

Wood-Mizer[®] Sawmill

Safety, Setup, Operation & Maintenance Manual

LX450

rev. A1.00 - A1.05



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

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Wood-Mizer® LLC

Limited Product Warranty

Wood-Mizer

Wood-Mizer LLC ("Warrantor"), an Indiana corporation with its principal place of business at 8180 West Tenth Street, Indianapolis, IN 46214-2400 USA, warrants to the purchaser ("Purchaser") that for the time periods specifically stated herein and subject to the terms, conditions and limitations stated herein, the equipment manufactured by the Warrantor will be free from defects in material and workmanship attributable to Warrantor so long as, during the warranty periods stated herein, the equipment is installed, operated and maintained in accordance with the instructions provided by Warrantor.

PRODUCT	MODEL CLASS	LENGTH OF WARRANTY		EFFECTIVE DATE
		USA & CANADA	NON USA & CANADA	
Portable Sawmills, Resaws, Edgers	LT, LX, HR, EG	Two years	One year	Date of purchase
Portable Sawmills with Chassis	LT28, LT35, LT40, LT50, LT70, LX450	Two years, excluding the chassis, which chassis shall have a five year warranty	One year	
Industrial Sawmills, Resaws, Edgers	WM, HR, EG, TVS, SVS	One year	One year	
TITAN Industrial	WB, TV, HR, EG, EA, MR	One year	One year	Date of purchase or date of installation / training (if applicable), whichever occurs first, not to exceed 6 months from date of purchase
Material Handling	TWC, IC, TD, LD, GC, CR, CB, CC	One year	One year	
Blade Maintenance Equipment	BMS, BMT, BMST	One year	One year	
Options and Accessories	Various	One year*	One year*	
Moulders, Extractors	MP, MD	Two years	One year	
Kilns	KS, KD	One year	One year	
Slab Flatteners	MB	Two years	One year	
Pallet Equipment	PD, PC	One year	One year	
Log Splitters	FS	One year	One year	
Replacement Parts	Various	90 days	90 days	

* Warranty on Options will match the warranty on the primary equipment when purchased on same invoice.

Exclusions from 90 Day, Limited One Year and Two Year Warranty

Warrantor shall have **no** responsibility under this warranty for any wear components, including, but not limited to: belts, blade guides, blades, electric motor brushes, drum switches, filters, fuses, hoses, bearings (excluding cylindrical drive bearings), bushings, cable carriers, and spark plugs. All wear components are furnished **"as is"**, without any warranty from Warrantor. This limited warranty does not cover any defects caused by misuse, negligence, alterations, damage due to overload, abnormal conditions, excessive operation, accident, or lack of performance of normal maintenance services.

Several components which are used in the manufacture of the equipment but not manufactured by Warrantor such as cant hooks, power plants, laser sights, batteries, tires, and trailer axles have warranties provided by the original equipment manufacturer (written copies available upon request). Warrantor does not separately warrant such items. Components or equipment manufactured by third parties are not covered by this warranty. Warrantor, however, will provide reasonable assistance to the Purchaser to make claims against any warranties applicable to such component parts as provided by such original equipment manufacturers. Components or equipment manufactured by third parties are not covered by this Warranty.

Five Year Limited Chassis Warranty

The limited five year chassis warranty described above, DOES NOT extend to (a) any damage stemming from accident, improper towing, overload, abuse, misuse, abnormal conditions, negligence, excessive operation, or lack of maintenance, (b) rust caused by exposure to corrosive atmospheric conditions, or (c) the sawmill head, carriage, axle, brakes, or any hydraulic or electrical components attached to the chassis.

Warrantor's Obligations as To Defects

In the event that the equipment fails to perform due to defective materials or workmanship attributable to Warrantor under normal use and service within the established warranty period, Purchaser's sole and exclusive remedy and Warrantor's sole liability shall be to replace or repair, in Warrantor's sole and subjective discretion, any defective part at Warrantor's principal place of business without cost to the Purchaser if such defect exists. The determination of whether a product is defective shall be made by Warrantor in Warrantor's sole and subjective discretion. The Purchaser must notify Warrantor prior to shipping any defective part. Warrantor, at its sole discretion, may cover expenses incurred in shipping the defective part to Warrantor for evaluation; provided, however, that Warrantor will not be responsible for labor, travel time, mileage, removal, installation or incidental or consequential damages. However, any part in excess of 140 pounds must be returned by the Purchaser, to the Warrantor's nearest authorized facility at the Purchaser's expense, if return is requested by Warrantor. Warrantor shall have a reasonable time within which to replace or repair the defective part. If Warrantor determines that the product is not defective under the terms of this warranty in Warrantor's sole and subjective discretion, then Purchaser shall be responsible for any expenses incurred by Warrantor in returning the equipment to the Purchaser.

Limitations and Disclaimers of Other Warranties

EXCEPT FOR THE EXPRESS WARRANTY PROVISIONS STATED ABOVE, WARRANTOR DISCLAIMS ALL WARRANTIES, EXPRESS AND/OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT AND TITLE. No representation or other affirmation of fact by representatives of Warrantor, whether verbal or in writing, including photographs, brochures, samples, models, or other sales aids, shall constitute a warranty or other basis for any legal action against Warrantor. There are no other representations, promises, agreements, covenants, warranties, guarantees, stipulations or conditions, express or implied, by Warrantor except as expressly set forth herein. THE ORIGINAL PURCHASER AND ANY INTENDED USER OR BENEFICIARY OF THIS EQUIPMENT, SHALL NOT BE ENTITLED TO RECOVER ANY INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OR LOSSES, INCLUDING BUT NOT LIMITED TO, DAMAGES OF LOST PRODUCTION, LOST REVENUE, LOST PRODUCT, LOST PROFITS, LOST BUSINESS, LOSS OF USE, LOSS OF GOODWILL, OR BUSINESS INTERRUPTION, FROM WARRANTOR FOR ANY REASON WHATSOEVER INCLUDING WITHOUT LIMITATION WARRANTY OR DEFECT IN THE PRODUCT REGARDLESS OF THE SOLE, JOINT AND/OR CONCURRENT NEGLIGENCE, BREACH OF CONTRACT, BREACH OF WARRANTY, STRICT LIABILITY IN TORT OR STATUTORY CLAIMS OR OTHER LEGAL FAULT OR RESPONSIBILITY OF EITHER WARRANTOR OR PURCHASER OR ITS EMPLOYEES OR AGENTS. Warrantor does not warrant that its equipment meets or complies with the requirements of any particular safety code or governmental requirements.

Defective items replaced under the terms of this warranty become the property of Warrantor.

Design Changes

Warrantor reserves the right to change the design of its products from time to time without notice and without obligation to make corresponding changes in or to its products previously manufactured.

Rights of Purchasers

The validity and effect of this limited warranty as well as its interpretation, operation and effect, shall be determined exclusively by the principles of law and equity of the State of Indiana, USA. This limited warranty gives Purchaser specific legal rights. Purchaser may also have other rights, which may vary from state to state. Some states may not allow limitations as to the duration of implied warranties or to the exclusion or limitation of incidental or consequential damages, so some of the limitations and exclusions detailed set forth above may not apply. In the event that any one or more of the provisions of this warranty shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this warranty shall not be affected thereby.

Interpretations

This Warranty constitutes the entire warranty agreement between Warrantor and Purchaser and supersedes any prior understandings or agreements pertaining to the same subject matter. This warranty cannot be amended except in writing which refers to this warranty which is signed by both Warrantor and Purchaser.

SECTION 1 INTRODUCTION

1.1 About This Manual

This manual replaces any previous information received on your Wood-Mizer® equipment.

The information and instructions in this manual do not amend or extend the limited warranties for the equipment given at the time of purchase.

1.2 Getting Service

For contact information, sales, service, parts, and additional manuals, sign into your account on <https://woodmizer.com>, or call inside the USA: 1-800-553-0182 or from outside the USA: 317-271-1542

1.3 Specifications

Equipment specification are included in the Online Manuals, which are found at <https://apps.woodmizer.com/Manuals/Manuals.aspx?parent=0>.

1.4 Customer and Sawmill Identification

Each Wood-Mizer sawmill has a model number, revision number, and a 17-digit vehicle identification number (VIN). In addition, when you pick up your mill, you will receive your personal customer number. These four numbers will help expedite our service to you. Please locate them now and write them below so you have quick, easy access to them.

Mill Model and Revision _____

Mill VIN _____

Customer No. _____

SAMPLES:

Basic model	Engine	Revision number	Minor revision level
		A1.01	

VIN Plate	Serial number	Full revision number
MFG BY/ FABRIQUÉ PAR: WOOD-MIZER, LLC 8130 W. 10th St. Indianapolis, IN 46214-2400 U.S.A. 317/ 271-1542 Or 800/ 553-0182		
VIN/NIV: 456D9271XSND A1017	A1.01	DATE: 04/15/2017
GVWR/PNBV: GAWR/PNBE: TIRE SIZE/PNEU: RIM /JANTE: COLD INFL. PRESSURE/ PRESS. DE GONF. À FROID:	VEHICLE TYPE/TYPE DE VÉHICULE: TRAILER/REMORQUE THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR SAFETY STANDARDS AND THOSE PRESCRIBED UNDER THE CANADIAN VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE. CE VÉHICULE EST CONFORME À TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SÉCURITÉ DES VÉHICULES AUTOMOBILES DU CANADA EN VIGUEUR À LA DATE DE SA FABRICATION.	
One or more patents may apply: U.S. Patent #6,655,429		

Sample VIN	Company Identification Number	Weight Class	Product Designation number	Length of the Trailer	Axle count	Check Digit	Year of Manufacture (coded)	Manufacture location	Month of Manufacture	Revision Level	Sequence Number
	456	D	9	27	1	X	S	N	D	A1	017

V.I.N. DESCRIPTION

SECTION 2 SAFETY

2.1 Safety Symbols

The following symbols and signal words 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 serious injury or death.



WARNING! suggests a potentially hazardous situation which, if not avoided, could result in serious injury or death.



CAUTION! refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury or damage to equipment.

NOTICE indicates vital information.

2.2 Safety Instructions

OWNER/OPERATOR'S RESPONSIBILITY

The procedures listed in this manual may not include all ANSI, OSHA, or locally required safety procedures. **It is the owner/operator's responsibility and not Wood-Mizer LLC to ensure all operators are properly trained and informed of all safety protocols.** Owner/Operators are responsible for following all safety procedures when operating and performing maintenance to the sawmill.

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

OBSERVE SAFETY INSTRUCTIONS

NOTICE 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. Be able to access this manual at all times while operating the mill.

Read all additional manufacturer's manuals and observe all applicable safety instructions including dangers, warnings, and cautions.

Only 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.

NOTICE It is always the owner/operator's responsibility to comply with all applicable federal, state and local laws, rules and regulations regarding the ownership, operation and towing of your Wood-Mizer sawmill. All Wood-Mizer mill operators are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using or towing the mill.





WARNING! Clean sawdust from all guards, vents, control boxes, or any area where sawdust may gather **after every shift**. Failure to do so may result in fire, causing death or serious injury.



WEAR SAFETY CLOTHING



WARNING! Secure all loose clothing and jewelry before operating the sawmill.

Always wear gloves and eye protection when handling bandsaw blades. Keep all personnel away from area when coiling, carrying, or changing a blade.



Always wear eye, ear, and foot protection when operating or servicing the sawmill.

Some woods require respiration protection when operating the sawmill. **It is the sawyer's responsibility to know which woods require respiration protection.**



KEEP SAWMILL AND AREA AROUND SAWMILL CLEAN



DANGER! Maintain a clean and clear path for all necessary movement around the mill and lumber stacking areas.

HANDLE FUEL/LUBRICANTS SAFELY



DANGER! Due to the flammable nature of fuel and oil, never smoke, weld, grind or allow sparks near your engine or storage tanks, especially during times of fueling.

Never allow fuel to spill on a hot engine during fueling operations or otherwise.



WARNING! Store gasoline away from sawdust and other flammable materials.

Never use flammable fuels or liquids such as diesel fuel with the water lube accessory.

If these types of liquids are necessary to clean the blade, remove it and clean with a rag. Failure to follow this can damage the equipment and could result in serious injury or death.



DISPOSE OF SAWING BY-PRODUCTS PROPERLY

NOTICE Always properly dispose of all sawing by-products, including sawdust and other debris, coolant, oil, fuel, oil filters and fuel filters.

USE CAUTION WHEN WORKING WITH BATTERIES (GAS & DIESEL SAWMILLS ONLY)



DANGER! Batteries expel explosive gases; keep sparks, flames, burning cigarettes, or other ignition sources away at all times.



WARNING! Always wear safety goggles and a face shield when working near batteries.

Wash hands after handling batteries to remove possible lead, acid, or other contaminants.

Charge the battery in a well ventilated area.

Do not attempt to charge a frozen battery.

NOTICE When working with batteries, use extreme care to avoid spilling or splashing electrolyte (dilute sulfuric acid) as it can destroy clothing and burn the skin.

EMERGENCY TREATMENT FOR CONTACT WITH BATTERY COMPONENTS (LEAD/SULFURIC ACID) per SDS (Safety Data Sheet):

EYE CONTACT	Sulfuric Acid and Lead: Flush eyes immediately with large amounts of water for at least 15 minutes while lifting lids. Seek immediate medical attention if eyes have been exposed directly to acid.
SKIN CONTACT	Sulfuric Acid: Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing, including shoes. If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes. Lead: Wash immediately with soap and water.
INGESTION	Sulfuric Acid: Administer large amounts of water. Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death; consult physician.
INHALATION	Sulfuric Acid: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician. Lead: Remove from exposure, gargle, wash nose and lips; consult physician.



CAUTION! Do not overcharge the battery. Overcharging may reduce the overall service life of the battery.

Be sure the battery is fully charged before transporting the sawmill. If the battery is not fully charged, excessive vibration could reduce the overall service life of the battery.

CAUTIONS FOR SAWMILL SETUP



WARNING! To avoid tipping the mill over, do not set up the mill on ground with more than a 10 degree incline.

Chock the trailer wheels in front and behind each tire to prevent movement before unhitching it from the towing vehicle.

Put front outrigger (leg) down before moving saw head from the rest position.

Ensure the trailer is supporting the sawmill frame when operating a sawmill with adjustable outriggers, as the adjustable outriggers are intended to support the saw frame with assistance from the trailer.

Securely fasten the feet of a stationary sawmill to the floor before operating the sawmill.

NOTICE The adjustable outriggers supplied with portable sawmills are not intended for setup on concrete or other hard surfaces. Long-term use of the adjustable outriggers on hard surfaces

may cause the outriggers to fail, causing the sawmill to drop. If setting the sawmill up on concrete or other hard surface, replace the adjustable outrigger legs with stationary legs.

CHECK SAWMILL/BLADES BEFORE OPERATION



DANGER! Ensure that all guards and covers are in place and secured before operating or towing the sawmill.

Be sure the blade housing and pulley covers are in place and secure. Use the safety retainer pin and cable to fasten blade housing covers.



DANGER! Check and maintain your blades to prevent blade breakage during operation.

Blade guide alignment is essential for optimal cutting performance, blade life and safety. Failure to check and maintain proper blade guide alignment will result in stress cracks forming in the blade. These cracks will lead to premature blade breakage. If the blade breaks during operation and the blade has multiple stress cracks, the blade could shatter into several pieces and escape from the protective guards of the sawmill. Small blade pieces projected into the area around the sawmill creates a safety hazard for the operator and any bystanders surrounding the mill.



DANGER! Never use blades with stress cracks.



WARNING! Be sure the handle lock engages (flips down) after tensioning the blade; use both hands to secure it, if necessary.

KEEP PERSONS AWAY



DANGER! Stay clear of the area between the trailer axle and saw carriage.

Keep all persons out of the path of moving equipment and logs when operating sawmill or loading and turning logs.

Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine or motor.



KEEP HANDS AWAY



DANGER! Disengage the blade and shut off the sawmill engine before changing the blade.

Keep hands away from moving bandsaw blade.

Stay a safe distance from rotating members and ensure that loose clothing or long hair does not engage rotating members resulting in possible injury.



WARNING! Never touch or perform service functions on a hot engine.

Engine components can become very hot during operation. Avoid contact with any part of a hot engine. The exhaust components of your engine are especially hot during and following operation. Contact with hot engine components can cause serious burns. Allow the engine to cool sufficiently before beginning any service function.

Do not spin the blade wheels by hand.

Disengage the clutch/brake mechanism whenever the sawmill is not cutting.

Never adjust the engine drive belts or belt support bracket with the engine running.

Keep hands, feet, and any other objects away from the sawdust chute when operating sawmill.



CAUTIONS FOR GAS OR DIESEL ENGINE OPERATION



DANGER! Operate your engine/machine only in well ventilated areas.

Never operate an engine with a fuel or oil leak which could potentially come in contact with hot surfaces and ignite into flames.

Do not operate engine without proper and operational spark arrester/muffler, which prevents sparks emitted from the engine exhaust from igniting surrounding materials.

USE PROPER PROCEDURE WHEN CONDUCTING ELECTRICAL SAFETY CHECKS AND MAINTENANCE

NOTICE Wear appropriate Personal Protection Equipment for all service done on your electrical components.



DANGER! Keep all electrical component covers closed and securely fastened during mill operation.



WARNING! Consider all electrical circuits energized and dangerous.

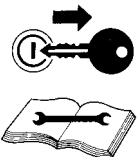
Disconnect the negative battery terminal cable before performing any service to the 12-Volt electrical system.

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

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

Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key.

Remove the blade before performing any service to the engine or sawmill.



KEEP SAFETY LABELS IN GOOD CONDITION

NOTICE 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 your Customer Service Representative to order more decals.

NOTICE If replacing a component that has a safety decal affixed to it, ensure that the new component also has the safety decal affixed.

USE CAUTION WHEN WORKING WITH HEAVY LOGS



WARNING! Ensure log is clamped securely before sawing.

Position the optional hydraulic loading arm halfway up while log is on sawmill bed.

AUTOMATIC OPTIONAL BOARD RETURN SAFETY



DANGER! Keep all persons out of the path of returning boards.

The automatic board return is intended to assist a second operator in removing boards quickly. Do not use the board return when operating the sawmill alone.

Never use the board return table as a platform to stand on, as it is designed only for board unloading assistance.

UP/DOWN SYSTEM SAFETY



WARNING! Secure the saw head with a support (chains, blocks, etc.) with at least 1900 lbs. working load capacity before adjusting:

- the up/down chains
- mast pads
- up/down motor belt

to prevent sawhead falls.

Ensure the power feed switch is in the neutral position before turning the key switch to the on (1) or accessory (3) position.

GENERAL TRAILER SAFETY



DANGER! Do not use eyebolts for safety chain hook-up.

Hook the safety chains to the bumper of vehicle so that each chain would pull the trailer equally in the event the hitch became disengaged.

Ensure the hitch and safety chains are secure before towing the sawmill.

Ensure all light connections have been made and are working properly before towing the sawmill.



WARNING! Do not make modifications or additions that affect the weight and/or stability of the towing unit.

Check trailer tires for proper inflation before towing sawmill.



CAUTION! Move the hydraulic clamp and turner to provide maximum ground clearance before towing. Failure to follow this may result in damage to the sawmill.

ADDITIONAL SAFETY FOR ELECTRIC BRAKE TRAILERS



DANGER! Ensure the electric brake wire is secured as close to the trailer axle as possible to prevent wire disconnection during towing.

Be sure electric brake battery is charged and is working properly before towing the sawmill.

Do not use the electric brake system as an “emergency brake” while the sawmill is not being towed, thus draining the brake battery.

2.3 Electrical Lockout Procedures

RULES FOR USING LOCKOUT PROCEDURE

The sawmill shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch or valve bearing a lock.

LOCKOUT PROCEDURES MUST BE USED DURING:

Changing or adjusting blades	Electrical maintenance
Unjamming operations	Retrieval of tools/parts from work area
Cleaning	Activities where guards or electrical panel guard is open or removed
Mechanical repair	

Table 1:

MAINTENANCE HAZARDS INCLUDE:

Blade contact	Missiles (thrown blades/wood chips)
Pinch points	Electrical
Kickbacks	

Table 2:

FAILURE TO LOCKOUT MAY RESULT IN:

Cut	Serious injury and death
Crush	Amputation
Blindness	Burn
Puncture	Shock
Electrocution	

Table 3:

TO CONTROL MAINTENANCE DANGERS:

- Lockout procedures must be followed (see OSHA regulation 1910.147).
- Never rely on machine stop control for maintenance safety (emergency stops, on/off buttons, interlocks).
- Do not reach into moving blades or feed systems. Allow all coasting parts to come to a complete stop.
- Electrical power supply and air supply must both be locked out.
- Where established lockout procedures cannot be used (electrical troubleshooting or mechanical dynamic troubleshooting), alternative effective protective techniques shall be employed which may require special skills and planning.
- Always follow safe operations practices in the workplace.

SAWMILL LOCKOUT PROCEDURE

Lockout procedures per OSHA regulation 1910.147, appendix A:

GENERAL

The following simple lockout procedure is provided to assist owner/operators in developing their procedures so they meet the requirements of OSHA regulation 1910.147. When the energy isolating devices are not lockable, tagout may be used, provided the owner/operator complies with the provisions of the standard which require additional training and more rigorous periodic inspections. When tagout is used and the energy isolating devices are lockable, the owner/operator must provide full operator protection (see OSHA regulation 1910.147, paragraph

(c)(3)) and additional training and more rigorous periodic inspections are required. For more complex systems, more comprehensive procedures may need to be developed, documented, and utilized.

PURPOSE

This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before personnel perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

COMPLIANCE WITH THIS PROGRAM

All personnel are required to comply with the restrictions and limitations imposed upon them during the use of lockout. The authorized personnel are required to perform the lockout in accordance with this procedure. All operators, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment.

SEQUENCE OF LOCKOUT

1. Notify all affected personnel that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
2. The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.
3. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.).
4. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).
5. Lock out the energy isolating device(s) with assigned individual lock(s).
6. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating fly-wheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate.



CAUTION! Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

8. The machine or equipment is now locked out.

RESTORING EQUIPMENT TO SERVICE

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

1. Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
2. Check the work area to ensure that all personnel have been safely positioned or removed from the area.
3. Verify that the controls are in neutral.
4. Remove the lockout devices and re-energize the machine or equipment.

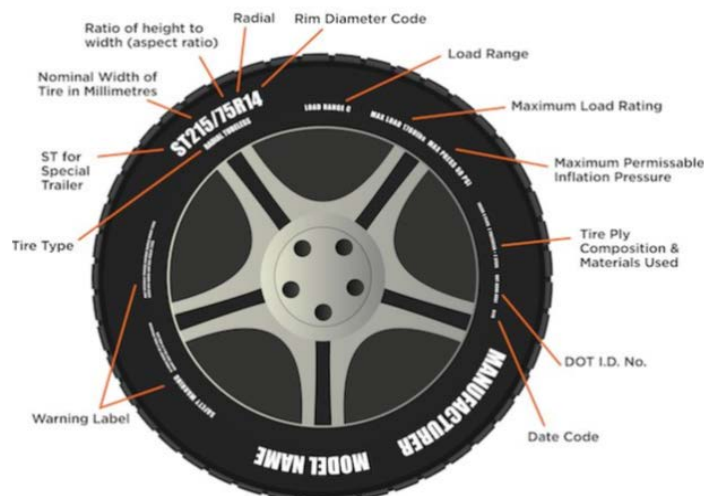
NOTE: The removal of some forms of blocking may require re-energization of the machine before safe removal.

5. Notify affected personnel that the servicing or maintenance is completed and the machine or equipment is ready for use.

PROCEDURE INVOLVING MORE THAN ONE PERSON

In the preceding steps, if more than one individual is required to lock out the sawmill, **each shall place his own personal lock on the energy isolating devices.**

2.4 Tire labeling



Tire markings

TIRE CLASS AND SIZE: (Example: ST215/75R14)

- **ST** stands for Special Trailer tire. ST trailer tires are built to tow heavy loads, withstand excessive heat, and reduce sway.
- **215** is tire width in millimeters;
- **75** is the aspect ratio, or ratio of height to width;
- **R** is type of construction (radial, in the example)
- **14** is rim diameter in inches.

TIRE TYPE Below the tire size is either 'radial' or 'bias.' Radial tires (or 'radial-ply tires') are constructed with polyester and/or nylon plies that run across the tire perpendicularly, and sometimes include steel belts that run under the tread. Bias-ply tires Bias-ply cords layer in a criss-cross pattern from sidewall to sidewall, and they are also sometimes reinforced with a steel belt.

LOAD RANGE Load range indicates the type of load a tire is designed to support at a specific inflation pressure. Trailer tires typically have C, D, or E load ranges. A load range 'C' tire, for example, is at its peak load capacity—possibly 1600 pounds—when it's inflated to its maximum pressure of 50 PSI. A load range 'C' tire at 25 PSI might be able to support a load of 990 pounds, while at 40 PSI, that capacity could be 1300 pounds.

MAXIMUM LOAD RATING Load rating or load index indicates the weight a tire can safely carry at its maximum air pressure. In the example, at its maximum air pressure of 50 PSI (cold), a load range 'C' tire might have a load rating of 1760 pounds.

MAXIMUM PRESSURE Maximum pressure (when the tires are cold) needed for the tires to carry the maximum load; measured in PSI.

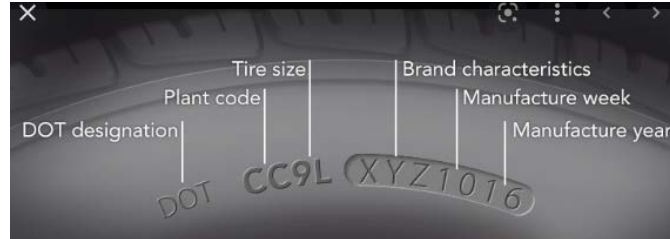
Identifying tires

Tires are required to have a Tire Identification Number (TIN) begin with the letters "DOT," followed by eight to thirteen characters that can be used to identify the manufacturing location, tire size, and manufacturer's specifications, along with the week and year the tire was manufactured. DOT Tire Identification Numbers are commonly but erroneously referred to as the tire's serial number, but it actually identifies production *batches*, not individual items.

Regulations also require the entire DOT Tire Identification Number to be branded on one sidewall, while only the letters "DOT" and the first digits of the Tire Identification Number must be branded onto the opposite sidewall. Therefore it is possible to see a Tire Identification Number that appears incomplete, yet simply requires looking at the tire's other sidewall to find the complete Tire Identification Number.

Tire Identification Number

DOT AND DATE CODES Department of Transportation identifier will include 10-12 numbers following 'DOT.' The first six to eight numbers indicate the manufacturer's code, where the tire was manufactured and the tire size.



2.5 Recommended tire inflation pressure

Recommended cold tire inflation pressure

The cold inflation pressure is the contained air pressure of a tire that would occur at an indexed temperature of 68°F or 20°C. This indexed temperature is based on the ideal ambient operating conditions for the tire.

Ambient air temperature pressure adjustment tables:

TABLE 2-1 - IMPERIAL MEASUREMENTS

Listed Pres-sure	10 psi	20 psi	30 psi	40 psi	50 psi	60 psi	70 psi	80 psi	90 psi	100 psi
104°	11.7	22.4	33.1	43.7	54.4	65.1	75.8	86.5	97.1	107.8
86°	10.8	21.2	31.5	41.9	52.2	62.5	72.9	83.2	93.6	103.9
68°	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
50°	9.2	18.8	28.5	38.1	47.8	57.5	67.1	76.8	86.4	96.1
32°	8.3	17.6	26.9	36.3	45.6	54.9	64.2	73.5	82.9	92.2
14°	7.5	16.4	25.4	34.4	43.4	52.4	61.3	70.3	79.3	88.3
-4°	6.6	15.3	23.9	32.5	41.2	49.8	58.4	67.1	75.7	84.3
-22°	5.8	14.1	22.4	30.7	39.0	47.3	55.5	63.8	72.1	80.4
-40°	4.9	12.9	20.8	28.8	36.8	44.7	52.7	60.6	68.6	76.5

METRIC MEASUREMENTS

Listed Pres-sure	69 kPa	138 kPa	207 kPa	276 kPa	345 kPa	414 kPa	483 kPa	551 kPa	620 kPa	689 kPa
40°	81	154	228	301	375	449	522	596	670	743
30°	75	146	217	289	360	431	502	574	645	716
20°	69	138	207	276	345	414	483	551	620	689
10°	63	130	196	263	329	396	463	529	596	662
0°	57	122	186	250	314	378	443	507	571	635
-10°	52	113	175	237	299	361	423	485	546	608
-20°	46	105	165	224	284	343	403	462	522	581
-30°	40	97	154	211	269	326	383	440	497	554
-40°	34	89	144	199	253	308	363	418	473	527

The vehicle tire inflation pressure label and location

The generic bilingual tire pressure label appears as in FIG. 2-3. The label on the vehicle has information specific to the trailer filled in

TIRE AND LOADING INFORMATION RENSEIGNEMENTS SUR LES PNEUS ET LA CHARGEMENT			
		The weight of cargo should never exceed Le poids du chargement ne doit jamais dépasser	
		kg or kg ou	lbs. lb.
TIRE PNEU	SIZE DIMENSIONS	COLD TIRE PRESSURE PRESSION DES PNEUS A FROID	
FRONT AVANT		SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION VOIR LE MANUEL DE USAGER POUR PLUS DE RENSEIGNEMENTS	
REAR ARRIERE			
SPARE DE SECOURS			

The label is placed near the VIN placard, toward the **front left side** of the trailer.

General area of VIN placard and
tire pressure label for Wood-Mizer
mill trailers.



FIG. 2-4

Consequences of tire under-inflation

Underinflated tires and overloaded vehicles are a major cause of tire failure. Tire inflation effects a vehicle's

- steering,
- stopping,
- traction, and
- load-carrying capability.

To avoid flat tires and other types of tire failure, you should

- maintain proper tire pressure,
- observe tire and vehicle load limits,
- avoid road hazards, and
- regularly inspect your tires.

Proper inflation

CHECK TIRE PRESSURE

Use a tire pressure gauge, which you can be purchased at most service stations or auto parts stores. Check the pressure when the tires are **COLD**, as the friction from driving affects the pressure. If driven recently, wait at least three hours for the tires to cool down.



COMMON TIRE PRESSURE GAUGES

1. Remove the cap from the air valve on the tire, and put it somewhere you won't lose it.
2. Press the tire gauge against the open valve stem momentarily.
3. Read the air pressure gauge.
4. Compare this number with the recommended tire pressure.
5. Inflate/release air as needed.
6. Replace the tire's air valve cap.
7. Repeat this process for each tire.

INFLATE YOUR TRAILER'S TIRES

1. Park close enough to the air compressor so you can reach all tires with the hose.
2. If the valve caps are still on, remove them.
3. Press the hose nozzle down on the valve stem.

NOTE: You should notice the tire inflating and feel air flowing through the hose. If not, check to ensure the hose is securely placed on the valve stem.

4. Remove the hose fitting.
5. Check the air pressure as described above.
6. Repeat steps 3- 5 as needed until the tire is inflated to the correct psi.
7. Repeats steps 2-5 for the vehicle's other tires.
8. Once the tires are inflated properly, replace the valve caps.

RELEASE AIR FROM TIRES

Overinflated tires can lead to poor handling, such as skidding and hydroplaning.

1. Briefly press the small dot or bead on the back of the tire pressure gauge into the center of the valve stem on the tire.

NOTE: You should hear the air escaping the tire.

2. Use the gauge to check the tire pressure.
3. Repeat these steps until you've released enough air to reach the correct psi.

WHEN TO CHECK TIRE PRESSURE

Use Table 2-1 to adjust the recommended cold tire pressure to the ambient temperature. Check tire pressure monthly.

- Most tires may naturally lose air over time.
- Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
- With radial tires, it is usually not possible to determine underinflation by visual inspection.

2.6 Glossary

ALPHA CHARACTER A single alphabetical character from A to Z.

BEAD SEPARATION A breakdown of bond between components in the bead area.

BEAD That part of the tire made of steel wires, wrapped or reinforced by ply cords, that is shaped to fit the rim.

CARCASS PLY A ply that extends to the beads.

CARCASS The tire structure, except tread and sidewall rubber.

CHUNKING The breaking away of pieces of the tread or sidewall.

COLD TIRE PRESSURE The air pressure in a tire at ambient temperature, **not having been driven for the at least 3 hours**.

CORD SEPARATION Cord parting away from adjacent rubber compounds.

CORD The strands that form the plies in the tire.

CRACKING Any parting within the tread, sidewall, or innerliner of the tire extending to cord material.

CURB WEIGHT The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning and additional weight of optional engine.

DEEP TREAD RADIAL A deep tread radial tire is one having a minimum tread depth of 14.3 mm (18/32 inch or 0.5625 inch) or greater.

DOT SYMBOL The letters "DOT" are part of the DOT serial number. This is the manufacturer's certification that the tire or rim meets or exceeds the requirements of FMVSS Nos. 110 and 139.

DOT TIRE IDENTIFICATION NUMBER Number appearing on the sidewall of the tire near the rim required by 49 CFR Part 574.5 which identifies the manufacturer's identification mark, tire size, tire type code and date of manufacture. See Fig. 2-2.

EXTRA LOAD TIRE A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

FIELDS Any group of letters and numbers that have significance or meaning.

GAWR The Gross Axle Weight Rating (GAWR) means the value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.

GROOVE The space between two adjacent tread ribs.

GVWR The Gross Vehicle Weight Rating (GVWR) means the value specified by the manufacturer as the loaded weight of a single vehicle.

INNERLINER SEPARATION The parting of the innerliner from cord material in the carcass.

INNERLINER The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

INTENDED OUTBOARD SIDEWALL (1) The sidewall that contains a whitewall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire; or (2) The outward facing sidewall of an asymmetrical tire having a particular side that must always face outward when mounted on a vehicle.

LIGHT VEHICLE TIRE A new, pneumatic, radial tire intended for use on motor vehicles (other than motorcycles and low speed vehicles) that have a gross vehicle weight rating (GVWR) of 10,000 pounds or less and were manufactured after 1975.

LOAD RATING The maximum load a tire is rated to carry for a given inflation pressure.

MAXIMUM LOAD RATING The load rating at the maximum permissible inflation pressure for that tire.

MAXIMUM INFLATION PRESSURE The maximum cold inflation pressure needed for your tire to support the weight of its **maximum load-carrying capacity**.

MEASURING RIM The rim on which a tire is fitted for physical dimension requirements.

NHTSA/OVSC National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance (Canada).

OPEN SPLICE Any parting at any junction of tread, sidewalls, or innerliner that extends to cord material.

OUTER DIAMETER The overall diameter of an inflated new tire.

OVERALL WIDTH The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to marking, decorations, or protective bands or ribs.

PLY A layer of rubber-coated parallel cords.

PLY SEPARATION A parting or rubber compound between adjacent plies.

PNEUMATIC TIRE A mechanical device made of rubber, chemicals, fabric, steel, or other materials, which, when mounted on an automotive wheel, provides the traction and contains the gas or fluid that sustains the load.

RADIAL PLY TIRE A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90° to the centerline of the tread.

RECOMMENDED INFLATION PRESSURE The cold inflation pressure provided on the Tire Information label and on the VIN tag.

REINFORCED TIRE A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

RESPONSIVE TEST A special test initiated through a complaint, field inspection, failed standard test, or COTR discretion. RIM A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

RIM DIAMETER Nominal diameter of the bead seat.

RIM SIZE DESIGNATION Rim diameter and width.

RIM TYPE DESIGNATION The industry or manufacturer's designation for a rim by style or code. RIM WIDTH Nominal distance between rim flanges.

SECTION WIDTH The linear distance between the exteriors of an inflated tire's sidewalls, excluding elevations due to marking, decoration, or protective bands.

SIDEWALL That portion of a tire between the tread and the bead.

SIDEWALL SEPARATION The parting of the rubber compound from the cord material in the sidewall.

SIZE FACTOR The sum of the section width and the outer diameter of a tire determined on the test rim.

SNOW TIRE A snow tire means a tire that attains a traction index equal to or greater than 110, compared to the ASTM E-1136 Standard Reference Test Tire, when using the snow traction test as described in ASTM F-1805-00, Standard Test Method for Single Wheel Driving Traction in a Straight Line on Snow- and Ice-Covered Surfaces, and which is marked with an Alpine Symbol specified in S5.5(i) of FMVSS No. 139 on at least one sidewall.

TREAD That portion of a tire that comes into contact with the road.

TREAD RIB A tread section running circumferentially around a tire.

TREAD SEPARATION Pulling away of the tread from the tire carcass.

TREADWEAR INDICATORS (TWI) Projections within the principal grooves designed to give a visual indication of the degree of wear of the tread.

UVW The Unloaded Vehicle Weight (UVW) is the weight of a vehicle with maximum capacity of all fluids necessary for vehicle operation, but without cargo, occupants, or accessories that are ordinarily removed from the vehicle when they are not in use.

VEHICLE NORMAL LOAD ON THE TIRE The vehicle normal load on the tire means that load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight and dividing by 2.

2.7 Tire care, maintenance, and safety practices

1. Check your cold tire pressure at least once a month (See Proper inflation)
2. Visually inspect your tires
 - 1). Check the tread at least once a month for excessive or uneven wear.
 - 2). Measure tread depth in three locations across the tire's tread: (1) outer edge, (2) center, and (3) inside edge.

NOTE: Accurate tread depth measurements are made with a simple tread depth gauge available at any parts store. --Or you can use the quarter (coin) method. Insert a quarter into a tread groove with the top of Washington's head facing down. If the top of his head is not visible, your tires have at least 4/32" of tread and are fine for continued use. If you can see above the top of Washington's head, replace the tire.

-
-
- 3). Inspect for over inflation: wear primarily in the center of the tread, with less wear at the tire's edges.

- 4). Inspect for under inflation: wear primarily on both edges of the tire tread, with less wear in the center.
 - 5). Inspect for tread wear on one edge of the tire which occurs when the wheels are out of alignment.
 - 6). Inspect for erratic tread wear, “cupping,” caused by the wheel out of balance, or suspension components need to be replaced.
 - 7). Inspect for raised portion of the tread or sidewall which may indicate that one of the belts in the tire carcass has separated from those next to it.
3. Have your alignment checked every year.
 4. Check and correct your tire balance.

2.8 Vehicle load limits

NOTICE Wood-Mizer trailers are not intended to carry any occupants or cargo.

2.9

SECTION 3 SAWMILL SETUP

3.1 Site setup



WARNING! To avoid tipping the mill over, do not set up the mill on ground with more than a 10 degree incline. Failure to follow this could result in death or serious injury.

Chock the trailer wheels in front and behind each tire to prevent movement before unhitching it from the towing vehicle. Failure to follow this could result in death or serious injury.

Put all rear (taillight) outriggers (legs) down before moving saw head from the rest position. Failure to follow this could result in death or serious injury.

Ensure the trailer is supporting the sawmill frame when operating a sawmill with adjustable outriggers, as the adjustable outriggers are intended to support the saw frame with assistance from the trailer. Failure to follow this could result in death or serious injury.

NOTICE The adjustable outriggers supplied with portable sawmills are not intended for setup on concrete or other hard surfaces. Long-term use of the adjustable outriggers on hard surfaces may cause the outriggers to fail, causing the sawmill to drop.

Ensure the unit is level before securing. It **IS POSSIBLE** to twist the mill frame by jacking one foot higher than the others.

UNHITCH THE MILL FROM THE VEHICLE.

1. Chock the wheels on all sides.

See Figure 3-1.

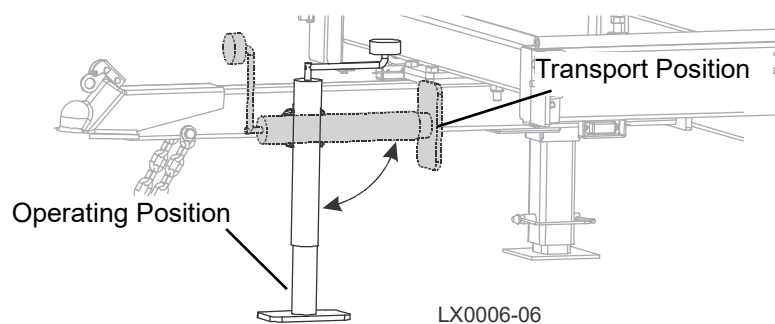


FIG. 3-1

2. Rotate the jack from the transport position and pin it in the operation position.

See Figure 3-2.

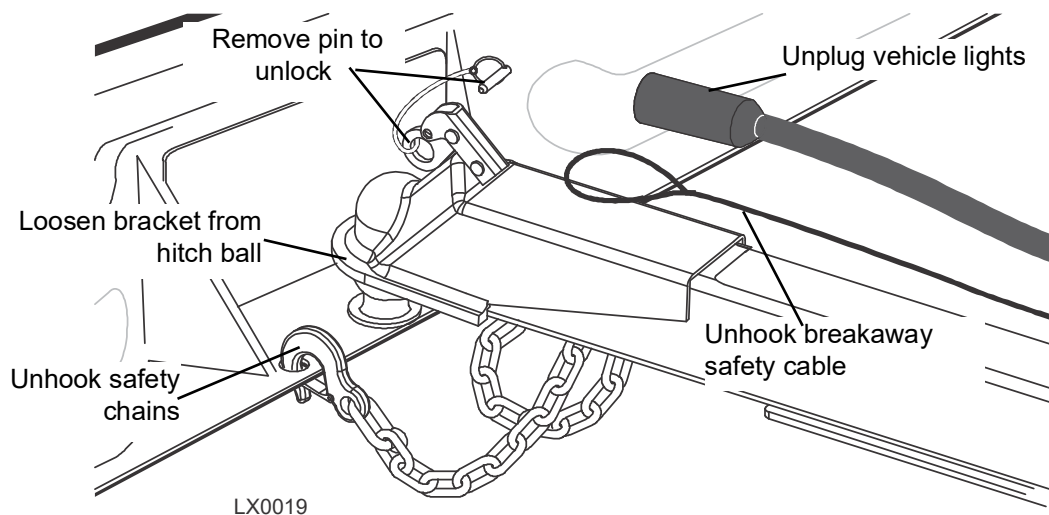


FIG. 3-2

3. Unplug electrical connector.
4. Unhook safety chains.
5. Unpin ball latch.

6. Disconnect electric break.
7. Raise the tongue off of the ball hitch with the jack.

LOWER OUTRIGGERS AND LEVEL MILL



WARNING! Put 2 rear outriggers down before moving cutting head from the rest position. Failure to follow this may result in serious injury.

1. Retrieve the locking brackets and the adjustment handle from the storage location near the hitch.

See Figure 3-3.

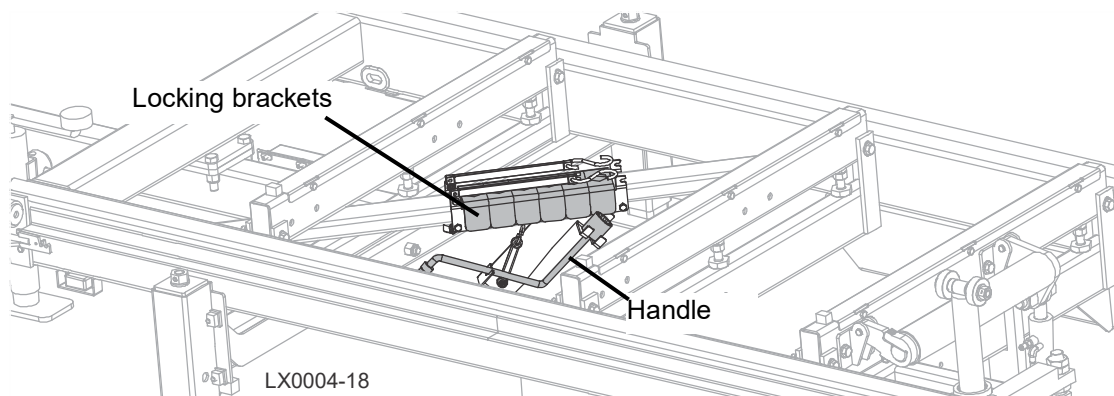


FIG. 3-3



WARNING! Hold the adjustable leg with one hand to prevent a sudden release and pull out the locking pin. Failure to follow this may result in serious injury.

2. Unclip the retainer on the locking pin on the two rear (taillight end) adjustable outriggers.

See Figure 3-4.

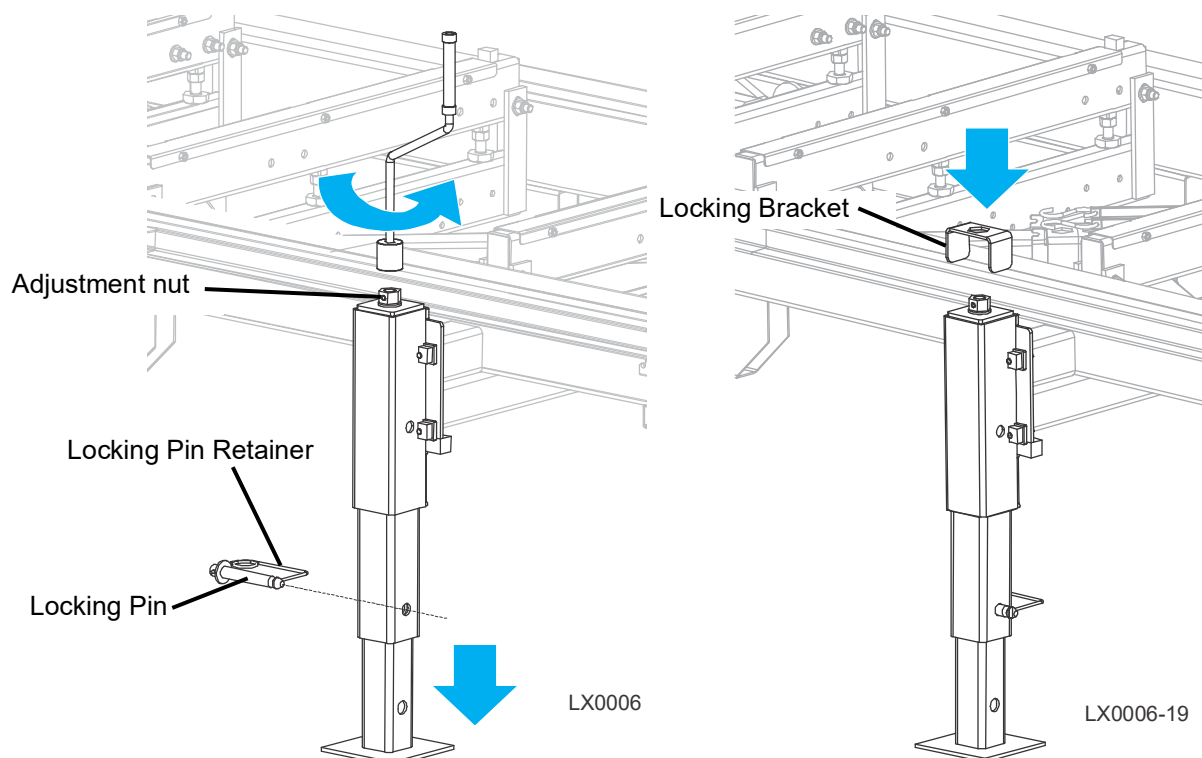


FIG. 3-4. OUTRIGGER ADJUSTMENT.

3. Lower the adjustable leg to align the locking pin holes so that the foot is as close to the ground as possible.
4. Reinstall the locking pin and secure with the retainer.
5. Use the provided crank handle to turn the outrigger adjustment nut counterclockwise to push the foot pad down to support the weight of the sawmill frame.
6. Install the locking brackets over the adjustment nut to prevent downward creep from vibration.

RELEASE THE TRAVEL LOCKS

1. Unpin and swing both rest pins down below bed level.

See Figure 3-5.

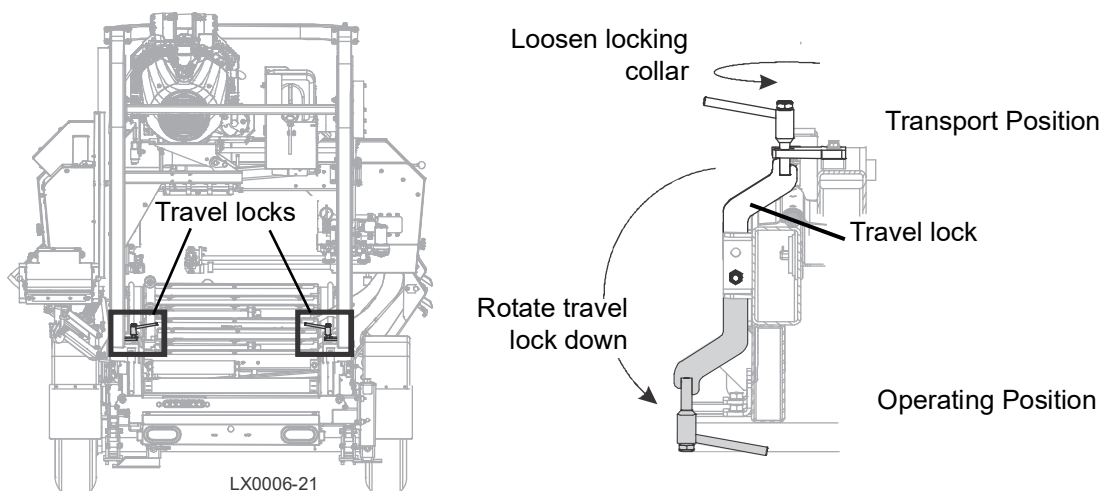


FIG. 3-5

RAISE THE SAWHEAD

1. Remove the travel lock pin from the sawhead mast and store it in the bracket.

See Figure 3-6.

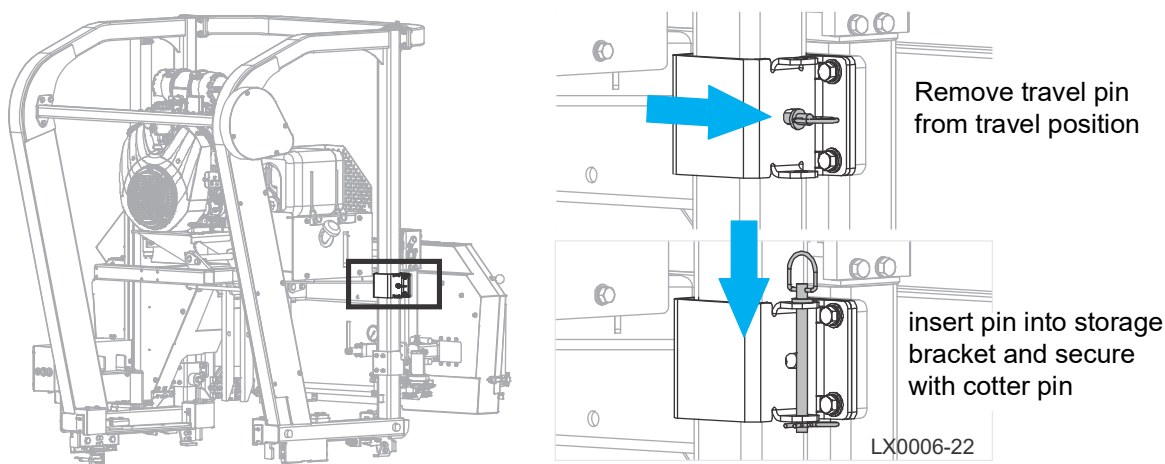


FIG. 3-6

2. Open the control panel lid.

3 Sawmill Setup

Site setup

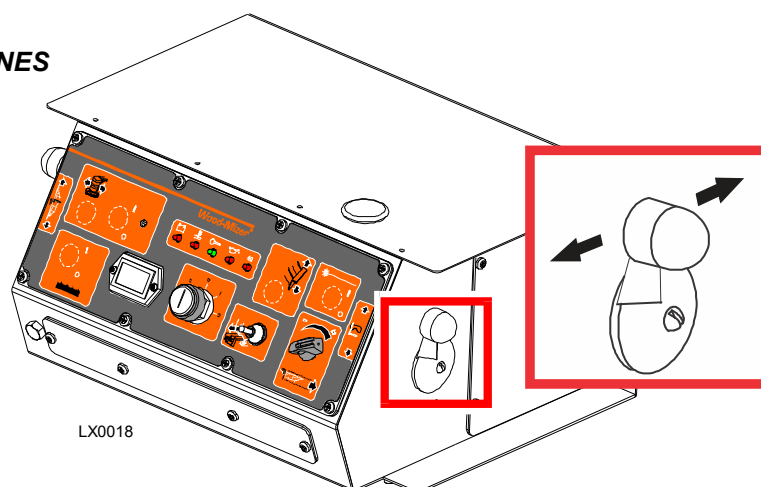
NOTE: Gasoline and diesel engines have slightly different control panels. The key switch is located centrally on the gasoline control panel, and located to the right on the diesel.

3. Turn the key switch to the **ACCESSORIES POSITION** (3) to enable the sawhead movement.

NOTE: Operating the controls without the engine running will eventually drain the battery. Return the control key switch the off (0) position as soon as movement is complete.

4. Use the up/down drum switch located on the right side of the control panel to raise or lower the cutting head.
5. Hold the switch in position until the sawhead reaches the desired height, then release.

FOR NON-TIER 4 ENGINES



FOR TIER 4 ENGINES

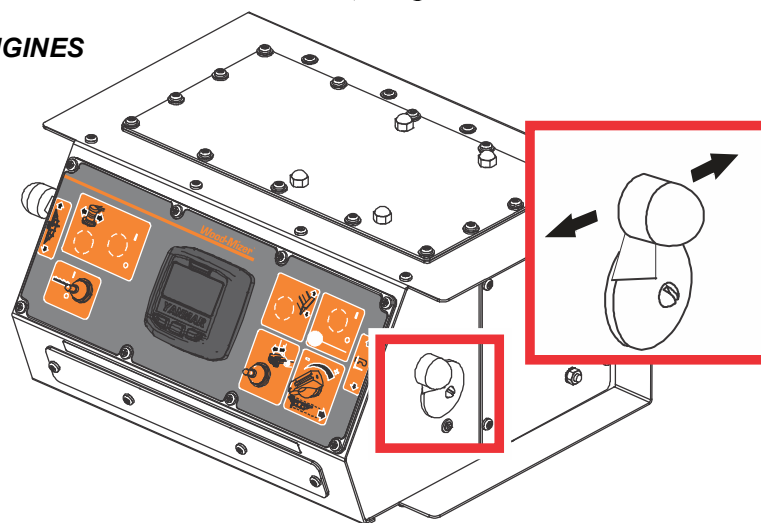


FIG. 3-6



CAUTION! To prevent fender damage, remove fenders before operating sawmill or loading logs.

6. Remove the fenders by releasing tie down cords and lifting fenders out of the slots.

See Figure 3-7.

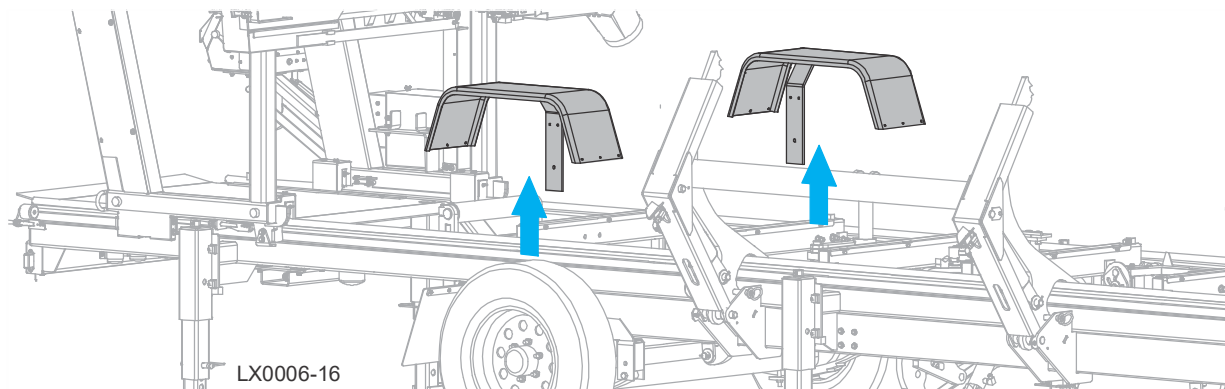


FIG. 3-7

7. Use the carriage forward/reverse drum switch (left side of control box) to move the cutting head toward the rear (taillight end) of the mill.
8. Remove the travel pins from both log lift arms.

See Figure 3-8.

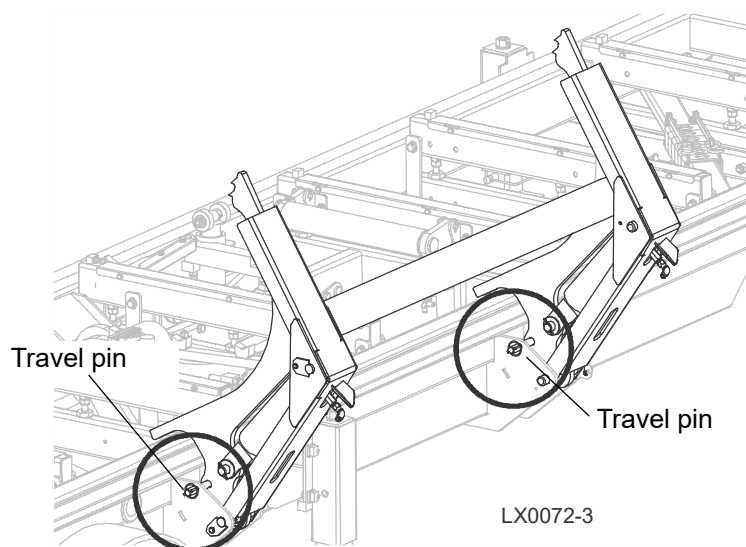


FIG. 3-8

3 Sawmill Setup

Site setup

9. Use the hydraulic controls to lower the log lift arms.

NOTE: Operating the hydraulics without the engine running will drain the battery.

10. Lower and set the remaining outriggers.

NOTICE Adjust all outriggers evenly to avoid twisting the mill frame by jacking one outrigger higher than the others. It **IS POSSIBLE** to twist the mill frame by jacking one foot higher than the others. Ensure the unit is level before securing.



CAUTION! Do not adjust the outrigger base height while there is weight on the outrigger. Damage to the outrigger may result.

11. Level the sawmill by adjusting the outriggers. Use the bubble levels located on the mast frame near the control box and on the center rear of the motor mount frame, or your own 4' level.

See Figure 3-9.

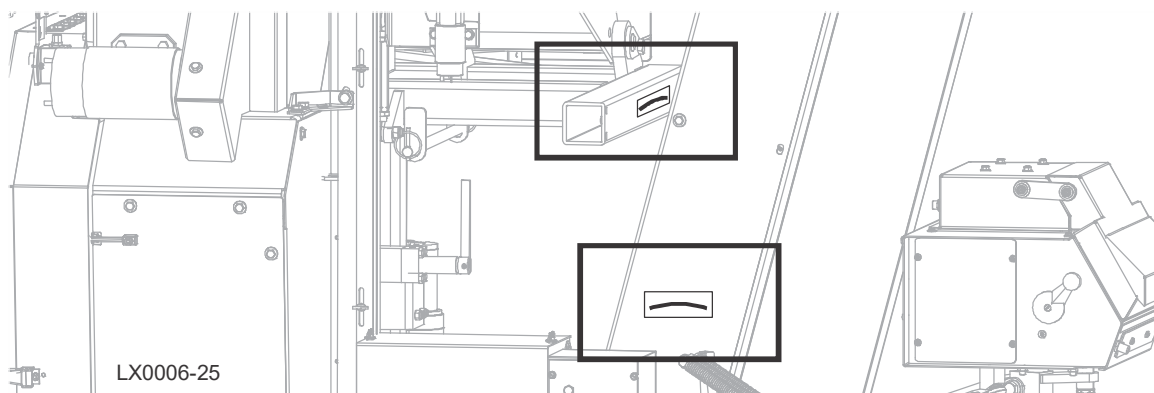


FIG. 3-9

If necessary, install the cutting blade. See [Section 3.2 Replacing The Blade](#)**ADJUST THE CONTROL STATION**

1. Adjust the control box location.

See Figure 3-10.

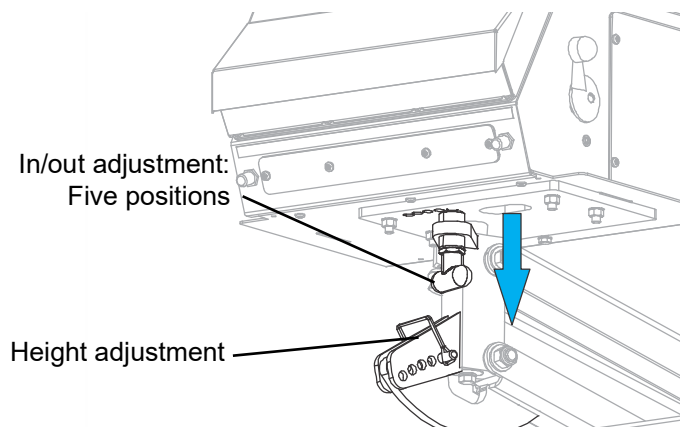


FIG. 3-10

2. Remove the locking pin from the height adjustment.
3. Raise/lower the control box to a comfortable position.
4. Reinsert the locking pin in the hole that is most fully open.

This is a variable position mechanism, and will not necessarily follow a linear progression along the alignment holes.

5. Pull down on the in/out adjustment handle.
6. Swing the control box to a comfortable position.
7. Allow to spring-loaded in/out adjustment handle to settle in the nearest hole.

3.2 Replacing The Blade



DANGER! Always disengage the blade and shut off the sawmill engine before changing the blade. Failure to follow this will result in serious injury.



WARNING! Always wear gloves and eye protection when handling saw blades. Failure to follow this could result in death or serious injury.

Keep all other persons away from area when coiling, carrying or changing a blade. Failure to follow this could result in death or serious injury.

Changing blades is safest when done by one person!

1. Open the blade cover by releasing the two lower rubber latches and swinging the door upward until it locks.

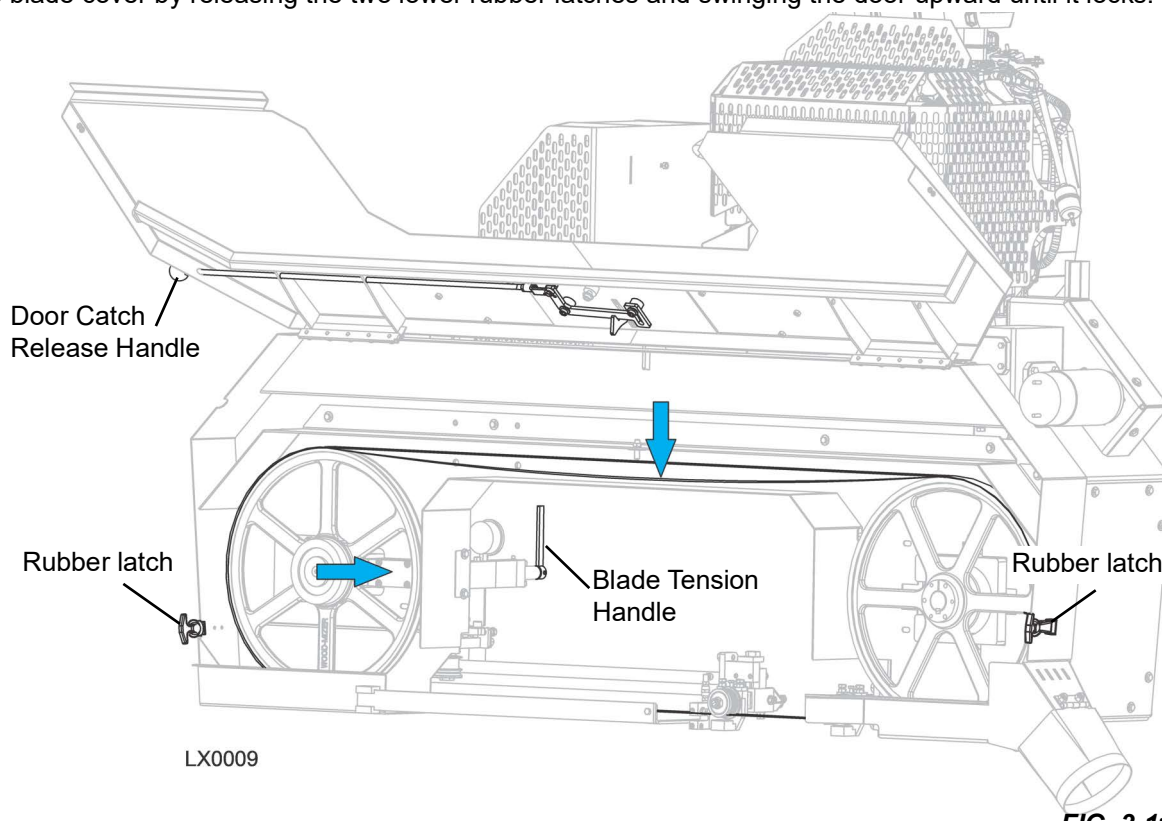


FIG. 3-11

2. Turn the blade tension handle to release the blade tension until the blade wheel is pulled in and the blade is lying loose in the blade housing.
3. Remove used blade and set new blade over the blade wheels.

NOTICE Ensure the teeth on the replacement blade are pointing the correct direction.

The cutting teeth should be pointing toward sawdust chute.

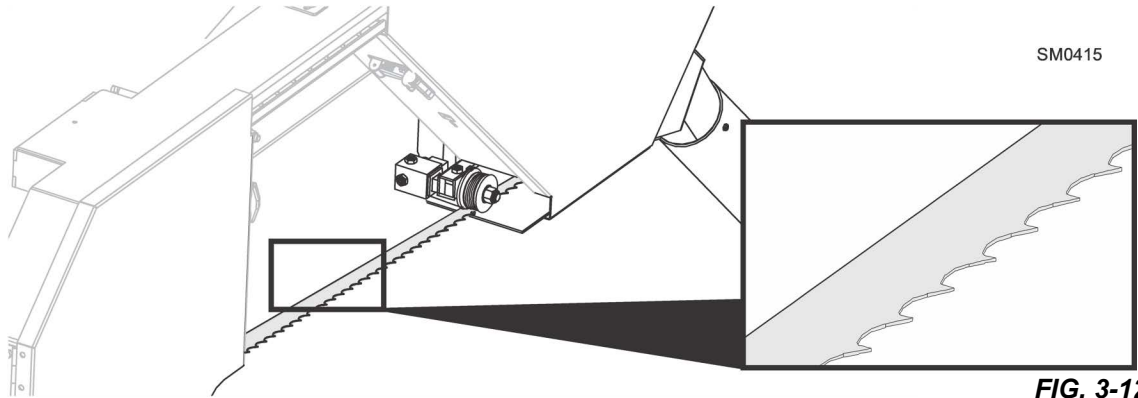


FIG. 3-12

4. Install the blade so it is lying around the wheels.
5. Position 1 1/4" wide blades on the wheels so the gullet is 1/8" (3.0 mm) out from the edge of the wheel. Position 1 1/2" wide blades on the wheels so the gullet is 3/16" (4.5 mm) out from the edge of the wheel.

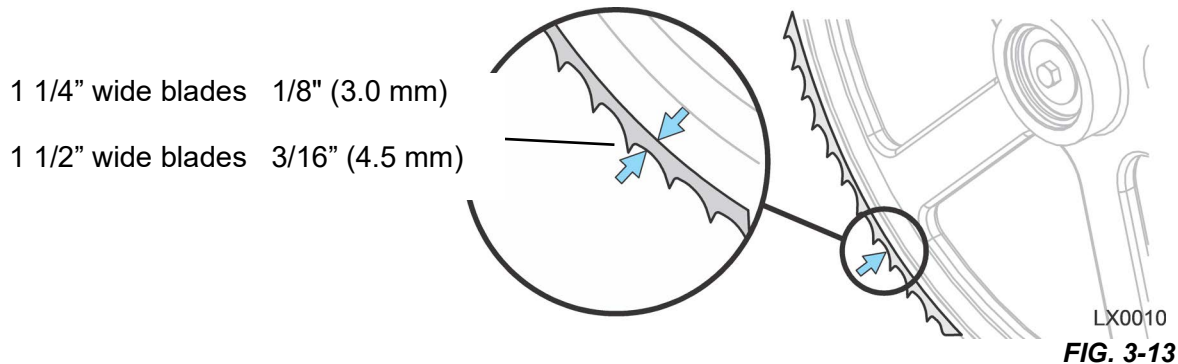


FIG. 3-13

6. Use the tension handle to tension the blade correctly (2800-3000 psi).

3.3 Tensioning The Blade

Tension the blade by turning the hydraulic tensioning handle clockwise until the tension gauge indicates the recommended tension.

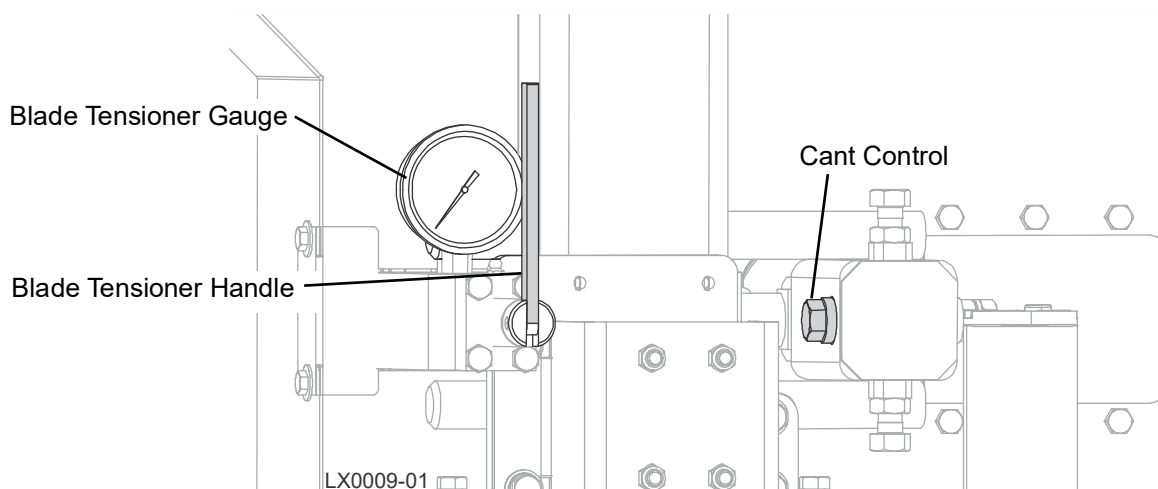


FIG. 3-14

The recommended tension for different blades is shown below.

Blade Type	Acceptable Range
All Blades	2800 - 3000 psi

TABLE 3-1

The tension gauge should be checked occasionally when adjusting the cant control or while cutting. Ambient temperature changes will cause tension to change. Adjust the tension handle as necessary to maintain the recommended tension level.



CAUTION! Changes in temperature could cause changes in pressure in the blade tensioner, and loss of fluid from the gauge may result. Release the blade tension when the mill is not in use to avoid damage to the tensioner.

3.4 Tracking The Blade

1. Ensure that the blade housing cover is closed and all persons are clear of the open side of the saw head.
2. Start the engine.
3. Engage the blade, rotating the blade until the blade positions itself on the wheels.



WARNING! Do not spin the blade wheels by hand. Failure to follow this could result in death or serious injury.

4. Disengage the blade.
5. Turn off the engine, remove the key, and check the position of the blade on the blade wheels.
6. Position 1 1/4" wide blades on the wheels so the gullet is 1/8" (3.0 mm) out from the edge of the wheel. Position 1 1/2" wide blades on the wheels so the gullet is 3/16" (4.5 mm) out from the edge of the wheel.
7. To adjust where the blade travels on the blade wheels, use the cant control.

If the blade is too far out or in, turn the cant control counterclockwise or clockwise, respectively, by 1/8th of a turn until the gullet of the blade is the correct distance from the front edge of the wheel.

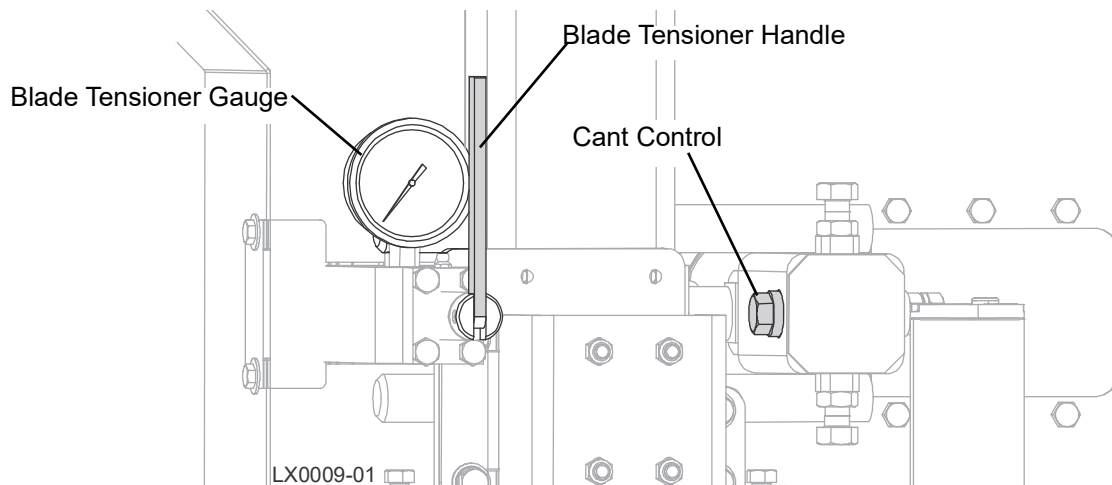


FIG. 3-15

8. Adjust the blade tension if necessary to compensate for any changes that may have occurred while adjusting the cant control.
9. Close the blade housing covers.

NOTICE After aligning the blade on the wheels, always double-check the blade guide spacing and location. ([See Section 8.1](#) for more information.)

10. Repeat all steps as necessary to correctly position the blade.

3.5 Starting The Engine

A separate manual is available for the specific engine for your mill. See the appropriate manual supplied with your specific engine configuration for starting and operating instructions.



DANGER! Ensure that all guards and covers are in place and secured before operating or towing the sawmill. Failure to follow this will result in death or serious injury.

Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine or motor. Failure to follow this will result in death or serious injury.



WARNING! Always wear eye, ear, respiration (if warranted), and foot protection when operating the sawmill. Failure to follow this could result in death or serious injury.

Be sure the power feed switch is in the neutral position before turning the key switch to the on (1) or accessory (3) position. Failure to follow this could result in death or serious injury.

3.6 Board Return



DANGER! Keep all persons out of the path of returning boards. Failure to follow this will result in death or serious injury.



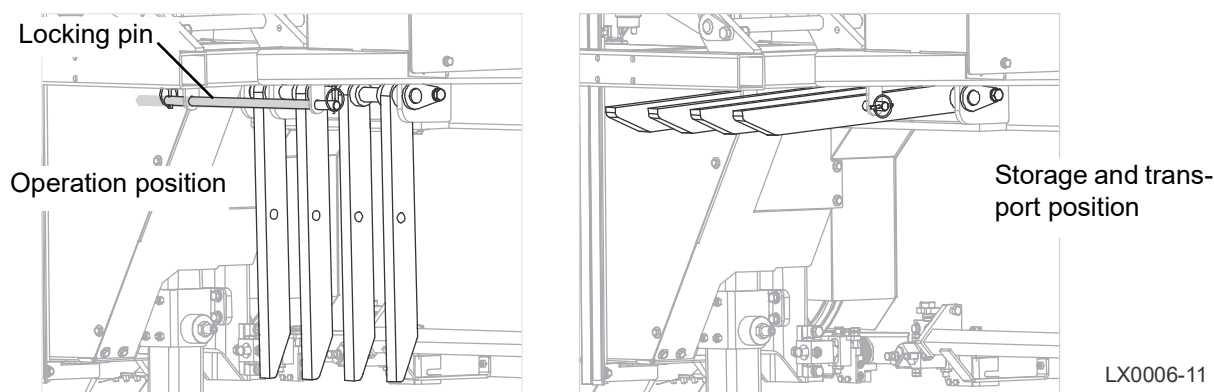
WARNING! The automatic board return is intended to assist a second operator in removing boards quickly. Do not use the board return when operating the sawmill alone. Failure to follow this could result in death or serious injury.

Do not use the board return table, designed and intended to assist in the removal of boards only, as a platform to stand on. Failure to follow this could result in death or serious injury.

NOTICE Use of the board return not recommended with material shorter than 8 foot.

A second person is required to remove the board as it is returned. DO NOT attempt to use the board return feature when sawing alone.

The sawmill board return system consists of arms on the saw head and a board return table to catch the board as it is removed from the log. When the blade reaches the end of the log, the arms will drop down to catch the board and drag it back toward the operator as the saw head is returned.



LX0006-11

FIG. 3-16

Boards may not always return in the same path or location. If a board returns in a manner that does not allow the off-bearer to maintain control, it may be necessary to stop the reverse motion of the saw head.



CAUTION! Lock the board return arms in the transport position when towing the sawmill. Failure to follow this may result in equipment damage.

SECTION 4 SAWMILL OPERATION

4.1 Hydraulic Control Operation

NOTICE The hydraulic control levers become operational when the contacts at the bottom of the carriage touch the power strip on the frame tube. The hydraulic control levers will only work when the cutting head is close enough to the front end of the mill to touch the power strip.

See Figure 4-1.

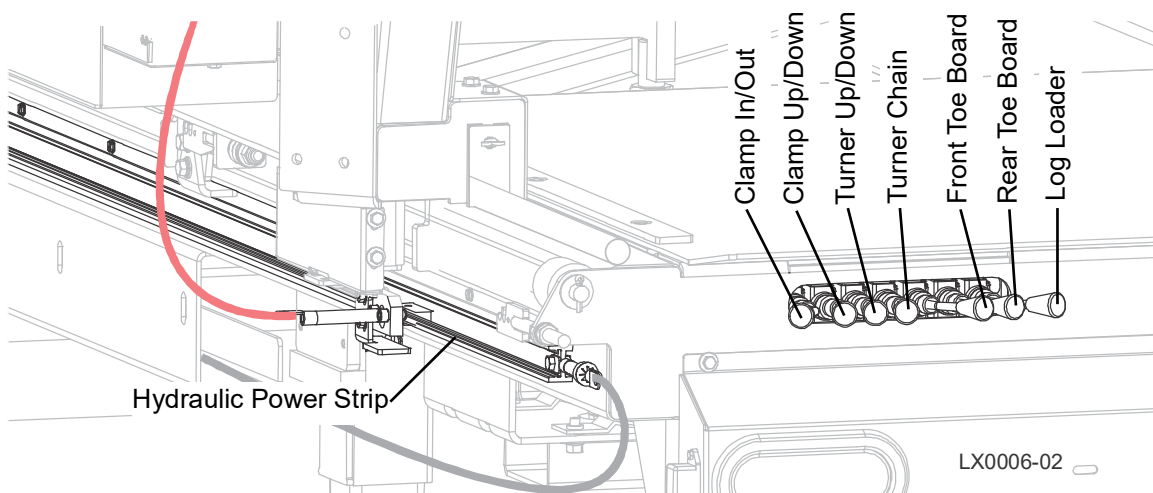


FIG. 4-1



DANGER! Keep all persons out of the path of moving equipment and logs when operating sawmill or loading and turning logs. Failure to follow this will result in death or serious injury.



CAUTION! Ensure the engine is running before operating the hydraulic controls. Operating the controls without the engine running will result in power drainage from the battery. Holding the hydraulic switches halfway up or down also will cause excessive drainage from the battery.

1. Start the engine.
2. Press down on the **CLAMP IN/OUT** lever to move the clamp out toward the loading side of the sawmill.

3. Press down on the **CLAMP UP/DOWN** lever to lower the clamp below bed level.
4. Unpin both log loader arms from the transport position.
5. Raise the **LOG LOADER** lever to extend the legs of the log loader out as far as they will go.
6. Press down on the **TURNER UP/DOWN** lever to completely lower the turner arm.

NOTICE 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.

7. When raising the **TURNER UP/DOWN** lever, the side supports rise first. After reaching a fully vertical position, the turner arm will engage and start to rise.
8. Manually lower the log loader so it rests 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.

9. Press down on the **LOG 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 mill.

TOE BOARDS

The front and rear toe boards should be below bed level when not in use. 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.

4.2 Loading, Turning And Clamping Logs

LOADING LOGS

1. Start the engine and move the saw carriage to the front end of the frame.



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

Be sure the log clamps, pivot rails, turning arm and toe boards are adjusted out of the path of the log before loading a log onto the bed. Failure to follow this may result in machine damage or cause misalignment.

2. Raise the side supports on the sawmill bed to prevent the log from falling off the side of the bed.



DANGER! Keep all persons out of the path of moving equipment and logs when operating sawmill or loading and turning logs. Failure to follow this will result in death or serious injury.

3. Use cant hooks or loading equipment to move the log to the foot of the loading arms.
4. 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.
5. Raise the log loader to lift and roll the log onto the sawmill bed.
6. Raise the clamp up to prevent the log from rolling off the bed.
7. Clamp the log and lower the loading arm halfway.



WARNING! Always leave loading arm halfway up while log is on sawmill bed to prevent the log inadvertently rolling off of the mill. Failure to follow this could result in serious injury or death.

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

TURNING LOGS

1. Engage the log turner arm. Let the arm rise until it touches the log.

NOTE: For tapered logs, 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. Use the log turner chain to spin the log against the side supports until it is turned to the desired position.
3. Clamp the log.
4. Lower the turner until the arm falls below the bed.

NOTE: 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.**

TURNING CANTS

1. Lower the clamp below bed level.
2. Move the clamp beneath the edge of the cant.
3. Raise the clamp and flip the cant.
4. Reposition the clamp to re-clamp the cant.

4.3 Control Box Arm

1. Adjust the outward angle by pulling the spring-loaded adjustment handle down and moving the control box to the most comfortable of the 5 available positions.
2. Release the handle, allowing to the pin to catch in the selected hole.
3. Adjust the height by removing the locking pin and moving the control box to the desired height.
4. Reinsert and lock the pin at the location most comfortable to you.

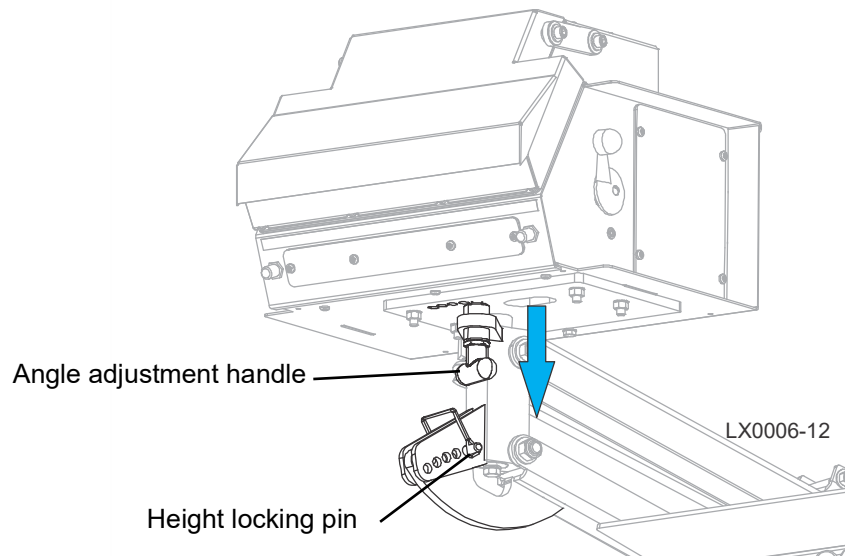


FIG. 4-1

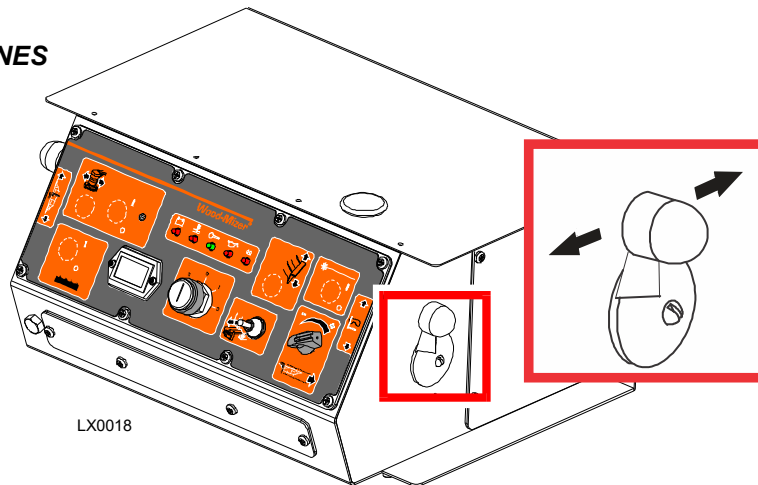
4.4 Up/Down Operation (Manual Operation)



CAUTION! Ensure the blade is properly installed and tensioned before moving the sawhead.

1. Use the up/down drum switch located on the right side of the control panel to raise or lower the cutting head.
2. Hold the switch in position until the cutting head reaches the desired height, then release.

FOR NON-US ENGINES



FOR US ENGINES

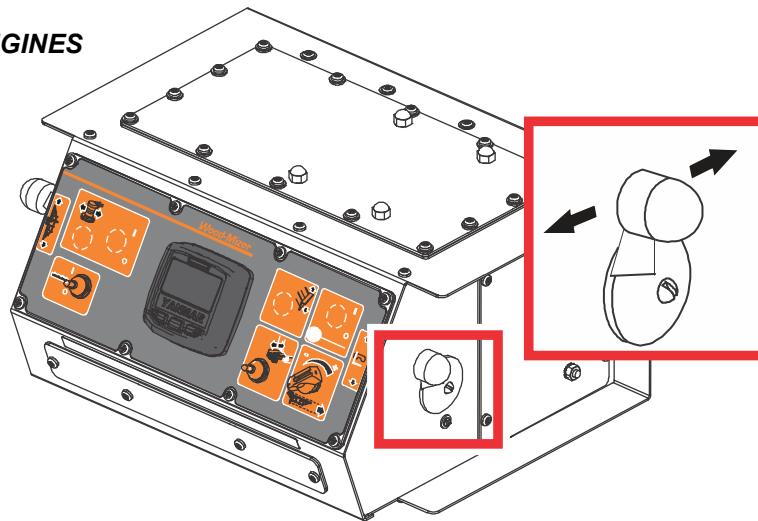


FIG. 4-2



CAUTION! Ensure the up/down drum switch moves to the neutral (off) position when released to ensure that the saw head stops moving. If the switch remains engaged, manually move the switch to the neutral or "off" position, then troubleshoot the switch.

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

4.5 Up/Down (Simple Set Operation)

As the Simple Set control powers up, the software revision is displayed. This information can be helpful should you require service. Simple Set opens in Manual mode.

See Figure 4-3.



FIG. 4-3

Changing the Default Setup

Simple Set is factory set. To change the default settings, hold down the Manual button and use the Scroll Up button to enter the Setup Menu. Use the Auto button to move between setup criteria.

See Figure 4-4.

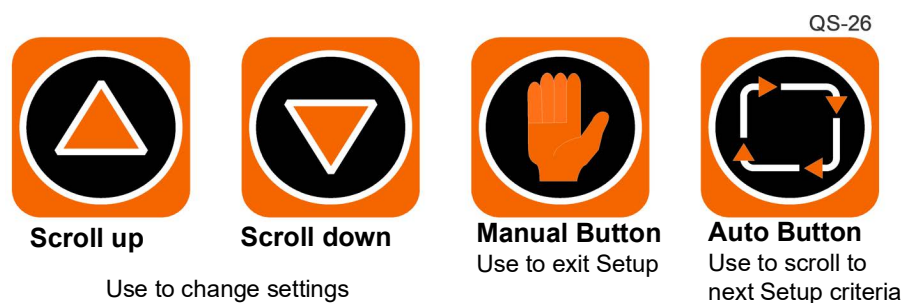


FIG. 4-4

The Setup Menu consist of:

- Saw Head Up/Down Speed: 1-5, with 5 (default) being the fastest

NOTE: Lowering the set speed will assist in achieving the desired blade height setting in situations where the up/down chains or mast pads are worn or loose

- Units of Measure: Standard (default) or Metric (millimeters).
- Language: English only
- Exit Setup by using the **Manual** button.

Operation

MANUAL OPERATION

1. Select the **Manual** button, if not already in manual mode by default.
2. Refer to Manual Up/Down operation (previous section) for operation.

NOTE: The display will show a 'D' when the drum switch is pushed down and a 'U' when pushed up.

AUTO OPERATION

1. Select the **Auto** button.

In Auto Operation, the saw head will **move down at the set speed** increment when the saw head down drum switch is activated. The saw head will move **up at speed 5 (default)**.

- Two sets of values can be stored in the control. Press the **Auto** button to toggle between Set1 and Set2.
- To set the Set1 or Set2 value, use the **Scroll** buttons to adjust the value in 1/16" (or 1mm) increments. Values are automatically saved and will stay in memory until changed.



IMPORTANT! You must add the kerf value to the increments. Typical blade kerfs are between 1/16 - 1/8" (1.6 - 3.2 mm).

- Bump the up/down drum switch down to move the blade to the next increment.

NOTE: Holding the drum switch up or down will bypass Simple Set and move the saw head until the drum switch is released.

4 Sawmill Operation

Operation

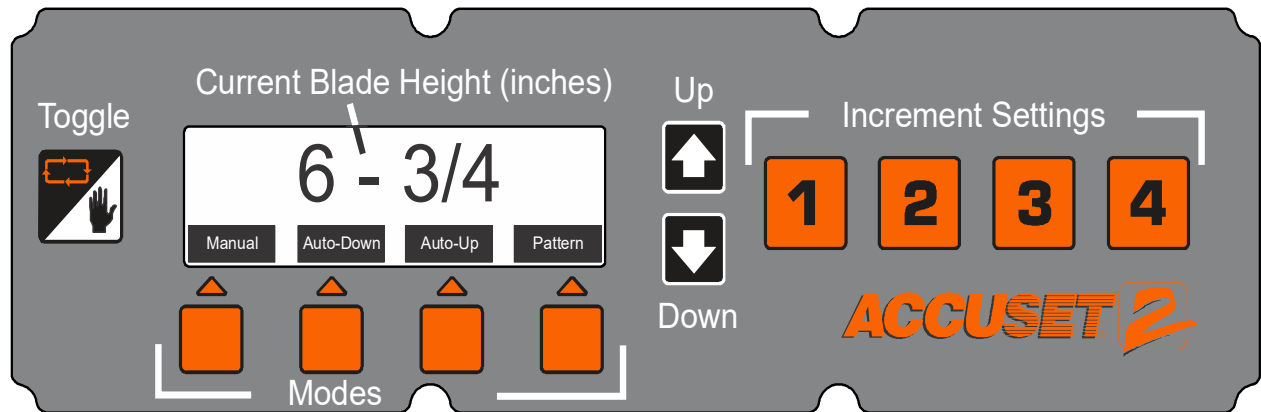
- If the saw head is raised, bumping the up/down drum switch down will return the saw head to **the original position plus the increment value**.
- Press the **Manual** button to exit auto mode.

Turn the sawmill control key switch to the OFF (0) position to power off Simple Set.

4.6 Accuset Control Setup

Turn the key switch to the accessory (3) position.

The Accuset control starts in Manual Mode by default. See the figure below for identification of the control buttons and display.



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FIG. 4-5

Up/Down Adjustment Buttons

The Up or Down arrow buttons scroll to various settings. Press and hold the Up or Down button to automatically increase setting scroll speed will.

In Manual Mode, the up and down arrow buttons have special functions. Enter configuration menus by pressing the Up button; pressing the Down button moves the saw head to the nearest nominal inch (or centimeter).

Toggle button

- Use the Toggle button to exit configuration menus and return to the main menu.
- Press and hold the Toggle button during startup to reset the Accuset programming to factory default settings.
- Press the Toggle button in Manual Mode to place Accuset in Reference Mode.

Contrast Adjustment

At startup, press and hold the Up or Down button to adjust the splash screen display contrast as desired.

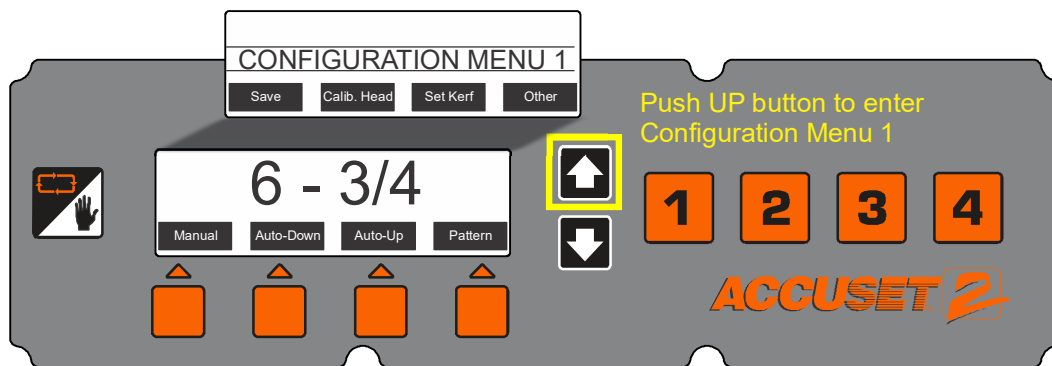
Startup Configuration

Accuset controls on new sawmills are configured at the factory.

NOTICE Newly installed or replaced controls, must be configured before operating the Accuset. Follow the procedures below *in the order they are listed*.

Configuration Menu 1

1. Press the Up button while in Manual Mode to enter Configuration Menu 1.



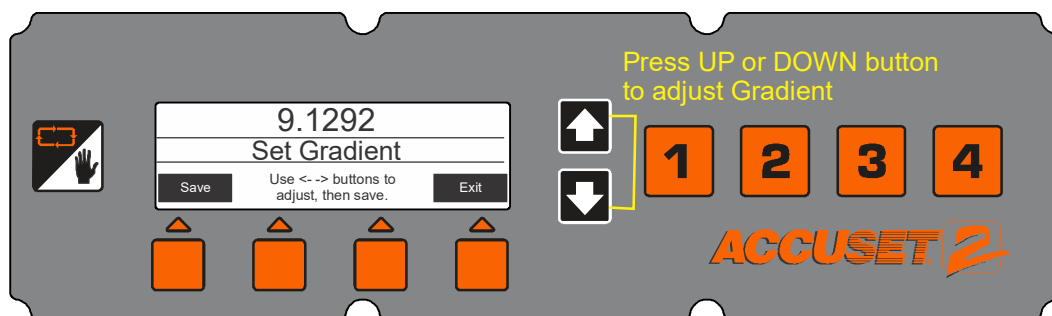
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FIG. 4-6

ADJUST THE GRADIENT

If the Accuset is factory-installed, the Gradient Setting is already set to match the gradient of the transducer sensor (labeled "GRD" on the sensor). If the Accuset has been installed in the field, the transducer replaced, or the Accuset control has been reset to Factory Settings, the Gradient Setting should be adjusted.

2. Press the button labeled "Calib. Head."
3. Press the button labeled "Adjust Gradient."



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FIG. 4-7

4. Press the Up or Down button until the Gradient Setting is the same as the sensor gradient shown on the sensor label (use the number labeled "us/in").

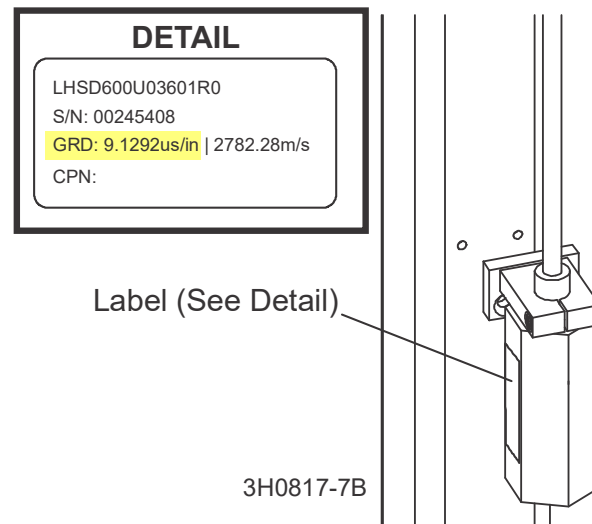


FIG. 4-8

5. Press the Save button.

To return to the previously stored Gradient Setting **without saving** the new setting, press Exit and turn the key switch to the off (0) position.

CALIBRATE BLADE HEIGHT

The Accuset control should indicate the actual position of the blade above the bed rails.

1. Move the saw carriage so the blade is positioned above a bed rail.
2. Raise the saw head until the blade is positioned 12" (305mm) by actual measurement from the bed rail.

NOTE: Measure from the top of the bed rail to the **bottom of a down-set tooth** of the blade.

3. While in Manual Mode, press the Up button to enter the Configuration Menu.
4. Choose Calibrate Head and press the button labeled "Press at 12 inches" (or "Press at 305mm").

The display will change to "Head Calibrated."

5. Press the Save Settings button.
6. Exit the Configuration Menu.

ADJUST THE INCH SCALE

7. Check and adjust the inch scale on the saw head to match the value displayed on the control.

Adjust the bottom saw head stop bolt all the way down.

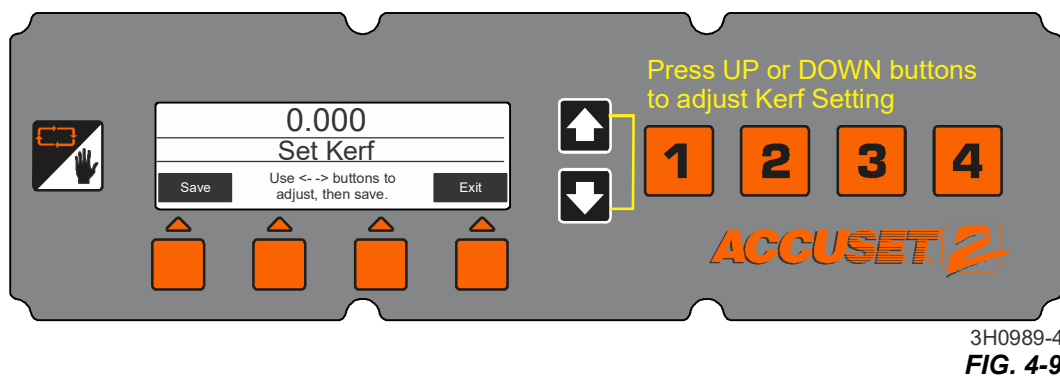
Move the saw head down until Accuset displays 3/4" and adjust the bottom saw head stop bolt up until it just touches the saw head.

SET KERF

The Kerf setting is **optional**. The default kerf setting is '0'. Use Set Kerf to automatically factor the blade thickness into the increment setting. Set Kerf automatically adjusts the height to saw boards that are the actual thickness of the programmed increment.

EXAMPLE: If kerf is set to '0' and increments of 1 1/8" are programmed, the resulting boards may be about 1 1/16" thick because Accuset did not factor the thickness of the blade. If an accurate kerf value is entered, the resulting boards will be 1 1/8".

1. In Manual Mode, press the Up button to enter the Configuration Menu.
2. Press the "Set Kerf" button to display the menu below.



Recommended kerf settings for various factory-set blades are provided below. If preferred, a nominal kerf value of .125 (3 mm) can be entered and should be accurate enough for most applications.

Blade Thickness	Blade Style	Kerf Setting
.042	10S	0.084 (2.2 mm)
.045	9S	0.090 (2.3 mm)
	10S	0.095 (2.5 mm)
.055	10S	0.111 (2.9 mm)

TABLE 4-1

3. Press the Set Kerf button and use the Up and Down buttons to adjust the kerf value.

Pressing the Up and Down buttons simultaneously will scroll the kerf faster.

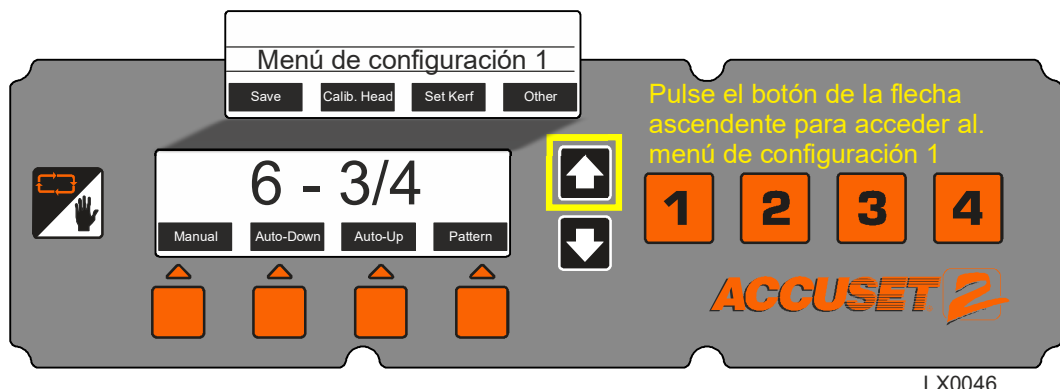
4. Press the Save button.

NOTE: If the Kerf Setting is not used, include the thickness of the blade in the increment settings as described in Section 4.7 Accuset Mode Selection.

Configuration Menu 2

Settings for language, units of measure, and PID (Proportional - Integral - Differential) values are located in Configuration Menu 2.

1. Press the Up button while in Manual Mode to display Configuration Menu 1.
2. Press Other to display Configuration Menu 2.



LANGUAGE

1. Press the Language button.
2. Choose the desired language.

English	Spanish
French	Polish
German	Portuguese

If the desired language does not appear in Change Language menu, press Other to scroll to the next Change Language menu.

3. Press the Save (or language equivalent) button.
4. To return to the previously stored Language setting, press Exit and turn the key switch to the off (0) position.

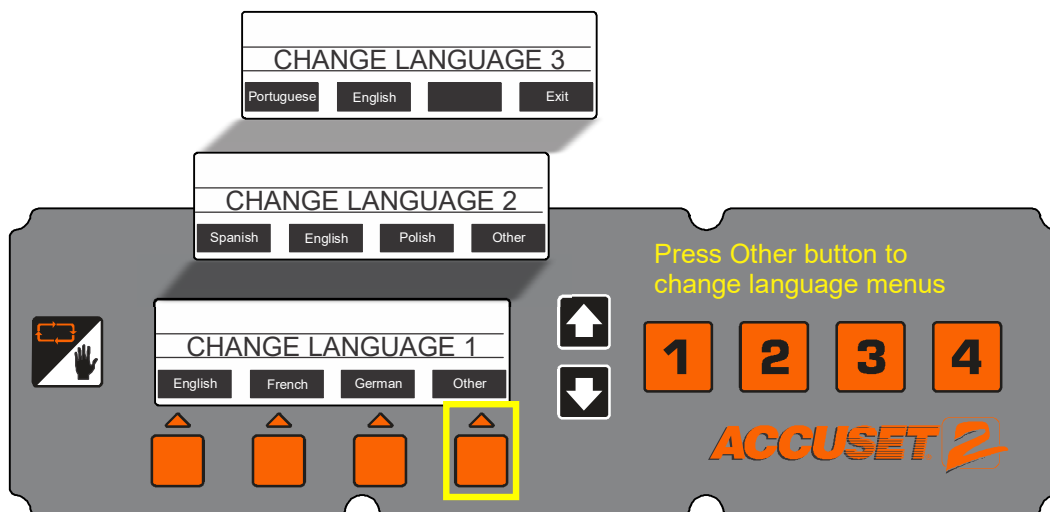
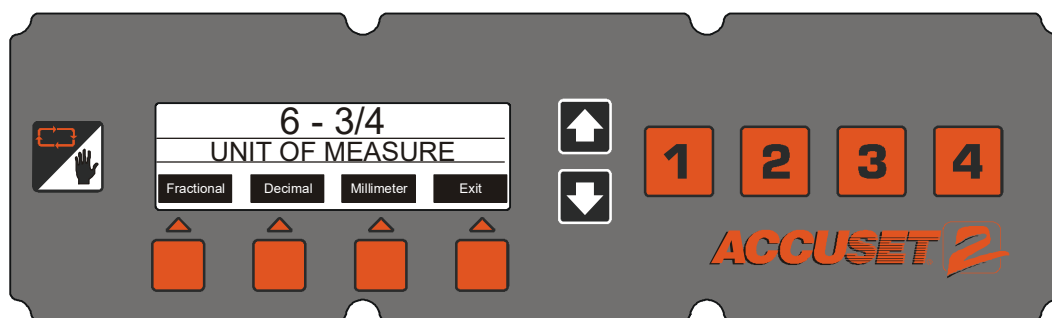


FIG. 4-11

UNITS

1. Press the Units button from Configuration Menu 2.
2. Press the corresponding Unit Of Measure button desired:
 - Fractional Inches (**default**)
 - Decimal Inches
 - Millimeters
3. Press the Save button.

To return to the previously stored Unit Of Measure, press Exit and turn the key switch to the off (0) position.



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FIG. 4-12

PID (PROPORTIONAL - INTEGRAL - DIFFERENTIAL) VALUES

These settings allow a technician to diagnose and fine-tune the Accuset control for various environmental factors. These settings are made at the factory and should not normally need adjusting by the operator.

1. Press the Units button from Configuration Menu 2.

The factory default PID value settings are shown below. Alternate settings are provided for use with most standard (non-Super) model LT30/40 sawmills.

Value	Factory Default	Alternate for Standard Mills
Up Ticks	1	1
Up Distance	7500	1500
Up Minimum	50	80
Down Ticks	1	1
Down Distance	5000	2600
Down Minimum	50	60

TABLE 4-2

2. Press the Save button after making the desired PID Value adjustments.
3. Go to the desired Accuset mode.
4. Test the performance of the new settings.

If the new settings cause undesirable results, reset Accuset to the factory defaults.

NOTE: This menu provides diagnostic information regarding voltage, current and software revisions. This information can be useful for troubleshooting by a qualified Wood-Mizer service representative.

Restore Factory Defaults

1. If on, turn the key switch to Off (0).
2. Turn the key switch On (1) while pressing and holding the Toggle button.

All Accuset settings are returned to their factory default values, including:

- Calibration settings. [See Startup Configuration](#) to recalibrate the Accuset control.
- PID values. [See PID \(Proportional - Integral - Differential\) Values](#) for setting values.

4.7 Accuset Mode Selection

To select an Accuset mode, press the desired Mode Select button (Auto-Down, Auto-Up or Pattern) located under the display. Press the Manual Mode Select button to return the control to Manual Mode. **Manual Mode** - This mode allows you to use the up/down function of the sawmill as you normally would without the Accuset option. The Current Blade Height will continue to be displayed by the Accuset control.

Auto-Down Mode - This mode *references the current blade height* and allows you to choose an increment to move the blade *down*. The Accuset will automatically move the saw head down and stop at the next increment when you press the drum switch down. You can store sixteen different increment levels using the four numbered Increment Settings buttons. Each button stores four adjustable increment settings. Press button #1 once for setting #1. Press button #1 a second time for setting #5, etc...

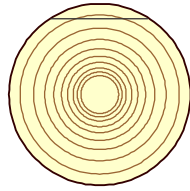
Auto-Up Mode - This mode *references the current blade height* and allows you to choose an increment to move the blade *up*. The Accuset will automatically move the saw head up and stop at the next increment when you press the drum switch up. Auto-Up mode is primarily used to raise the saw head in large increments when preparing to cut a new log or log that has been turned. This allows the operator to raise the saw head without having to hold the drum switch up, freeing the operator to perform other functions while the saw head is being raised. The Increment Settings buttons work in the same manner as described in Auto-Down Mode.

NOTE: The sixteen increment settings apply to Auto-Down AND Auto-Up modes. If you change a setting in Auto-Down mode, it will also change when you are in Auto-Up mode.

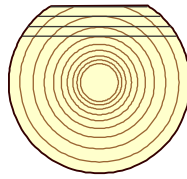
Pattern Mode - This mode *references the bed surface* and allows you to program up to six different increments calculated up from the bed. The sixth (top) increment repeats itself up to the upper limit of the saw head travel. The bottom increment indicates the size of the remaining cant when the pattern is complete.

Reference Mode - This mode allows the operator to program up to four pre-set locations along the saw head travel. The factory default settings are at the bottom (1"), the location where the saw head is calibrated (12"), a location midway between the calibration and the top (24"), and the top (31").

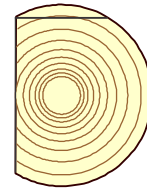
4.8 Using Accuset Auto-Down Mode



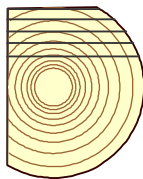
In Manual Mode, position blade for trim cut. Switch to Auto-Down and make trim cut.



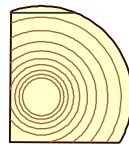
Cut first face as desired in Auto-Down Mode then turn log.



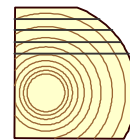
Switch to Manual Mode and position blade for trim cut. Switch to Auto-Down and make trim cut.



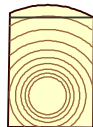
Cut second face as desired in Auto-Down Mode then turn log.



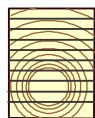
Switch to Manual Mode and position blade for trim cut. Switch to Auto-Down and make trim cut.



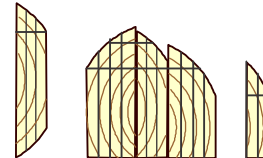
Cut third face as desired in Auto-Down Mode then turn log.



Switch to Manual Mode and position blade for trim cut. Switch to Auto-Down and make trim cut.



Cut final face as desired in Auto-Down Mode.



Switch to Manual Mode and edge flitches.

3H0822 **FIG. 4-13**

Starting with a new log, position the saw head to make the first trim cut.

1. Press the Auto-Down button under the display. The first Increment Setting is displayed by default.
2. Choose the desired increment setting by pressing the appropriate Increment Setting button.

To change an Increment Setting, select the desired setting number and press the Up or Down buttons until the desired Increment Setting is obtained. Pressing the Up and Down buttons simultaneously will scroll the settings faster.

NOTE: Remember to include blade kerf in the setting (i.e. If finished boards are to be 1" thick, set the increment to 1 1/8" to allow for typical blade kerf). The amount of kerf will depend on the thickness and tooth set of the blade being used. The Accuset can be programmed with an automatic kerf setting if desired ([See Section 4.6](#)).

When changing an increment value, it is only temporarily stored. If the control is turned off, the settings will return to the factory defaults unless the new values are saved.

3. Save the new increment setting by pressing the Manual Mode then pressing the Up button. The Configuration Menu will be displayed.

4. Choose Save to enter the Save Settings menu, then press Save.

Example: To store 1 1/2" increment to the #7 increment setting, press Increment Selection button #3 twice to display setting #7 (default value for setting #7 is 7"). Press the Down button to adjust the setting to 1 1/2". While pressing the Down button, press the Up button to scroll faster. As the setting approaches 1 1/2", release both buttons. Press the Down button to fine tune the setting to exactly 1 1/2". Press the Manual Mode button. Press the Up button to display the Configuration Menu. Choose Save to enter the Save Settings menu, then press Save. Increment setting #7 is now 1 1/2".

5. Press the Auto-Down button to return to Auto-Down Mode if necessary. Make the trim cut, raise the saw head and return the carriage to the front of the log.
6. Press the up/down drum switch down and release. The saw head will automatically bypass the setting where the first cut was made and stop at the next setting determined by the increment chosen.
7. Make a cut, raise the saw head and return the carriage for the next cut. Press the up/down drum switch down and release. The saw head will stop at the setting for the next cut. Repeat this procedure down this face of the log as desired.
8. Turn the log and press the Manual Mode button to place the Accuset in Manual Mode.
9. Position the saw head for the trim cut and press the Auto-Down button to return to Auto-Down Mode.
10. Make the trim cut.
11. Raise the saw head and return for the next cut.
12. Use the same procedure as described above to cut each side of the log until done.

NOTE: Anytime a trim cut is necessary, press the Manual button to enter Manual Mode. Position the saw head for the trim cut and press the Auto-Down button to return to Auto-Down Mode. Accuset will reference the new blade position and stop at the next setting determined by the increment chosen.

4.9 Using Accuset Auto-Up Mode

Auto-Up Mode works exactly the same as Auto-Down explained above except it controls the saw head movement in the up direction.

4.10 Using Accuset Pattern Mode

Starting with a new log, position the saw head at the front end of the log.

Press the Pattern button under the display. Pattern Setting #1 is the factory default. Choose the desired pattern setting (1 - 16) by pressing the appropriate Increment Setting button.

In Pattern mode, a list of six increments is shown on the display. These increments are referenced from the bed rail. The bottom increment represents the distance from the bed rail for the last cut. Each increment in the list can be adjusted as desired. The top increment repeats as necessary depending on how high the saw head is raised.

As the saw head is raised or lowered, symbols in the pattern increment list indicate where the blade is located in reference to the pattern. When the blade is above the top setting a ^ symbol appears next to the top increment to indicate saw head is in the repeating top increment. After lowering the blade and reaching the last top increment, a + symbol will appear to indicate the next setting is near. When the blade reaches the increment setting, a - symbol will appear next to that setting.

To change any of the six pattern increments, press the +/- Drop button (below the pattern increment list) to scroll to the desired increment. The increment that is active is highlighted. Scrolling to each increment, the previous increment setting will automatically be copied to the remaining increments below. Press the Up or Down buttons until the desired increment is obtained. Remember to include blade kerf in the setting (i.e. If 1" is the desired thickness of the finished boards, set the increment to 1 1/8" to allow for typical blade kerf). The amount of kerf will depend on the thickness and tooth set of the blade installed. The Accuset can be programmed with an automatic kerf setting if desired ([See Section 4.6](#)).

Press the +/- Drop button to move to the next pattern increment and adjust as desired. After the bottom increment setting is adjusted as desired, press the Manual Mode button then press the Up button. The Configuration Menu will be displayed. Choose Save to enter the Save Settings menu, then select Save.

Example: To edit the pattern increment settings for the #4 pattern setting, press Increment Selection button #4 once to display pattern setting #4 (the factory default value for pattern setting #4 is 1 3/4"). Press the +/- Drop button to enter pattern edit mode. The top pattern increment is now highlighted. Press the Down button to adjust the setting to 1 1/8". While pressing the Down button, press the Up button to scroll faster. As 1 1/8" approaches, release both buttons. Press the Down button to fine tune the setting to exactly 1 1/8". Press the +/- Drop button again to move the next pattern increment. The setting will automatically be copied from the previous setting to 1 1/8" for all the remaining increments below. Exit pattern edit mode by pressing the Manual button. Save the new pattern setting by pressing the Up arrow button to enter Configuration Menu #1. Press the

Save button to enter the Save Settings menu, then press the Save button. Press the Pattern button to return to Pattern Mode and press Increment Selection button #4. All of the pattern settings should now be 1 1/8".

Press the Manual Mode button and raise the saw head so the blade is positioned near the top of the log. Press the Pattern button to return to Pattern Mode.

Press the up/down drum switch down and release. The saw head will automatically stop at the first setting determined by the top pattern increment.

Make a cut, raise the saw head and return the carriage for the next cut. Press the up/down drum switch down and release. The saw head will stop at the setting for the next cut. Repeat this procedure down this face of the log as desired.

Turn the log and press the Manual Mode button to place the Accuset in Manual Mode.

Raise the saw head so the blade is positioned near the top of the log and press the Pattern button to return to Pattern Mode. Make the cut, raise the saw head and return for the next cut. Use the same procedure as described above to cut each side of the log until done.

4.11 Using Accuset Reference Mode

While in Manual Mode, press the Toggle button to enter Reference Mode.

Press one of the four Increment Setting buttons to select a reference. Factory defaults for buttons 1 through 4 are 1", 12", 24" and 31". Press the up/down drum switch in the appropriate direction to start the saw head toward the reference position. If the saw head is already above the position and the drum switch is pressed up, Accuset will return to Manual Mode. Likewise, if the saw head is below the reference position and the drum switch is pressed down, Accuset returns to Manual Mode.

When the saw head reaches the target reference position, Accuset will return to Manual Mode.

To change the stored setting for any of the four buttons, move the saw head to the desired position. Press the Toggle button to enter Reference Mode. Press the button desired to store the setting and then press "Store Here". Press the Toggle button to return to Manual Mode.

The setting can also be changed by selecting one of the four Increment Setting buttons and changing the setting by using the Up and Down arrow buttons. Press the "Store Here" button to store the new setting.

NOTE: The new reference setting is only stored in temporary memory and will return to the default value when the Accuset is powered off and back on. To permanently store the new setting, enter Configuration Menu #1 and press the "Save", then the "Save" button from the Save Settings menu. Accuset will now keep the new setting until it is readjusted or the Accuset is reset to factory defaults.

4.12 Blade Guide Arm Operation

1. Set the outer blade guide to clear the widest section of the log by less than 1" (25.4 mm).
2. Use the blade guide toggle switch on the control panel to adjust the outer blade guide as necessary.
3. Push the switch to the left to move the arm in; push the switch to the right to move the arm out.

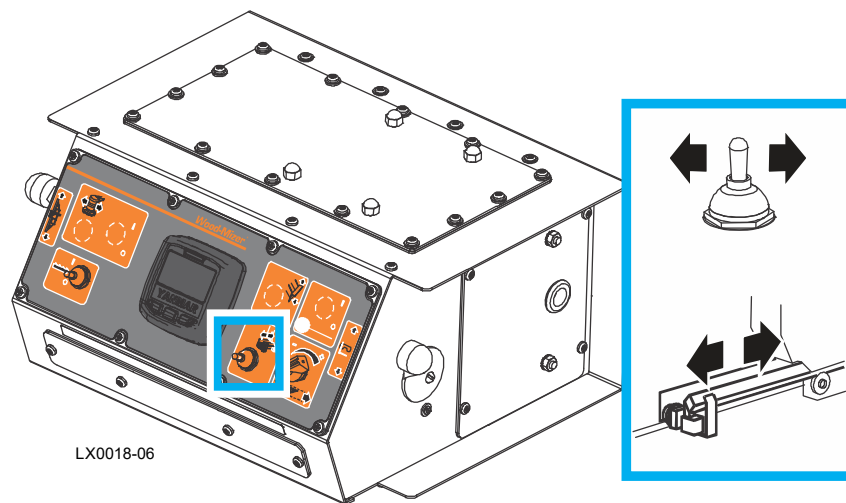


FIG. 4-1

4. Use the blade guide toggle 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.
5. Adjust the arm out before returning the carriage.

4.13 Autoclutch operation



DANGER! Keep all persons out of the path of moving equipment and logs when operating saw-mill or loading and turning logs. Failure to follow this will result in death or serious injury.

To start (engage) the blade, press the toggle switch on the control panel up. Hold the switch up until the clutch motor stops completely. The autoclutch mechanism will disengage the brake, rev the motor to full throttle, and start the blade spinning.

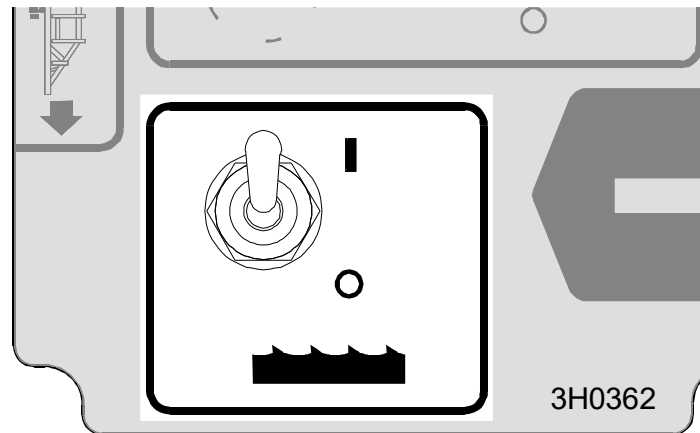


FIG. 4-2

To stop (disengage) the blade, press the toggle switch down. This engages the blade brake and return the engine to idle.

NOTE: The toggle switch must stay in the up or down position. If the switch boot is stiff, you may need to hold the switch in position until the remote clutch motor completes its cycle.

4.14 Power Feed

The power feed system moves the carriage forward and backward by using the two switches on the control panel illustrated below.

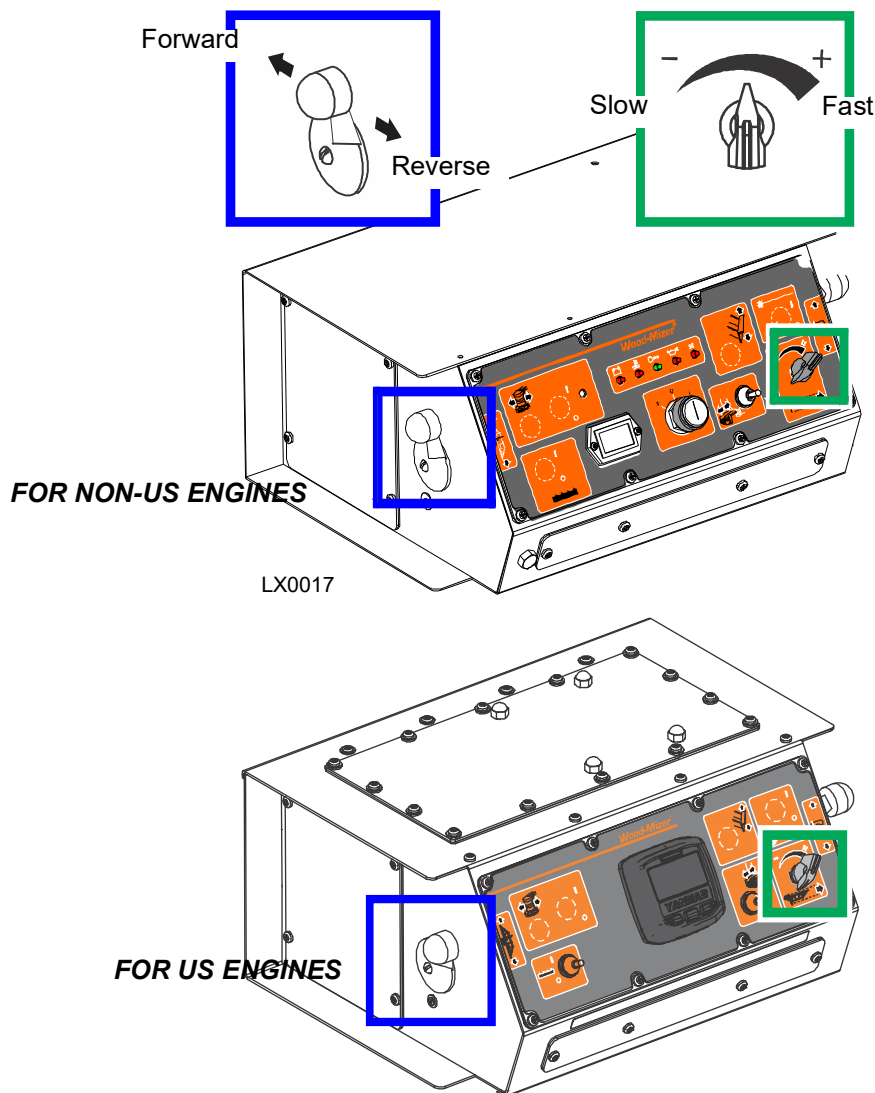


FIG. 4-3

CARRIAGE FORWARD AND REVERSE

The carriage forward/reverse drum switch controls the direction in which the carriage travels.

The middle position (as shown) is the neutral position. The power feed switch is designed to return to the neutral or "off" position when released from operating in the reverse position. If the switch remains engaged, manually move the switch to the neutral or "off" position and [See Section 1.10](#).



WARNING! Ensure the power feed switch is in the neutral position before turning the key switch to the on (1) or accessory (3) position to prevent accidental carriage movement. Failure to follow this will result in death or serious injury.

CARRIAGE FEED RATE

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

USING THE POWER FEED

1. Use the forward/reverse drum switch and the feed rate switch to position the sawhead for the cut.
2. Engage the autoclutch to start the blade.
3. Set the feed rate relative to the size and material you are cutting. If not known, set at the slowest rate.

NOTE: To get a straight cut in the first part of the board, feed the blade into the log at a slow speed. Turn the carriage feed rate switch to a slow speed until the whole width of the blade has entered the cut. This stops the blade from flexing and dipping up or down. Then use the carriage 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 engine and blade wear, and also produces a wavy cut.

4. Press and lock power feed handle forward to move forward.
5. Stop the carriage at the end of the cut by raising (unlocking) the feed handle, or by turning the carriage feed rate switch counterclockwise until the carriage stops moving.
6. Disengage the blade by setting the autoclutch toggle switch down. The engine will drop to idle.
7. 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.

8. Raise the carriage slightly to ensure the blade clears the log when returned.
9. Return the carriage to the front of the mill by pushing the forward/reverse drum switch back.

NOTICE The power feed motor will bypass the carriage feed rate switch and the carriage will automatically return at the fastest speed available.



DANGER! Stay clear of the area between the trailer axle and saw carriage. Failure to follow this will result in death or serious injury.

4.15 Cutting The Log

1. Position the log and clamp it firmly.
2. Move the saw head to position the blade close to the end of the log.
3. Use the blade height scale to determine where to make your first cut.



NOTE: Blade Height Scale to set the blade to the desired height with the up/down switch.

4. Ensure that the blade will clear all side supports and the clamp.
5. Use the blade guide toggle switch to adjust the outer blade guide to clear the widest section of the log.
6. Use the autoclutch blade switch to engage the blade.



WARNING! Keep hands, feet, and any other objects away from the sawdust chute when operating sawmill. Failure to follow this may result in serious injury.



7. Start the water lube if necessary to prevent sap buildup on the blade. [See Section 4.19.](#)
8. Feed the blade into the log slowly ([See Section 4.14](#)).



NOTE: Once the blade completely enters the log, increase the feed rate as desired. Always try to cut at the fastest speed possible while keeping an accurate cut. Cutting too slowly will waste blade life and lower production.

9. As the blade nears the end of the log, slow down the feed rate until the teeth exit the end of the log, then stop the carriage.



10. Use the autoclutch blade switch to disengage the blade.
11. Remove the slab just cut from the log.
12. Use the up/down drum switch to raise the sawhead to clear the log.
13. Use the forward/reverse drum switch to return the carriage to the front of the mill.
14. If using Simple Set, bump the up/down drum switch down to set the blade at next interval cut height. Otherwise, set next cut height manually with the up/down drum switch and blade height scale.

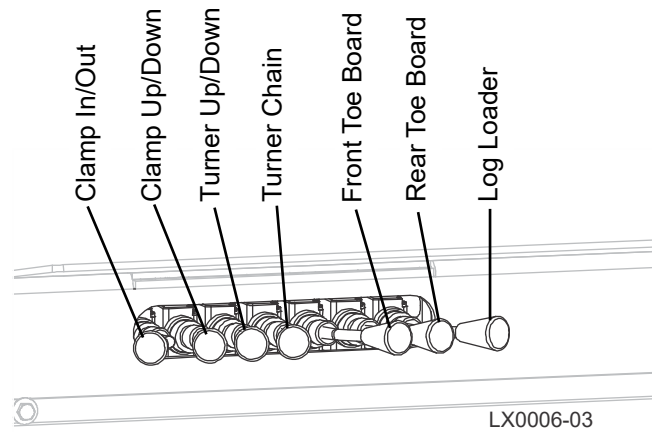
NOTICE The kerf value must be added to the increments. Typical blade kerfs are between 1/16 - 1/8" (1.6 - 3.2 mm).

NOTE: The blade cuts a 1/16 - 1/8" (1.6-3.2 mm) wide kerf. If 1" (25.4 mm) thick boards are desired, lower the carriage 1 1/16 - 1 1/8" (27-28.6 mm) for each board.

15. Repeat until the first side of the log is cut as desired.
16. Set aside the usable flitches (boards with bark on one or both sides) to edge them on the mill later.

TOE BOARDS

17. Lower the toe boards, if they were used.
18. Use the hydraulic levers to release the clamp and engage the log turner.


FIG. 4-4

19. Turn the log 90 or 180 degrees.
20. Ensure that the flat on the log is placed **flat** against side supports (if turned 90 degrees) or **flat** on bed rails (if turned 180 degrees).
21. Raise the front or rear toe board to align the log heart parallel with the bed, if necessary.
22. 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 desired.

4.16 Optional Cutting Procedure

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



DANGER! If leaving the blade engaged for maximum production rates, ensure that the off-bearer stays out of the path of the blade. Failure to follow this will result in serious injury or death.



CAUTION! If leaving the blade engaged; raise the blade to clear the log before returning the carriage. Failure to follow this may cause damage to the blade and/or sawmill.

4.17 Edging

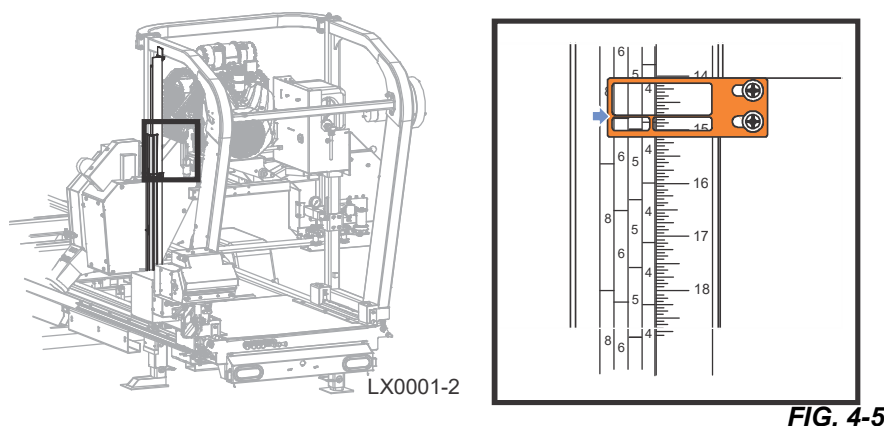
1. Raise the side supports to 1/2 the height of the flitches, or the boards that need to be edged.
2. Stack the flitches on edge against the side supports.
3. Clamp the flitches against the side supports halfway up the flitch height.

NOTE: Wider flitches should be placed to the clamp side. When they are edged, flip them over to edge the second side without disturbing the other flitches or 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 steps 2-4.
7. Loosen the clamp and remove the boards that have good clean edges on both sides.
8. Clamp the remaining flitches and repeat steps 2-5.

4.18 Blade Height Scale

The blade height scale includes a blade height indicator, an inch scale, and a quarter scale.



The scales are attached to the frame and move up and down with the saw head. The blade indicator, used to read the inch and quarter scales, remains stationary.

THE INCH SCALE

The horizontal line on the blade height indicator shows how many inches the bottom of the blade is above the bed of the mill. Knowing the height of the blade at each cut, the thickness of lumber being sawed can be determined.

Example: 1" (25 mm) random width boards are to be cut from a log. Position the blade for the first cut. Move the carriage to an even measurement on the inch scale. Make a trim cut. Return the carriage for the second cut and lower it 1 1/8" (29 mm) below the original measurement. (The extra 1/8" (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 log clamp. Check that these items are below the blade level before sawing.

THE QUARTER SCALE

Two quarter scales are provided with 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.

Choose the correct scale by determining the desired finished thickness. 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 the customer sawing to determine what actual finished thickness is required.

Standard Quarter Scale		Grade Hardwood Quarter Scale	
Scale	Actual Board Thickness	Scale	Actual Board Thickness
4/4	1" (25 mm)	4/4	1 1/8" (29 mm)
5/4	1 1/4" (32 mm)	5/4	1 3/8" (35 mm)
6/4	1 1/2" (38 mm)	6/4	1 5/8" (41 mm)
8/4	2" (51 mm)	8/4	2 1/8" (54 mm)

TABLE 4-3

To use the quarter scale, look at the blade height indicator.

Loosen the wing studs holding the quarter scale to the mast. Align the nearest mark on the scale you want to use with the blade height indicator. Tighten the wing studs.



CAUTION! Be sure to leave the wing studs in the vertical orientation to avoid interference with the blade height indicator. Failure to follow this may result in damage to the indicator.

Make a trim cut. When you return the carriage for a second cut, lower the carriage to the next mark on the scale. This mark shows where the blade should be positioned to cut a certain thickness of lumber, without having to measure on the inch scale.

Example: 1" (25 mm) random width boards are to be cut from a log. Position the blade for the first cut. Adjust the quarter scale so a 4/4 mark is aligned with the line on the indicator. Make a trim cut. Return the carriage for the second cut. Instead of measuring down 1 1/8" (29 mm) on the inch scale, 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.

4.19 Water Lube Operation



WARNING! Do not use flammable fuels or liquids such as diesel fuel. If these types of liquids are necessary to clean the blade, remove it and clean with a rag. Failure to follow this will result in serious injury or death.



CAUTION! Use windshield washer fluid to the water tank and prime as recommended when sawing or storing the sawmill in below-freezing temperatures. Use windshield washer fluid with a freezing point of at least -20°F (-29°C). Failure to follow this may cause damage to the Water Lube system.

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.

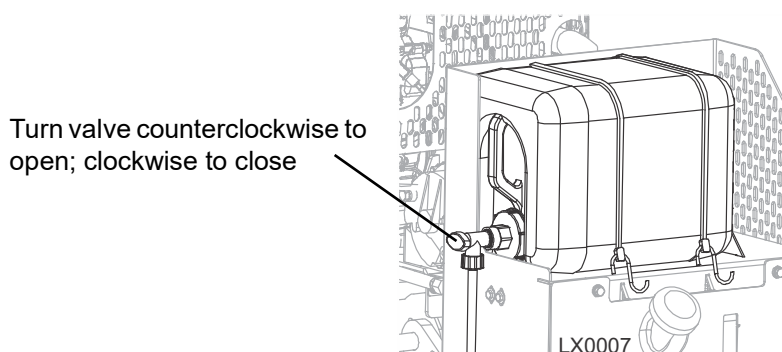


FIG. 4-6

A solenoid valve automatically starts the water flow when the power feed is activated in the forward direction. The solenoid stops the flow when the feed switch is returned to the neutral position.

Not all types of wood require the use of the Water Lube System. When needed, 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.

Before removing the blade, engage the blade. 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.

For further lubrication benefits, add one 12oz. (0.35L) bottle of Wood-Mizer Lube Additive to 5 gallons (18.9 liters) of water. Wood-Mizer Lube Additive enables some previously impossible timbers to be cut by significantly reducing resin buildup on the blade. It helps to reduce heat buildup, wavy cuts, and blade noise. This biodegradable and environmentally friendly pre-mix includes a water softener additive, so it works with hard water.



WARNING! Do not use flammable fuels or liquids such as diesel fuel. If these types of liquids are necessary to clean the blade, remove it and clean with a rag. Failure to follow this will result in serious injury or death.



CAUTION! Use windshield washer fluid to the water tank and prime as recommended when sawing or storing the sawmill in below-freezing temperatures. Use windshield washer fluid with a freezing point of at least -20°F (-29°C). Failure to follow this may cause damage to the LubeMizer system.

4.20 Preparing The Sawmill For Towing

Securing the mill

1. Move the saw carriage to the front (hitch end) of the sawmill.
2. Raise the rear outriggers to their fully compressed position.



CAUTION! Do not adjust the outrigger base height while there is weight on the outrigger. Damage to the outrigger may result.

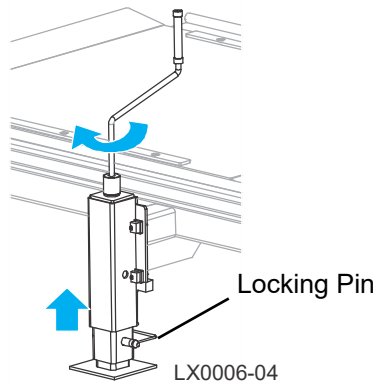


FIG. 4-7

3. Move the log clamp all the way in toward the main bed frame tube.
4. Lower the log turner arm below the bed level.

NOTICE Release the turner lever after the turner arm is lowered, but before the side supports begin to lower.

5. Release the blade tension.



CAUTION! Changes in temperature could cause increased pressure in the blade tensioner and loss of fluid from the gauge. Release the blade tension when the mill is not in use to avoid damage to the tensioner.

6. Lower the sawhead to align with the travel locking pin.
7. Remove the travel locking pin from the storage bracket and lock the sawhead up/down motion.

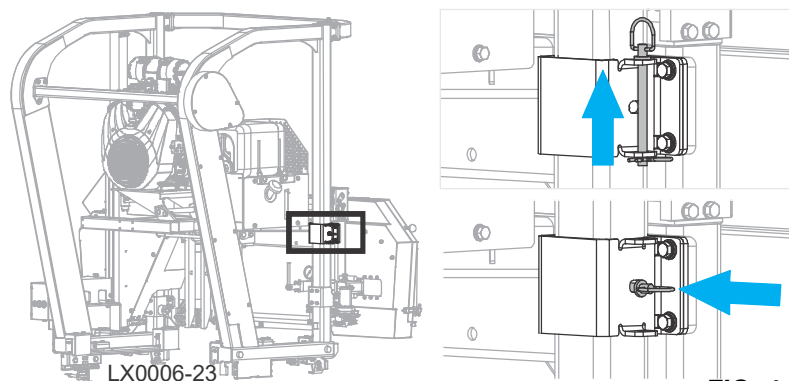


FIG. 4-8

8. Move the carriage to the travel position, where the locking flange aligns with the rest pins.



WARNING! Always lock down both rest pins. Failure to follow this may result in property damage and/or serious injury or death.

9. Raise both sawhead rest pins and lock them down in the carriage flanges.

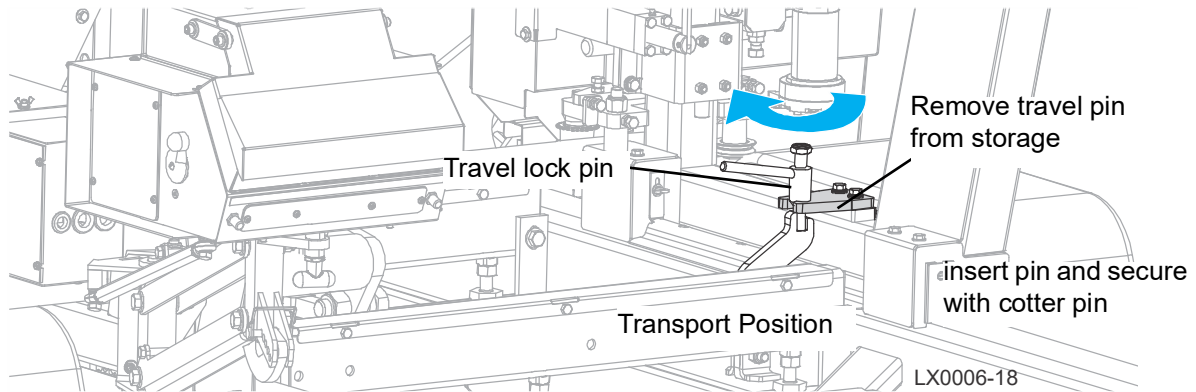


FIG. 4-9

10. Engage the autoclutch blade switch to keep the drive belt tight and the motor from bouncing while traveling.

NOTICE Disengage the clutch/brake lever or autoclutch blade switch after reaching the destination to avoid deformation of the drive belt.

11. Ensure the board return arms are in the transport position.

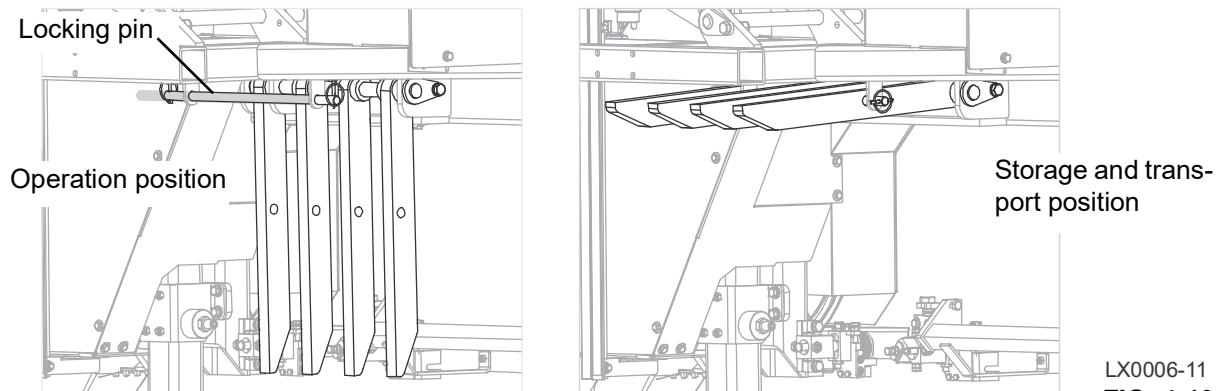


FIG. 4-10

12. Raise the sawdust chute and strap it into the transport position.
13. Remove all loose objects from the mill.
14. Raise the log loader until the arms contact the stop bolts.
15. Place the locking pins in the towing position holes and push the log loader lever down to bring the loader arm channels up to the loader arms.

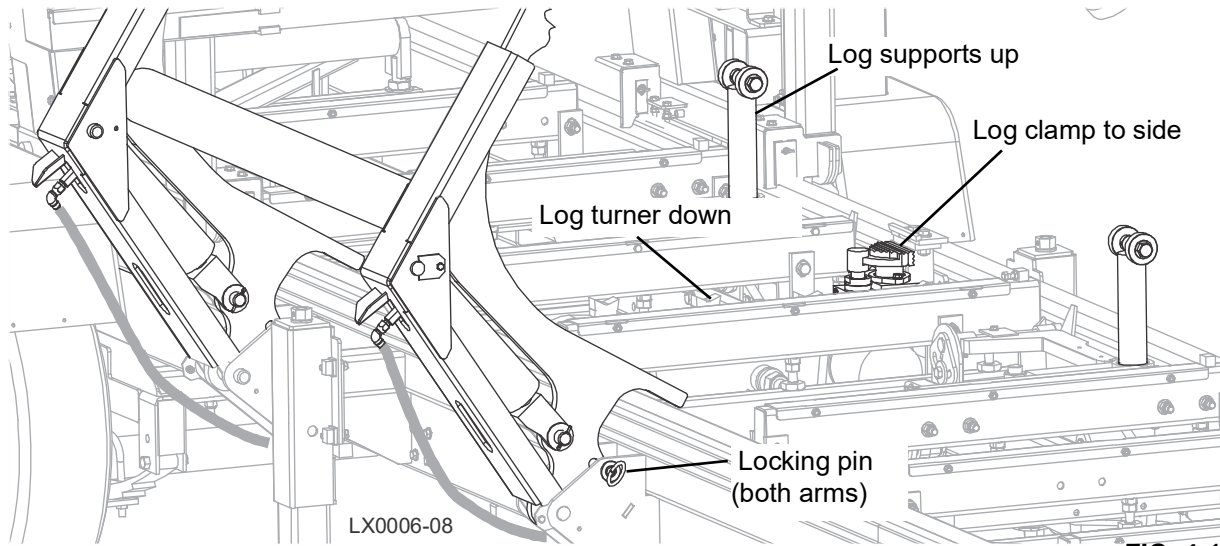


FIG. 4-11

16. Replace the wheel fenders.

Hitch the mill to the vehicle



WARNING! Your vehicle should be equipped with a Class 4 hitch with a solid 2 5/16" ball (not two-piece) and rated for at least 6000 pounds (2722 kg). The hitch should be correctly mounted to the towing vehicle so that it will be able to pull this type of load. Failure to follow this could result in serious injury or death.

Always check trailer tires for proper inflation before towing sawmill. Failure to follow this may lead to tire failure resulting in property damage and/or serious injury or death.

1. Position the towing vehicle in front of the mill.
2. Use the tongue jack to lower the hitch over the ball coupling on your vehicle.

Adjust the coupler if necessary so it is as tight as possible on the ball and the locking lever can still be opened and closed.

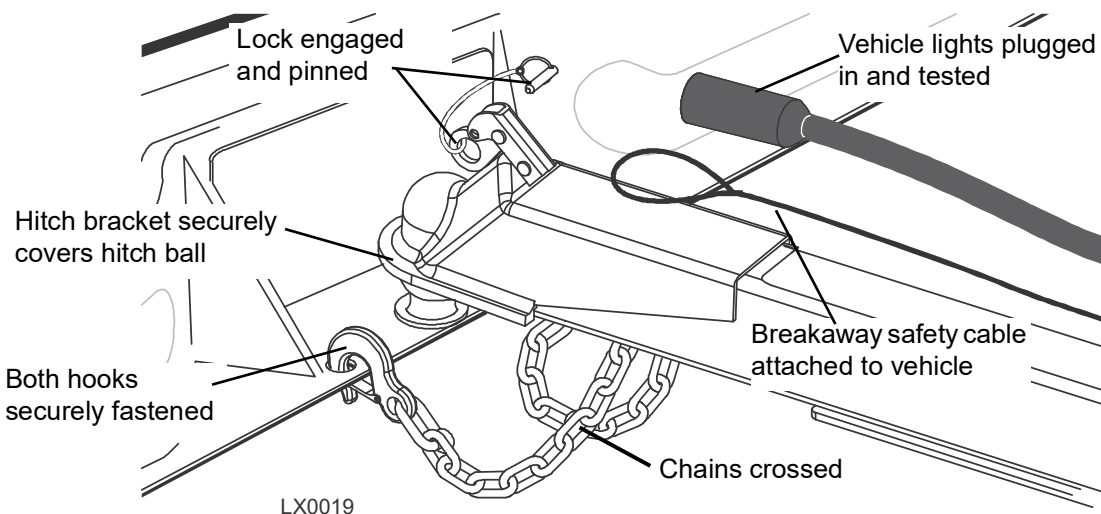


FIG. 4-12

3. Flip the locking handle downward, ensuring the bracket underneath firmly clamps around the ball.

4. Secure the locking handle with the safety pin.



DANGER! Ensure hitch bracket is securely fastened around ball before towing the sawmill. **Ball should be completely engaged by the hitch bracket and securely locked in place.** Use the hitch only with the specified ball size. Failure to follow this will result in death or serious injury.

5. Cross the safety chains underneath the hitch and hook to the vehicle.

Ensure that there is slack in the chains to accommodate the vehicle when turned sharply in either direction.



DANGER! Ensure the following has been accomplished: Your hitch has adequate safety chain hookups. **Do not** use eyebolts for safety chain hook-up. Safety chains should be hooked to bumper of vehicle so that each chain would pull the trailer equally in the event the hitch became disengaged. Failure to follow this will result in death or serious injury.

6. Connect the break-away safety cable to the vehicle.

This cable is designed to activate the brakes in the event the hitch coupling and safety chains fail. The cable should have slightly more slack than the safety chains.

7. Connect the light wiring harness plug from the sawmill to the receptacle on your vehicle.
8. Check turn signals and brake lights.
9. Raise the front outriggers.
10. Return the outrigger jack handle and locks to the storage bracket.

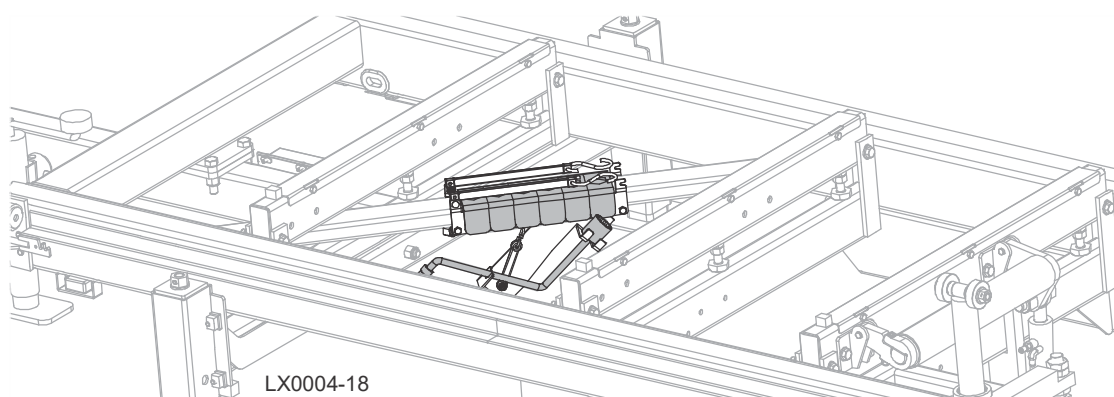


FIG. 4-13

11. Rotate the tongue jack into the transport position.

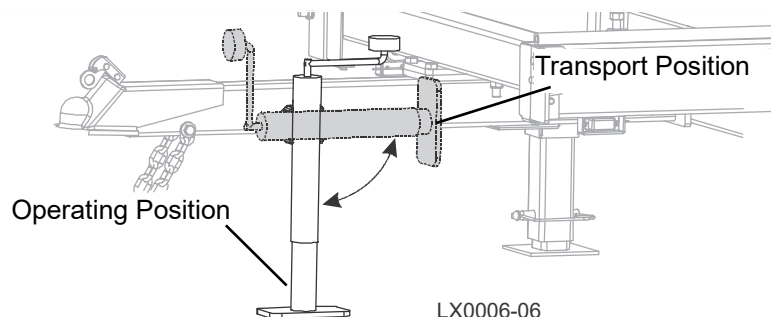


FIG. 4-14

12. Remove wheel chocks.

13. Recheck that all loose items are removed or secured.
14. Review safety warnings.



DANGER! Ensure that the hitch and safety chains are secure before towing the sawmill. **Always connect the break-away cable to the vehicle when towing the sawmill.** Failure to follow this will result in death or serious injury.

Ensure that all brake and light connections have been made and are working properly before towing the sawmill. Failure to follow this will result in death or serious injury.

Be sure electric brake battery is charged and is working properly before towing the sawmill. Failure to follow this may result in serious personal injury or death.

Do not use the electric brakes as an “emergency brake” while the sawmill is not being towed (the sawmill is stationary); it will drain the brake battery. Failure to follow this may result in serious personal injury and/or severe machine damage.

NOTICE Comply with all applicable Federal, State and Local motor vehicle safety laws.

SECTION 5 MAINTENANCE

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

See the [Maintenance chart](#) located after this section for a complete list of maintenance procedures and intervals. Keep a log of machine maintenance by recording in the machine hours and the date you perform each procedure.



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

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

5.1 Wear Life

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

See Table 5-1.

Part Description	Estimated Life
Up/Down Motor Brushes	1000 hours
Blade Wheel Belts	400 hours
Up/Down Motor	2000 hours
Hydraulic Pump Solenoid	750 hours
Power Feed Motor Brushes	750 hours
Up/Down Drum Switch	1000 hours
Blade Guide Rollers	1000 hours
Hydraulic Pump Motor Brushes	750 hours
Power Feed Drum Switch	1200 hours
Power Feed Motor	1500 hours
Power Feed Belt	2000 hours
Up/Down Belt	2000 hours
Drive Belt	1250 hours

TABLE 5-1

5.2 Blade Guides



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

1. Check the rollers for performance and wear every blade change.
2. Replace rollers that are not are clean and spinning freely.
3. Replace rollers which have worn smooth or have become cone shaped.

ADJUST THE BLADE GUIDE

1. Loosen the nuts on the outer adjustment bolts and back the bolts out slightly.
2. Tighten the middle bolt to raise the block mounting plate up until it contacts the outer bolts.
3. Check the space between the block and the blade.
4. When the spacing is between 0.008" - 0.010", tighten the outer bolt nuts.

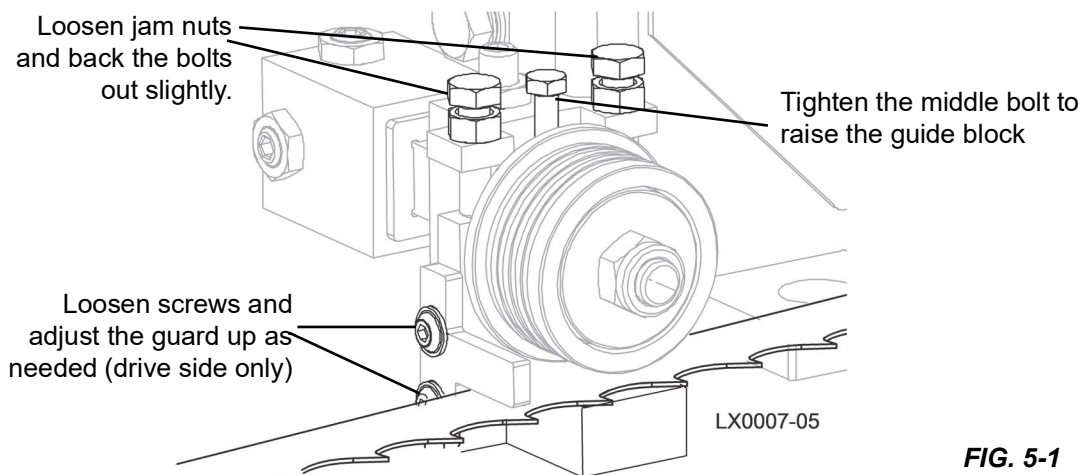


FIG. 5-1

NOTE: Preventing sap buildup on the blade is critical when using the high-performance blade guide system. If the wood you are sawing leaves sap buildup using plain water in the blade lube system, use Wood-Mizer lube additive (4-Pak 60 oz. bottles part no. ADD-1).

ADJUST MIDDLE THROAT SCREW

1. Inspect the middle throat screw **every 500 hours** of operation; it should maintain 1/16" (1.5 mm) distance away from the blade.
2. Loosen the nut and adjust the screw as necessary.

NOTICE Failing to maintain this adjustment will lead to early blade breakage.

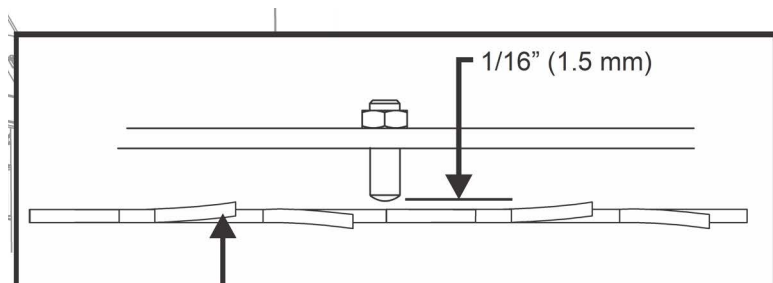
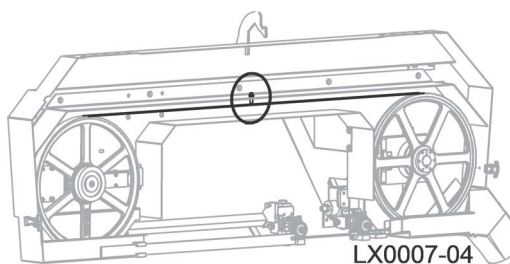


FIG. 5-2

5.3 Sawdust Removal



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Ensure the steel fingers inside the sawdust chute are in place before operating the sawmill. Failure to follow this could result in death or serious injury.

The steel fingers have been designed to help prevent a broken blade or some other object from becoming a projectile and exiting the sawdust chute.

Remove all sawdust and debris from around the lower cylinder fittings of the log loader every **8 hours** of operation.

Remove the track roller housing covers and brush any sawdust buildup from the housing every **25 hours**.

Remove sawdust buildup **as required** from the battery box lid and top rail cover.



CAUTION! Failure to remove sawdust buildup from the battery box lid and/or track rail cover could result in damage to these parts when the saw head is lowered to its lowest position.

Remove sawdust buildup from the power feed belt housing **as required**.

1. With the engine turned off, disassemble the power feed belt cover and remove sawdust buildup in and around the power feed belt and pulleys.
2. Replace the power feed belt cover.

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

5.4 Carriage Track, Wiper & Scraper



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Proper maintenance on the sawmill carriage track is critical in preventing corrosion that can cause pitting and scaling on the rail surfaces. Pitted and scaled surfaces can, in turn, cause rough cuts or jerky power feed movement.

CLEANING

1. Use a light-grade sandpaper or emery cloth to sand off any rust or other adhering particles from the rails **every 8 hours** of operation.
2. Clean track rails to remove any sawdust and sap buildup every eight hours of operation.



CAUTION! Keep track rails free of rust. Formation of rust on the track rail in the areas where the cam bearings roll can cause rapid deterioration of the track rail's surface.

3. Lubricate the rails by wiping them with Dexron III ATF transmission fluid.

Lubrication will help protect the rails from corrosive elements such as acid rain and/or moisture from nearby bodies of salt-water (if applicable). This lubrication is essential to maintain the integrity of the track rails and track rollers and to achieve long service life.

CLEAN AND LUBRICATE THE TRACK WIPERS FELT

Lubricate the track wiper felt **every 25 hours** of operation.

1. Remove the track roller housing covers and brush any sawdust buildup from the housings.
2. Unbolt the middle track wiper, remove from the sawmill, and remove any sawdust buildup.
3. Soak the wiper felt with Dexron III transmission fluid.



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.

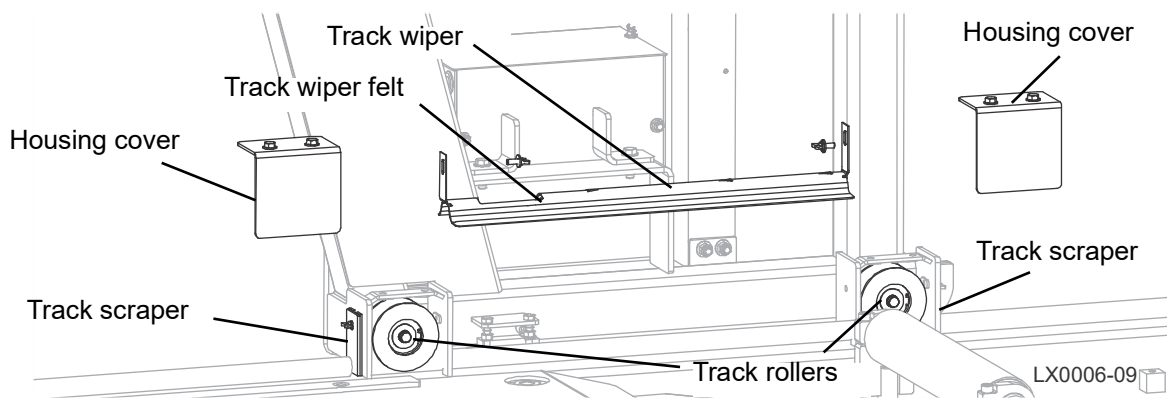


FIG. 5-3

4. Check the track scrapers **as needed**.

Scrapers should fit firmly against the rail. To adjust the scraper, loosen the wingnut, push the scraper downward until it fits firmly against the rail, and retighten the wingnut.

5.5 Vertical Mast Rails



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. If the key is turned on and moving parts activated, serious injury may result.

Clean the vertical mast rails **every 50 hours** of operation. Clean with solvent and remove any rust with a light-grade sand paper or emery cloth.



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

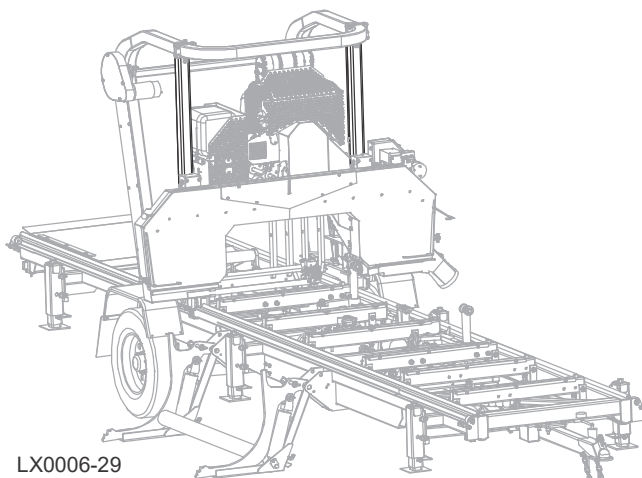


FIG. 5-4

5.6 Drum Switches



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this may result in injury and/or electrical system damage.

Lubricate the power feed drum switch contacts inside the control panel **every 50 hours** of operation.

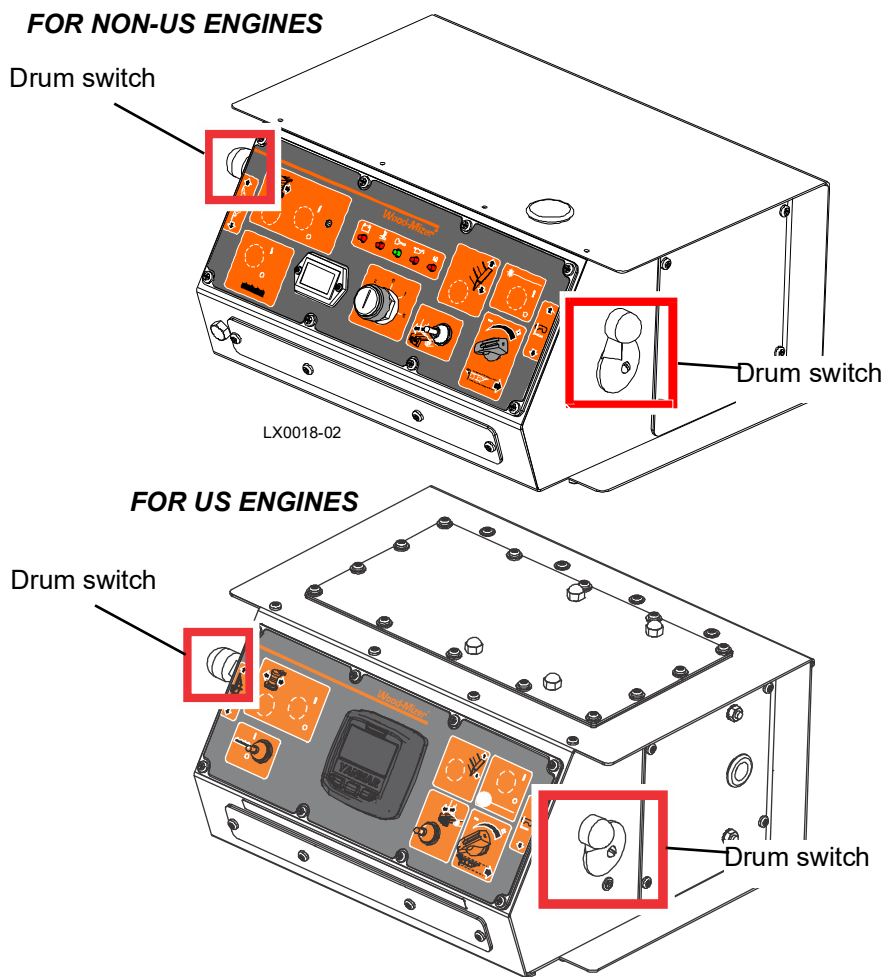


FIG. 5-5

1. Remove the 8 screws holding on the front control panel cover.

NOTICE Use care not to disrupt the wiring to the various controls.

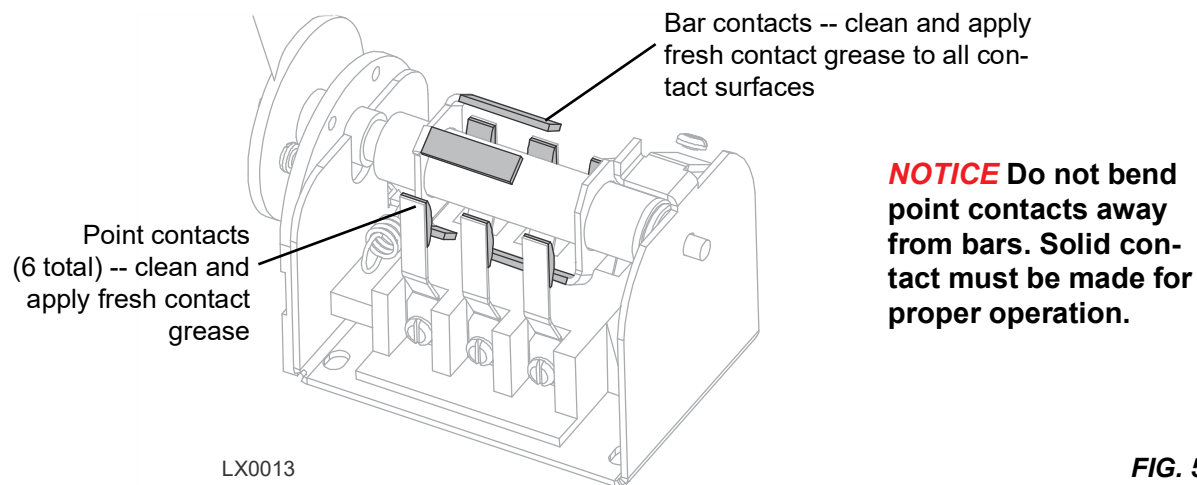
2. Locate the small, round container of drum grease attached to the inside frame of the control box



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. Use a cotton swab to apply grease to the switch contacts.

NOTE: There are minor differences between the up/down drum switch and the power feed drum switch. Treat both in the same manner.



NOTE: Use only contact grease supplied by Wood-Mizer.

5.7 Miscellaneous



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

1. Oil all chains with Dexron III ATF **every 50 hours** of operation.



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

2. Apply a thin film of a NLGI No. 2 grade lithium grease to the blade guide arm **every 50 hours** of operation to help prevent it from rusting.
3. Adjust the blade guide arm drive chain **as necessary** to prevent the arm from slipping. To adjust the chain, loosen the blade guide arm motor mounting bolts and slide the motor to take slack out of the chain.

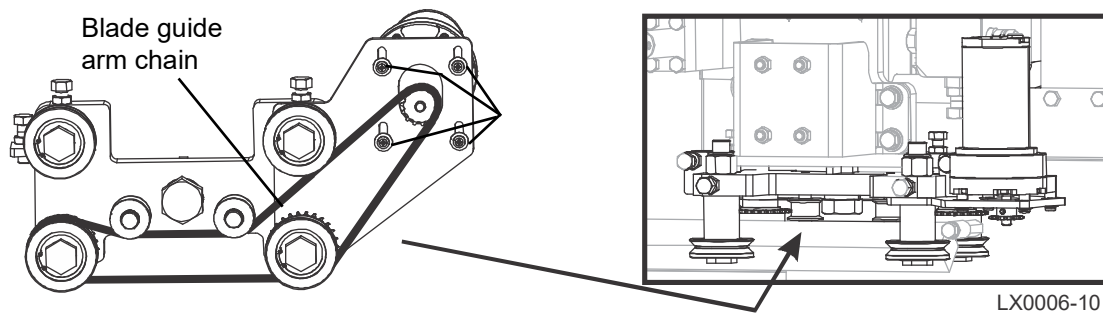


FIG. 5-7

4. Grease the clamp mechanism, loading arm, and side support pivots with a NLGI No. 2 grade lithium grease **every 50 hours** of operation.
5. Check the mill alignment every setup ([See Section 8.1](#)).
6. Ensure all safety warning decals are readable. Replace any damaged or unreadable decals immediately. Order decals from your Customer Service Representative.

5.8 Blade Tensioner



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

LUBRICATE

1. Lubricate the chrome rods of the tensioner system with a heavy duty teflon spray lubricant, such as Gunk L508, **every 50 hours** of operation.
2. Lubricate the tensioner screw handle with a NLGI No. 2 grade lithium grease as needed.

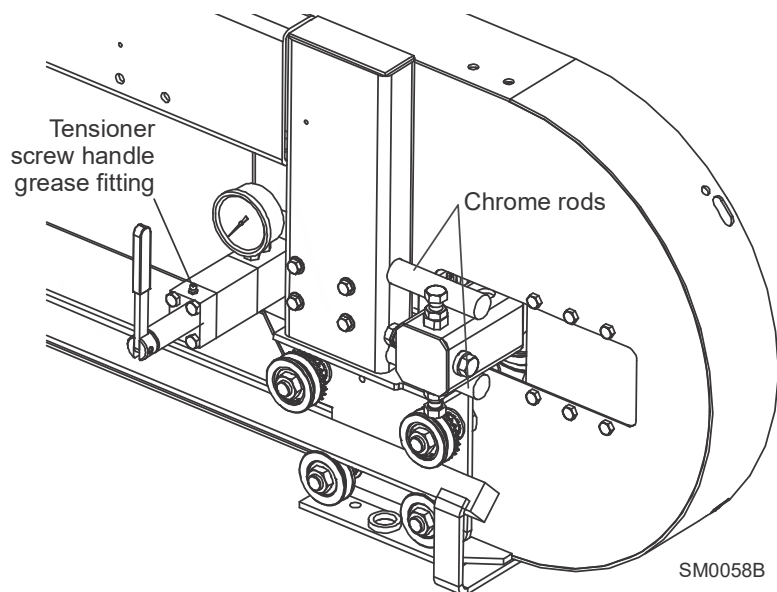


FIG. 5-8

REFILL THE TENSIONER BLOCK

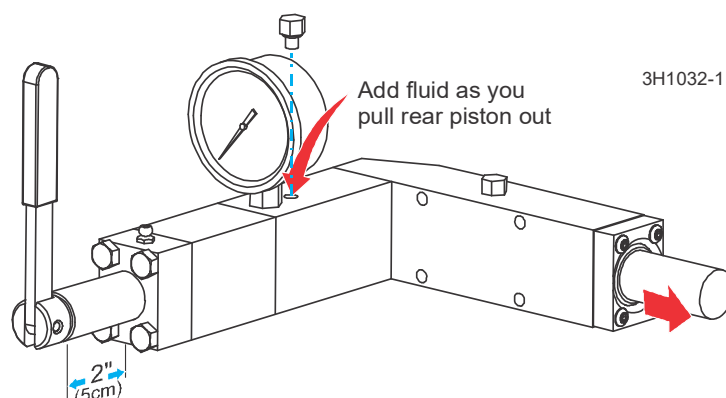


FIG. 5-9

Add an Automatic Transmission Fluid (ATF) such as Dexron III ATF to the hydraulic blade tensioner **as needed**.

1. Unscrew the tensioner handle to reveal 2" (50mm) of thread.
2. Remove the sawmill blade housing covers and blade.
3. Push the idle-side blade wheel/shaft housing all the way in to collapse the rear tensioner piston.
4. Pull the idle-side blade wheel/shaft housing away from the tensioner.

There are two fill plugs provided on the tensioner. For easiest access, it is recommended to use the hole behind the gauge to refill the tensioner.

5. Clean any dirt and debris from the plug area.
6. Use a 7/16" wrench to remove the plug, making sure to keep the plug o-ring with the plug.
7. Use a small funnel, cup or squirt can to add hydraulic fluid through the fill plug hole until a puddle of fluid forms and is maintained over the fill hole.
8. As you maintain the puddle, manually extend the rear piston as far as it will travel.

NOTICE Use care not to draw air into the tensioner. Use pliers to pull the rear piston if necessary, but only grip the outer 1/4" (6mm) of the rear piston. Gripping or marring the surface beyond this point could result in seal damage and prevent the system from holding tension.

9. Reinsert the plug and thread 2-3 turns.
10. Turn the tension handle clockwise until 6 or 7 threads show beyond the front piston block.
11. Tighten the plug all the way.
12. Push the idle-side blade wheel/shaft housing all the way in to collapse the rear tensioner piston.

NOTE: If the piston does not extend at least 2" from the end of the tensioner block, repeat Steps 1-11.

13. Reinstall the blade and blade housing covers.

If blade installation is difficult, it may be necessary to remove some fluid.

- Open the plug one turn and turn the tension handle in until some fluid is pushed out.
- Tighten the plug and retry.

5.9 Blade Wheel Belts



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

To provide longer belt life, rotate the blade wheel belts **every 50 hours** and check them for wear.

1. Remove blade.
2. Remove wheel belts by carefully rolling them out of the groove as you slowly rotate the wheel by hand.
3. Replace belts as necessary.

NOTE: Use only B57 belts supplied by Wood-Mizer.

5.10 Brake Strap Adjustment



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Check and adjust the brake strap:

- after each drive belt adjustment
- if the blade does not stop quickly
- unusual sounds occur when the brake is applied
- **every 200 hours** of operation

Replace if damaged or worn.

ACCESS THE BRAKE STRAP

1. Remove the drive belt cover.
2. Engage the clutch.

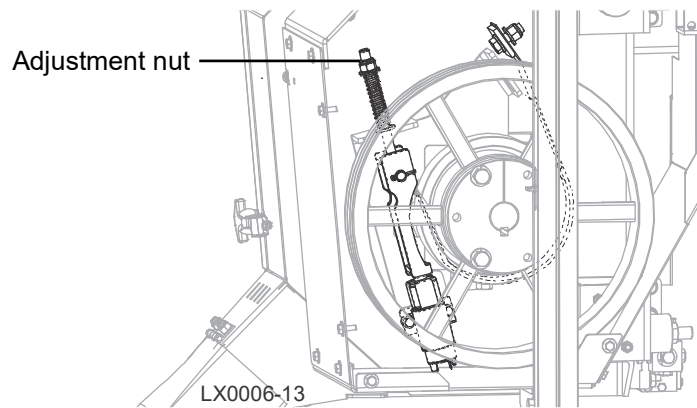


FIG. 5-10

3. Tighten the nut on the top of the brake linkage weldment until the brake strap touches the drum, then turn the nut an additional 1/8" (3mm).
4. Disengage the clutch.
5. Check the drive belt fit in the drive pulley.

If the belt is still too loose, engage the clutch and repeat brake strap adjustments in 1/8" increments until the drive belt properly fits in the drive pulley with the clutch disengaged.

NOTICE Do not overtighten. Overtightening will cause the drive belt to "grab" the pulley and can prevent the engine from starting properly.

6. Replace the drive belt cover.

5.11 Drive Belt Adjustment



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

CHECK THE BELT TENSION

Drive belt tension must be checked **every 50 hours** of operation.

1. Turn the key switch to the **accessory** (3) position to engage the drive belt with the blade switch on the control panel.
2. Turn the key switch to the **off** (0) position and **remove the key**.
3. Remove the engine shroud by unfastening all five (5) bolts.
4. Remove the drive belt cover.
5. Use the Tension Gauge (part number 016309) supplied with your Wood-Mizer to measure the drive belt tension.
6. Zero out the pounds indicator on the gauge by sliding the small "O" ring against the yellow flange.
7. Set the bottom o-ring at 7/16" (11mm).
8. Use a straight edge between the pulleys as a reference point.
9. In the center of the belt span, press down on the rubber boot while the bottom of the gauge is against the drive belt until the belt has deflected 7/16" (11mm) from the reference point.

When properly adjusted, the pound scale should read 8 lbs. (8.16kg).

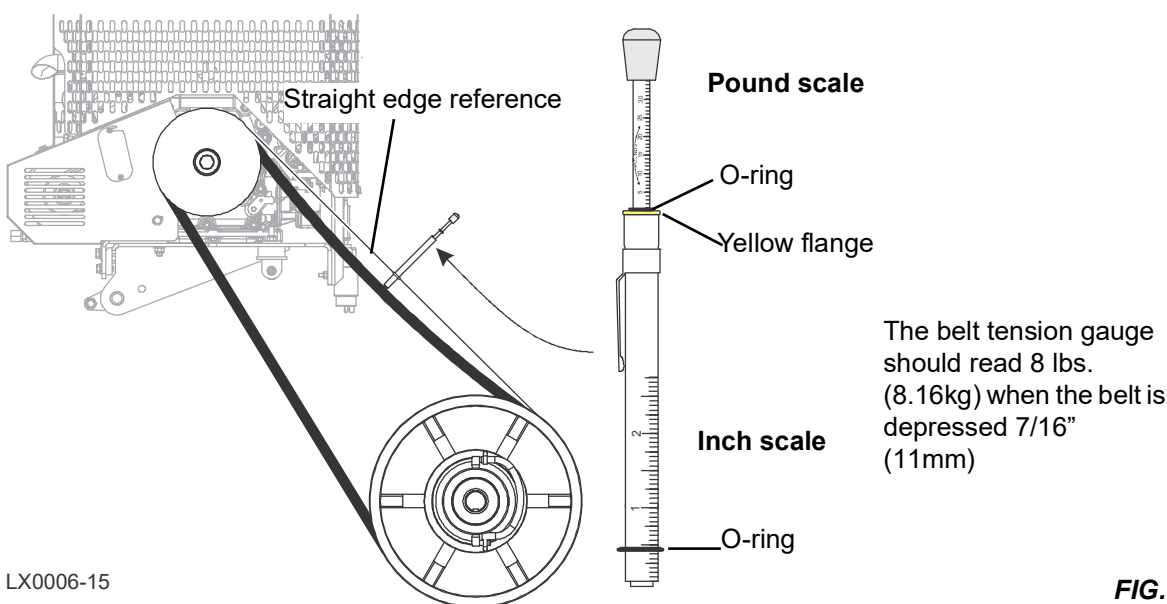


FIG. 5-11

Check all belts for wear. Replace any damaged or worn belts **as needed**.

ADJUST THE DRIVE BELT

1. Loosen the jam nut at the bottom of the turnbuckle.
2. Turn the turnbuckle clockwise (as viewed from the bottom) to tighten the belt, counterclockwise to loosen the belt.

NOTE: If you reach the maximum adjustment using the bottom jam nut, adjust the linkage by loosening the top jam nut and turning the turnbuckle clockwise (as viewed from the top).

3. Repeat adjustments as necessary until proper belt tension is achieved when the drive belt is engaged.

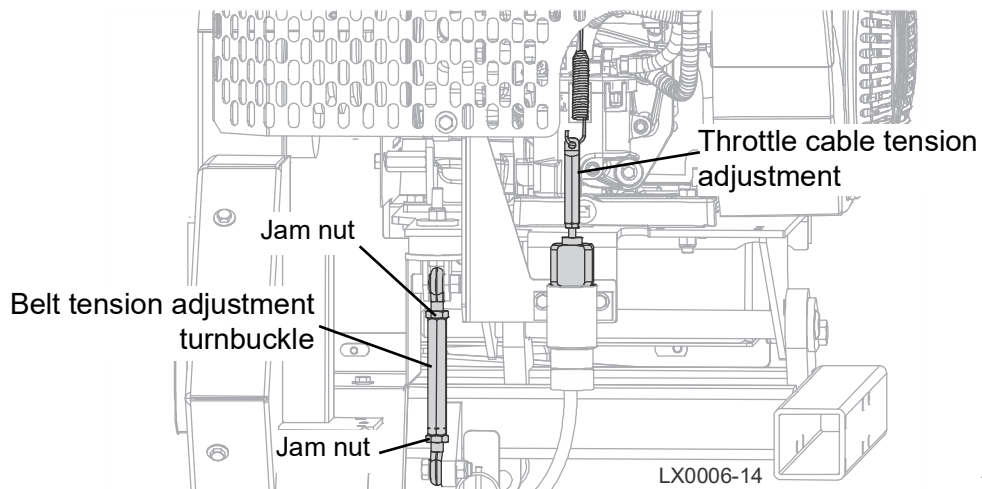


FIG. 5-12

CHECK THROTTLE CABLE

4. Check throttle cable tension and adjust if necessary.

The throttle cable should be tensioned just enough so that the engine revs as soon as the autoclutch is engaged. The throttle linkage should NOT affect engine RPM while the autoclutch is disengaged.

5. Turn the key switch to the **accessory** (3) position to engage the drive belt with the blade switch on the control panel.

NOTE: A properly adjusted throttle will extend the cable spring 1/4" to 3/8" (6.4 - 9.5 mm) when running and have a slight amount of slack in the cable when idling.

5.12 Engine/Motor and Drive Pulleys Alignment



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Do not adjust the engine drive belts or belt support bracket with the engine running. Failure to follow this could result in death or serious injury.

1. Install and properly tension the drive belt ([See Section 5.11](#)).
2. With the clutch disengaged, use a straight edge to check the alignment of the pulley on the engine to the alternator pulley.
3. If necessary, loosen the bushing on the engine pulley to adjust it until it is aligned with the alternator pulley.
4. Check the tightness of all engine mounting bolts and pivot bushing clamps.
5. Engage the clutch handle and recheck the pulley alignment. Adjust if necessary.
6. Recheck the drive belt support(s) and adjust, if necessary. ([See Section 5.11](#)).

5.13 Hydraulic System

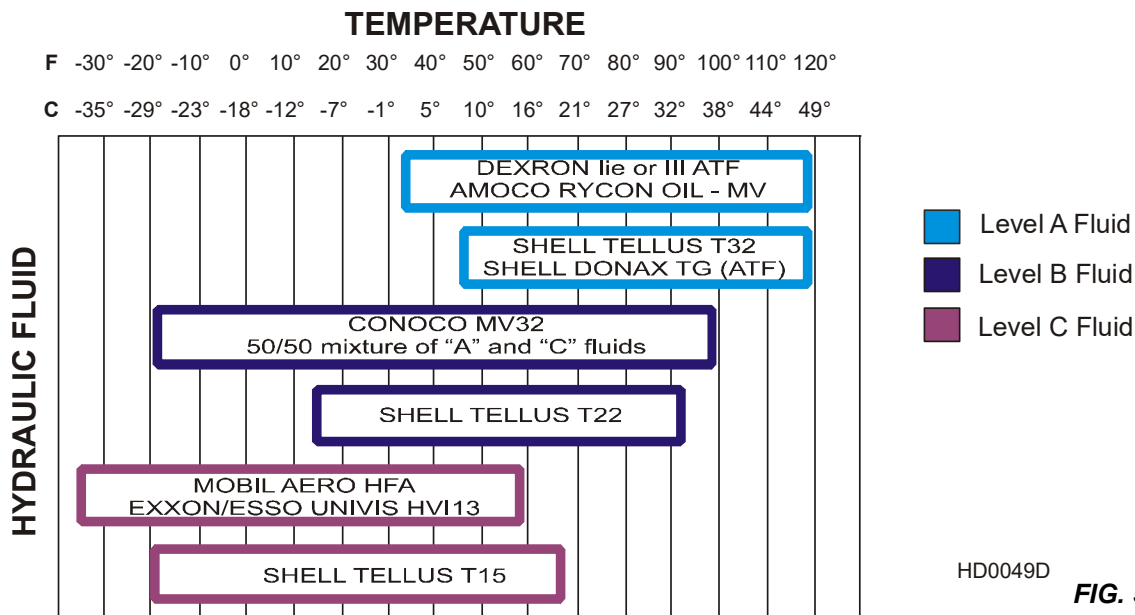
Types of fluid

If operating in temperatures -20° to 100° F (-29° to 38° C), use an all-weather hydraulic fluid such as Conoco MV32. For alternate fluids and/or other temperature ranges, refer to the chart below.

To change fluid types, replace one gallon of the current fluid with one gallon of the alternate fluid.

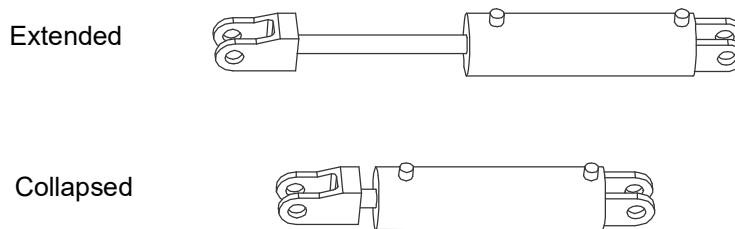


CAUTION! Operating above the recommended temperature range of a fluid could result in excessive pump wear. Operating below the recommended temperature range could result in reduced hydraulic cylinder speed.



System maintenance

1. Complete hydraulic system maintenance **every 50 hours** of operation.
2. Press down on all the hydraulic control levers to collapse all hydraulic cylinders.



LX0011
FIG. 5-14



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

3. Check that the hydraulic fluid level in the pump is 3/4" (19mm) from the top.

4. Add fluid as necessary.
5. Drain and replace hydraulic fluid:
 - In a humid environment, drain and replace two quarts (.95 liters) of fluid **every six months**
 - If humidity is not a problem, drain and replace one gallon (3.8 liters) of fluid **every year** to prevent fluid wear.

NOTE: This will drain any accumulated water and help prevent pump failure due to water ingestion. It also will prevent excessive fluid wear and allow the fluid to maintain its hot end performance.
6. Replace the hydraulic system cartridge filter **every 500 hours** of operation.
7. Inspect and clean the hydraulic pump motor brushes **every 750 hours** of operation. Replace the brushes if they worn to a length of 1/4" (6mm) or shorter.



CAUTION! Do not operate the hydraulic system if the pump motor brushes are worn shorter than 1/4" (6mm). Damage to the pump motor may result.

8. Periodically check all hydraulic lines and fitting as needed. Replace as necessary.

5.14 Drive Bearing



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Drain and refill the fluid in the drive-side cylinder bearing housing **every 500 hours** of operation.

1. Remove side panel from the blade drive system housing.
2. Disconnect the oil level view hose **only** from the fitting at the top of the bearing housing.
3. Allow oil to drain out completely from the oil level view hose.
4. Refill with Automatic Transmission Fluid (ATF) such as Dexron III ATF oil level is in the acceptable range as indicated on the gauge decal.
5. Reconnect the hose to the top fitting.

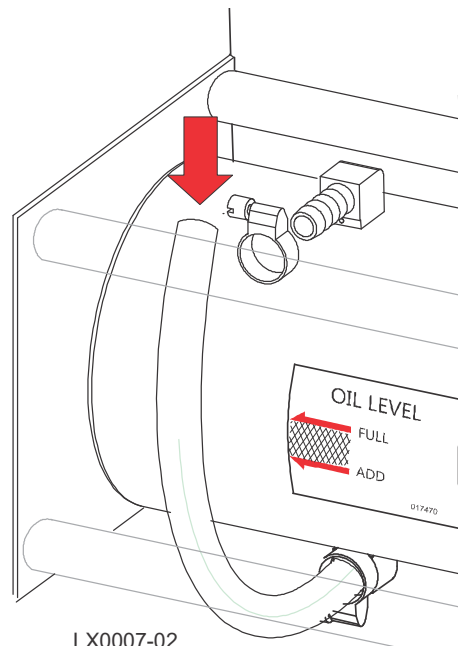


FIG. 5-15

5.15 Up/Down System



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

Adjust the up/down chain tension

1. Measure chain tension with the head all the way to the top of the vertical mast.



WARNING! Secure the saw head with a chain/strap/device with **at least 1900 lbs. working load capacity** before adjusting the up/down chains. Failure to follow this could result in death or serious injury.

2. Secure the head to prevent a sudden drop.
3. Locate the chain adjusting bolts on the underside of the mast on both sides.

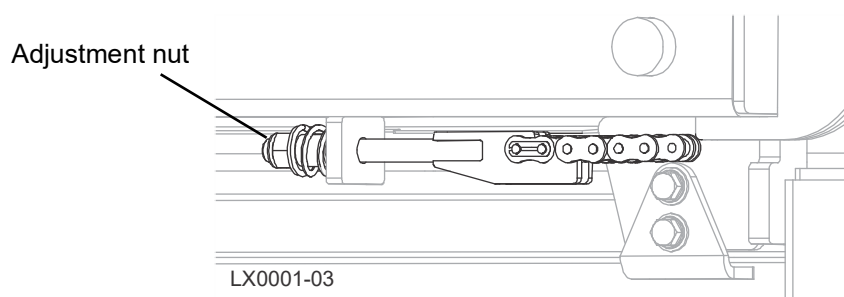


FIG. 5-16

4. Use the adjustment nut to adjust the bolt until the center of the each chain can be deflected 3/4" (1.9cm) forward and 3/4" (1.9cm) backward with a 5 lb. (2.3 Kg) deflection force.



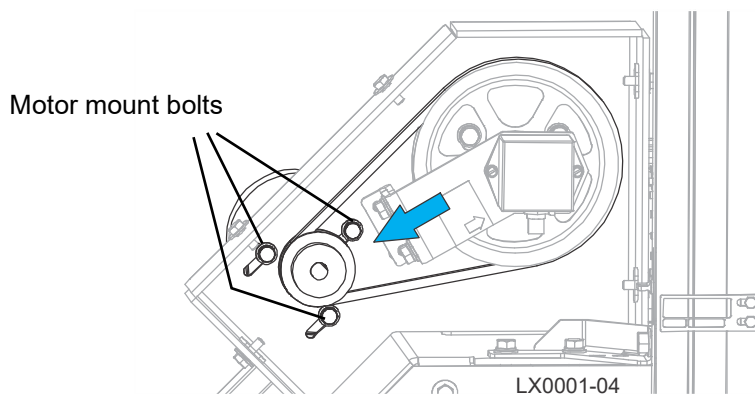
CAUTION! Do not over-tension the chains. Over-tensioning the chains may lead to early failure of the gear reducer.

Adjust the up/down belt



WARNING! Secure the saw head with a chain/strap/device with **at least 1900 lbs. working load capacity** before adjusting the up/down chains. Failure to follow this could result in death or serious injury.

1. Remove the up/down housing cover.
2. Loosen the motor mount bolts.
3. Replace any damaged or worn belts as needed
4. Pull the motor outward so there is 3/8" (9.5 mm) deflection with a 7 lb. (3.2 Kg) deflection force.
5. Retighten the motor mount bolts.
6. Replace the drive pulley cover.

**FIG. 5-17*****Check the up/down gearbox***

Add a synthetic gear oil such as Mobil Glygoyle 460 **as needed**.

Drain and refill the gearbox with 24 (0.7L) ounces of oil after **every 5000 hours** of sawmill operation or **every 2 years**, whichever comes first.

NOTE: Wood-Mizer offers replacement gear oil in 8 ounce (0.24L) bottles.

5.16 Power Feed



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

ADJUST THE POWER FEED BELT

When the power feed belt gets loose, it will begin slipping. This causes the carriage to not move forward when cutting. **Adjust as needed.**

1. Remove the belt cover.
2. Replace any damaged or worn belts, if needed.
3. Loosen the motor adjustment bolts.
4. Tighten the belt to 1/8" (3 mm) deflection with a 7 lb. (3.2 Kg) deflection force.
5. Retighten the motor bolts and replace the feed motor cover.

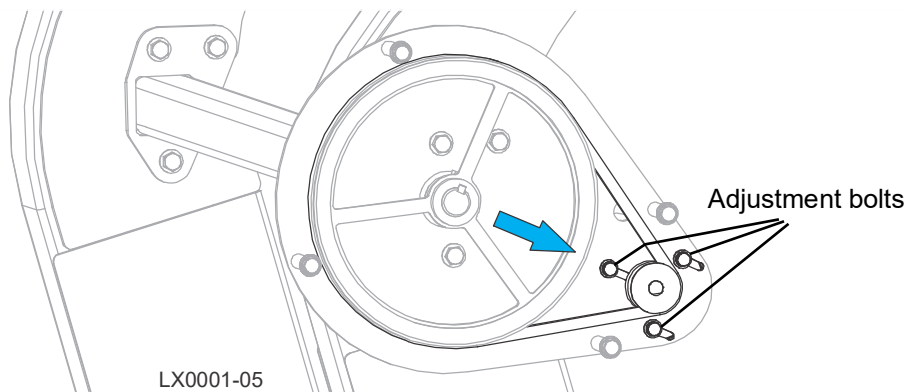


FIG. 5-18

ADJUST THE POWER FEED CHAIN

Feed chain adjustments should be made **as needed**.

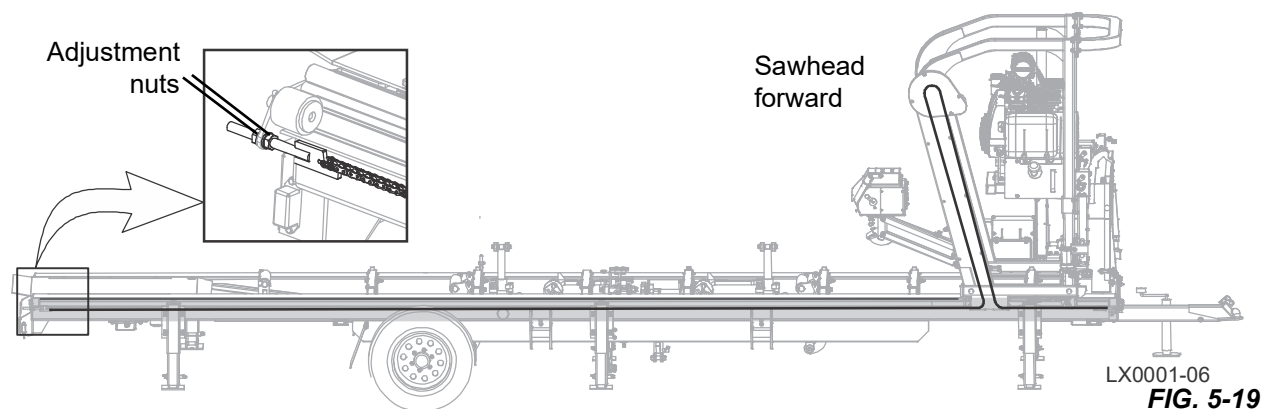
1. Move the saw head all the way toward the front (hitch end) of the mill.
2. Use the two lock nuts at the rear of the mill to tighten or loosen the power feed chain.
3. Check that the chains are evenly tensioned so that the sawhead moves square to the log bed.

NOTE: The chain sag should measure 7-8" from the top of the bed rail, to the top of the chain. Measurement should be taken with the head fully at the front of the mill.



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

Do not tighten the chains unevenly. Damage to the sawmill and uneven cutting may result.



5.17 Charging The Battery



DANGER! Batteries expel explosive gases; keep sparks, flames, burning cigarettes, or other ignition sources away at all times. Failure to follow this will result in death or serious injury.

Do not place a battery or acid within the reach of children. Failure to follow this will result in death or serious injury.



WARNING! Always wear safety goggles and a face shield when working near batteries. Failure to follow this could result in death or serious injury.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling. Failure to follow this could result in death or serious injury.

Charge the battery in a well ventilated area. Failure to follow this could result in death or serious injury.

Do not attempt to charge a frozen battery. Failure to follow this could result in death or serious injury.

EMERGENCY TREATMENT FOR CONTACT WITH BATTERY COMPONENTS (LEAD/SULFURIC ACID) *per SDS (Safety Data Sheet):*

EYE CONTACT	Sulfuric Acid and Lead: Flush eyes immediately with large amounts of water for at least 15 minutes while lifting lids. Seek immediate medical attention if eyes have been exposed directly to acid.
SKIN CONTACT	Sulfuric Acid: Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing, including shoes. If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes. Lead: Wash immediately with soap and water.
INGESTION	Sulfuric Acid: Administer large amounts of water. Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death; consult physician immediately.
INHALATION	Sulfuric Acid: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician immediately. Lead: Remove from exposure, gargle, wash nose and lips; consult physician immediately.



CAUTION! Do not overcharge the battery. Overcharging may reduce the overall service life of the battery.

Be sure the battery is fully charged before transporting the sawmill. If the battery is not fully charged, excessive vibration could reduce the overall service life of the battery.

1. Raise the saw head to access the battery box.
2. Turn the key to the OFF (0) position and remove the key.
3. Remove the two wing nuts and flat washers holding the battery box lid to the battery box.
4. Remove the battery box lid.

5. Clean the battery terminals.

NOTE: If using a charger, follow the instructions supplied with your specific battery charger.

NOTICE Be careful not to overcharge the battery, especially when using a high-rate or “boost” charger (40 amps or higher). These are intended to quickly charge a good battery that is discharged. They are not intended for unattended or long-term charging.

6. Connect the positive charger/jumper cable directly to the positive battery terminal.
7. Connect the negative charger/jumper cable to a grounded metal surface.
8. After the battery is completely recharged, remove the negative charger/jumper cable from ground.
9. Remove the positive charger/jumper cable from the battery.
10. Replace the battery box lid and replace the flat washers and wing nuts.

5.18 Maintenance chart

MAINTENANCE LOG (Check <i>Engine And Option Manuals</i> for additional maintenance procedures)	MANUAL REFERENCE	MAINTENANCE INTERVAL
Clean sawdust from hydraulic log loader fittings, battery box lid, blade wheel housings, sawdust chute, and track cover	See Section 5.3	8 hours
Clean and lubricate track	See Section 5.4	8 hours
Check blade guide roller wear	See Section 5.2	8 hours Every blade change
Inspect fingers inside sawdust chute	See Section 5.3	8 hours Every blade change
Remove sawdust from upper track roller housings	See Section 5.4	25 hours
Check blade guide block spacing		25 Hours
Clean and lubricate track wiper	See Section 5.4	25 hours
Clean and lubricate mast rails	See Section 5.5	50 hours
Lubricate drum switches	See Section 5.6	50 hours
Grease pivot points and bearings/oil chains	See Section 5.7	50 hours
Lubricate blade tensioner	See Section 5.8	50 hours
Rotate drive/idle blade wheel belts/check for wear	See Section 5.9	50 hours
Inspect hydraulic lines and fittings	See Section 5.13	50 hours
Check belt tensions	See Section 5.11 See Section 5.15 See Section 5.16	50 hours
Check hydraulic fluid level	See Section 5.13	50 hours
Check up/down and power feed chain tensions	See Section 5.15 See Section 5.16	50 hours
Check brake strap tension	See Section 5.10	200 hours
Check blade middle throat screw	See Section 5.2	500 hours
Replace cylinder drive bearing fluid	See Section 5.14	500 hours
Replace hydraulic system filter	See Section 5.13	500 hours
Inspect motor brushes	See Section 5.15 See Section 5.16	750 hours
Grease up/down shaft bearing	See Section 5.15	1000 hours

SECTION 6 TROUBLESHOOTING GUIDE

6.1 Sawing Problems



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

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	Ensure that the tip is being sharpened completely (See Sharpener Manual)
Blades break prematurely	Poor sharpening techniques	See Sharpener Manual
	Tension too tight	Tension blade to recommended specifications
Blade does not track right on drive wheel	Cant adjustment is incorrect	Readjust
Drive belts wear prematurely or jump	Engine/motor and drive pulleys out of alignment	Align pulleys
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. Take a board off the top. Turn the log 180 degrees. Take a board off. Repeat, keeping the heart in the middle of the cant, and making it your last cut.
	Set in teeth.	Resharpen and reset blade.
	Bed rails misaligned.	Realign sawmill.
Height adjustment jumps or stutters when moving up or down.	Up/down chain improperly adjusted.	Adjust up/down chain.
Lumber is not square	Vertical side supports not square to bed	Adjust side supports.
	Blade not parallel to bed rails	Adjust bed rails parallel to blade.
	Sawdust or bark between cant and bed rails	Remove particles
	Tooth set problems	Resharpen and reset blade

PROBLEM	CAUSE	SOLUTION
Sawdust builds up on track	Excessive oiling	Do not oil track
	Track wipers worn	Adjust wipers to firmly contact track
	Track is sticky	Clean track with solvent and apply silicone spray
Wavy cuts	Excessive feed	Slow feed rate
	Improperly sharpened blade (This will be the problem 99% of the time!)	Resharpener blade (See Sharpener Manual - read entire manual!)
	Blade guides improperly adjusted	Adjust blade guides.
	Sap buildup on blade	Use Water Lube.
	Tooth set problem	Resharpener and reset blade

6.2 Electrical Problems



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

PROBLEM	CAUSE	SOLUTION
Up/down excessively slow	Up/down belt loose.	Adjust belt to be as loose as possible without slipping.
	Worn up/down motor or motor brushes.	Replace up/down motor or motor brushes.
Up/down or power feed motors do not work	Worn contacts in switch.	Replace switch.
	Bad key switch.	Replace key switch.
	Circuit breaker.	Reset circuit breaker once . If it trips again, inspect cables and motor.
	Burned-out motor.	Replace motor.
Up/down or power feed switches remain engaged when switch is released	Bad connection on battery post or loose wire.	Check for loose wire or terminal connections.
	Worn contacts in switch.	Manually move the power feed or up/down drum switch back to neutral or "off" position. Replace switch. See Section 5.6
	Drum switch spring broken.	Manually move the power feed or up/down switch back to neutral or "off" position. Replace drum switch spring.
Up/down or power feed motors overheat and lose power	System overload or bind occurred.	Correct problem. Allow motor to cool before restarting.
	Normal operation factors exceeded (eg: up/down control jockeyed excessively).	Allow motor to cool before restarting.
Everything works and then cuts out - works again	Bad battery, fuse, or ground connection.	Check and tighten connections.
Nothing works electrically	Dead battery.	Check for short circuit or turn OFF key.
	Blown fuse.	Replace.
	Corrosion on battery post.	Remove connection and clean posts.
Battery will not stay charged	Key switch left ON.	Turn switch OFF when not in use.
	Short in system.	Visually check for bare wires and/or have checked.
	Charging system not functioning.	Have charging system checked by authorized dealer.
	Bad battery cells.	Check fluid levels and add proper solution

PROBLEM	CAUSE	SOLUTION
	Idle improper.	Adjust low end RPM per engine manual.
	Loose alternator belt.	Check belt tension and tighten if necessary.
	Loose connections at alternator.	Check and tighten connections.

6.3 Circuit Breaker Operation

Sawmill controls are equipped with manual reset circuit breakers to protect the electrical circuits.

The power feed and up/down breakers are externally mounted at the front of the control box. An external breaker is provided on the rear of the control box for the engage sensor circuit on sawmills equipped with diesel engines or autoclutch. The blade guide, accessory, ignition, and start breakers are located inside the control box. Remove the circuit breaker panel to access the internal breakers.

NOTE: If the breaker is hot, it may not reset immediately. Allow the breaker to cool before attempting to reset.

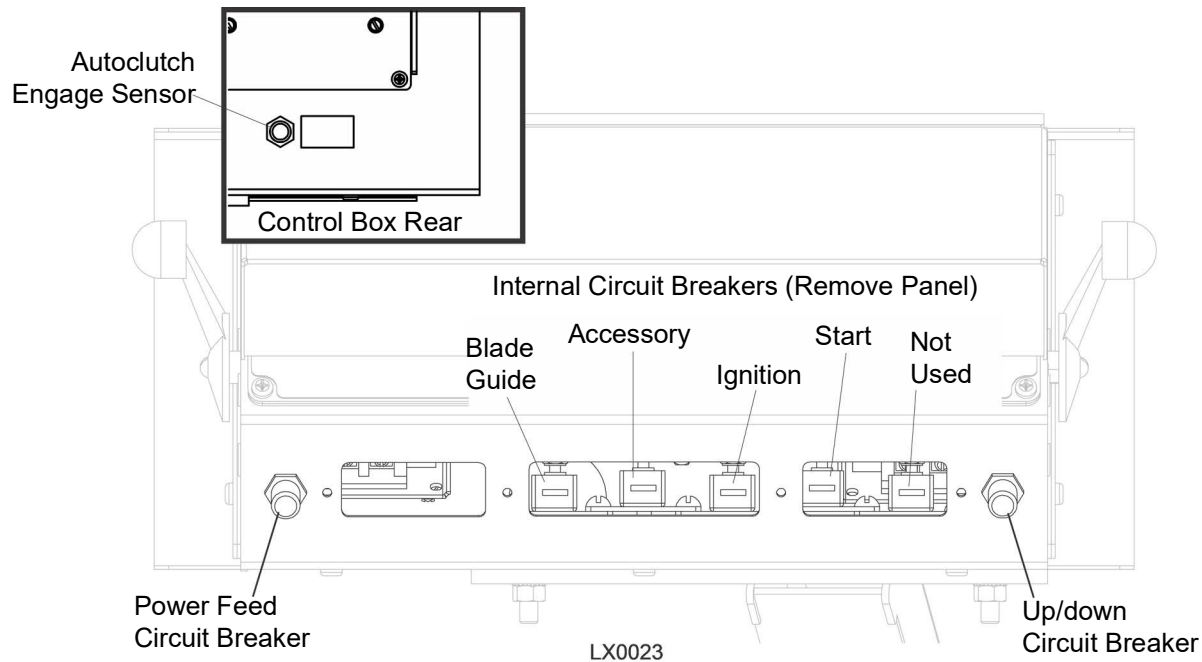


FIG. 6-1

6.4 Power Feed Problems



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

Test to determine if the problem is mechanical or electrical.

1. Remove the drive belt from the power feed drive pulley.
2. Reconnect the negative battery terminal.
3. Turn the key switch to the ACC position.
4. Put the carriage forward/reverse switch into the forward position.
5. Turn the feed rate dial through all speeds.

If the power feed motor runs smoothly at all speeds, the problem is a mechanical one instead of an electrical one..

PROBLEM	CAUSE	SOLUTION
Power feed is jerky at low speeds or does not move until speed is above halfway mark.	Drum switch is dirty.	Clean drum switch and lubricate with contact grease supplied by Wood-Mizer.
	Drum switch contacts are bad	Check that contacts are in good condition and positively close circuit.
	Components are loose or wires are broken.	Replace or repair PC board.
Power feed is jerky when shaft of feed rate dial is moved back and forth.	Perform the variable speed switch test.	If test fails, replace variable speed switch; otherwise, see See Section 6.6 .
Power feed is jerky, but power feed motor runs properly at all speeds.	Problem is mechanical.	Refer See Section 6.6
Power feed motor overheats.	Track wiper is dragging.	Clean track wiper. See Section 5.4 . Allow motor to cool before restarting
	Ground is not level.	Level mill with frame levels or a carpenter's level. Allow motor to cool before restarting.
	Track roller bearing drag is excessive.	Lubricate bearings; replace tight bearings. Allow motor to cool before restarting.
	Lower track rollers are not aligned properly.	Check stop clearance from lower track rail. Allow motor to cool before restarting.
	Chain is dragging.	Adjust chain tension. Allow motor to cool before restarting. Ensure that chain is centered on idler; Clean and lubricate chain;

PROBLEM	CAUSE	SOLUTION
	Chain is improperly tensioned.	Adjust chain tension. Allow motor to cool before restarting.
	Power feed is binding.	Adjust belt tension; Check condition of belt, pulleys, bearings, and sprocket; Check motor for ground fault. Allow motor to cool before restarting.
	Saw head load is excessive.	Avoid unnecessary modifications to saw heads that would give them extra weight. Allow motor to cool before restarting.
	Blade is dull or improperly set.	Use proper blade maintenance procedures. Allow motor to cool before restarting.

6.5 Power Feed Rate Switch Test



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

1. Dial the feed rate switch to the lowest setting.
2. Slowly move the **shaft** of the dial back and forth to see if there is a jerky response.
3. Turn the dial and move the shaft back and forth again.
4. Repeat several times.

If the jerkiness occurs at the same location on the dial several times, replace the variable speed switch; otherwise, troubleshoot for mechanical problems. [See Section 6.6.](#)

6.6 Power Feed Mechanical



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

PROBLEM	CAUSE	SOLUTION
Power feed is jerky, but power feed motor runs properly at all speeds.	Track rollers do not turn smoothly and easily with very little play with weight removed	Replace track roller wheel bearings
	Track cover is not bent or touching the top rail	Repair or replace track cover
	Track wiper has sawdust buildup	Clean wiper. See Section 5.4
	Debris (sap, rust, etc.) on rails	Clean rails. See Section 5.4
	Power feed chain is rusty or too tight	Adjust and clean chains. See Section 5.16
	Power feed belt not properly tightened	Adjust belt. See Section 5.16
	Power feed shaft moves in/out or side to side	Replace power feed shaft bearings

6.7 Hydraulic Problems



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.



WARNING! Disconnect the negative battery terminal cable. Failure to follow this could result in death or serious injury.

PROBLEM	CAUSE	SOLUTION
You can actuate any hydraulic handle, but get no response from the pump.	Power strip not providing contact to power to the pump	Check carriage position. Check contact and strip for tarnish or loose wires. Clean as necessary
	Poor ground connection	Check ground connection between pump and saw frame and between battery negative contact and lower rail. Check contact and rail for tarnish or loose wires. Clean as necessary
	Blown fuse	Replace
	Low or dead battery	Test battery amperage capability (such as low battery charge, low alternator output, defective voltage regulator, bad battery cell, battery age deterioration, etc.). Replace or recharge as necessary
	Poor cable connection	Check cable connection and ensure that battery terminals are in good condition (not corroded)
Pump motor runs with little or no response from the cylinders	Defective solenoid (may be indicated by solenoid clicking)	After checking all other possibilities for low voltage to solenoid, check solenoid. Tapping on solenoid may fix temporarily. Replace solenoid if necessary.
	Defective pump motor	Remove motor from pump and inspect. Repair or replace as necessary
	Low battery	Test battery. Recharge or replace as necessary
	Low fluid level	Check fluid level. Add an all-season hydraulic fluid such as Conoco MV32 Oil or Multipurpose ATF (automatic transmission fluid) until level is 1" (25mm) from bottom of the fill hole of reservoir with all cylinders retracted
	Pressure relief valve moved from proper setting	Adjust pressure relief valve.
	Low air temperature causing fluid to thicken	Allow fluid to warm up. Synthetic fluids are available that allow for hydraulic operation in cold weather conditions (Univis HVI 13)
Pump motor runs continuously when power contact is made	Solenoid is stuck closed	Tapping the solenoid may solve this problem temporarily. Replace solenoid

PROBLEM	CAUSE	SOLUTION
Fluid leaks from around cylinder piston ram	Worn seals	Replace seals in cylinder. Check piston ram for abrasive weld that may be causing premature seal failure
Fluid leak around pump box	Loose seal or fitting	Wipe pump off completely to locate cause of leak. You may have to unbolt the pump to wipe behind it. NOTE: Movement of the sawmill can cause fluid to slosh up into the foam filter in the reservoir cap, and subsequently spray out, giving the appearance that fluid is leaking from the pump
Pump runs but makes "growling" sound and hydraulic functions are slow, jerky or don't work at all.	Low fluid level	Check fluid level and add fluid as necessary. Check for leaks in the system at the control box fittings, hoses and cylinders
One of the log loader cylinders does not move when lowering the loader causing the foot of other to raise completely before loader will start down.	Damaged cylinder shaft	Replace the cylinder that is not moving

6.8 Hydraulic Pressure Test

CHECK HYDRAULIC PRESSURE



WARNING! Wear safety goggles and keep people away from area when performing this procedure. Highly pressurized fluid escaping through a leak may cause serious injury.

1. Moving the saw head forward until it no longer contacts the power strip.
2. Disconnect the hydraulic hose from the loading arm port fitting (located at the bottom of the log loading arm) and install a gauge to the fitting.

NOTE: Installing the gauge at the loading arm fitting port will insure the pressure reading is not affected by a relief valve.

3. Check gauge fitting connection for leaks before activating the hydraulic valve levers. Fix any leaks before proceeding.
4. Carefully activate the lever and watch for leaks.

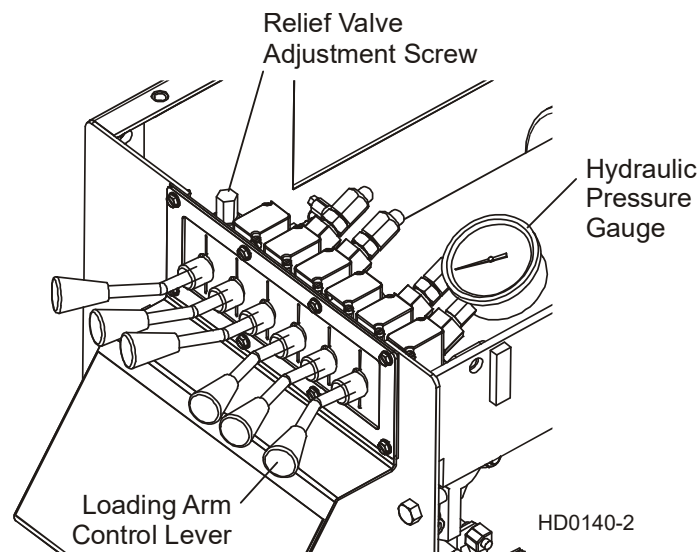


FIG. 6-2

5. Move the saw head back until it contacts the power strip.
6. Operate the loading arm hydraulic lever and read the pressure on the gauge.

Hydraulic pressure is factory-set at 2000 $\pm$ 100 psi and should not need to be readjusted.



CAUTION! Pressure should not exceed 2000 psi. If it does, the amp draw will rise above the design maximum of 200 amps, and could cause battery and system problems. Pressure above 2000 psi may also damage the hydraulic hoses.

Use the relief valve adjustment screw (see Figure 6-2) to fine-tune the hydraulic pressure:

7. Remove the adjustment screw nut.
8. Rotate the adjustment screw clockwise to increase pressure, counterclockwise to lower pressure.

6.9 Engine/Motor and Drive Pulleys Alignment



WARNING! Before performing service near moving parts such as blades, pulleys, motors, belts and chains, first turn the key switch to the OFF (0) position and remove the key. Failure to follow this could result in death or serious injury.

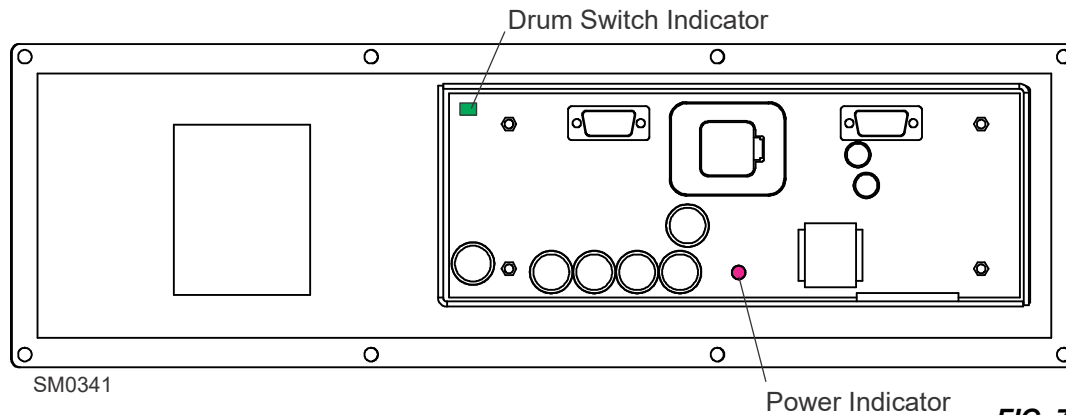
Do not adjust the engine drive belts or belt support bracket with the engine running. Failure to follow this could result in death or serious injury.

1. Install and properly tension the drive belt ([See Section 5.11](#)).
2. With the clutch disengaged, use a straight edge to check the alignment of the pulley on the engine to the alternator pulley.
3. If necessary, loosen the bushing on the engine pulley to adjust it until it is aligned with the alternator pulley.
4. Check the tightness of all engine mounting bolts and pivot bushing clamps.
5. Engage the clutch handle and recheck the pulley alignment. Adjust if necessary.
6. Recheck the drive belt support(s) and adjust, if necessary. ([See Section 5.11](#)).

7.10 Accuset Control Lights (Dual-Axis)

Lights are provided on the control front panel and the motor control assembly (located in the remote power box) to help diagnose power feed or up/down problems should they occur.

Two indicator lights are provided on the back of the front control panel. If power is supplied to the control panel, the red power indicator light will be illuminated. The drum switch indicator illuminates when the up/down drum switch is engaged. The light will illuminate green with the drum switch in the up position and red with the drum switch in the down direction.



Diagnostic lights are provided on the motor control module. When the saw head is in neutral (not moving up, down, forward or in reverse), the Status light is green.

Up/Down lights: When the up/down drum switch is moved to the up position, the switch and motor lights are green. With the up/down drum switch in the down position, the switch and motor lights are red.

Feed lights: When the feed drum switch is moved to the forward position, the switch and motor lights are red. With the feed drum switch in the reverse position, the switch and motor lights are green.

If an error occurs, the status light will turn red. A corresponding error message will be displayed to provide more detail about the problem.

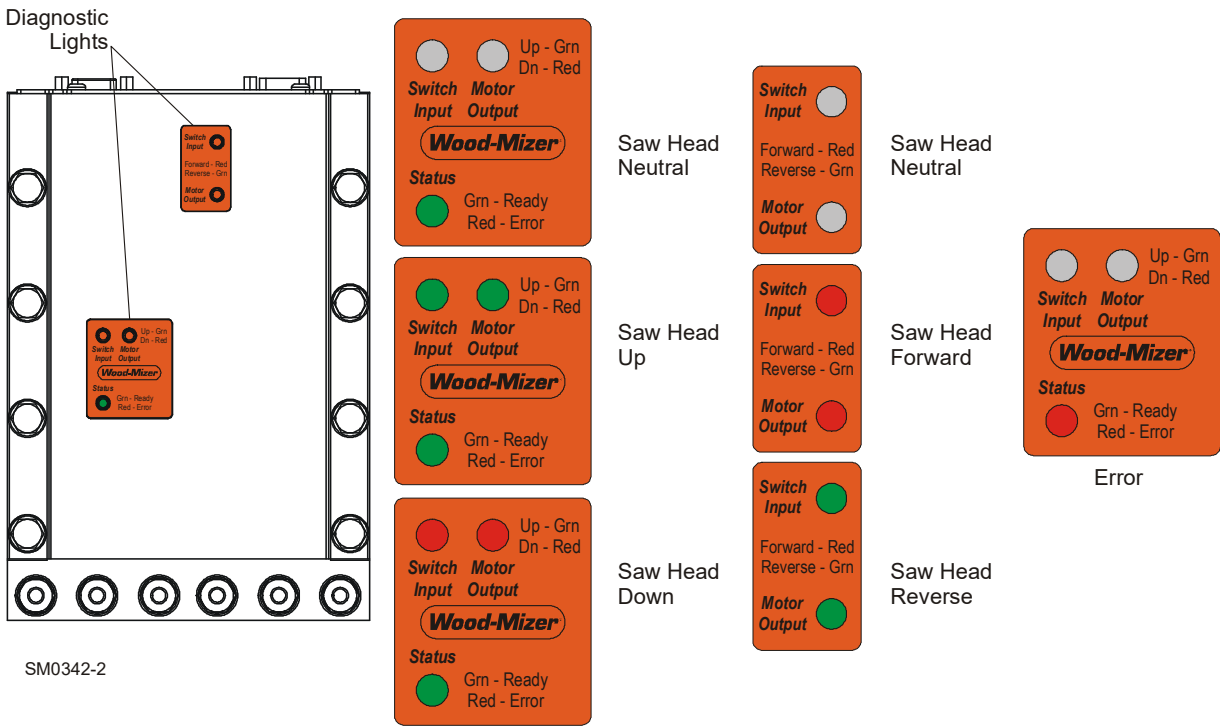


FIG. 7-4

7.11 Accuset Error Messages

Possible causes for display error messages are provided below

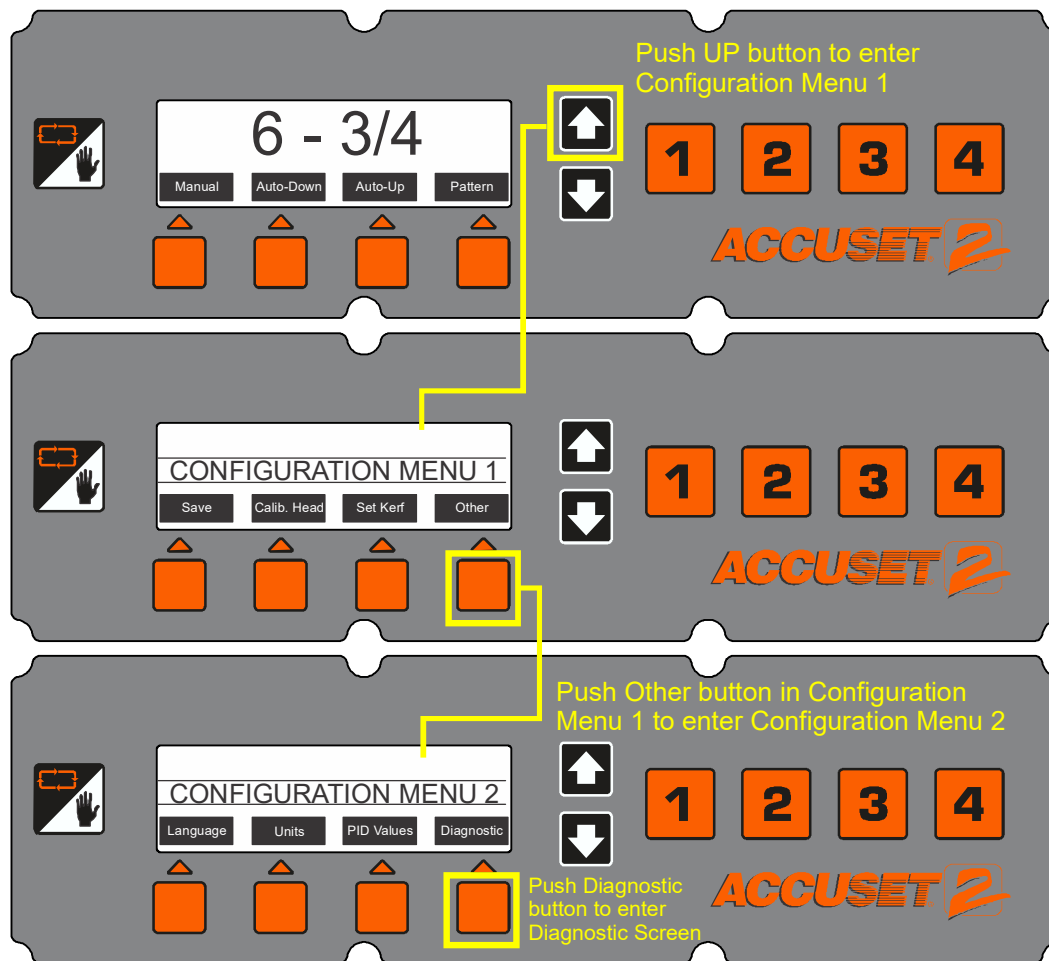
PROBLEM	PROBABLE CAUSE
CHECK TRANSUCER	Defective or loose transducer cable
	Defective transducer
MOTOR CURRENT	Excessive current draw on Up/Down motor caused by mechanical bind in saw head movement
	Short in up/down motor wires
VOLTAGE ERROR	Low voltage at the H-bridge or HMI (front panel)
	Weak battery
	Over-charging alternator
CHECK BREAKER OR CABLE	Loose connections
	Tripped Up/Down circuit breaker
	Defective or loose H-bridge communication (splitter) cable

TABLE 7-1

7.12 Accuset Diagnostic Screen

The diagnostic screen can be used to help diagnose battery, up/down and power feed motors and power feed potentiometer problems should they occur.

To display the Diagnostic Screen, press the Up button while in Manual Mode to display

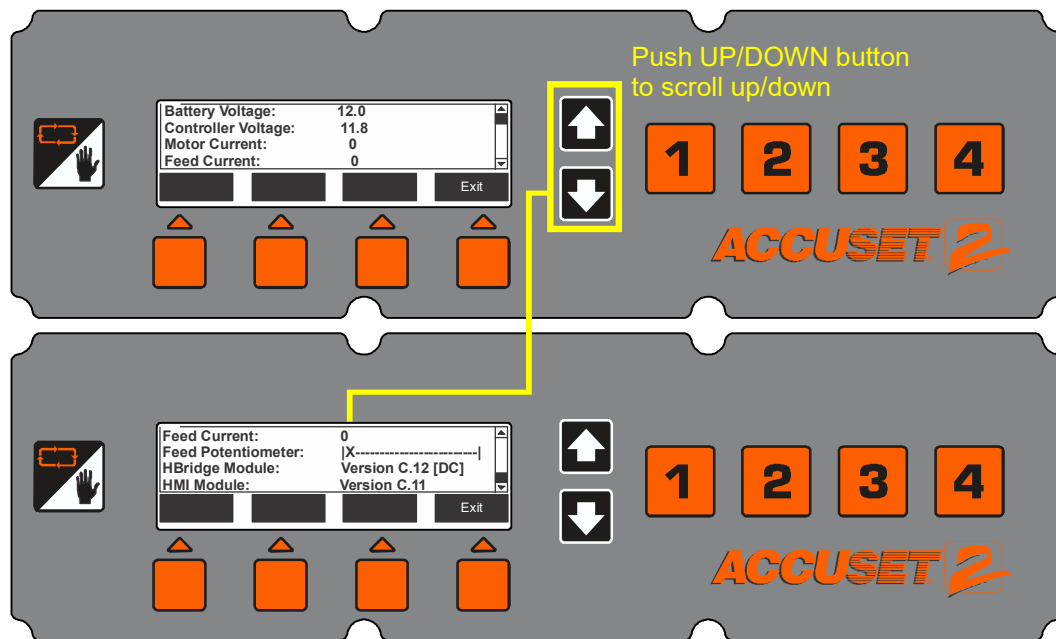


3H0989-8

FIG. 7-5

Configuration Menu 1. Select Other to display Configuration Menu 2. Press the Diagnostic button to display the Diagnostic Screen.

The Diagnostic Screen is shown below.



3H0989-9

FIG. 7-6

Battery Voltage. This shows battery voltage as read by the H-Bridge.

Controller Voltage. This shows battery voltage as read by the front panel.

Motor Current. Amperage of the up/down motor.

Feed Current. Amperage of power feed motor.

Feed Potentiometer. This tests input signal of the power feed potentiometer. Turn the power feed potentiometer to check if it moves smoothly.

HBridge Module. This is the H-Bridge software revision.

HMI Module. This is the HMI module software revision.

SECTION 8 SAWMILL ALIGNMENT

The Wood-Mizer sawmill is factory aligned.

The Routine Alignment instructions should be performed as necessary to solve sawing problems not related to blade performance.

8.1 Routine Alignment Procedure

Blade Installation



DANGER! Always disengage the blade and shut off the sawmill engine before changing the blade. Failure to follow this will result in serious injury.



WARNING! Always wear gloves and eye protection when handling saw blades. Failure to follow this could result in death or serious injury.

Keep all other persons away from area when coiling, carrying or changing a blade. Failure to follow this could result in death or serious injury.

Changing blades is safest when done by one person!

1. Remove the blade and check the blade wheel belts.
2. Remove any sawdust buildup from the surface of the belts.
3. Replace worn belts if they do not keep the blade from contacting the blade wheel.
4. Install a clean blade and apply the appropriate tension ([See Section 3.3](#)).
5. Check the blade guide blocks and drive side guard plate are properly adjusted ([See Section 5.2](#)).
6. Adjust the idle-side cant control to track the blade ([See Section 3.4](#)).
7. Close the blade housing cover and make sure all persons are clear of the open side of the saw head.
8. Start the engine.
9. Engage the blade, rotating the blade 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.

10. Disengage the blade. Turn the engine off and remove the key.

Saw Head Tilt

1. Position the sawhead so the blade is positioned over a bed rail.
2. Adjust the blade guide arm to 1/2" (15 mm) from full open.
3. Raise the saw head so the bottom of the blade measures 14 3/4" (375 mm) from the top surface of the bed rail near the inner blade guide assembly.

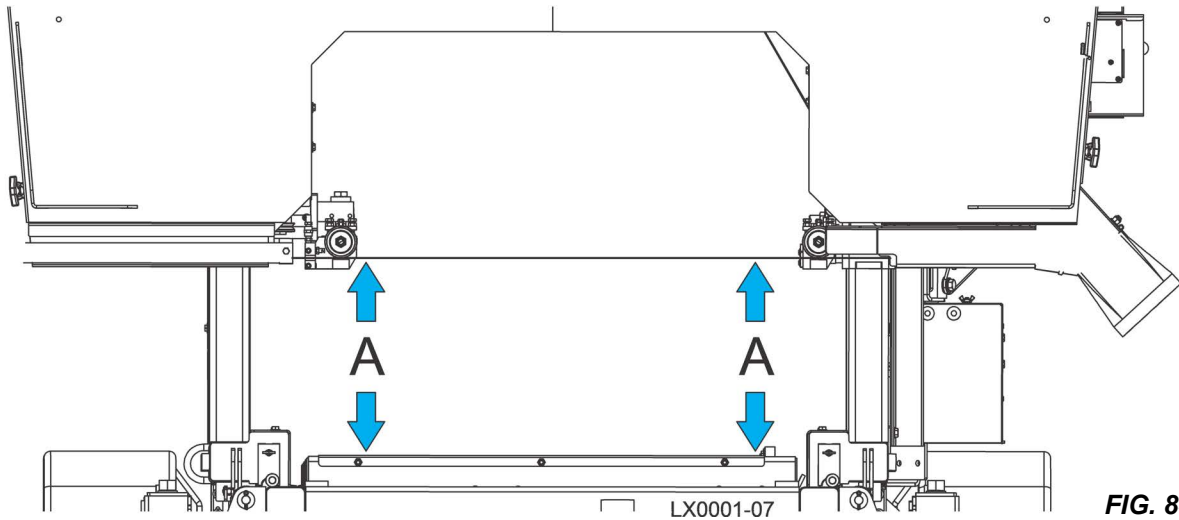


FIG. 8-1

4. Measure from the blade to the bed rail near the outer blade guide assembly.
Both measurements should be the same at 14 3/4" (375 mm).
5. Level the sawhead by loosening the up/down chain jam nut located at the top of the mast on the idle side.
6. Loosen or tighten the adjustment nut until the measurements at both sides of the blade are even.
7. Retighten the jam nut.

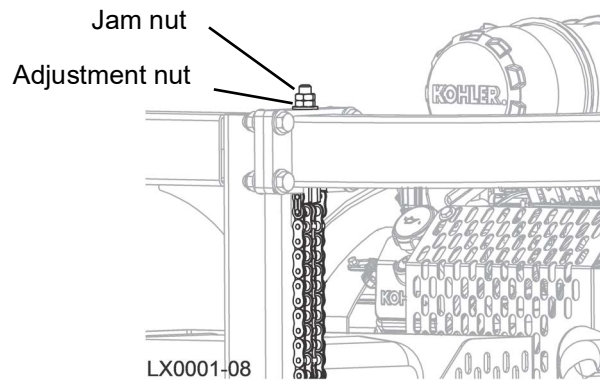
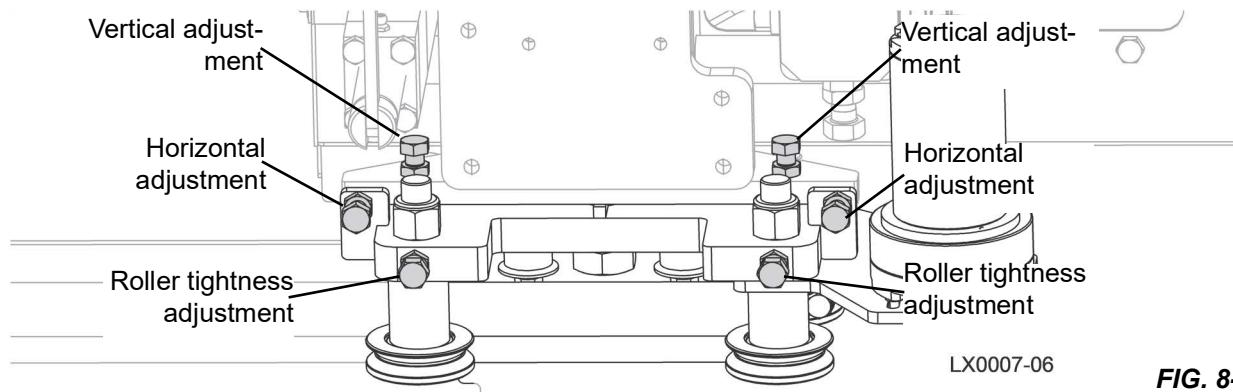


FIG. 8-2

Blade Guide Arm Alignment

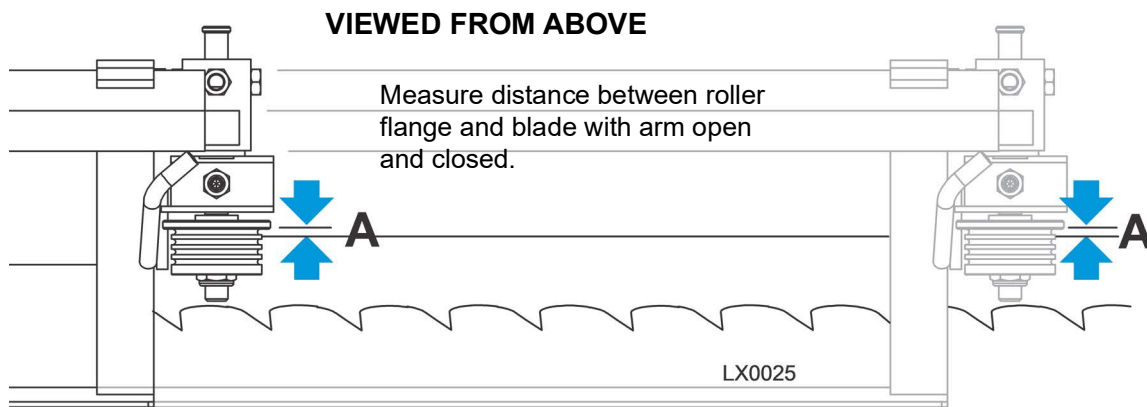
The blade guide arm moves the outer blade guide in and out. If the arm becomes loose, the blade guide will not deflect the blade properly, causing inaccurate cuts. A loose blade guide arm can also cause blade vibration.

1. Adjust the blade guide arm to within 1/2" (13 mm) from fully closed.
2. Manually move the arm up and down to check for looseness.
3. If loose, tighten the adjustment bolts on the front of the blade guide mount by loosening the jam nut, tightening the adjustment nut, and retighten the jam nut. ([See FIG. 8-3.](#))

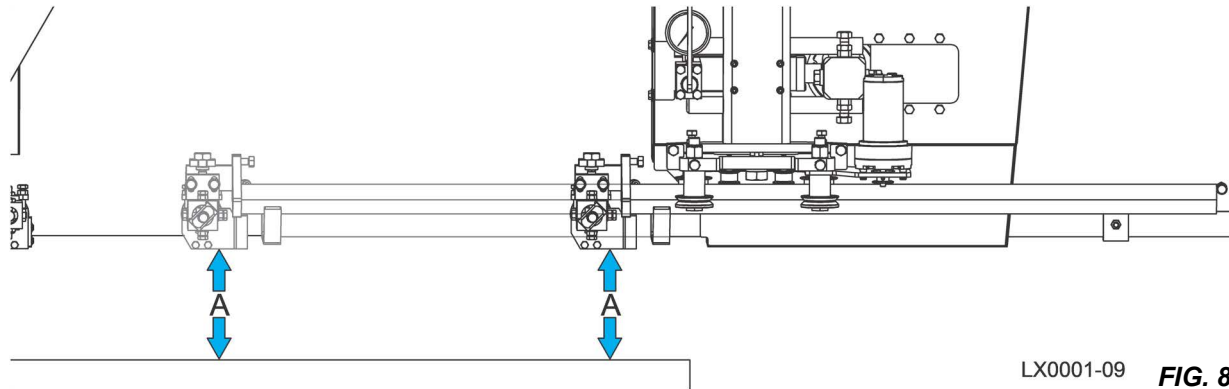
**FIG. 8-3**

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

4. Take measurements from the roller flange to the back of the blade when the blade guide arm is both open and closed. These two measurements should be the same.

**FIG. 8-4**

5. Use the horizontal adjustment nuts to move the arm in or out until the two measurements are the same.
6. Loosen the horizontal adjustment bolt jam nuts. ([See FIG. 8-3.](#))
7. Loosen the rear bolt and tighten the front bolt to tilt the arm in toward the blade and/or loosen the front bolt and tighten the rear bolt to tilt the arm out away from the blade.
8. Retighten the jam nuts and recheck the blade guide arm horizontal tilt.
9. Move the saw carriage so the blade guide arm is positioned over a bed rail to check the vertical tilt of the blade guide arm.
10. With the arm 1/2" (13 mm) from fully closed, position the saw head until the bottom of the blade guide block is 15" (375 mm) from the top of the bed rail.



LX0001-09 **FIG. 8-5**

11. Adjust the blade guide arm to 1/2" (13 mm) from fully open.
12. Measure the distance from the bottom of the blade guide mounting block to the bed rail.
This measurement should be 15" (376.5 mm). If the blade guide is closer to the bed rail or more than 1/16" (1.5mm) higher with the arm open, adjust the outer rollers up or down to tilt the blade guide arm vertically.
13. Loosen the vertical adjustment bolt jam nuts. ([See FIG. 8-3.](#))
14. Loosen the rear bolt and tighten the front bolt to tilt the blade guide arm down and/or loosen the front bolt and tighten the rear bolt to tilt the blade guide arm up.
15. Retighten the jam nuts and recheck the blade guide arm vertical tilt.

Blade Guide Vertical Tilt Alignment

The blade guides should be adjusted properly in the vertical plane. If the blade guides are tilted vertically, the blade will try to travel in the tilted direction.

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" (13 mm) from full open.
2. Clip the alignment tool on the blade and position the tool close to the outer blade guide assembly.

NOTE: Be sure the tool does not rest on a tooth or burr, and is lying flat against the bottom of the blade.

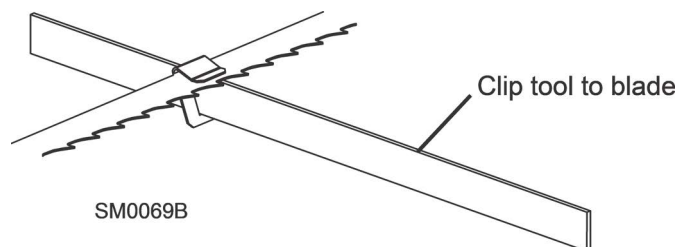
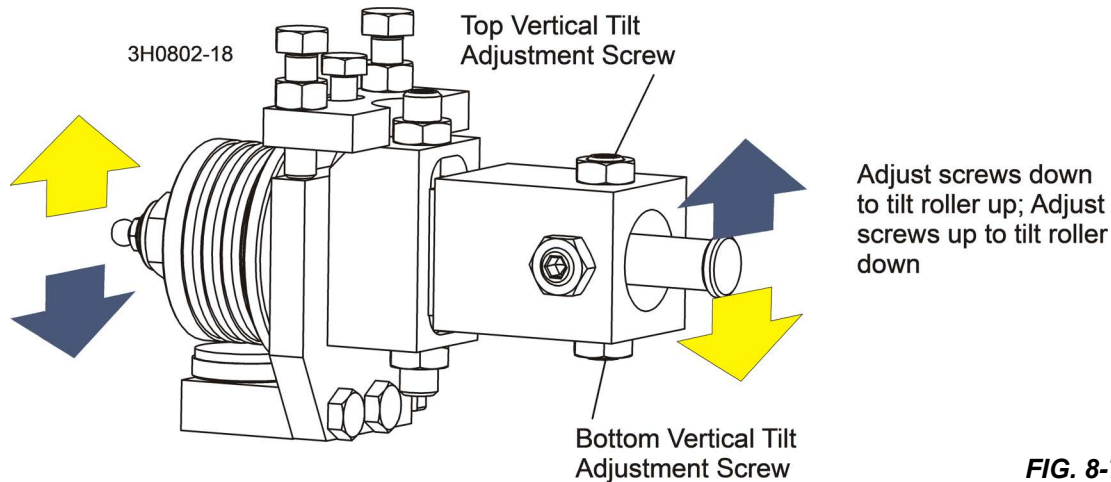


FIG. 8-6

3. Position the carriage so that the front end of the tool is positioned above the bed rail.
4. Measure the distance from the bed rail to the bottom edge of the tool.
5. Move the carriage so that the back end of the tool is positioned above the bed rail. Measure the distance from the bed rail to the bottom edge of the tool.
6. If the measurement from the tool to the bed rail is not equal within 1/32" (.75 mm), adjust the vertical tilt of the outer blade guide roller.
7. Loosen one set screw at the side of the blade guide assembly.

Loosen the jam nuts on the top and bottom vertical tilt adjustment screws. To tilt the roller up, loosen the bottom screw and

**FIG. 8-7**

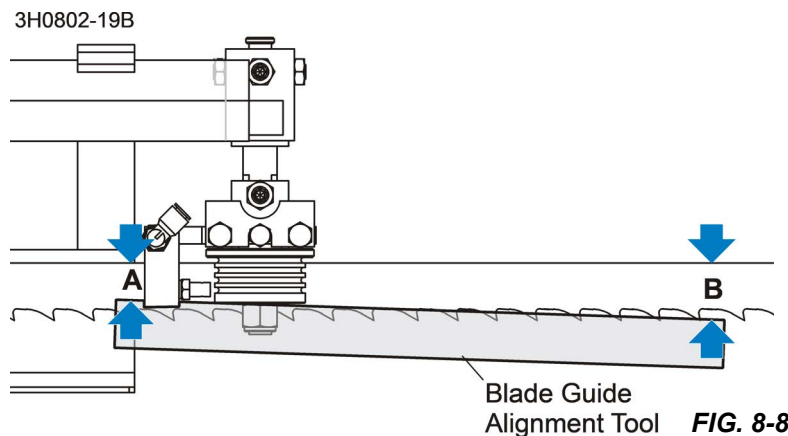
tighten top screw. To tilt the roller down, loosen the top screw and tighten the bottom screw. Tighten the jam nuts and recheck the tilt of the blade.

8. Move the blade guide alignment tool close to the inner blade guide roller assembly and repeat the above steps. Adjust the vertical tilt of the inner blade guide if necessary.

Blade Guide Horizontal Tilt Adjustment

If the blade guides are tilted in the wrong direction horizontally, the back of the blade may contact the flange as the roller is spinning down, causing it to push the blade away from the guide roller.

9. Remove the blade guide alignment tool from the blade and adjust the blade guide arm halfway in.
10. Remove the clip from the blade guide alignment tool. Place the tool against the face of the outer blade guide roller.

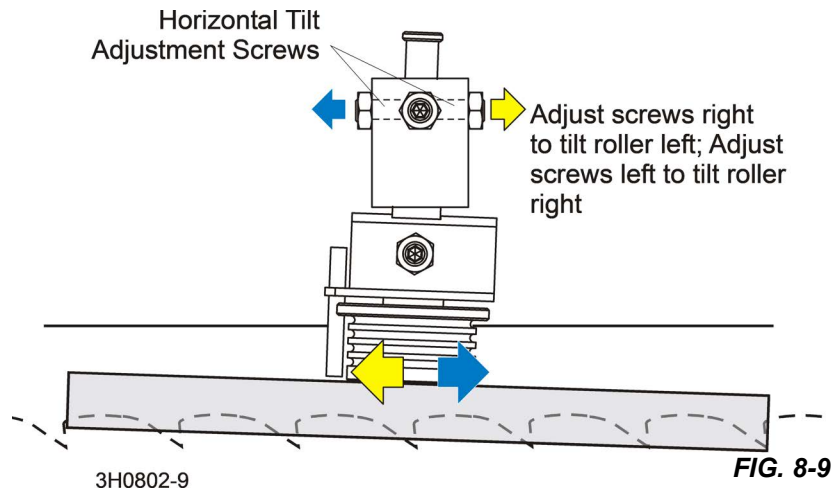
**FIG. 8-8**

11. Measure between the back edge of the blade and the tool at the end closest to the inner blade guide ("B").

12. Measure between the back edge of the blade and the other end of the tool ("A").

The roller should be tilted slightly to the left ('A' 1/8" [3 mm] less than 'B' ±1/8" [3 mm]).

13. Loosen the jam nuts on the horizontal tilt adjustment screws.
14. Loosen the right screw and tighten left screw to tilt the roller left and/or loosen the left screw and tighten the right screw to tilt the roller right.
15. Tighten the jam nuts and recheck the tilt of the blade.



16. Repeat the above steps for the inner blade guide roller assembly.

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

Blade Guide Flange Spacing

Each blade guide must be adjusted so the roller flange is the correct distance from the back edge of the blade. If the flange is too close to or too far from the blade, the sawmill will not cut accurately.

NOTE: 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 adjustment screws are retightened.

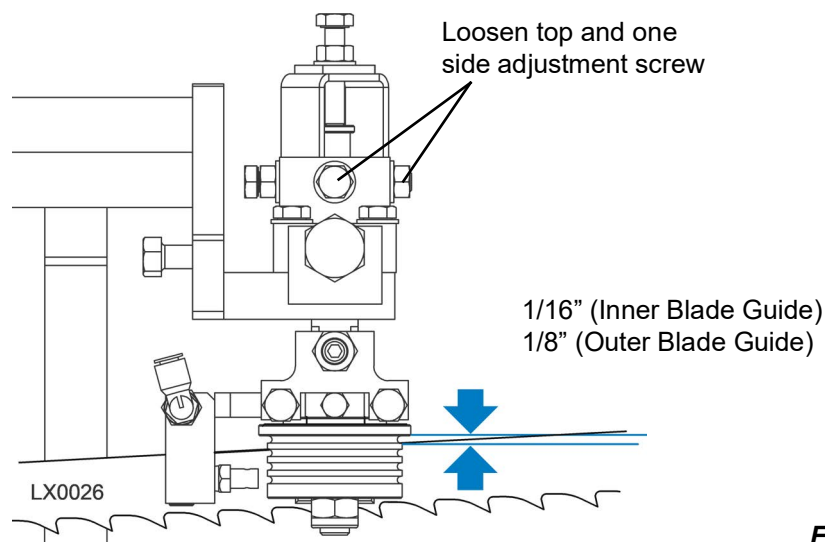
1. Measure the distance between the flange on **both blade guide rollers** to the back edge of the blade.

This distance should measure 1/8" (3.0 mm) on the **outer blade guide roller** and 1/16" (1.5 mm) on the **inner blade guide roller**. Adjust the roller back or forward as necessary.

2. Loosen the top and one side screw ([See FIG. 8-10](#)).

3. Tap the blade guide forward or backward until properly positioned.

4. Retighten the screws and jam nuts.



Side Support Alignment

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

1. Swing a side support down and measure between the face of the support and the main bed tube.

The distance at the top of the side support ('B') should be equal to or no more than 1/32" (0.8 mm) greater than the distance at the base of the side support ('A'). Adjust the horizontal tilt of the side support if necessary.

2. Loosen the two adjustment plate mounting bolts.
3. Use a mallet to move the plate until the side support is parallel to the bed tube in the horizontal position.
4. Retighten the mounting bolts

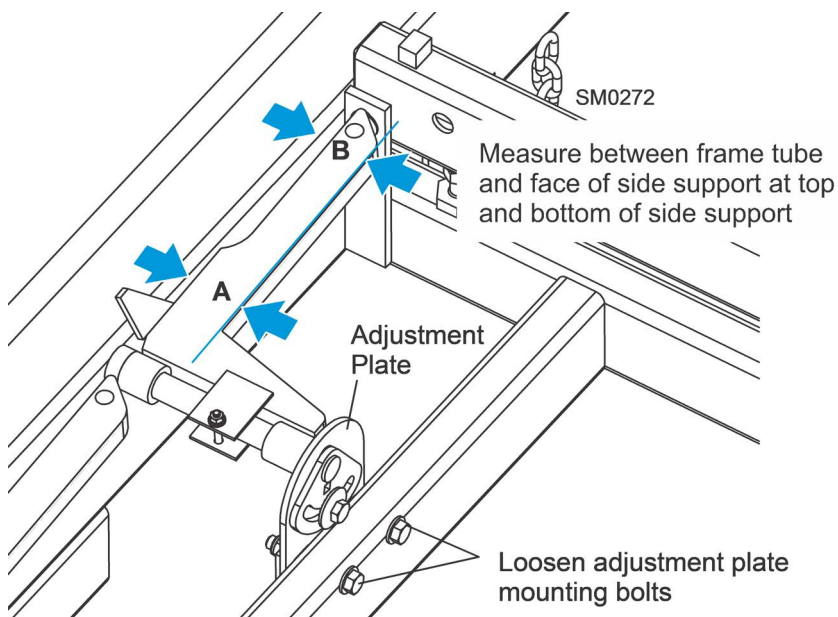


FIG. 8-11

5. Repeat the horizontal check for the remaining side supports. Adjust as necessary.
6. Place square alignment tubes (Part No. S12831 - 2 required) across the bed rails.
7. Raise a side support up so that it is vertical.
8. Pull back at the top of the support to eliminate slack (to simulate a log being clamped against it).
9. Place a square against the face of the side support.

The side support should be square or slightly tilted forward 1/32" (0.8 mm).

10. Loosen the side support mounting bolt with a 3/8" ratchet to rotate the pin until the side support is square to the bed.

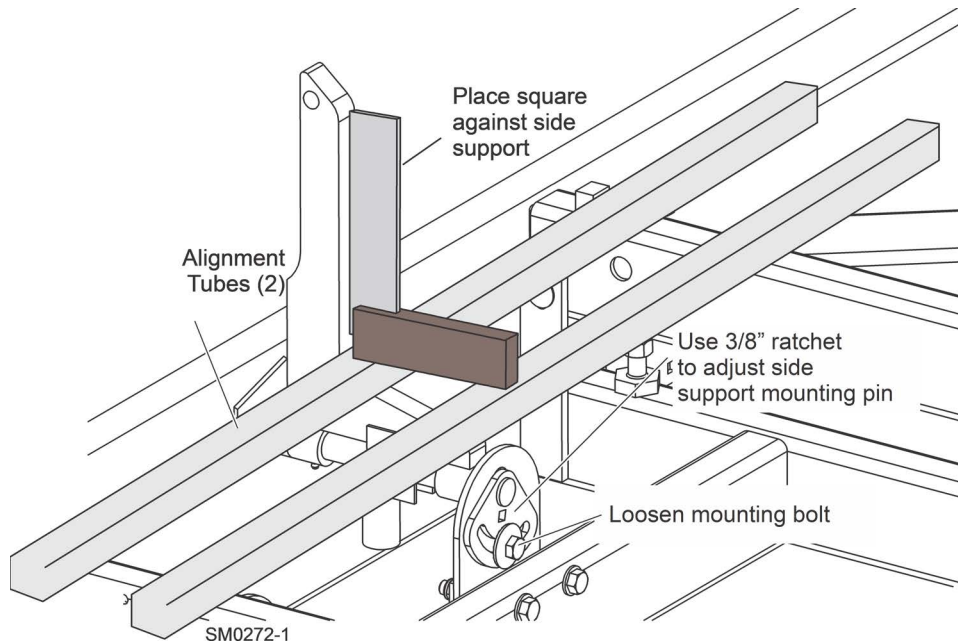


FIG. 8-12

11. Repeat the vertical check for the remaining side supports and adjust as necessary.

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 carriage so the blade is positioned directly above one of the bed rails.
2. Measure from the bottom edge on a **down-set tooth of the blade** to the top of the bed rail, near the inner blade guide assembly.
3. View the blade height scale with eyes level with the indicator.

The scale should indicate the actual distance from the blade to the bed rail. Adjust the indicator if necessary.

4. Loosen the indicator bracket mounting bolts.
5. Adjust the bracket up or down until the indicator is aligned with the correct mark on the scale (+0 -1/32 [0.8 mm]).
6. Retighten the bracket mounting bolts.

EXAMPLE: If the measurement from the **down-set tooth of the blade** to the bed rail was 14 3/4" (375 mm), the indicator reads 14 3/4" (375 mm) on the scale.

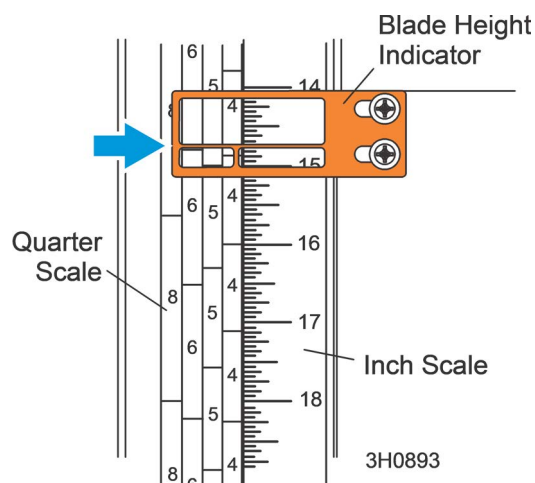


FIG. 8-13

SECTION 9 HYDRAULICS

9.1 Hydraulic Schematic

See Figure 9-1.

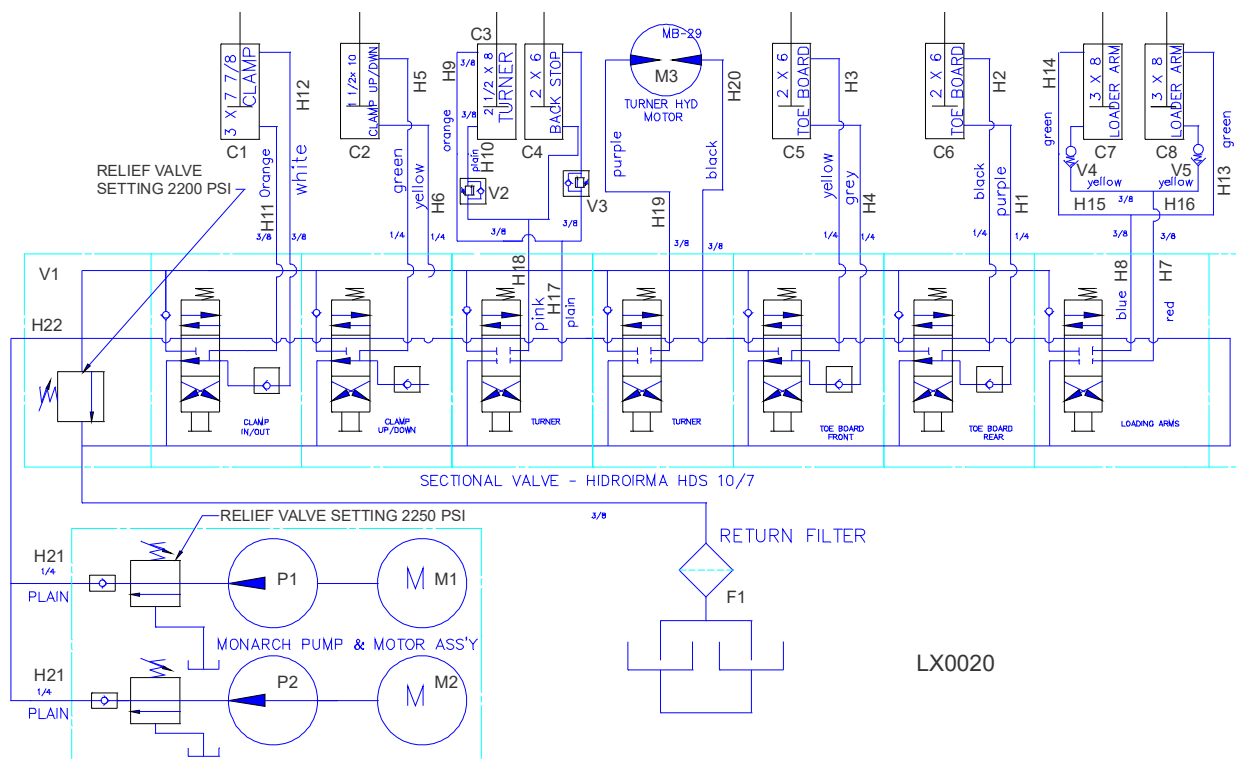


FIG. 9-1 HYDRAULIC SCHEMATIC

9.2 Hydraulic Layout Diagram

See Figure 9-2.

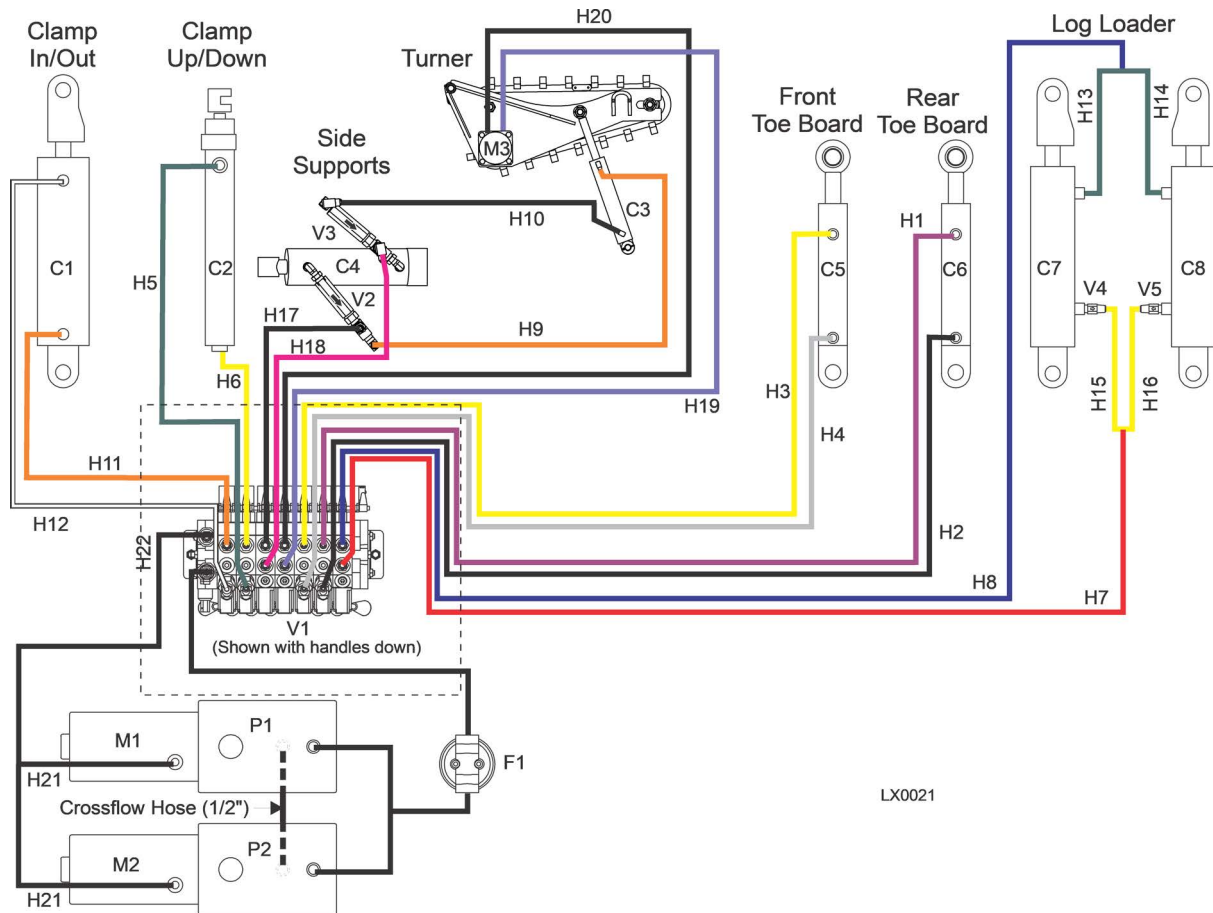


FIG. 9-2 HYDRAULIC LAYOUT DIAGRAM.

9.3 Hydraulic Components

See Table 9-1.

ID	Part Number	Description
C1	017275	Hyd. Cylinder, 3" Bore X 7" Stroke
C2	015050	Hyd. Cylinder, 1 1/2" Bore X 10" Stroke
C3	034267	Hyd. Cylinder, 2" Bore x 10" Stroke
C4	034736	Hyd. Cylinder, 2 1/2" Bore X 6" Stroke
C5, C6	014482	Hyd. Cylinder, 1 1/2" Bore x 6" Stroke
C7, C8	042754	Hyd. Cylinder, 3" Bore X 8" Stroke
F1	P20301	Filter, Hydraulic Fluid Cartridge
P1, P2	P12701	Hydraulic Pump, With Motor
V2, V3	015484	Sequence Valve, 700 psi
V4, V5	038734	Valve, Hydraulic 6.5GPM Velocity Fuse
M1, M2	052807	Motor, Iskra Hydraulic Pump
M3	007331	Motor, Hydraulic Log Turner Chain

TABLE 9-1

9.4 Hydraulic Hoses

See Table 9-2.

ID	Color Code	LENGTH "A"	Application	HOSE PART #
H1	Purple	242"	1/4" Rear Toe Board Top	079000-242
H2	Black	242"	1/4" Rear Toe Board Base	079000-242
H3	Yellow	158"	1/4" Front Toe Board Top	079000-158
H4	Gray	158"	1/4" Front Toe Board Base	079000-158
H5	Green	218"	1/4" Clamp Up/Down Top	079000-218
H6	Yellow	207"	1/4" Clamp Up/Down Base	079000-207
H7	Red	108"	3/8" Loading Arm Base	079001-108
H8	Blue	108"	3/8" Loading Arm Top	079001-108
H9	Orange	79"	3/8" Side Support Base	079001-79
H10	Plain	87"	3/8" Side Support Top	079001-87
H11	Orange	191"	3/8" Clamp In/Out Base	079001-191
H12	White	165"	3/8" Clamp In/Out Top	079001-165
H13	Green	80"	3/8" Loading Arm Branch Top	079001-80
H14	Green	140"	3/8" Loading Arm Branch Top	079001-140
H15	Yellow	80"	3/8" Loading Arm Branch Base	079001-80
H16	Yellow	140"	3/8" Loading Arm Branch Base	079001-140
H17	Plain	181"	3/8" Log Turner Base	079001-181
H18	Pink	181"	3/8" Log Turner Top	079001-181
H19	Purple	191"	3/8" Log Turner Motor (Nearest Frame)	079001-191
H20	Black	194"	3/8" Log Turner Motor (Furthest from Frame)	079001-194
H21	Plain	15"	1/4" Pump to Valve	079000-15
H22	Plain	6.5"	3/8" Pump to Valve	079001-6.5

TABLE 9-2

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