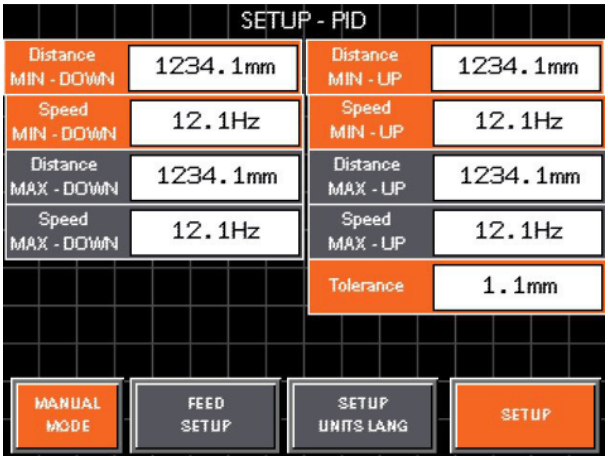
The following screen will appear:

4.2.5 PID Setup – distances and speeds during positioning

To change the operating parameters of the up/down feed on the setup screen, press the PID SETUP button.



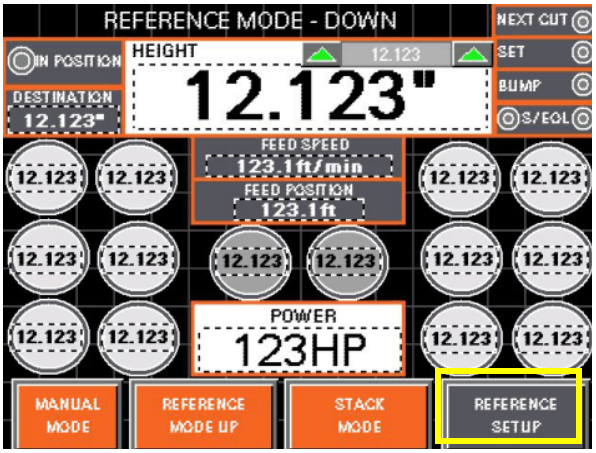
Access to this screen is password protected in order to prevent access by unauthorized persons. Changes of these parameters affect the automatic positioning of the saw head to the set size. After the user name and password have been entered (available only after consulting Wood-Mizer Customer Service), the following screen will appear:



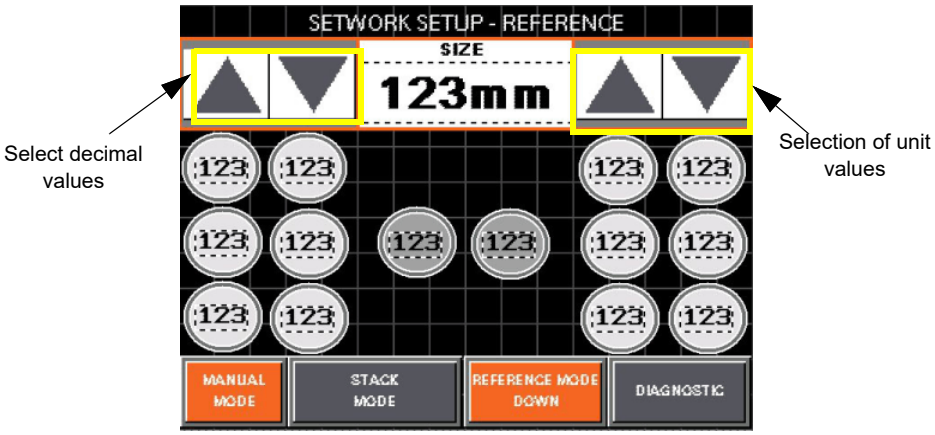
Note: Changes should be made only after consulting them with WMI Customer Service.

4.2.6 Setwork controller setup for the Reference mode

To configure memory for the Reference mode, after selecting the REFERENCE MODE DOWN function, press the REFERENCE SETUP button:



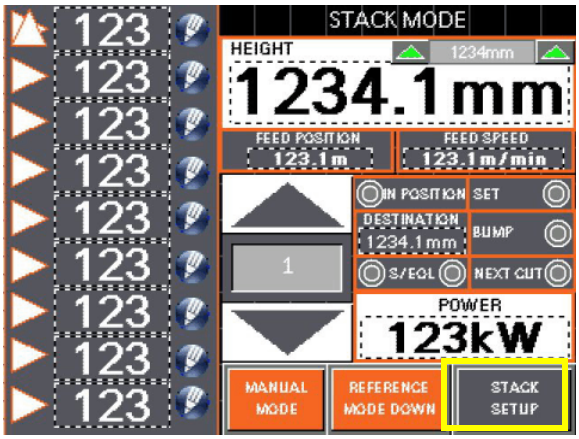
After that, the following screen will appear:



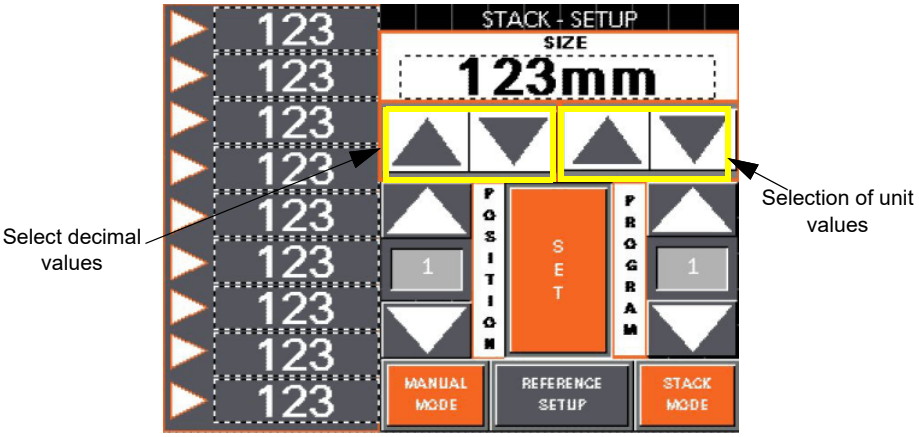
In order to select the size of a board, use the arrows on the left and right side of the SIZE field to set the desired value, and then press the selected field. There are 14 boards size memories available.

4.2.7 Setwork controller setup for Stack mode

To configure memory for the Stack mode, after selecting the STACK MODE function, press the STACK SETUP button:



After that, the following screen will appear:



Use the arrows to select the program number (4 program memories are available) and the cutting position. Then use the arrows under the SIZE field to set the desired value, and then press the SET button. The fields are filled with the selected value – from the selected position upwards. Using the arrows next to the POSITION field, you can move to next or previous positions.

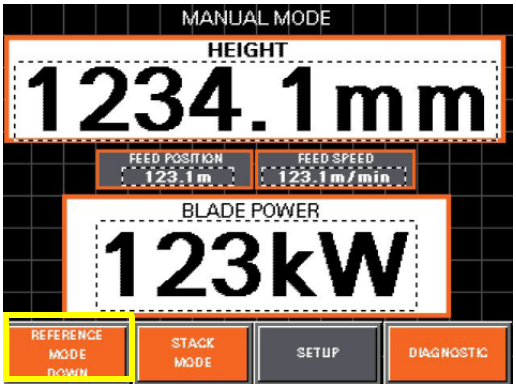
4.2.8 Cutting – Reference Mode Down

This mode is used to cut the log **from top to bottom** to any size. The calculated height of the next cut takes into account the value of the kerf. In this mode, the controller does not allow obtaining the required size of the board that is cut as the last (i.e. the first one from the bed).

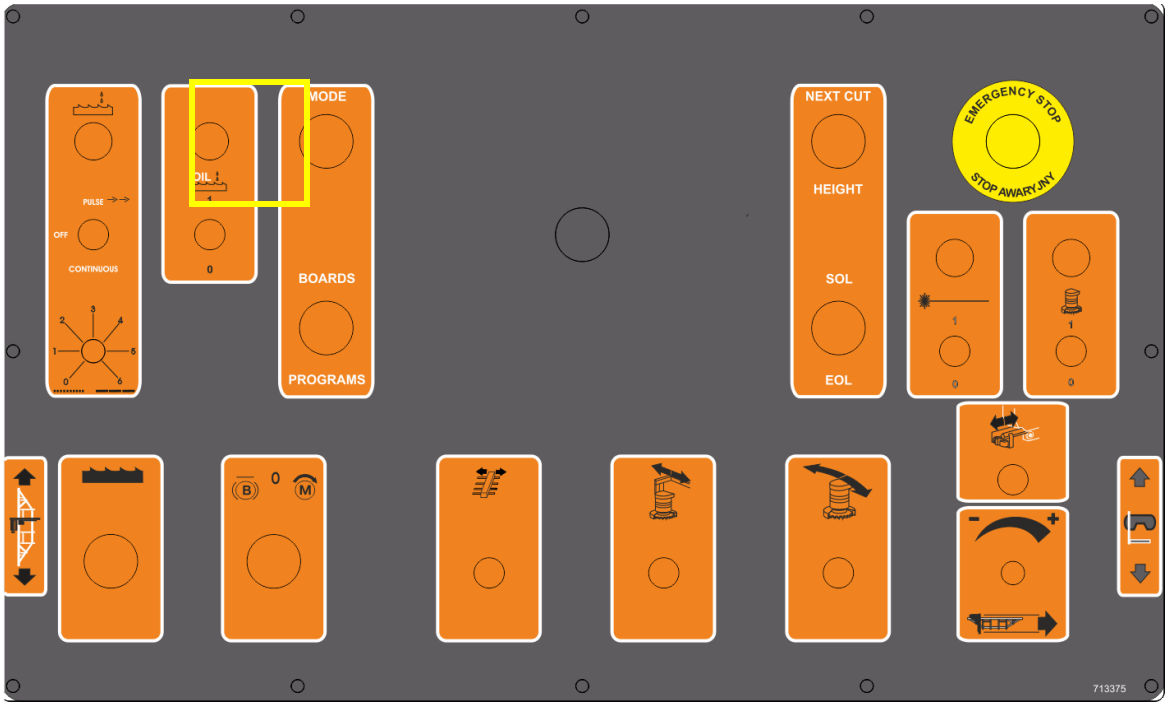
Before the cutting is started, the following should be checked:

- the setting of the board memory in the REFERENCE SETUP function, *See Section 4.2.6*
- the settings of the setworks controller: kerf, limits, automatic setting, BUMP (saw head return height), and the automatic return to the start of the log (SOL), *See Section 4.2.2*

In order to use the Reference Mode Down, on the manual mode screen press the REFERENCE MODE DOWN button:



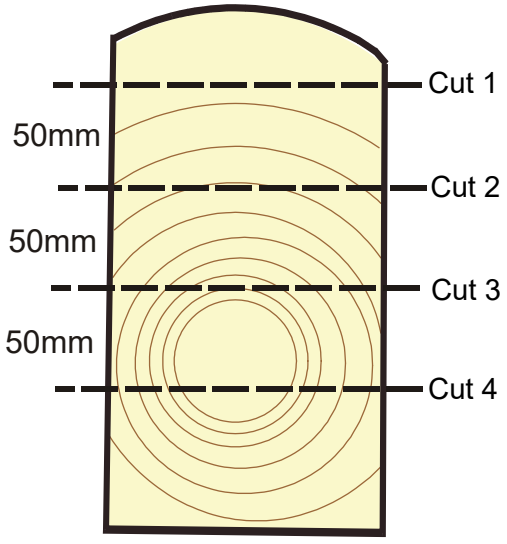
... or use the MODE button on the operator's panel:



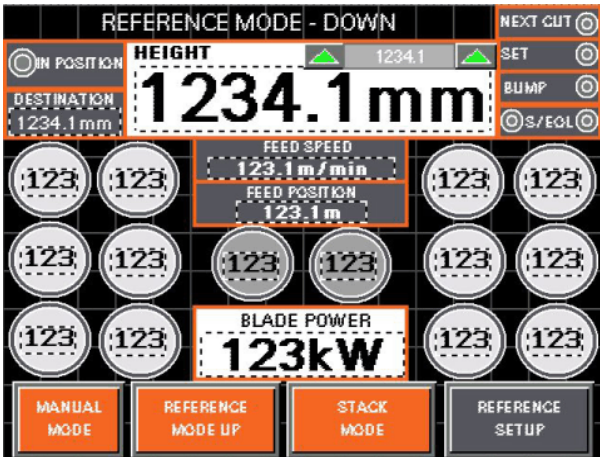
Each short press of this button causes switching to the next operating mode.

A long hold of the button causes switching to the manual mode.

The operation of the Reference Mode Down for a sample log is shown below.



Then select the required board thickness (in this case 50mm) by pressing a button with a predefined board thickness on the display or using the BOARDS/PROGRAMS button on the operator's panel. Pressing the BOARDS/PROGRAMS button moves to the next defined field. The button with the selected board thickness changes the colour to green.



Move the saw head to the start of the log and press the NEXT CUT button (the IN POSITION indicator light will turn on). If the automatic return or automatic setting function is used, press also the SOL/EOL button on the panel.

On the screen, the NEXT CUT indicator light and the S/EOL left indicator light should change the colour to green. The IN POSITION indicator light should also turn green.

If there is a need to lower the saw head by the height of the currently selected board, push the right drum switch downwards – the saw head will be lowered to the next size.

Turn on the blade drive and start cutting. The speed can be adjusted with the use of the potentiometer.

When the end of the log is reached, press the SOL/EOL button to select the end of the log. The LED to the right of the SOL/EOL field changes the colour to green.

If the Automatic BUMP function was selected earlier in the setup, the saw head will be raised by the set value. If the option is disabled, push the right drum switch upwards. A short push will cause raising the saw head by the value entered in the BUMP field, while a longer hold will cause switching to the BUMP manual mode, in which the operator decides how high the saw head is to be lifted.

When raising the saw head in the BUMP mode, the indicator light on the display changes the colour to green.

When the saw head is at a correct height, move the saw head towards the start of the log.

When the Automatic Return to Start of Log option is enabled, after the drum switch have been pushed downwards, the saw head will start moving and will stop at the place where the start of the log was selected.

In addition, when the Automatic Set option is enabled, the saw head will be set to the next size. When setting the size, the SET indicator light changes the colour to green.

If the Automatic Set option is disabled, push the right drum switch downwards when the log reaches the start of the log.

When setting the saw head, the DESTINATION field shows the calculated height, at which the saw head should be located after finishing the movement.

At any time it is possible to remove the settings of the start/end of the log and the cut by short pressing the NEXT CUT button on the operator's panel.

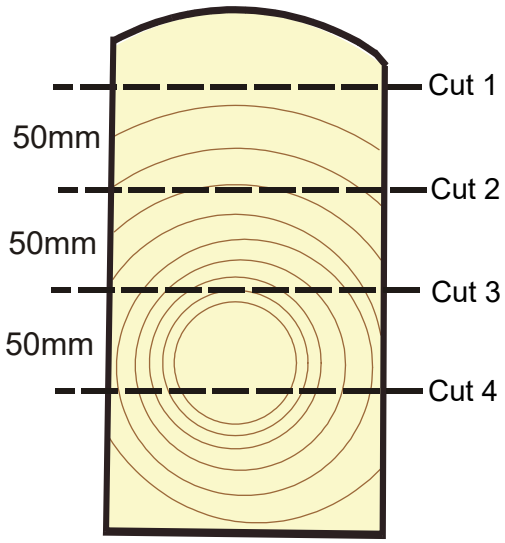
4.2.9 Cutting – Reference Mode Down – Cutting with return height

This mode is used to cut the log **from top to bottom** to any size, without removing the boards after each cut. The calculated height of the next cut takes into account the value of the kerf. In this mode, the controller does not allow obtaining the required size of the board that is cut as the last (i.e. the first one from the bed).

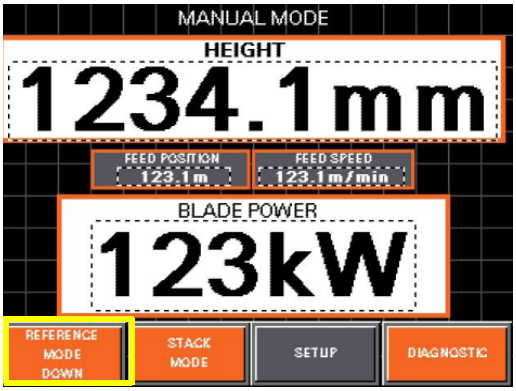
Before the cutting is started, the following should be checked:

- the setting of the board memory in the REFERENCE SETUP function, *See Section 4.2.6*
- seworks settings: kerf, limits, automatic setting, BUMP (saw head return height), and the automatic return to the start of the log (SOL), *See Section 4.2.2*

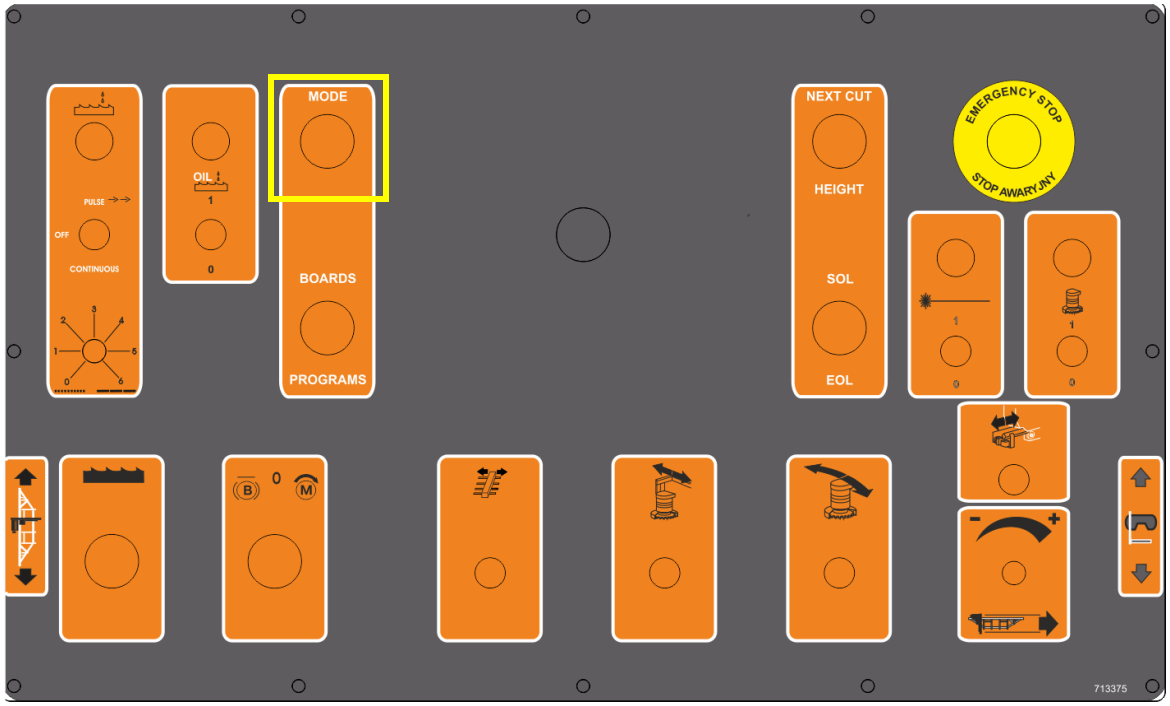
The operation of the Reference Mode Down for a sample log is shown below.



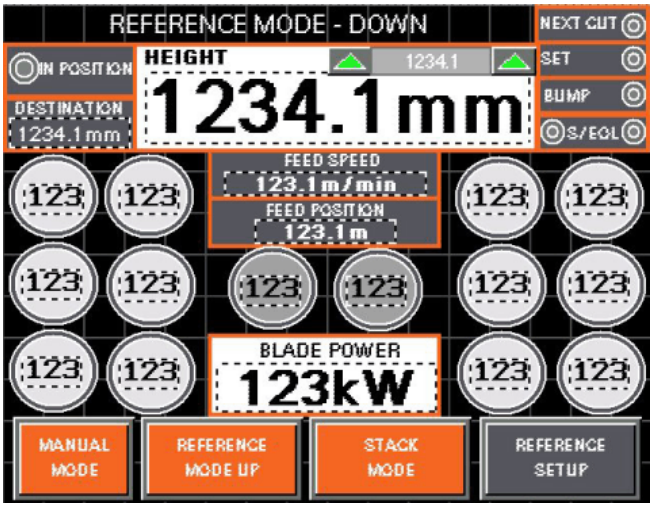
In order to use the Reference Mode Down, on the manual mode screen press the REFERENCE MODE DOWN button:



You can also use the MODE button available on the machine operator's panel:



Then select the required board thickness (in this case 50 mm) by pressing an appropriate field on the display or using the BOARDS/PROGRAMS button on the operator's panel. The button with the selected board thickness changes the colour to green.



Then move the saw head to the start of the log with the saw head positioned earlier at a height, at which it will pass the log without any obstacles throughout the entire length.

Press and hold the NEXT CUT/HEIGHT button until a smaller window with the current height appears in the HEIGHT field.

Then lower the saw head to the height, at which the first cut is planned. Press the NEXT CUT button (the IN POSITION indicator light will turn on). When using the automatic return or automatic setting function, press also the SEOL/EOL button on the panel.

If there is a need to lower the saw head by the height of the currently selected board, push the right drum switch downwards – the saw head will be lowered to the next size.

Turn on the main motor and start cutting. The speed can be adjusted with the use of the potentiometer.

When the end of the log is reached, press the SOL/EOL button to select the end of the log. The LED to the right of the S/EOL field changes the colour to green.

If the Automatic BUMP function was enabled earlier in the setup, the saw head will be raised to the previously memorized return height. The value of this height is displayed in a small field next to the current height.

If the Automating Bump option is disabled, push the right drum switch upwards. A short push will raise the saw head to the return height. Holding it will cause switching to the BUMP manual mode, in which the operator decides how high the saw head is to be lifted.

When raising the saw head in the BUMP mode, the indicator light on the display changes the colour to green.

When the saw head is at a correct height, move the saw head towards the start of the log.

When the Automatic Return to Start of Log option is enabled, after the drum switch have been pushed downwards, the saw head will start moving and will stop at the place where the start of the log was selected.

In addition, when the Automatic Set option is enabled, the saw head will be set to the next size. When setting the size, the SET indicator light changes the colour to green.

If the Automatic Set option is disabled, push the right drum switch downwards when the log reaches the start of the log.

When setting or lifting the saw head, the Destination field shows the calculated value of the saw head position, at which the saw head should be located after finishing the movement.

At any time it is possible to remove the settings of the start/end of the log and the cut by short pressing the NEXT CUT button on the operator's panel.

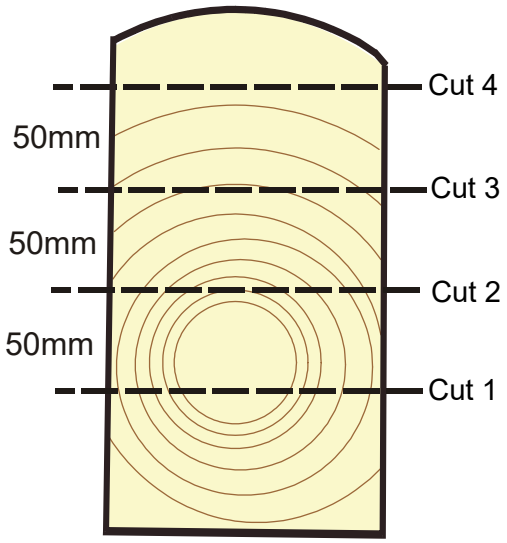
4.2.10 Cutting – Reference Mode Up

This mode is used to cut the log **from bottom to top** to any size, without removing the boards after each cut. The calculated height of the next cut takes into account the value of the kerf.

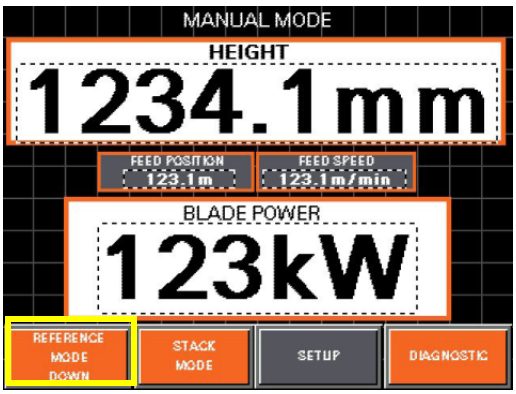
Before the cutting is started, the following should be checked:

- the setting of the board memory in the REFERENCE SETUP function, *See Section 4.2.6*
- setworks settings: kerf, limits, automatic setting, BUMP (saw head return height), and the automatic return to the start of the log (SOL), *See Section 4.2.2*

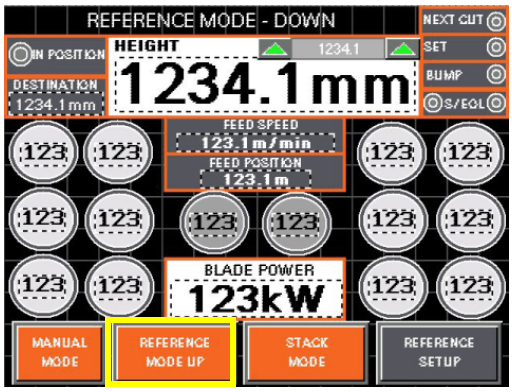
The operation of the Reference Mode Up for a sample log is shown below.



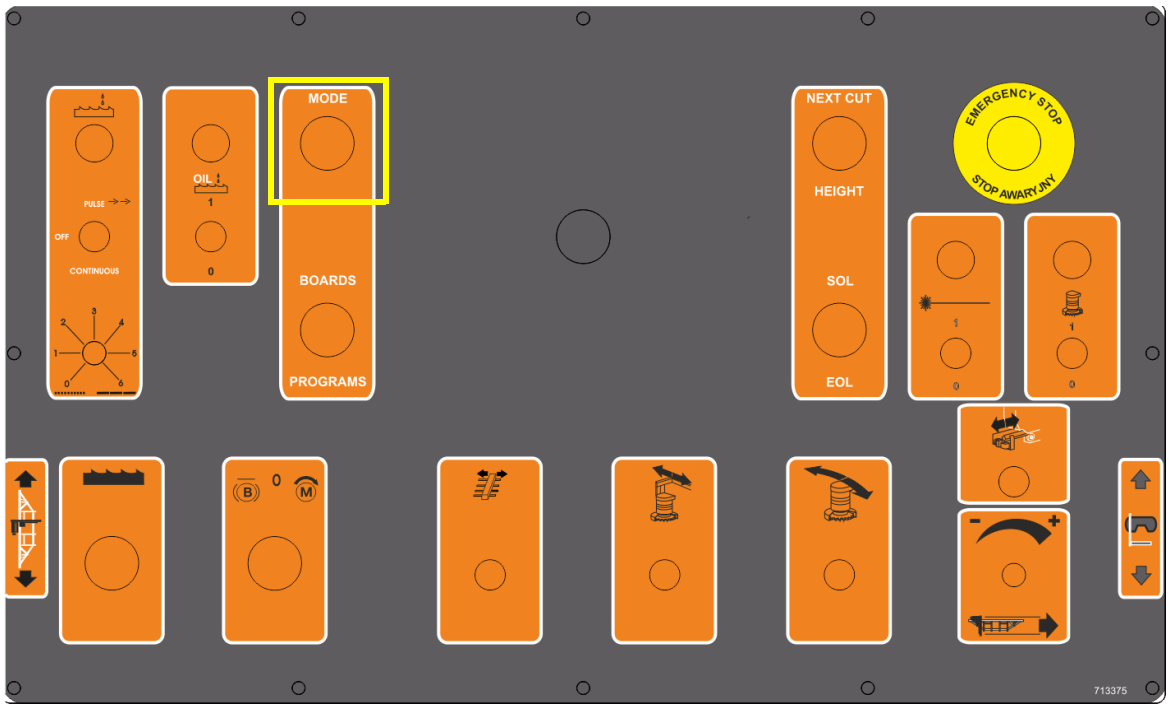
In order to use the Reference Mode Down, on the manual mode screen press the REFERENCE MODE DOWN button,



and then the REFERENCE MODE UP button.



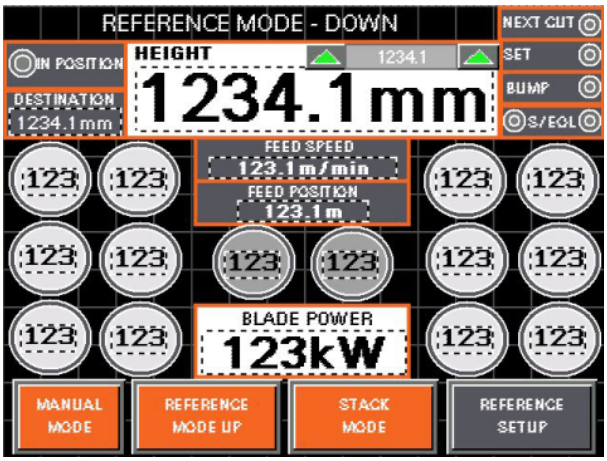
The selection can also be made with the use of the MODE button located on the machine operator's panel:



Each short press of the Mode button causes switching to the next operating mode.

A long hold of the button causes switching to the manual mode.

Then select the required board thickness (in this case 50 mm) by pressing an appropriate field on the display or using the BOARDS/PROGRAMS button on the operator's panel. The button with the selected board thickness changes the colour to green.



Then move the saw head to the start of the log and set the saw head at the height of the first cut. Press the NEXT CUT button (the IN POSITION indicator light will turn on). When there is a need to use the automatic return or automatic setting function, press also the SEOL/EOL button on the panel.

The Next Cut and S/EOL indicator lights on the left should turn green on the screen.

If there is a need to raise the saw head by the value of the board, push the right drum switch upwards – the saw head will be raised to the next size position.

Turn on the main motor and start cutting. The speed can be adjusted with the use of the potentiometer.

When the end of the log is reached, press the SOL/EOL button to select the end of the log. The indicator light to the right of the S/EOL field changes the colour to green.

In order to raise the saw head to a height that allows moving the saw head over the log, push upwards and hold the right drum switch. This will cause switching to the BUMP manual mode. Hold the switch until the saw head reaches the height that allows passing the log.

When the saw head is at a correct height, move the saw head towards the start of the log.

When the Automatic Return to Start of Log option is enabled, after the drum switch have been pushed downwards, the saw head will start moving and will stop at the place where the start of the log (SOL) was selected.

In addition, when the Automatic Set option is enabled, the saw head will be set to the next size.

If the Automatic Set option is disabled, push the right drum switch downwards when the log reaches the start of the log.

At any time it is possible to remove the settings of the start/end of the log and the cut by short pressing the NEXT CUT button on the operator's panel.

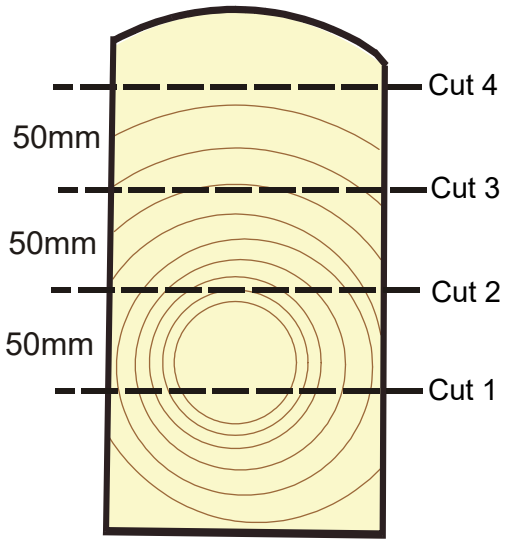
4.2.11 Cutting – Reference Mode Up – Cutting with return height

This mode is used to cut the log **from bottom to top** to any size, without removing the boards after each cut. The calculated height of the next cut takes into account the value of the kerf.

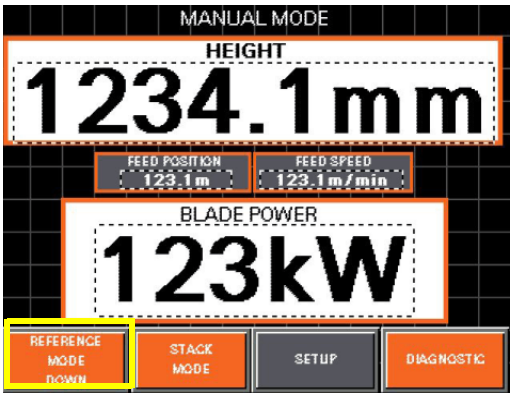
Before the cutting is started, the following should be checked:

- the setting of the board memory in the REFERENCE SETUP function, *See Section 4.2.6*
- setworks settings: kerf, limits, automatic setting, BUMP (saw head return height), and the automatic return to the start of the log (SOL), *See Section 4.2.2*

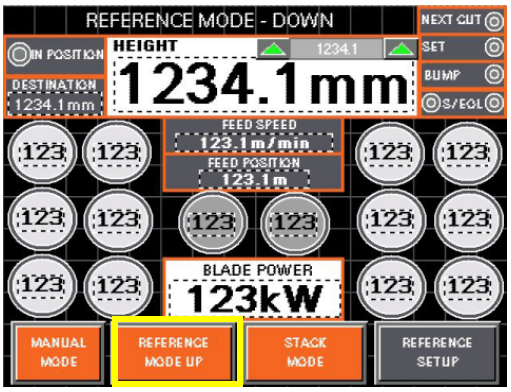
The operation of the Reference Mode Up for a sample log is shown below.



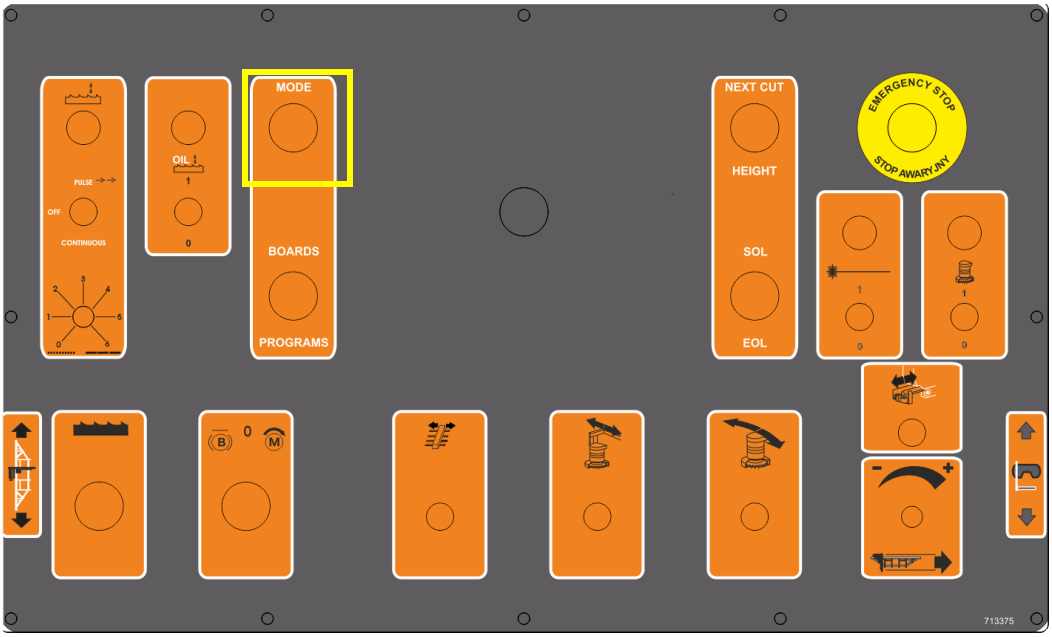
In order to use the Reference Mode Up, on the manual mode screen press the Reference Mode Down button,



and then the Reference Mode Up button,



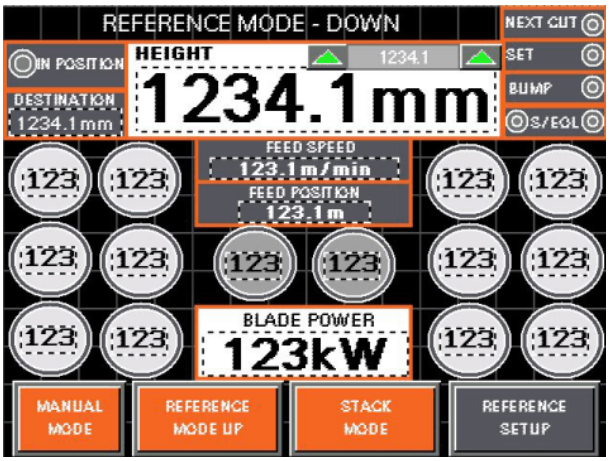
or use the MODE button on the machine operator's panel:



Each short press of the Mode button causes switching to the next operating mode.

A long hold of the button causes switching to the manual mode.

Then select the required board thickness (in this case 50 mm) by pressing an appropriate field on the display or using the BOARDS/PROGRAMS button on the operator's panel. The button with the selected board thickness changes the colour to green.



Move the saw head to the start of the log with the saw head positioned earlier at a height, at which it will pass the log without any obstacles throughout the entire length.

Press and hold the NEXT CUT/HEIGHT button until a smaller window with the current height appears in the HEIGHT field.

Set the saw head at a height, at which the first cut is planned.

Press the NEXT CUT button (the IN POSITION indicator light will turn on). When using the automatic return or automatic setting function, press also the SEOL/EOL button on the panel.

The Next Cut and S/EOL indicator lights on the left should turn green on the screen.

If there is a need to raise the saw head by the height of the currently selected board, push the right drum switch upwards – the saw head will be raised to the next size.

Turn on the main motor and start cutting. The feed speed can be adjusted with the use of the potentiometer.

When the end of the log is reached, press the SOL/EOL button to select the end of the log. The indicator light to the right of the S/EOL field changes the colour to green.

If the Automatic BUMP function was enabled in the setup, the saw head will be raised to the previously memorized return height. The value of this height is displayed in a small field next to the current height.

If the Automating Bump option is disabled, push the right drum switch upwards. A short push will raise the saw head to the return height. Holding it will cause switching to the BUMP manual mode, in which the operator decides how high the saw head is to be lifted.

If the Automatic BUMP function has been selected in the setup, the saw head will be raised to the previously memorized return height. This height is displayed in a small window next to the current height.

When the saw head is at a correct height, move the saw head to the start of the log.

When the Automatic Return to Start of Log option is enabled, after the drum switch have been pushed downwards, the saw head will start moving and will stop at the place where the start of the log was selected.

In addition, when the Automatic Set option is enabled, the saw head will be set to the next size.

If the Automatic Set option is disabled, push the right drum switch downwards when the log reaches the start of the log.

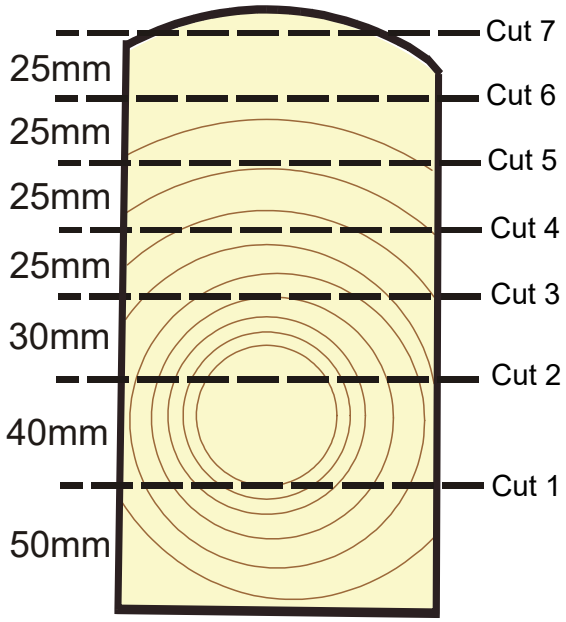
At any time it is possible to remove the settings of the start/end of the log and the cut by short pressing the NEXT CUT button on the operator's panel.

4.2.12 Cutting – Stack Mode

Use the Stack cutting mode to perform a series of cuts counted from the log bed.
The controller allows setting a program for cutting a log into boards of any thickness, calculating the quantity of boards that can be cut from the log bed. The Stack mode does not require entering all the values of the board thickness one by one – program positions are automatically filled with the same currently selected value from the current field upwards. At the same time, it is possible to change the value of any program position.

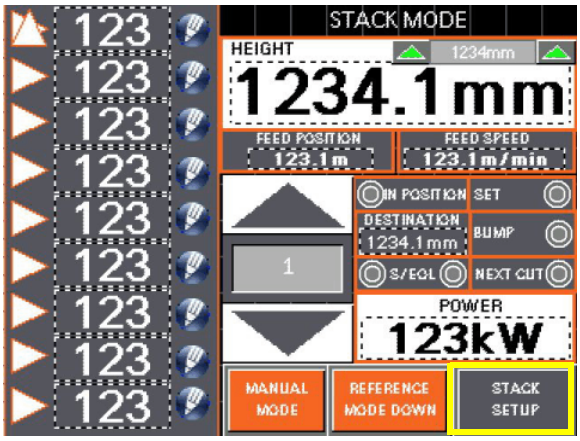
The controller allows setting four custom cutting programs and saving them in the memory. Thanks to that, it is possible to recall quickly a program with frequently used cutting sizes, which allows saving the time needed for modifying the cutting program each time.

The operation in the Stack mode is described below. Also a sample program enabling the cuts shown below is presented.

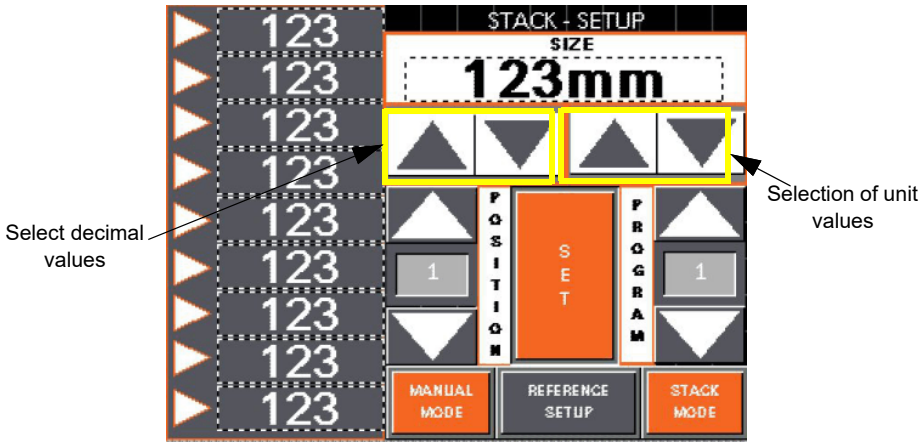


Before cutting, create a program in the Stack mode setup. *See Section 4.2.7*

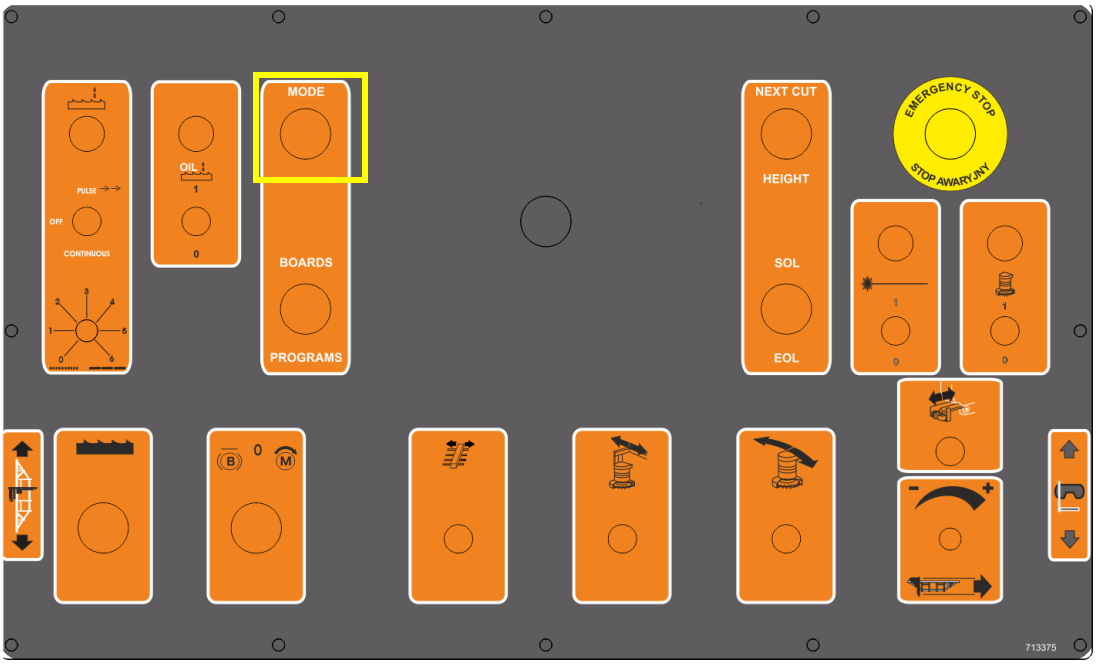
To do this, press the STACK MODE button on the manual mode screen. Then press the STACK SETUP button.



Use the arrows to select the program no. 1 and the cut position no. 1. Then use the arrows under the SIZE field to set the value of 55mm, and then press the SET button. The fields are filled with the selected value – from the selected position upwards. Then select position no. 2, set the size of 40mm using the arrows, and press SET. Set he value for the position 3 – 30 mm and for the position 4 – 25 mm, confirming the selection each time with the SET button. The cutting program should look as shown below.



Press the STACK MODE button or the MODE button on the machine operator's panel:



Then move the saw head to the start of the log with the saw head positioned earlier at a height, at which it will pass the log without any obstacles throughout the entire length.

Set the saw head at a height, at which the first cut is planned.

The left arrow indicates the position of the saw head relative to the cutting program. The previously prepared program can be modified by pressing any value on the display and entering a new value of the board size in the dialogue box. The appearance of the up arrow on the left side of the program indicates that the current height of the saw head exceeds the range of the program.

The thickness of each board can be modified freely until the NEXT CUT button is pressed.

After modifying of the cutting program has been finished, press the NEXT CUT button. When using the automatic return or automatic setting function, press also the SEOL/EOL button on the panel. The *Next Cut* and S/EOL indicator lights on the left should turn green on the screen. The *In Position* indicator light should also turn green.

In order to set the saw head in the first cutting position, push the right drum switch downwards.

If there is a need to lower the saw head by the height of the currently selected board, push the right drum switch downwards – the saw head will be lowered to the next size of board in the program.

Turn on the main motor and start cutting. The feed speed can be adjusted with the use of the potentiometer.

When the end of the log is reached, press the SOL/EOL button to select the end of the log. The LED to the right of the S/EOL field changes the colour to green.

If the Automatic BUMP function was enabled in the setup, the saw head will be raised to the previously memorized return height. The value of this height is displayed in a small field next to the current height.

If the Automating Bump option is disabled, push the right drum switch upwards. A short push will raise the saw head to the return height. Holding it will cause switching to the BUMP manual mode,in which the operator decides how high the saw head is to be lifted.

When the saw head is at a correct height, move the saw head towards the start of the log.

When the Automatic Return to Start of Log option is enabled, after the drum switch have been pushed downwards, the saw head will start moving and will stop at the place where the start of the log was selected.

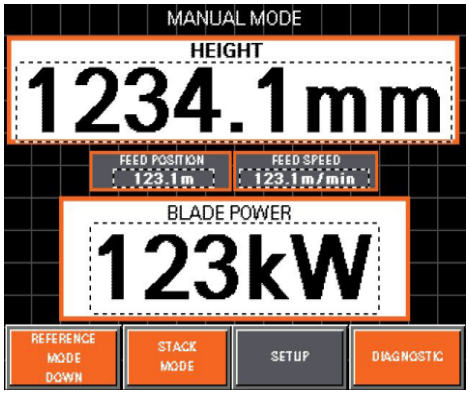
In addition, when the Automatic Set option is enabled, the saw head will be set to the next size in the program.

If the Automatic Set option is disabled, push the right drum switch downwards when the log reaches the start of the log.

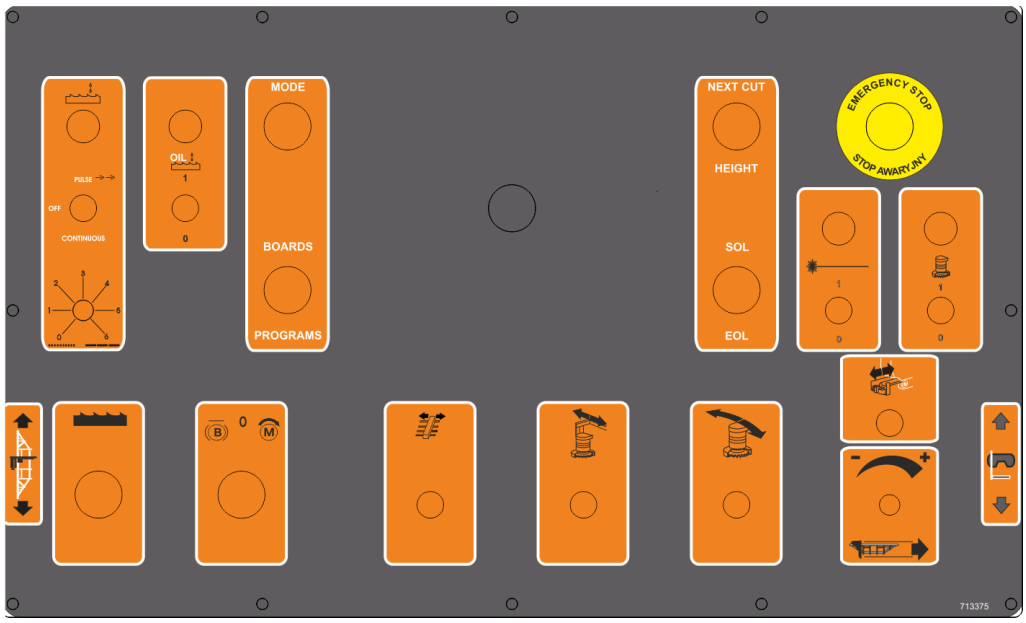
At any time it is possible to clear the data by short pressing the NEXT CUT button on the operator's panel. The settings of the start/end of the log and the cut will be cleared.

4.2.13 Cutting – Stack Mode – Cutting with return height

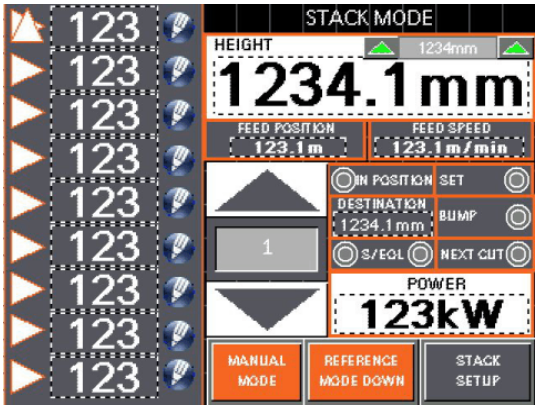
In order to use the Stack Mode, on the manual mode screen press the STACK MODE button



or use the MODE button on the operator's panel:



The following screen will appear:



Then move the saw head to the start of the log with the saw head positioned earlier at a height, at which it will pass the log without any obstacles throughout the entire length.

Press and hold the NEXT CUT/HEIGHT button until a smaller dialogue box with the current height appears in the HEIGHT field.

Set the saw head at a height, at which the first cut is planned.

The vertical arrow on the left indicates the position of the saw head relative to the cutting program.

The left arrow indicates the position of the saw head relative to the cutting program. The previously prepared program can be modified by pressing any value on the display and entering a new value of the board size in the dialogue box. The appearance of the up arrow on the left side of the program indicates that the current height of the saw head exceeds the range of the program.

The thickness of each board can be modified freely until the NEXT CUT button is pressed.

After modifying of the cutting program has been finished, press the NEXT CUT button. When using the automatic return or automatic setting function, press also the SEOL/EOL button on the panel. The *Next Cut* and S/EOL indicator lights on the left should turn green on the screen.

In order to set the saw head in the first cutting position, push the right drum switch downwards.

If there is a need to lower the saw head by the height of the currently selected board, push the right drum switch downwards – the saw head will be lowered to the next size of board in the program.

Turn on the main motor and start cutting. The feed speed can be adjusted with the use of the potentiometer.

When the end of the log is reached, press the SOL/EOL button to select the end of the log. The LED to the right of the S/EOL field changes the colour to green.

If the Automatic BUMP function was enabled in the setup, the saw head will be raised to the previously memorized return height. The value of this height is displayed in a small field next to the current height.

If the Automating Bump option is disabled, push the right drum switch upwards. A short push will raise the saw head to the return height. Holding it will cause switching to the BUMP manual mode, in which the operator decides how high the saw head is to be lifted.

When the saw head is at a correct height, move the saw head towards the start of the log.

When the Automatic Return to Start of Log option is enabled, after the drum switch have been pushed downwards, the saw head will start moving and will stop at the place where the start of the log was selected.

In addition, when the Automatic Set option is enabled, the saw head will be set to the next size in the program.

If the Automatic Set option is disabled, push the right drum switch downwards when the log reaches the start of the log.

At any time it is possible to clear the data by short pressing the NEXT CUT button on the operator's panel. The settings of the start/end of the log and the cut will be cleared.

4.2.14 Errors and messages

The operator is informed about the occurrence of errors by:

- - Indicator lights located under the operator's panel. The indicator lights show the status of the safeguards:

a) COVERS – green light indicates that the blade covers are closed.

b) TENSION – green light indicates that the blade is correctly tensioned

c) AC – red light indicates that the safeguards of the following components were activated: forward/reverse feed: left or right motor, hydraulic pump of the hydraulic unit, conveyor belt, up/down inverter, forward/backward inverter, main motor.

d) ACC – red light indicates that the safeguards of the debarker motor, debarker arm travel motor, debarker arm rotation motor and the blade guide arm motor were activated.

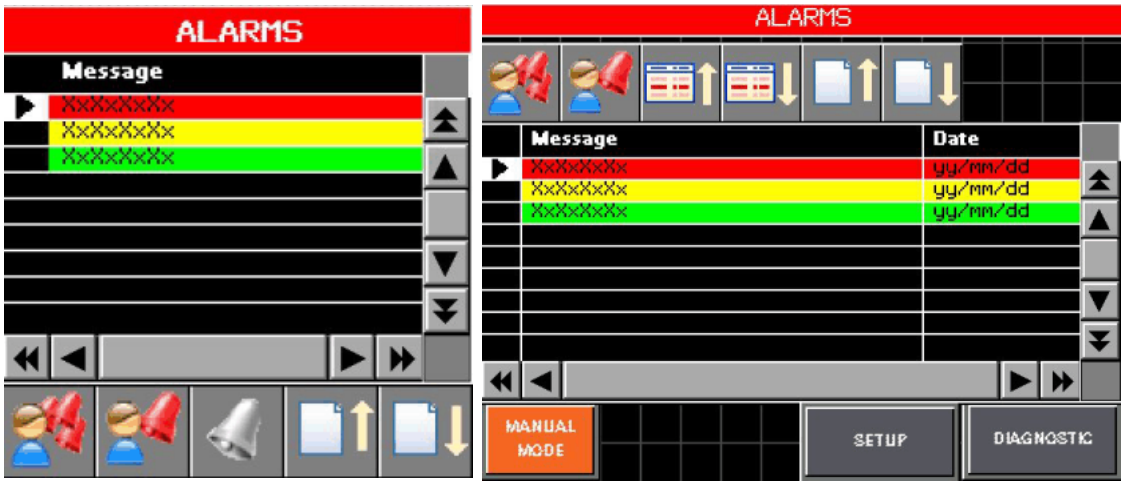
- - Messages appearing on the display: errors diagnosed by the PLC controller.

Errors resulting from inverter malfunction cause the appearance of the window with a description of the error:

and the appearance of scrolling text at the bottom of the display:

Feed drive error saw head drive error

Other errors and a summary of errors are displayed in alarm windows. In order to display them, in the manual mode press the DIAGNOSTIC button and then ALARMS HISTORY.



Error description	Cause	Actions
Height sensor – damaged or lost signal	Failure of the sensor or sensor wire	Check the diode on the sensor – green: ok. Check the connection between the sensor and the controller
Feed drive – CANopen communication error - Nd1	CanOpen communication was interrupted due to damaged cable or splitter. No parameters of CanOpen transmission	Check the cable connecting the inverter with the Can network splitter Check the transmission parameters of the inverter's Can network
Feed drive – Power block initialization failed – Nd1	Initialization of the forward/reverse feed inverter's power block failed	Turn off the power, wait 1 minute, turn on the power
Feed encoder – communication failed	Interruption of the communication between the controller and the encoder. Damaged encoder	Check the diodes on the encoder. Encoder OK – green diode is turned on
The safeguard of the feed motors was activated	The motor safeguard of right or left motor was triggered as a result of short circuit or overload	Check for mechanical damage, dirt
Feed position requires calibration	Interruption of the communication between the controller and the encoder. Damaged encoder	Check the Can connection cable and the power supply encoder

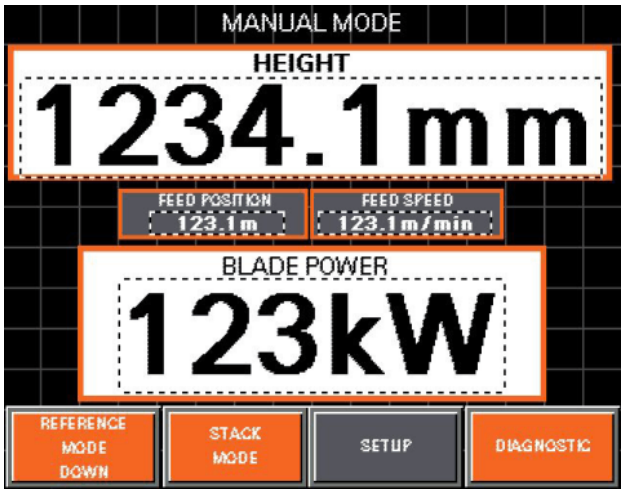
saw head drive – CANopen communication error - Nd2	CanOpen communication was interrupted due to damaged cable or splitter. No parameters of CanOpen transmission	Check the cable connecting the inverter with the Can network splitter Check the transmission parameters of the inverter's Can network
saw head drive – Power block initialization failed – Nd2	Initialization of the up/down feed inverter's power block failed	Turn off the power, wait 1 minute, turn on the power
saw head positioning error	The target height has not been reached. Mechanical problems with guiding the saw head on the mast. Incorrect gap of the gear motor brake. Incorrect PID parameters.	Check the guidance of the saw head on the mast and the roller on the saw head, check the slides. Check the location of the height sensor magnet. Check the gap of the electromagnetic brake of the gear motor. Check the settings of the PID parameters of the PLC controller.

Messages in the lower part of the screen

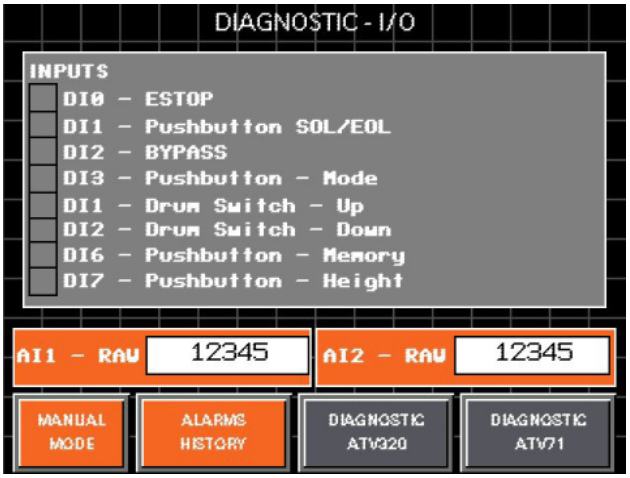
Message	Description
Control circuits inactive	E-Stop button active Blade covers open Key in 0 or B position
Bypass Active – Care should be taken during the up/down movement and feed movement	Bypass mode is active. Movement slow down functions and forward/backward limits inactive Movement slow down functions and up/down limits inactive Note! Description is given further in the manual
Please wait	Initialization of the communication between the PLC controller and inverters is in progress

4.2.15 Diagnostics

In order to diagnose certain parts of the machine's system, press the DIAGNOSTIC button on the manual mode screen:



The following screen will appear:



The following signals can be checked on this screen:

- E-Stop circuit,

- SOL/EOL push button,

- switch on the Bypass electrical box,

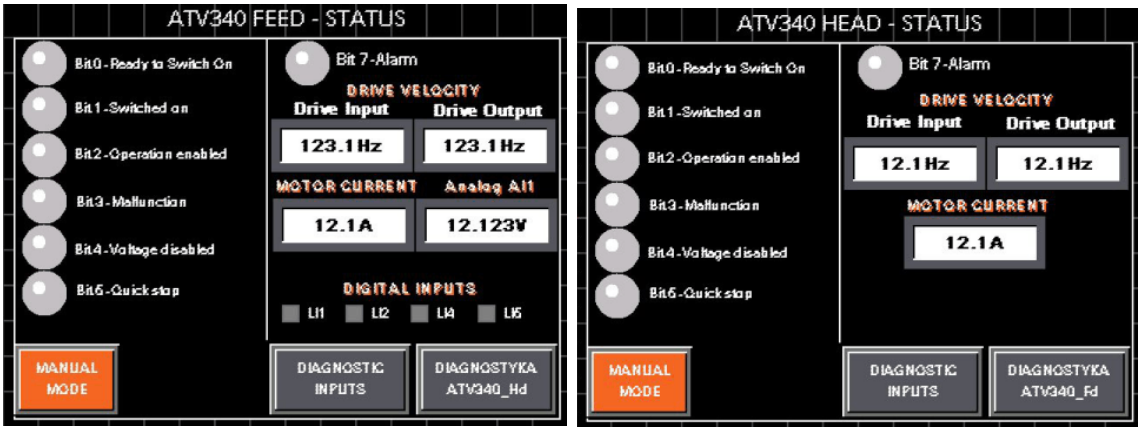
- up/down drum switch, on the right side of the panel,

- push button for mode selection, switching to the manual mode,

- memory/ program selection push button,

- Next Cut and return height push button.

In addition, the AI1 field it is possible to check indications of the height sensor, and in the AI2 field – indications of the LEM sensor responsible for reading the main motor power. In order to check the status of the inverters, press the Diagnostic ATV340_Fd button (forward/backward feed inverter) or Diagnostic ATV340_Hd (up/down inverter):



Fields responsible for the status are available there; it is possible to read the motor speed expressed in hertz and the motor current. For the forward/backward feed inverter (ATV340_Fd), there are additionally available fields with the AI1 analogue input for the signal from the speed control potentiometer (0-10V), digital inputs responsible for the drum switch (LI1 and LI2) and motor circuit breakers (LI4 and LI5).

4.2.16 Bypass mode

The Bypass mode is used to bypass the PLC controller when this controller, the display or other component related to the up/down movement is damaged and prevents operation or movement of the saw head.

In such a case, the Bypass mode enables forward/backward and upward/downward movements of the saw head until the damage is repaired or the problem is eliminated.

WARNING! It should be kept in mind that when the Bypass function is active, the functions of slowing down and stopping at the ends of the limits are disabled and the operator must be aware of the danger of damaging machine components, if the end of the upwards/downwards or forward/backward movement is reached too fast.

In order to activate the Bypass function, change the position of the switch to 1:

The button backlight will be turned on and the following message will appear on the display:

IMPORTANT! Bypass Active – Care should be taken during the up/down and forward backward feed.

SECTION 5 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.

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

5.1 Wear Life

See Table. 5-1. This chart lists estimated life expectancy of common replacement parts if proper maintenance and operation procedures are followed. Due to the many variables which exist during sawmill operation, actual part life may vary significantly. This information is provided so that you may plan ahead in ordering replacement parts.

Part Description	Estimated Life
Up/Down Motor	2000 hours
Power Feed Motor	1500 hours
Blade Wheel Bearings	1000 hours
Up/Down Rollers Bearings	1500 hours
Track Rollers Bearings	1000 hours
Drive V-belts	800 hours
Blade Wheel Belts	400 hours
Up/Down Drive Belt and Power Feed Drive Belt	1000 hours
Blade Guide Rollers Bearings	500 hours
Changing the Hydraulic Oil Filter and Checking and Refilling the Oil Level	600 hours
Up/Down and Power Feed Chains with Sprockets	2 years or 2000 hours
Chain Log Turner – Changing Sprockets and Chain	1500 hours
Self-Lubricating Bushings	1500 hours

TABLE. 5-1

5.2 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 5-1

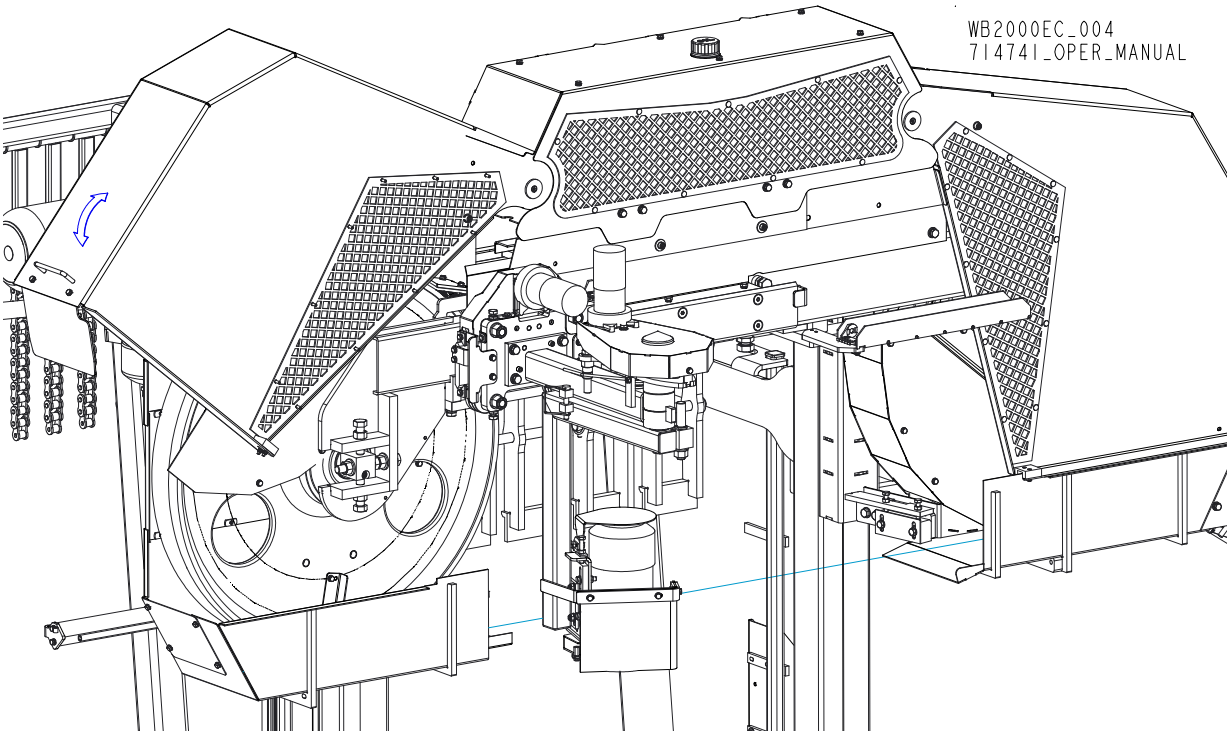


FIG. 5-1

- Debarker in/out drive belt cover

See Figure 5-2

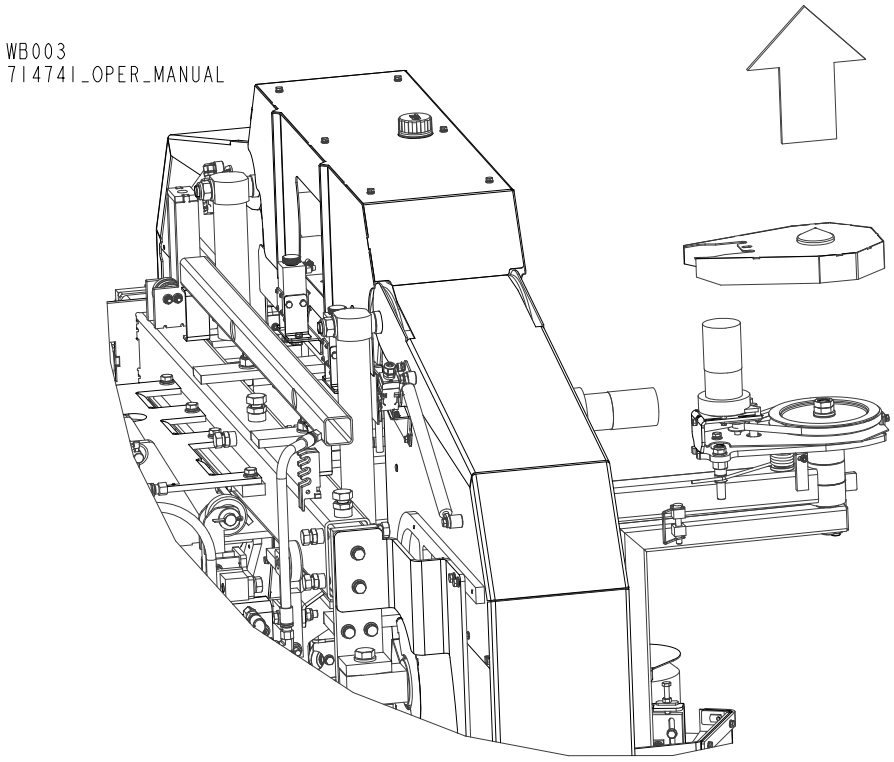


FIG. 5-2

- Blade drive belt cover

See Figure 5-3

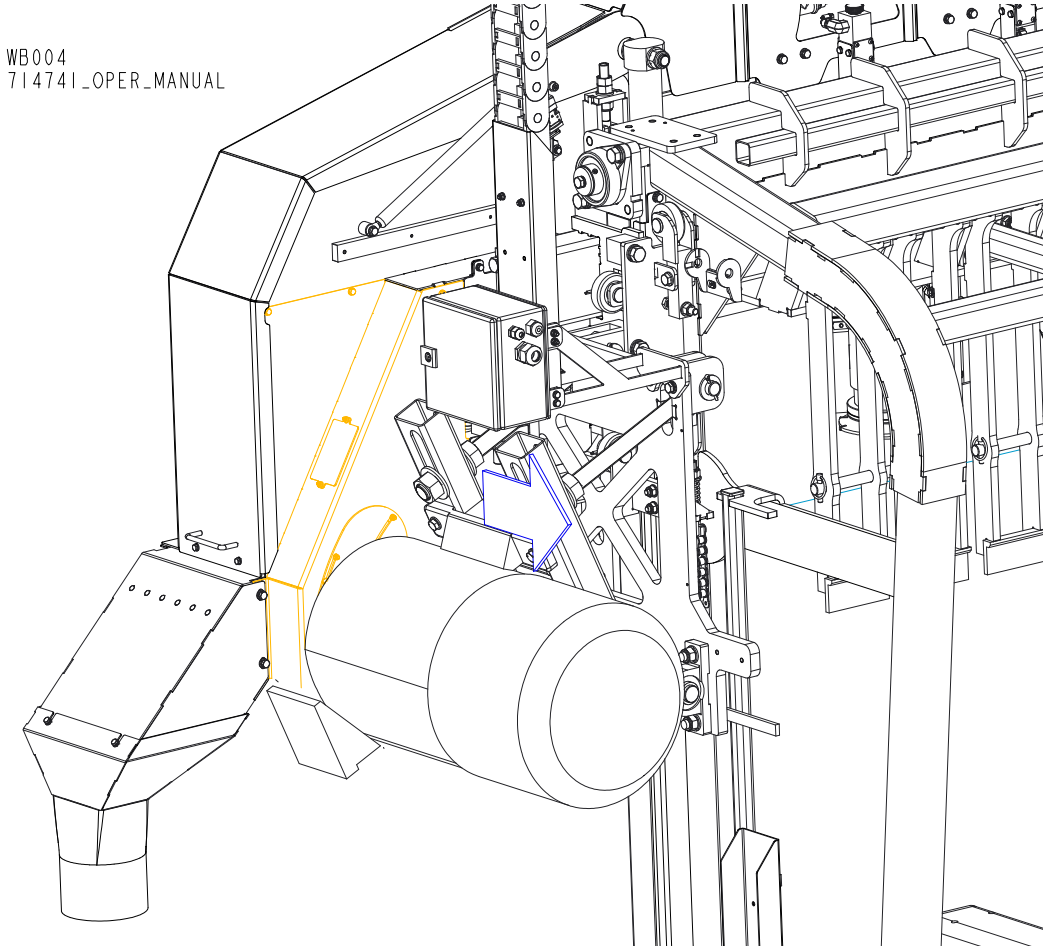


FIG. 5-3

5.3 Power Feed

50

Check the feed chain tension every 50 hours of operation and adjust as needed.

See Figure 5-4

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

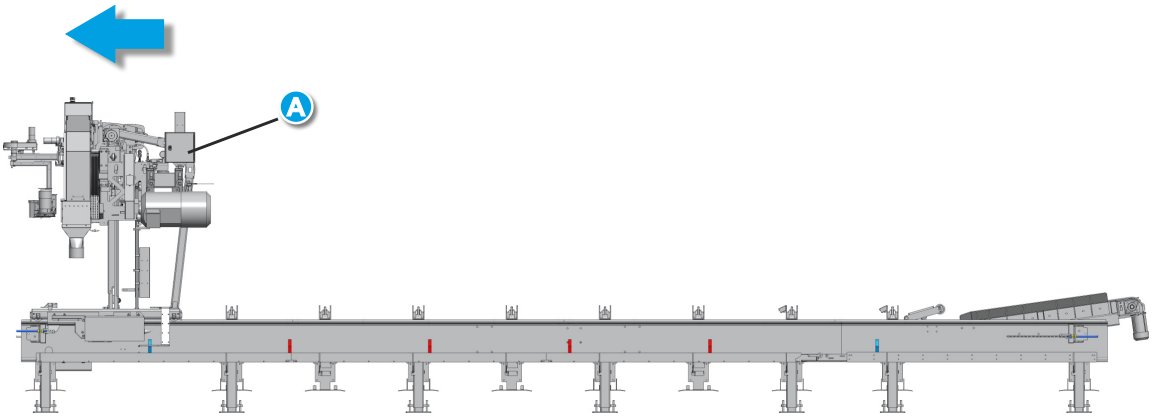


FIG. 5-4

See Figure 5-5

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).

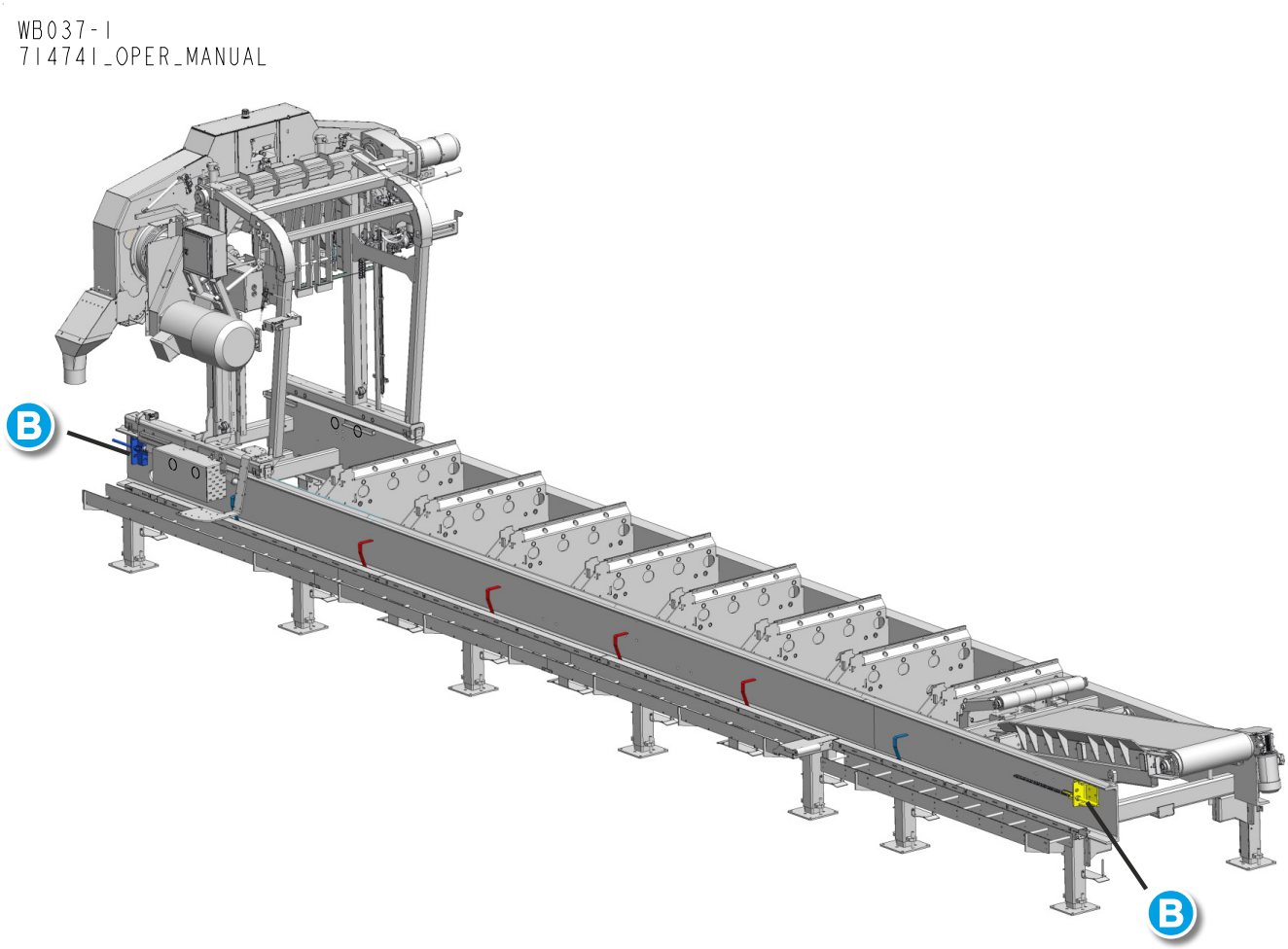


FIG. 5-5

See Figure 5-6

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).

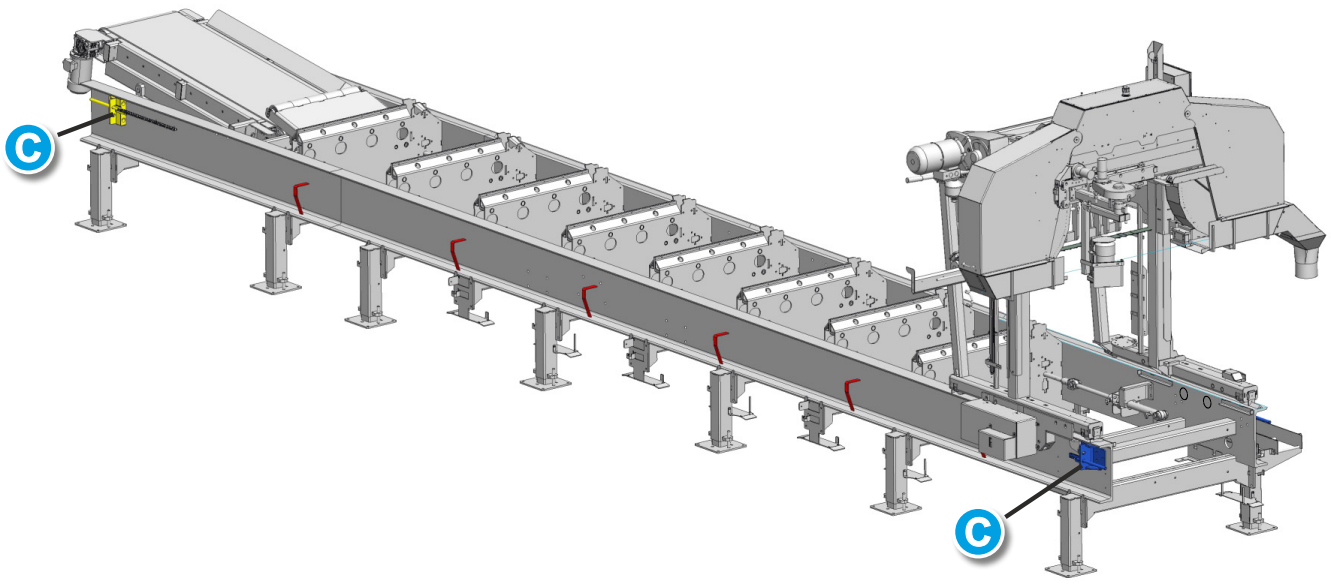


FIG. 5-6

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 5-7

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

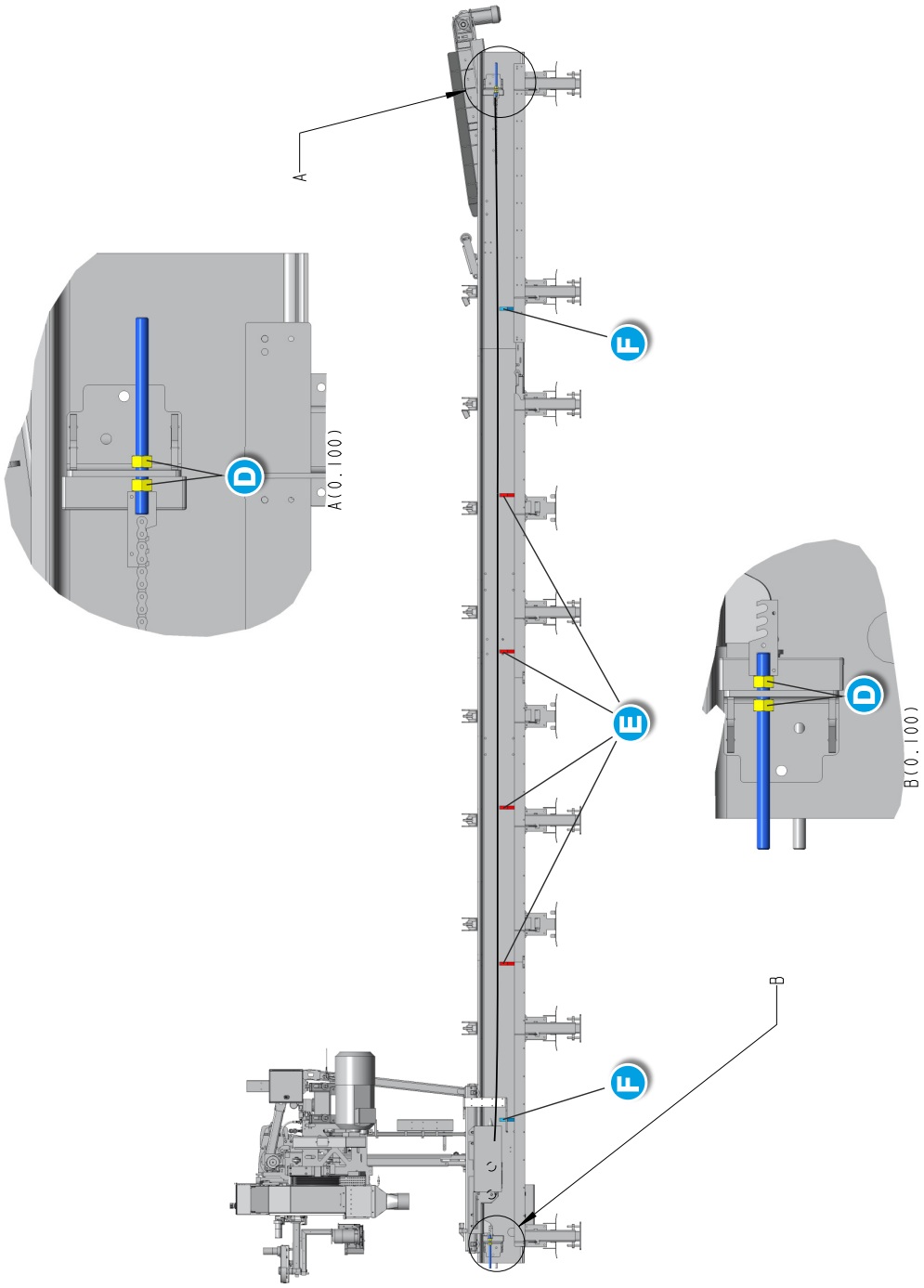


FIG. 5-7

See Figure 5-8

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

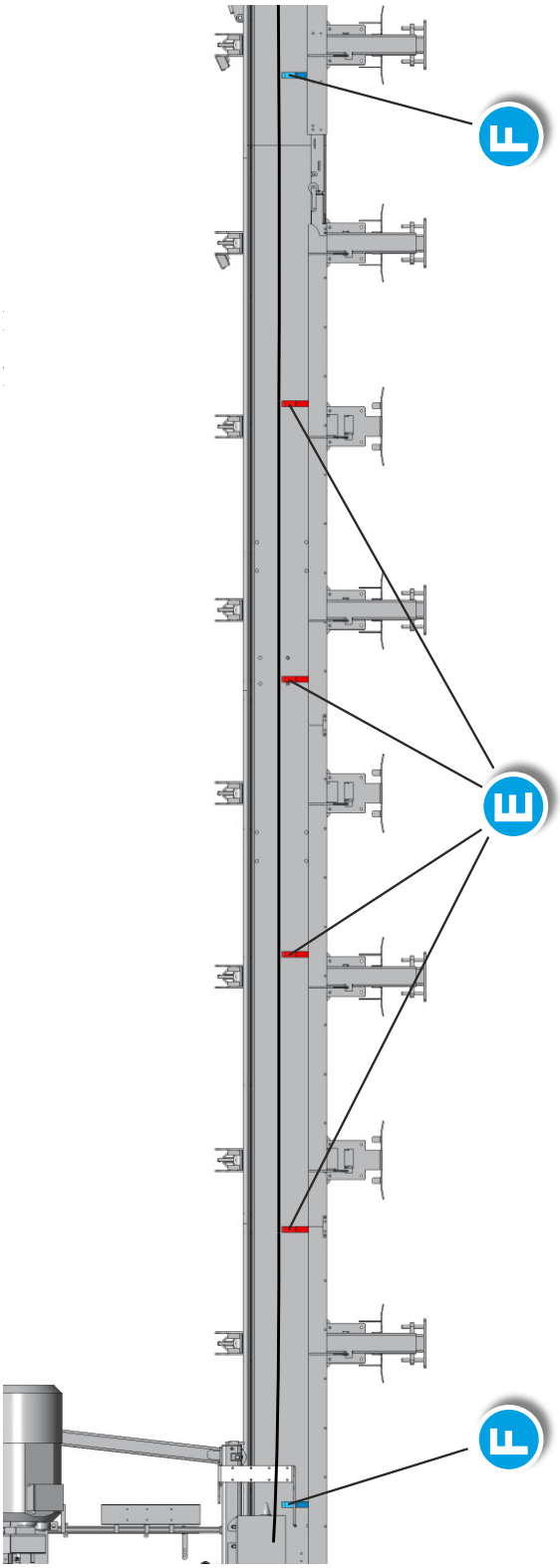


FIG. 5-8

Lubricate the feed chain with a Dexron III ATF oil every fifty 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).

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

5.4 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 5-9

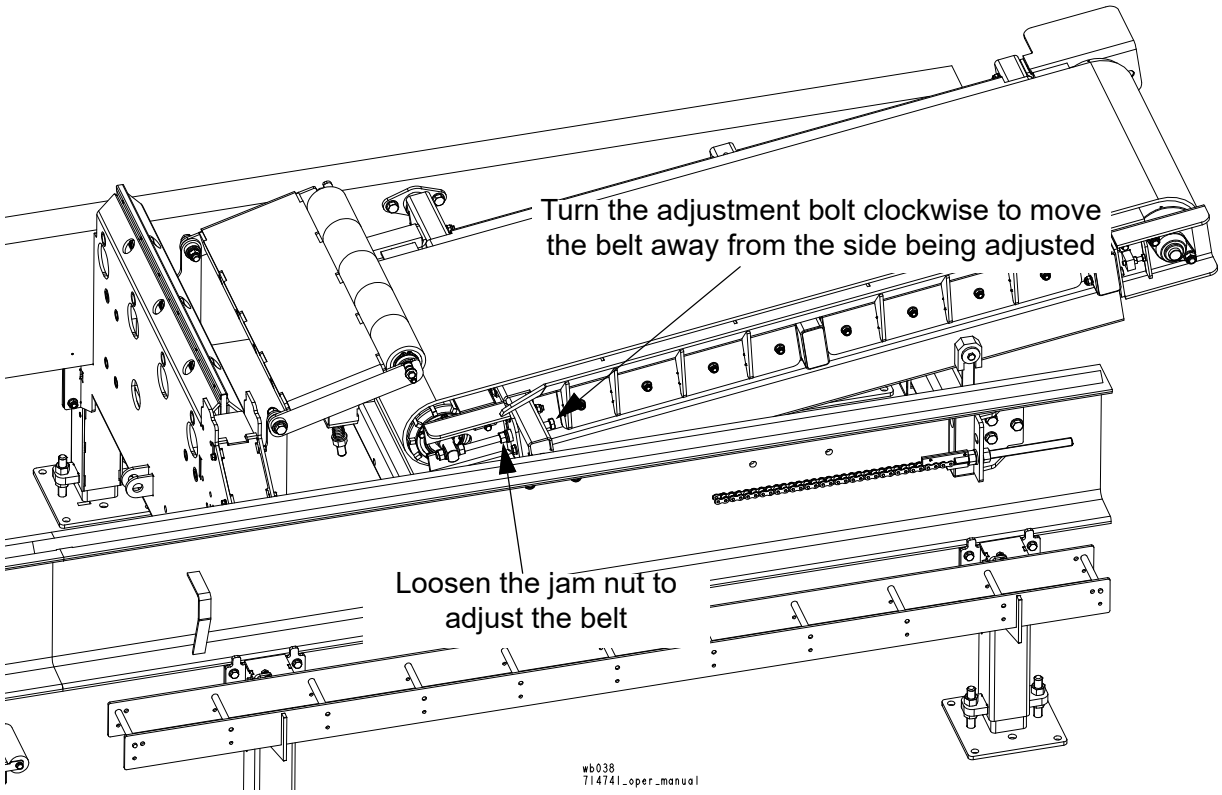


FIG. 5-9

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.

5.5 Safety Devices Inspection

WB2000 – Safety Devices Inspection

Safety devices on the WB2000 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 Setworks 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.

SECTION 6 ALIGNMENT

6.1 Bed Frame

6.1.1 Level the Bed Frame Lengthwise

Place a level on the frame channel. Use the leg adjustment bolts to level the frame in the direction of the frame length.

See Figure 6-1

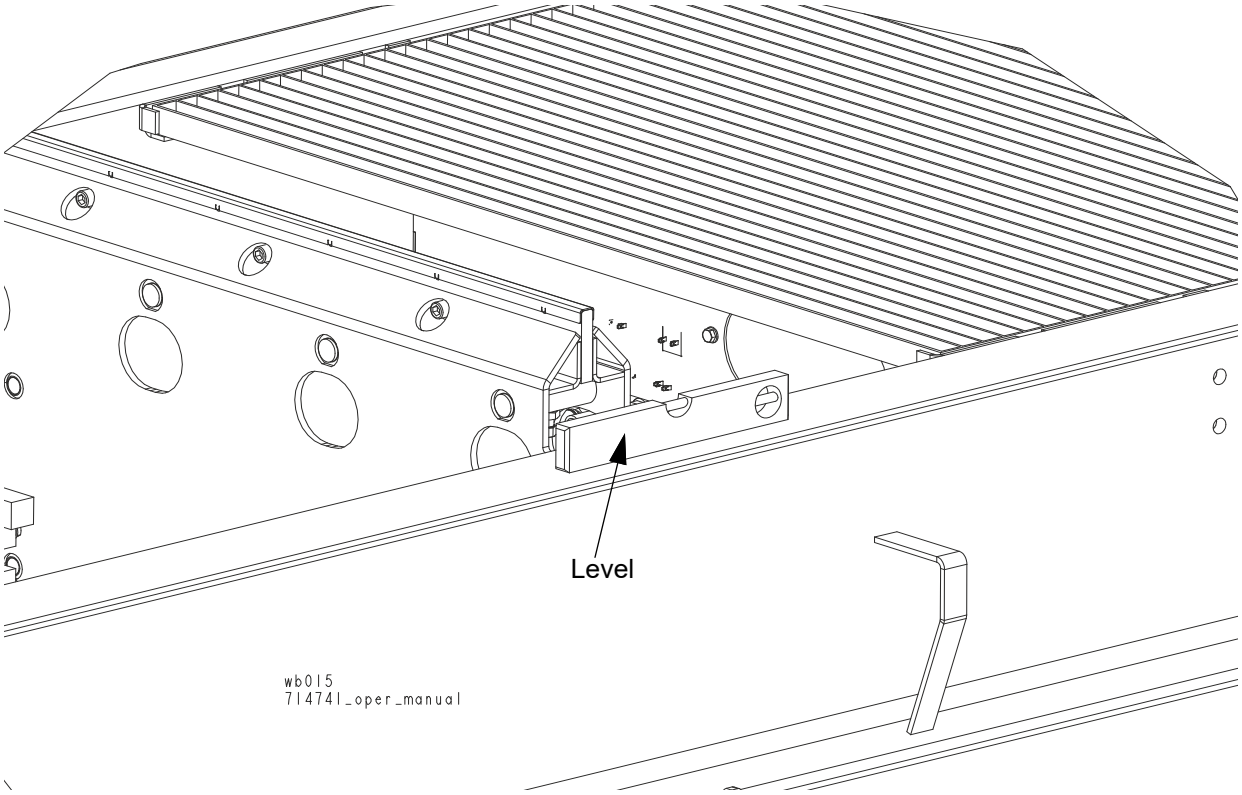


FIG. 6-1

6.1.2 Level the Bed Frame in a Cross Direction

See Figure 6-2 To level the bed in the cross direction, place the level on the rod of the log clamp. Use the leg adjustment bolts to level the frame in the cross direction.

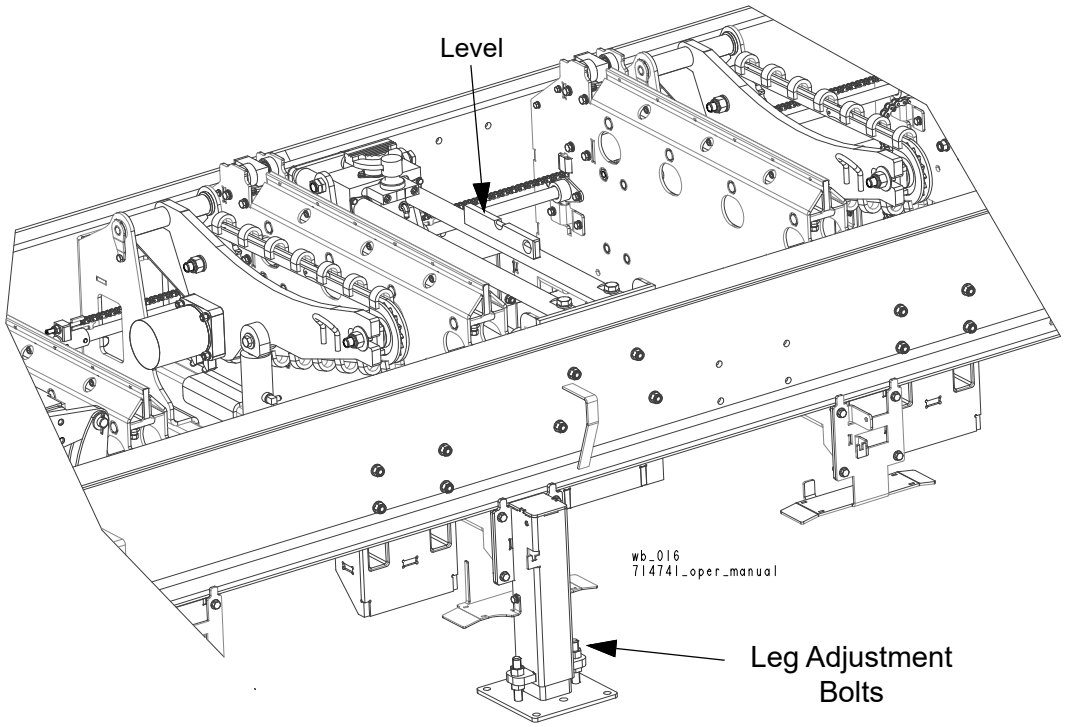


FIG. 6-2

6.1.3 Level the Mast

The saw head mast must be leveled in the horizontal plane. To do this, place the level 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 6-3

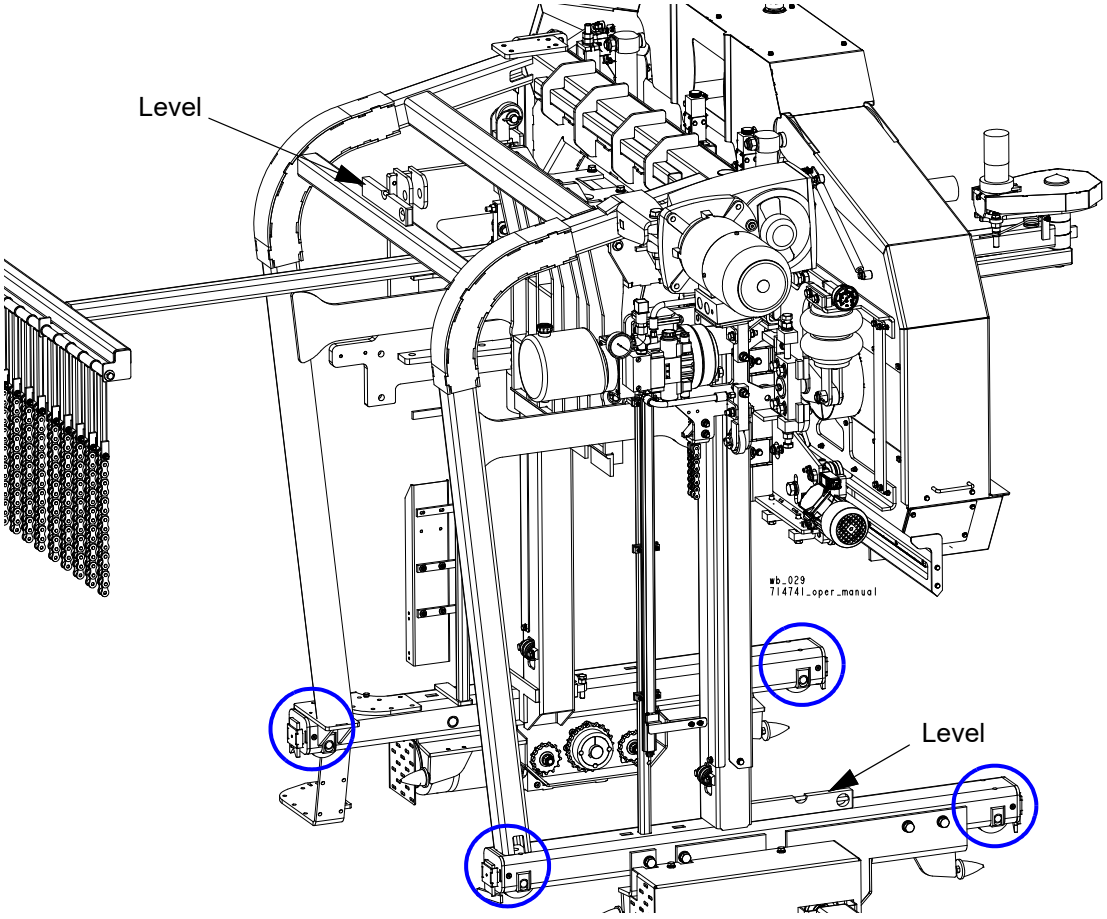


FIG. 6-3

See Figure 6-4 Remove the mounting screws and dismount the scraper brackets (4).

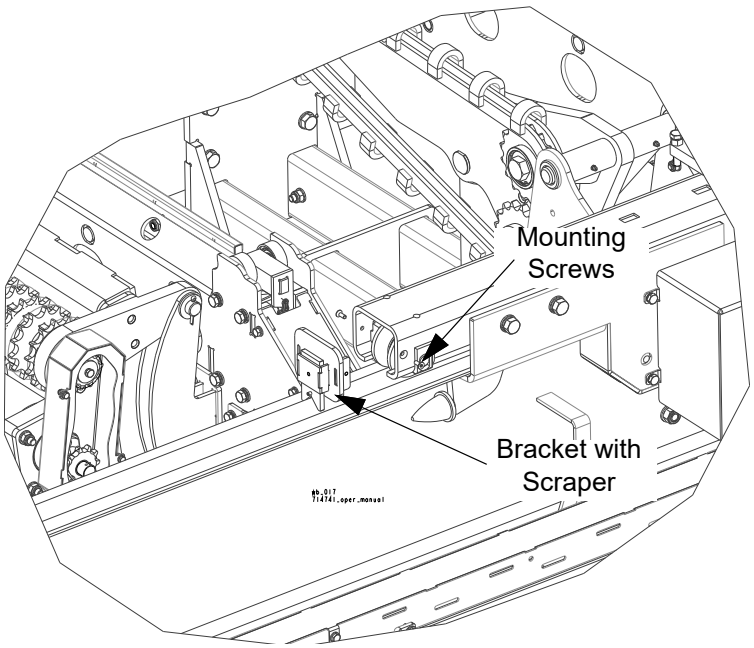


FIG. 6-4

See Figure 6-5 Use the adjustment bolt of the mast rollers to level the mast. Adjust the bolts on each roller evenly.

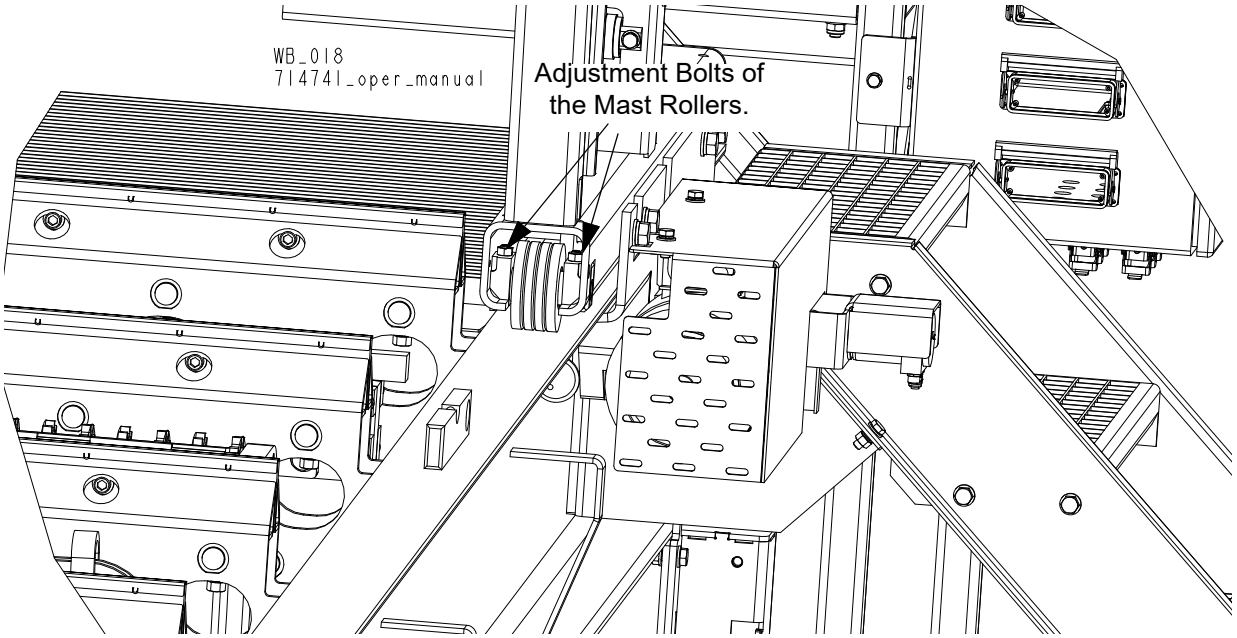


FIG. 6-5

6.1.4 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 6-6 To adjust the bed rail, loosen the locking bolts. Then, using the adjustment bolts, adjust the bed rail so the measurments 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.

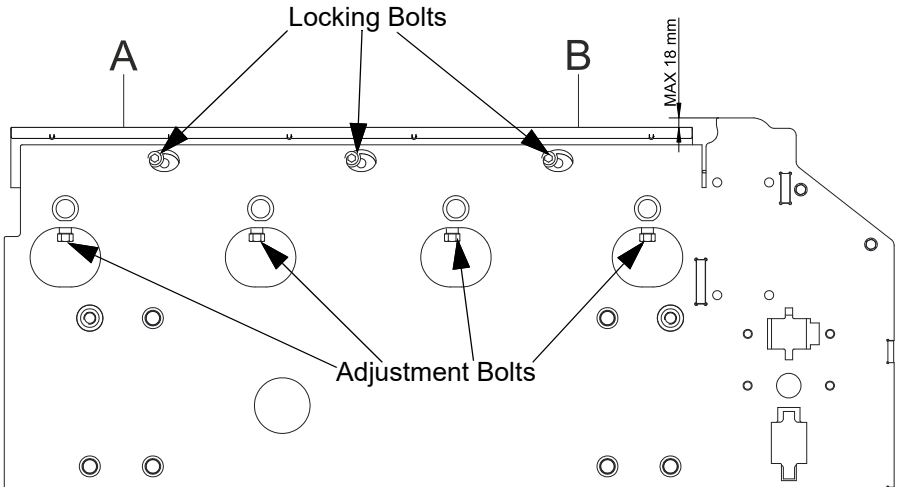


FIG. 6-6

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.

See Figure 6-7 Adjust the remaining bed rails so they touch the rope.

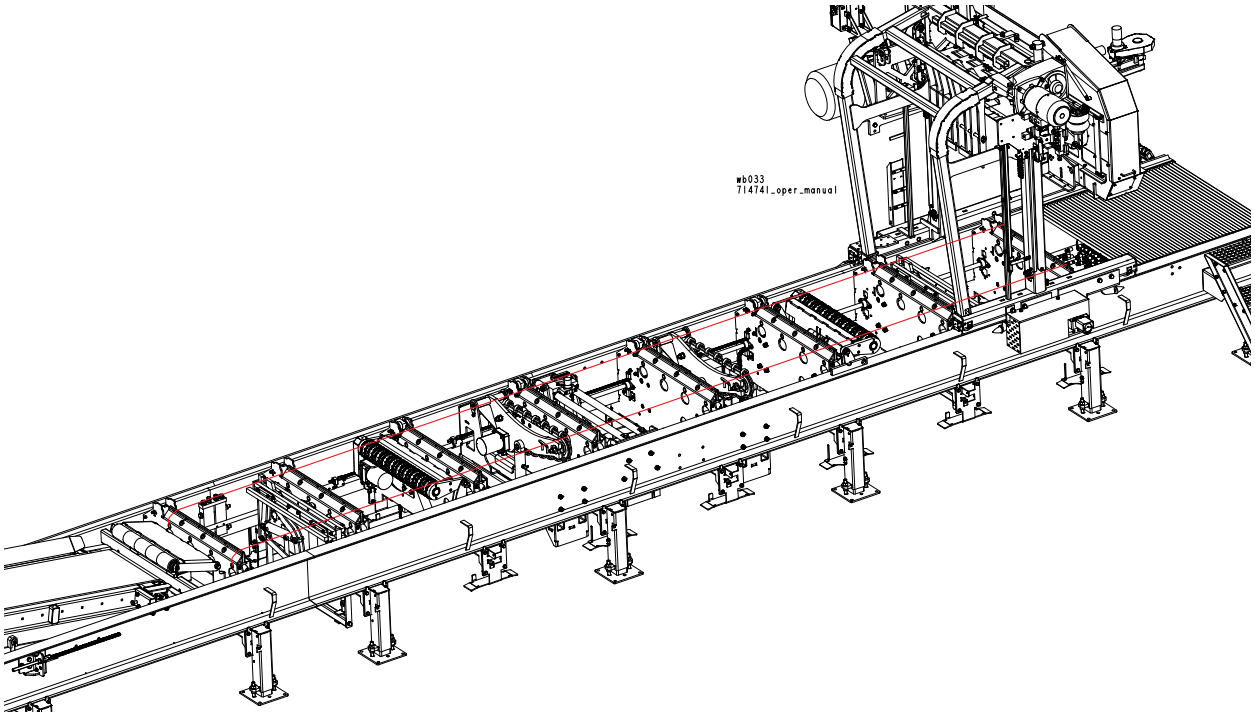


FIG. 6-7

6.1.5 Adjustment of the Side Supports

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

See Figure 6-8 To adjust the side support, use the adjustment nuts shown below. Adjust both chains evenly so they do not have slack.

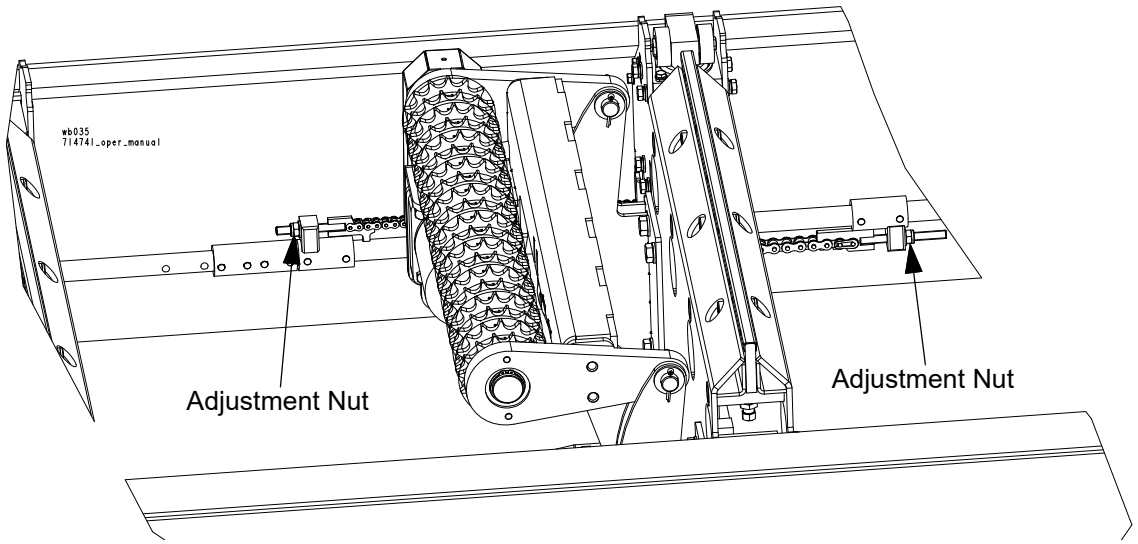


FIG. 6-8

6.2 Sawmill Head

6.2.1 Level the Saw Head

Install a blade and apply the appropriate tension as shown in *Section 3.6*.

See Figure 6-9 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.

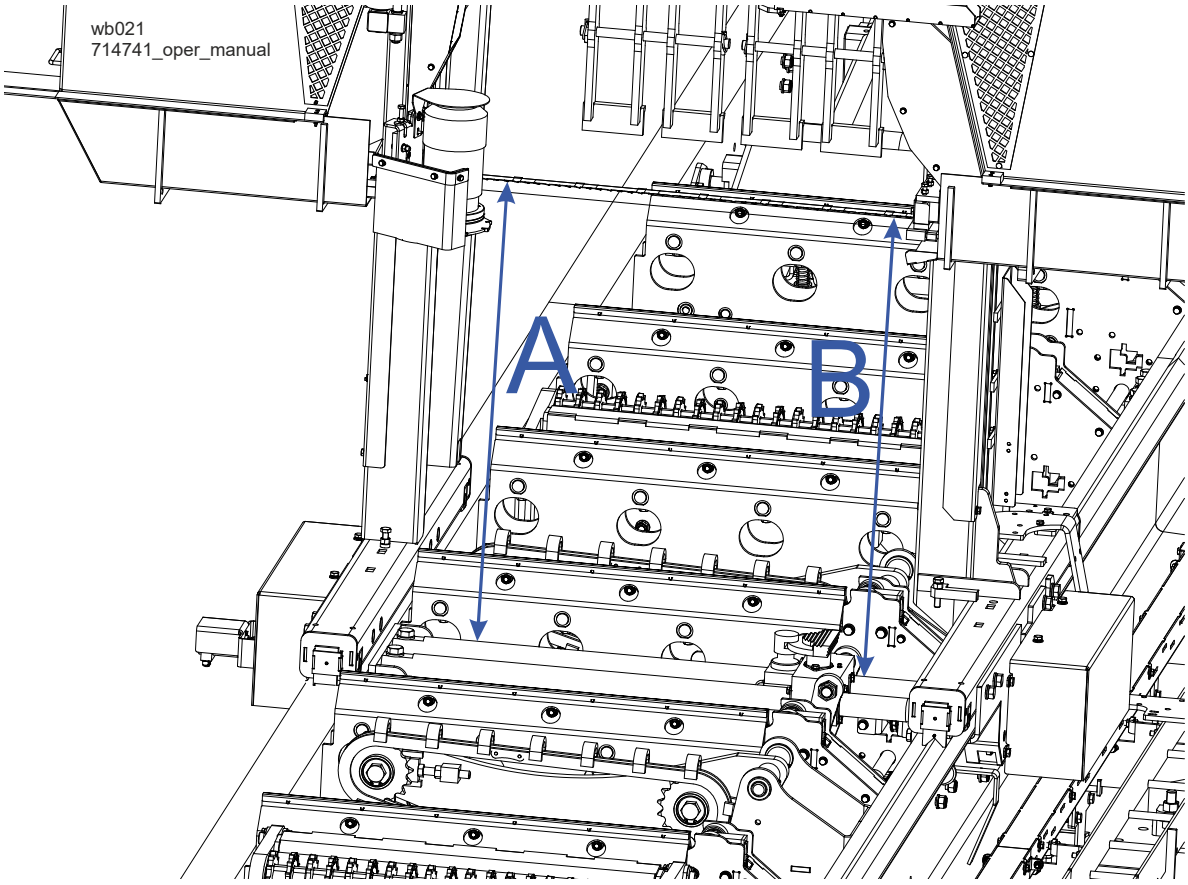


FIG. 6-9

See Figure 6-10 Use the adjustment bolt of the up-down system chains to level the saw head.

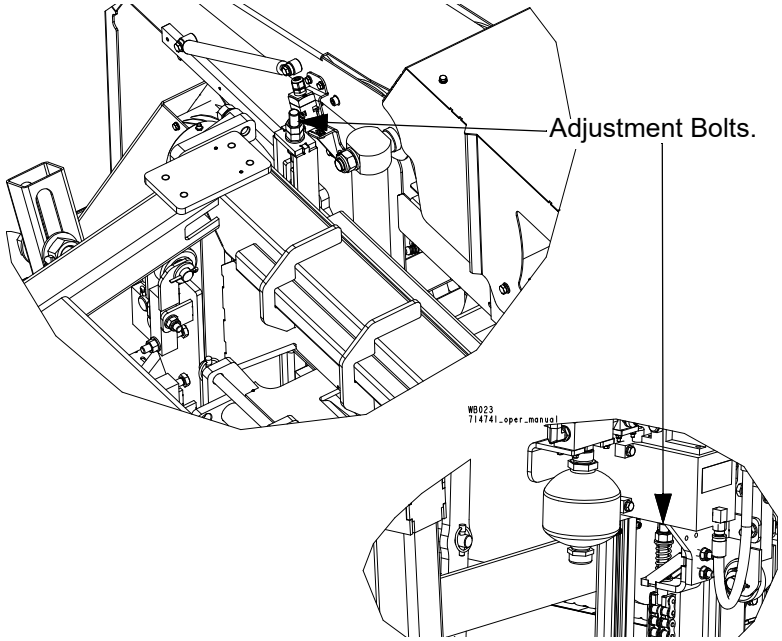


FIG. 6-10

6.2.2 Rollers of the Up-Down System

See Figure 6-11 Check if each of the six up-down rollers touches the mast. Use the adjustment bolts if necessary.

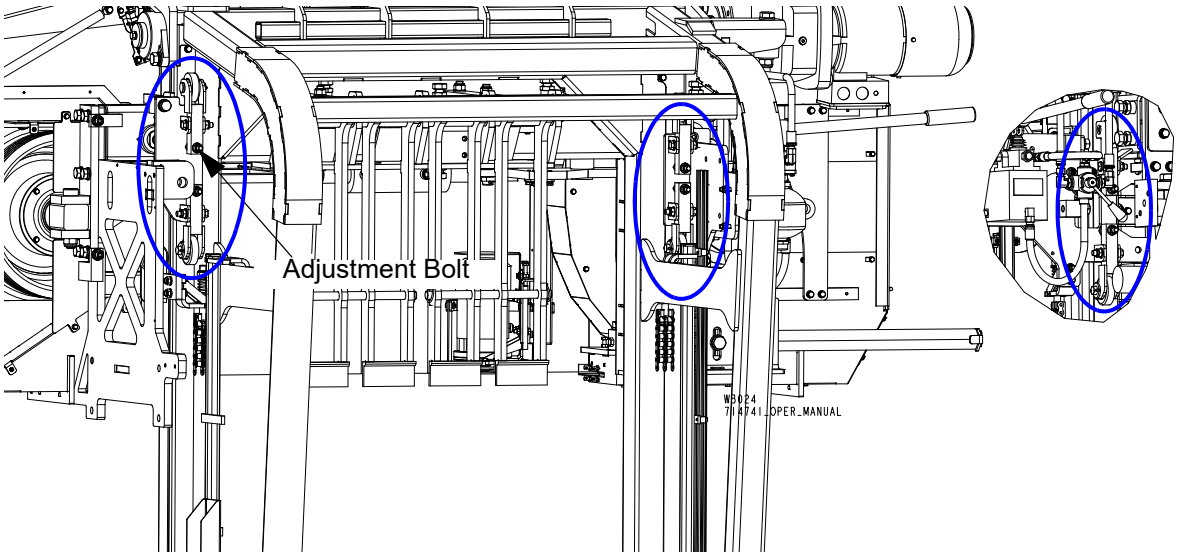


FIG. 6-11

6.2.3 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 6-12

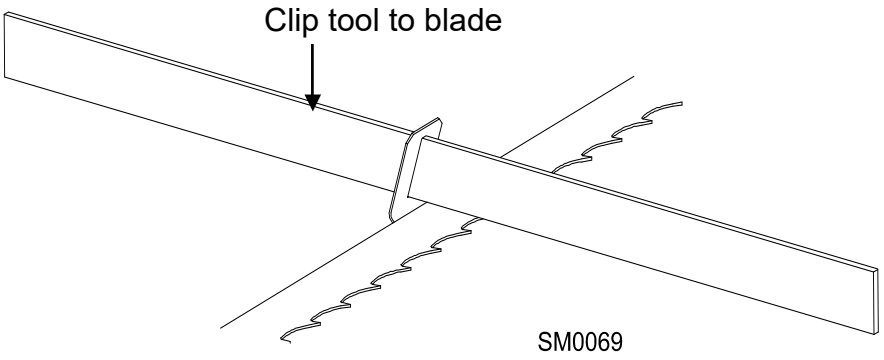


FIG. 6-12

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 6-13 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 the idle side wheel. Use the vertical adjustment bolts to adjust the idle-side blade wheel.

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

   To tilt the wheel up, loosen the horizontal adjustment bolt and lock nuts. Then loosen the bottom vertical adjustment bolt one quarter turn. Loosen the lock nut on the top vertical

adjustment bolt and tighten the bolt. Tighten the top and bottom lock nuts and horizontal adjustment bolt. Close the cover of the the idle side wheel.

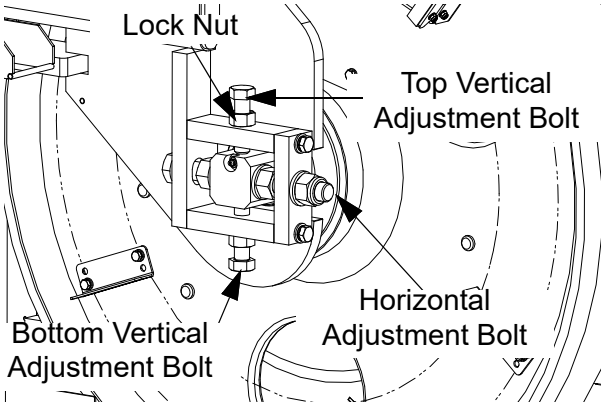


FIG. 6-13 IDLE SIDE WHEEL VERTICAL ADJUSTMENT

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 6-14 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.

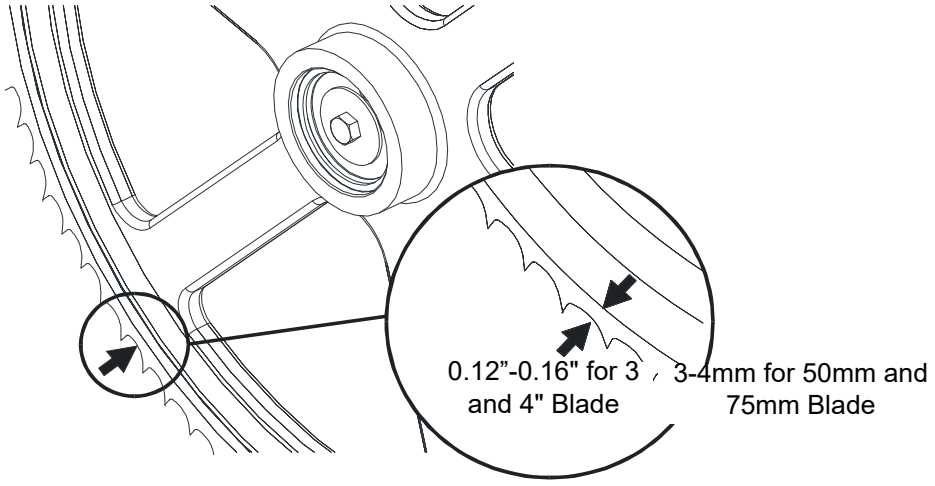


FIG. 6-14

See Figure 6-15 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 counterclockwise and the left nut clockwise on the adjustment bolt.

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

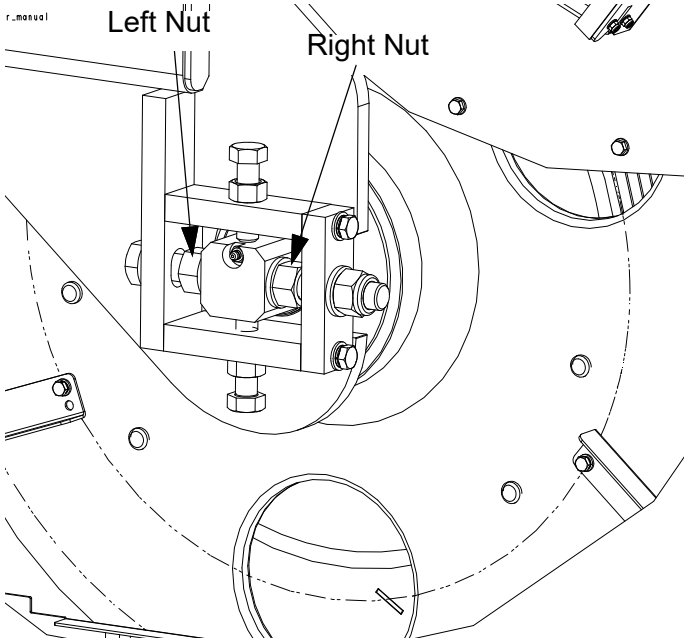


FIG. 6-15

See Figure 6-16 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 B) 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 C) loosen nuts “D”, turn clockwise bolt “F”. After adjustment tighten nuts “D”.

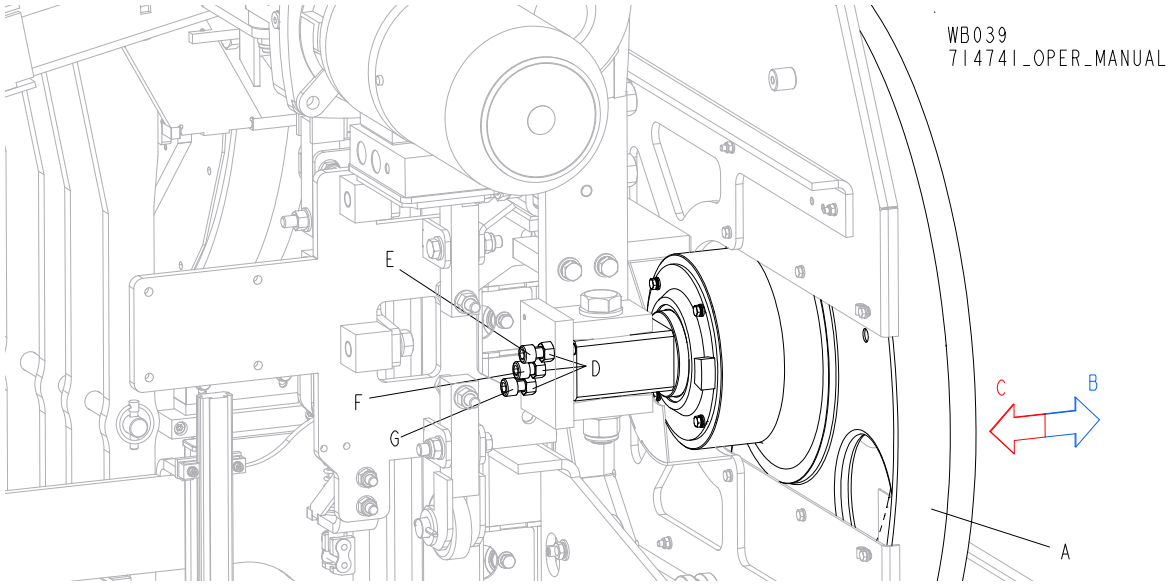


FIG. 6-16

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 6-17:

- Remove the drive belts cover.

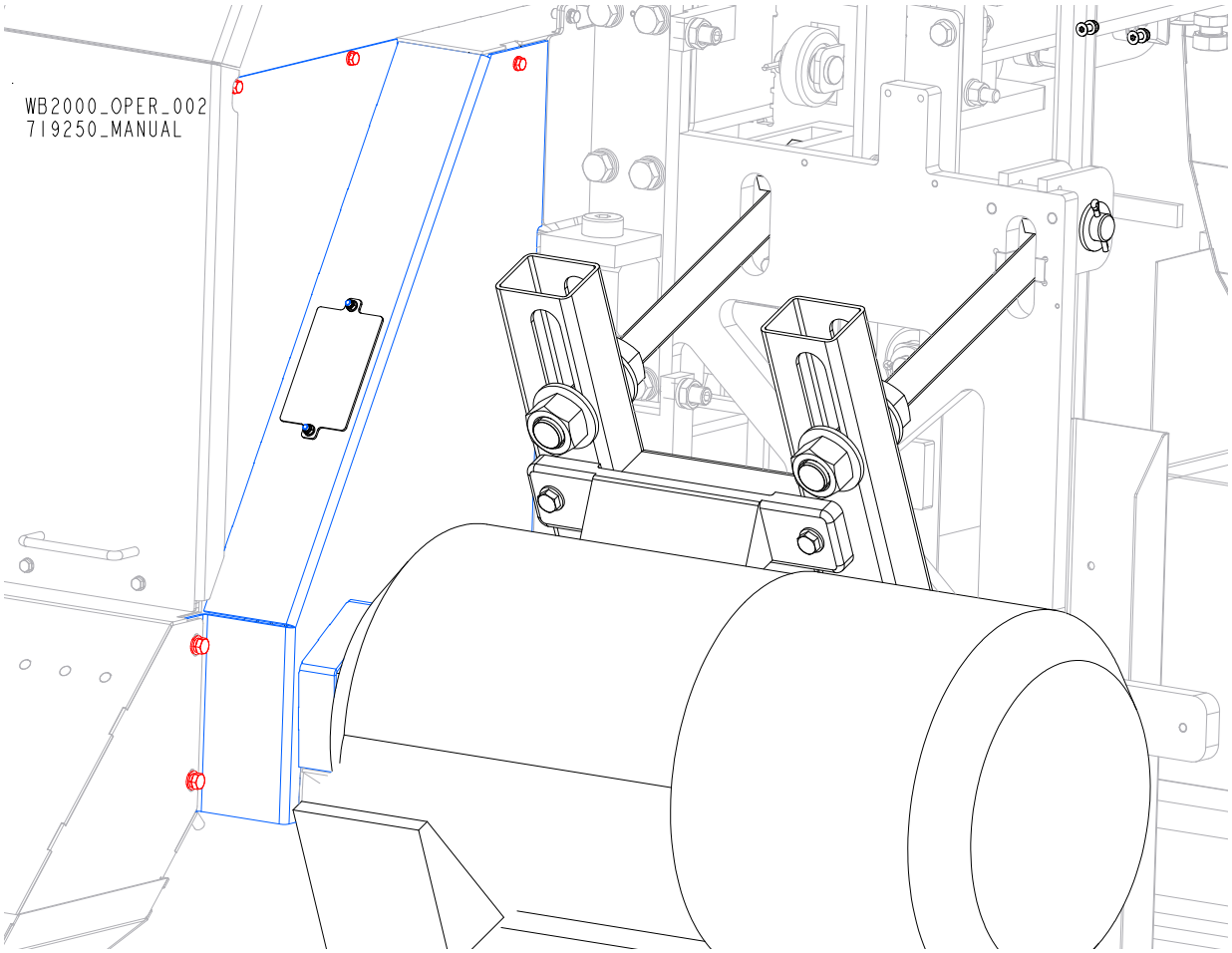


FIG. 6-17

See Figure 6-18:

- Use fasteners (A) to align drive belts tension

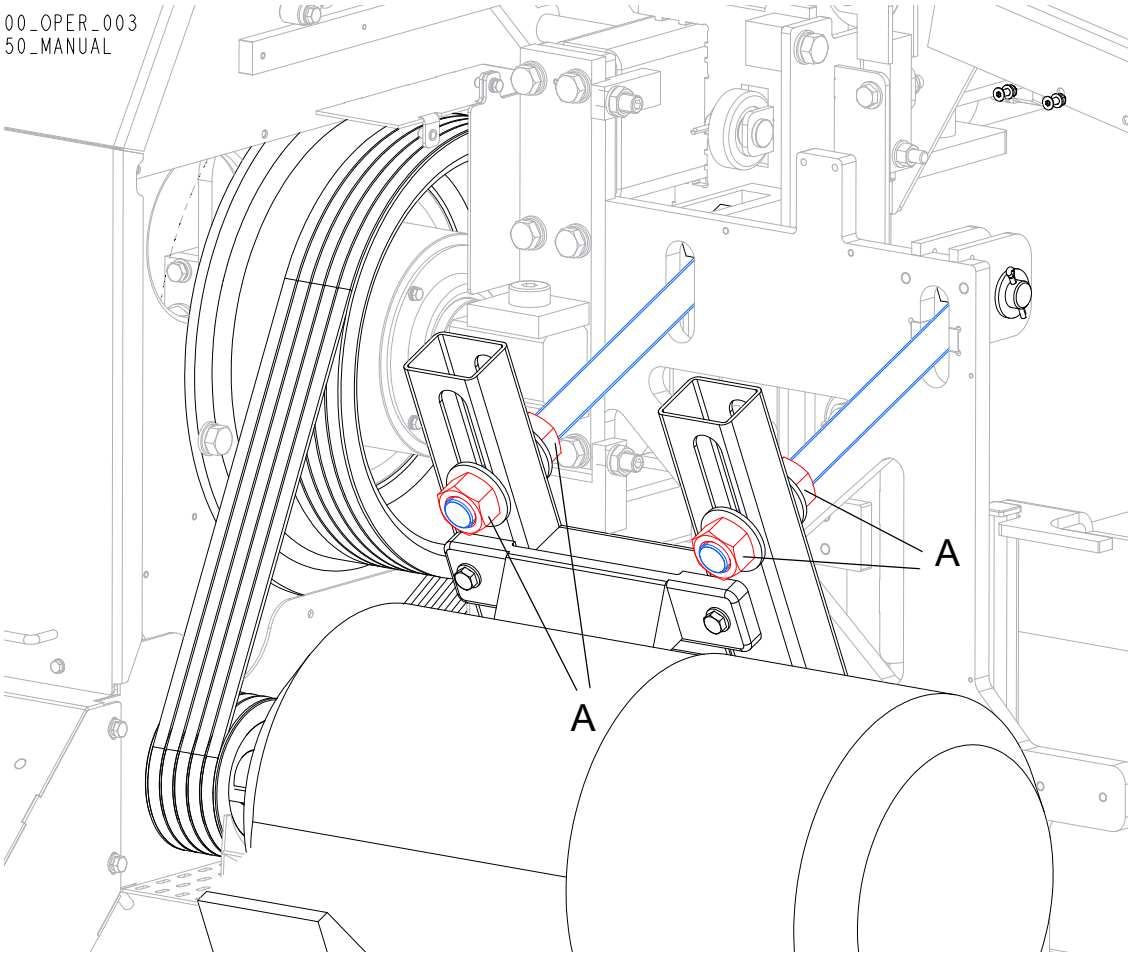


FIG. 6-18

See Figure 6-19:

See Table 6-1. 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 6-1.

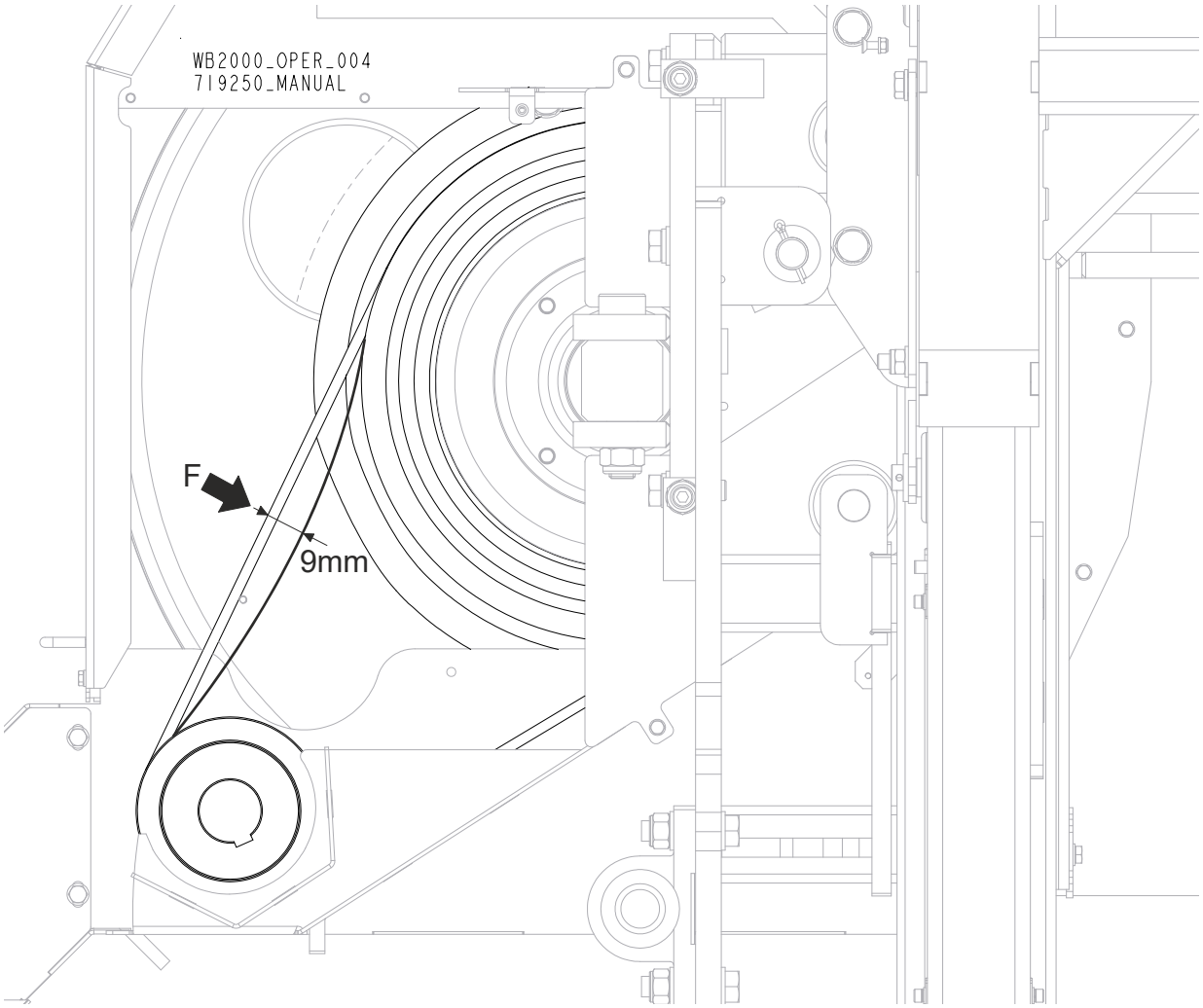


FIG. 6-19

See Figure 6-20:

See Table 6-2. 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 6-2.

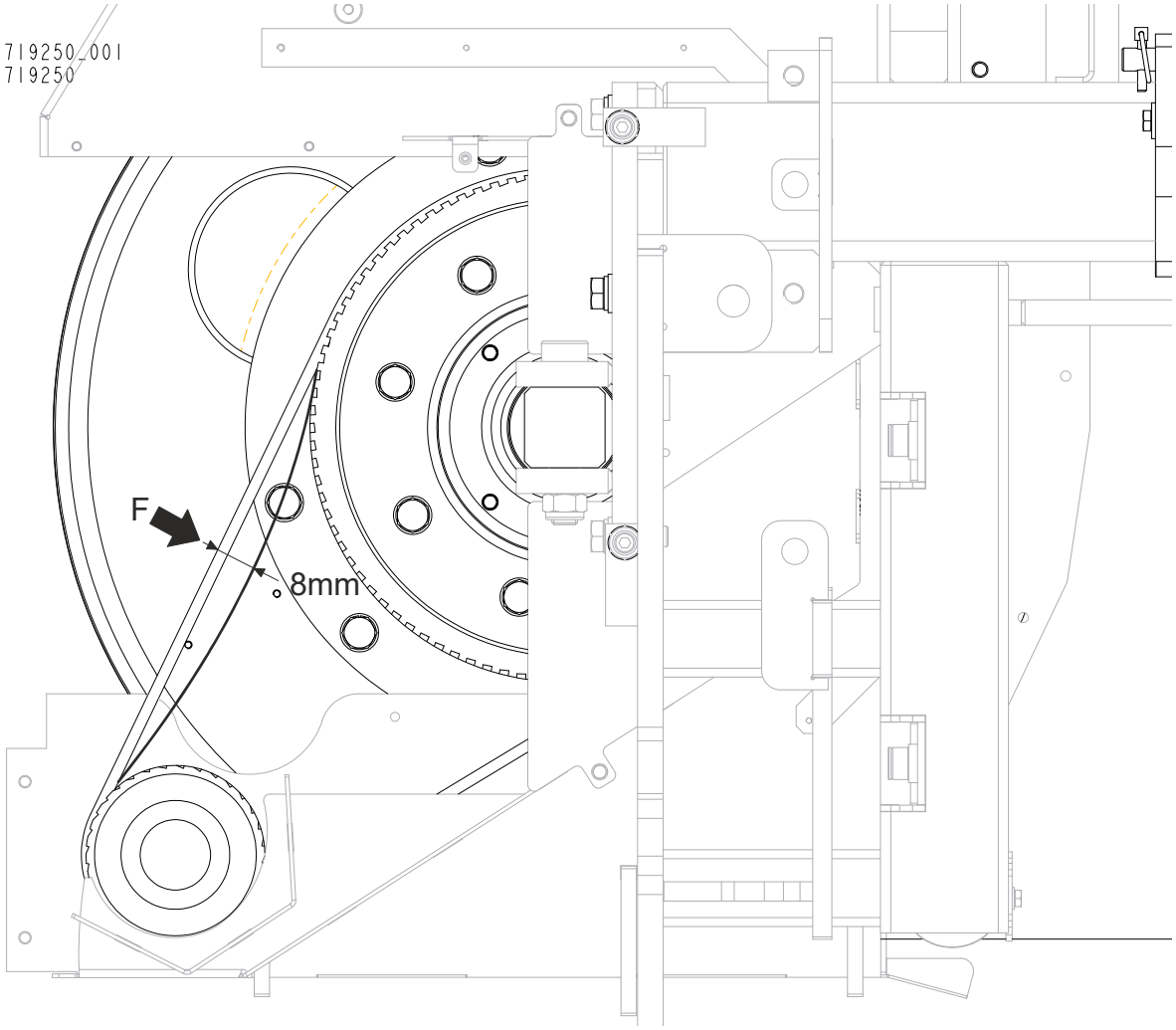


FIG. 6-20

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

6.3 Adjustment Of The Roller Blade Guide (718859)

See Figure 6-21 Adjust the blade guide arm fully open. Measure the distance between the back edge of the blade guide bracket and the back of the blade. Next, adjust the blade guide arm all the way in toward the inner blade guide assembly. Measure the distance again.

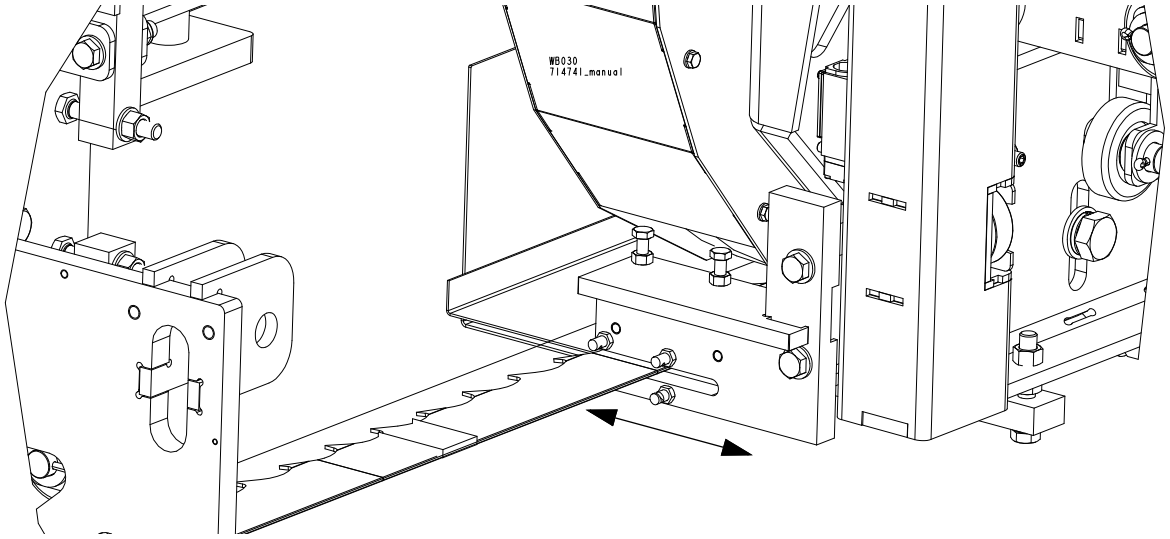


FIG. 6-21

The two measurements should be the same. If not, adjust the blade guide arm in the horizontal plane.

See Figure 6-22 Loosen the horizontal adjustment bolt jam nuts. To tilt the arm towards the blade, loosen the right bolt and tighten the left bolt. To tilt the arm away from the blade, loosen the left bolt and tighten the right bolt. Re-tighten the jam nuts and recheck the blade guide arm horizontal tilt.

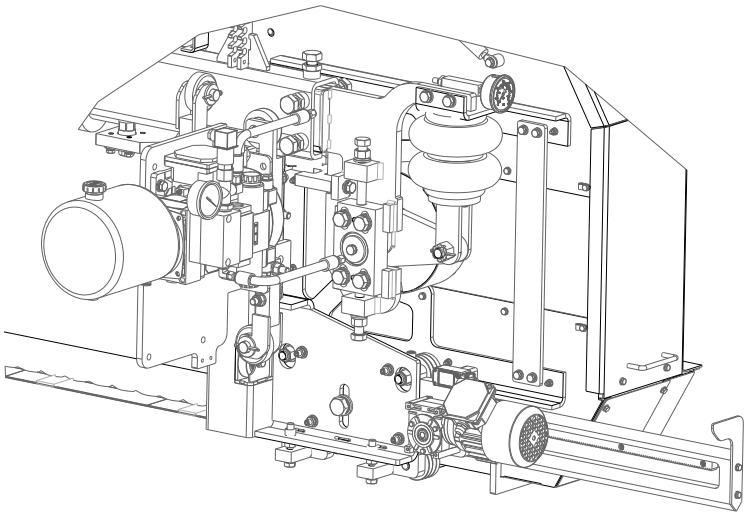


FIG. 6-22

The blade guides should deflect the blade from 1mm (for 75mm blade) to 2mm (for 100mm blade).

Be sure the blade guide blocks do not touch the blade. Position the saw head over the log clamp. Measure the distances from the rod of the blade clamp to the blade near the left and the right blade guides.

See Figure 6-23 Loosen the mouting bolts of the upper blocks. Using the adjustment bolts, adjust the upper blocks of the blade guide so they deflect the blade 1-2mm (the distance from the rod to the blade in both positions should be smaller than 1-2mm). Tighten the mouting bolts of the upper blocks. Then loosen the mounting bolts of the bottom blocks. Adjust the bottom block of the blade guide so it slightly touches the blade. Then tighten the mounting bolts.

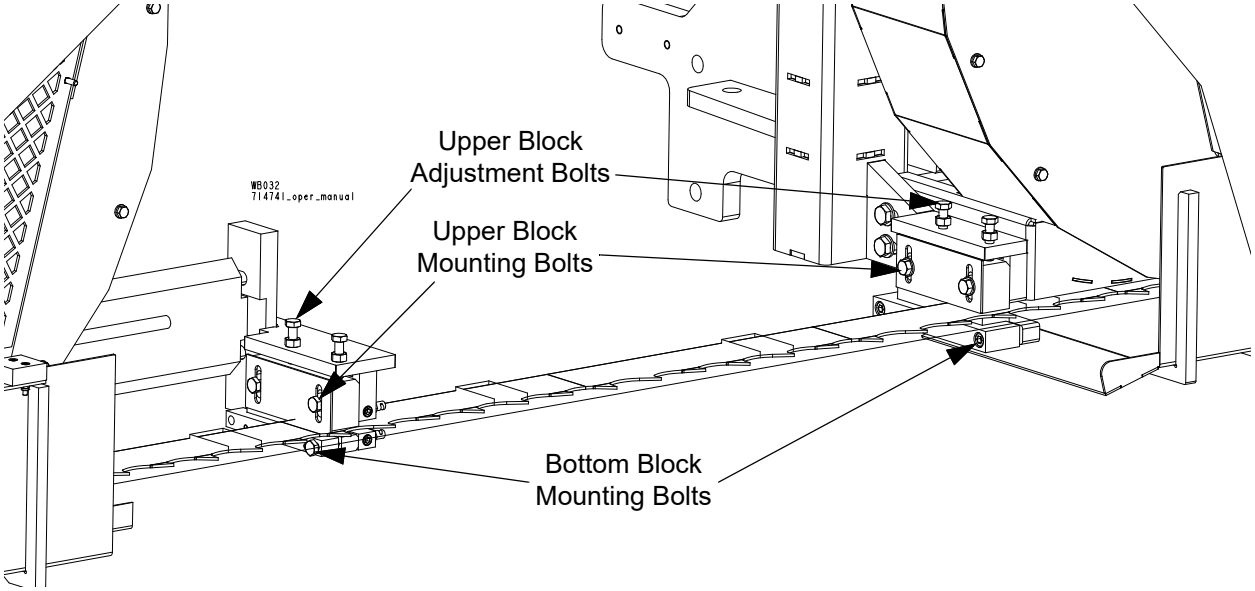


FIG. 6-23

6.4. Blade Deflection

Perform the following steps to achieve proper blade deflection with the blade guides:

1. Position the saw head so that the blade is above a bed rail. Measure the actual distance with a tape from the top of the rail to the bottom of the blade.

2. Loosen the bottom bolts M8x25 (A) next loosen the bolts M8x35 (B), adjust the bolt M8x40 (C) until the blade guide deflects the blade down 6 mm. Finally, turn the bolts (B) and (A).

See Figure 6-24

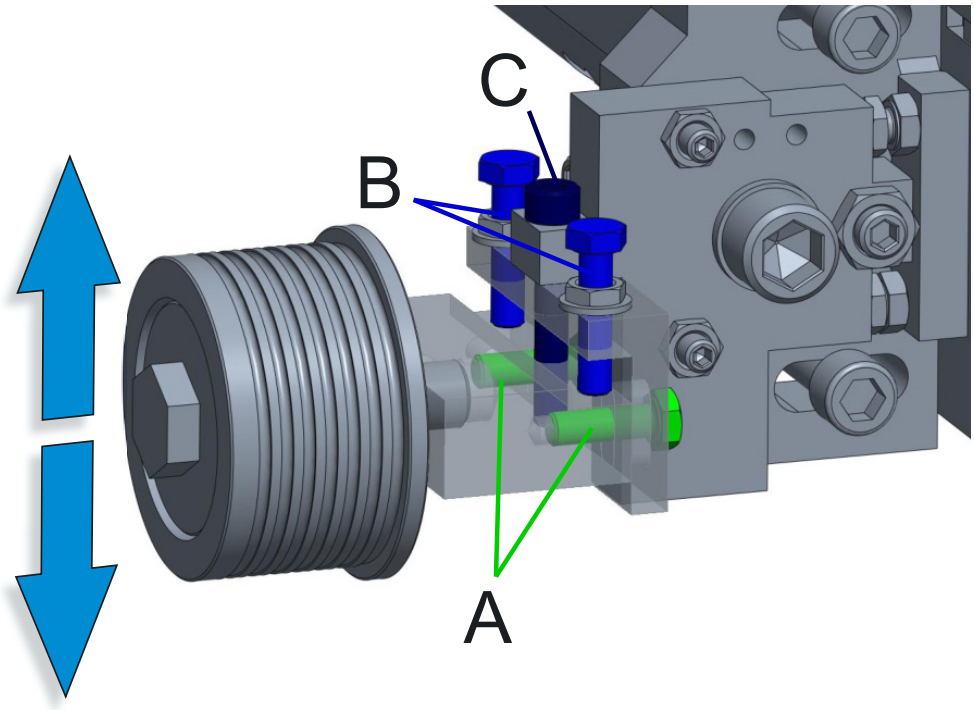


FIG. 6-24

3. Repeat for the other blade guide. Loosen the nuts M10 (A) next loosen the bolts M8x35 (B), adjust the bolt M8x40 (C). Finally, turn the bolts (B) and nuts (A).

See Figure 6-25

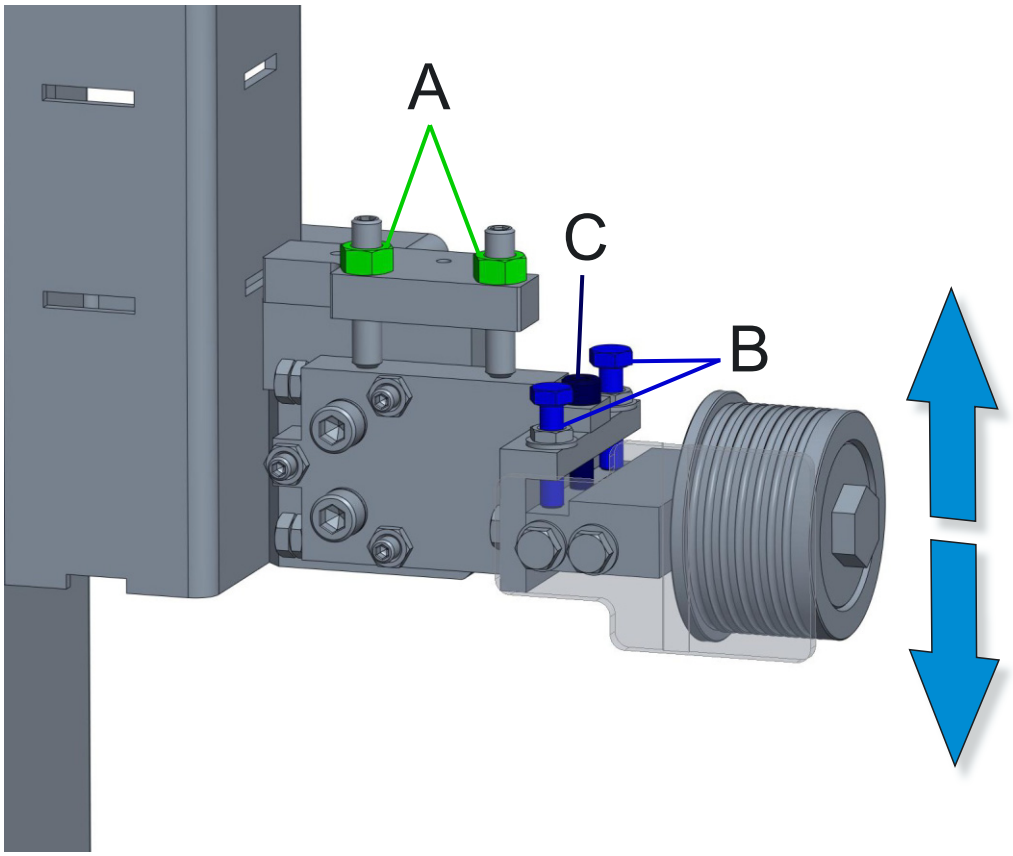


FIG. 6-25

4. **NOTE:** Be sure the blade guard clears the blade. It should be checked with the blade guard all the way in and all the way out.

6.5. Blade Guide Vertical Adjustment

Check that the blade guides does not tilt the blade up or down. A Blade Guide Alignment Tool is provided to help you measure the vertical tilt of the blade.

1. Attach the alignment tool to the blade. Position the tool close to a blade guide roller. Be sure the tool does not rest on a tooth or burr, and is lying flat against the blade..

   See Figure 6-26

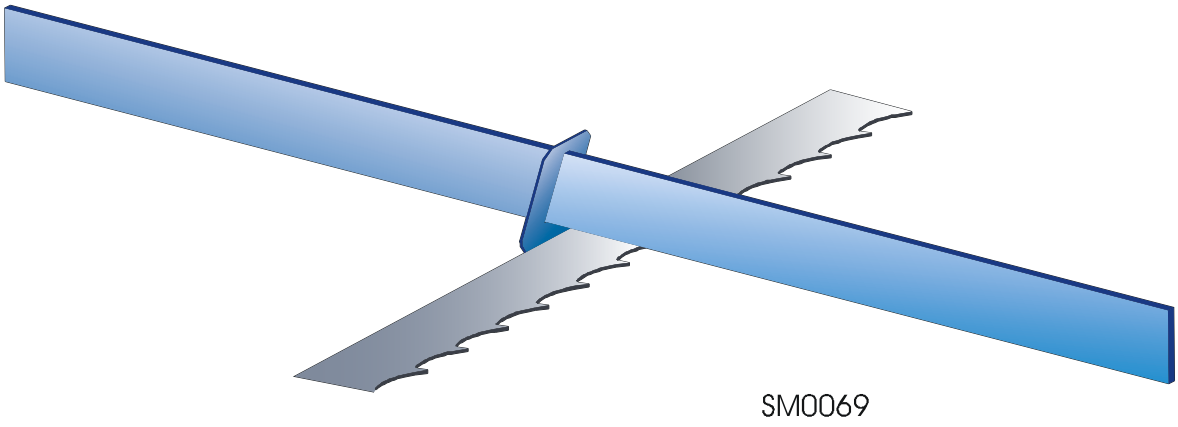


FIG. 6-26

2. Measure the distance from the bottom of the tool to the bed rail.
3. Move the saw head so that the front end of the tool is positioned above the bed rail.
4. Measure again the distance between the tool and bed rail.

See Figure 6-27

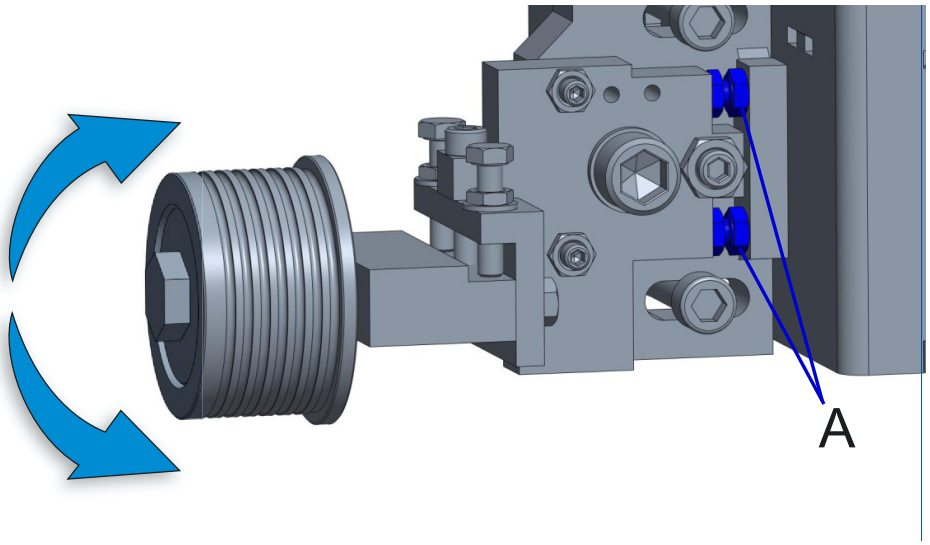


FIG. 6-27

5. The two measurements should be the same. If they are not, adjust the tilt of the roller with the bolts M8x16 (A).

6. Move the saw head in the cutting direction so the back end of the tool is over the bed rail. Measure the distance between the tool and the bed rail.

7. This measurement should equal the two earlier measurements. If it is not the same, adjust the blade guide using the screws shown in the figure above.

8. Move the tool close to the other blade guide and repeat the adjustment procedure described above.

   NOTE: If any adjustments to blade guide tilt were made, make sure the blade deflection is correct (6 mm).

   NOTE: After adjusting the blade guides, start the blade drive for a moment. Then stop the blade and check again if the blade guides are properly positioned.

6.6. Blade Guide Spacing Adjustment

1. Adjust the blade guide so the blade guide roller flange is approximately 4-5 mm from the back of the blade.

   See Figure 6-28

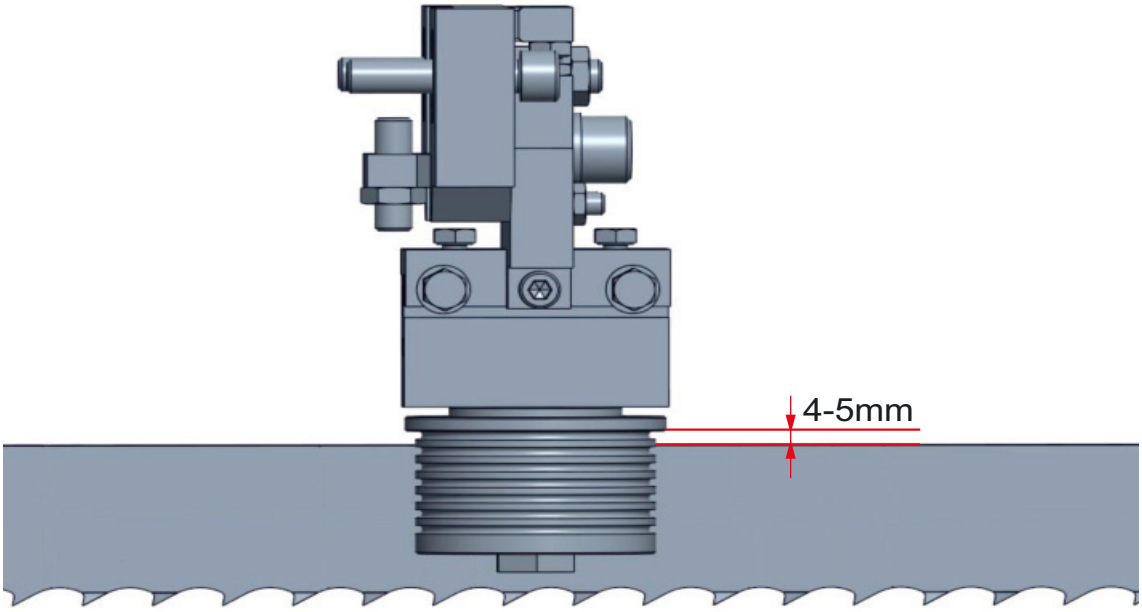


FIG. 6-28

2. Loosen the bolts M12x55 (A) and then adjust the roller with the nut (B). Tap the blade guide forward or backward until properly positioned.

   See Figure 6-29

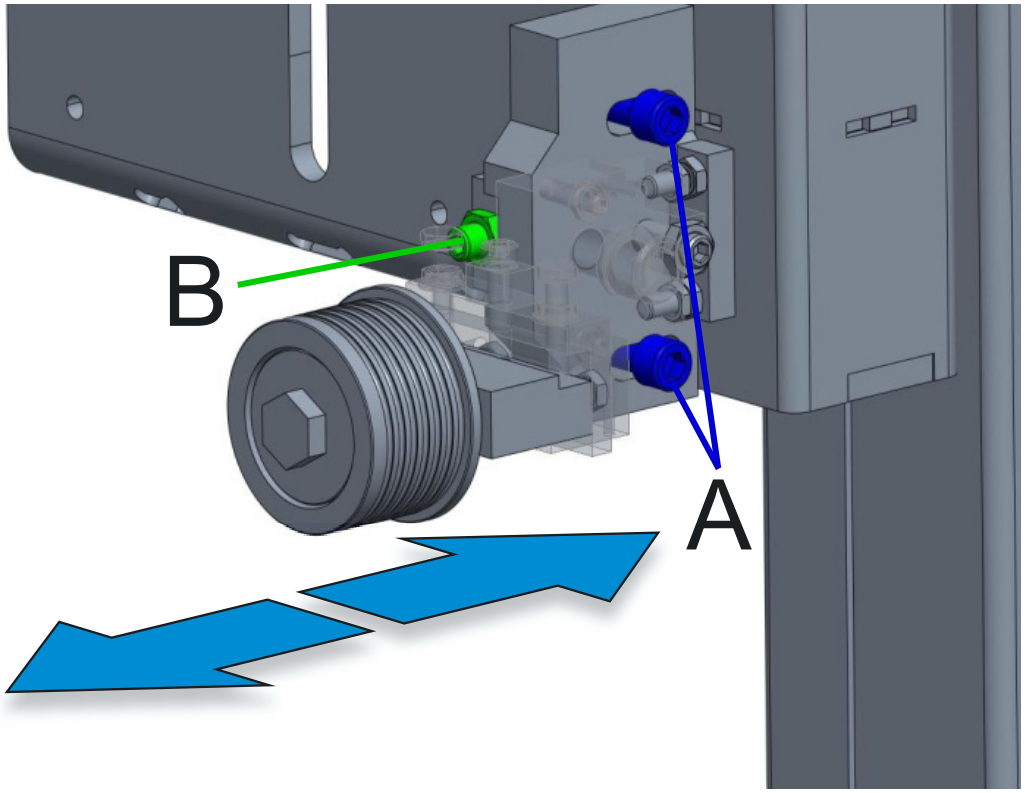


FIG. 6-29

3. Tighten the set screws.

4. Repeat the above adjustment procedure for the other blade guide.

   NOTE: After adjusting the blade guide spacing, start the blade drive for a moment. Then stop the blade and recheck the spacing.

6.7. Blade Guide Horizontal Adjustment

See Figure 6-30

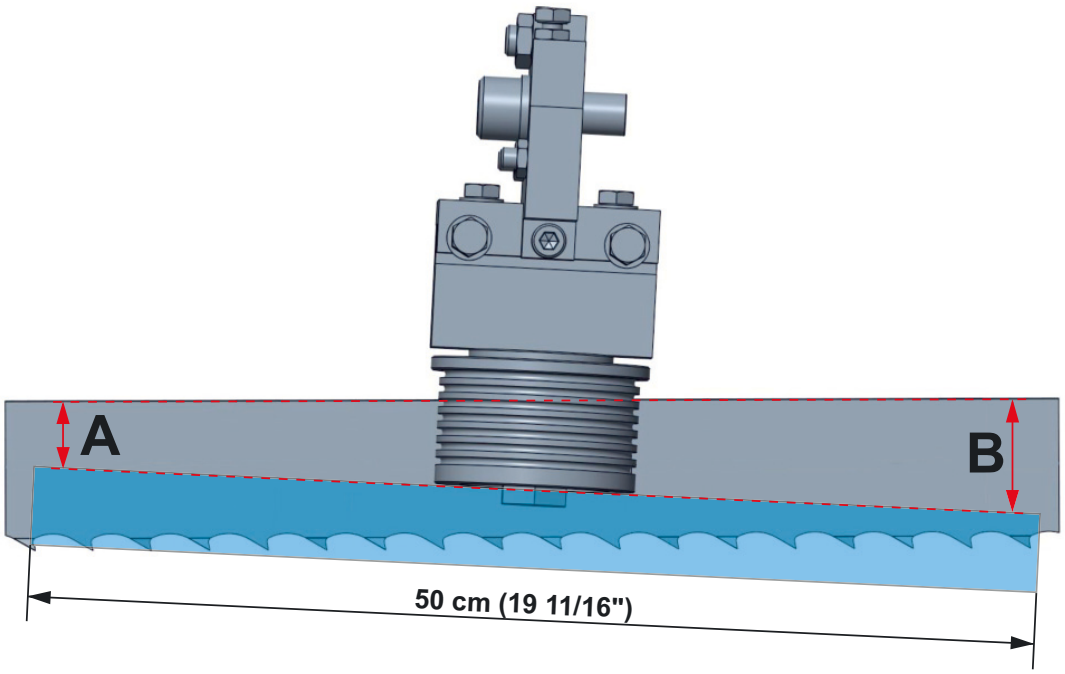


FIG. 6-30

1. Place the Blade Guide Alignment Tool against the face of a blade guide roller and center it on the roller as shown above.

2. Measure between the back edge of the blade and the tool at one end of the tool (A).

3. Measure between the back edge of the blade and the other end of the tool (B).

4. The blade guide roller should be parallel to the blade (A=B) or slightly tilted in the horizontal plane (A=B-3mm). If this condition is not met, adjust the roller in the horizontal plane using the side set bolts on the blade guide.

5. To adjust the guide, loosen bolt A and then use bolts B to set it correctly.

See Figure 6-31

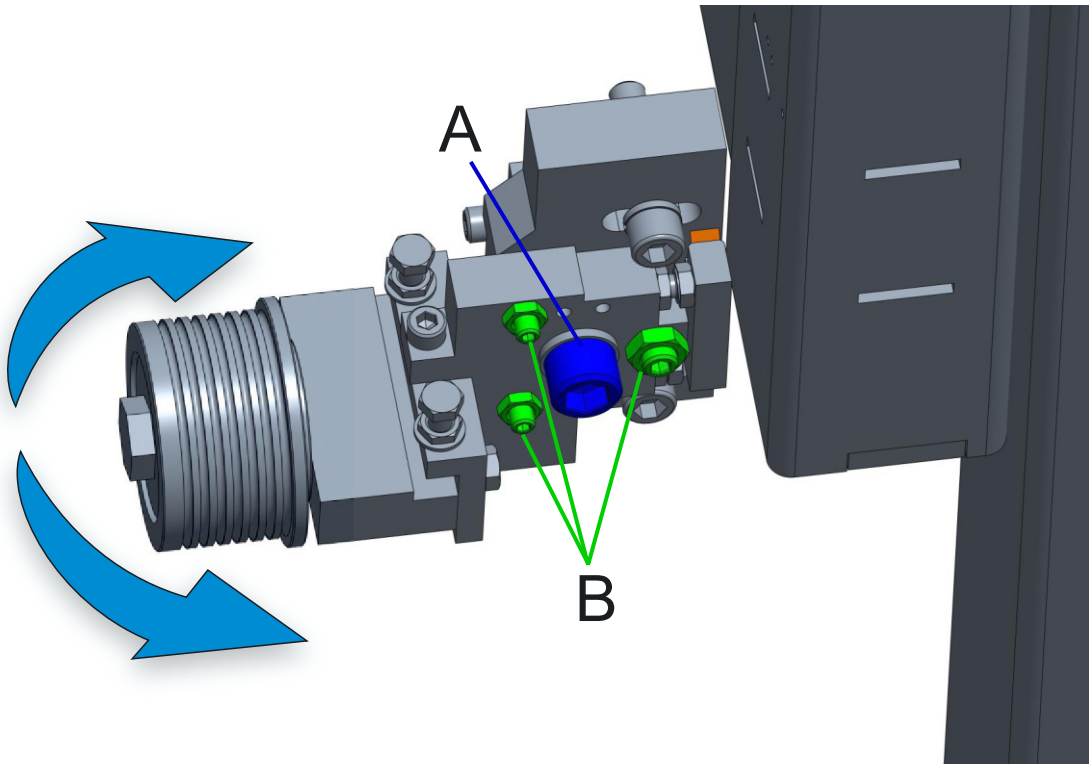


FIG. 6-31

6. Repeat the above steps for the other blade guide.

See Figure 6-32

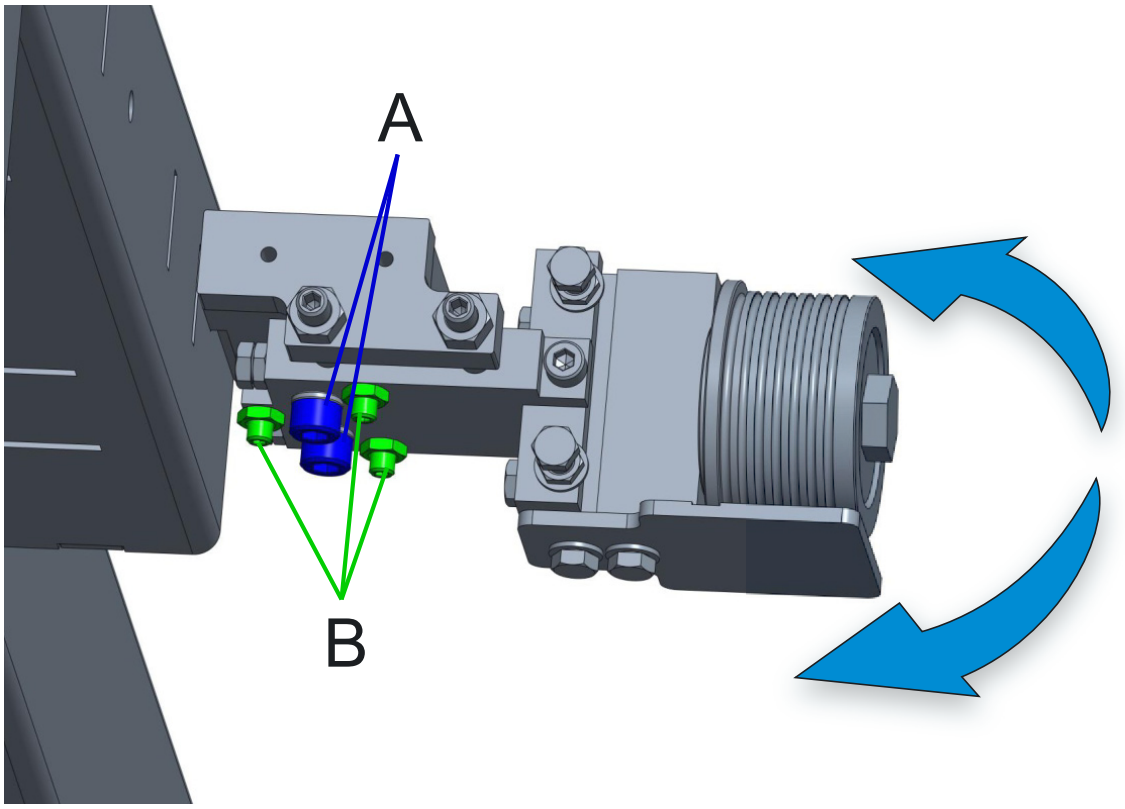


FIG. 6-32

NOTE: Once the blade guides have been adjusted, any cutting variances are most likely caused by the blade.

SECTION 7 SAWMILL SPECIFICATIONS

7.1 Belt Sizes

See Table 7-1. Belt sizes for the WB2000, WB2000ECsawmill are shown:

Description	Belt Size	Wood-Mizer Part #
Motor Drive Belt	XPA L=1682	713990

TABLE 7-1.

7.2 Blade Sizes

See table 7-2. Blade specifications for the WB2000 sawmill are shown below:

Parameter	Value
Blade width	75mm (3”) 100mm (4”)
Blade length	6000mm 236”
Blade linear speed	22-30m/s
Blade tension system	Hydraulic
Blade lubrication	Oil only

TABLE 7-2.

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

7.3 Cutting Capacity

See table 7-3. The log size capacities of the WB2000 sawmill are shown below:

Parameter	Value
Min. Log Diameter	200mm ,8”
Max. Log Diameter	1000mm 39”
Min. Log Length	1100mm 39”
Max. Log Length [1]	depends on length of rails: **S Frame**: 5,2m (4,5m with board return system) **S EC Frame**: 4,5m **M Frame:**: 8,2m (7,5m with board return system)) **M EC Frame**: 7,5m

TABLE 7-3.

[1] Each bed frame extension section increases maximum cutting length about 2016mm or 4032mm.

7.4 Motor Specifications

See Table 7-4. The power options available for the WB2000 sawmill are listed below.

Motor Type	Manufacturer	Power	Other Specifications
Electric E30	Siemens	22 kW	50 A, 1465 RPM
Electric E40	Siemens	30 kW	66 A, 1465 RPM
Electric E50	Siemens	37 kW	80 A, 1465 RPM

TABLE 7-4.

See table 7-5. The other motors used in WB2000 sawmills are listed below:

Motor Type	Power
Up/Down	2,2 kW
Power Feed	2,2 kW
Hydraulic pump	WB2000: 7,5 kW WB2000 EC: 5,5 kW

TABLE 7-5.

7.5 Noise Level

See Table 7-6. The average noise level is given in the table below[1][2][3].

Sawmill	Noise Level
WB2000	L_{EX8} = 93.2dB (A)

TABLE 7-6.

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.
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.

7.6 Overall Dimensions

See table 7-7. The overall dimensions of the WB2000 sawmill are listed below.

Sawmill Model	Length	Length with operator stand	Width	Height	Weight
WB2000M	10734mm (422.6”)	13064mm (514”)	3600mm (141.7”)	3300mm (129.9”)	8000kg 17363 lb
WB2000S	7774mm (306”)	10374mm (408.4”)	3600mm (141.7”)	3300mm (129.9”)	6800kg 14991 lb
WB2000M EC	---	12500mm (492”)	3300mm (130”)	3300mm (130”)	---
WB2000S EC	---	9756mm (384”)	3300mm (130”)	3300mm (130”)	---

TABLE 7-7.

7.7 Chains

See Table 7-8. The load capacity of the chains is listed below.

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

TABLE 7-8.

7.8 Sawdust Extractor Specifications

CAUTION! Always connect the dust extraction system before starting the machine.

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

See Table 7-9. The dust extractor specifications are given below[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 7-9.

[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.

7.9 Lube System Specifications

See table 7-10. 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 7-10.

[1] If necessary to dispose preparation which lost its exploitation properties disposal must be in accordance with local and state regulations..

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

7.10 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 7-11.

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

SECTION 8 LASER INFORMATION

SEMICON SP. Z O. O., 43 /43a, Zwoleńska Str., 04-761 Warsaw, Poland
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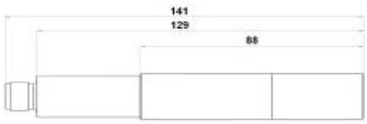

Technical data:

• Safety Class	2M from EN 60825-1:2014;
• Wavelength	λ = 520nm;
• Average Output Power	10 mW;
• Operating Voltage	9V - 28VDC;
• Operating Current	<100mA;
• Optics: aspherical acrylic lens	F=8mm; NA=0.28; rod lens Ø5;
• Line generating angle	~90°;
• Possibility to adjust the focus from few cm to several meters (external focus mechanism);	
• Dimensions	Φ20 x 130;
• International Protection Rating	IP65;
• Aluminium housing (black anodized);	
• Chromed brass mounting	M18 x 1;
• Operating temperature:	0 to +60°C;
• Storage temperature:	-40 to +85°C;
• Laser diode electrically isolated from housing;	
• M12 plug, 4-pin	M12 x 1
• Pin configuration:	
○ 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 98 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 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 9-0

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 9-0*.
- Replace the complete rotor if necessary.

Check the air gap

- Measure the air gap "$s_{Lü}$" between armature plate and rotor using a feeler gauge (see chapter 3.3).
- Compare the measured air gap to the maximum permissible air gap "$s_{Lümax.}$" (see table below).
- If necessary, adjust the air gap to "$s_{Lürated}$".

Brake type	sLürated +0.1mm -0.05mm	sLümax Service brake	Max. adjustment permissible wear	Rotor thickness		Excess of the adjuster nut $h_{Emax.}$ [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 9-0

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