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

LX450 E25 **rev.A2.02**

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

Form# 803

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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:

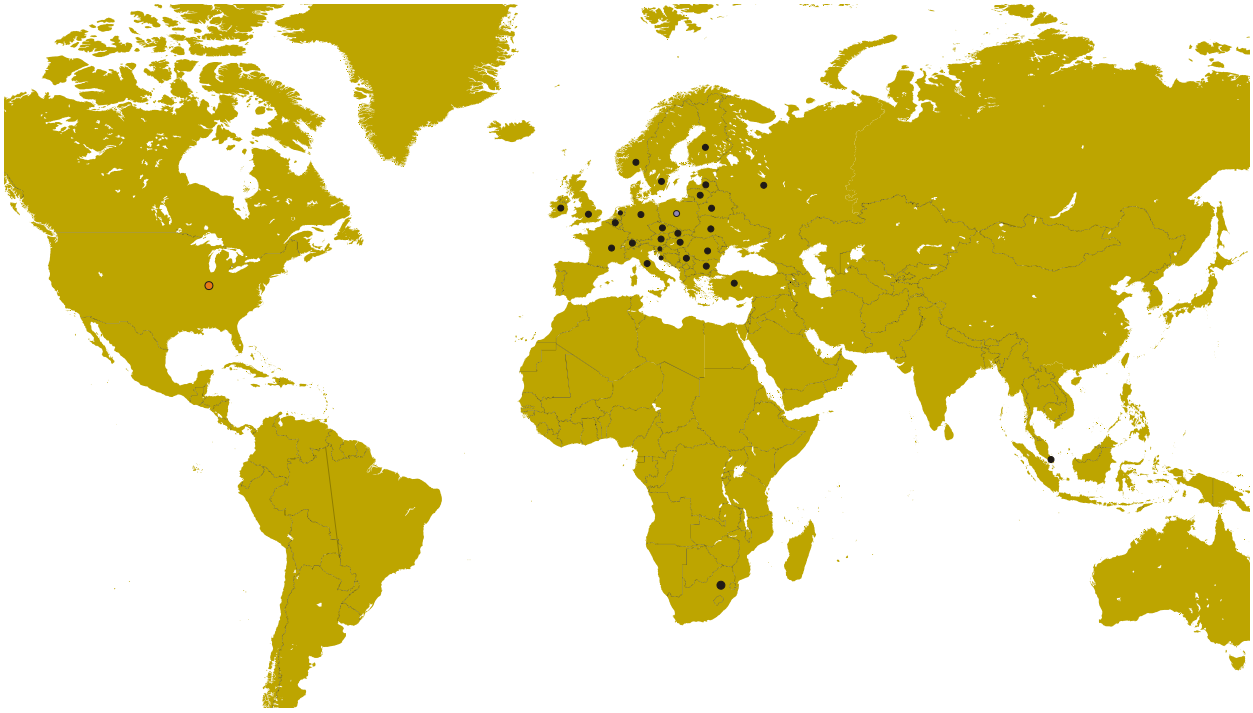
- Visa, Mastercard, or Discover
- COD
- Prepayment
- Net 15 (with approved credit)

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

Sawmill and Customer Identification

Each Wood-Mizer LX100 sawmill is identified with a revision and VIN numbers. See the table below for VIN description.

LX450	EH20	S	AHS3
Base Model	Engine/Motor Configuration	CE Version	Hydraulic Log Handling Equipment

Revision Number	A1.	00
	Major Revision Code	Minor Revision Code

MODEL & REVISION NUMBERS DESCRIPTION

Company Identification Number 456=Wood-Mizer Indiana	Weight Class; A=Under 1300 kg, B=1301-1800 kg, C=1801-2200 kg, D=2201-3000kg, X- Stationary.	Product No.; 1=LT10/15, 2=LT20 Series, 4=LT40 Series, 7=LT70 Series	Length of the Trailer; 20= 20' (6 m), 24=24' (7 m), 35=35' (11 m)	Number of axles on the trailer	Check Digit Add all the number and divide by 11	Year of Manufacture; N=2015, P=2016, R=2017, S=2018, T=2019	State of Manufacture N=Indiana, P=Poland	Month of Manufacture A=January, B=February, C=March, etc...	Revision Level	Sequence Number Ranging from 000-999	End of 17-Digit VIN	Revision Level (Repeated)	Two-Digit Minor Revision Level
456	A	5	24	1	X	H	P	A	F9	017		F9	.01

V.I.N. DESCRIPTION

When you pick up your mill, you will receive a customer number. The VIN number, revision and your customer number expedite our service to you. Please write these numbers below so you have quick, easy access to them.

Customer No.	Model Type	VIN No.	Revision No.

Important! Read the entire Operator's Manual before operating the sawmill. Take notice o all safety warnings throughout this manual and those posted on the machine. Keep this manual with this machine at all times, regardless of ownership.

SECTION 1 SAFETY & GENERAL INFORMATION

1.1 Safety Symbols

These symbols call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

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.

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.

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 are clean and readable. Replace all damaged safety decals to prevent personal injury or damage to the equipment. Contact Wood-Mizer Customer Service or the Wood-Mizer distributor in your area to order a new decal.

IMPORTANT! It is always owner's responsibility to comply with all applicable federal, state and local laws, rules and regulations regarding the ownership, operation and transportation of the Wood-Mizer LX450 sawmill. All Wood-Mizer owners are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using the sawmill.

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.

1.2 Blade Handling

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

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

1.3 Sawmill Setup

WARNING! Do not set up the sawmill on ground with more than a 10 degree incline. If setup on an incline is necessary, put blocks under one side of the sawmill or dig out areas for the legs to keep the sawmill level. Setting up the sawmill on an incline could cause it to tip over, resulting in serious personal injury.

WARNING! Keep all persons away from area while loading and unloading the sawmill. Failure to do so may result in serious injury or death.

1.4 Sawmill Operation

IMPORTANT! The sawmill is intended for sawing wood only. *See Section Cutting Capacity* **for log size capacities of the machine.**

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

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.

DANGER! Be sure the blade housing cover is well closed.

DANGER! Always keep hands away from moving bandsaw blade. Failure to do so will 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 sawmill and lumber stacking areas. Failure to do so may result in serious injury.

DANGER! Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the motor. Failure to do so

may result in serious injury.

WARNING! Always wear eye, ear, respiration, and foot protection as well as safety clothing when operating the machine. 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 the log is clamped securely before sawing. Failure to do so may result in serious injury or death.

WARNING! Use ONLY water or alcohol solution with the water 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.

CAUTION! Be sure the log clamps are all the way down before loading a log onto the bed. Failure to do so may result in machine damage.

CAUTION! Before loading a log, be sure the cutting head is moved far enough forward so the log does not hit it. Failure to do so may result in machine damage.

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

CAUTION! Make sure the blade is stopped before 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 saw head may hit the loading ramp stops when adjusted for low cuts. Remove the optional loading ramps before sawing to prevent damage to the saw head.

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

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

CAUTION! The blade should be replaced every two hours of sawmill operation.

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

CAUTION! If the blade breaks during sawmill operation, push EMERGENCY STOP button to stop the blade motor and wait 10 seconds before you open the blade housing cover.

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

1.5 Sawmill Maintenance

CAUTION! The up/down screw bellows should completely cover the screw. If either of the bellows is damaged, replace it immediately. Before installing the new bellows, clean the up/down screw and nut thoroughly with extraction naphtha and then grease them.

CAUTION! Reinstall the track wiper so that it lightly touches the track rail. If the wiper presses too firmly against the rail, it can cause the power feed to bind.

CAUTION! Never use grease on the mast rails as it will collect sawdust.

1.6 Safety Instructions

NOTE: ONLY safety instructions regarding personal injury are listed in this section. Caution statements regarding equipment damage appear where applicable throughout the manual.

Observe Safety Instructions

IMPORTANT! Read the entire Operator's Manual before operating the sawmill. Take notice of all safety warnings throughout this manual and those posted on the machine. Keep this manual with the machine at all times, regardless of ownership.

Also read any additional manufacturer's manuals and observe any applicable safety instructions including dangers, warnings, and cautions.

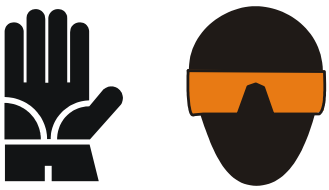
IMPORTANT! Only adult persons who have read and understood the entire operator's manual should operate the sawmill. The sawmill is not intended for use by or around children.

IMPORTANT! It is always owner's responsibility to comply with all applicable federal, state and local laws, rules and regulations regarding the ownership and operation of the Wood-Mizer sawmill. All Wood-Mizer owners are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using the machine.

Wear Safety Clothing

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

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.



WARNING! Always wear eye, ear, respiration, and foot protection as well as safety clothing when operating or servicing the sawmill.

Keep Sawmill and Area Around Sawmill Clean

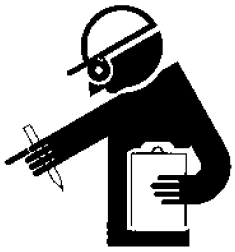
DANGER! Maintain a clean and clear path for all necessary movement around the sawmill and lumber stacking areas. Failure to do so will result in serious injury.

Dispose Of Sawing By-Products Properly

IMPORTANT! PAlways properly dispose of all sawing by-products, including sawdust and other debris.

Check Sawmill Before Operation

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



Keep Persons Away

DANGER! Keep all persons out of the path of moving equipment and lumber when operating the sawmill. Failure to do so will 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 will result in serious injury.

WARNING! Allow the blade to come to a complete stop before opening the blade housing cover. Failure to do so will result in serious injury.

Keep Hands Away

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

DANGER! Motor components can become very hot during operation. Avoid contact with any part of a hot motor. Contact with hot motor components can cause serious burns. Therefore, never touch or perform service functions on a hot motor. Allow the motor to cool sufficiently before beginning any service function.

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

DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

WARNING! Use extreme caution when spinning the blade wheels by hand. Make sure your hands are clear of the blade and wheel spokes before spinning. Failure to do so may result in serious injury.

Use Proper Maintenance Procedures

DANGER! Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and is in accordance with applicable electrical codes.

DANGER! Hazardous voltage inside the electric boxes and at the motor can cause shock, burns, or death. Disconnect and lock out power supply before servicing! Keep all electrical component covers closed and securely fastened during sawmill operation.

WARNING! Consider all electrical circuits energized and dangerous.

WARNING! Disconnect and lock out power supply before servicing the sawmill! Failure to do so may result in serious injury.

WARNING! Never assume or take the word of another person that the power is off; check it out and lock it out.

WARNING! Do not wear rings, watches, or other jewelry while working around an open electrical circuit.

WARNING! Remove the blade before performing any service to the motor or sawmill. Failure to do so may result in serious injury.

DANGER! Never clean the blade or 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 the blades.

Keep Safety Labels In Good Condition

IMPORTANT! Always be sure that all safety decals are clean and readable. Replace all damaged safety decals to prevent personal injury or damage to the equipment. Contact your local distributor, or call Wood-Mizer Customer Service to order more decals.

IMPORTANT! When replacing a component having a safety decal affixed to it, make sure the new component also has the safety decal affixed.

See Table 1-1. See the table below for descriptions of the pictographic warning and informational decals placed on the LX450 sawmill.

TABLE 1-1

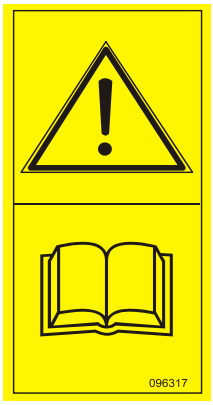
Decal View	Decal No.	Description
	096317	CAUTION! Read thoroughly the operator's manual before operating the sawmill. Observe all safety instructions and rules when operating the machine.

TABLE 1-1

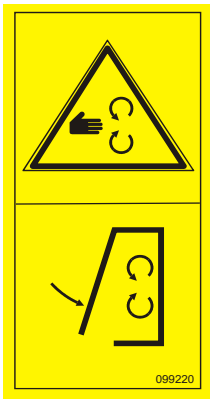
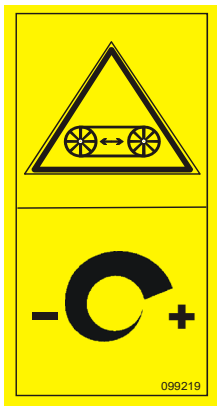
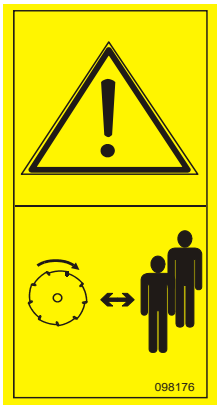
	099220	CAUTION! Close all guards and covers before starting the machine.
	099219	Blade tension. Turning the bolt clockwise will increase the blade tension, and turning the bolt counterclockwise will decrease the tension.
	099221	CAUTION! Keep all persons away from work area when operating the machine.
	098176	CAUTION! Keep away from the debarker blade!

TABLE 1-1

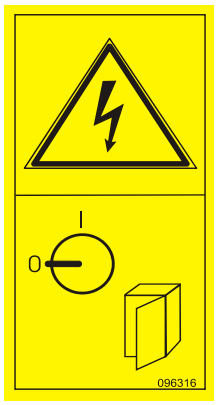
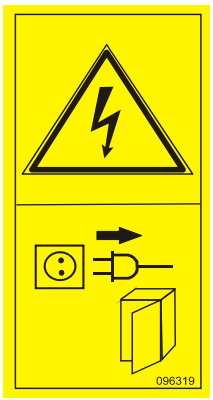
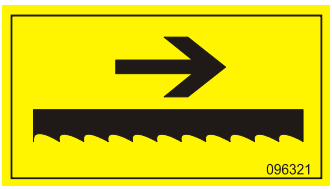
	096316	CAUTION! Do not open or close the electric box when the switch is not in the ”0” position.
	096319	CAUTION! Disconnect power supply before opening the box.
	096321	Blade movement direction
	S12004G	CAUTION! Always wear safety goggles when operating the sawmill.

TABLE 1-1

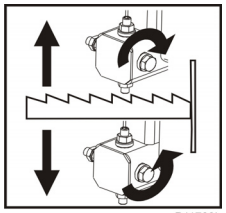
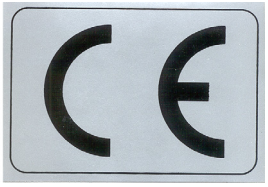
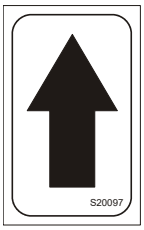
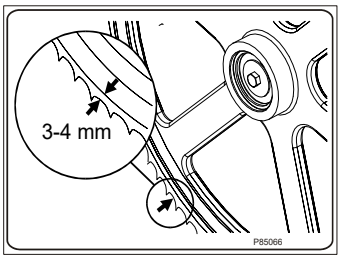
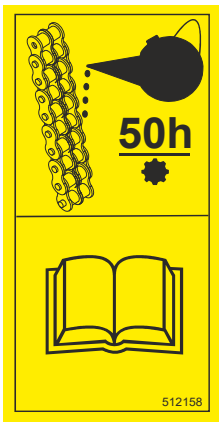
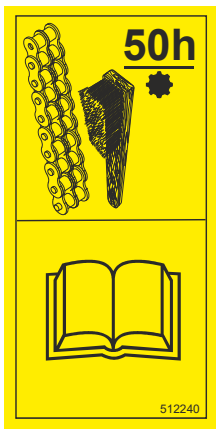
	S12005G	CAUTION! Always wear protective ear muffs when operating the sawmill!
	501465	CAUTION! Always wear safety boots when operating the sawmill!
	501467	Lubrication point
	P11789	Tracking the blade on the blade wheels
	P85070	CE certification marking
	099401	Russian certification marking

TABLE 1-1

	S20097	Direction of motor revolutions
	P85066	Blade positioning
	512158	Lubricate the chain every 50 hours of operation or once a week.
	512240	Clean the chain of sawdust every 50 hours of operation or once a week.

1.7 Belt Sizes

See Table 1-2. Belt sizes for the LX450 sawmill are shown below.

Description	Belt Size	Part #
E25 Motor Drive Belt	3BX2437	089464
Blade Wheel Belts	B57 [1]	P04185-2

TABLE 1-2

[1] To insure proper blade tracking, use Goodyear, Dayco Super II, or Browning belts only.

1.8 Blade Sizes

See Table 1-3. TRU•SHARP™ offers three types of blades to provide efficient sawing for all models of sawmills. The motor size of your sawmill and type of wood you saw should determine which blade you choose for optimum performance.

Motor Size	Recommended Blade For Sawing [1]:		
	Softwood	**Hardwood**	**Frozen or Hard-To-Cut Wood**
5 - 15 HP	B275IH1030 B275IH741030	B375IH929	B375IH929 [2]
16HP or more	B376IH1030 B376IH741030	B275IH1030 B275IH741030 B376IH1030 B376IH741030 [3]	B375IH929[2]
Electric Motor	B376IH1030 B376IH741030	B275IH1030 B275IH741030 B376IH1030 B376IH741030[3]	B375IH929[2]

TABLE 1-3

[1] The blade used on the LX450 sawmill is 4.54 m long. Its linear speed is 22m/s.

[2] TRU•SHARP™ "F" blades use a 9/29 (9^o hook angle and 29^o back angle) and are designed to cut frozen and/or extremely dense, hard-to-cut wood. Standard TRU•SHARP™ blades use a 10/30 profile.

[3] Customer may choose preferred blade.

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

1.9 Cutting Capacity

See Table 1-4. The log size capacities of the LX450 sawmill are listed below.

	Maximum Log Diameter	Maximum Length
LX450	92 cm	6.2 m

TABLE 1-4

See Table 1-5. See the table below for the possible forward feed rates on the LX450 sawmill.

Sawmill Model	Cutting Rate
LX450	0-30 m/min.

TABLE 1-5

1.10 Motor Specifications

See Table 1-6. See the table below for technical data on the motors used on the LX450E25 sawmill.

Motor Type	Manufacturer	Model No.	Other Data
Electric Motor E25, 18.5 kW	Siemens, Germany	1LA7166-2AA60Z	3 x 400V, 50 Hz, 33.8A 2930 r.p.m.
Up/Down Motor 0.55kW	Besel	SKh71X-4C2/HPS08	3x230/400VAC, 50Hz
Power Feed Motor 1.1kW	Besel	SKh90-4S2 HPS	230/400V, 50 Hz 1380 r.p.m.

TABLE 1-6

See Table 1-7. See the table below for power supply specifications for the LX450E25 sawmill.

3 Phases V	Fused Disconnect Switch	Recommended Wire Size
400 VAC	63 A	16 mm^2 maximum length: 15 m

TABLE 1-7

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

1.11 Noise Level

See Table 1-8. The average noise level is given in the table below[12].

Sawmill	Noise Level
LX450E25	L_{WA} = 107 dB (A)

TABLE 1-8

1.12 Sawdust Extractor Specifications

See Table 1-9. See the table below for sawdust extractor specifications for your LX450 sawmill [3].

Maximum Capacity	1200 m^3/h
Collector Inlet Diameters (in front of fan)	100 mm
Electric Motor Power	1.5 kW
Number of Sacks for Waste	1 pc
Total Capacity of Sacks	0.25 m^3 (stacked)
Pressure Drop	1,5 kPa (0.22 psi) [1]
Weight	110 kg
Conveying Speed When 10 m Long Hose Is Used	20 m/s

TABLE 1-9

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

IMPORTANT! The sawdust extractor hoses must be grounded or made with materials that do not accumulate electrostatic charge.

1. The noise level measurement was taken in accordance with PN-EN ISO 3746 Standard. The noise exposure level given above concerns an 8-hour work day. Value for associated uncertainty: K=4dB
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 can vary from country to country. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.
3. External chip and dust extraction equipment with fixed installations are dealt with in EN12779:2016-04.

CAUTION! Always turn on the sawdust extractor before starting the machine.

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.

1.13 Overall Dimensions

See Figure 1-1. The overall dimensions of the LX450 sawmill are shown below.

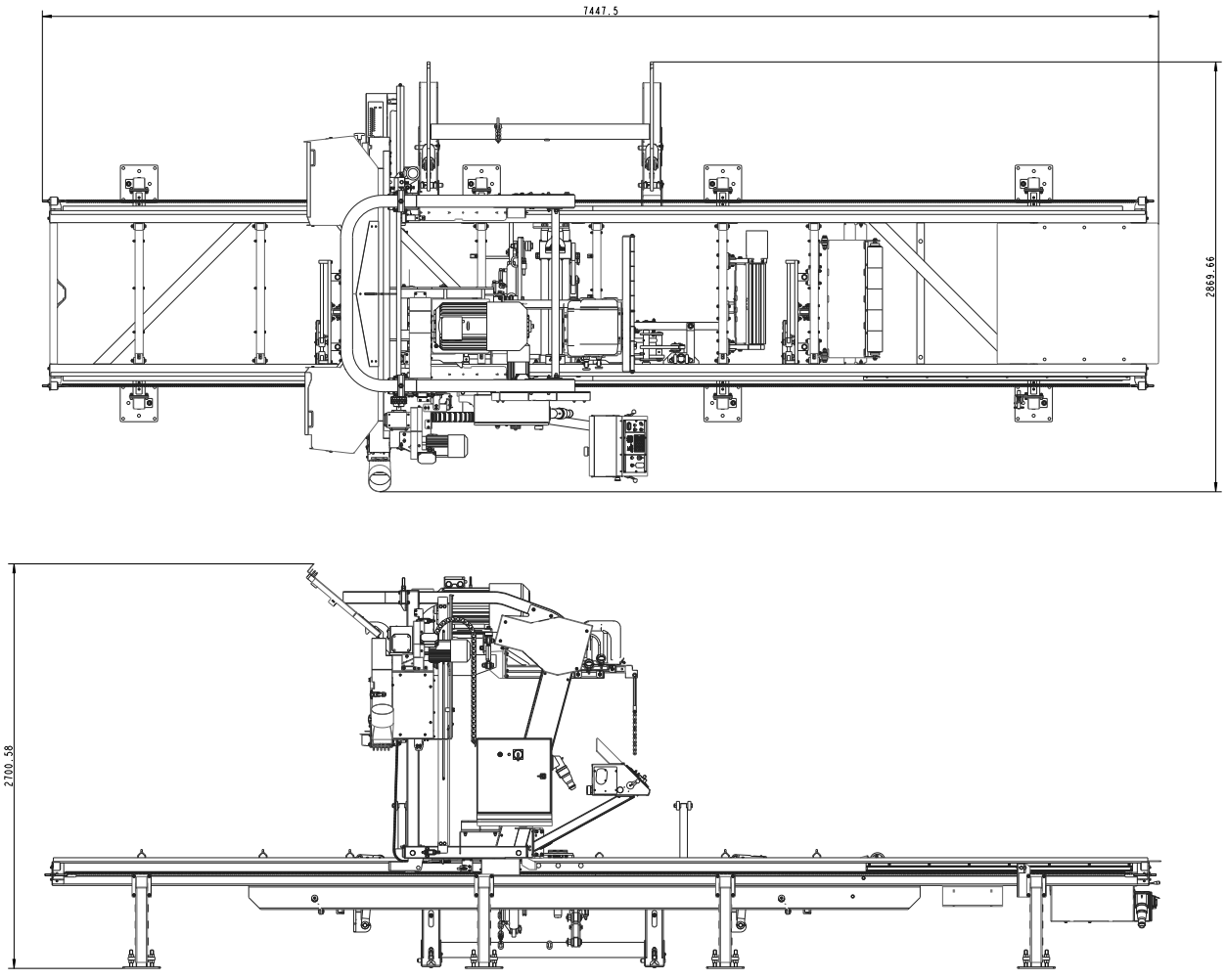
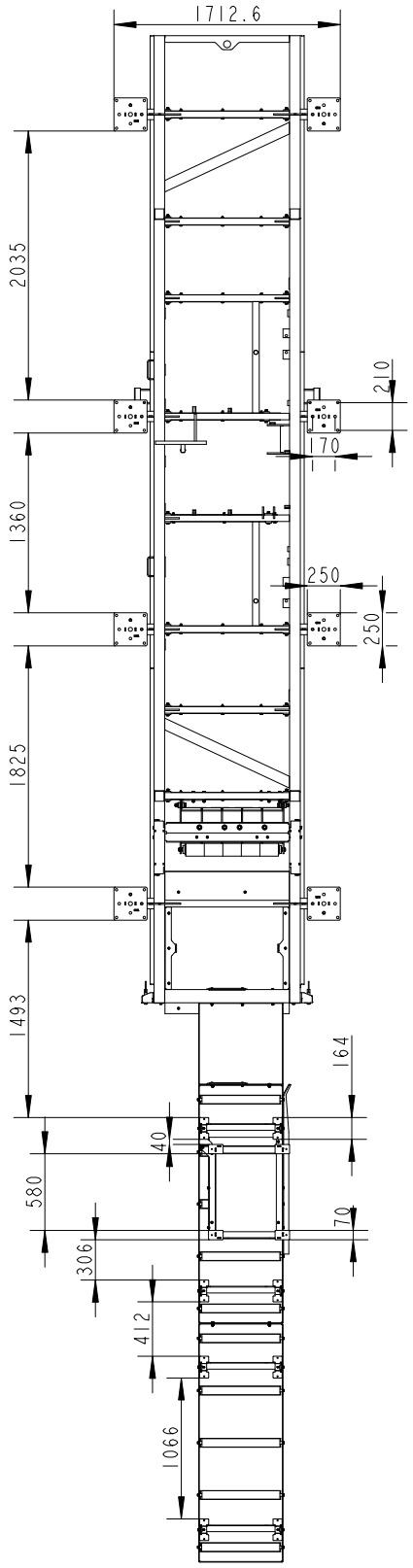


FIG. 1-1

See figure 1-2. Legs spacing on the LX450 sawmills and outfeed tables are shown below.

522710_OPER_014
522710_OPER_MANUAL



RYS. 1-2

See Figure 1-3. See the figure below for the operator's work-place.

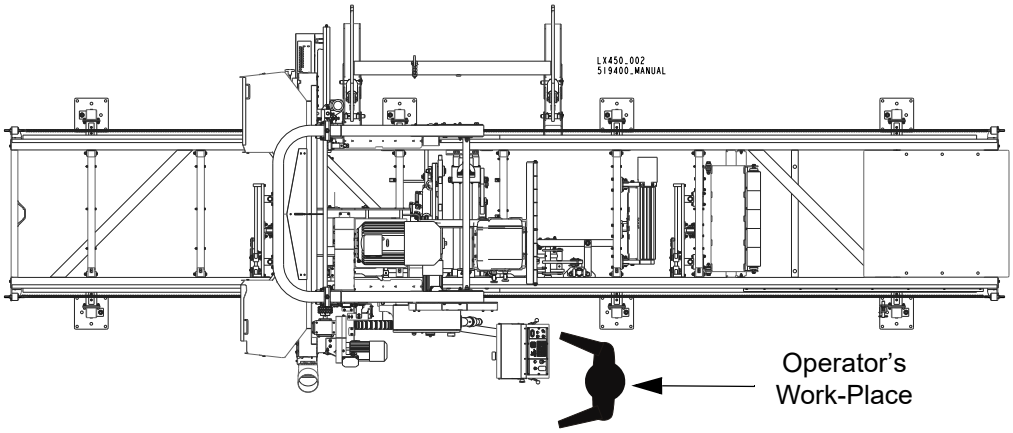


FIG. 1-3

1.14 Sawmill Components

See Figure 1-4. The major components of the LX450 sawmill are shown below.

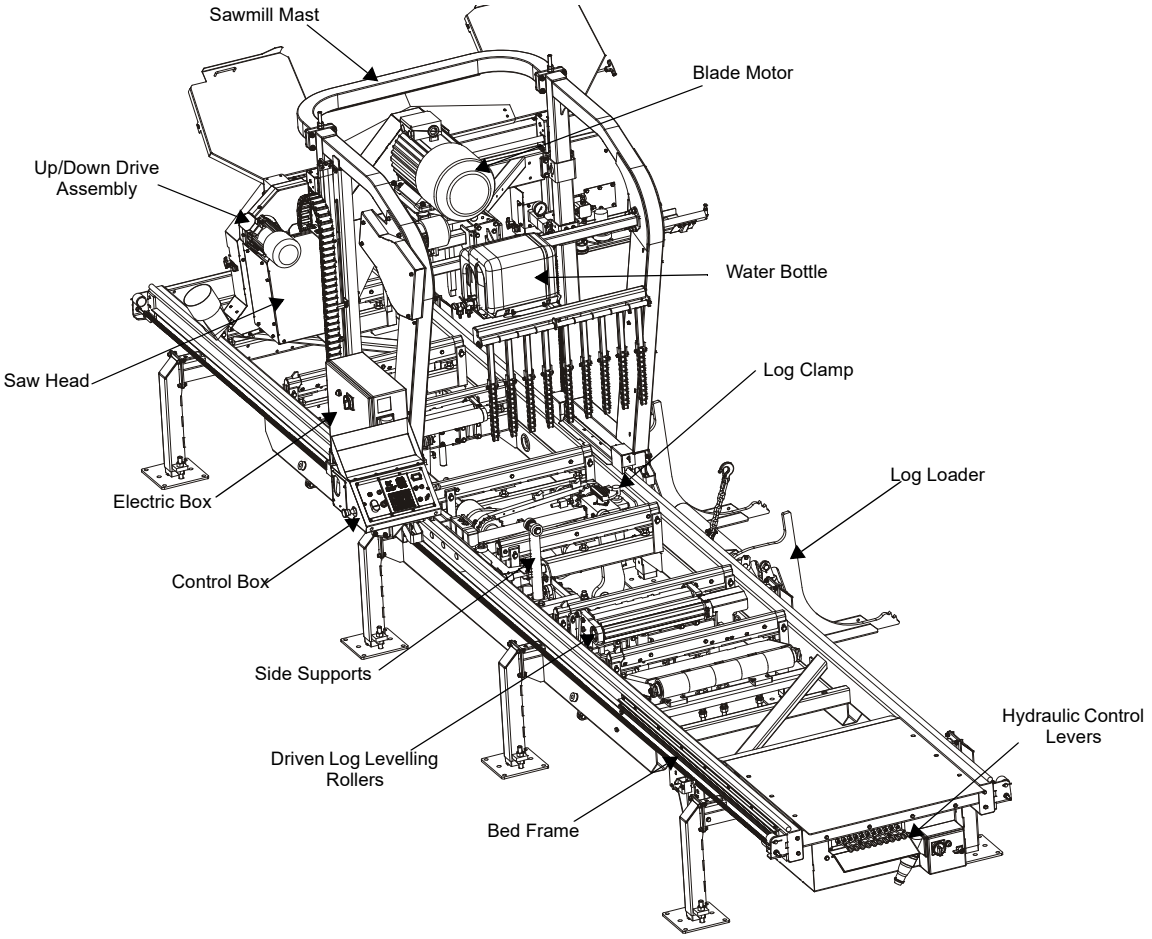


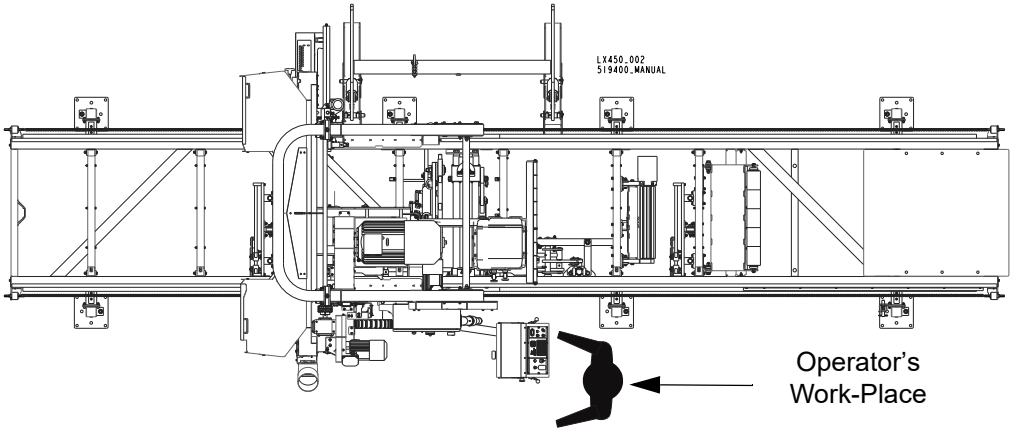
FIG. 1-4

SECTION 2 SETUP & OPERATION

2.1. Sawmill Setup

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

- Set up the sawmill on firm, level ground. Level the machine. Then secure the sawmill to the ground to prevent moving during operation. A concrete foundation (rated to support 31T/m^2 at each sawmill foot position) and 16mm anchored bolts are recommended.
- The sawmill must not be operated indoors without a sawdust extraction system connected and started.
- AC sawmills must not be used outdoors when it is raining or snowing. In such a case, they must be used and stored under roof or indoors.
- The sawmill can be operated in the temperature range of -15^o C to 40^o C.
- The intensity of light at the operator's work-place must be at least 300lx.
- The operator's work-place is shown in the figure below.



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

See Table 2-1.

3 Phases V	Fused Disconnect Switch	Recommended Wire Size
400 VAC	63 A	16 mm^2 maximum length: 15 m

TABLE 2-1

IMPORTANT! When starting the machine for the first time, check that the main motor rotation direction is as indicated by the arrow located on the motor body. 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.

WARNING! If the blade or drive belt breaks, wait until all moving sawmill components stop completely. Failure to do so may result in serious injury or death.

2.2 Sawmills with cable guide

See Figure 2-1. The figure below shows setup of the sawmill and the guiding rail columns.

Secure the columns to the ground using 16mm anchored bolts.

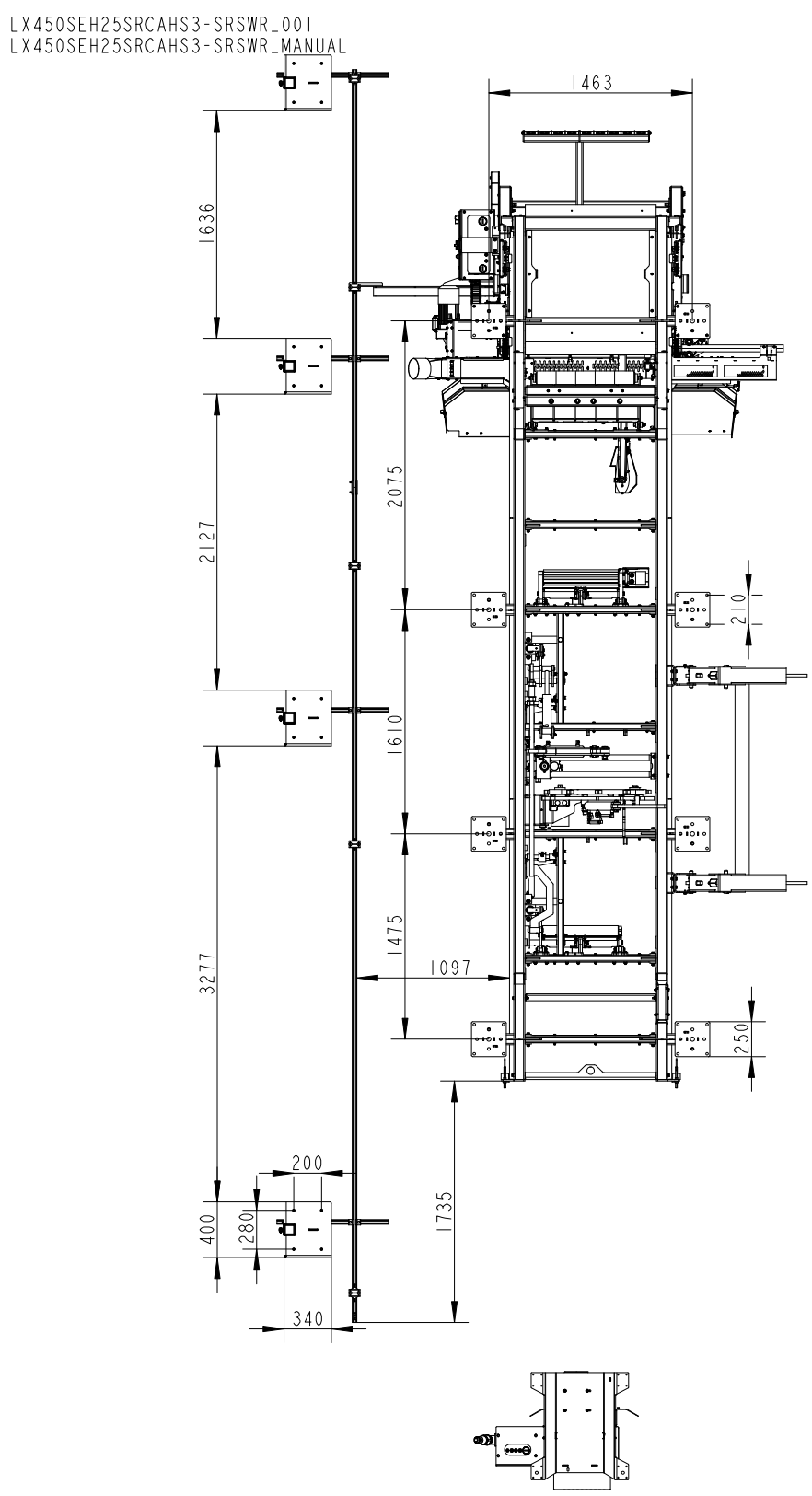


FIG. 2-1 LT450SRC

LX450MEH25SRCAHS3-SRSWR_001
LX450MEH25SRCAHS3-SRSWR_MANUAL

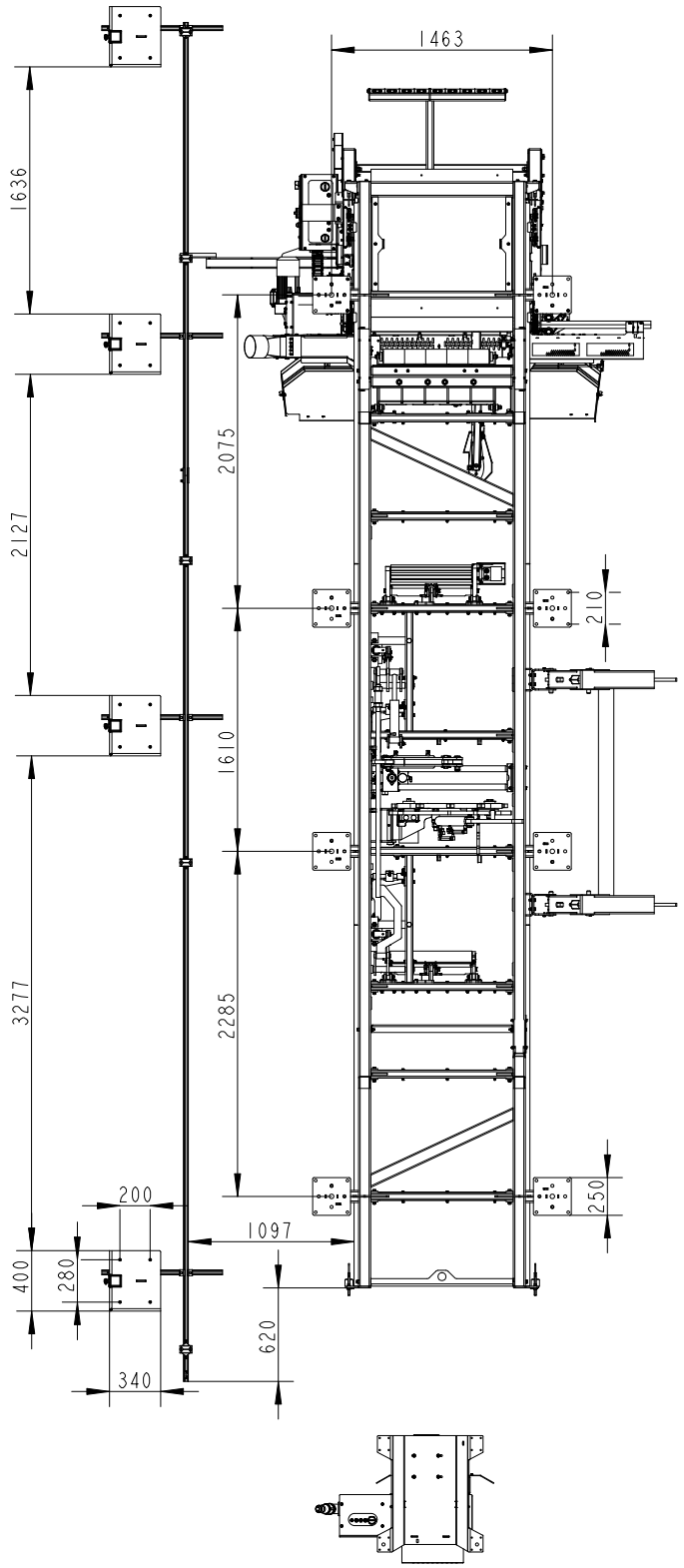


FIG. 2-2 LT450MRC

See Figure 2-2. The electrical wires should be installed on the guiding rail as shown below.

FIG. 2-3

See Figure 2-3. Install the rail bracket arm as shown below.

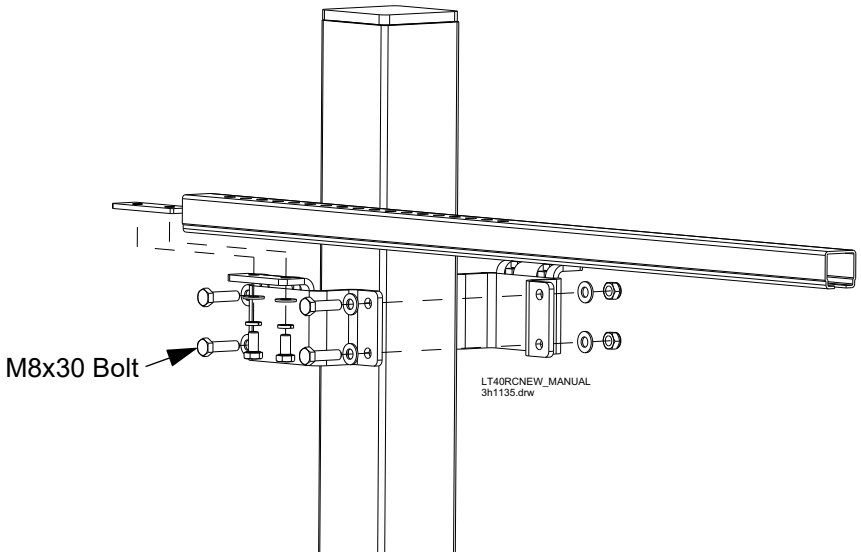


FIG. 2-4

See Figure 2-4. Install the guiding rail.

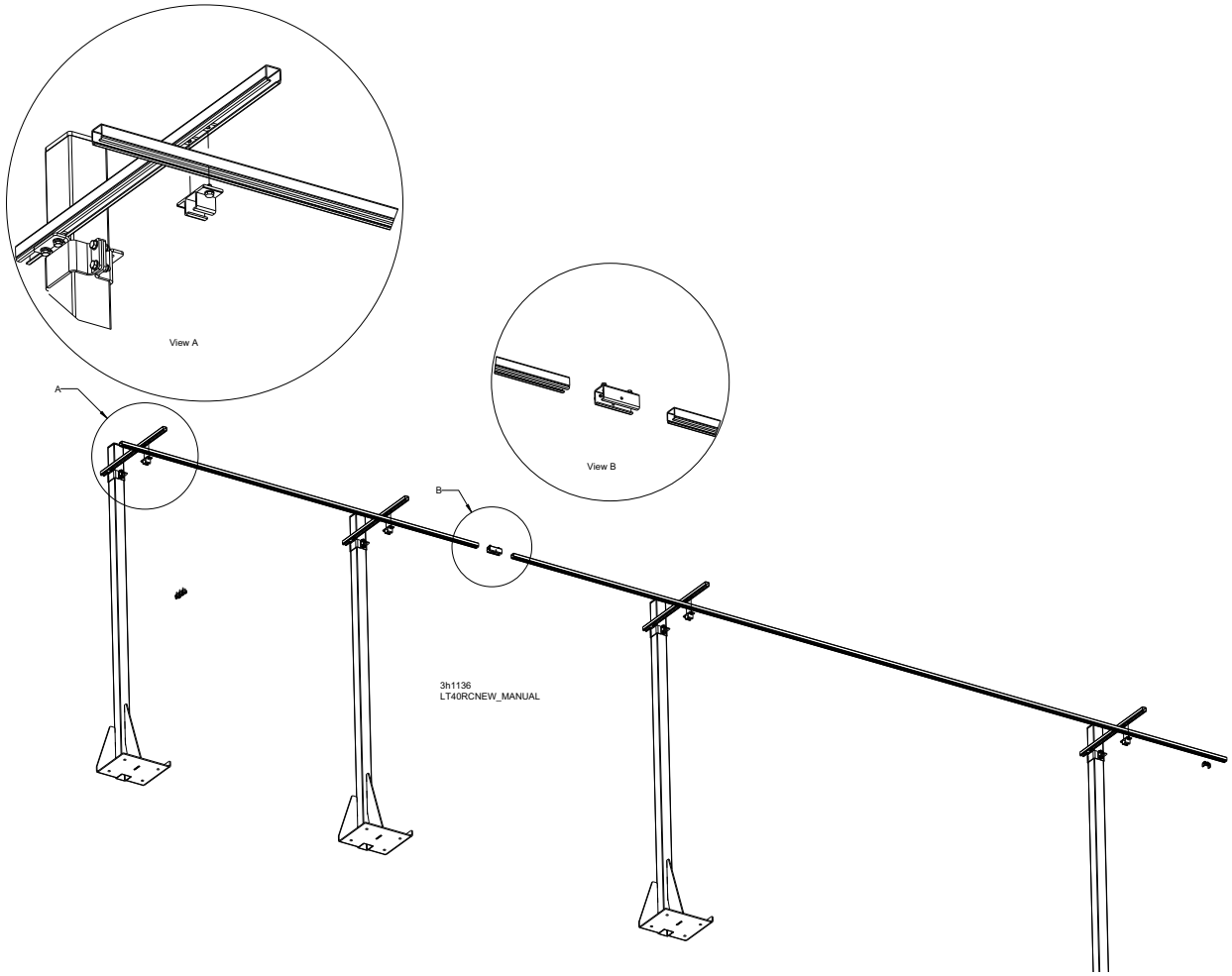


FIG. 2-5

See Figure 2-5.

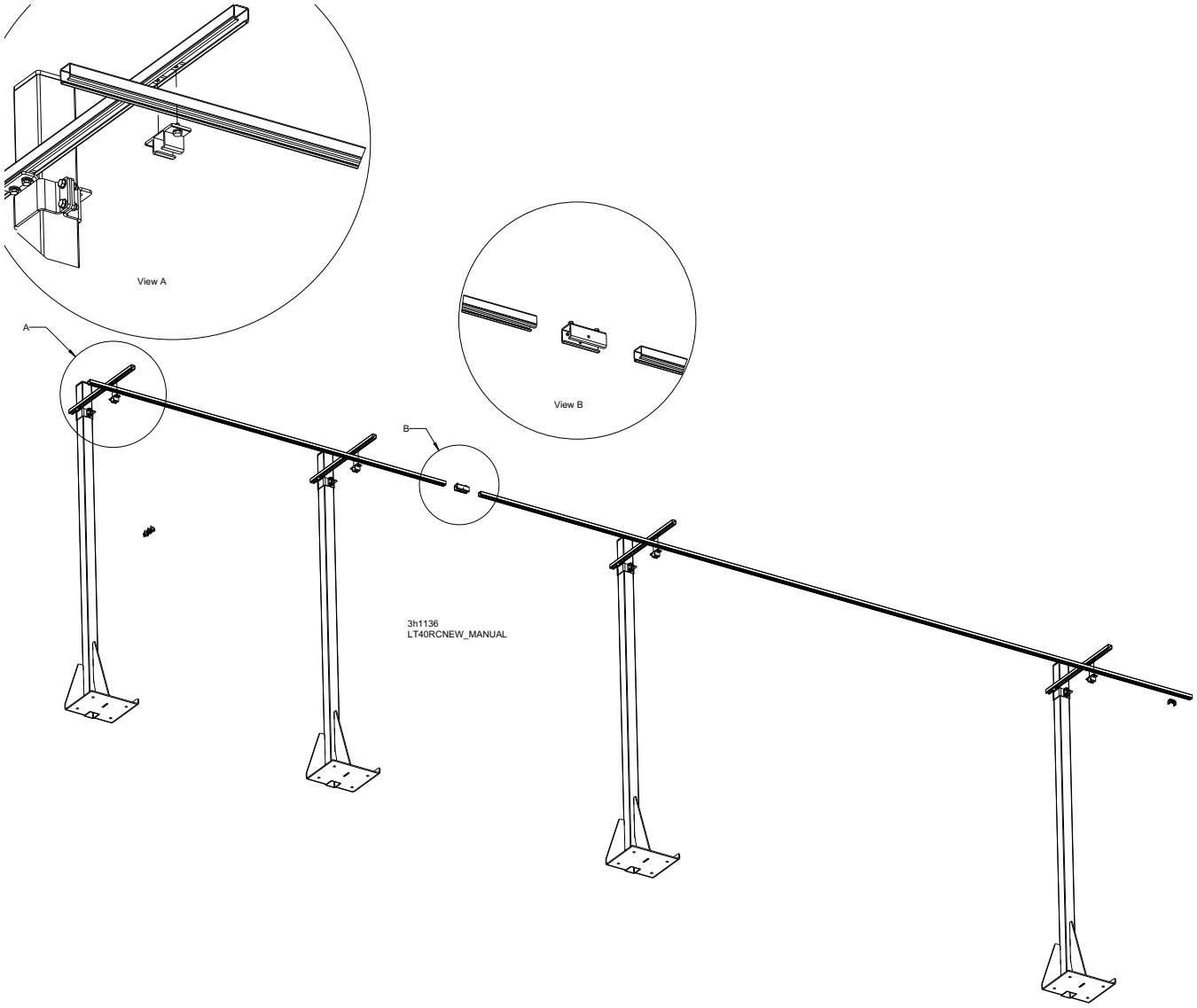


FIG. 2-6

See Figure 2-6. The figures below shows how the cable hanger should be set

- To remove the cable hanger from transport position unbolt hanger transport bracket. .

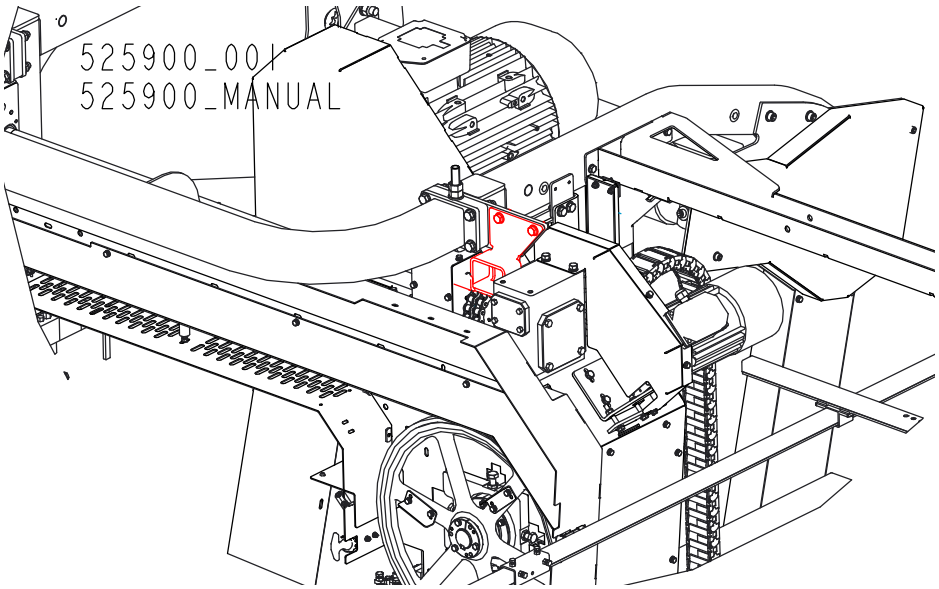


FIG. 2-7

See Figure 2-7.

- Mount the cable hanger to the mast using fasteners showed in the LX450 Parts List (#804) *See Section 11.4* .

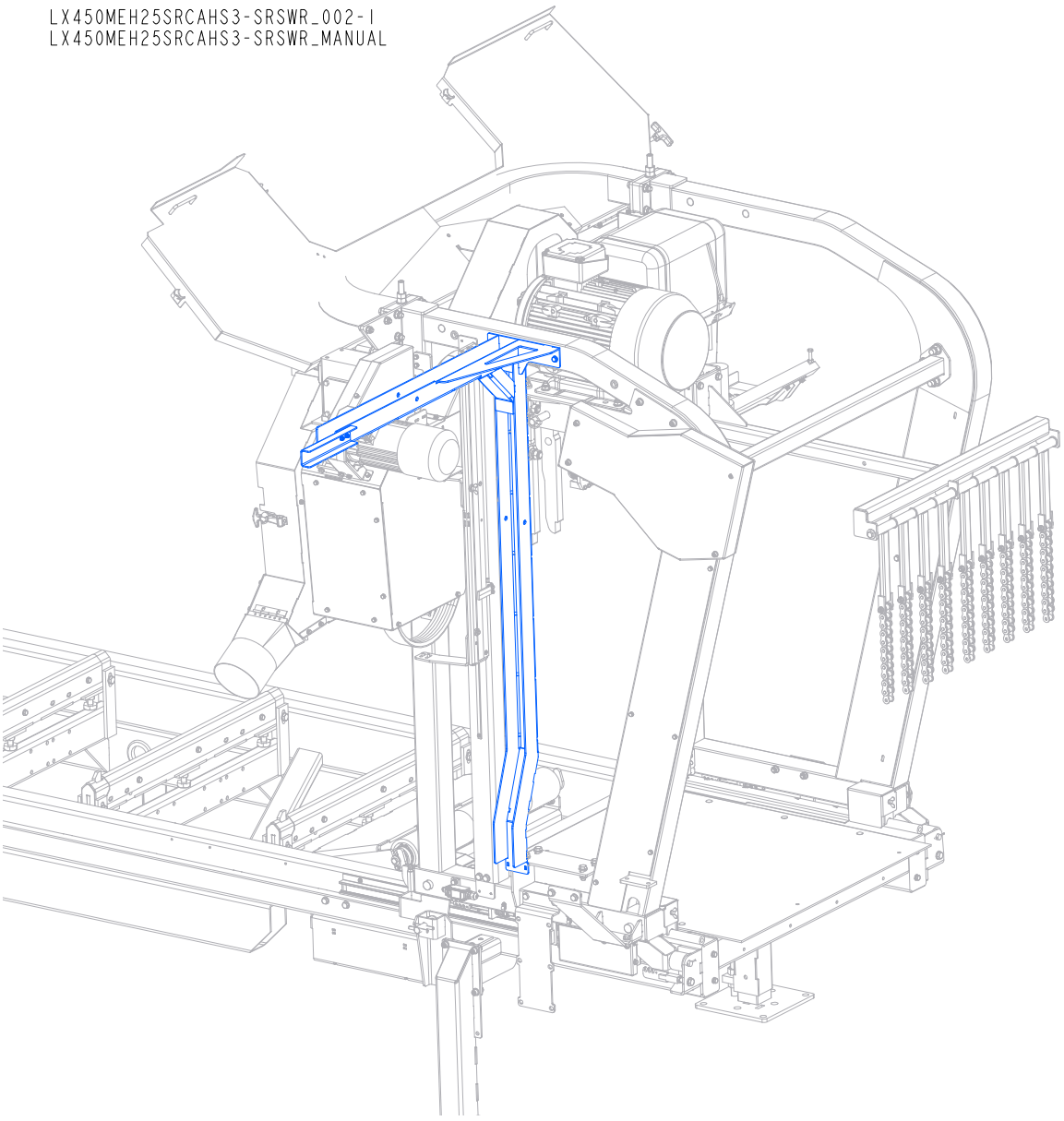


FIG. 2-8

2.3 Replacing the Blade

DANGER! Always disengage the blade and shut off the sawmill motor before changing the blade. Disconnect the power supply using the main switch. Failure to do so will result in serious injury.

WARNING! Always wear gloves and eye protection when handling bandsaw blades. Keep all other persons away from area when

coiling, uncoiling, carrying or changing a blade Changing blades is safest when done by one person! Failure to do so may result in serious injury.

WARNING! Make sure the blade housing is closed before using the up/down system. Failure to do so may result in serious injury.

Adjust the blade guide arm all the way open.

Open the blade housing cover. Turn the blade tension handle to release the blade tension until the blade is pulled in and is lying loose in the blade housing. Lift the blade out of the blade housing.

Install a new blade on the blade wheels. When installing the blade, make sure the teeth are pointing the correct direction. The teeth located between the blade guide assemblies should be pointing toward the sawdust chute.

Position 1 1/4” wide blades on the wheels so the gullet is 3 mm out from the front edge of the wheel. Position 1 1/2” wide blades on the wheels so the gullet is 4.5mm out from the front edge of the wheel.

Close the blade housing cover.

Next, turn the tension handle until the blade is tensioned correctly.

2.4 Tensioning the Blade

See Figure 2-8. Tension the blade by turning the tensioner handle clockwise until the tension gauge indicates the recommended tension. Check the blade tension occasionally when adjusting the cant control or while cutting. As the blade and belts heat up and stretch, the blade tension will

change. Also, ambient temperature changes can cause tension to change.

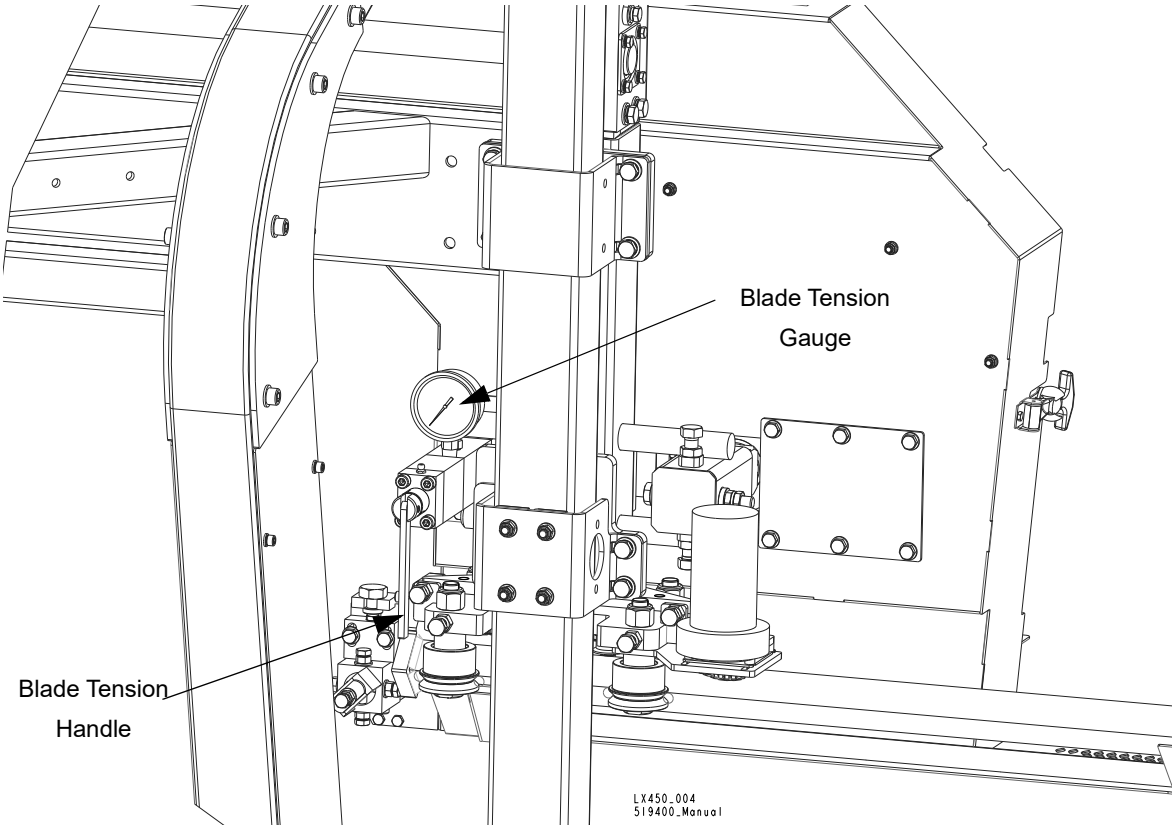


FIG. 2-9

See Table 2-1. The recommended tension ranges for different types of blades are shown below.

Type of Blade	Tension Range	
	PSI	bar
B375IH929	1800 - 2100 psi	124 - 145
B275IH1030	2100 - 2400 psi	145 - 165
B275IH741030	2100 - 2400 psi	145 - 165

TABLE 2-1

CAUTION! The blade tension should be released when the machine is not in use (e.g.: after a shift). There should be information on the sawmill that it is necessary to tension the blade before starting to use the machine again.

2.5 Tracking the Blade

1. Make sure the blade housing cover is closed and all persons are clear of the blade.
2. Start the motor for a moment until the blade positions itself on the wheels.

WARNING! Do not spin the blade wheels by hand. Spinning the blade wheels by hand may result in serious injury.

3. Turn off the motor and check the position of the blade on the blade wheels.

   See Figure 2-9. Position 1 1/4” wide blades on the wheels so the gullet is 3.0 mm (± 0,75 mm) out from the front edge of the wheel.

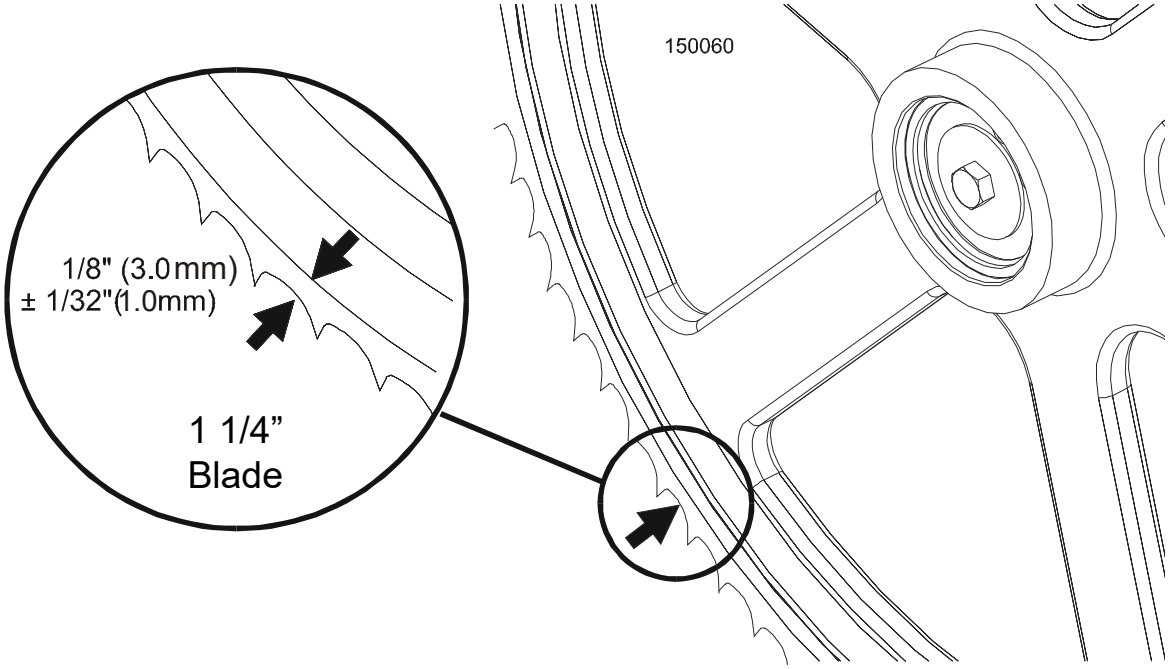


FIG. 2-10

See Figure 2-10. To adjust where the blade travels on the blade wheels, use cant control bolt.

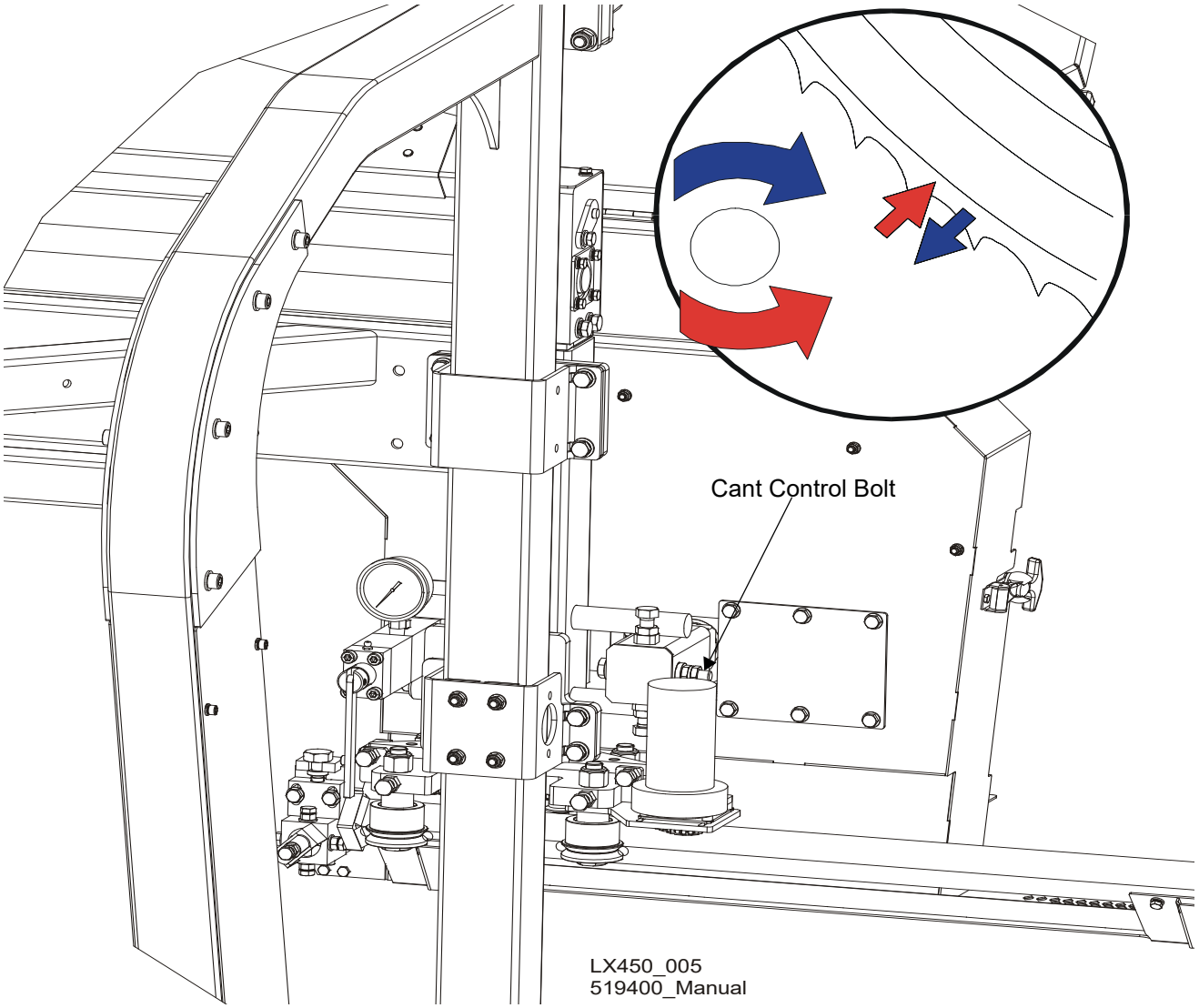


FIG. 2-11

If the blade is too far out, back the blade onto the wheel by turning the cant control bolt counterclockwise. If the bade is too far in, turn the cant control bolt clockwise until the gullet of the blade is the correct distance from the front edge of the wheel.

4. Adjust the blade tension if necessary to compensate for any changes that may have occurred while adjusting the cant control.

5. Close the blade housing cover.

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

IMPORTANT! After aligning the blade on the wheels, always double-check the blade guide spacing and location. (See *SECTION 5* for more information.)

2.6 Starting the Motor

See the motor manufacturer's manual supplied with your sawmill for detailed starting and operating instructions.

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

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

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

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

2.7 Hydraulic Control Operation

The hydraulic control levers become operational when the main switch located on the starter box is in the "1" position and the contact at the bottom of the saw head touches the power strip on the main bed frame tube (a 24V control voltage is delivered). The power strip is located on the left side of the frame tube.

Power supply must be connected to the electric box located on the hydraulic control box and the main switch on this electric box must be turned to the "1" position (the white light marked “voltage” is on).

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

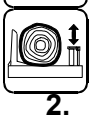
The hydraulic unit turns on automatically after raising or lowering any of the control levers. After pushing the control lever to the neutral position, the hydraulic unit drive still works for about 5 seconds. It prevents the hydraulic pump motor from frequently starting and overheating.

After taking all of the above steps, if the hydraulic system still does not work properly, check if the main switch on the electric box (located on the hydraulic box) is in the "1" position (the white light marked “voltage” is on). Next, make sure that the emergency stop button on the left side of the control box is not turned on. You can also change the phase sequence by adjusting (with a screwdriver) the phase inverter located in the socket on the left side of the electric box mounted on the hydraulic box.

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.

1. Move the clamp out and down so it will not get in the way of logs being loaded onto the bed.


Lower the clamp in/out lever to move the clamp out toward the loading side of the sawmill.


Lower the clamp up/down lever to lower the clamp below the bed level.

2. Using the log loader lever, completely lower the log loader arms.


The chain securing the log loader arm to the turner arm will be tight. Raise the turner arm until there is slack in the chain.

4. Unchain the loader arm from the turner arm.

5. Lower the turner lever to lower the turner arm below the bed level. Notice that after the turner arm is all the way down, the side support braces will begin to lower. Release the turner lever after the turner arm is lowered, but before the side supports begin to lower. This stops the log being loaded from damaging the turner and/or falling off the side of the sawmill.

6. When raising the turner lever, the side supports rise first.

7. Manually lower the log loader so the legs rest on the ground.

CAUTION! Be careful when manually lowering the log loader. Do not drop the loader onto the ground or perform any action which might break the velocity fuse valves on the loader cylinders. These valves control hydraulic flow and are necessary to prevent the loading arm from collapsing during use.

8. Lower the loader lever to lower the loading arm as far as it will go. Logs must be rolled onto the loading arm one at a time for loading onto the bed of the sawmill.

9. The front and rear toe boards should be below the bed level. Once a tapered log has been loaded, the front or rear end of the log may be lifted to parallel the heart of the log to the path of the blade.

The front toe board is raised by lifting the front toe board lever up. The rear toe board is raised by lifting the rear toe board lever up. Once a flat has been made and the log is ready to be turned, push the appropriate toe board lever down to lower either toe board until it falls below the level of the bed.

2.8 Loading, Turning and Clamping Logs

CAUTION! Before loading a log, make sure that all sawmill bed assemblies (such as: clamp, side supports, etc.) are adjusted out of the path of logs being loaded onto the bed. Also be sure the cutting head is moved far enough forward so the log does not hit it. Failure to do so may result in machine damage.

To load logs:

1. Move a log up to the loading arms.
2. Roll the log onto the loader so that it is approximately centered with the sawmill bed. The log turner will operate much easier if the log is centered on the sawmill bed.
3. Raise the loader lever to raise the log onto the sawmill bed. Simply let the loader rise until the log rolls onto the mill bed.
4. Lower the loading arms. Leave the loading arm about halfway up while squaring the log. This will stop the log from rolling off the side of the mill.

WARNING! Always leave loading arms halfway up while a log is on the sawmill bed. Failure to do so may result in serious injury or death.

NOTE: Logs also may be loaded onto the sawmill with a tractor or other equipment specifically designed for that purpose.

5. Raise the clamp up to prevent the log from rolling of the bed.
6. Raise the clamp up/down lever.

To Turn Logs:

1. Raise the turner lever to engage the log turner arm. Let the arm rise until it touches the log and starts to turn it.
2. Spin the log against the side supports until it is turned the way you want it for the first cut. If you want to turn the log more, do the following steps.
3. Engage the clamp by raising the clamp in/out lever. Clamp the log against the side supports.
4. Lower the turner lever to lower the turner arm below the log.

Raise the turner arm to get a new bite on the log.

6. Disengage the clamp.

7. The log can be turned now. Repeat steps 4 through 7 until the log is turned as desired.

You may opt to use the clamp to turn boards or a cant. To turn a cant using the clamp:

1. Lower the clamp up/down lever to lower the clamp below bed level.
2. Using the clamp in/out lever, move the clamp in, beneath the edge of the cant.
3. Raise the clamp up/down lever to raise the clamp and flip the cant.

To Clamp Logs:

1. Raise the clamp in/out lever and clamp the log against the side supports.

2. Lower the turner lever until the turner arm falls below the bed.
3. When the turner arm is lowered all the way, the side supports will begin to lower. Back the clamp off slightly, and let the side supports come down until they are positioned below the level of your first few cuts.

To Level A Tapered Log:

Use the toe board to raise either end of a tapered log, if desired.

Raise the appropriate lever to raise the front or rear toe board until the heart of the log measures the same distance from the bed rails at each end of the log.

2.9 Up/Down Operation

1. Install a blade, if needed, and check for correct tension (*See Section 2.5*).

2. Set the saw head to the desired height (the blade height scale shows the height of the blade above the bed rails).

   See Figure 2-11. The up/down switch is located on the right side of the control box. Push the switch up to raise the cutting head; push the switch down to lower the cutting head. Hold the switch in position until the cutting head reaches the desired height, then release.

   The up/down switch is designed to return to the neutral or "off" position when released. If the switch remains engaged, manually move the switch to the neutral or "off" position. Repair the up/down drum switch (*See Section 3.5*).

   CAUTION! Always make sure the up/down switch moves to the neutral or “off” position when released to ensure that the saw head stops moving. Failure to do so may result in machine damage.

   CAUTION! DO NOT try to force the saw head above the 35" (88 cm) mark or below the 1" (2.54 cm) mark. Damage to the up/down system may result.

2.10 Blade Guide Arm Operation

1. Look down the length of the log to see its maximum diameter (width). The outer blade guide should be adjusted to clear the widest section of the log by less than 1" (25.4 mm).

2. Use the blade guide switch on the control panel to adjust the outer blade guide as necessary. Push the switch to the left to move the arm in. Push the switch to the right to move the arm out.

   See Figure 2-12.

3. Use the blade guide switch to readjust the outer blade guide as you are cutting in order to keep the guide within 1" (2.5 cm) of the log. Be sure to adjust the arm back out before returning the saw head.

2.11 Power Feed Operation

See Figure 2-13. The power feed system moves the saw head forward and backward by using two switches on the control panel.

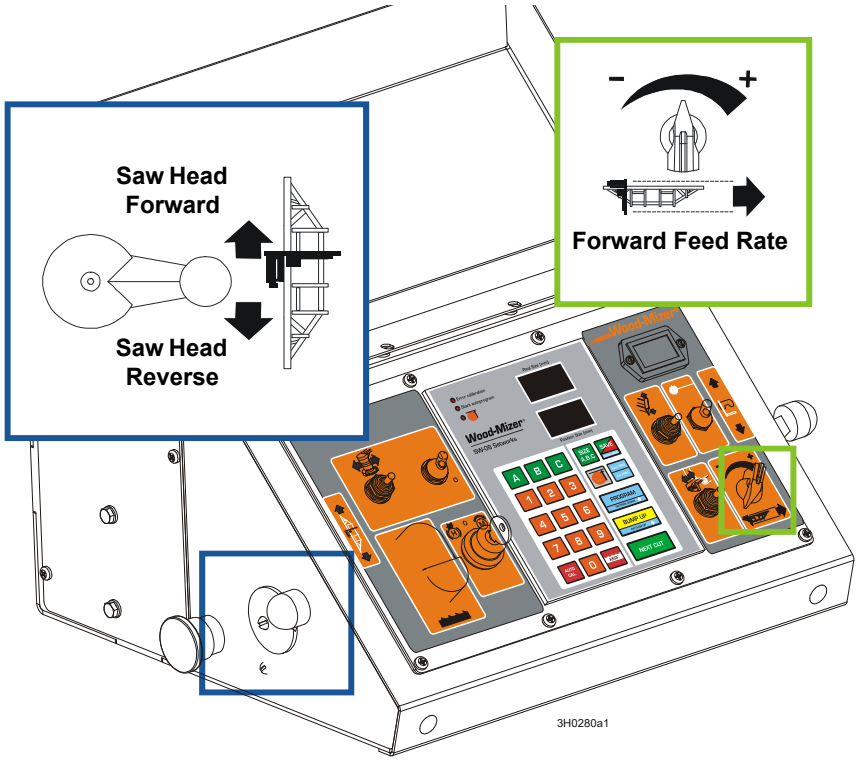


FIG. 2-1

Forward Feed Rate

The feed rate switch controls the speed at which the saw head travels forward. Turn the switch clockwise to increase speed. Turn it counterclockwise to reduce speed.

Forward/Reverse Saw Head Movement

The power feed switch controls the direction in which the saw head travels. Turn the forward/reverse switch upward to move the saw head forward. Turn the switch down to move the saw head backward.

The middle position (shown in the figure) is the neutral position. The power feed switch is designed to return to the neutral or "off" position when released. If the switch remains engaged, manually move it to the neutral or "off" position. Repair the drum switch (*See Section 3.5*).

WARNING! Be sure the power feed switch is in the neutral position before turning the key switch to the #2 or #1 position. This prevents accidental carriage movement which may cause serious injury or death.

Using the Feed Rate Switch

HINT: To get a straight cut in the first part of the log, feed the blade into the log at a slow speed. This stops the blade from flexing and dipping up or down. Turn the feed rate switch to a slow speed until the whole width of the blade has entered the cut. Then use the feed rate switch to increase the feed rate as desired. Maximum feed rate varies with width and hardness of the wood. Over-feeding results in motor and blade wear, and also produces a wavy cut.

Stop the saw head at the end of the cut by turning the feed rate switch counterclockwise until the saw head stops moving.

2. Push the STOP button to stop the blade. Remove the board from the top of the log.

CAUTION! Be sure to stop the blade when returning the carriage. 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.

3. Return the saw head to the front of the sawmill by turning the power feed switch down. The power feed motor will bypass the feed rate switch and the saw head will automatically return at the fastest speed available. **Always disengage the blade before returning the saw head for the next cut.**

4. Make sure that the blade does not catch on the end of the log. Raise the saw head slightly to make sure the blade clears the log when returned. **HINT:** Try to stop the blade while the heel of the blade is still on the log. Then bring the saw head back without adjusting the blade up. This lets you keep the blade at the current height setting so you can make the next blade height adjustment more quickly.

DANGER! Stay clear of the area between the trailer axle and saw head. Failure to do so will result in serious injury.

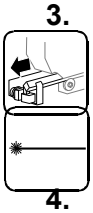
2.12 Cutting the Log

The following steps guide you through normal operation of the Wood-Mizer sawmill.

1. Once the log is placed where you want it and clamped firmly, turn the key switch to the #1 position.

2. Use the blade height scale to determine where to make your first cut (*See Section 2.17*). Set the blade to the desired height with the up/down switch. Make sure that the blade will clear both side supports and the clamp.

3. Adjust the outer blade guide to clear the widest section of the log by moving the blade guide switch.

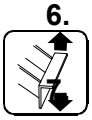


NOTE: An optional laser sight is available to help determine where the blade will travel through the log. See the laser sight manual for detailed operating instructions.

4. Make sure all covers and guards are in place. Push the START button to start the blade spinning.

5. Start the water lube if necessary to prevent sap buildup on the blade. *See Section 2.19*.

6. If you want to use the board return function, push the toggle switch on the control panel down.



7. Feed the blade into the log slowly *(See Section 2.11)*. Once the blade completely enters the log, increase the feed rate as desired. Always try to cut at the fastest speed you can while keeping an accurate cut. Cutting too slowly will waste blade life and lower production!

8. As you get to the end of the log, slow down the feed rate. When the teeth exit the end of the log, turn the feed rate all the way down. Push te STOP button to stop the motor. Remove the slab that you have just cut from the log.

9. Use the power feed switch to return the saw head to the front of the sawmill. Always disengage the blade before returning the saw head for the next cut.

10. Repeat until the first side of the log is cut as desired. Set aside the usable flitches (boards with bark on one or both sides). You can edge them on the sawmill later.

11. Lower the toe boards, if they were used. Use the hydraulic levers to release the clamp and engage the log turner. Turn the log 90 or 180 degrees. Make sure the flat on the log is placed flat against side supports if turned 90 degrees. Make sure it is placed on bed rails if turned 180 degrees. If the log was turned 90 degrees and you are using toe boards to compensate for taper in the log, raise the front or rear toe board again on the second side of the log until the heart is parallel with the bed.

12. Repeat the steps used to cut the first side of the log until the log is square. Cut boards from the remaining cant by adjusting the blade height for the thickness of boards that you want.

Example: Remember that the blade cuts a 1.5 - 3 mm wide kerf. If you want to get 25 mm thick boards, lower the carriage 27 - 29 mm for each board.

2.13 Edging

The following steps guide you through edging boards on the Wood-Mizer sawmill.

1. Raise the side supports to 1/2 height of the flitches or boards that need to be edged.
2. Stack the flitches on edges against the side supports.
3. Clamp the flitches against the side supports halfway up the flitch height. (Wider flitches should be placed to the clamp side. When they are edged, flip them over to edge the second side without having to pull them from the middle of the stack.)
4. Adjust the blade height to edge a few of the widest boards.
5. Loosen the clamp and turn the edged boards over to edge the other side.
6. Repeat the steps 2-4.
7. Loosen the clamp and remove the boards that have good clean edges on both sides. Clamp the remaining flitches and repeat the steps 2-5.

In order to achieve maximum production rates, it may be desirable to leave the blade engaged when returning the saw head. (Normal operation procedures recommend disengaging the blade before returning the saw head for maximum blade life and fuel economy.)

DANGER! If leaving the blade engaged for maximum production rates, make sure the off-bearer stays out of the path of the blade. Failure to do so will result in serious injury or death.

CAUTION! If you choose to leave the blade engaged; raise the blade to clear the log before returning the saw head. Failure to do so may cause damage to the blade and/or sawmill.

2.14 Blade Drive Operation

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

Be sure the blade housing cover is closed and secured before starting the motor. Use the rubber latches to fasten the blade housing cover shut. If the blade housing cover is not closed and secured, the safety switch located on it interrupts the ignition circuit and the motor cannot be started. If during sawmill operation the cover is open, the motor will be stopped.

1. Clear any loose objects from the area of the blade, motor, and drive belt.
2. Make sure the clamps and side supports are positioned low enough for the blade to pass over

them. Make sure the log is clamped securely.

3. Start the motor as instructed in the motor manual.

See Figure 2-14. To engage the blade, perform the following steps:

- Turn the main switch on the electric box to the ON position,

- Press AND HOLD the green safety button on the control box.

NOTE: Keep the safety button pressed all the time the blade is driven. If the safety button is released, the motor stops and it needs to be restarted.

- Press the START button on the control box to start the motor.

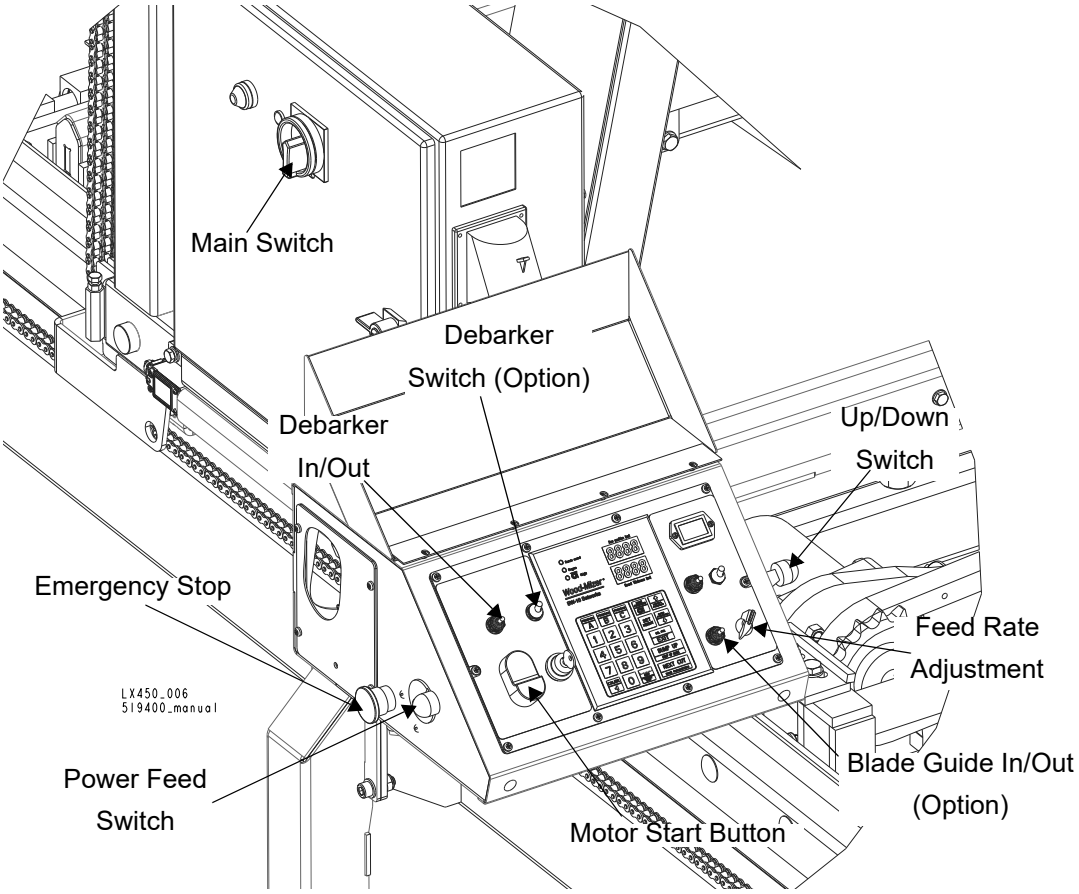


FIG. 2-1

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

2.15 Power Feed Operation

HINT: To get a straight cut in the first part of the board, feed the blade into the log at a slow speed. This stops the blade from flexing and dipping up or down. Use a slow speed until the whole width of the blade has entered the cut. Then increase the feed rate as desired. Maximum feed rate varies with width and hardness of the wood. Over-feeding results in blade and drive belt wear and also produces a wavy cut.

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.

HINT: Try to stop the blade while the heel of the blade is still in the log. Then bring the saw head back without adjusting the blade up. This lets you keep the blade at the current height setting so you can make the next blade height adjustment more quickly.

The power feed system includes an electric motor with a gear which moves the saw head with a chain. The speed at which the saw head travels forward is adjusted with the feed rate switch.

See Figure 2-15.

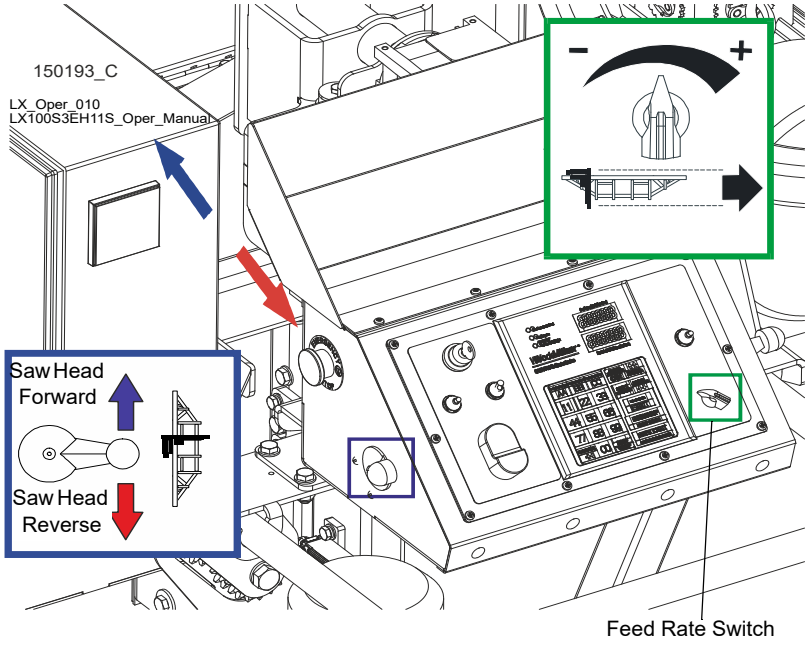


FIG. 2-2

Feed Rate Adjustment

The feed rate switch controls the speed at which the saw head travels forward. Turn the switch right to increase the speed; turn it left to reduce the speed. The speed at which the saw head returns is constant.

Saw Head Movement Direction

.The power feed switch controls the direction in which the saw head travels. Turn the switch up to move the saw head forward. Turn the switch down to move the saw head backward.

NOTE: Always disengage the blade before returning the saw head and raise the saw head slightly to make sure the blade clears the log.

Feed Rate

HINT: To get a straight cut in the first part of the log, feed the blade into the log at a slow speed. This stops the blade from flexing and dipping up or down. Turn the feed rate switch to a slow speed until the whole width of the blade has entered the cut. Then use the feed rate switch to increase the feed rate as desired. Maximum feed rate varies with width and hardness of the wood. Over-feeding results in motor and blade wear, and also produces a wavy cut.

1. Stop the saw head at the end of the cut by turning the feed rate switch counterclockwise until the saw head stops moving.

2. Using the STOP button, disengage the blade. This will stop the blade. Remove the board from the log.

2.16 Cutting the Log

The following steps guide you through normal operation of the Wood-Mizer sawmill.

1. Once the log is placed where you want it and clamped firmly, position the blade close to the end of the log.

2. Use the blade height scale to determine where to make the first cut. (*See Section 2.17*). Set the blade to the desired height with the up/down buttons. Make sure that the blade will clear all side supports and clamps. Adjust the outer blade guide properly. (See Section 3.8.)

3. Make sure all covers and guards are in place and secured. Start the motor.

4. Start the water lube if necessary to prevent sap building on the blade (*See Section 2.18*).

5. Move the saw head forward *(See Section 2.15)*. Feed the blade into the log slowly. Always try to cut at the fastest speed you can while keeping an accurate cut. Cutting too slowly will waste blade life and lower production.

6. As you get to the end of the log, slow down the feed rate. When the teeth exit the end of the log, release the emergency stop button on the control box. Remove the slab which were just cut from the log.

7. Return the saw head to the front of the mill. Always disengage the blade before returning the saw head for the next cut.

8. Repeat until the first side of the log is cut as desired. Set aside the usable flitches (boards with bark on one or both sides). They can be edged on the sawmill later.

9. Remove the leveling wedge if it was used. Release the clamps and turn the log 90 or 180 degrees. Make sure the flat on the log is placed flat against the side supports if turned 90 degrees. Make sure it is placed on the bed rails if turned 180 degrees. If the log was turned 90 degrees and has to be leveled on the bed rails, see Section 3.6 for more informations.

10. Repeat the steps above until the log is square. Then cut boards from the cant.

    Example: Remember that the blade cuts a 1/16 - 1/8” (1.6 - 3.2mm) wide kerf. If you want 1” (25 mm) thick boards, lower the saw head 1 1/16 - 1 1/8” (27 - 29 mm) for each board.

2.17 Blade Height Scale

See Figure 2-16. The blade height scale is mounted on the vertical mast. It includes:

- a blade height indicator,
- a centimeter scale (or a quarter inch scale).

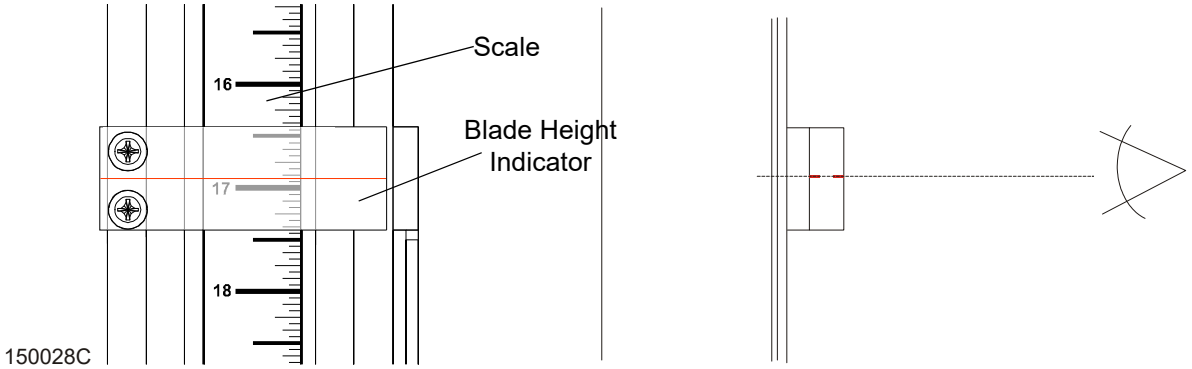


FIG. 2-3

Blade Height Indicator

The blade height indicator has two horizontal, red lines on both sides. Readings should be taken with eyes level with the indicator, when the two red lines are in line. This will allow to avoid the parallax error (different scale readings depending on the angle of vision).

Scale

The horizontal red line on the blade height indicator shows how many centimeters the bottom of the blade is above the bed of the mill. If you know the height of your blade at each cut, you can determine the thickness of lumber you are sawing.

Example: You want to cut 1” (25 mm) random width boards from a log. Position the blade for the first cut. Move the saw head to an even measurement on the scale. Make a trim cut. Return the

saw head for the second cut and lower it 29mm below the original measurement (the extra 3 mm allows for saw kerf and shrinkage of the lumber).

The yellow area on the scale identifies where the blade could encounter a side support or the log clamp. Make sure that these two bed components will be below the blade level during sawing.

Quarter Scale

See Table 2-1. The quarter scales contains four sets of marks. Each set represents a specific lumber thickness. Saw kerf and shrinkage allowance are included, but actual board thickness will vary slightly depending on blade thickness and tooth set.

To choose which scale to use, determine what finished thickness you want to end up with. The Grade Hardwood Quarter Scale provides thicker finished boards usually required by commercial buyers. The Standard Quarter Scale allows for kerf and shrinkage of finished boards suitable for most custom applications. Always check with your customer before you saw to determine what actual finished thickness is required.

Standard Quarter Scale	
Scale	**Actual Board Thickness**
4/4	1" (25 mm)
5/4	32 mm (1 1/4")
6/4	38 mm (1 1/2")
8/4	2" (51 mm)

Grade Hardwood Quarter Scale	
Scale	**Actual Board Thickness**
4/4	29 mm (1 1/8")
5/4	35 mm (1 3/8")
6/4	41 mm (1 5/8")
8/4	54 mm (2 1/8")

TABLE 2-1

To use the quarter scale, look at the blade height indicator. **Example:** You want to cut 1" (25 mm) random width boards from a log. Position the blade for the first cut. Adjust the quarter scale so a 4/4 mark is aligned with the red line on the indicator. Make a trim cut. Return the saw head for the second cut. Now, instead of having to measure down 1 1/8" (29 mm) on the inch scale, you can simply lower the blade so the indicator is aligned with the next 4/4 mark on the quarter scale. Turn the log 90 degrees and repeat.

2.18 Water Lube Operation

The Water Lube System keeps the blade clean. Water flows from a 5-gallon (18.9 liter) bottle through a hose to the blade guide where the blade enters the log. A valve in the bottle cap controls the amount of water flow.

See Figure 2-17. Open the valve on the water bottle to start water flow. A stream of water flows

only when the blade is engaged.

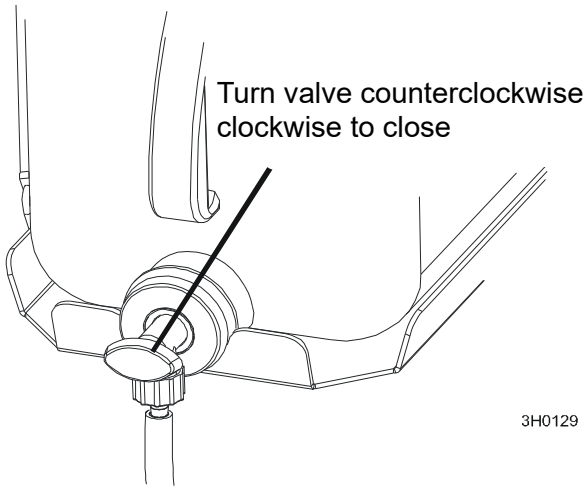


FIG. 2-4

Use just enough water to keep the blade clean. This saves water, and lowers the risk of staining the boards with water. Usual flow will be 1-2 gallons (3.8-7.6 liters) per hour. A squirt of liquid dishwashing detergent in the water bottle will help clean the blade when cutting wood with a high sap content. Not all types of wood require the use of the Water Lube System.

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

Before removing the blade, engage the clutch/brake lever (DC sawmills). Let the blade spin with water running on it for about 15 seconds. This will clean the blade of sap buildup. Wipe the blade dry with a rag before storing or sharpening.

If you are sawing in freezing temperatures, remove the water lube bottle from the sawmill when done sawing and store it in a warm place. Blow any remaining water from the water lube hose.

2.19 Transporting the Sawmill

The assembled sawmill can be transported in an appropriately equipped pickup truck. Use a forklift or an overhead crane to load the machine into the truck.

WARNING! Keep all persons away from the sawmill while loading and unloading the machine. Failure to do so may result in serious injury or death.

1. Secure the sawmill to the truck bed to prevent the sawmill from shifting while it is being transported.

2.20 Board Removal Bumper Installation (Optional Equipment)

Using the mounting hardware (A), install the board removal bumper to the sawmill frame.

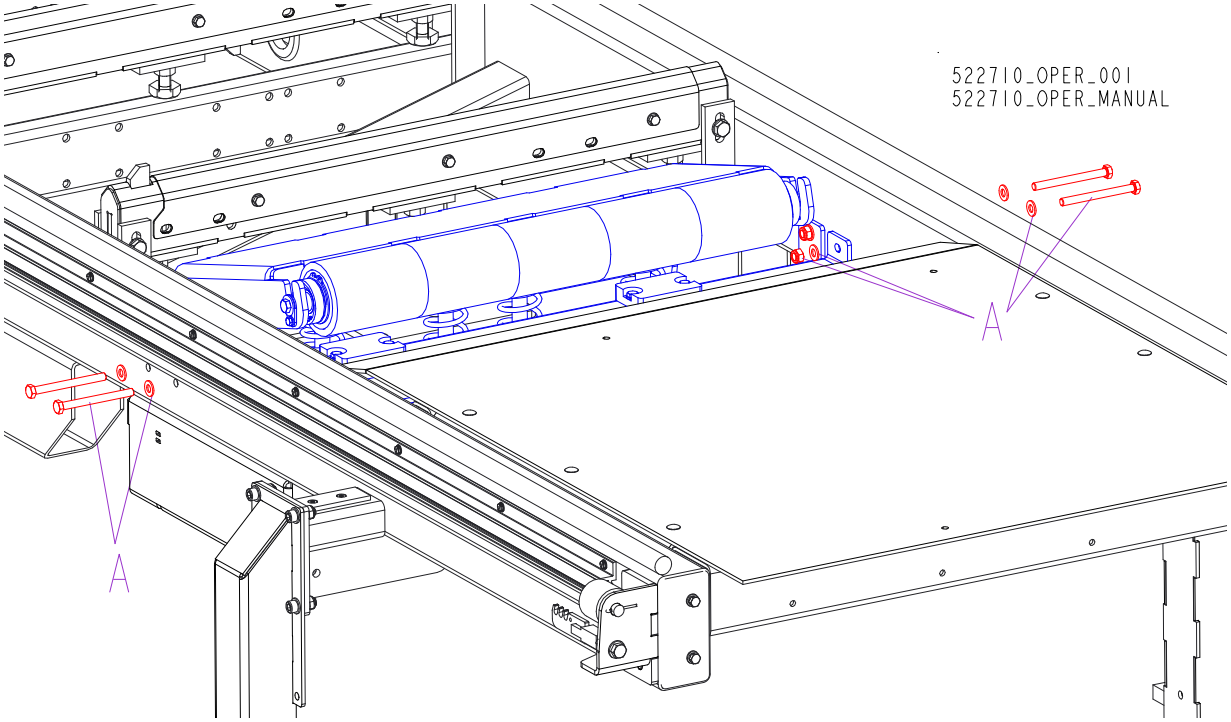


FIG. 2-5

2.21 Installation of Optional Outfeed Tables

1. Unbolt the fasteners (B) and remove the hydraulic box top cover (A).

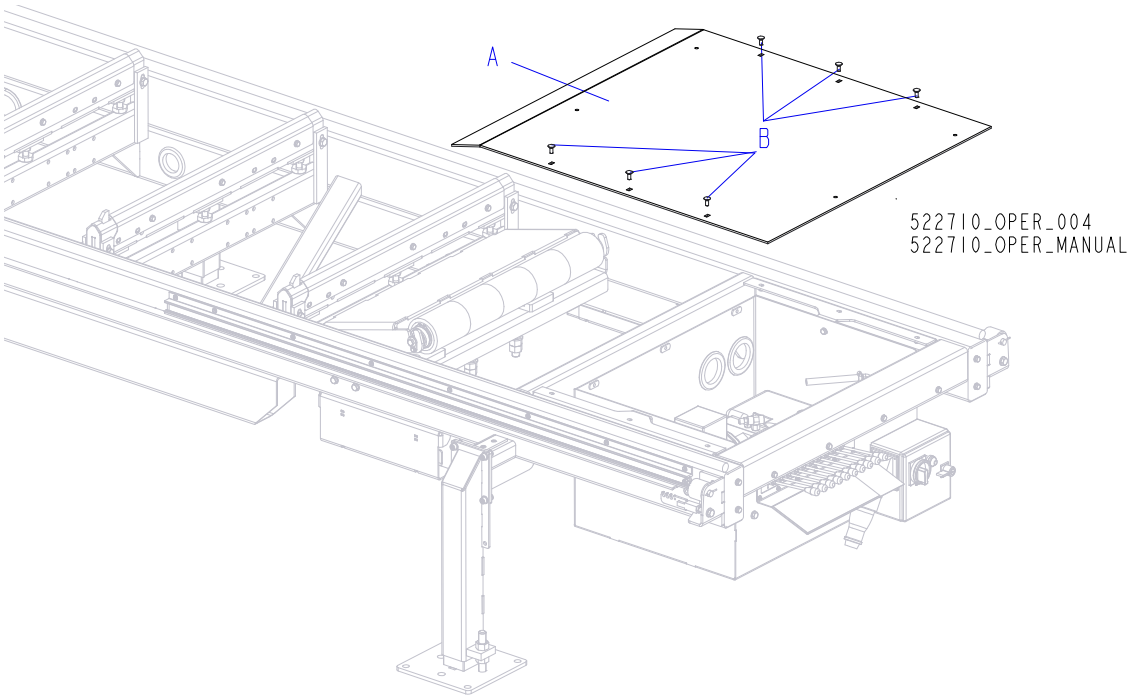


FIG. 2-6

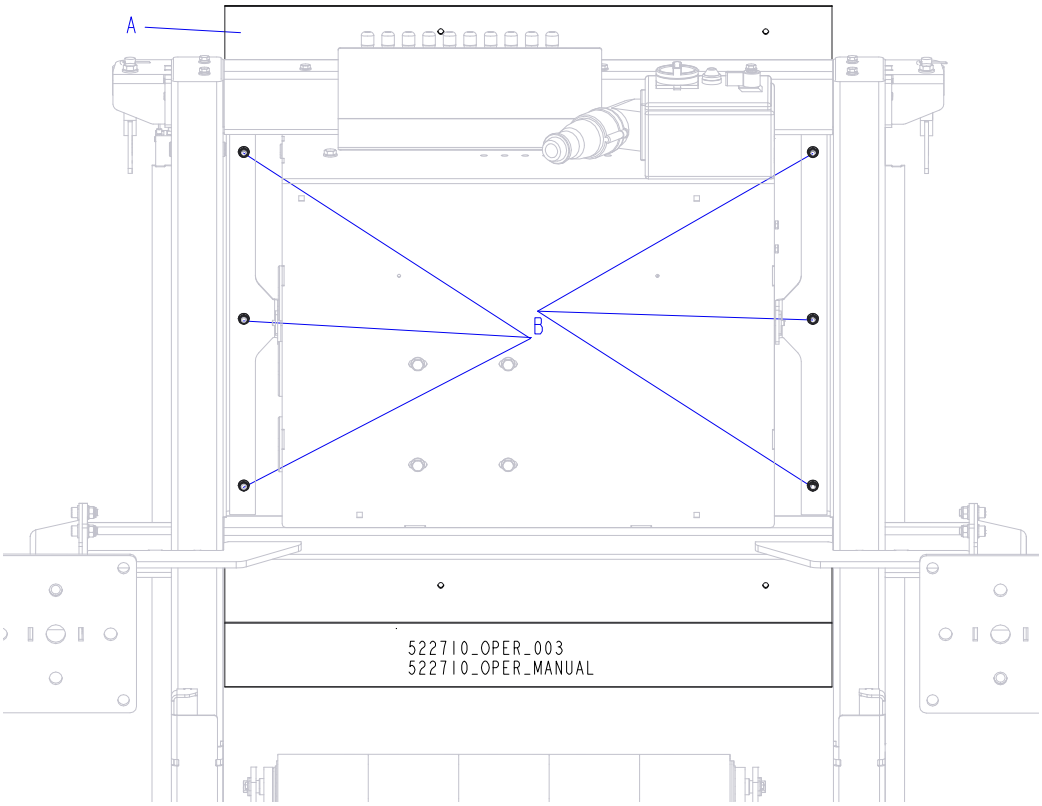


FIG. 2-7

2. Disconnect the hydraulic hoses from the hydraulic box.

3. Unbolt the hydraulic box from the frame.

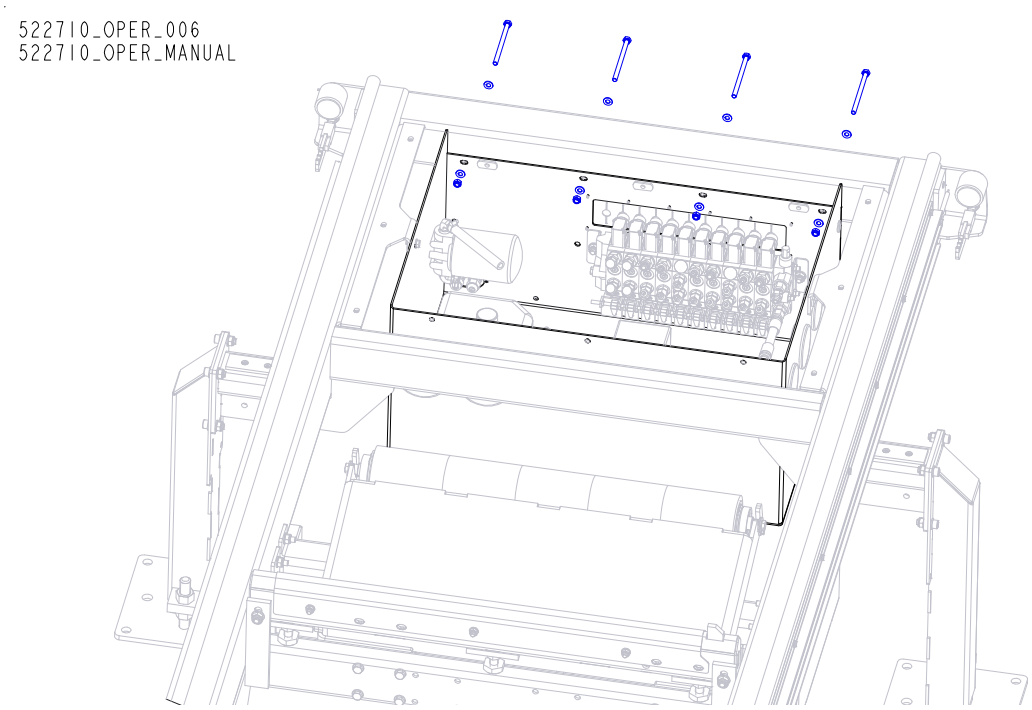


FIG. 2-8

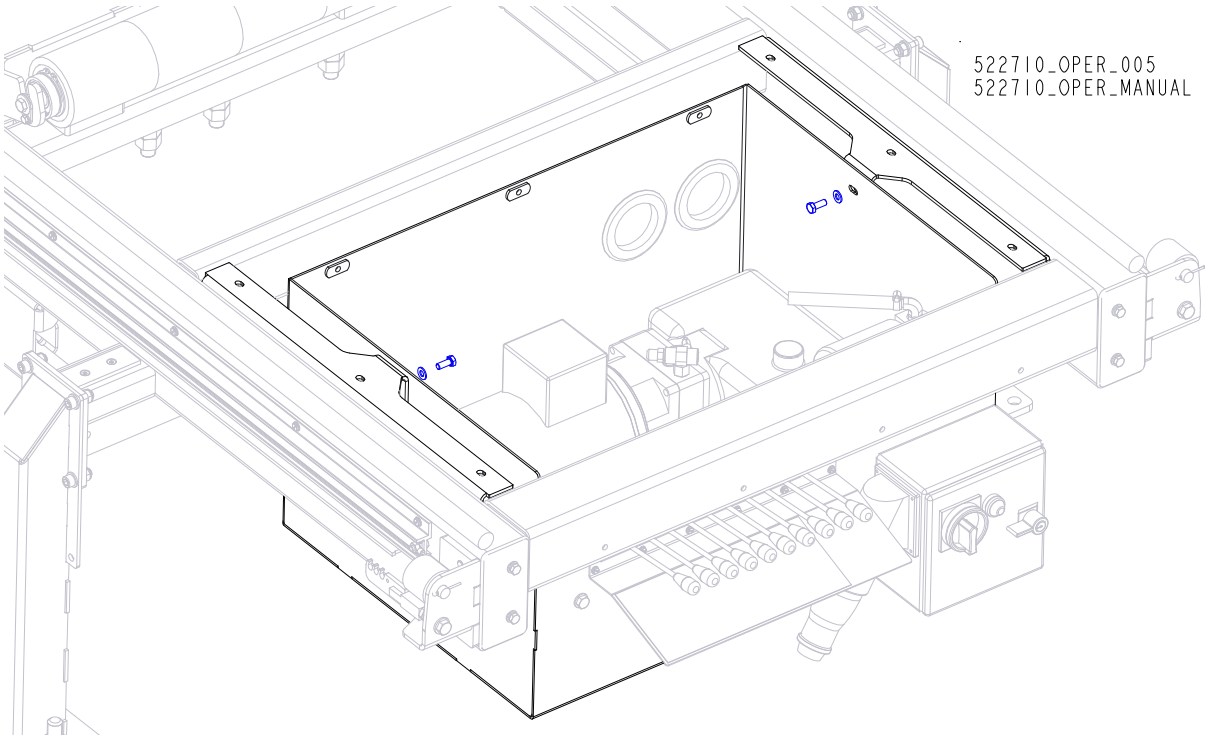


FIG. 2-9

4. Bolt the hydraulic box to the base provided with the outfeed tables.

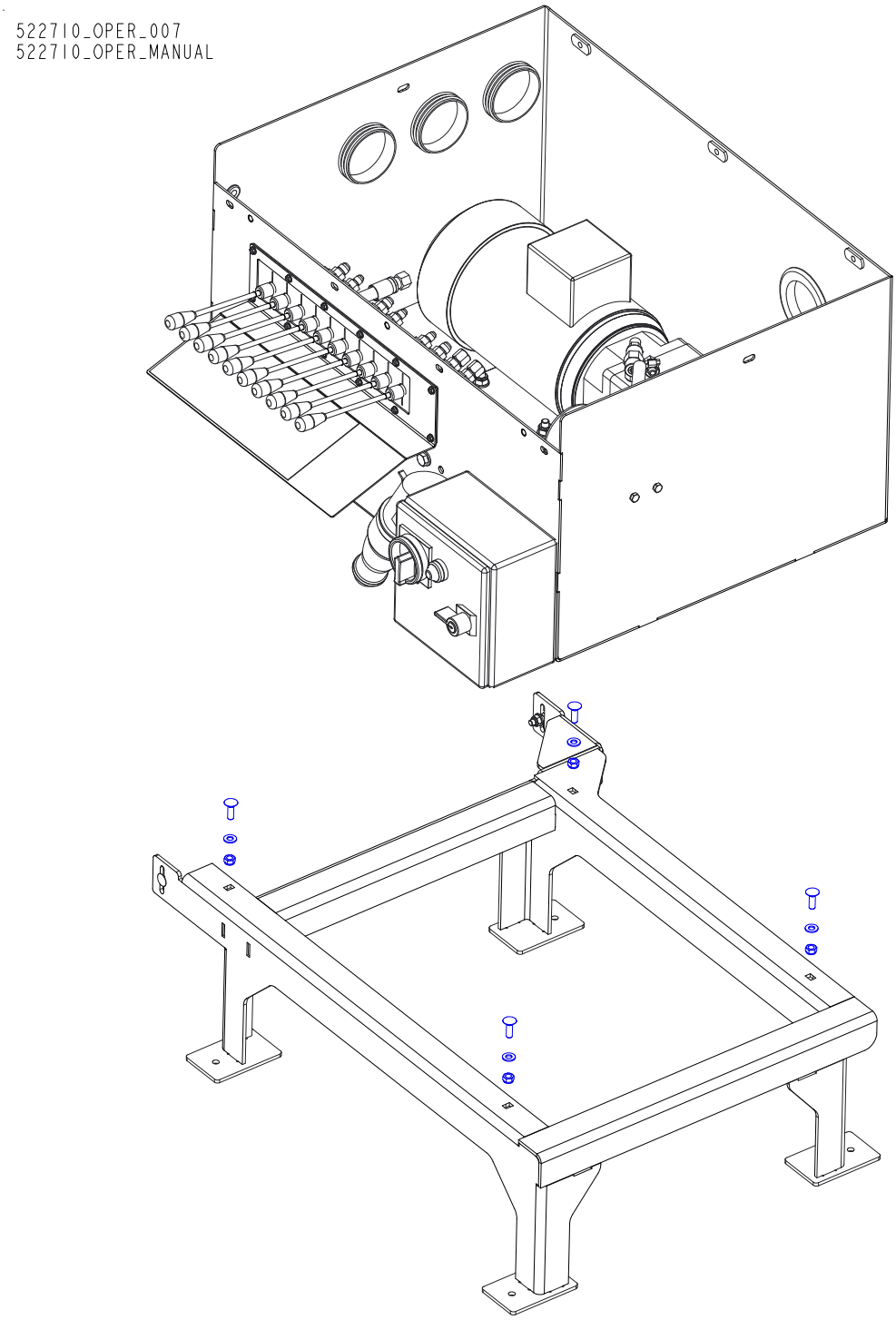


FIG. 2-10

5. Connect the outfeed tables using the fasteners and move them against the machine.

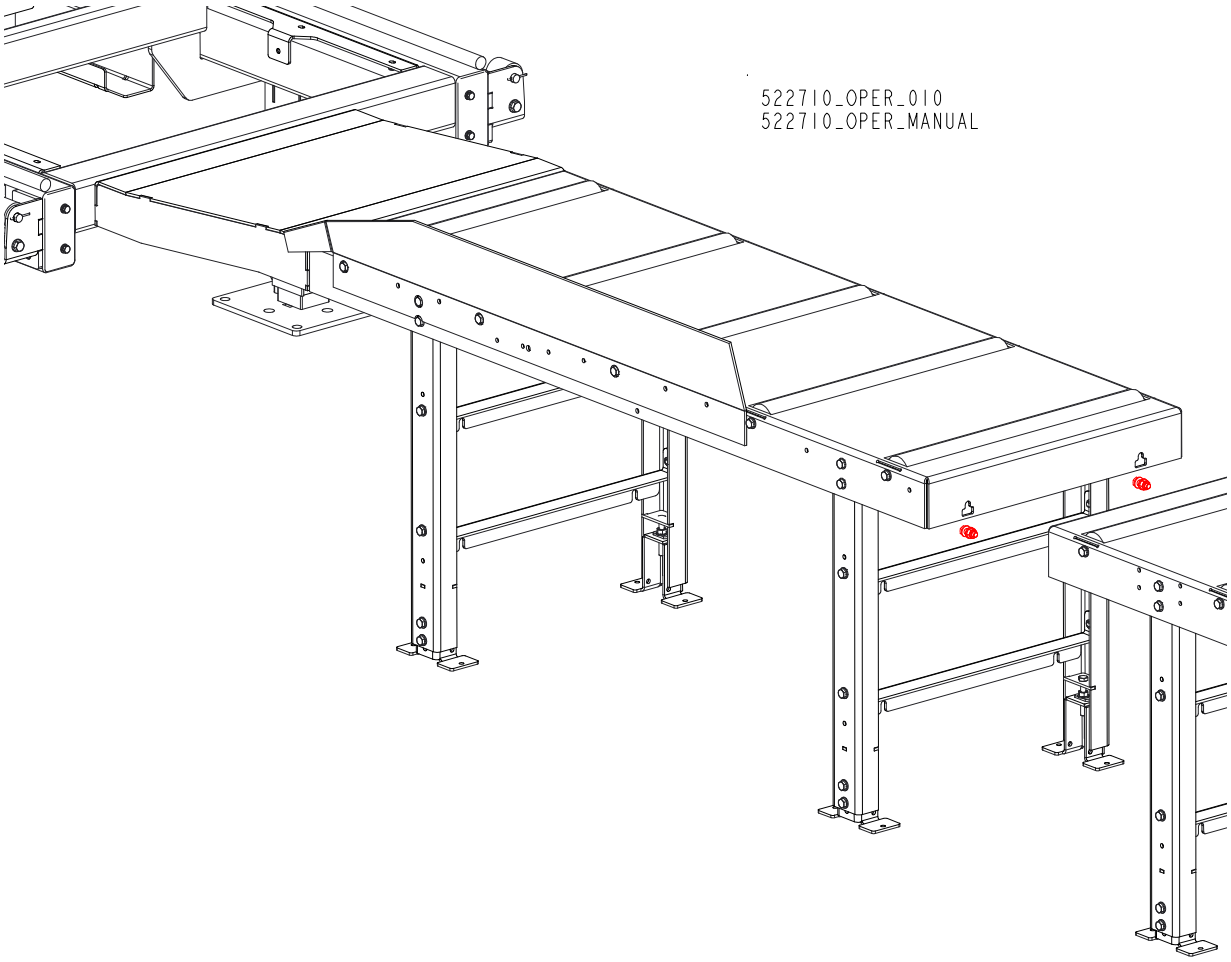


FIG. 2-11

6. Level the tables by adjusting the legs. To do this, loosen the bolts ”A” and use the bolts ”B” to adjust the height of the tables.

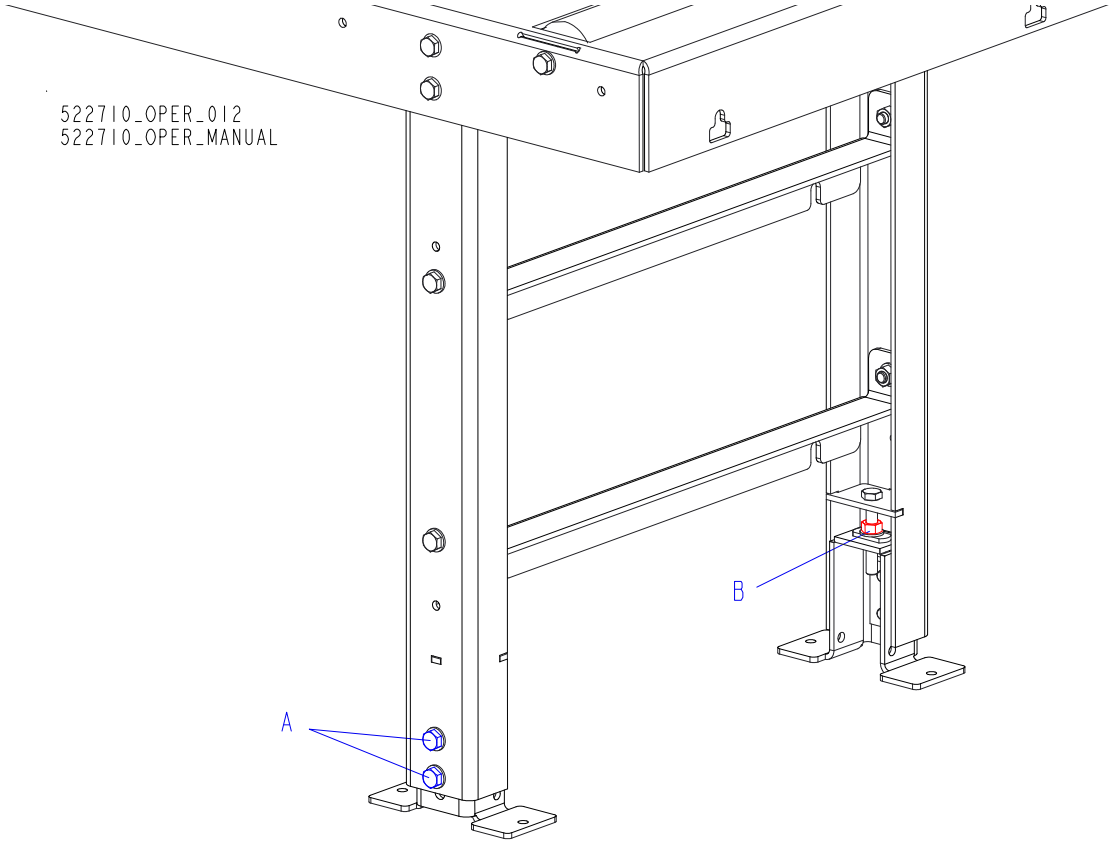


FIG. 2-12

7. After levelling the tables, bolt them to the machine.

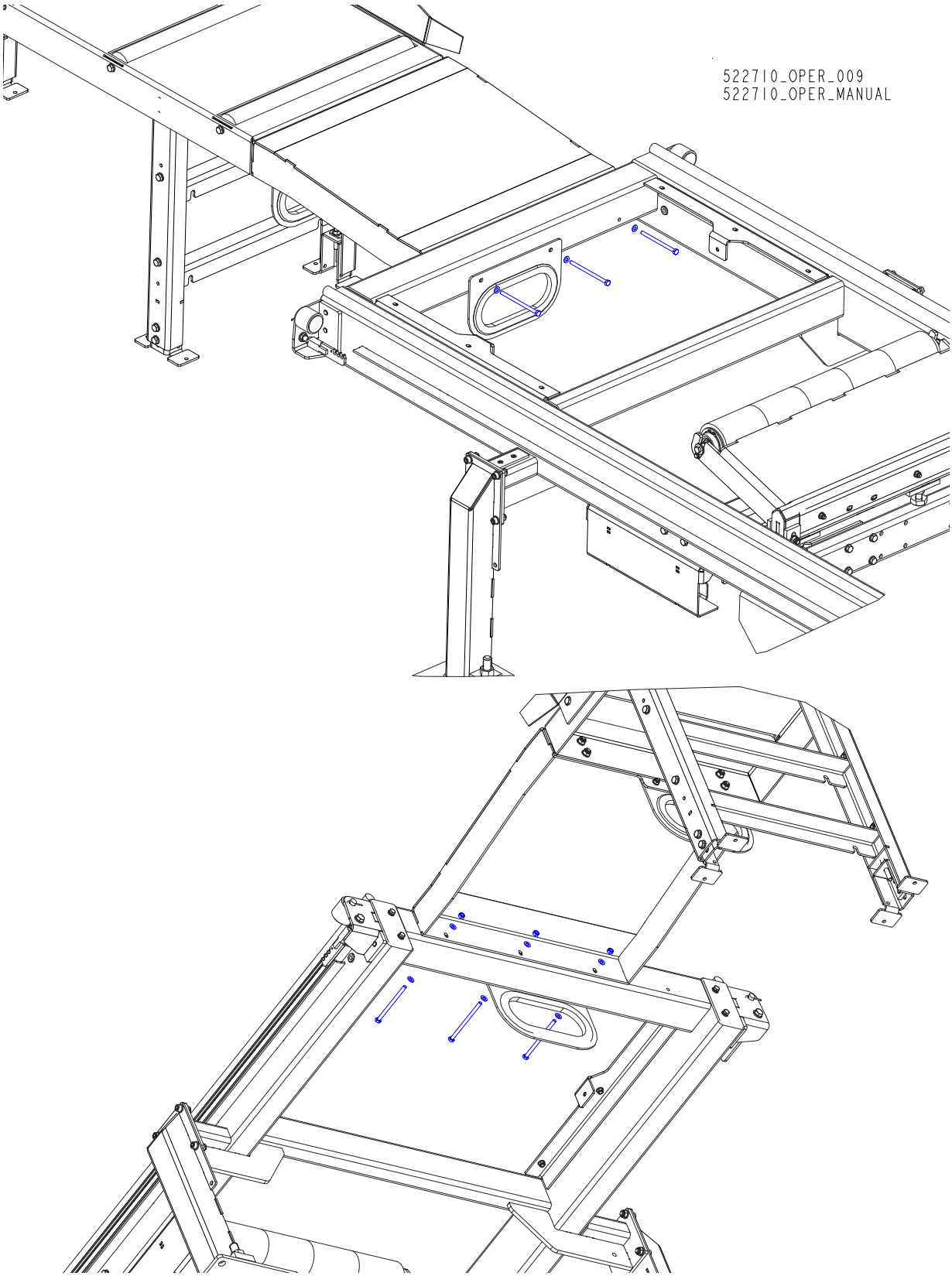


FIG. 2-13

8. Insert the hydraulic hoses through the grommets in the table connection plate and hydraulic box. Connect the hydraulic hoses to the hydraulic box.

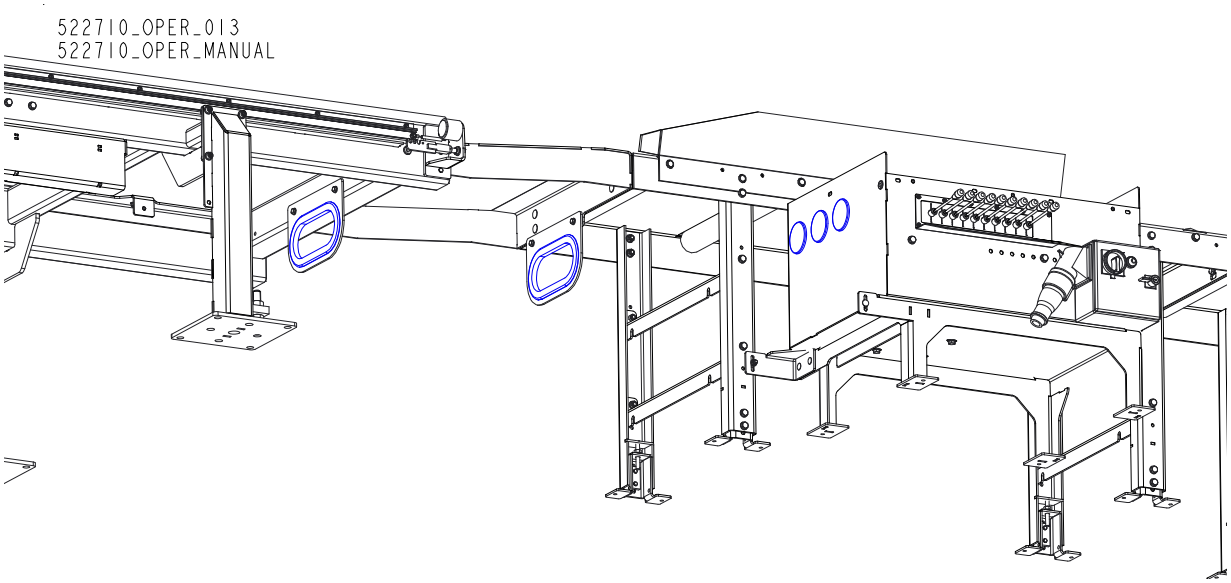


FIG. 2-14

9. Bolt the hydraulic box top cover provided with the tables and the old cover to the frame.

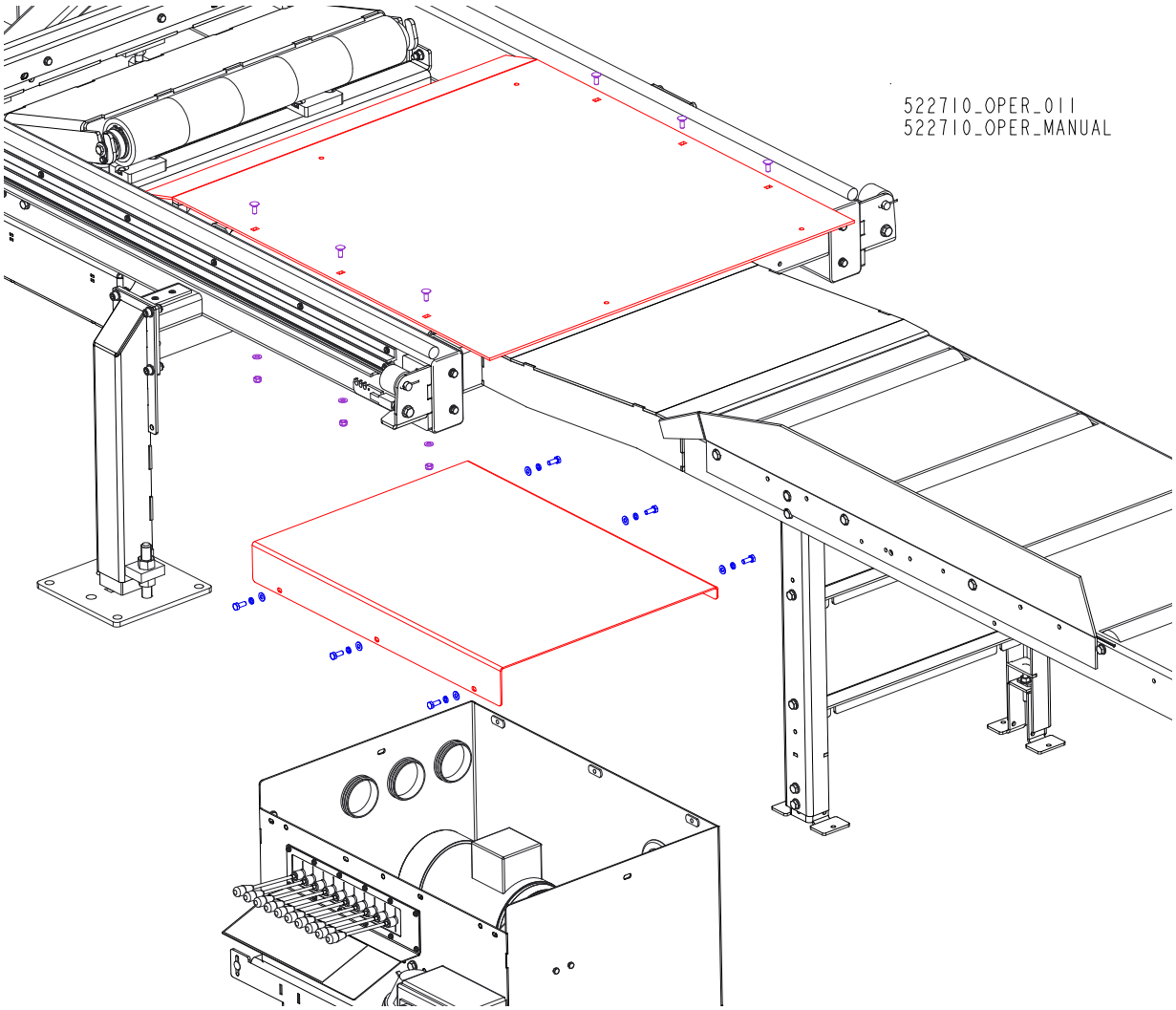


FIG. 2-15

10. Bolt the hydraulic box with the base to the outfeed table.

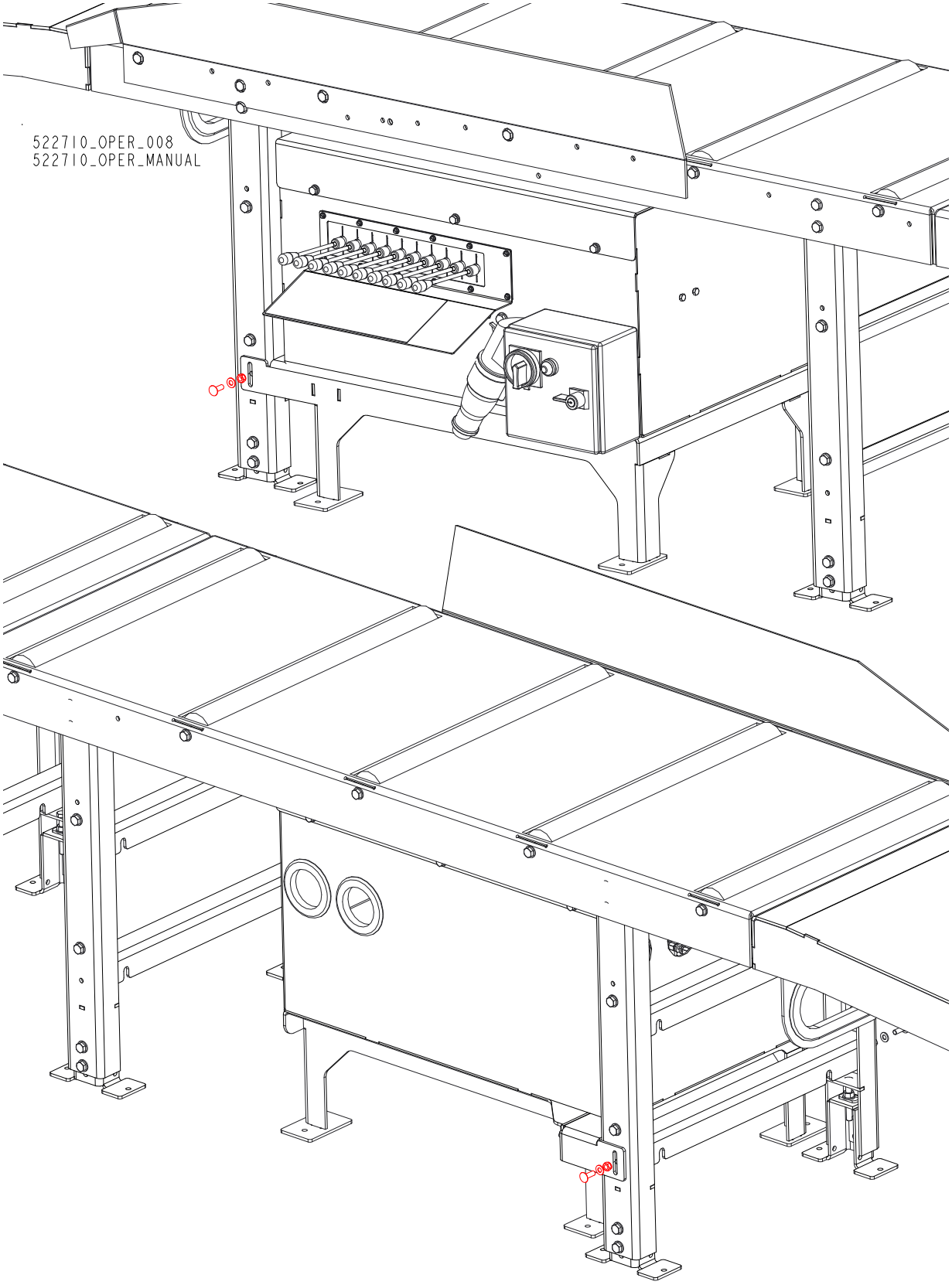


FIG. 2-16

Wood-Mizer LT15WCSC/LX100/LX450 Short Interval Maintenance Schedule

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE
EVERY BLADE CHANGE	
Check blade guide roller performance	**SEE SECTION 4.2**
Remove excess sawdust from blade wheel housings and sawdust chute	**SEE SECTION 4.2**
EVERY 8 HOURS OF OPERATION	
Clean and lubricate track	**SEE SECTION 4.3**
Remove sawdust from track roller housings	**SEE SECTION 4.3**

WOOD-MIZER LT15WCSC/LX100/LX450 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		50 HRS	100 HRS	150 HRS	200 HRS	250 HRS	300 HRS	350 HRS	400 HRS	450 HRS	500 HRS
Clean & lubricate mast	See Section 4.4										
Check blade wheel belts for wear.	See Section 4.6										
Lubricate blade tensioner screw.	See Section 4.5										

WOOD-MIZER LT15WCSC/LX100/LX450 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		550 HRS	600 HRS	650 HRS	700 HRS	750 HRS	800 HRS	850 HRS	900 HRS	950 HRS	1000 HRS
Clean & lubricate mast	See Section 4.4										
Check blade wheel belts for wear.	See Section 4.6										
Lubricate blade tensioner screw.	See Section 4.5										

WOOD-MIZER LT15WCSC/LX100/LX450 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		1050 HRS	1100 HRS	1150 HRS	1200 HRS	1250 HRS	1300 HRS	1350 HRS	1400 HRS	1450 HRS	1500 HRS
Clean & lubricate mast	See Section 4.4										
Check blade wheel belts for wear.	See Section 4.6										
Lubricate blade tensioner screw.	See Section 4.5										

WOOD-MIZER LT15WCSC/LX100/LX450 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		1550 HRS	1600 HRS	1650 HRS	1700 HRS	1750 HRS	1800 HRS	1850 HRS	1900 HRS	1950 HRS	2000 HRS
Clean & lubricate mast	See Section 4.4										
Check blade wheel belts for wear.	See Section 4.6										
Lubricate blade tensioner screw.	See Section 4.5										

WOOD-MIZER LT15WCSC/LX100/LX450 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		2050 HRS	2100 HRS	2150 HRS	2200 HRS	2250 HRS	2300 HRS	2350 HRS	2400 HRS	2450 HRS	2500 HRS
Clean & lubricate mast	See Section 4.4										
Check blade wheel belts for wear.	See Section 4.6										
Lubricate blade tensioner screw.	See Section 4.5										

WOOD-MIZER LT15WCSC/LX100/LX450 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		2550 HRS	2600 HRS	2650 HRS	2700 HRS	2750 HRS	2800 HRS	2850 HRS	2900 HRS	2950 HRS	3000 HRS
Clean & lubricate mast	See Section 4.4										
Check blade wheel belts for wear.	See Section 4.6										
Lubricate blade tensioner screw.	See Section 4.5										

SECTION 3 MAINTENANCE

This section lists the maintenance procedures that need to be performed on LX450 sawmills.

WARNING! Always disconnect and lock out power supply before performing any maintenance work, cleaning or servicing the sawmill. Failure to do so may result in serious injury.

There are two maintenance procedures at the end of this section: Short Maintenance Schedule and Maintenance Log. The Short 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 the machine maintenance by filling in the machine hours and the date you perform each procedure.

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

Be sure to refer to option and motor manuals for other maintenance procedures.

3.1 Wear Life

See Table 3-1. This chart lists estimated life expectancy of common replacement parts if proper maintenance and operation procedures are followed. This information is provided so that you may plan ahead in ordering replacement parts. Due to many variables which exist during sawmill operation actual part life may vary significantly.

Part Description	Estimated Life
Blade Wheel Belts (B57)	500 hours
Blade Guide Rollers	1000 hours
Drive Belt	1250 hours
Power Feed Chain	500 hours

TABLE 3-1

3.2 Sawdust Removal

Remove the excess sawdust from the blade wheel housing and sawdust chute every blade change.

3.3 Saw Head Track

See Figure 3-1.

8 **1.** Clean the track rails to remove any sawdust and sap buildup every eight hours of operation. (A)

2. Make sure the scrapers fit firmly against the rail. If not, loosen the mounting bolts (B) to adjust the scrapers.

50 **3.** Every 50 hours of operation remove the power feed drive wheel cover (C) (optional equipment) and remove any sawdust from the sprockets and cover.

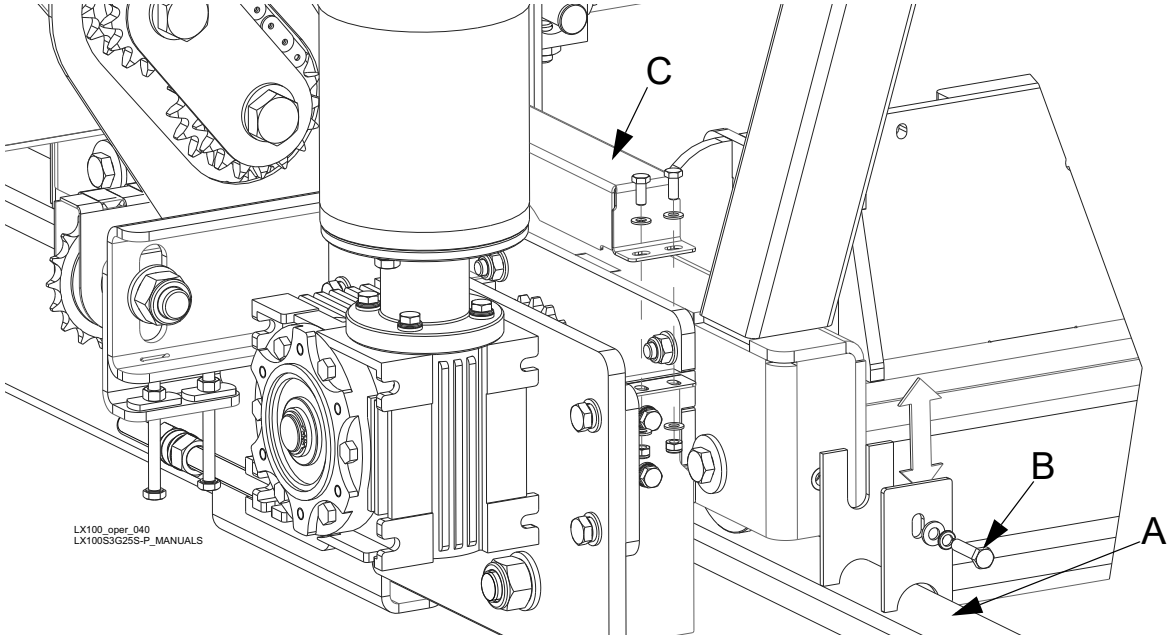


FIG. 3-1

3.4 Vertical Mast Rails

50 Clean and lubricate the vertical mast rails every 50 hours of operation. Clean with solvent and remove any rust with a light-grade sand paper. Lubricate the mast with motor oil or automatic transmission fluid (e.g. Dextron II or III).

CAUTION! Never use grease on the mast rails as it will collect sawdust.

3.5 Drum Switches

50 Lubricate the up/down and power feed drum switch contacts inside the control panel every fifty hours of operation. Use only contact grease supplied by Wood-Mizer. Remove the control panel cover. Use a cotton swab to apply grease to the switch contact ends.

WARNING! Drum switch grease contains Petroleum Hydrocarbon Lubricant. Eye and skin irritant. If introduced into eyes, flush with water for at least 15 minutes. If film or irritation persists, seek medical attention. Wash skin with soap and water. If ingested, do not induce vomiting - contact a physician. KEEP OUT OF THE REACH OF CHILDREN.

3.6 Blade Tensioner

1. 50 Lubricate the chrome rods of the tensioner system every 50 hours of operation.
2. Lubricate the tensioner screw handle with a grade lithium grease as needed.
3. Add an Automatic Transmission Fluid (ATF) such as Dexron III ATF to the hydraulic blade tensioner as needed.

   See Figure 3-2. To add fluid to the blade tensioner:

   - Remove the tensioner handle and ball. Remove the blade housing covers, blade and idle-side blade wheel.
   - Push the idle-side shaft housing all the way in to collapse the rear tensioner piston and fully extend the front piston. The front piston should reach the threaded area of the piston guide.

     NOTE: If the hydraulic fluid level is extremely low, collapsing the rear piston may not fully extend the front piston. If it does not, finish the fill procedure in its entirety and repeat. The first pass should add enough fluid to allow the front piston to fully extend. The second pass should add enough fluid to completely fill the block.
   - Locate the fill plug behind the tension gauge. Clean any dirt and debris from the plug area. Use a 7/16” wrench to remove the plug, making sure to keep the plug o-ring with the plug.
   - Manually extend the rear piston (the front piston should remain extended).
   - Use a small funnel or cup to completely fill the block with hydraulic fluid. When full, place the fill plug in the fill plug hole and thread 1-2 turns. Manually push the rear piston all the way in to allow excess oil and air to bleed from the system through the plug. Tighten the plug all the way.
   - Reinstall the idle-side blade wheel, blade and blade housing cover. Reinstall the tensioner ball

and handle.

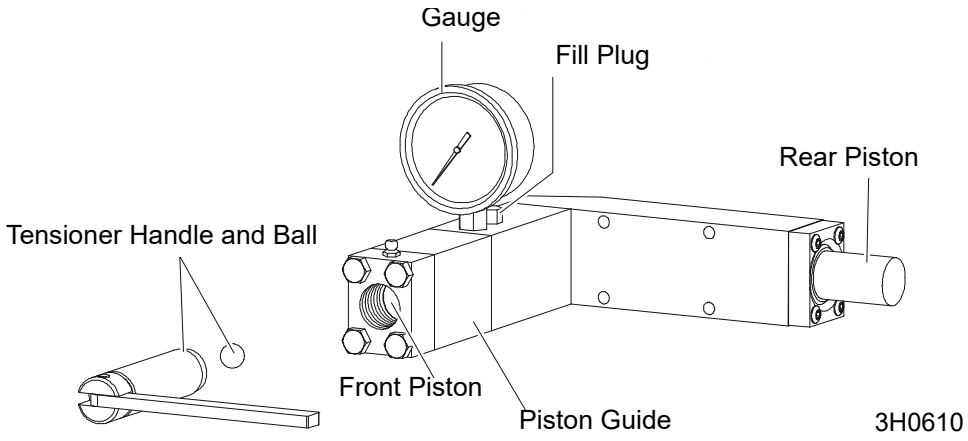


FIG. 3-1

3.7 Blade Wheel Belts

1. Check the blade wheel belts for wear. Replace them if necessary. Rotating the belts every 50 hours will increase the belt life. Use only B57 belts manufactured by Goodyear or Browning.

50

2. Periodically check all belts for wear. Replace any damaged or worn belts as needed.

3.8 Up/Down and Power Feed System

1. Adjust the up/down chain tension. Measure the chain tension with the head all the way to the top of the vertical mast. Secure the saw head with the chain or spacers. Find the chain adjusting bolt at the bottom of the mast. Loosen the nut and move the sprocket down until the center of the chain is deflected 2.5cm (0.787”) with a 2.3 KG (5.5 lbf, 24.5 N) deflection force.

DANGER! Always secure the cutting head with a chain or board before adjusting the up/down chain. The cutting head may fall, causing severe injury or death.

3.9 Miscellaneous Maintenance

1. Check the drive belt tension after the first 20 hours and every 50 hours thereafter.

50

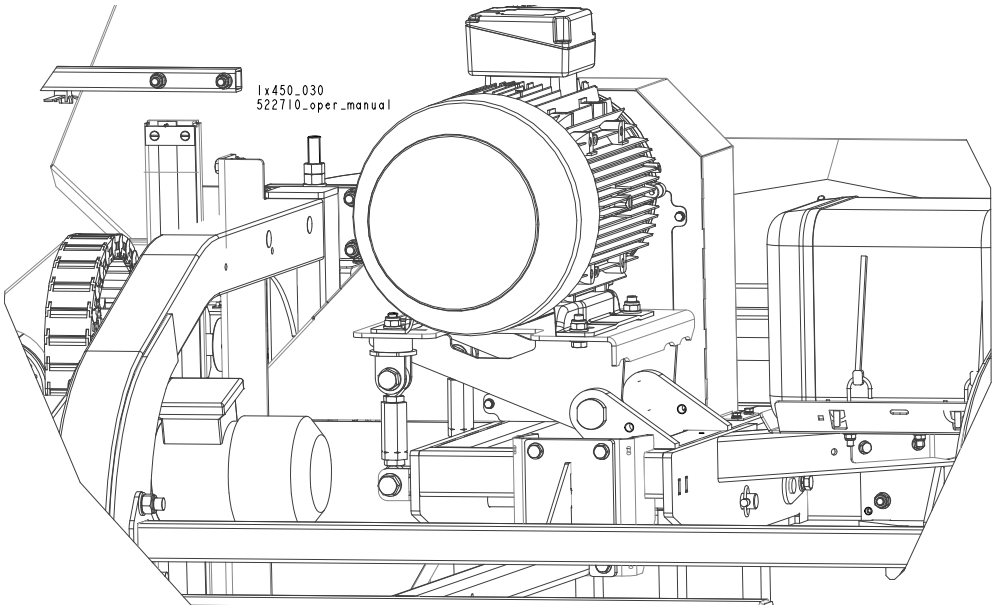


FIG. 3-2

2. Check the mill alignment every setup. (See Section 6, Alignment.)

3. Make sure all safety decals are clean and readable. Remove any sawdust and dirt. Replace any damaged or unreadable decals immediately. Order decals from your Customer Service Representative.

4. Check the power feed and up/down chain every 100 hours of operation. Replace if damaged.

100

3.10 Safety Devices Inspection (CE Version Only)

LX450 – Safety Devices Inspection

The following safety devices on the LX450 sawmill must be inspected before usage of the machine:

- E-STOP button and its circuit,
- Circuits with the E-STOP button pressed,
- Blade cover safety switches and their circuit,
- Up/down limit switches.

1. Inspection of the E-STOP Button and its Circuit (A)

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

See Figure 3-3.

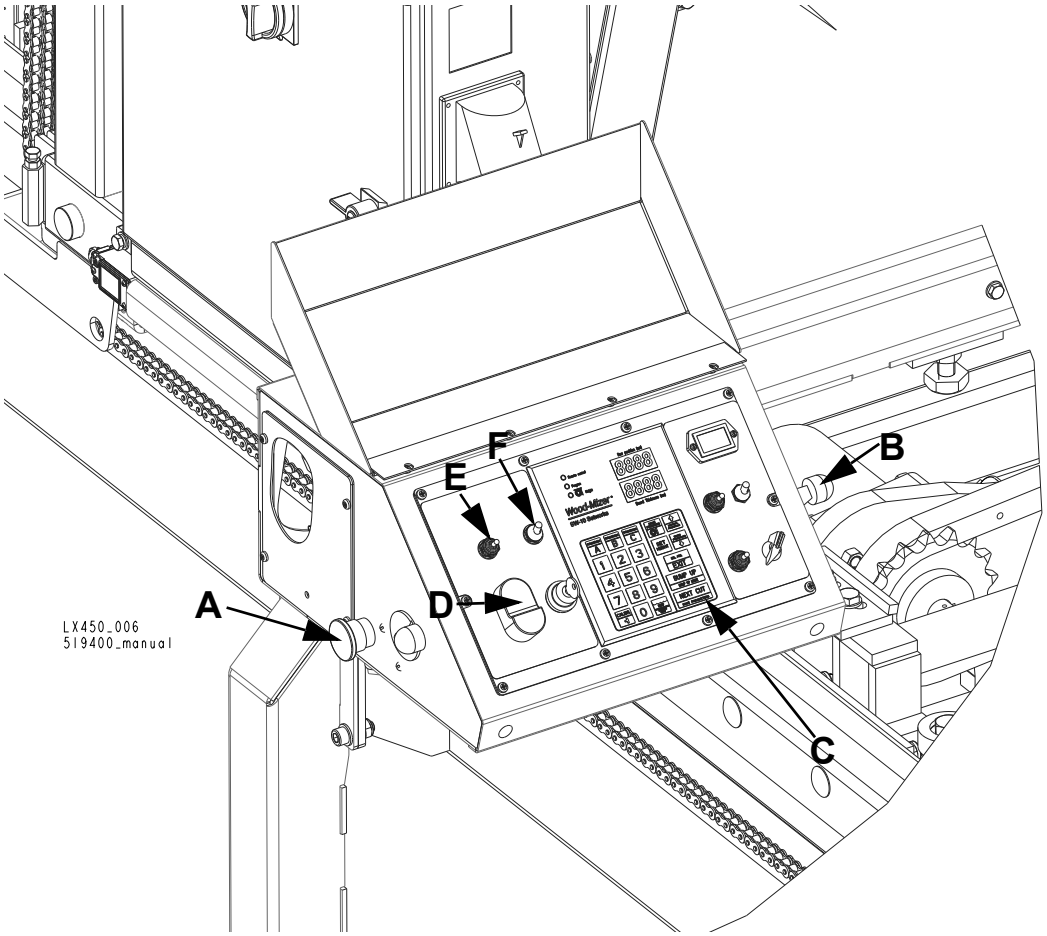


FIG. 3-3

2. Inspection of the control circuits after pressing the E-STOP button (A)

- Start the main motor;
- Press the E-STOP button located on the left side of the control box. The motor should stop.
- With the E-STOP button pressed, try to move the saw head up and down (using the switch (B) and Setworks button (C)) and forward/backward using the power feed switch (D). Both systems should not start.
- With the E-STOP button pressed, try to start the debarker blade motor (E) and move the debarker arm (F). The debarker should remain turned off.

3. Inspection of the blade cover safety switches and their circuit

- Turn on the main motor;
- Open the blade housing cover;
- The main motor should stop;

- Try to start the main motor; it should remain stopped;
- Close the blade housing cover;
- The motor should remain stopped until it is restarted with the START button.

4. Inspection of the Up/Down Limit Switches

- Move the saw head up until the upper limit switch is activated. The saw head should be stopped. Now the saw head should move downwards only.
- Move the saw head down until the lower limit switch is activated. The saw head should be stopped. Now the saw head should move upwards only.

SECTION 4 TROUBLESHOOTING GUIDE

4.1 Sawing Problems

PROBLEM	*CAUSE*	*SOLUTION*
Blades Dull Quickly	Dirty logs	Clean or debark logs, especially on entry side of the cut.
	When grinding, teeth heating too much and causing teeth to soften.	Grind just enough metal to restore sharpness to the teeth. Use water/ coolant while sharpening blade.
	Poor sharpening techniques.	Make sure the tip is being sharpened completely (See Sharpener Manual).
Blades Break Prematurely	Rubber belts on blade wheels worn to a point that blade contacts metal pulley - look for shiny spots on edge of wheels.	Change blade wheel belts (B-57).
	Poor sharpening techniques.	See Sharpener Manual
	Tension too tight.	Tension blade to recommended specifications.
Blade Does Not Track Right On Wheels	Cant adjustment is incorrect.	Readjust (See Section 3.4).
	Flat/worn belts.	Replace B-57 belts
Blade Guide Rollers Do Not Spin While Cutting	Frozen bearings	Replace bearings
	Worn bearings	Replace bearings
Drive Belts Wear Prematurely or Jump	Engine/motor and drive pulleys out of alignment	Align pulleys

PROBLEM	CAUSE	SOLUTION
Boards Thick Or Thin On Ends Or Middle Of Board	Stress in log which causes log to not lay flat on the bed	After log has been squared, take equal cuts off opposing sides. Repeat cuts, keeping the heart in the middle of the cant, and making it your last cut.
	Tooth set problem.	Resharpen and reset the blade.
	Bed rails misaligned.	Realign sawmill.
Height Adjustment Jumps or Stutters When Moving Up or Down	Mast needs lubrication.	Lubricate mast track surface
	Mast slide pads are not adjusted properly (the entire surface of the pad should touch the mast).	Adjust the pads.
Lumber Is Not Square	Side supports not square to bed.	Adjust side support.
	Blade not parallel to bed rails.	Adjust bed rails parallel to blade.
	Sawdust or bark between cant and bed rails.	Remove particles.
	Tooth set problem.	Resharpen and reset the blade.
Sawdust Builds Up On Track	Excessive lubrication	Do not lubricate track with grease.
	Track is sticky.	Clean track with solvent and apply silicone spray.
Wavy Cuts	Excessive feed	Slow down feed rate.
	Improperly sharpened blade (This will be the problem 99% of the time).	Resharpen blade (See Sharpener Manual - read entire manual!)
	Blade guides improperly adjusted.	Adjust blade guides.
	Sap buildup on blade.	Use larger amount of water flow to the blade during cutting.
	Tooth set problem.	Resharpen and reset the blade.

SECTION 5 SAWMILL ALIGNMENT

5.1 Pre-Alignment Procedures

The Wood-Mizer sawmill is factory aligned. Two alignment procedures are available to realign the sawmill if necessary. The Routine Alignment instructions should be performed as necessary to solve sawing problems not related to blade performance. The Complete Alignment procedure should be performed approximately every 1500 hours of operation (sooner if you regularly transport the sawmill over rough terrain).

Routine Alignment Procedure:

1. Install and track the blade (*See Section 5.3*).
2. Check the angle of the blade in relation to the bed rails and adjust the lower track rollers if necessary (*See Section 5.18*).
3. Check and adjust the vertical alignment of the blade guide arm (*See Section 5.8*).
4. Check and adjust the horizontal alignment of the blade guide arm (*See Section 5.9*).
5. Check and adjust the vertical angle of the blade guides (*See Section 5.11*).
6. Check and adjust the horizontal angle of the blade guides (*See Section 5.13*).
7. Check and adjust the spacing between the blade guide flanges and the back of the blade (*See Section 5.12*).
8. Check and adjust the horizontal angle of the side supports (*See Section 5.15*).
9. Check and adjust the vertical angle of the side supports (*See Section 5.16*).
10. Check that the blade height scale accurately displays the actual distance from the bottom of the blade to the bed rails and adjust if necessary (*See Section 5.18*).

Complete Alignment Procedure:

Perform all steps in this section to completely realign the sawmill.

5.2 Frame Setup

Stationary sawmills should be setup on firm, level ground before proceeding with alignment. Shim the feet so the weight of the sawmill is evenly supported.

See SECTION 2 Setup & Operation for additional setup information.

5.3 Blade Installation And Alignment

See Figure 5-1. Install a blade and apply the appropriate tension (*See Section 2.4*). The blade tension is adjusted with the tension handle shown.

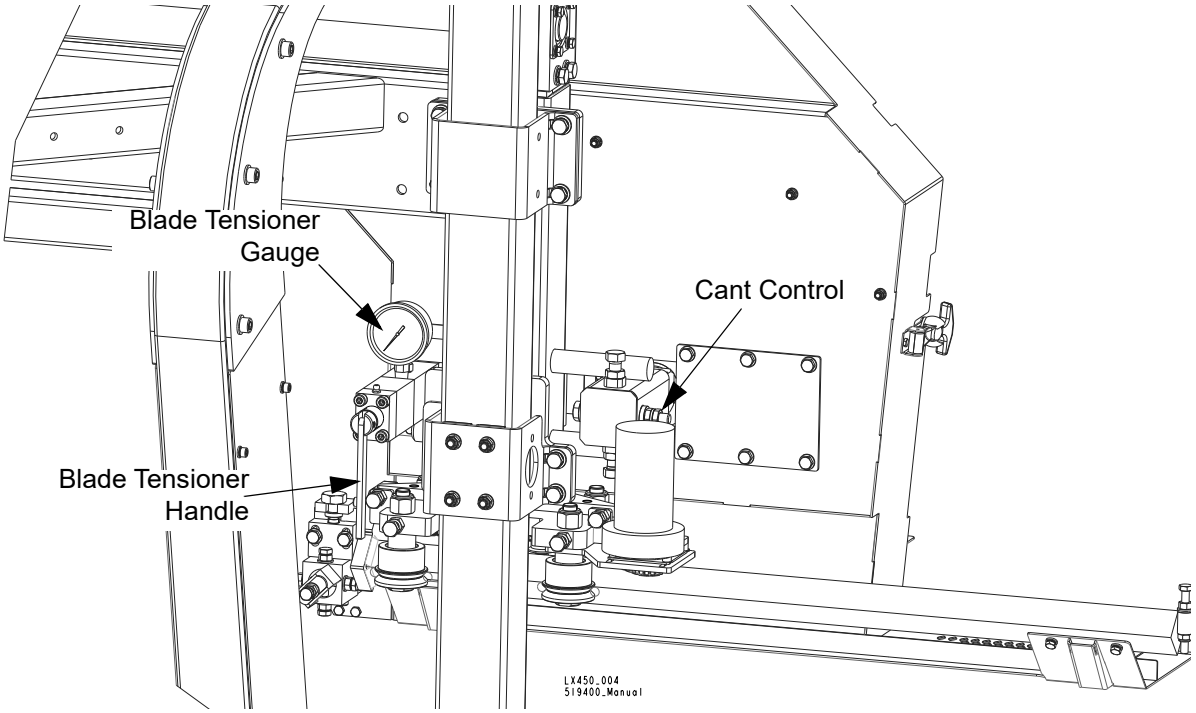


FIG. 5-1

1. Raise the middle blade housing cover and make sure all persons are clear of the open side of the saw head.

2. Turn the key switch to the position #2.

3. Manually spin the idle pulley.

4. Remove the key and check the position of the blade on the blade wheels.

   Check the vertical alignment of the idle-side blade wheel. The gullet of the blade should ride the same distance from the front edge of the wheel at the top and bottom of the wheel. If it does not, loosen and tighten the appropriate adjustment screws on the wheel shaft.

   See Figure 5-2. The blade wheels should be adjusted so that the gullet of 1 1/4" blades ride 3.0 mm

(0.12") out from the front edge of the wheels (± 1.0 mm[0.04"]). The gullet of 1 1/2" blades should ride 4.5 mm (0.18") from the front edge of the wheels (± 1 mm [0.04"]). Do not let the teeth ride on the wheels.

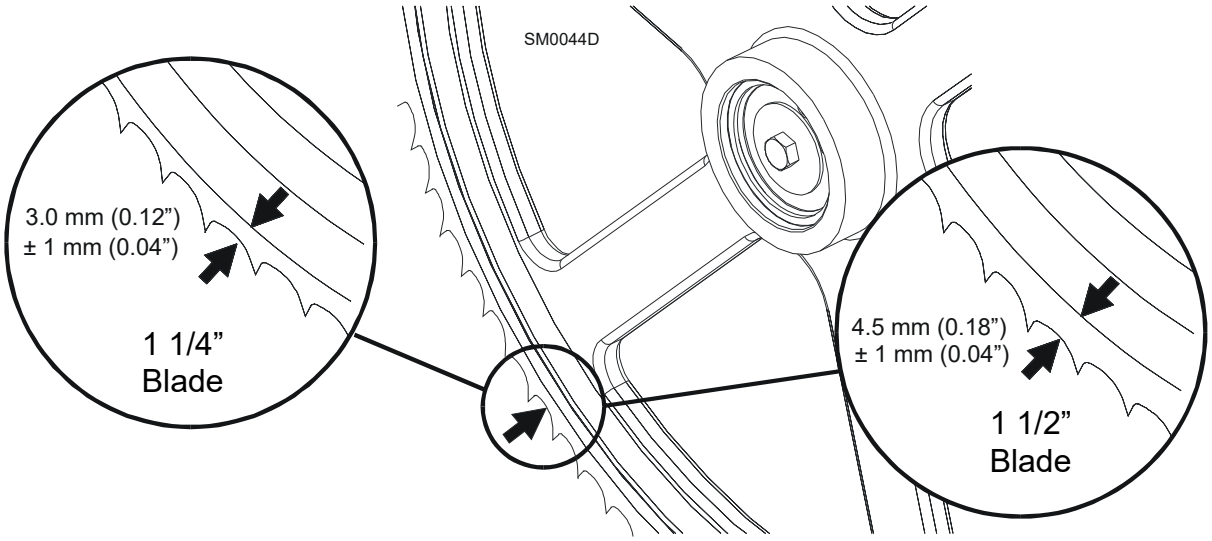


FIG. 5-2

To adjust where the blade travels on the idle-side blade wheel, use the cant control shown in **Figure 5-1.**

If the blade is too far forward on the wheels, turn the cant control counterclockwise. If it is too far back on the wheels, turn the cant control clockwise.

Some adjustment in blade tension may be needed to compensate for adjustments made with the cant control.

Adjustment with the cant control is usually all that is required to track the blade properly on both blade wheels. The drive-side blade wheel will usually not have to be adjusted. If necessary, the drive-side wheel can be adjusted as follows:

See Figure 5-3. For horizontal adjustment, use the horizontal adjustment nuts. If the blade is running too far back on the drive-side blade wheel, locate the long U-bolt on the right which mounts the bearing housing to the mounting plates. Loosen the hex nuts on the U-bolt (on the back side of the back plate). Tighten the adjustment nuts to spread the plates apart and bring the blade forward.

If the blade is running too far to the front, loosen the jam nuts on the long U-bolt and back the adjustment bolts out. Tighten the hex nuts on the long U-bolt (on the back side of the back plate).

Be sure to tighten all nuts against the mounting plates when the adjustment is complete.

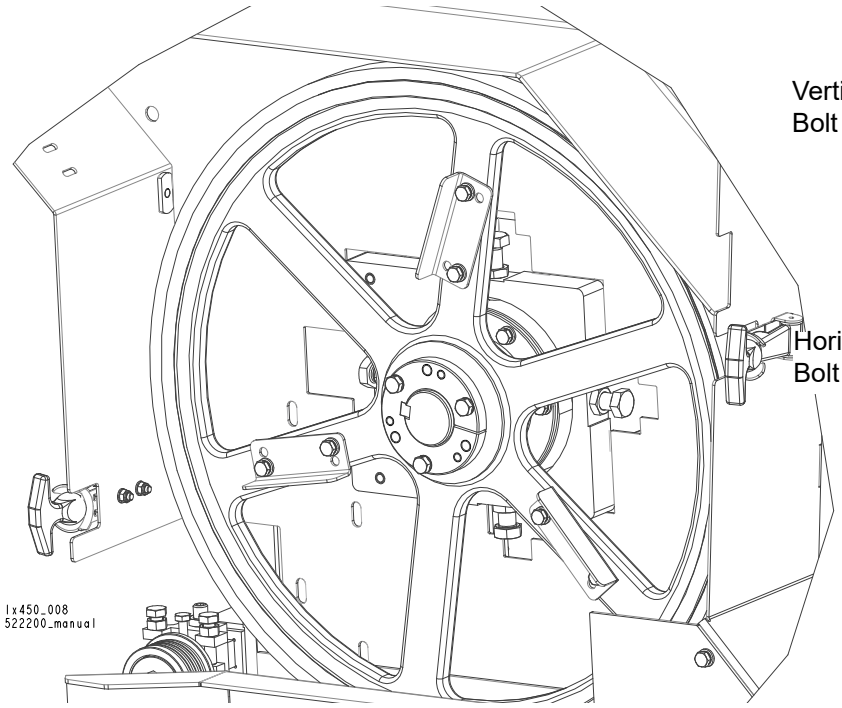


FIG. 5-3

The vertical angle of the drive side wheel is factory-set and should not need to be adjusted. If adjustment is needed, use the vertical adjustment bolt. To tilt the wheel upward, loosen the jam nut and turn the vertical adjustment bolt clockwise. To tilt the wheel downward, loosen the jam nut and turn the vertical adjustment bolt counterclockwise. Be sure to tighten the jam nut.

5.4 Blade Wheel Alignment

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. Use the blade guide alignment tool to check the vertical alignment of each blade wheel. Attach the tool to the blade near the inner blade guide mount. Be sure the tool does not rest on a tooth or burr, and is lying flat against the bottom of the blade.

   See Figure 5-4.

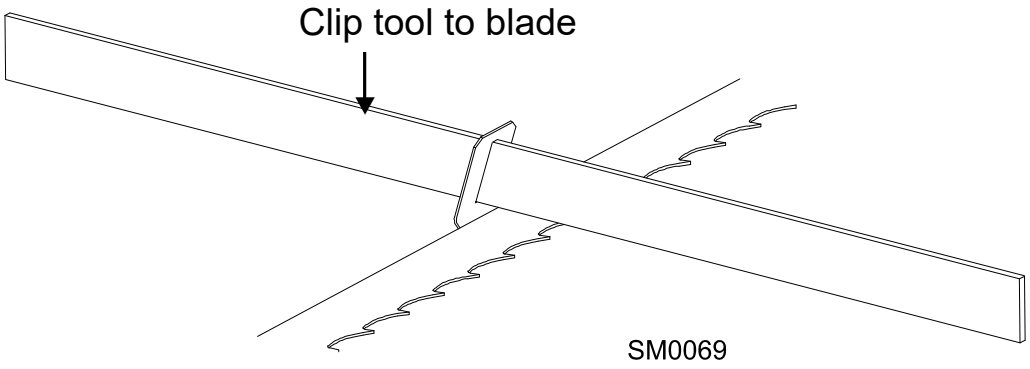


FIG. 5-4

2. Move the saw carriage so the front end of the tool is positioned over the first bed rail. Measure from the bottom of the tool to the top surface of the bed rail.

3. Move the saw carriage so the rear of the tool is positioned over the bed rail. Again, measure from the bottom of the tool to the bed rail.

4. If the two measurements differ by more than (± 1.5 mm), adjust the vertical tilt of the drive-side blade wheel.

   See Figure 5-5. Use the vertical adjustment screws to adjust the drive-side blade wheel. To tilt the wheel, loosen the top adjustment screw one quarter turn. Loosen the jam nut on the bottom adjustment screw and tighten the screw. Tighten the top and bottom jam nuts.

   To tilt the wheel, loosen the bottom adjustment screw one quarter turn. Loosen the jam nut on the top adjustment screw and tighten the screw. Tighten the top and bottom jam nuts.

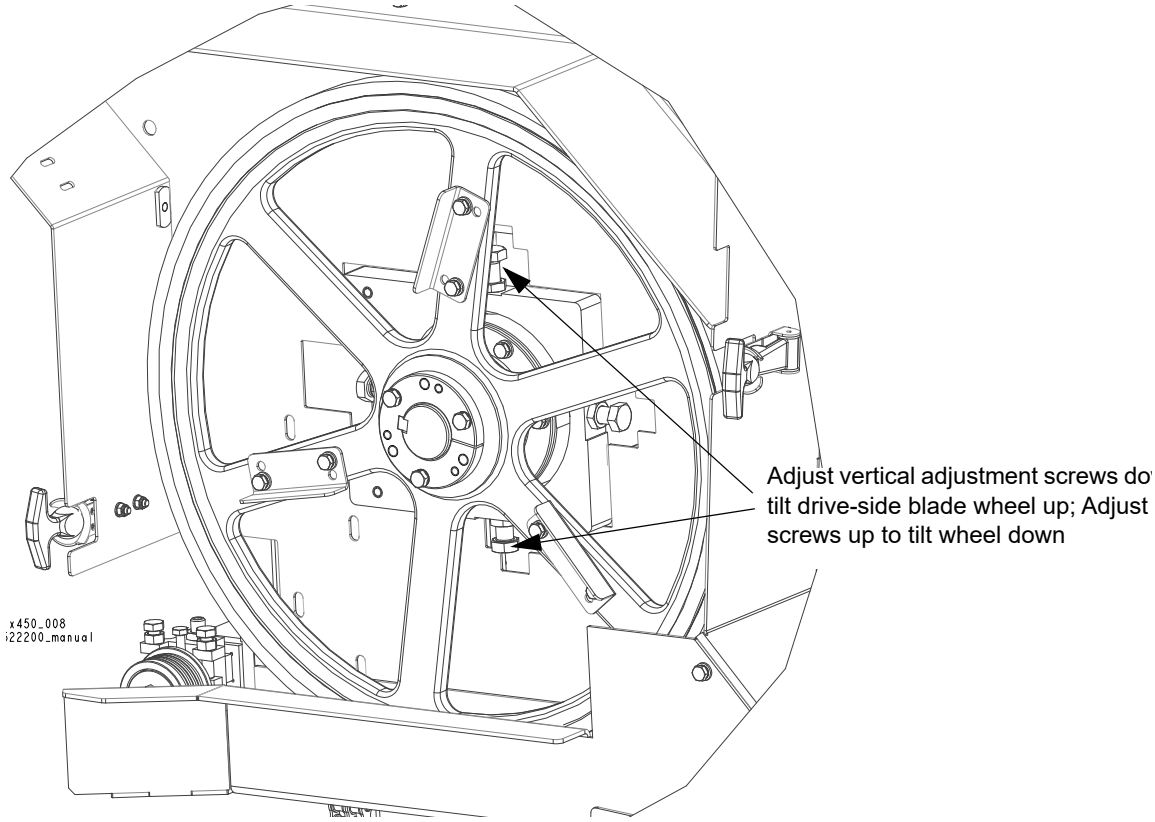


FIG. 5-5

5. Recheck the vertical tilt of the drive-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 bed rail (± 1.5 mm).

6. Remove the tool from the blade and reattach it near the outer blade guide assembly.

7. Measure from the tool to the bed rail at both ends of the tool. If the measurements at the front and rear ends of the tool differ by more than (± 1.5 mm), adjust the vertical tilt of the idle-side blade wheel.

See Figure 5-6. Use the vertical adjustment screws to adjust the idle-side blade wheel. To tilt the wheel up, loosen the bottom adjustment screw one quarter turn. Loosen the jam nut on the top adjustment screw and tighten the screw. Tighten the top and bottom jam nuts.

To tilt the wheel down, loosen the top adjustment screw one quarter turn. Loosen the jam nut on the bottom adjustment screw and tighten the screw. Tighten the top and bottom jam nuts.

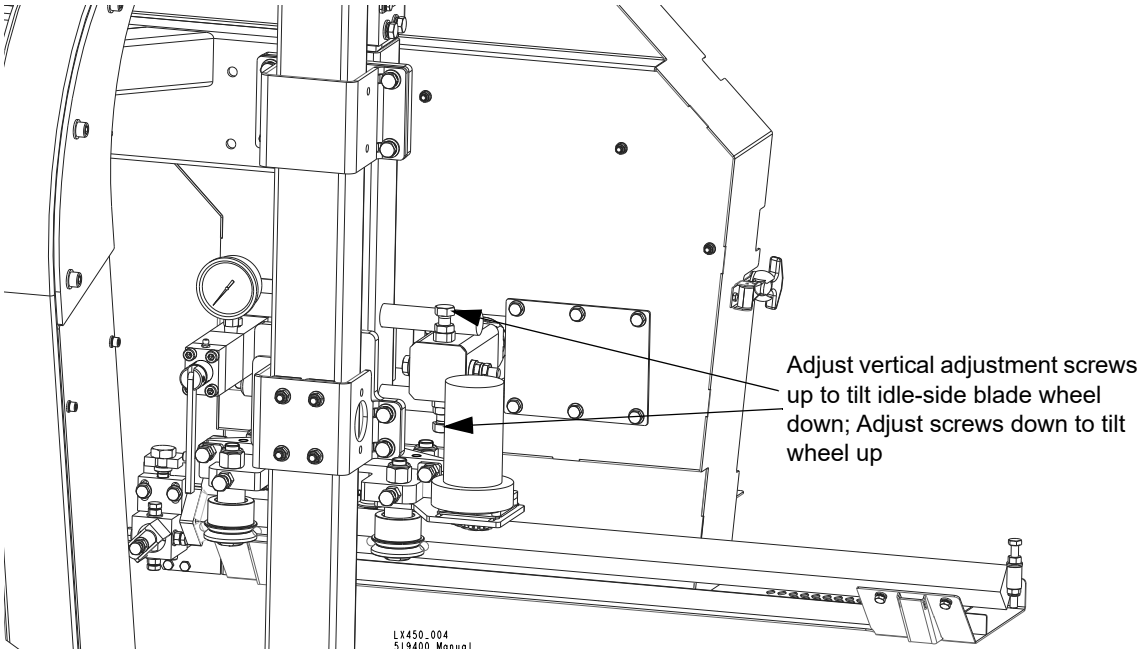


FIG. 5-6

8. 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 bed rail.

9. Check the position of the blade on the idle-side blade wheel.

See Figure 5-7. The horizontal tilt of the blade wheel should be adjusted so that the gullet of an 1-1/4" blade is 3.0 mm out from the front edge of the wheel (± 1.0 mm).

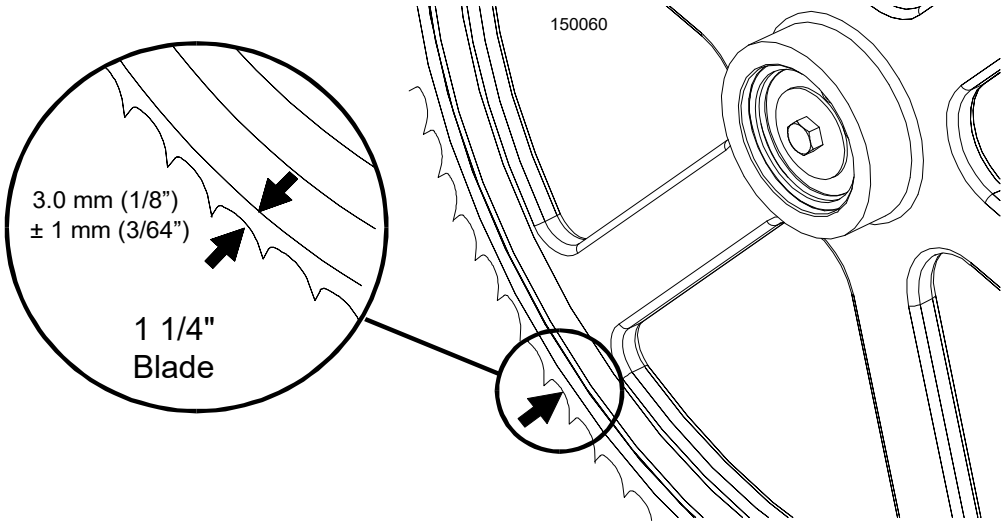


FIG. 5-7

See Figure 5-8. Use the cant control adjustment to adjust the idle-side blade wheel. If the blade is too far forward on the wheel, turn the cant control counterclockwise. If it is too far back on the wheel, turn the cant control clockwise.

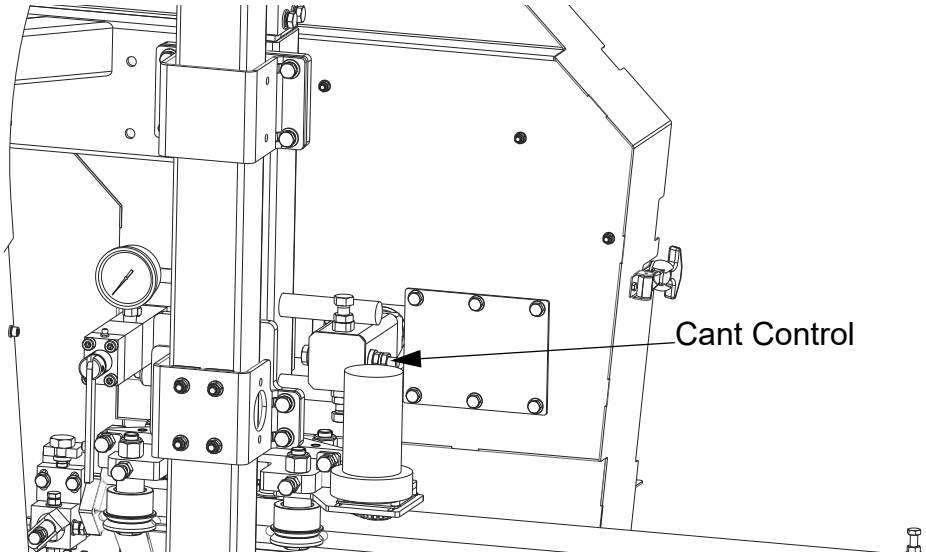


FIG. 5-8

10. Check the position of the blade on the drive-side blade wheel. The blade should be positioned on the wheel as described for the idle-side blade wheel. Adjust the drive-side blade wheel if necessary.

See Figure 5-9. Loosen the jam nut on the adjustment screws. Use the horizontal adjustment screws to adjust the drive-side blade wheel. Tighten the jam nut.

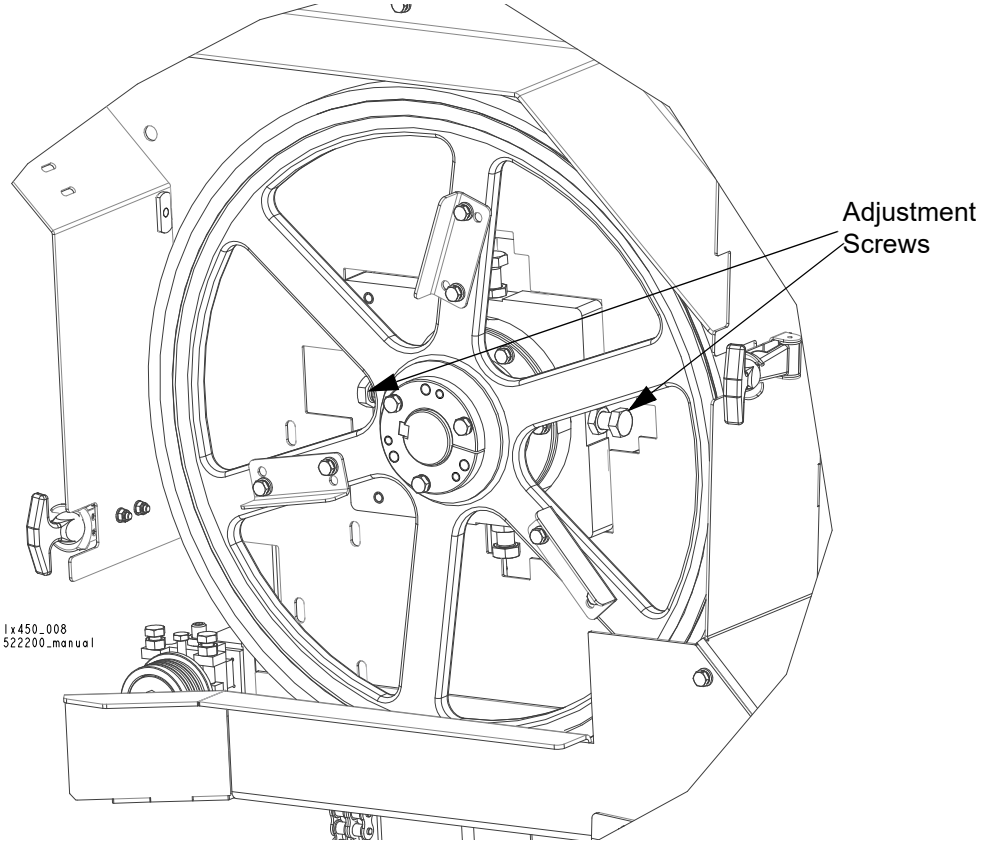


FIG. 5-9

5.5 Saw Head Slide Pad Adjustment

There are nylon pads positioned between the saw head frame and vertical mast. The spacing of the pads is factory set and rarely needs adjusting. To check the pad spacing, perform the following steps.

The pads should be aligned to the mast, so that the entire face of each slide pad makes contact with the mast.

See Figure 5-10.

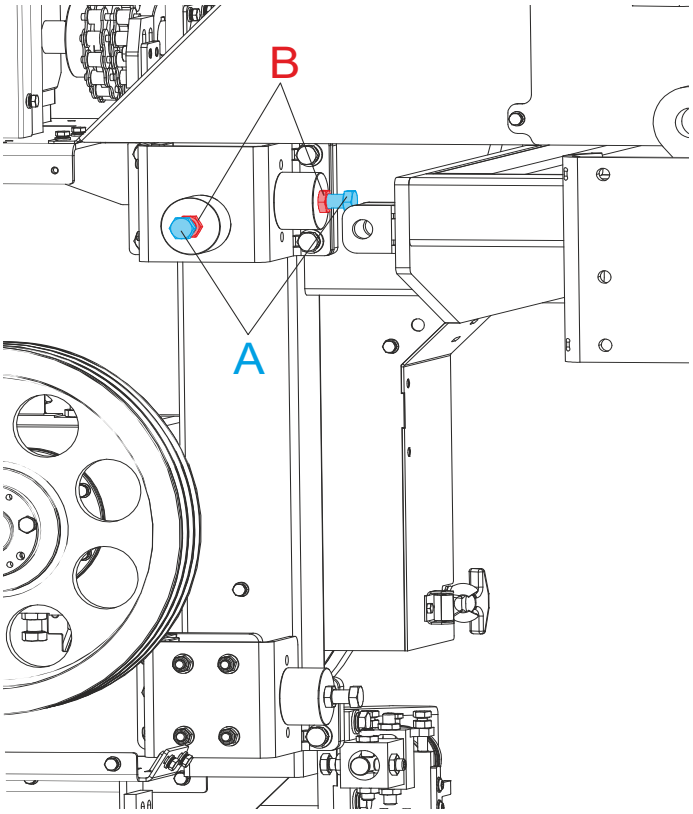


FIG. 5-10

1. Secure the saw head with a chain at the top, or shim it underneath. Check two pads with adjustment bolts (A).They should be touching the mast. There should be a small gap (about 0,2mm wide) between the inner pad and the mast.

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

2. Loosen the locking bolts (B) and turn the adjusting bolt (A) as necessary to provide the pad spacing described in Step 1.

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

5.6 Adjusting The Saw Head

See Figure 5-11. Making these adjustments correctly will give you square cuts and accurate dimensions across the width of your boards.

1. Check if every four mast rollers touches the track rails. If not, use the mast roller with adjustment (A). Loosen the locking bolt (B) and lower or raise the roller. Tighten the locking bolt

   See Figure 5-12.

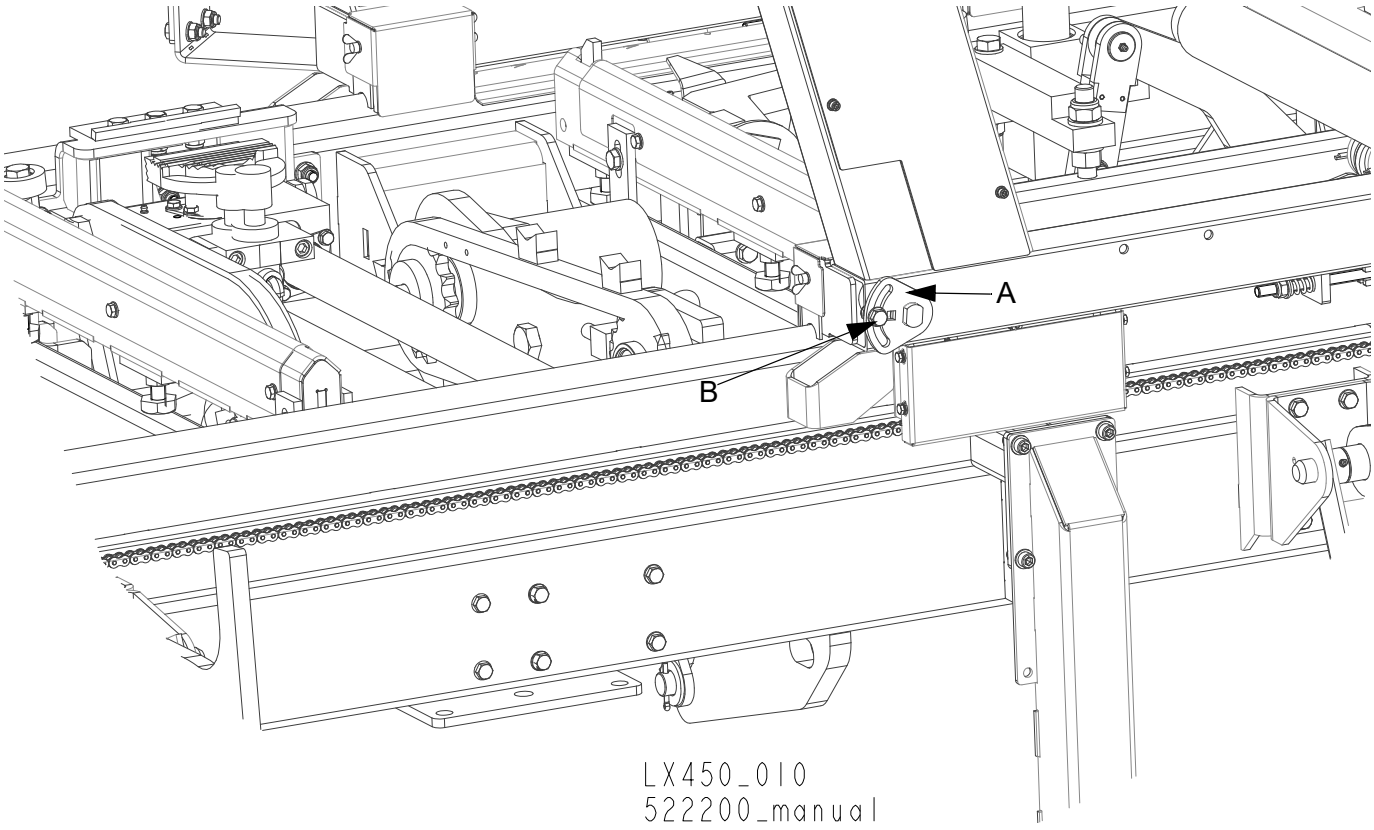


FIG. 5-12

2. Using the feed controls, move the saw carriage so that the blade is positioned over the front cross beam.

3. Adjust blade guides so that they do not touch the blade.

4. Raise the cutting head until the bottom of the blade is 400 mm above the cross beam.

5. Using a tape or ruler check if the distance measured near left and right blade guides is equal(± 1.0 mm).

See Figure 5-13.

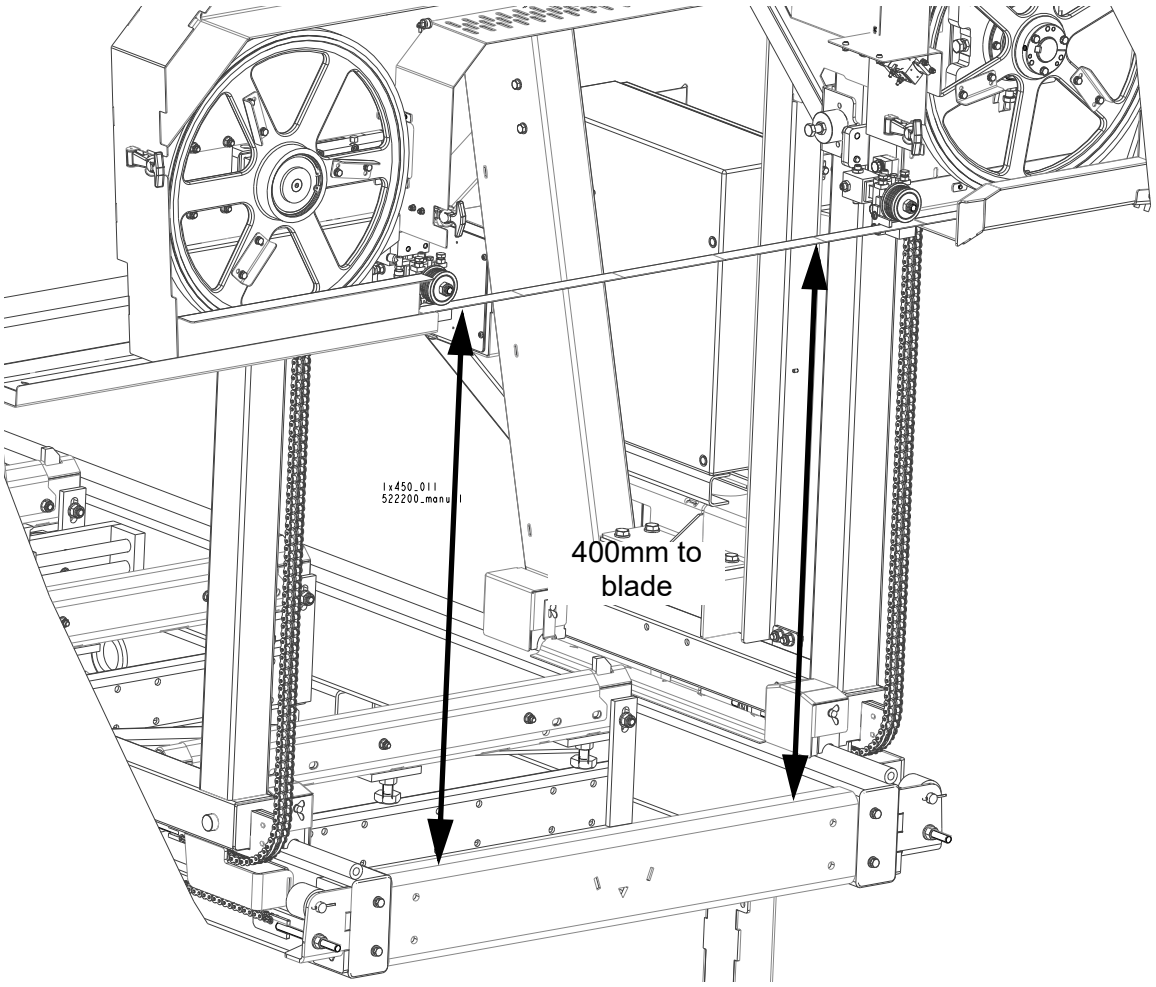


FIG. 5-13

6. If the distance is not equal adjust left and right up/down chain using the up/down chain adjustment bolts.

See Figure 5-14.

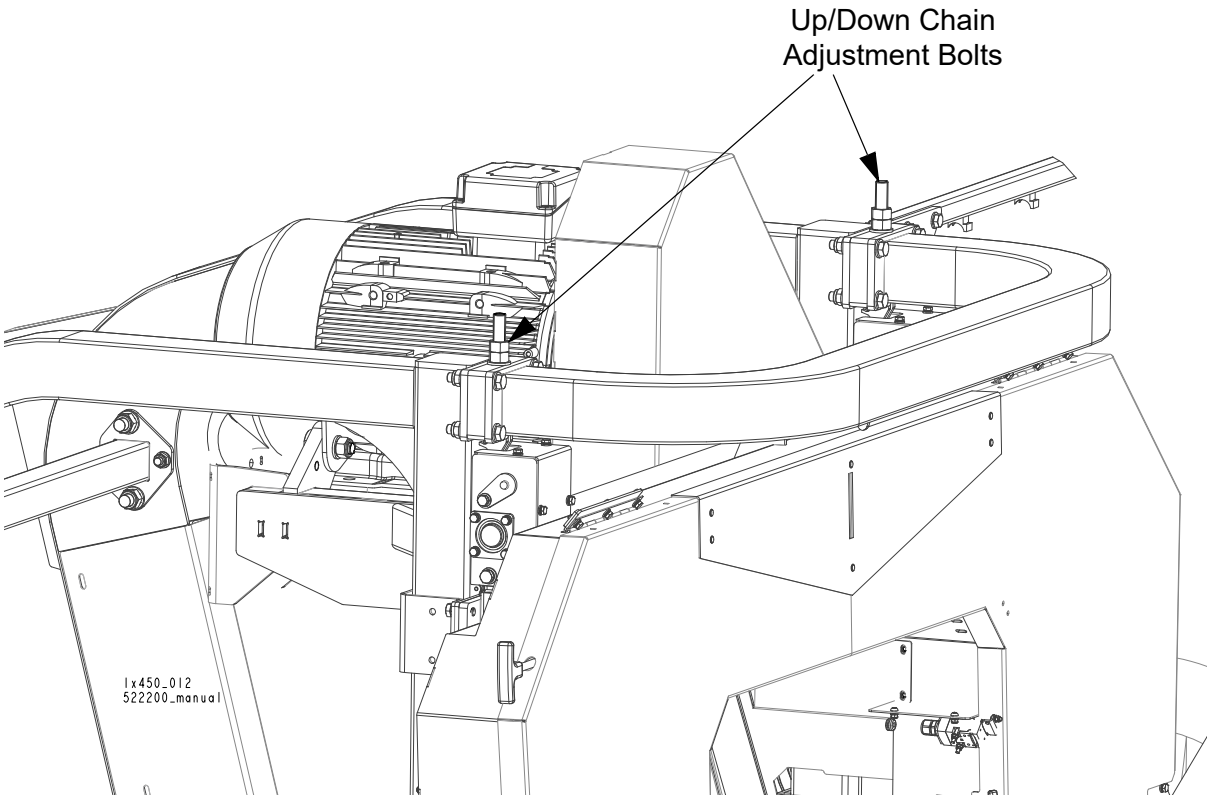


FIG. 5-14

7. After the up/down chains are adjusted properly, adjust the lower stop bolt. Lower the saw head until it is 25 mm over the bed rail. Adjust the stop bolt so it stops the saw head when it is 25mm over the bed rail.

CAUTION! It is important that the lower stop bolts are properly adjusted to secure the carriage on the track rail. Failure to properly adjust the stop bolts can cause saw head damage.

See Figure 5-15.

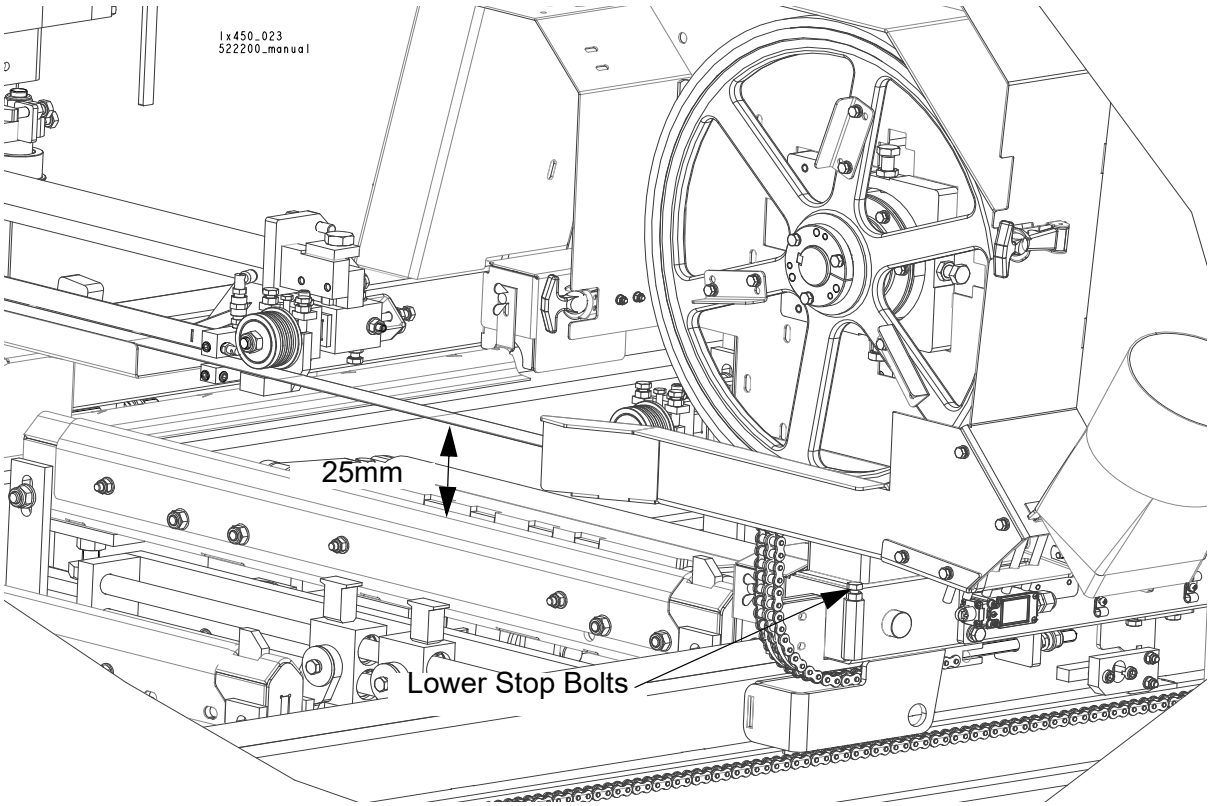


FIG. 5-15

5.7 Adjusting Bed Rails To The Blade

1. Move the clamp to its lowest position.

2. Move the saw head so the blade is positioned over the first bed rail.

3. Measure the distance between the bottom of the blade and the bed rail at each end of the bed rail. Both distances should be equal.

   See Figure 5-16.

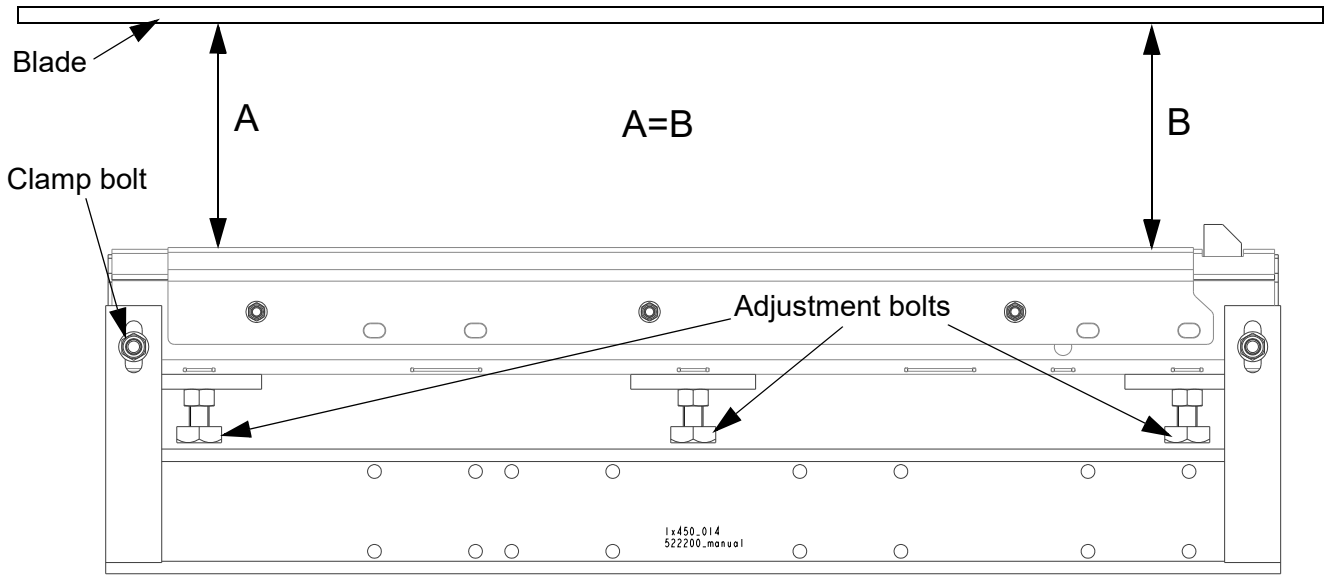


FIG. 5-16

4. Loosen the bed rail clamping bolts and turn the adjustment bolts to move the bed rails to the blade if necessary.

5. Re-tighten the clamping bolts and adjustment bolts.

6. Without changing the saw head height, check all bed rails. Adjust them so that all measure the same distance from the blade at both ends of the bed rail.

5.8 Blade Guide Arm Adjustment

The blade guide arm moves the outer blade guide in and out. If the arm becomes loose, the blade guide will not deflect the blade properly, causing inaccurate cuts. A loose blade guide arm can also cause blade vibration.

1. Adjust the blade guide arm in to 15 mm (1/2") from fully closed.

2. Manually try to move the arm up and down. If you can move the arm by hand, you will need to tighten the arm rollers.

   See Figure 5-17. Loosen the locking nuts. Next loosen the jam nuts and turn the adjustment bolts in to tighten the blade guide arm rollers. Re-tighten the jam and locking nuts.

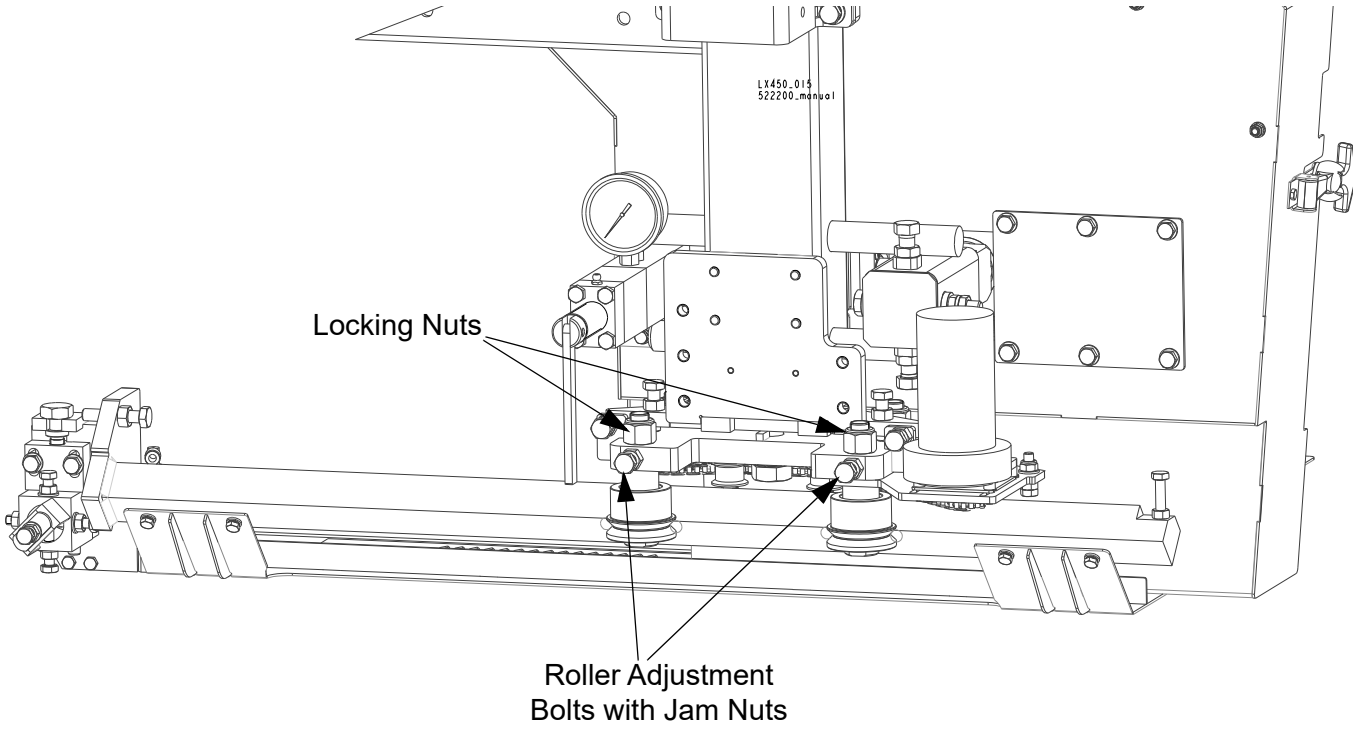


FIG. 5-17

After tightening the blade guide arm rollers, check that the arm is aligned properly.

3. With the arm adjusted 1/2" (15 mm) from fully closed, measure the distance between the blade guide roller flange and the back of the blade.

   See Figure 5-18.

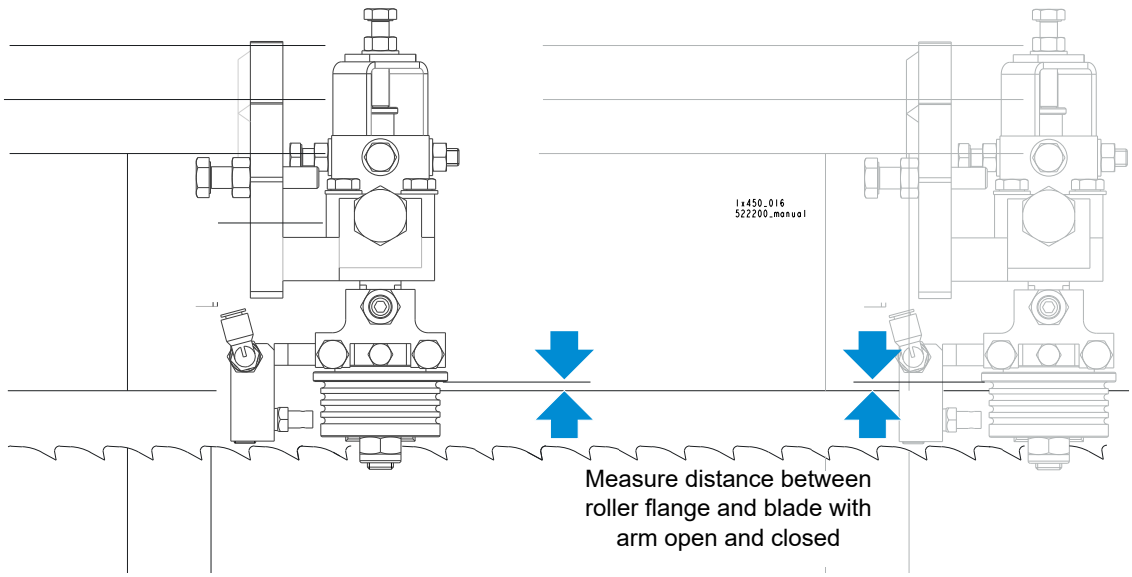


FIG. 5-18

4. Adjust the blade guide arm to 1/2" (15 mm) from fully open and remeasure the distance from the roller flange to the back of the blade. The two measurements should be the same. If not, adjust the outer rollers in or out to tilt the arm horizontally.

   See Figure 5-19. Loosen the mounting bolt. Loosen the horizontal adjustment bolt jam nuts. To tilt the arm in toward the blade, loosen the right bolt and tighten the left bolt. To tilt the arm out 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. Re-tighten the mounting bolt.

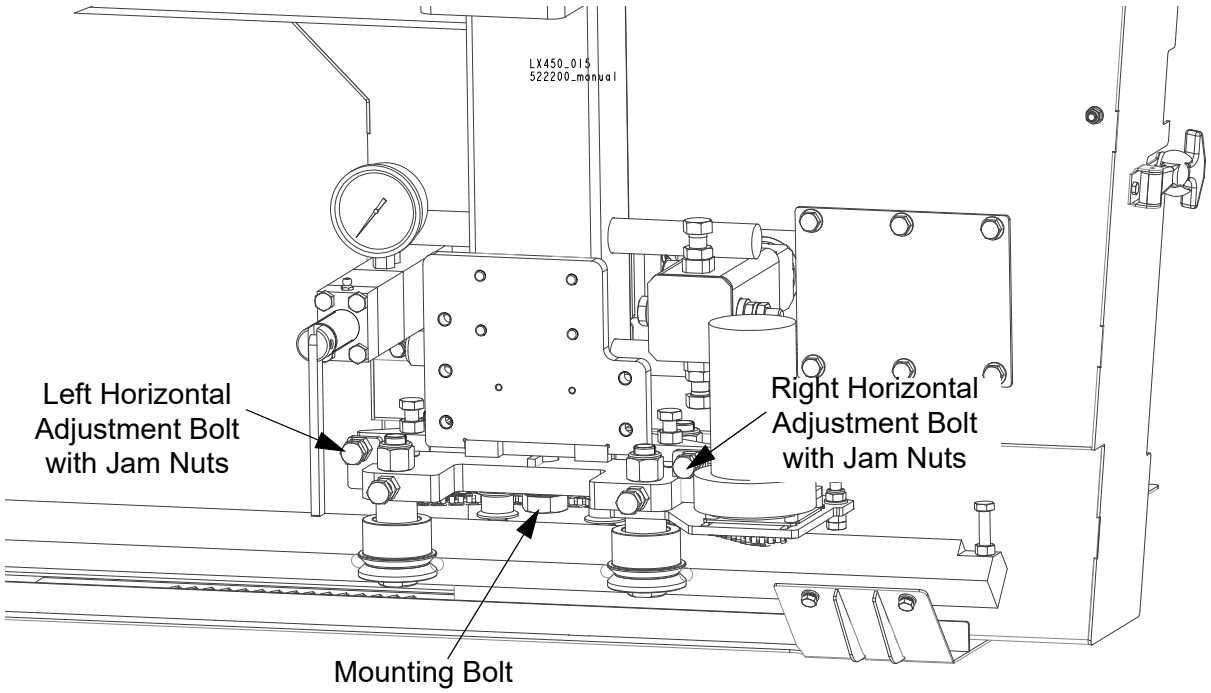


FIG. 5-19

5. Now check the vertical tilt of the blade guide arm. Move the saw head so the blade guide arm is positioned over a bed rail.

6. With the arm 1/2" (15 mm) from fully closed, raise or lower the saw head until the bottom of the blade guide block is 15" (375 mm) from the top of the bed rail.

See Figure 5-20. Adjust the blade guide arm to 1/2" (15 mm) from fully open. Measure the distance from the bottom of the blade guide mounting block to the bed rail. This measurement should be 15" (376 mm). If the measurements are not the same, adjust the blade guide arm vertically.

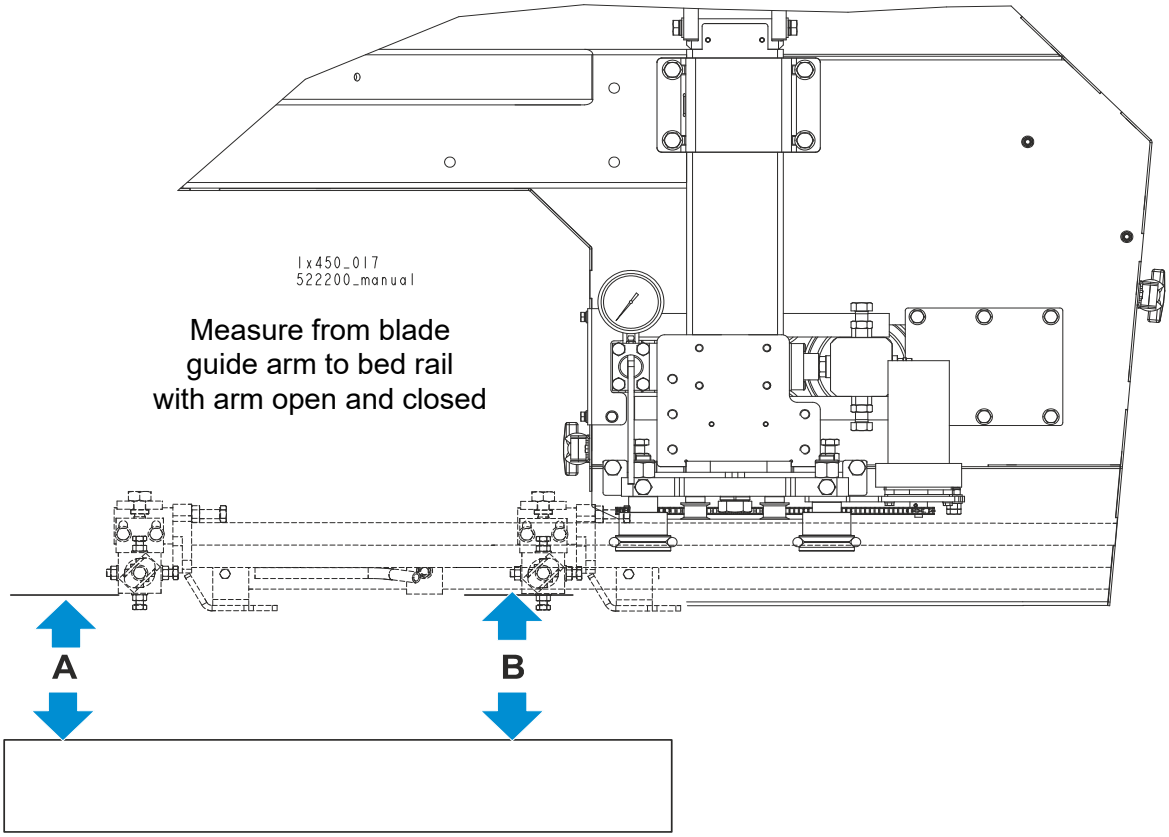


FIG. 5-20

See Figure 5-21. Loosen the vertical adjustment bolt jam nuts. To tilt the blade guide arm down, loosen the rear bolt and tighten the front bolt. To tilt the blade guide arm up, loosen the front bolt and

tighten the rear bolt. Retighten the jam nuts and recheck the blade guide arm vertical tilt.

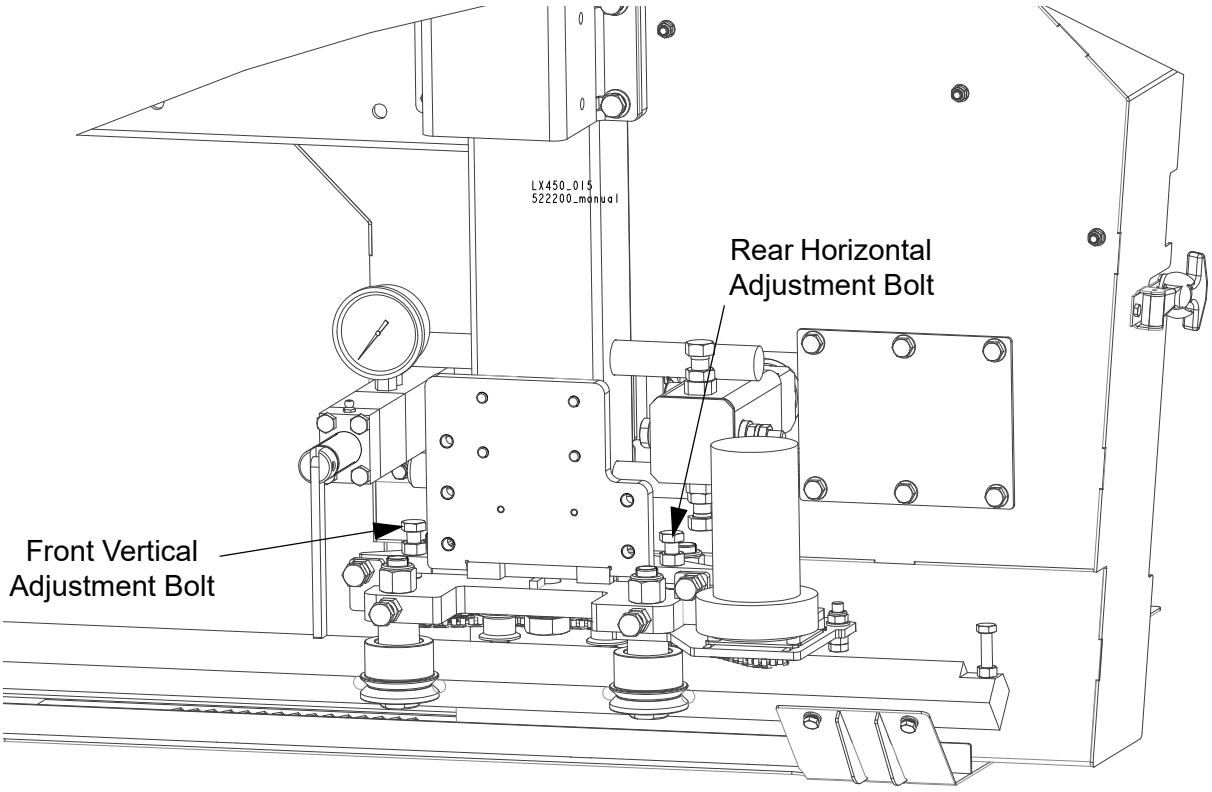


FIG. 5-21

5.9 Aligning the Blade Guides

Each Wood-Mizer sawmill has two blade guide assemblies that help the blade maintain a straight cut. The two blade guide assemblies are positioned on the saw head to guide the blade on each side of the material being cut.

One blade guide assembly is mounted in a stationary position on the drive side of the saw head. This assembly is referred to as the "inner" blade guide assembly.

The other blade guide assembly is mounted on the idle side of the saw head. It is referred to as the "outer" assembly and is adjustable for various widths of materials to be processed.

Blade guide alignment includes four steps:

- Blade Deflection
- Blade Guide Vertical Tilt
- Blade Guide Flange Spacing
- Blade Guide Horizontal Tilt

Perform the blade guide alignment after you have aligned the blade on the wheels and adjusted the blade and blade guide arm parallel to the bed rails. After blade guide alignment, check the scale indicator to make sure it is adjusted properly (*See Section 5.18*).

NOTE: During blade guide alignment, remove the blade guide adjusting screws and apply a lubricating oil such as 10W30 or Dexron III to each screw. This will prevent the screws and threaded holes from corroding and make screw adjustments easier.

5.10 Blade Deflection

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

1. Raise the carriage until the blade is 15" (375 mm) above a bed rail. Measure the actual distance with a tape from the top of the rail to the bottom of the blade.

2. Install the blade guides. Make sure the two set screws shown are threaded into the blade guide shaft until they touch each other.

   See Figure 5-22.

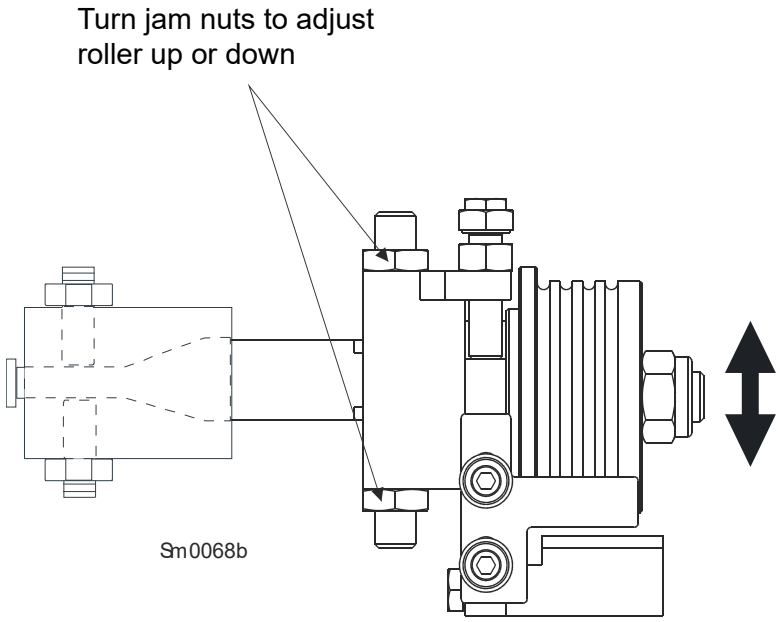


FIG. 5-22

3. Loosen the bottom jam nut and tighten the top jam nut until the blade guide deflects the blade down 4.0 mm.

4. Repeat for the other blade guide.

   NOTE: Be sure that the blade guide deflector rod clears the blade on both guide assemblies. The rod on the outer guide assembly should be checked with the arm all the way in and all the way out.

5.11 Blade Guide Vertical Tilt Adjustment

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

1. Open the adjustable blade guide arm 1/2" (15 mm) from full open.

2. Clamp the alignment tool on 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 on the blade.

   See Figure 5-23.

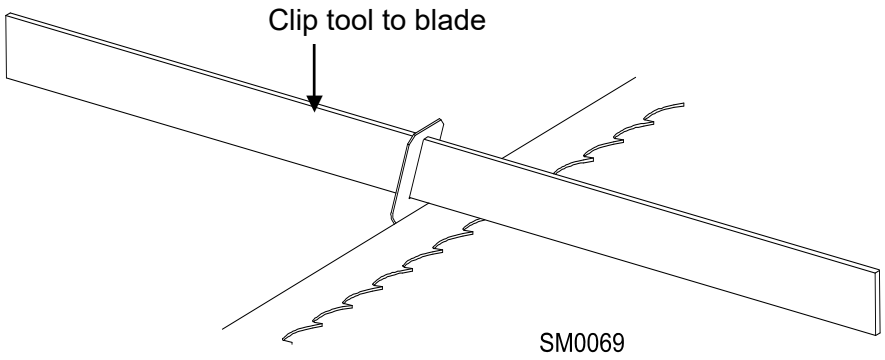


FIG. 5-23

3. Measure the distance from the bed rail to the bottom of the tool.

   NOTE: If the sawmill is equipped with stainless steel bed rail covers, be sure to measure from the blade guide alignment tool to the top surface of the cover rather than the bed rail tube.

4. Move the carriage so that the front end of the tool is positioned above the bed rail.

5. Measure the distance from the bed rail to the bottom edge of the tool.

6. Loosen one set screw at the side of the blade guide assembly.

7. Use the set screws shown to tilt the blade guide until the measurement from the bed rail to the tool equals the first measurement taken at the center of the tool.

See Figure 5-24.

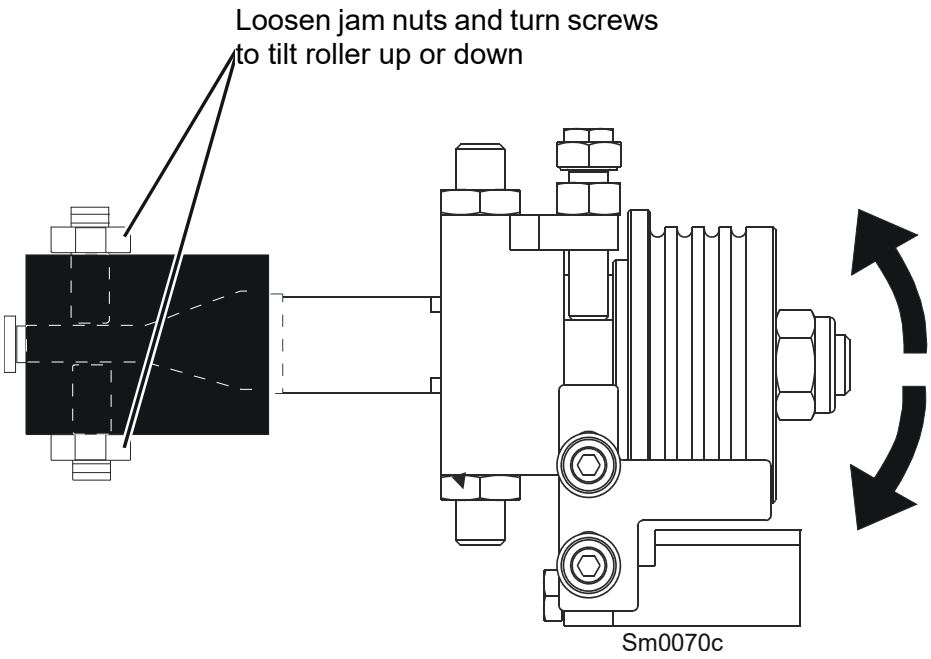


FIG. 5-24

8. Move the carriage forward so the back end of the tool is over the bed rail.

9. Use the set screws shown to adjust the blade guide tilt until the measurement from the bed rail to the tool equals the other two measurements taken.

10. Move the tool close to the other blade guide and repeat the previous steps.

    NOTE: If major adjustments to blade guide tilt were made, measure the distance between the blade and the bed rails again to ensure the correct 4.0 mm blade guide deflection. Adjust if necessary.

5.12 Blade Guide Spacing

HINT: When adjusting blade guide spacing, loosen the top set screw and one side set screw only. This will ensure horizontal and vertical tilt adjustments are maintained when the set screws are retightened.

1. Adjust the inner blade guide so the blade guide flange is approximately 3.0 mm from the back of the blade.

2. Loosen one side and one top set screw shown. Tap the blade guide forward or backward until properly positioned.

   See Figure 5-25.

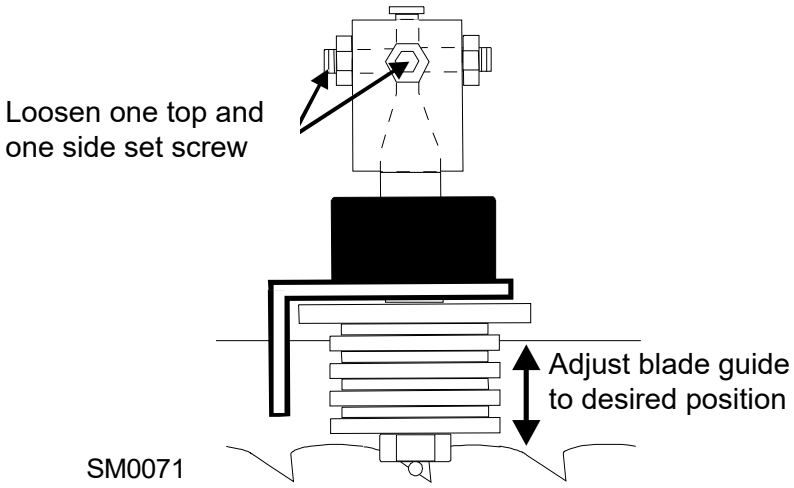


FIG. 5-25

3. Retighten the two set screws.

4. Adjust the outer blade guide in the same way so the blade guide flange is approximately 3.0 mm from the back of the blade.

5.13 Horizontal Tilt Adjustment

1. Finally, both blade guides must be tilted horizontally. Adjust the blade guide arm halfway in.

   See Figure 5-26.

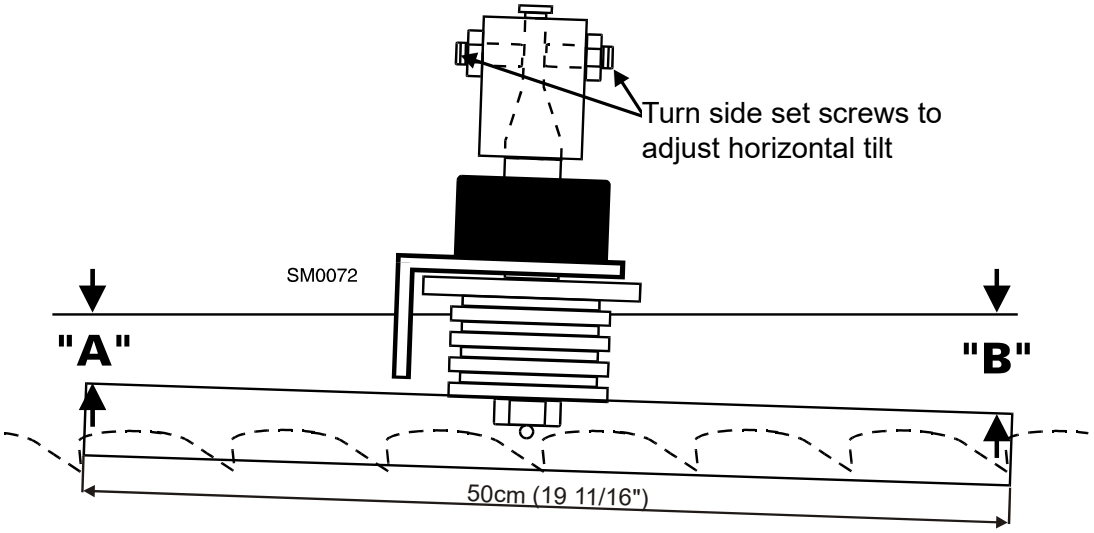


FIG. 5-26

2. Place the Blade Guide Alignment Tool against the face of the outer blade guide roller.

3. Center the tool on the roller and measure between the back edge of the blade and the ruler at the end closest to the inner blade guide ("B").

4. Measure between the back edge of the blade and the other end of the ruler ("A").

5. The roller should be tilted slightly to the left (A=B-1.4" [6 mm]).

6. Use the side set screws to adjust the horizontal tilt of the roller.

7. Repeat steps 3-7 for the inner blade guide roller.

   NOTE: Once the blade guides have been adjusted, any cutting variances are most likely caused by the blade. **See the Blade Handbook, Form #600.**

5.14 Blade Guide Disc Adjustment

To ensure correct cutting, adjust the gap between the blade guide disc and the blade. Perform the adjustment with the blade installed and properly tensioned.

See Figure 5-27. Loosen both nuts and retaining bolts. Use the adjustment bolt to raise or lower the disc until its distance from the blade is 0.3 - 0.5 mm. Then retighten the retaining bolts so that the disc is parallel to the blade. Retighten the retaining bolt nuts.

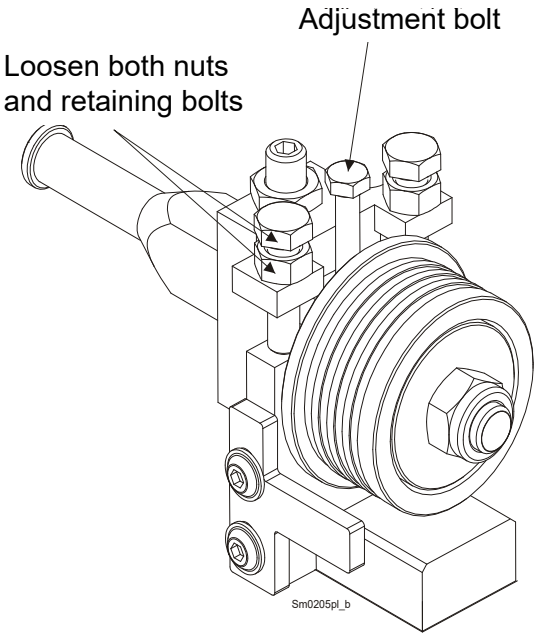


FIG. 5-27

See Figure 5-28. The gap between the disc and the blade should measure 0.3 - 0.5 mm.

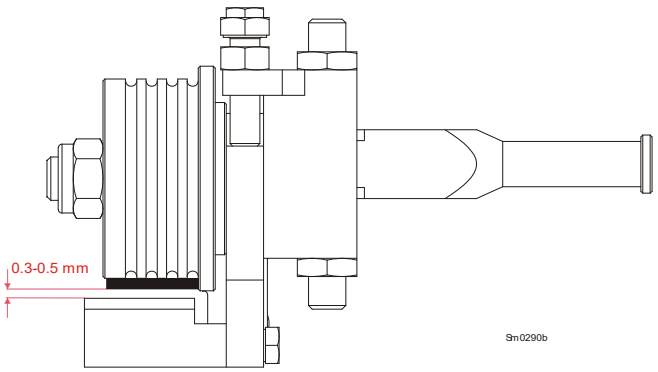


FIG. 5-28

5.15 Horizontal and Vertical Adjustment of Manual Side Supports

Logs and boards are clamped against the side supports when sawing. The optional, manual sides supports must be square to the bed to ensure square lumber.

1. Swing the side support down to adjust the side support in horizontal plane.
2. Measure between the face of the support and the main bed tube. Make measurements at both ends of the side support to make sure that it is parallel to the bed rail.
3. Use the two lower bolts to adjust the side support, so the distances A and B are equal.
4. Repeat for remaining side supports.

See Figure 5-29.

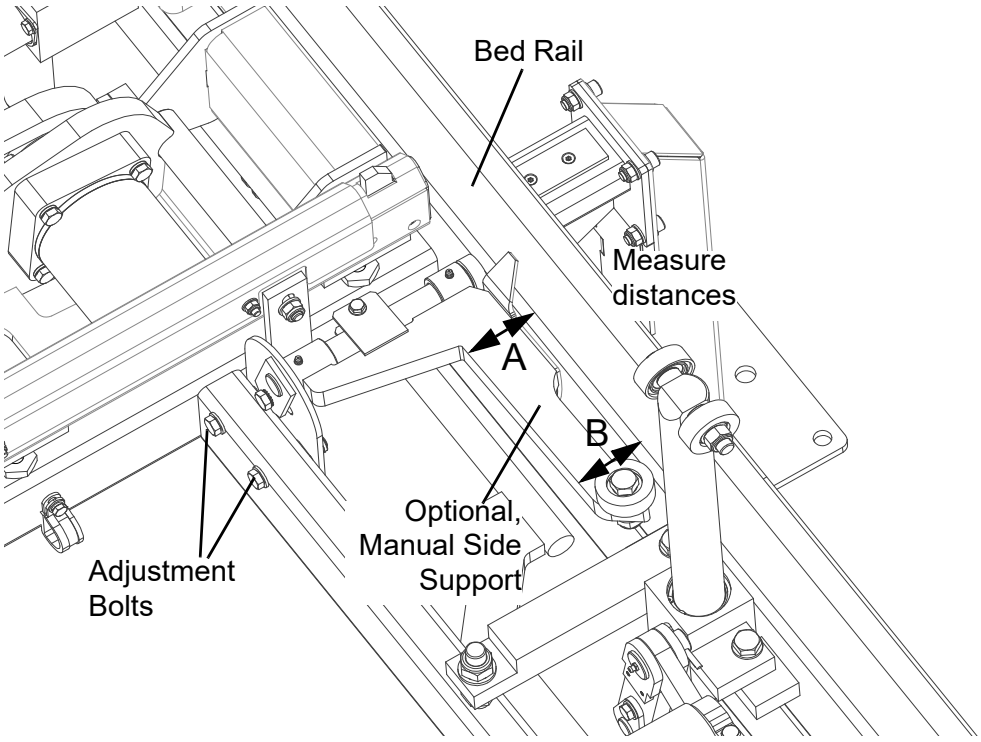


FIG. 5-29

5. Swing the side support up to adjust the side support in vertical plane.
6. Place a flat board across the bed rails.
7. Pull back at the top of the support to eliminate slack as if a log were being clamped against it.
8. Check the angle of each support with a square on the board.
9. The side support should be 90° to the bed rails. Loosen the locking bolt and swing the adjustment arm.

10. Repeat for the remaining side supports.

See Figure 5-30.

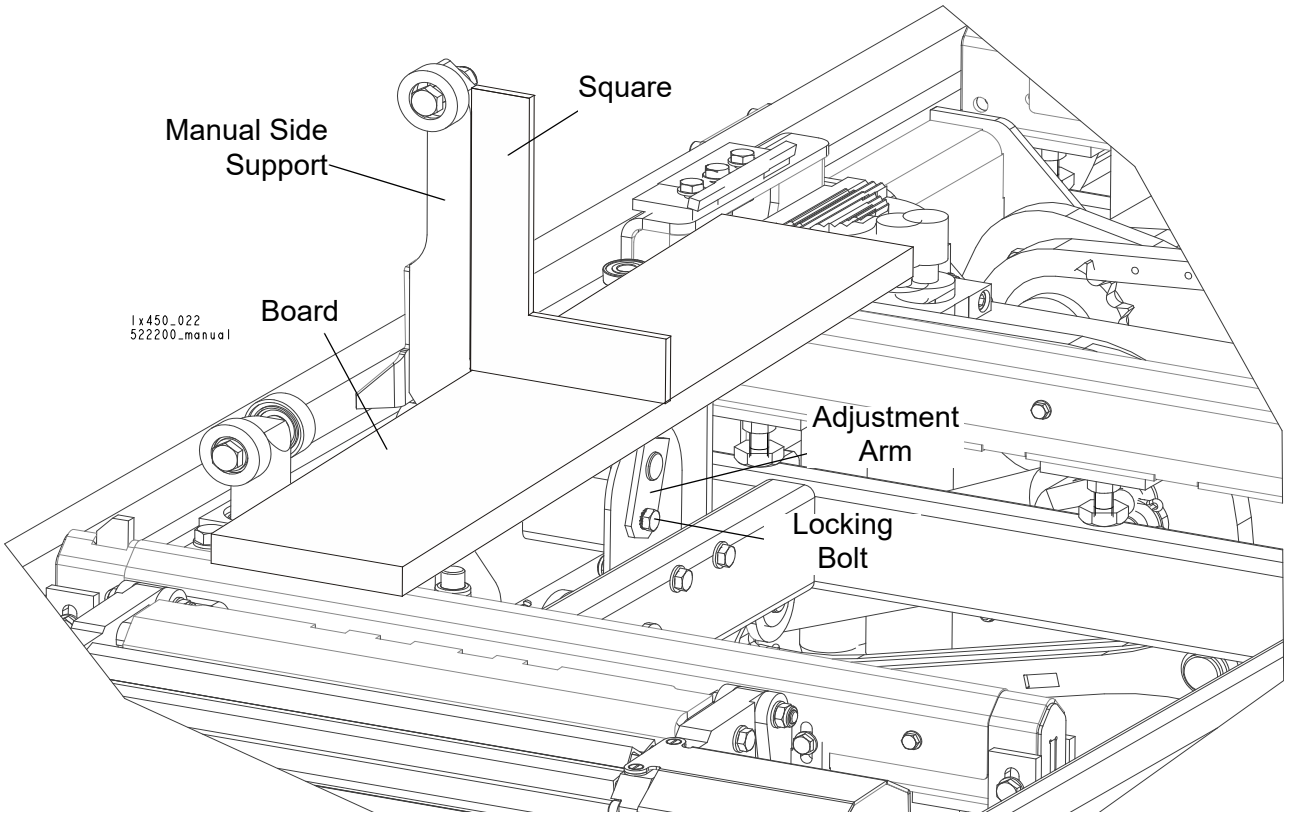


FIG. 5-30

5.16 Adjustment of Side Supports

1. Place a flat board across the bed rails.
2. Move a side support up so that it is vertical.
3. Pull back at the top of the support to eliminate slack as if a log were being clamped against it.

   See Figure 5-31.

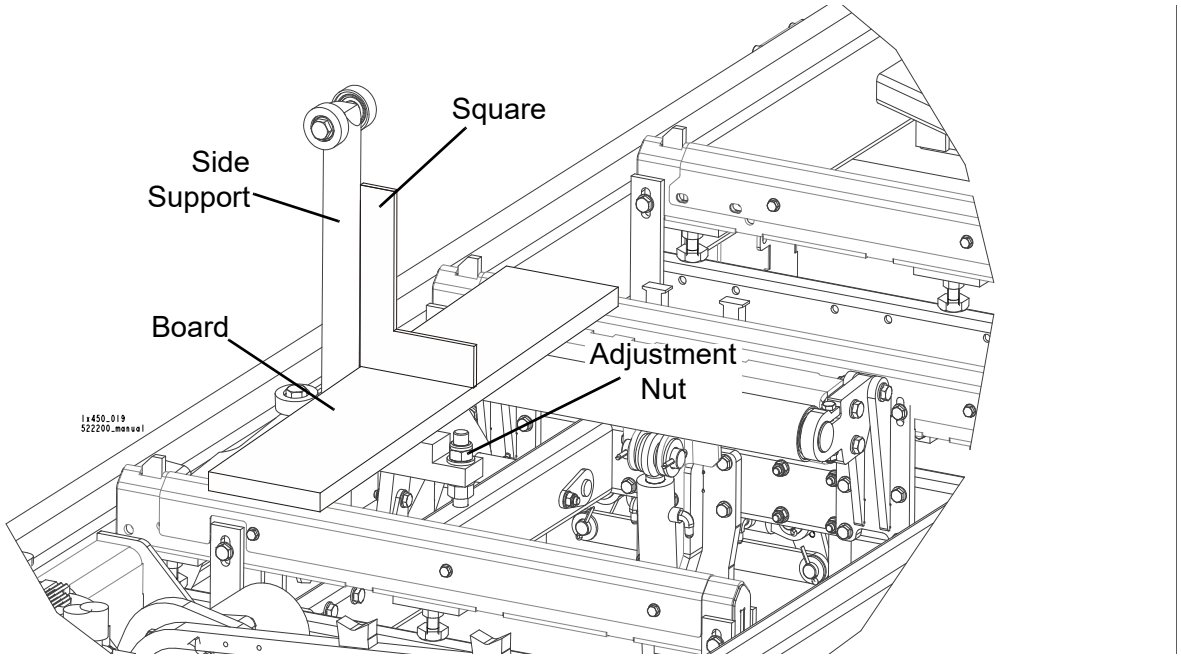


FIG. 5-31

4. Check the angle of each support with a square on the board.
5. The side support should be 90° to the bed rails. Using the adjustment nuts, adjust the side support.
6. Repeat for the remaining side supports.
7. Raise the side support and check if they are on the same level.

See Figure 5-32. Use the adjustment nut to set the side support so the distances A and B are equal.

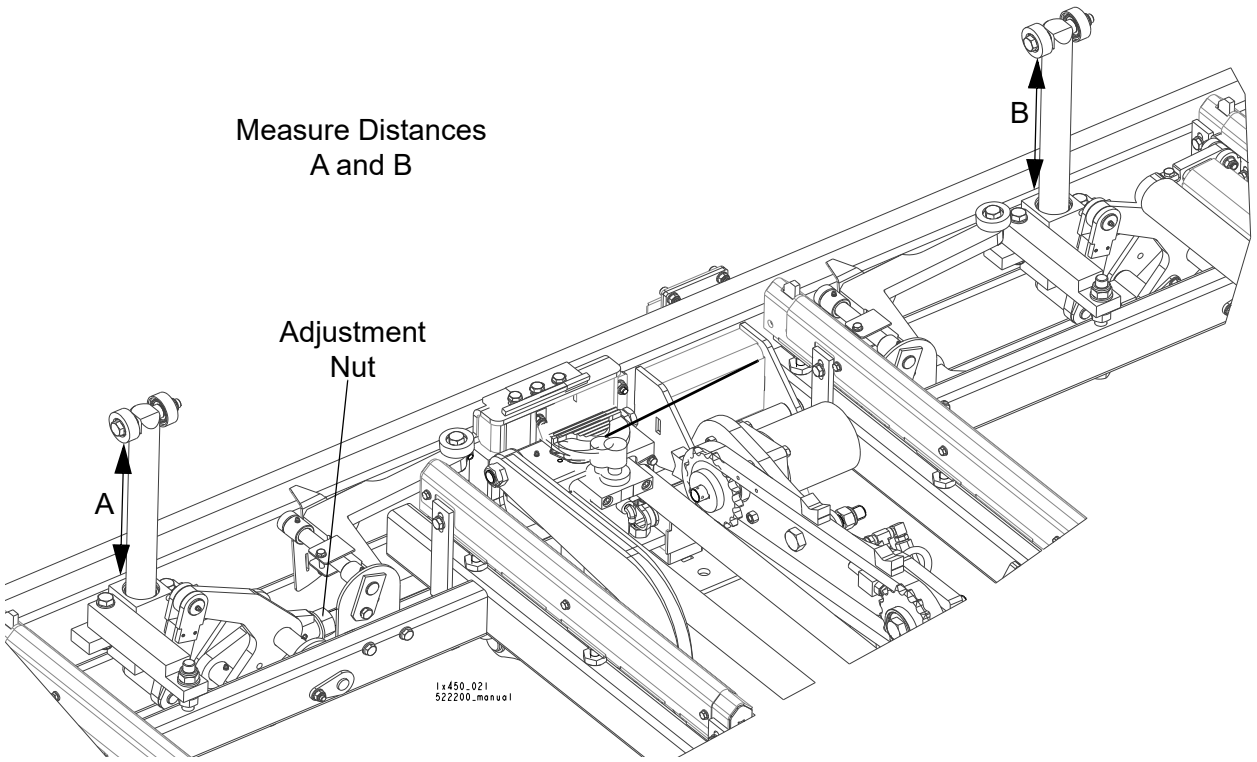


FIG. 5-32

5.17 Clamp Stop/Stop Bolt Adjustment

1. Once the side supports are aligned, tie a string across the side supports.

   See Figure 5-33.

2. Loosen the clamp stop bolts and adjust the clamp stop until it touches the string.

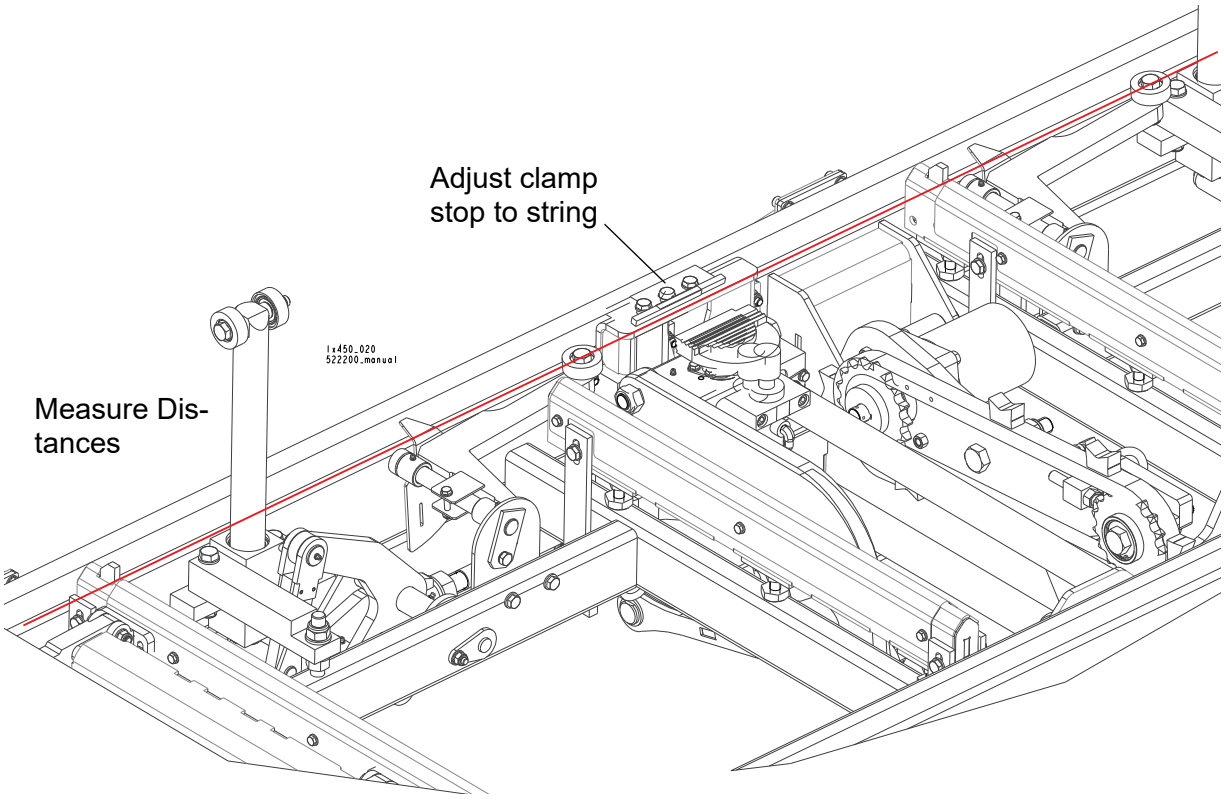


FIG. 5-33

5.18 Blade Height Scale Adjustment

After the entire sawmill has been aligned and all adjustments made, check that the blade height scale indicates the true distance from the blade to the bed rails.

1. Move the saw head so the blade is positioned directly above one of the bed rails. Measure from the bottom edge on a down-set tooth of the blade to the top of the bed rail (or stainless steel sleeve if applicable).

   See Figure 5-34.

2. View the blade height scale with eyes level with the indicator.

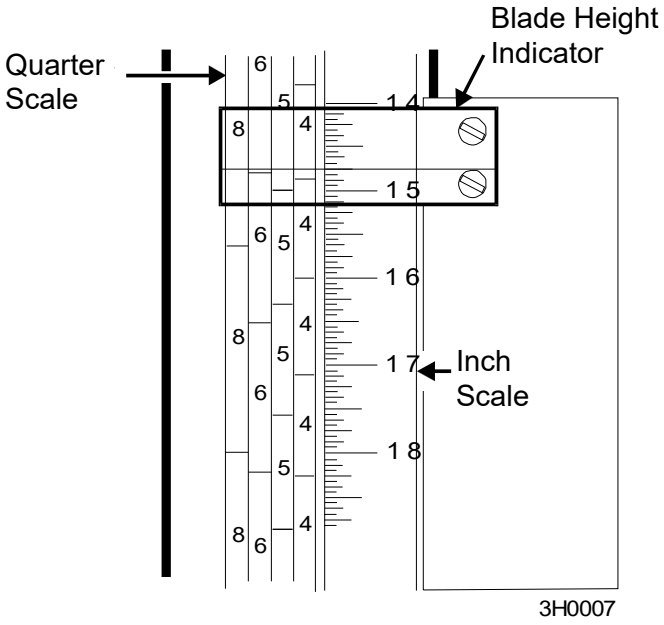


FIG. 5-34

3. Loosen the indicator bracket mounting bolts and adjust the bracket until the indicator is aligned with the correct mark on the scale. Retighten the bracket mounting nut.

   For example, if the measurement from blade to bed rail was 14 3/4" (375 mm), make sure the indicator reads 14 3/4" (375 mm) on the scale.

5.19 Board Removal Bumper Adjustment

See Figure 5-35.

Lightly compress the lower springs using the nuts shown below (A). Make sure the bumper roller is below the bed rail level.

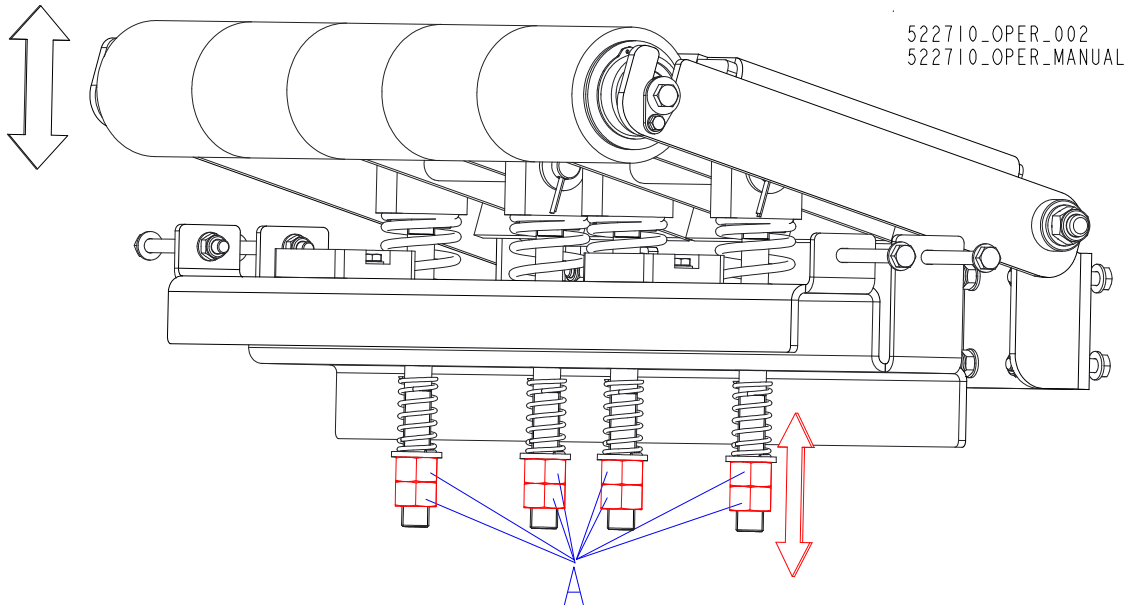


FIG. 5-35

SECTION 6 MOTOR BRAKE

6.1 Motor Brake Maintenance

Maintenance intervals

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

TABLE 6-1.

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

Please observe the following for inspections and maintenance operations:

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

Checking the rotor thickness

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

- Remove the motor cover and seal ring (if mounted).
- Measure the rotor thickness with a caliper gauge. On brakes with friction plates, observe edging on outer diameter of friction plate.
- Compare measured rotor thickness with minimally permissible rotor thickness. *See Table 6-2.*.
- 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 "sLürated".

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 6-2.

Wood-Mizer
from forest to final form

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:	**SAWMILL**
Model:	LX450
Type:	……..
Serial number:	……..

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
PN-EN ISO 13849-1:2016-02
PN-EN 60204-1:2018-12

Notified Body according to annex IV :	INSTYTUT TECHNOLOGII DREWNA Centrum Weryfikacji Wyrobów Przemysłu Drzewnego ul. Winiarska 1, 60-654 Poznań
Notification No:	1583
EC type-examination certificate no.:	0547/2017
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, 14.03.2017 
Title:	Engineering Manager