

Wood-Mizer[®] Sawmill

**Safety, Setup, Operation
& Maintenance Manual**

LT28

rev. A6.02-A6.18

Safety is our #1 concern!

MODELS EFFECTED:

LT28EH15N

LT28D17

LT28G19

LT28G25

California
Proposition 65 Warning



WARNING: Breathing gas/diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Always start and operate the engine in a well-ventilated area.
If in an enclosed area, vent the exhaust to the outside.
Do not modify or tamper with the exhaust system.
Do not idle the engine except as necessary.

For more information go to **www.P65warnings.ca.gov**.



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

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

Active Patents assigned to Wood-Mizer, LLC

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

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Wood-Mizer, LLC
8180 West 10th Street
Indianapolis, Indiana 46214

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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

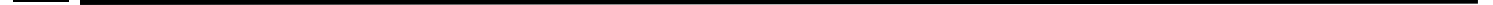
Warrantor reserves the right to change the design of its products from time to time without notice and without obligation to make corresponding changes in or to its products previously manufactured.

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>.

SECTION 1 GENERAL 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 equipment.

OBSERVE ALL SAFETY INSTRUCTIONS

NOTICE Read the entire Operator's Manual before operating this equipment.

Note all safety warnings throughout this manual and those posted on the machine.

Be able to access this manual at all times while operating this equipment.

Read additional manufacturer's manuals and observe their applicable safety instructions.

Only persons who have read and understood the entire operator's manual should operate this equipment.

This equipment is not intended for use by or around children.

It is the owner/operator's responsibility to comply with all applicable federal, state, and local laws, rules, and regulations regarding the ownership, operation, and transporting your equipment.

Operators should become thoroughly familiar with and comply with these applicable laws for operating and transporting equipment.



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 equipment.

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

Wear hand protection while servicing the equipment blades.

Wear respiratory protection when sawing woods that require it. (It is up to the sawyer to know which woods require respiratory protection.)

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.

Do not allow fuel to spill on a hot engine during fueling operations or otherwise.



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

Do not use flammable fuels or liquids such as diesel fuel. Use **ONLY** water and Wood-Mizer Lube Additive with the water lube accessory.

EQUIPMENT SETUP



DANGER! Do not operate the equipment without **all** covers and guards in place.



WARNING! Set up the equipment on solid, level ground.

Keep all persons out of the area between the frame rails while loading and unloading the equipment.

CHECK EQUIPMENT BEFORE OPERATION



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

Use the safety retainer pin and cable to fasten blade housing covers.



WARNING! Do not operate the equipment without the bed end retaining brackets prop-

erly installed; the saw head may fall from the log bed.

KEEP PERSONS AWAY

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

Ensure 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!** Remove power before clearing debris or any other maintenance activity.

Disengage the blade and shut off the equipment engine before changing the blade.

 **WARNING!** Avoid contact with any hot parts (motors).

Allow the system to cool sufficiently before beginning any service function, including debris removal.

Avoid contact with sharp edges of the cutting blades.

Stay a safe distance from rotating members (shafts, pulleys, fans, etc.) and ensure loose clothing or long hair does not engage rotating members

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

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

Do not adjust the engine drive belt with the engine running.

Keep hands, feet, etc., clear of exiting sawdust chute when operating equipment.

UP/DOWN SYSTEM SAFETY

 **WARNING!** Secure the saw head with a chain with a minimum of 1900 lbs. working load capacity before adjusting the up/down chain.

Release pressure from the up/down assist prior to performing any service to the assembly. Parts are under tension and may fly apart.

Do not disassemble the pressurized cylinder. Parts are under pressure and may fly apart or damage the cylinder.

KEEP SAFETY LABELS IN GOOD CONDITION

NOTICE Ensure 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 the new component also has the safety decal affixed in the same place.

KEEP MILL AND AREA AROUND MILL CLEAN

 **WARNING!** Maintain a clean and clear path for all necessary movement around the mill and material stacking areas.

Do not allow children in the area of the mill.

GAS OR DIESEL ENGINE OPERATION

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

Do not operate an engine with a fuel or oil leak.

 **WARNING!** Do not operate engine without proper and operational spark arrester/muffler.

DISPOSE OF WOOD BY-PRODUCTS PROPERLY

NOTICE Properly dispose of all wood by-products, including sawdust, chips, and other debris, including operation waste such as oil, filters, etc.

WORKING WITH BATTERIES

 **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.

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

Ensure the battery is fully charged before transporting the equipment. If the battery is not fully charged, excessive vibration could reduce the overall service life of the 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.
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.

2.3 Electrical Lockout Procedures

RULES FOR USING LOCKOUT PROCEDURE

The equipment 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, BUT NOT LIMITED TO:

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

MAINTENANCE HAZARDS INCLUDE, BUT NOT LIMITED TO:

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

FAILURE TO LOCKOUT MAY RESULT IN, BUT NOT LIMITED TO:

- Cut

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

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.

EQUIPMENT 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 equipment, **each shall place his own personal lock on the energy isolating devices.**

SECTION 3 SAWMILL SETUP

3.1 Stationary Sawmill Setup

Prepare the site:

- Area must be firm and level.
- The cement pad should be rated to support 6350 lbs./sq.ft.
- Use 5/8" diameter anchor bolts to secure feet.
- Allow maneuvering room for operators, sawdust removal, log loading, and board removal.

[See Form #847](#) for stationary sawmill foot anchor locations. [See Form #359](#) for stationary sawmill with bed extension foot anchor locations.

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



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

1. Unhook the carriage safety chain, located at the bottom of the vertical mast, near the battery box.
1. Use the up/down crank to raise the cutting head from the carriage rest pin.
2. Swing the rest pin down below bed level.
3. Use the feed handle to move the cutting head toward the front (hitch end) of the mill.
4. Raise the side supports to prevent a log from falling off the side of the mill when loaded.

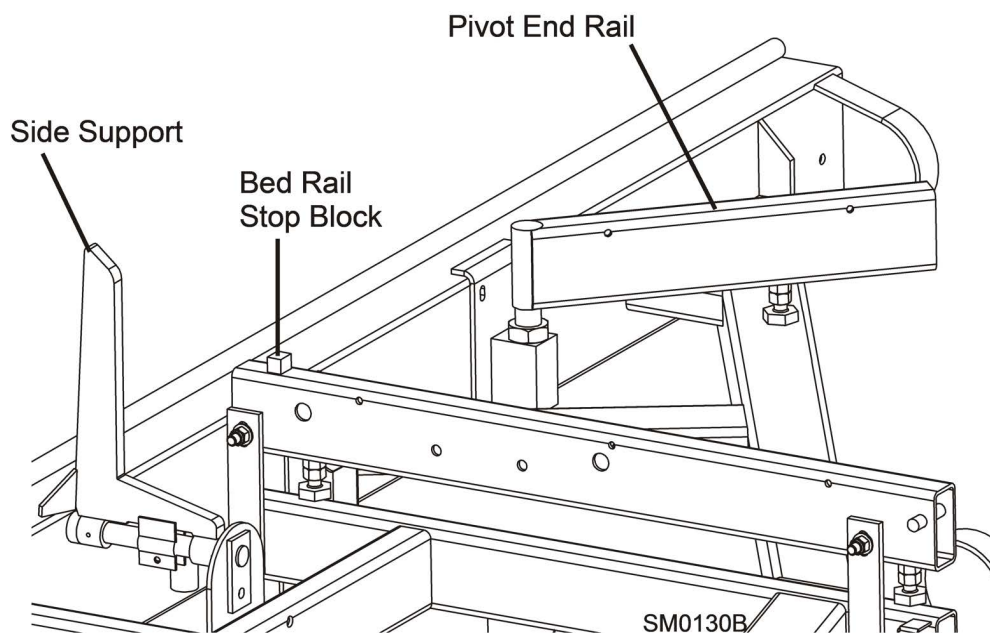


FIG. 3-1

3.2 Portable Sawmill Setup



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

Chock the trailer wheels to prevent movement before unhitching it from the towing vehicle. Failure to do so may result in serious injury or death.

Always make sure the trailer is supporting the sawmill frame when operating a sawmill with adjustable outriggers. Failure to do so may result in serious injury or death. The adjustable outriggers are intended to support the saw frame with assistance from the trailer.

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. This could result in possible serious injury or death.

If setting the sawmill up on concrete or other hard surface, replace the adjustable outrigger legs with stationary legs.

1. Unhitch the mill from the vehicle.
2. Lower and set the front three outriggers. To lower, use the provided jack handle to lift the weight from the locking pin. If necessary, rotate the locking pin counterclockwise so that the inner roll pin is free from the outrigger channel notch, then pull the locking pin out to release the outrigger. Lower the outrigger as necessary. Push the locking pin back in and turn clockwise until the inner roll pin is behind the outrigger channel notch to "lock" the outrigger in place.



WARNING! Put front outrigger down before moving cutting head from the rest position. Failure to do so may result in serious injury.

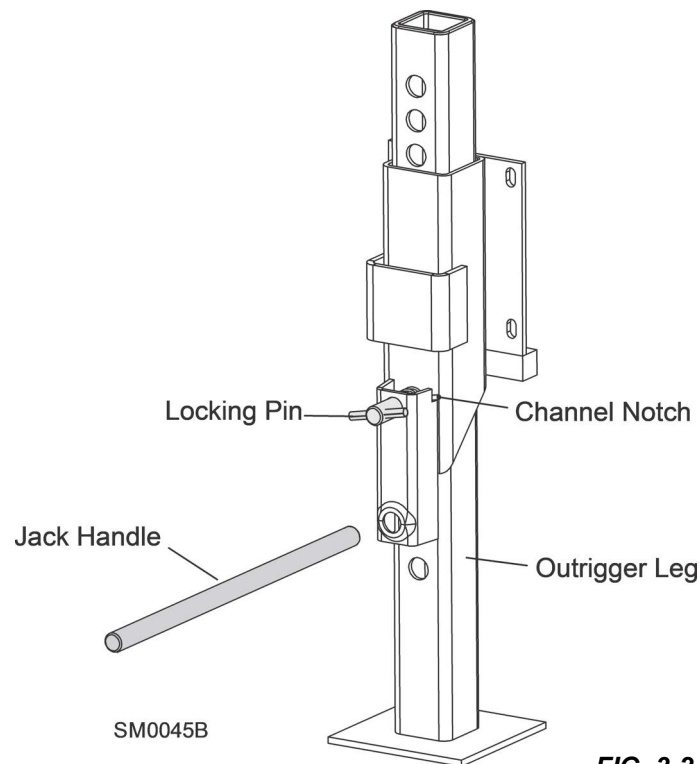


FIG. 3-2

3. Use the up/down crank to raise the cutting head from the carriage rest pin. Swing the rest pin down below bed level.
4. Remove the fenders by lifting them out of the slots.



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

5. Use the feed handle to move the cutting head toward the front end of the mill.
6. Lower and set the remaining rear outriggers. Level the sawmill by adjusting the outriggers to raise or lower each end of the sawmill. Adjust all outriggers evenly to avoid twisting the mill frame by jacking one outrigger higher than the others.

For FAO(s), fine tune the outrigger base height as necessary. Move the cutting head to the opposite end of the mill from the outrigger. Raise the entire outrigger (to remove the sawmill weight from it) and adjust the outrigger base as necessary. Lower the entire outrigger and use the locking pin to secure in position.



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

7. Raise the two side supports to prevent the log from falling off the side of the mill when loaded.

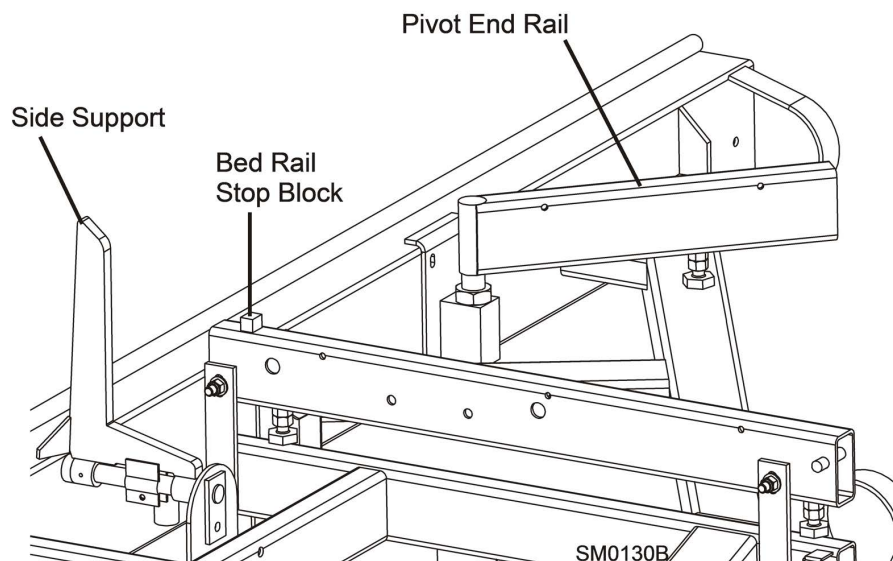


FIG. 3-3

3.3 Replacing The Blade



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

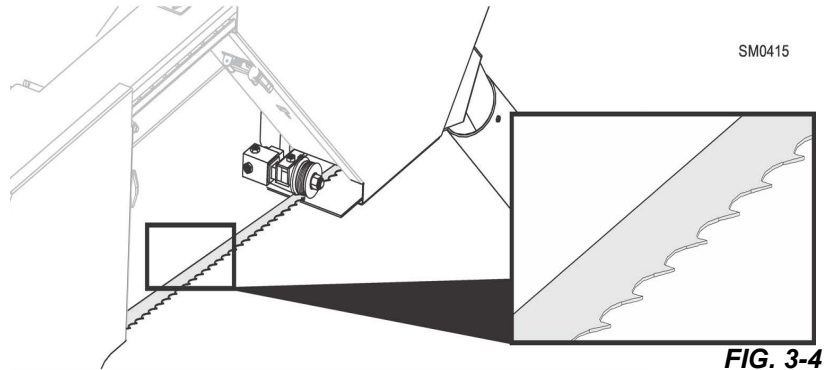


WARNING! Always wear gloves and eye protection when handling bandsaw blades. Changing blades is safest when done by one person! Keep all other persons away from area when coiling, carrying or changing a blade. Failure to do so may result in serious injury.

1. Open the blade housing covers that cover the blade wheels.
2. Turn the blade tension handle to release the blade tension until the wheel is pulled in and the blade is lying loose in the blade housing.
3. Lift the blade out of the blade housing.
4. Make sure the teeth are pointing the correct direction. See FIG. 3-5.

The cutting teeth should be pointing toward sawdust chute.

5. Install the blade so it is lying around the 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; p
7. Close the blade housing cover.
8. Use the tension handle to tension the blade correctly.



3.4 Tensioning The Blade

The blade tensioner is factory-set so proper blade tension is achieved when the rubber spring is compressed 3/16" (4.8 mm). An indicator bolt is provided to indicate when the rubber spring has been compressed properly. To tension the blade, turn the blade tension handle up until it locks in place.



WARNING! Use both hands to operate the blade tensioner handle. Failure to do so may result in injury.

Check the back side of the rubber spring washer is aligned with the indicator bolt head. If not, release the blade tension and turn the tensioner shaft counterclockwise to compress the rubber spring more; clockwise to compress the rubber spring less.

Use the scalloped disk to turn the tensioner shaft.

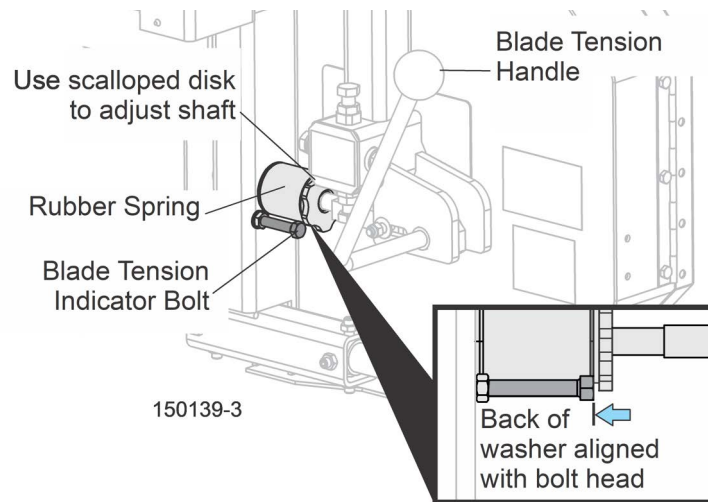


FIG. 3-5

Tension the blade and recheck the alignment of the rubber spring washer with the indicator bolt head.

Check the blade tension occasionally when adjusting the cant control or while cutting. As the blade and belts heat up and stretch, the blade tension will change. Adjust the tensioner shaft as necessary to maintain proper blade tension.

3.5 Tracking The Blade

1. Make sure the blade housing covers are secured and all persons are clear 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. Spinning the blade wheels by hand may result in serious injury.

4. Disengage the blade. Turn off the engine, remove the key and check the position of the blade on the blade wheels.

Position 1 1/4" blades so that the gullet is 1/8" (3.0 mm) out from the edge of the blade wheel . To adjust where the blade travels on the blade wheels, use the cant control.

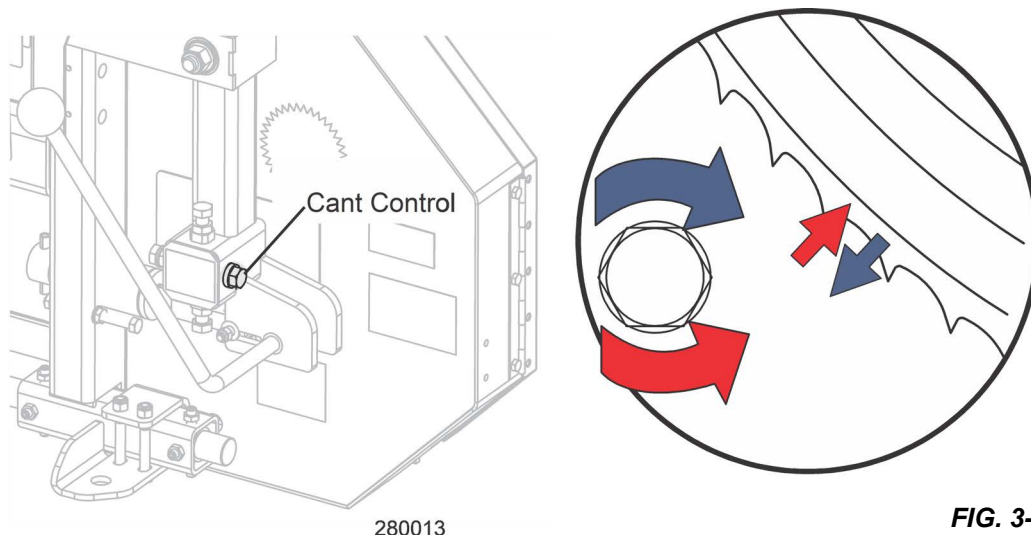


FIG. 3-6

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

5. Adjust the blade tension if necessary to compensate for any changes that may have occurred while adjusting the cant control.
6. Secure the blade housing covers.

DANGER! Ensure all guards, covers, blade housings, and pulley covers are in place and secured before operating or towing the sawmill.

NOTICE After aligning the blade on the wheels, always double-check the blade guide spacing and location. ([See Section SECTION 7](#) for more information.)

3.6 Starting The Engine or Motor

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

DANGER! Make sure all guards and covers (including the blade housing and pulley covers) are in place and secured before operating or towing the sawmill.

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

WARNING! Always wear eye, ear, respiration, and foot protection when operating the sawmill. Be sure the power feed switch (if equipped) is in the neutral position before turning the key switch to the on (#1) or accessory(#3) position to prevent accidental carriage movement .

SECTION 4 SAWMILL OPERATION

4.1 Loading, Turning And Clamping Logs

TO LOAD 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 do so may result in machine damage.

Be sure the log clamp, 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 do so 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.
3. Place the loading ramps on the two bed rails that will support the length of the log. **NOTE:** The loading ramps cannot be fastened securely to the bed rail located directly above the tire. Do not use this rail.
4. Position the log at the foot of the ramps.
5. Remove the winch cable from the log turner (if applicable) and route the cable over the top of the log. Wrap the cable around and underneath the log. Hook the cable to the third hole in the log clamp bracket. See *Winch Operation Manual*.



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

6. Crank the winch to begin rolling the log up the ramps and onto the sawmill bed. Keep the log centered on the ramps as it rolls up.
7. Once the log is on the sawmill bed, place the log clamp in the clamp bracket. This will stop the log from rolling back off the side of the mill when you remove the winch cable.

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

TO TURN LOGS

1. Use cant hooks or the optional log turner to rotate the log on the sawmill bed. See *Log Turner Manual*.
2. Spin the log against the side supports until it is turned the way you want it for the first cut.

TO CLAMP LOGS

1. Position the log clamp in the bracket in the hole closest to the log.
2. Move the clamp down far enough so that it is below your first few cuts. Pivot the clamp so that it moves the log firmly against the side supports. Lock the clamp in position with the locking chain.

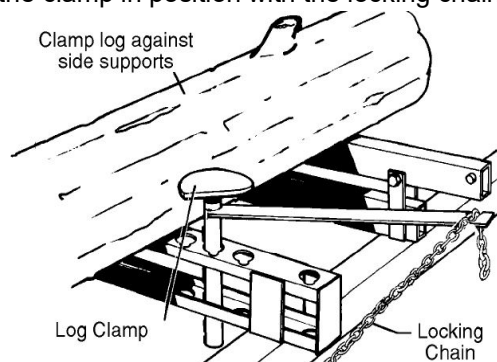


FIG. 4-1

3. Make sure the side supports are positioned low enough for the blade to pass over them. If they are not, back the clamp off slightly and push the side supports down until they are positioned below the level of your first few cuts.

4. Use the optional toe boards to level the log if desired. See the manual supplied with the manual toe boards for details concerning toe board operation.

TO LEVEL A TAPERED LOG

Use the optional toe boards to raise either end of a tapered log, if desired. See the Toe Board Option Manual for operating instructions. Start the engine as described in your engine option manual.

4.2 Up/Down Operation

1. Install a blade, if needed, and check for correct blade tension. ([See Section 3.3](#)).
2. Set the cutting head to the desired height. (The blade height scale shows the height of the blade above the bed rails.)

Use the up/down crank to raise or lower the cutting head. Press the lock release handle and turn the crank clockwise to lower the saw head or counterclockwise to raise the saw head. Each notch in the crank wheel will move the blade $1/16"$ (1.6mm). A complete revolution of the wheel is 4" (100mm) (2" (50mm) for gas engine options only). Release the lock release to lock the saw head in place. Use the pointer and the round up/down blade height scale for quick reference when cutting.

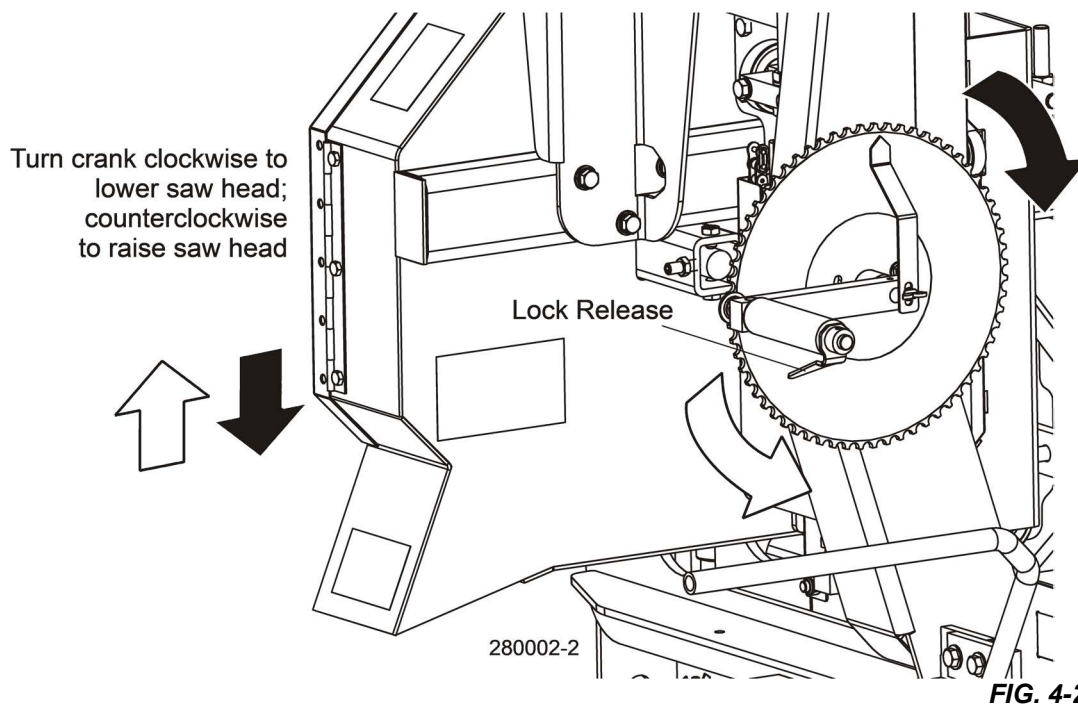


FIG. 4-2

DO NOT try to force the carriage above the 27" (68 cm) mark or below the 1" (2.54 cm) mark. Damage to the up/down system may result.

4.3 Blade Guide Arm Operation

1. Adjust the outer blade guide to clear the widest section of the log by less than 1" (25.4 mm).

Use the blade guide arm lever to adjust the outer blade guide as necessary.

4.4 Clutch Operation

1. Clear any loose objects from the area of the blade, motor, and drive belt.
2. Make sure the clamp and side supports are adjusted below the level of the first few cuts.
3. Start the engine as instructed in the option manual.



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

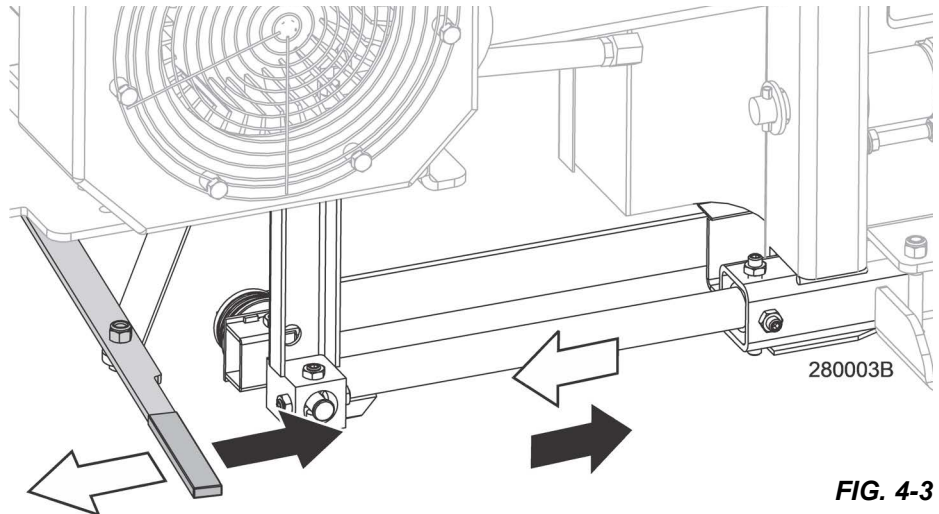


FIG. 4-3

Be sure the blade housing and pulley covers are in place and secure before starting the engine or motor. Use the rubber latches to fasten the blade housing covers shut.

The clutch lever is located next to the engine.

4. To engage the blade, pull the clutch lever down until it locks in the down position. This engages the drive mechanism, releases the blade brake, and increases the engine speed to full throttle.
5. To disengage the blade, raise the clutch lever to the up position. This disengages the drive belt, engages the blade brake, and returns the engine to idle.

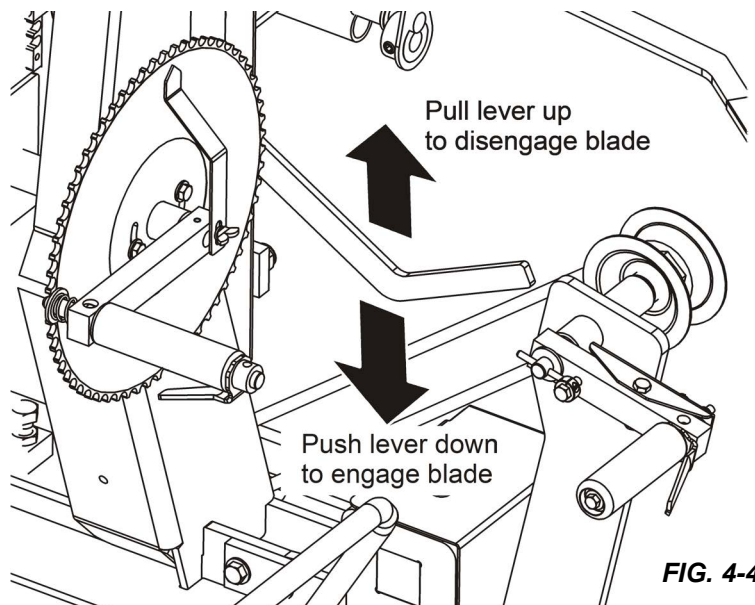


FIG. 4-4

4.5 Feed Operation

MANUAL FEED:

1. Use the feed crank handle to move the saw carriage forward.

Squeeze the engagement lever and rotate the feed crank clockwise.

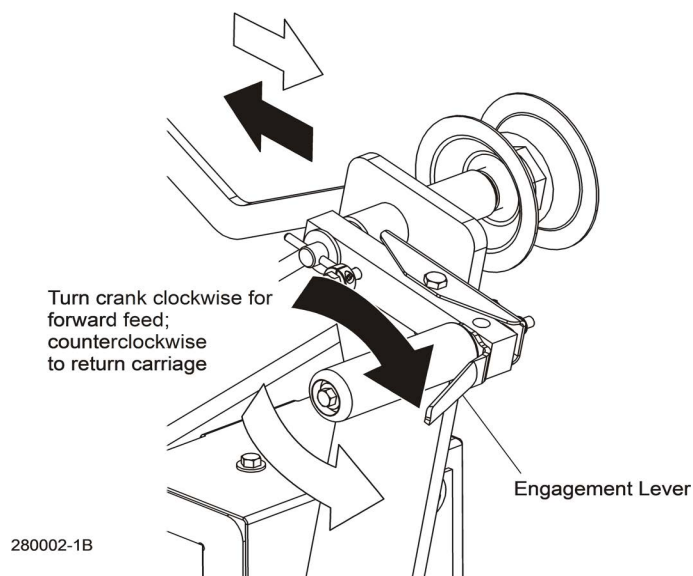


FIG. 4-5

OPTIONAL POWER FEED:

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

1. Start the engine.



CAUTION! Avoid operating the power feed for prolonged periods without the engine running. Battery drainage will result.

2. With the carriage forward/reverse switch in the neutral (middle as shown), flip the power toggle switch on the control to the on (#1) position. The power indicator light will illuminate.



WARNING! Be sure the forward/reverse switch is in the neutral position before turning the power switch to the on (#1) position. This prevents accidental carriage movement which may cause serious injury or death.

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

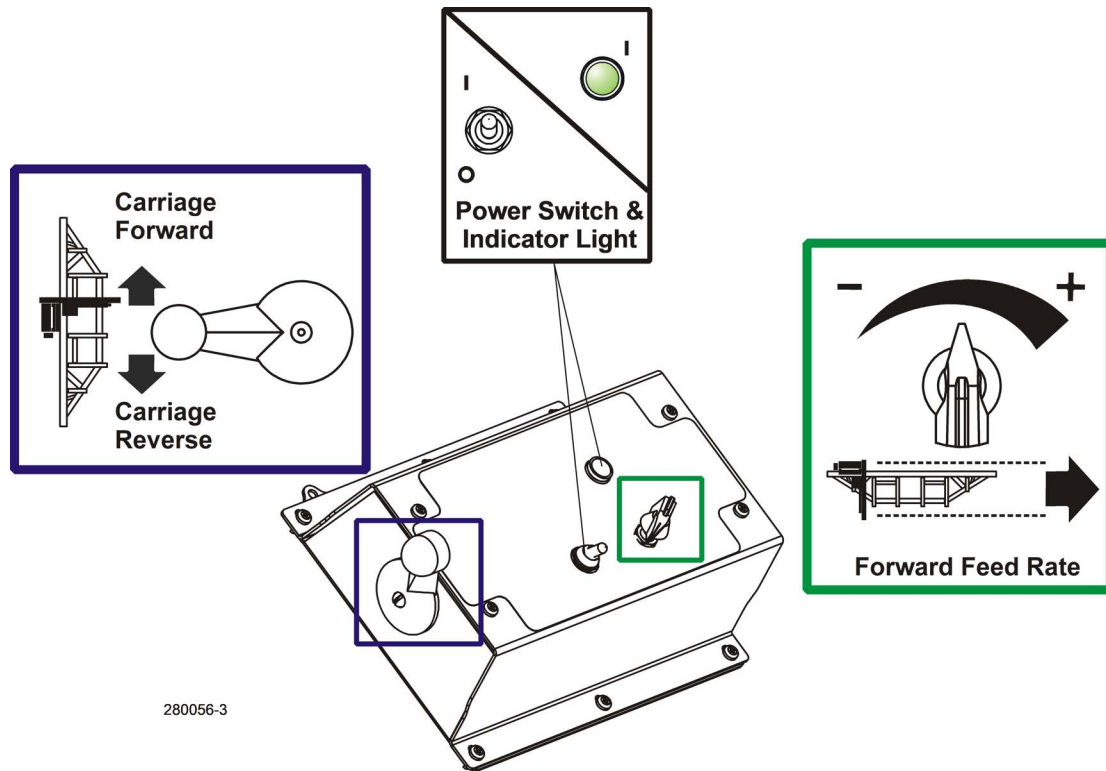


FIG. 4-6

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.

CARRIAGE FORWARD AND REVERSE



The carriage forward/reverse switch controls the direction in which the carriage travels. Use the forward/reverse switch to move the carriage forward or backward.



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. Repair the switch ([See Section 5.6](#)).



WARNING! Be sure the power feed switch is in the neutral position before turning the key switch to the on (#1) or accessory (#3) position. This prevents accidental carriage movement which may cause serious injury or death.

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

3. Stop the carriage at the end of the cut. Throw the clutch lever up to stop the blade and drop the engine to idle.
4. Remove the board from the top of the log. **Always disengage the blade before returning the carriage for the next cut.**



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.

5. Raise the carriage slightly to ensure the blade clears the log when returned.
6. Squeeze the engagement lever and rotate the feed crank clockwise or pull the saw head back using the carriage push/pull handle (**POWER FEED:** Return the carriage to the front of the mill by pushing the drum switch handle down. The power feed motor will bypass the carriage feed rate switch and the carriage will automatically return at the fastest speed available.).

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



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

7. When not using the power feed, flip the power toggle switch to the off (#0) position.

4.6 Cutting The Log

1. Once the log is placed where you want it and clamped firmly, move the saw head to position the blade close to the end of the log.
2. Use the blade height scale to determine where to make your first cut ([See Section 4.10](#)). The blade height scale will help you to do this. Set the blade to the desired height with the up/down crank. Make sure that the blade will clear all side supports and the clamp. Adjust the outer blade guide to clear the widest section of the log by moving the blade guide lever.
3. Engage the clutch lever to start the blade spinning.
4. Start the water lube if necessary to prevent sap buildup on the blade. [See Section 4.11](#).
5. Feed the blade into the log slowly ([See Section 4.6](#)). Once the blade completely enters the log, increase the feed rate as desired. Always try to cut at the fastest speed you can while keeping an accurate cut. Cutting too slowly will waste blade life and lower production!
6. As the blade nears the end of the log, slow down the feed rate. When the teeth exit the end of the log. Disengage the clutch lever. Remove the slab that has just been cut from the log.
7. Use the feed crank or the carriage push/pull handle to return the carriage to the front of the mill.
8. Repeat until the first side of the log is cut as desired. Set aside the usable flitches (boards with bark on one or both sides). They can be edged on the mill later.

9. Lower the toe boards, if they were used.
10. Remove the clamp and turn the log 90 or 180 degrees. Make sure the flat on the log is placed flat against side supports if turned 90 degrees. Make sure it is placed on bed rails if turned 180 degrees. If the log was turned 90 degrees and toe boards are being used to compensate for taper in the log, raise the front or rear toe board again on the second side of the log until the heart is parallel with the bed.
11. 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.

Example: Remember that 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 $1 \frac{1}{16} - 1 \frac{1}{8}$ " (27-28.6 mm) for each board.

4.7 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.

4.8 Blade Height Scale

The blade height scale is attached to the carriage head frame. It includes:

- blade height indicator
- an inch scale
- a magnetic quarter scale

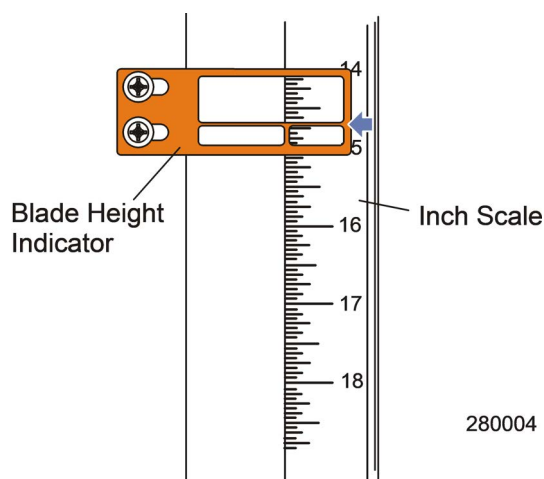


FIG. 4-7

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) thick boards are wanted from random width boards from a log.

1. Position the blade for the first cut. Move the carriage to an even measurement on the inch scale.
2. Make a trim cut.
3. 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.)

NOTE: The yellow area on the scale identifies where the blade could encounter a side support or log clamp.

4. Check that these items are below the blade level before sawing.

THE QUARTER SCALE

The magnetic quarter scale has 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.

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

TABLE 4-1

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

Position the magnetic quarter scale over the inch scale. Align one of the quarter scale marks with the horizontal line on the indicator.

Make a trim cut. After returning 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) (4/4) thick boards are wanted from random width boards from a log.

1. Position the blade for the first cut.
2. Position the magnetic quarter scale so a 4/4 mark is aligned with the line on the indicator.
3. Make a trim cut.
4. Return the carriage for the second cut.
5. Now, instead of having to measure down 1 1/8" (29 mm) on the inch scale, lower the blade so the indicator is aligned with the next 4/4 mark on the quarter scale.
6. Turn the log 90 degrees and repeat.

4.9 Water Lube Operation

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

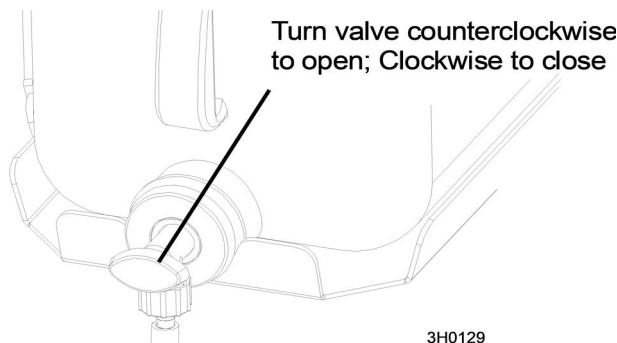


FIG. 4-8

Not all types of wood require the use of the Water Lube System. When it is 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! Use ONLY water and Wood-Mizer Lube Additive with the water lube accessory.

Never 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 do so can damage the equipment and may 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 do so may cause damage to the LubeMizer system.

4.10 Preparing The Sawmill For Towing

1. Move the saw carriage to the front end of the sawmill. Raise the rear outriggers.



CAUTION! Be sure the outrigger base is adjusted properly before securing the FAO in position with the lock pin. Failure to do so will cause damage to the outrigger grease fitting.

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

2. 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.

3. Move the carriage forward to the travel position over the rear bed rail.
4. Position the hole in the saw head over the travel rest pin.
5. Lower the saw head until it is seated firmly on the rest pin.

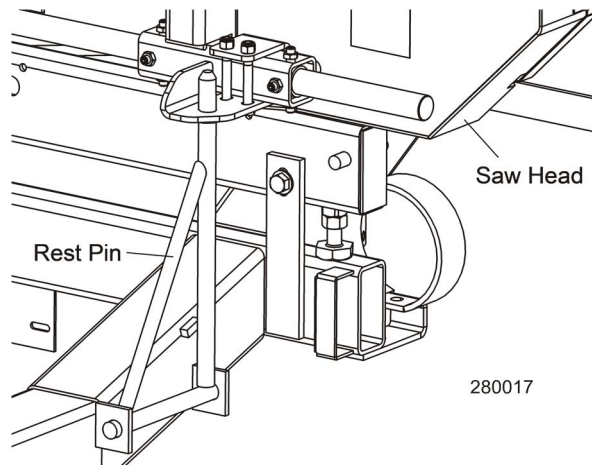


FIG. 4-9

6. Continue lowering the head 3/4" (19mm) until it contacts the stop blocks on the mast rails.



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

7. If necessary, adjust the stops located at the bottom of the mast so the saw head contacts them after it is lowered 3/4" (19mm) past where it contacts the rest pin.

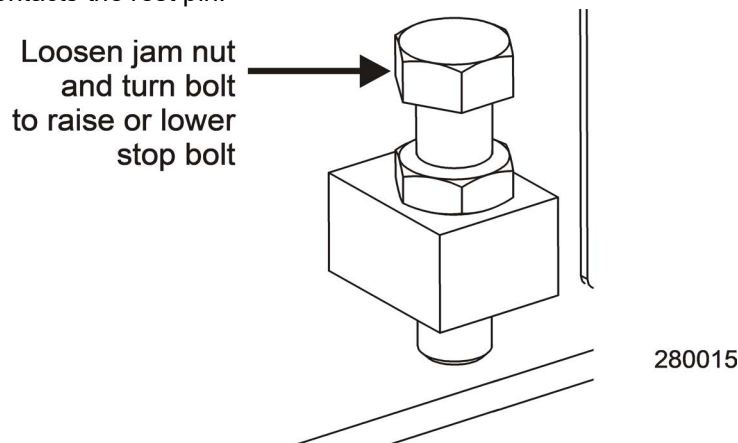


FIG. 4-10

8. Engage the clutch lever. This keeps the drive belt tight and the motor from bouncing while traveling.

NOTICE: Be sure to disengage the clutch lever after reaching the destination to avoid deformation of the drive belt.

9. Hook the carriage safety chain located at the bottom of the carriage to the bracket at the bottom of the mast.

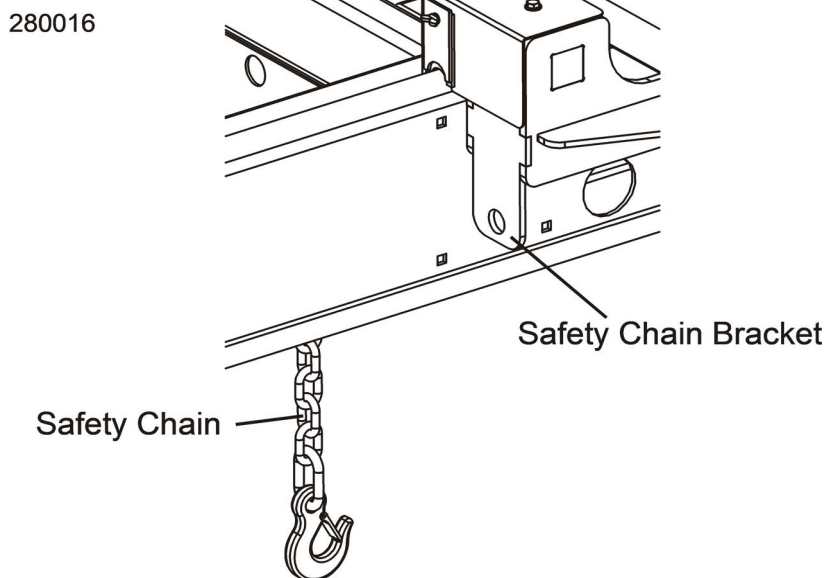


FIG. 4-11

10. Store the loading ramps on the bed rails. Secure to the bed with the two retaining brackets.



CAUTION! Check to be sure the saw head safety chain is secured before towing the sawmill. Failure to properly secure the saw head can result in severe machine damage. 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.

11. Remove all loose objects from the bed of the mill. Store the outrigger jack handle in the bracket provided on the rear/loading-side outrigger guide. Reel in the winch cable and remove the winch handle.
12. Place both fenders in the slots located behind the trailer tires and secure with rubber straps. Raise all but the very front outrigger.

For Fine Adjust Outriggers (FAOs), be sure to adjust the outrigger base height so that the grease fitting is just below the lowest outrigger hole before securing the FAO in position with the lock pin.



CAUTION! Be sure the outrigger base is adjusted properly before securing the FAO in position with the lock pin. Failure to do so will cause damage to the outrigger grease fitting.

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

See the trailer operator's manual for specific information regarding hitch operation and towing the sawmill.

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.

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.

Part Description	Estimated Life
B57 Blade Wheel Belts	400 hours
Blade Guide Rollers	1000 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. If the key is turned on and moving parts activated, serious injury may result.

1. Check the rollers for performance and wear **every blade change**.
2. Make sure the rollers are clean and spinning freely. If not, replace them.
3. Replace any rollers which have worn smooth or have become cone shaped.

5.3 Sawdust Removal



WARNING! Before performing service turn the key switch to the OFF (#0) position and remove the key.

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.



Check the steel fingers inside the sawdust chute before operating the sawmill. 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. Failure to have these fingers in place may result in serious injury.

Remove all sawdust and debris from around the velocity fuse valves **every 8 hours** of operation. The valves are located at the bottom of the log loader cylinders.

Remove sawdust buildup as necessary 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 and debris from grounding block along the bed rail and mast **every 50 hours** of operation.

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. If the key is turned on and moving parts activated, serious injury may result.

Properly maintaining 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.

1. Clean track rails to remove any sawdust and sap buildup **every eight hours** of operation.

Use a light-grade sandpaper or emery cloth to sand off any rust or other adhering particles from the rails.



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.

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 saltwater (if applicable). This lubrication is essential to maintain the integrity of the track rails and track rollers and to achieve long service life.

2. Remove sawdust from the track roller housings and lubricate the felt track wiper **every twenty-five hours** of operation.
3. Remove the track roller housing covers and brush any sawdust buildup from the housings.
4. Clean and lubricate the felt track wipers.
5. Unbolt the middle track cover, remove from the sawmill and remove any sawdust buildup.
6. Soak the felt wiper with Dexron III transmission fluid.

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.



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

Clean the vertical mast rails **every 50 hours** of operation.

Verify gap between throat screw and vertical mast **every 50 hours**.

1. Tighten (4) throat screws until they slightly touch vertical mast.

NOTE: Locate (2) upper throat screws on sawdust chute side and (2) lower throat screws on engine side..

2. Back throat screws out a 1/2 turn.
3. Tighten lock nuts on throat screws.

NOTE: Brass tipped throat screw prevents contact with covers, protecting the transducer from damage and signal interference.

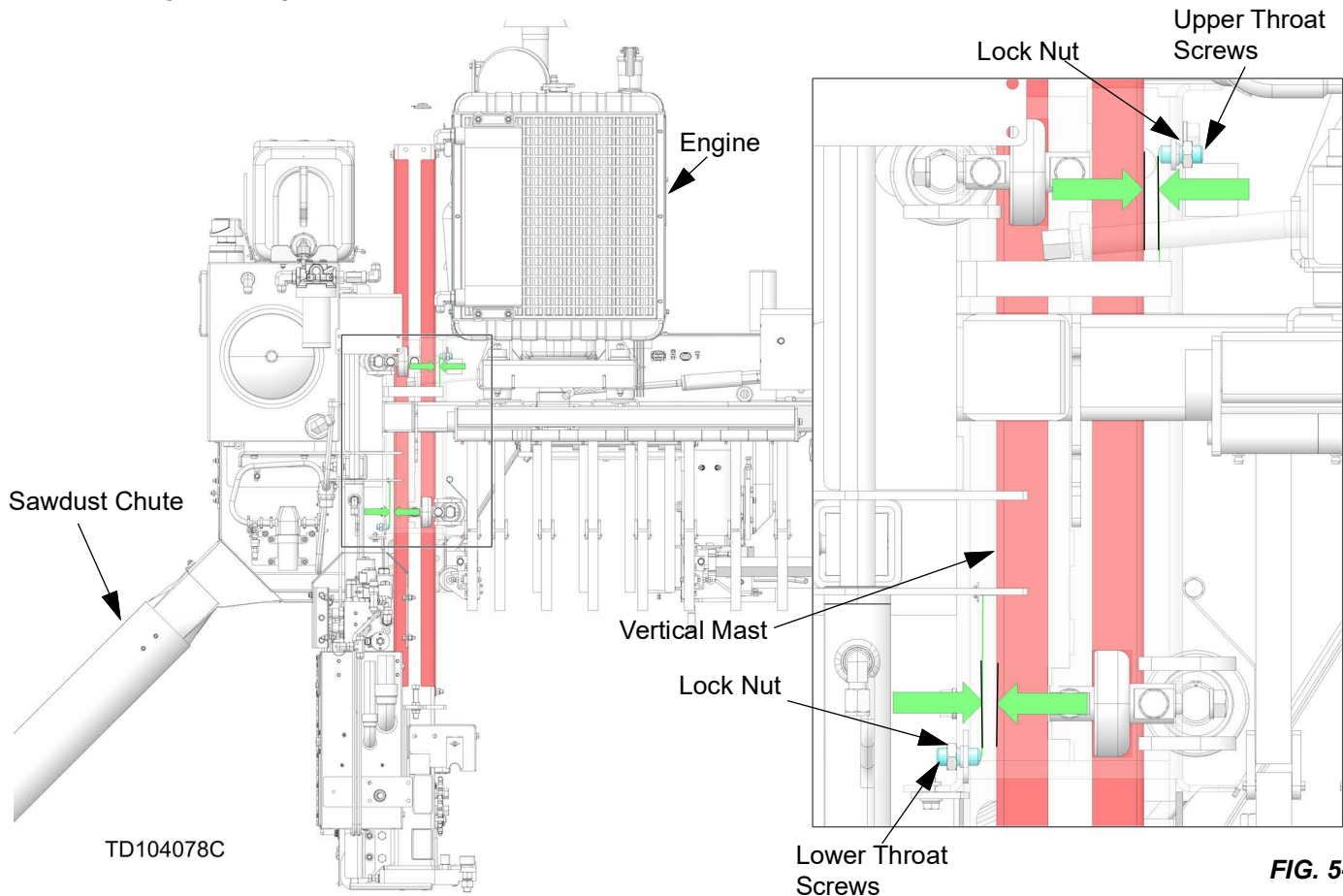


FIG. 5-1

5.6 Drum Switches



WARNING! Disconnect and lockout power before performing any service to the electrical system. For battery-powered equipment, disconnect the negative battery terminal cable. Failure to do so may result in injury and/or electrical system damage.

Lubricate the power feed drum switch contacts inside the control panel **every fifty hours** of operation. Use only contact grease supplied by Wood-Mizer.

1. Remove the control panel cover.
2. Use a cotton swab to apply grease to the switch contact ends.



WARNING! Drum switch grease contains Petroleum Hydrocarbon Lubricant. Eye and skin irritant. If introduced into eyes, flush with water for at least 15 minutes. If film or irritation persists, seek medical attention. Wash skin with soap and water.

If ingested, do not induce vomiting - contact a physician. **KEEP OUT OF THE REACH OF CHILDREN.**



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 feed to bind.

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. If the key is turned on and moving parts activated, serious injury may result.

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



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

2. Grease the side support pivots with a NLGI No. 2 grade lithium grease **every fifty hours** of operation.
3. Check the mill alignment every setup ([See Section SECTION 7](#)).
4. Make sure all safety warning decals are readable. Remove sawdust and dirt.

NOTE: Replace any damaged or unreadable decals immediately. Order decals from your Customer Service Representative.

5.8 Blade Wheel Belts



WARNING! Before performing 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.

1. Rotate the blade wheel belts **every 50 hours** and check them for wear.

NOTE: Rotating the belts will provide longer belt life.

2. Replace belts as necessary.
3. Use only belts supplied by Wood-Mizer.

5.9 Drive Belt Adjustment



WARNING! Disconnect and lockout power before performing any service to the electrical system. For battery-powered equipment, disconnect the negative battery terminal cable. For AC-powered equipment, follow the lockout procedure provided in the safety section ([See Section 2.2](#)). Failure to do so may result in injury and/or electrical system damage.

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.

Do not adjust the engine drive belts or belt support bracket with the engine running. Doing so may result in serious injury.



CAUTION! Do not over-tighten the drive belt. Damage to the engine may result

Check belt tension **every 50 hours**.

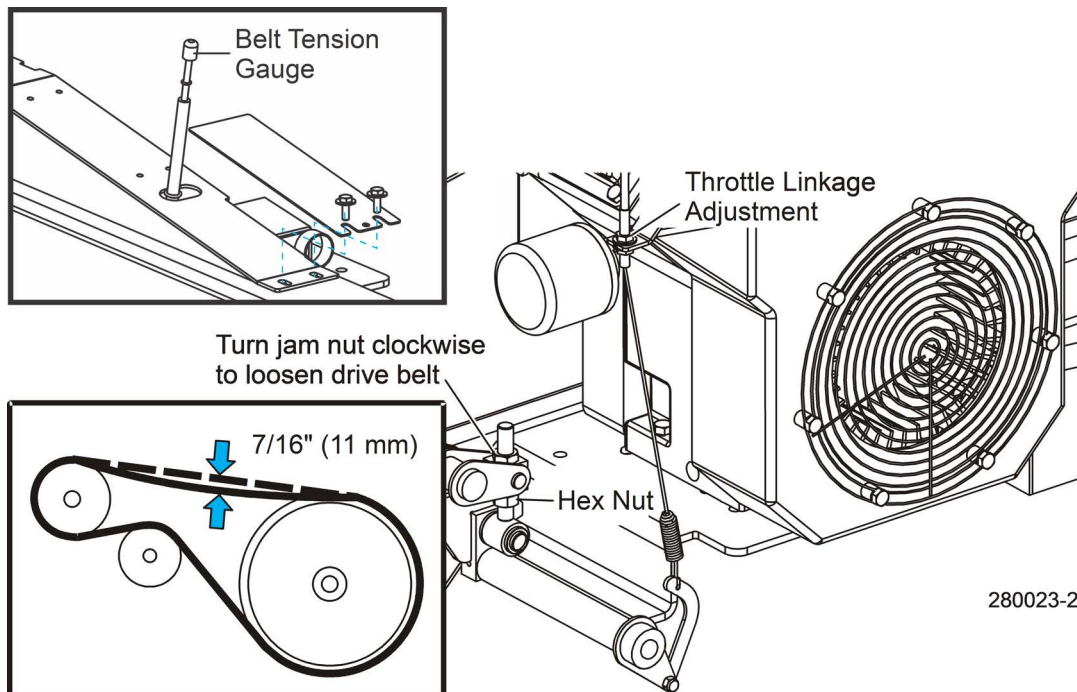
See the table below for drive belt tension specifications for your model sawmill. Measure the belt tension with a gauge.
NOTE: Wood-Mizer offers a belt tension gauge (Part No. 016309) that will let you accurately measure the belt tension.

Engine/Motor	New Belt Installation/New Sawmill Operation				Subsequent Adjustment		
	Deflection Inches (mm)	Installation Force lbs. (kg)	Check After First	Acceptable Force lbs. (kg)	Then Check Every	Deflection Inches (mm)	Force lbs. (kg)

TABLE 5-2

ADJUST THE DRIVE BELT TENSION

1. Loosen the drive belt jam and hex nuts. Turn the jam nut counterclockwise (as viewed from the top) to tighten the belt.



280023-2

FIG. 5-2

2. **GAS OPTION ONLY:** After tensioning the drive belt, check the throttle linkage and adjust if necessary.

NOTE: With the clutch handle engaged, the throttle linkage should move the throttle lever to full speed. To adjust, loosen the throttle linkage adjustment nuts and slide the throttle linkage down.

Retighten the screw.

Periodically check the drive belt for wear. Replace any damaged or worn belts **as needed**.

ADJUST THE DRIVE BELT SUPPORT

The drive belt support is designed to extend belt life. The bracket should be adjusted to NOT touch the drive belt when the clutch handle is engaged (down position), AND to hold the drive belt away from the engine pulley when the clutch handle is disengaged (up position). **See Fig. 5-3.**

Adjust the drive belt support **as needed**. Depending on your engine model, the drive belt support may be located near the drive wheel or drive pulley.

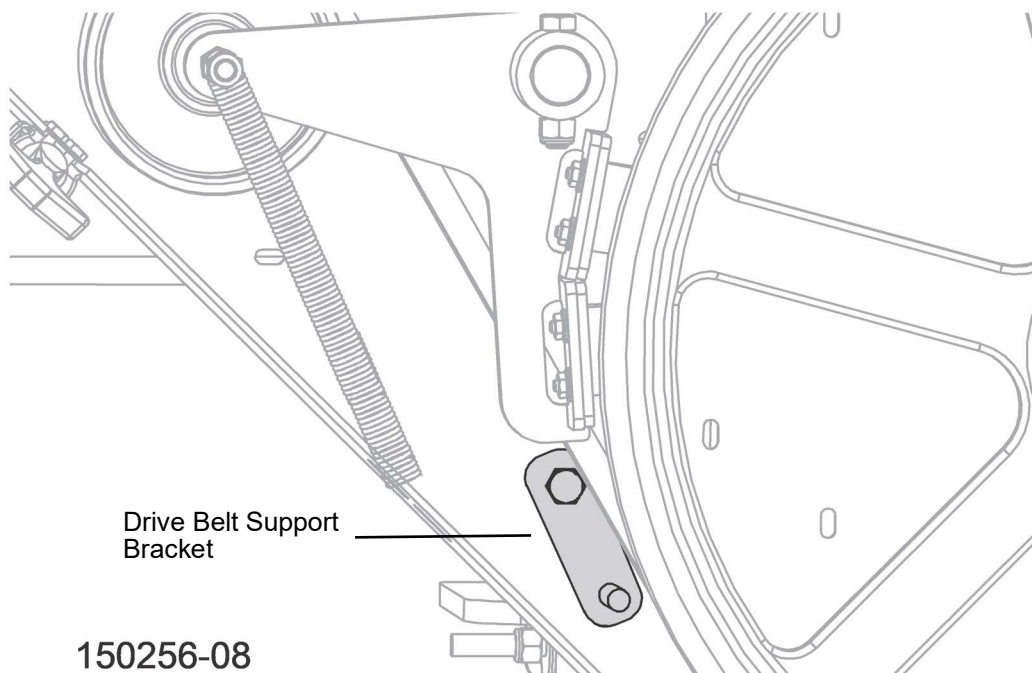
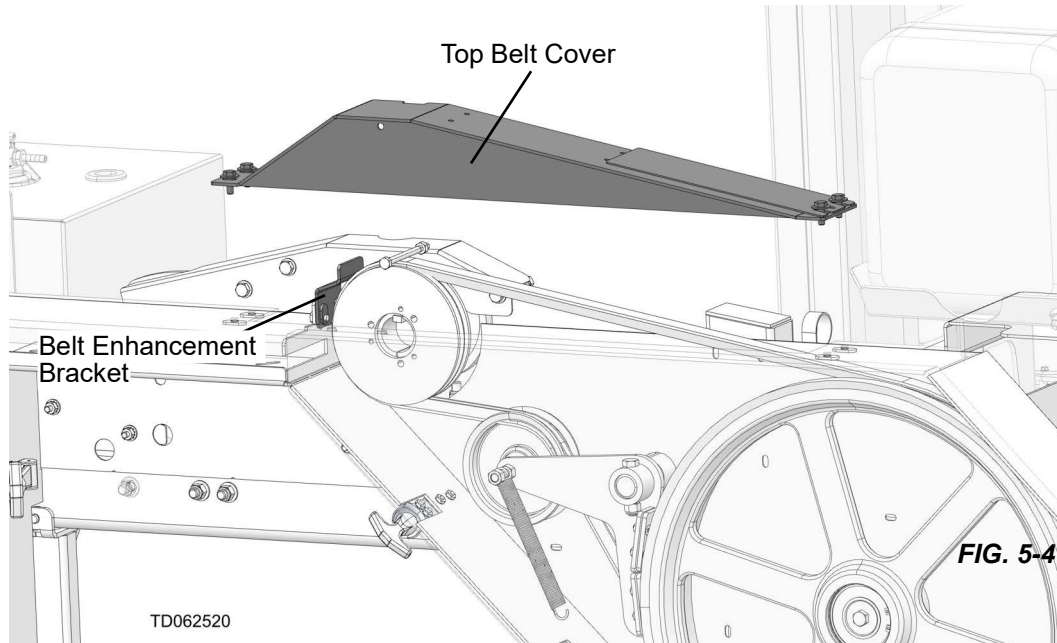


FIG. 5-3

1. Ensure the power is off.
2. Loosen the adjustment bolt.
3. Position the bracket so that the rod is close to, but does not touch, the drive belt with the clutch handle engaged. This is approximately 1/8-1/16" (3-1.5mm).
4. Retighten the adjustment bolt 25-27 pound feet (34-37 newton meters).

ADJUST THE BELT ENHANCEMENT BRACKET

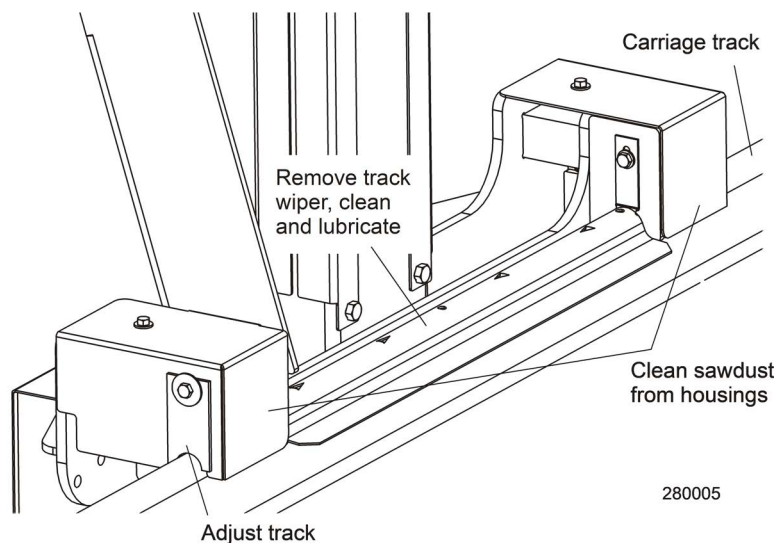
The belt enhancement bracket is designed to keep the drive belts seated in the grooves of the drive pulley when belts are not tensioned. **See Fig. 5-4.**



1. Ensure power is off.
2. Remove top belt cover.
3. Loosen (2) bracket mounting bolts.
4. Position bracket 1/16" - 1/8" away from belt while belt is engaged.
5. Retighten bracket mounting bolts.
6. Reinstall top belt cover.

ADJUST TRACK SCRAPERS

1. Check the track scrapers **as needed**. Make sure the scrapers fit firmly against the rail.
2. Loosen the screw.
3. Push the scraper downward until it fits firmly against the rail.
4. Retighten the screw.



5.10 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. If the key is turned on and moving parts activated, serious injury may result.

1. Adjust the up/down chain tension **as needed**.
2. Measure chain tension with the head all the way to the top of the vertical mast.
3. Secure the head with a chain at the top.
4. Find the chain adjusting bolt at the bottom of the mast.
5. Use the adjustment nuts to adjust the bolt until the center of the chain can be deflected 3/4" (1.9cm) forward *and* 3/4" (1.9cm) backward with a 5 lb. (2.3 Kg) deflection force.



WARNING! Always secure the saw head with a 5/16" chain with at least 1900 lbs. working load capacity before adjusting the up/down chain. The cutting head may fall, causing severe injury or death.

6. Turn the upper and lower adjustment nuts clockwise to tighten the up/down chain.
7. Turn the nuts counterclockwise to loosen the chain.
8. Retighten the adjustment nuts after tensioning the chain.

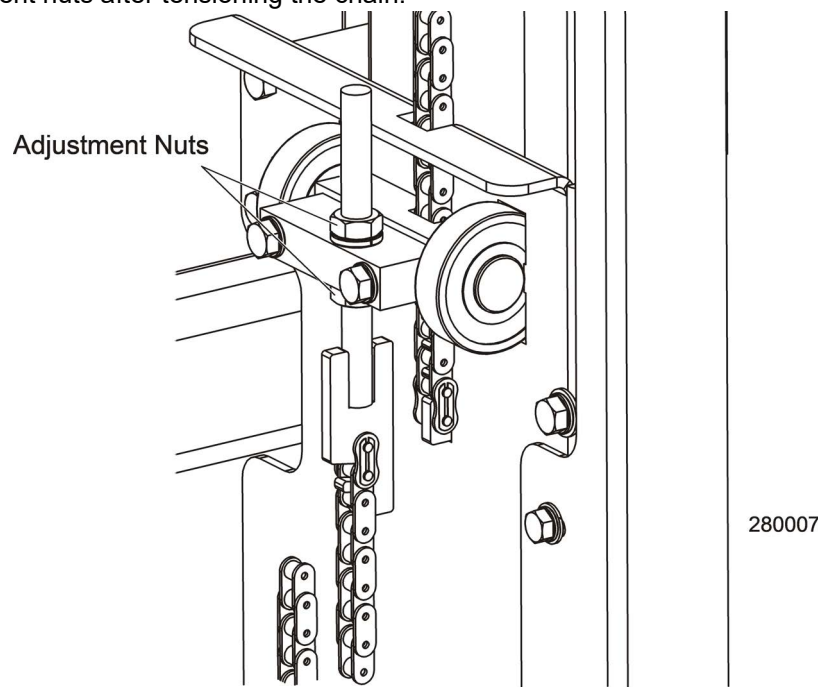


FIG. 5-6

The up/down system is equipped with a gas spring assist mechanism to provide improved speed and performance. The saw head must be secured and tension released from the assist assembly before performing any maintenance to assist components.

LIFT ASSIST CABLES

Check the up/down lift assist cables **daily** or between shifts for cuts, cracked coating, fraying, defective cables, or other hazards. Replace as necessary.

LIFT ASSIST



WARNING! Always secure the saw head with a 5/16" (8mm) chain with at least 1900 lbs. (860Kg) working load capacity before servicing the up/down assist. The cutting head may fall, causing severe injury or death.

Release pressure from the up/down assist prior to performing any service to the assembly. Failure to do so may result in the assembly flying apart, causing injury or damage to the equipment.

1. Raise the saw head all the way to the top of the mast and secure with a chain.
2. Locate the up/down assist tension assembly.
3. Disassemble the up/down chain and remove the chain from the upper chain sprocket.
4. Remove the two upper mounting bolts at the top of the assist assembly and lift the assembly from the mast tube.

NOTE: The assist assembly weighs approximately 70 lbs (32Kg). It is recommended two people lift the assembly from the mast. A hoist or some other mechanical method may also be used.

5. Once the assist assembly is removed, components may easily be disassembled and serviced as needed. Do not disassemble the gas spring cylinders.



WARNING! The gas spring cylinders are pressurized. Disassembly of cylinder may result in injury or damage to the cylinder.

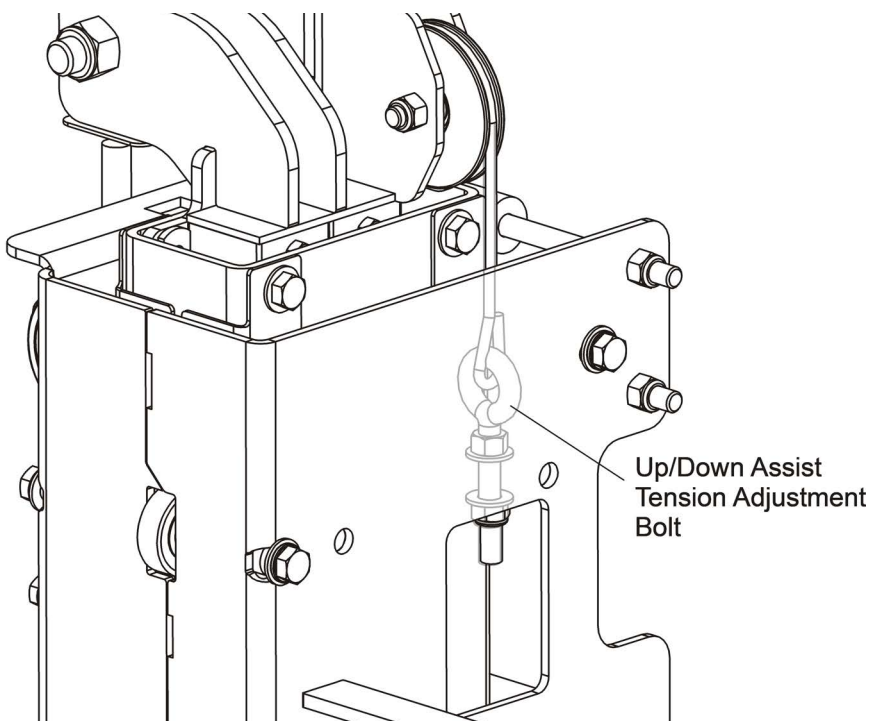


FIG. 5-7

6. When service is complete, reinstall the assist assembly in the reverse order of the disassembly procedure. Tighten the tension bolt all the way.

7. Lubricate the up/down crank handle bearings **every 200 hours** with a NLGI No. 2 grade lithium grease. Apply the grease to the fitting on the handle bracket tube

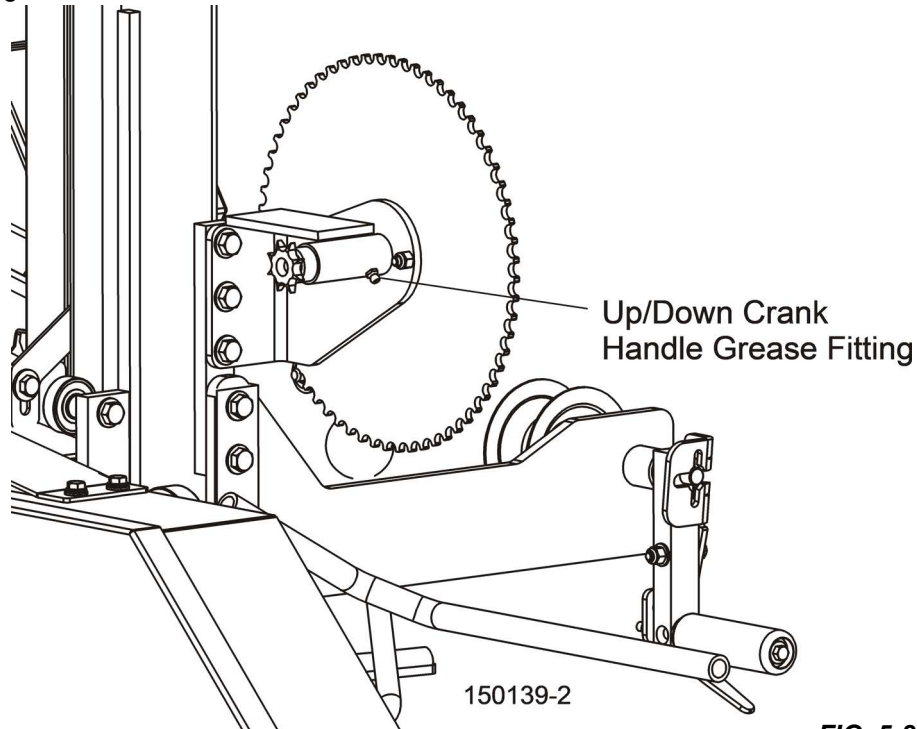


FIG. 5-8

5.11 Feed Rope



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.

1. Slip one end of the rope into the front rope mount plate. Tie a knot in the end of the feed rope.
2. Route the rope between the saw head carriage and bed frame tube.
3. Loop the rope clockwise around the lower double groove roller and route to the feed crank handle.

280040-1

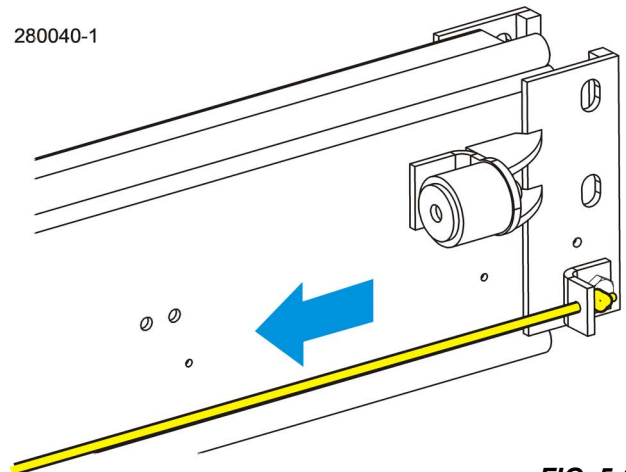
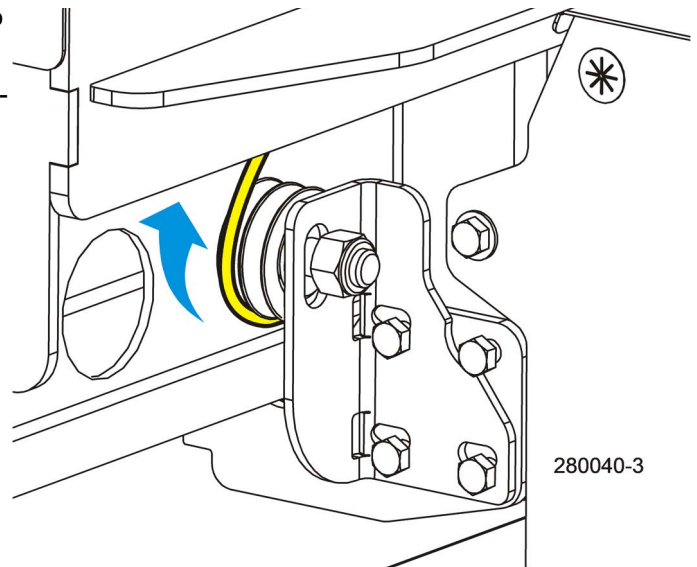


FIG. 5-9

4. Loop the feed rope around the lower roller groove closer to the bed frame tube.
5. Loop the rope counterclockwise around the feed crank pulley and route back down to the lower double groove roller.



280040-3

FIG. 5-10

6. Loop the feed rope around the feed crank pulley three times.

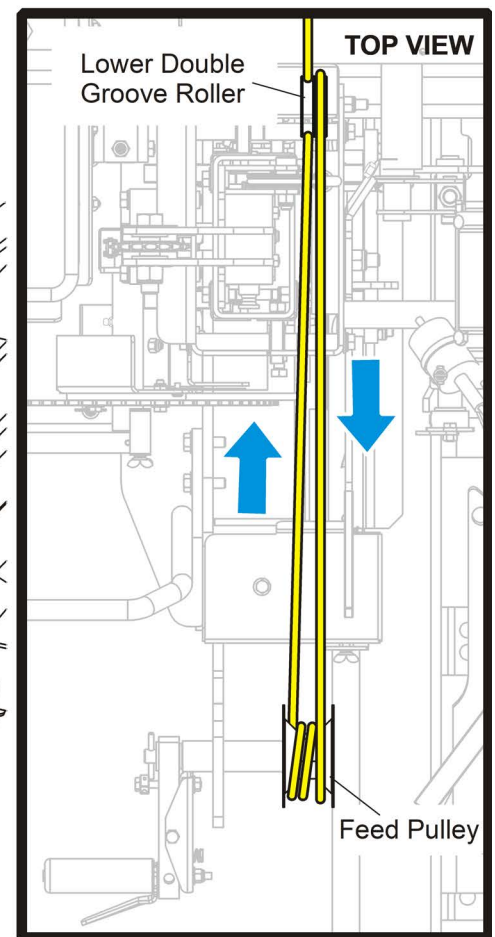
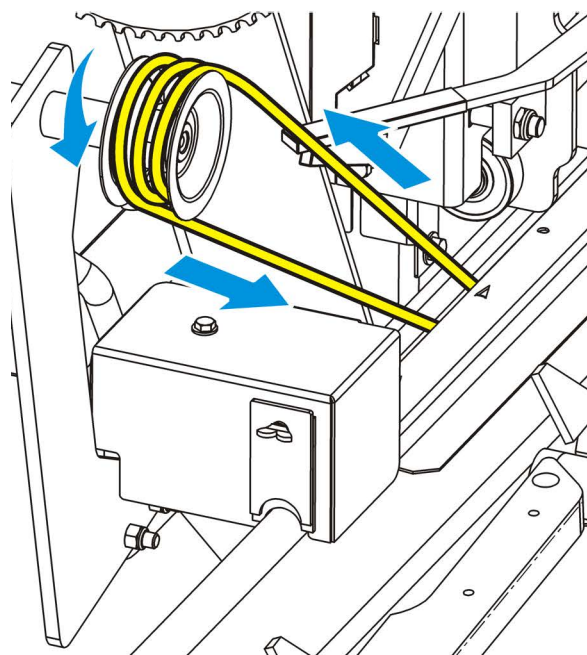
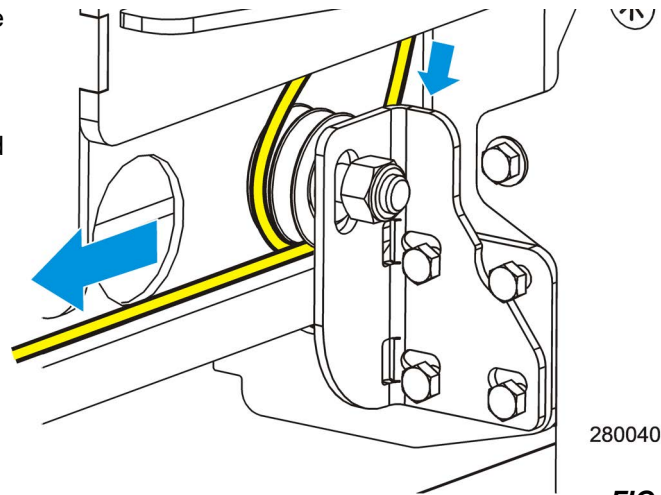


FIG. 5-11

7. Route the rope clockwise around the outer groove of the lower roller.
8. Route the rope to the rear end of the mill.
9. Slip the rope through one hole in the rope lock plate and the eye bolt.
10. Route the rope back and slip through the other hole in the lock plate.


FIG. 5-12

11. Tie a knot near the end of the rope.
12. Adjust the feed rope as needed.
13. Measure the feed rope tension with the saw head all the way toward the front of the mill.

280040-2

The middle of the rope should have 6-8" deflection. To tighten, pull the rope lock plate closer to the front end of the mill.

14.

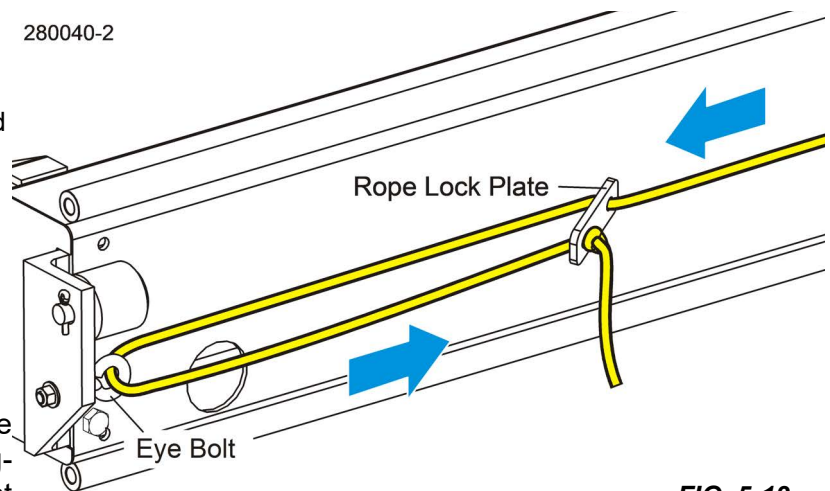
5.12 Charging the Battery



DANGER! Batteries expel explosive gases. Keep sparks, flames, burning cigarettes, or other ignition sources away at all times. Always wear safety goggles and a face shield when working near batteries. Failure to do so will cause serious injury.



WARNING! 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.


FIG. 5-13

Charge the battery in a well ventilated area. Do not attempt to charge a frozen battery.

Use extreme care to avoid spilling or splashing electrolyte (which is 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.

If electrolyte is spilled or splashed on any surface of the machine, it should be neutralized and rinsed with clean water.



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 battery box lid.
4. Clean the battery terminals if necessary.
5. Connect the positive charger/jumper cable directly to the positive battery terminal.
6. Connect the negative charger/jumper cable to a grounded metal surface.
7. Follow the instructions supplied with your specific battery charger.

NOTICE Do not 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.

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.

5.13 Maintenance Chart

MAINTENANCE LOG (Check <i>Engine And Option Manuals</i> for additional maintenance procedures)	MANUAL REFERENCE	MAINTENANCE INTERVAL
Clean sawdust from hydraulic loader fuses , battery box lid & track cover	See Section 5.3	8 hours
Clean and lubricate top/bottom track	See Section 5.4	8 hours
Check blade guide Block /roller wear	See Section 5.2	8 hours Every blade change
Remove excess sawdust from blade wheel housings and sawdust chute	See Section 5.3	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	See Section 5.2	25 Hours
Clean and lubricate upper track wiper	See Section 5.4	25 hours
Clean & lube mast rails	See Section 5.5	50 hours
Lubricate drum switches (Except DCS)	See Section 5.6	50 hours
Grease pivot points and bearings/oil chains	See Section 1.6	50 hours
Rotate drive/idle blade wheel belts/check for wear	See Section 5.7	50 hours
Inspect hydraulic lines & fittings	See Section 5.9	50 hours
Check belt tensions	See Section 1.10 See Section 5.11	50 hours
Check hydraulic fluid level	See Section 5.9	50 hours
Check feed & up/down chain tensions	See Section 5.11 See Section 5.12	50 hours
Check up/down & power feed gear box fluid levels	See Section 5.11 See Section 5.12	50 hours
Check brake pads	See Section 1.9	200 hours
Re-check belt tensions	See Section 1.10 See Section 5.11	200 hours
Check blade throat screw	See Section 5.2	500 hours
Replace hydraulic system filter	See Section 5.9	500 hours
Inspect hydraulic pump , power feed and up/down motor brushes	See Section 5.9 See Section 5.11 See Section 5.12	750 hours
Grease the Fine Adjust Outriggers (FAOs) every 200 hours of operation or once a month, whichever comes first.	See Section 5.18	200 hours

TABLE 5-0.

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. If the key is turned on and moving parts activated, serious injury may result.

PROBLEM	CAUSE	SOLUTION
Blades Dull Quickly	Dirty logs	Clean or debark logs, especially on entry side of the cut
	When grinding teeth, heating too much and causing teeth to soften	Grind just enough metal to restore sharpness to the teeth. Use water/coolant while sharpening blade
	Poor sharpening techniques	Make sure the tip is being sharpened completely (See Sharpener Manual)
Blades Break Prematurely	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
Sawdust Builds Up On Track	Tooth set problems	Resharpen and reset blade
	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

PROBLEM	CAUSE	SOLUTION
	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 Power Feed Problems

1. The saw head will not go forward or reverse:

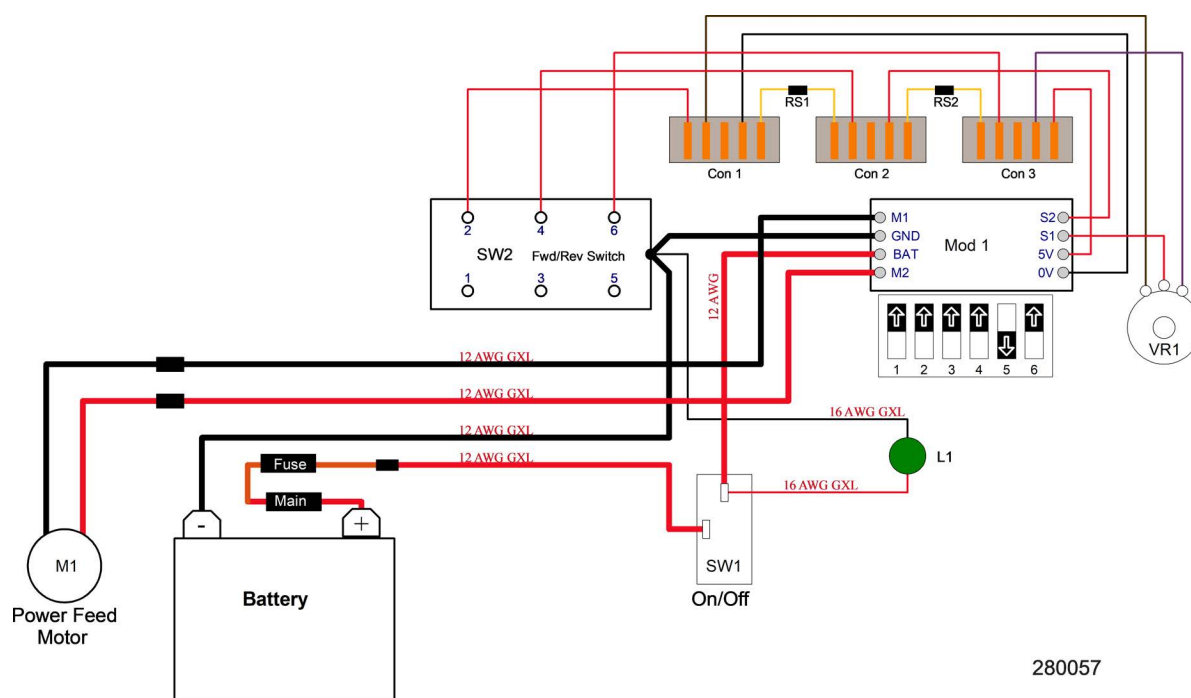


FIG. 6-1 POWER FEED DIAGRAM

- Check voltage across B+ (BAT) and B- (NEG) of the control board. Reading should be 12VDC.
- If there is no voltage, verify the toggle switch is in the on position and 12VDC is present on both terminals.
- If 12VDC is good, check voltage across 0V and 5V terminals. Reading should be 5VDC.
- If there is no voltage or low voltage, replace the control board (057829-FR).
- If 5VDC is good, with the drum switch in the neutral position, check voltage across the drum switch terminals 2 and 6. Reading should be 5VDC.
- If there is no voltage, check for broken finger or bad connections from the drum switch terminals 2 and 6 to the control board.
- If 5VDC is good, check voltage across the drum switch terminals 2 and 4. Reading should be 2.5VDC.
- If there is no voltage, check for broken drum switch finger or bad connections from the drum switch terminals 2 and 4 to the control board.
- If 2.5VDC is good, with the drum switch in the neutral position, check voltage on S2 of the control board. Voltage should be 2.5VDC.
- If there is no voltage, check connections between CON2 and the control board.

- If 2.5VDC is good, put the drum switch in reverse. Check voltage on S2 terminal. Reading should be 5.0VDC.
 - If there is no voltage, check connections between CON2 and the control board.
 - If 5VDC is good, check voltage across the M1 and M2 terminals of the control board. Reading should be 12VDC.
 - If there is no voltage, replace the control board (057829-FR).
 - If 12VDC is good, check connections at the power feed motor and motor.
2. The saw head will not go in reverse:
- Put the drum switch in reverse. Check voltage on S2 terminal. Reading should be 5.0VDC.
 - If there is no voltage, check connections between CON2 and the control board.
 - If 5VDC is good, check voltage across the M1 and M2 terminals of the control board. Reading should be 12VDC.
 - If there is no voltage, replace the control board (057829-FR).
 - If 12VDC is good, check connections at the power feed motor and motor.
3. The saw head will not go forward:
- Put the drum switch in forward. Check voltage on S2 terminal. Reading should be 0VDC.
 - If voltage is shown, check connections between CON2 and the control board.
 - If 0VDC is good, check voltage on the S1 terminal of the control board. As you turn the variable feed switch from slow to fast the voltage reading should go from 0VDC to 5VDC.
 - If there is no voltage, Check the variable feed switch function.
 - If 0VDC to 5VDC is good, check voltage across the M1 and M2 terminals of the control board. Using a test light, it should get dim to bright as you turn the variable feed switch from slow to fast.
 - If there is no variation, replace the control board (057829-FR).
 - If variation is good, check connections at the power feed motor and motor.

SECTION 7 SAWMILL ALIGNMENT

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

7.1 Routine Alignment Procedure

BLADE INSTALLATION

1. Remove the blade and check the blade wheel belts. Remove any sawdust buildup from the surface of the belts. Replace worn belts if they do not keep the blade from contacting the blade wheel.
2. Install a clean blade and apply the appropriate tension ([See Section 3.4](#)).
3. Adjust the idle-side cant control to track the blade ([See Section 3.5](#)).
4. Close the blade housing cover and make sure all persons are clear of the saw head.
5. Start the engine.
6. 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.

7. Disengage the blade. Turn the engine off.

SAW HEAD TILT

As the blade enters a wide log or cant, the outside of the saw head will drop down slightly. To compensate for the drop, the saw head is adjusted 1/16" (1.5 mm) higher at the outside.

1. Move the saw carriage so the blade is positioned over a bed rail. Adjust the blade guide arm to 1/2" (15 mm) from full open.
2. 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.

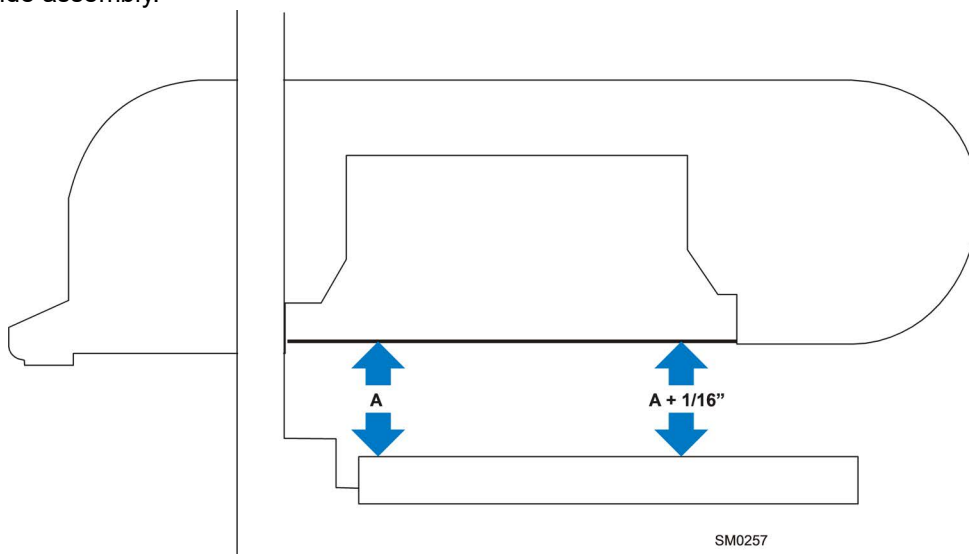


FIG. 7-1

3. Measure from the blade to the bed rail near the outer blade guide assembly.

This measurement should be 1/16" (1.5 mm) higher than the inner measurement or 14 13/16" (376.5 mm). **See FIG. 7-1**

4. To adjust the saw head tilt, use the horizontal adjustment nuts. To raise the outside of the saw head, tighten the two adjustment nuts.
5. Recheck the measurement from the blade to the bed rails and adjust the horizontal adjustment nuts until the outside of the saw head is 1/16" (1.5mm) higher than the inside.

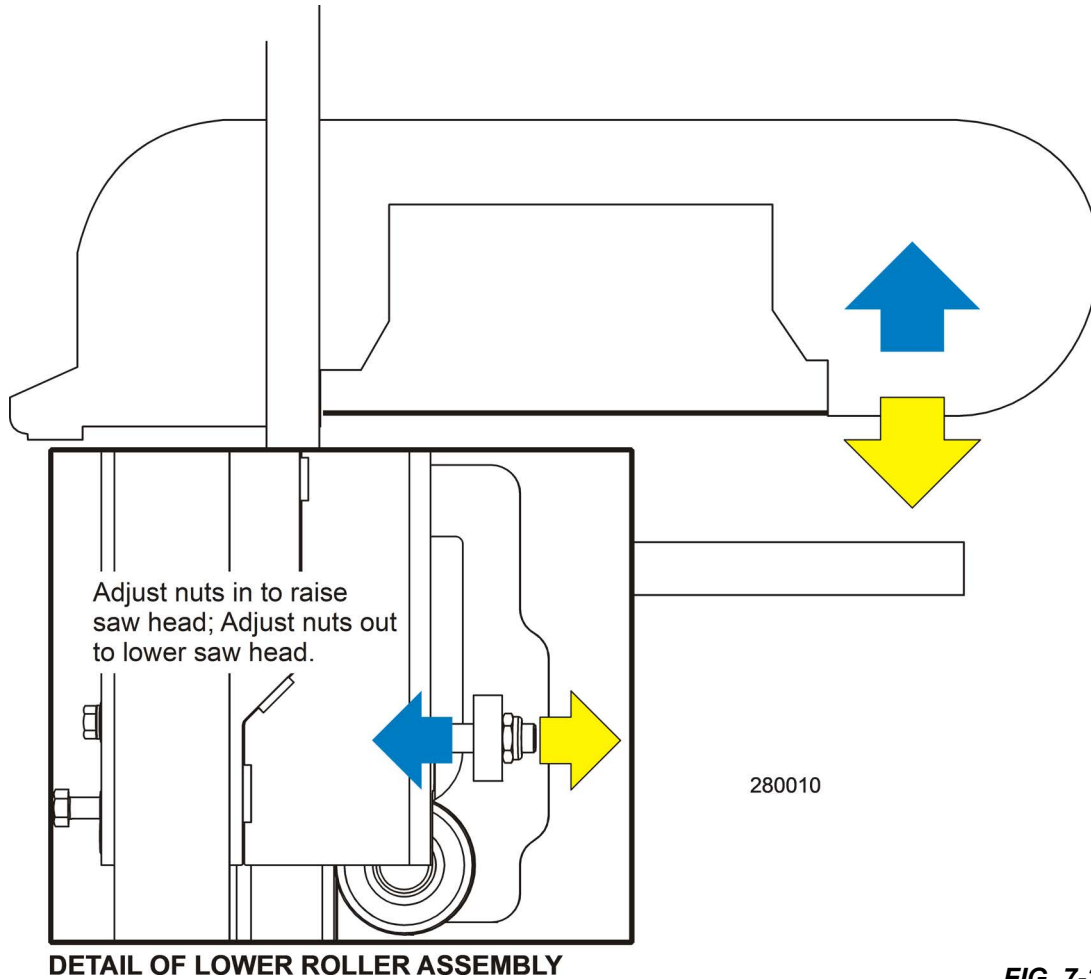


FIG. 7-2

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 out to 1/2" (13 mm) from fully open.

Use the inside top and bottom screws to adjust the arm up until the slide pad touches the saw head brace tube. Tighten the jam nuts.

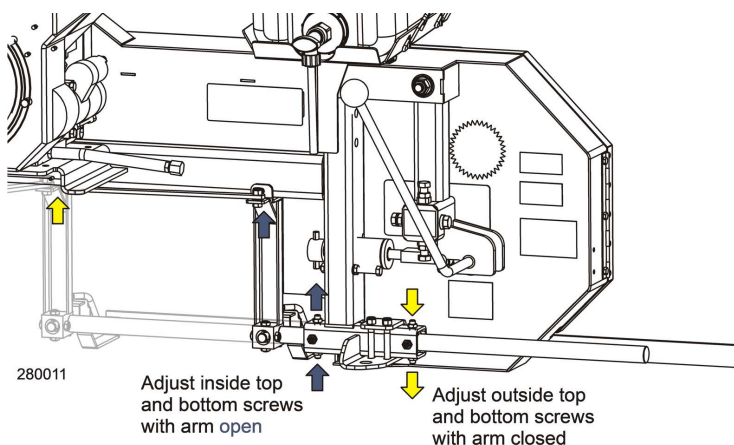


FIG. 7-3

2. Adjust the blade guide arm in all the way toward the other blade guide.
3. Use the outside top and bottom screws to adjust the arm up until the slide pad touches the saw head brace tube. Tighten the jam nuts.

NOTE: When adjusting the blade guide arm screws, be careful not to tighten the screws too much or put the arm in a bind. Operate the blade guide arm to ensure the arm moves easily in and out.

4. With the blade guide arm still all the way in toward the other blade guide, tighten all the side screws until they touch the arm.
5. Back the screws off 1/4 turn and tighten the jam nuts.

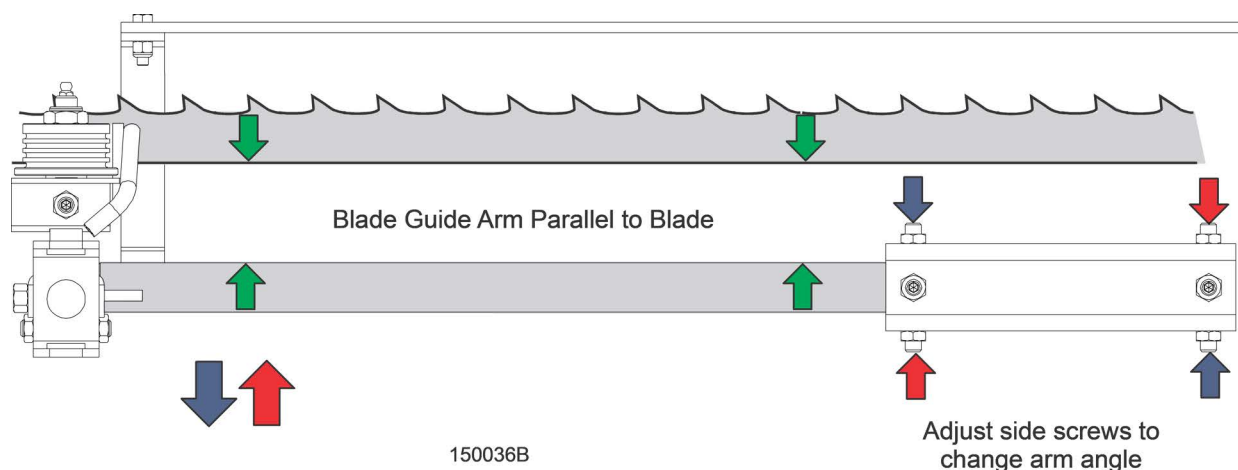


FIG. 7-4

6. Measure the distance between the blade guide arm and back edge of the blade.
7. Adjust the appropriate side screws on the blade guide arm housing so the arm measures the same distance from the blade at both ends of the arm.
8. To move the blade guide end of the arm toward the front of the sawmill:
 - Loosen jam nuts on the front inside screw and the rear outside screw.
 - Turn the screws counterclockwise one full turn and tighten the jam nuts.
 - Loosen the jam nuts on the front outside screw and the rear inside screw.
 - Turn the screws clockwise until they touch the arm, back off 1/4" turn, and tighten the jam nuts.
9. To move the blade guide end of the arm toward the rear of the sawmill:
 - Loosen jam nuts on the front outside screw and the rear inside screw.
 - Turn the screws counterclockwise one full turn and tighten the jam nuts.
 - Loosen the jam nuts on the front inside screw and the rear outside screw.
 - Turn the screws clockwise until they touch the arm, back off 1/4" turn, and tighten the jam nuts.

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.

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

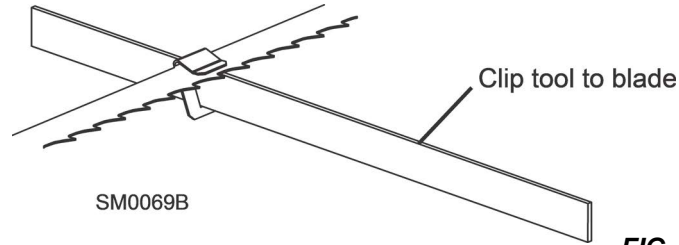


FIG. 7-5

3. Move 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.
6. Measure the distance from the bed rail to the bottom edge of the tool.
7. 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.
8. Loosen one set screw at the side of the blade guide assembly.
9. Loosen the jam nuts on the top and bottom vertical tilt adjustment screws.
 - To tilt the roller up, loosen the bottom screw and tighten top screw.
 - To tilt the roller down, loosen the top screw and tighten the bottom screw.
10. Tighten the jam nuts and recheck the tilt of the blade.

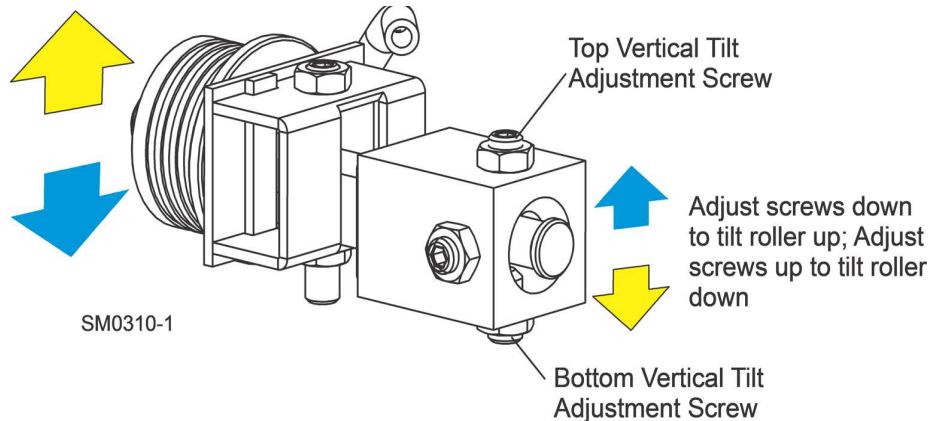


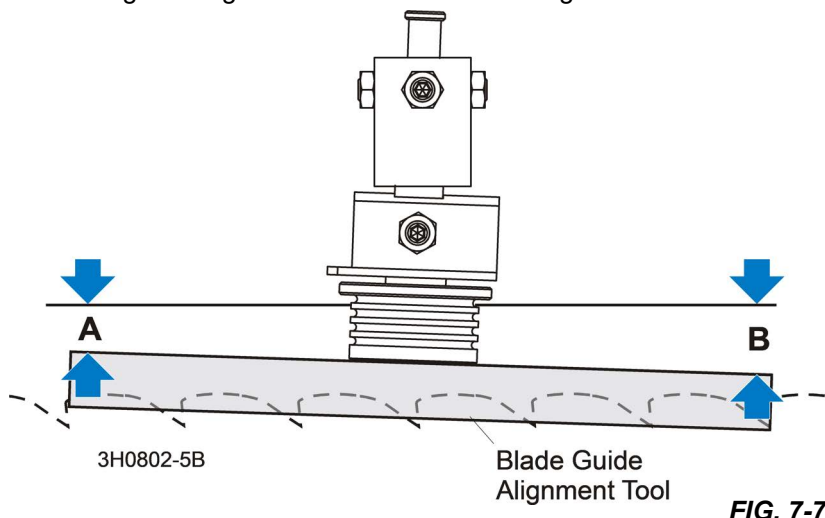
FIG. 7-6

11. Move the blade guide alignment tool close to the inner blade guide roller assembly and repeat the above steps.
12. 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.

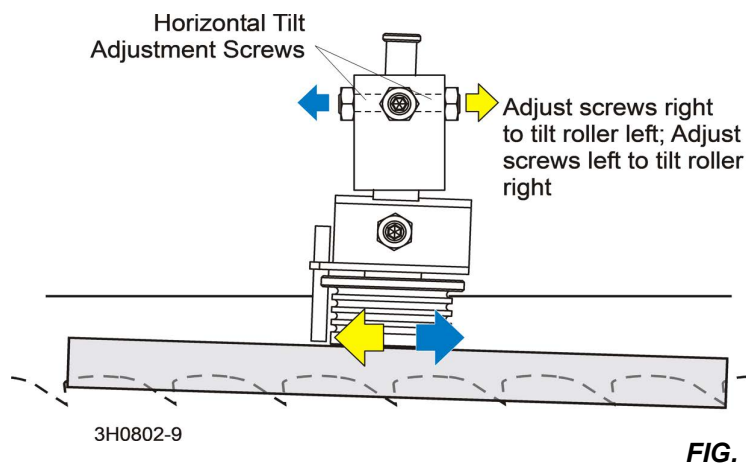
1. Remove the blade guide alignment tool from the blade and adjust the blade guide arm halfway in.
2. Remove the clip from the blade guide alignment tool. Place the tool against the face of the outer blade guide roller.



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

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

5. Loosen the jam nuts on the horizontal tilt adjustment screws.
 - To tilt the roller left, loosen the right screw and tighten left screw.
 - To tilt the roller right, loosen the left screw and tighten the right screw.
6. Tighten the jam nuts and recheck the tilt of the blade.



7. 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 the outer blade guide roller to the back edge of the blade. This distance should measure 1/8" (3.0 mm). Adjust the roller back or forward if necessary.
2. Loosen the top and one side screw shown.
3. Tap the blade guide forward or backward until properly positioned.
4. Retighten the screws and jam nuts.

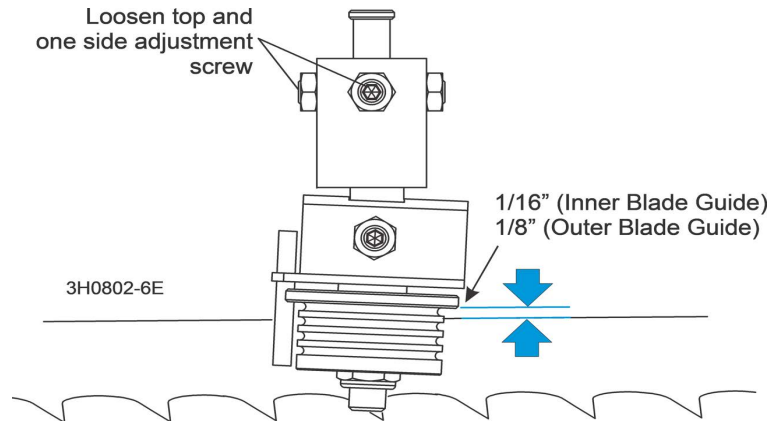


FIG. 7-9

5. Measure the distance between the flange on the inner blade guide roller to the back edge of the blade. This distance should measure 1/16" (1.5 mm). Adjust the roller back or forward if necessary.

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.

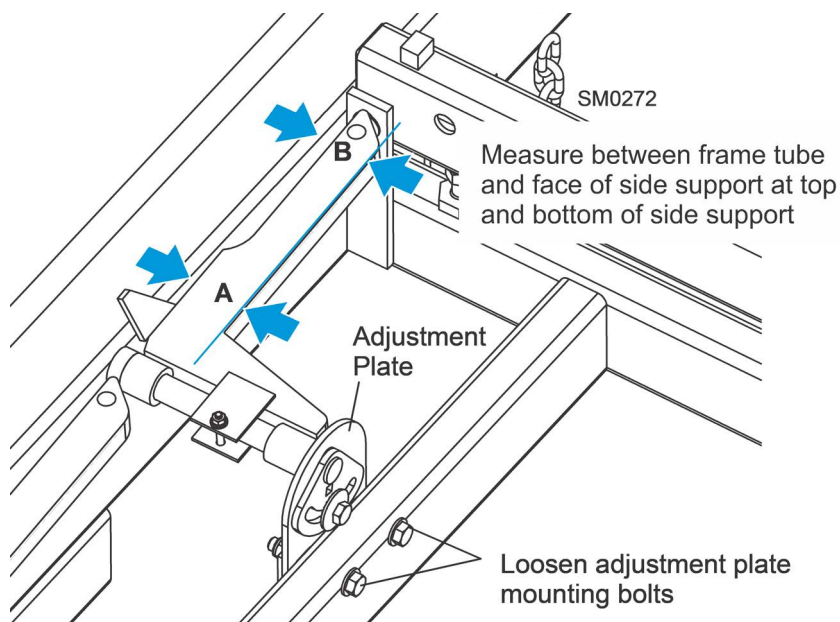


FIG. 7-10

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. Swing a side support up so that it is vertical.
8. Pull back at the top of the support to eliminate slack as if a log were 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). Adjust the vertical tilt of the side support if necessary.

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

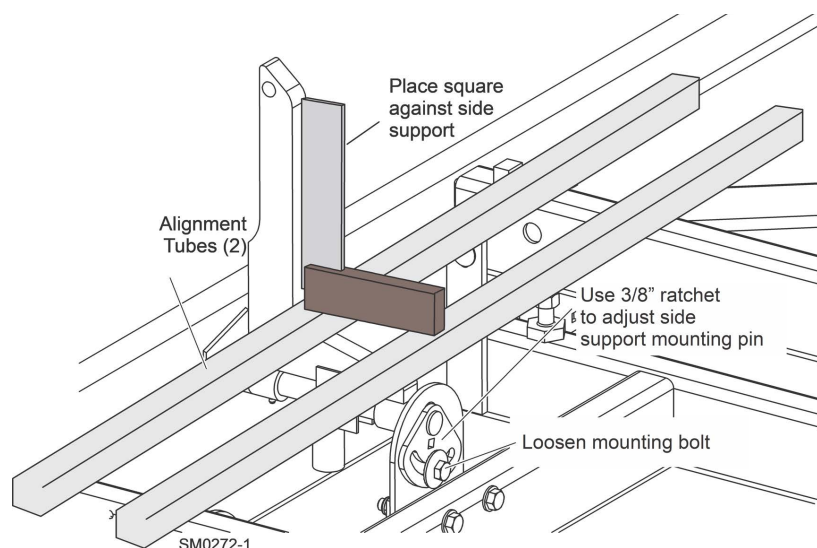


FIG. 7-11

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]). Retighten the bracket mounting bolts.

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

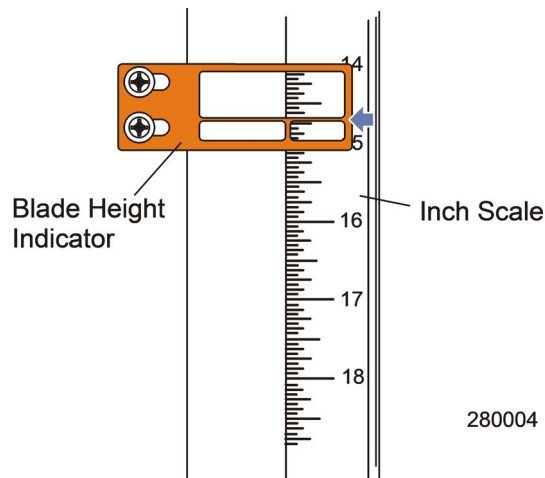


FIG. 7-12

7.2 Complete Alignment Procedure

FRAME SETUP

Before performing the following alignment procedures, setup the mill on firm, level ground.

1. If your sawmill is stationary, with no trailer axle, shim the feet so the weight of the sawmill is evenly supported.
2. If your sawmill has a trailer axle and adjustable outriggers, adjust the outriggers as follows:
3. Adjust the two outriggers on the main frame tube down just enough to lift weight from the trailer tire.
4. Adjust the two outer outriggers down just so they touch the ground but do not bear weight.

[See SECTION 3](#) for additional setup information.

BLADE INSTALLATION

1. Remove the blade and replace the blade wheel belts. New blade wheel belts are required to perform the complete alignment procedure.
2. Blow sawdust off of the blade guide assemblies. Remove sawdust from the blade housings.
3. Remove the blade guide assemblies.

NOTE: To remove the blade guide assemblies and maintain the tilt adjustments, only loosen one side screw and the top screw. Leaving the other side screw and bottom screw in position will insure you will return the rollers to their original tilt adjustment.

4. Adjust the outer blade guide arm in or out until the outer blade guide is approximately 24" from the inner blade guide.
5. Install a new blade and apply the appropriate tension ([See Section 3.4](#)).
6. Close the blade housing cover and make sure all persons are clear of the saw head.
7. Start the engine.
8. 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.

9. Disengage the blade. Turn the engine off.

BLADE WHEEL ALIGNMENT

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

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

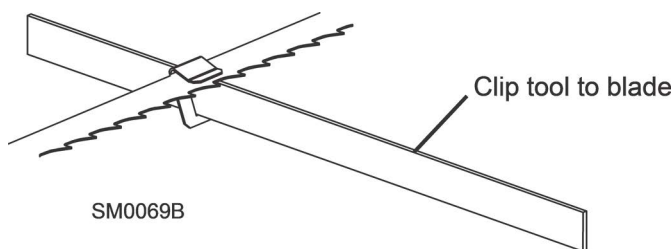


FIG. 7-13

2. Move the saw carriage so the front end of the tool is positioned over the first bed rail.
3. Measure from the bottom of the tool to the top surface of the bed rail.
4. Move the saw carriage so the rear of the tool is positioned over the bed rail.
5. Measure from the bottom of the tool to the bed rail.
6. If the two measurements differ by more than 1/16" (1.5 mm), adjust the vertical tilt of the drive-side blade wheel.

Use the vertical adjustment screws to adjust the drive-side blade wheel.

1. To tilt the wheel down:
 - Loosen the top adjustment screw one quarter turn.
 - Loosen the jam nut on the bottom adjustment screw and tighten the screw.
 - Tighten the top and bottom jam nuts.
2. To tilt the wheel up:
 - Loosen the bottom adjustment screw one quarter turn.
 - Loosen the jam nut on the top adjustment screw and tighten the screw.
 - Tighten the top and bottom jam nuts.

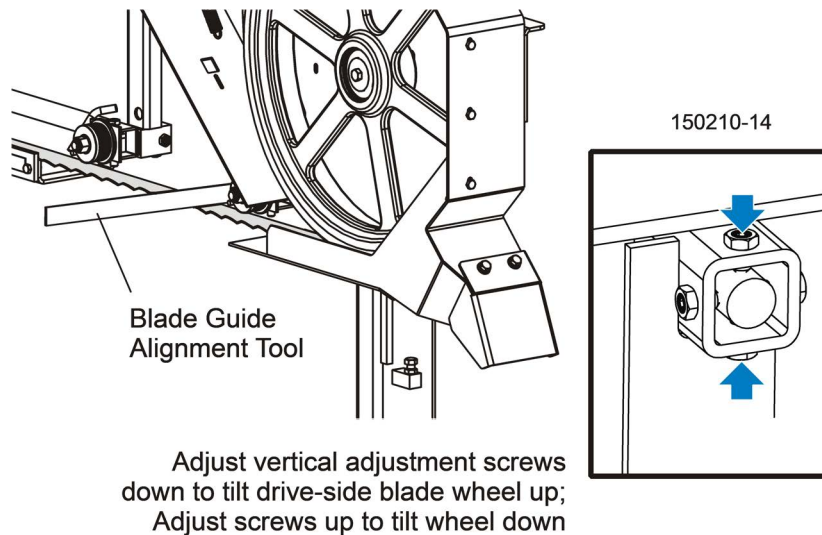


FIG. 7-14

3. Recheck the vertical tilt of the drive-side blade wheel with the blade guide alignment tool. Readjust the blade wheel as necessary until the front and rear of the tool are the same distance from the bed rail (within 1/16" [1.5 mm]).
4. Remove the tool from the blade and reattach it near the outer blade guide assembly.
5. Measure from the tool to the bed rail at both ends of the tool. If the measurements at the front and rear ends of the tool differ by more than 1/16" (1.5 mm), adjust the vertical tilt of the idle-side blade wheel.

Use the vertical adjustment screws to adjust the idle-side blade wheel.

1. To tilt the wheel up:
 - Loosen the bottom adjustment screw one quarter turn.
 - Loosen the jam nut on the top adjustment screw and tighten the screw.
 - Tighten the top and bottom jam nuts.
2. To tilt the wheel down:
 - Loosen the top adjustment screw one quarter turn.
 - Loosen the jam nut on the bottom adjustment screw and tighten the screw.
 - Tighten the top and bottom jam nuts.

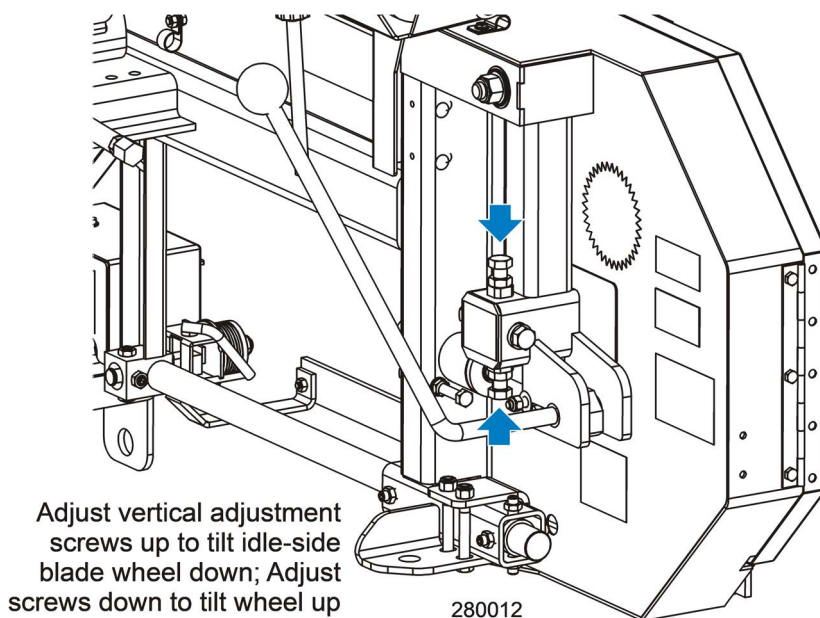


FIG. 7-15

3. Recheck the vertical tilt of the idle-side blade wheel with the blade guide alignment tool. Readjust the blade wheel as necessary until the front and rear of the tool are the same distance from the bed rail (within $1/16"$ [1.5 mm]).
4. Check the position of the blade on the idle-side blade wheel.

The horizontal tilt of the blade wheel should be adjusted so that the gullet of an 1-1/4" blade is 1/8" (3 mm) out from the front edge of the wheel ($\pm 1/32"$ [0.75 mm]).

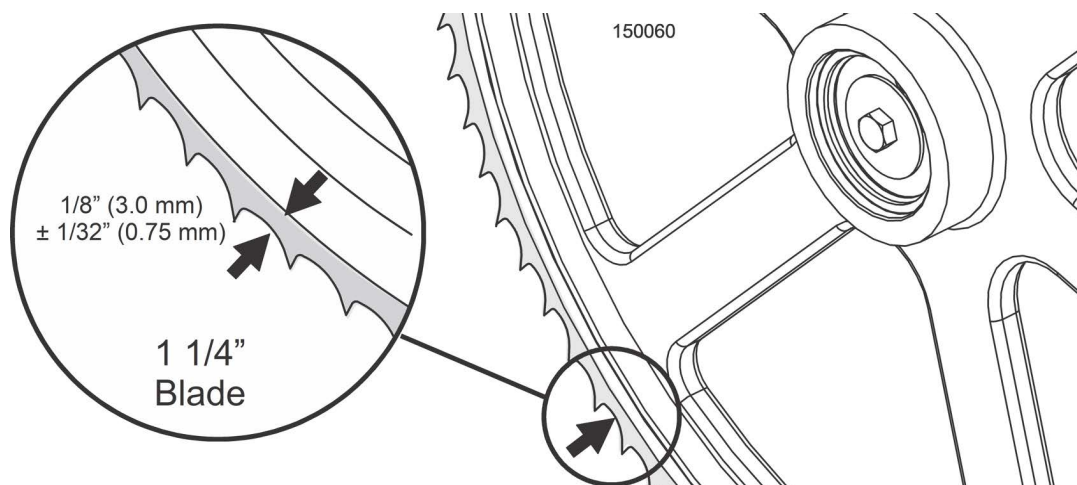


FIG. 7-16

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

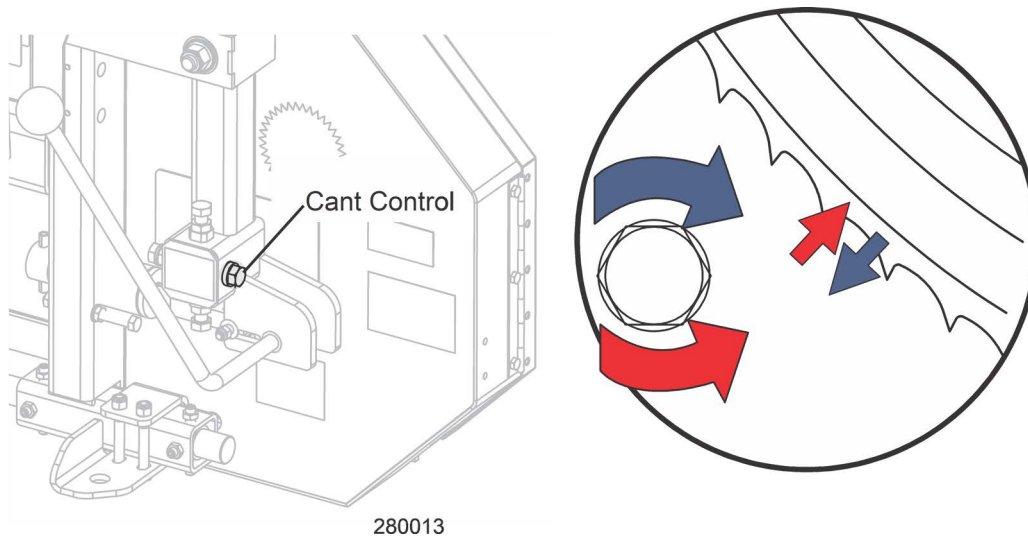


FIG. 7-17

2. Check the position of the blade on the drive-side blade wheel. The blade should be positioned on the wheel as described for the idle-side blade wheel. Adjust the drive-side blade wheel if necessary.
3. Use the horizontal adjustment screws to adjust the drive-side blade wheel.
4. To move the blade back on the wheel:
 - Loosen the right adjustment screw one quarter turn.
 - Loosen the jam nut on the left adjustment screw and tighten the screw.
 - Tighten the left and right jam nuts.
5. To move the blade out on the wheel:
 - Loosen the left adjustment screw one quarter turn.
 - Loosen the jam nut on the right adjustment screw and tighten the screw.
 - Tighten the left and right jam nuts.

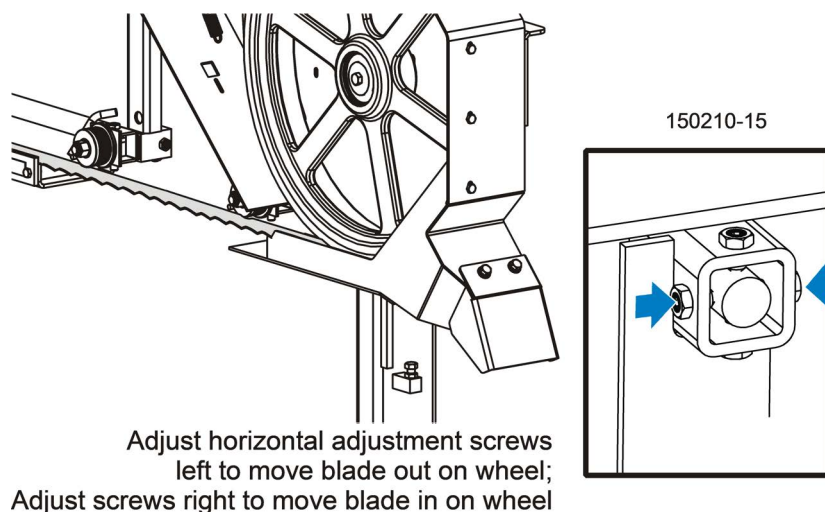


FIG. 7-18

To adjust the saw head tilt, use the horizontal adjustment nuts.

1. To raise the outside of the saw head, tighten the two adjustment nuts.
2. Recheck the measurement from the blade to the bed rails and adjust the horizontal adjustment nuts until the outside of the saw head is 1/16" (1.5mm) higher than the inside.

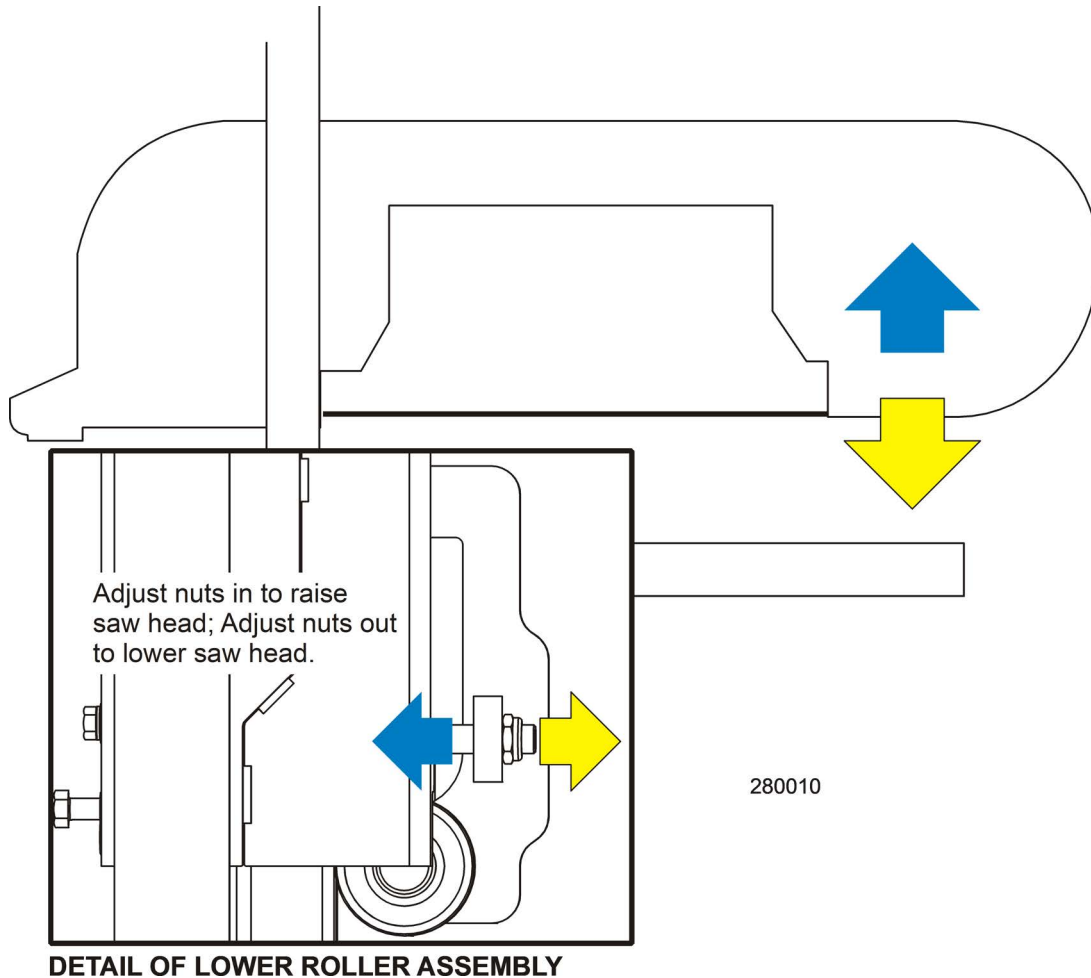


FIG. 7-19

BED RAIL ADJUSTMENT

1. Install the log clamp at its lowest setting in a hole where the clamp is positioned 10" (254mm) from the clamp stop (fourth hole from stop).
2. Move the saw head until the blade is centered over the clamp.

3. Raise the saw head until the blade measures 14 1/2" (360 mm) from the top of the clamp. Use a rule to determine the actual distance of the blade to the clamp.

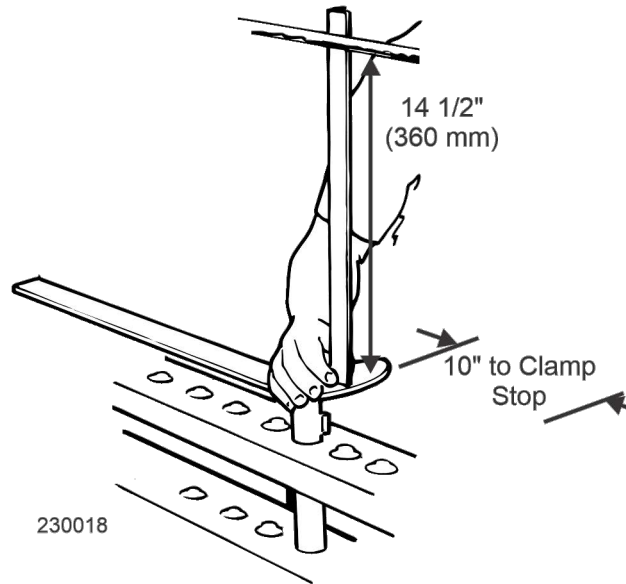


FIG. 7-20

4. Adjust the front pivot rail 90° to the main bed tube.
5. Move the saw head to center the blade over the front pivot bed rail.
6. Measure the distance from the top of the pivot rail to the bottom of the blade. Make this measurement at each end of the pivot rail.

NOTE: The two measurements should be 15" (375 mm).

7. Loosen the locking set screws and turn the inner height adjustment nut to adjust the height of the inner end of the pivot rail.
8. Loosen the jam nut and turn the outer adjustment bolt to adjust the height of the outer end of the pivot rail.

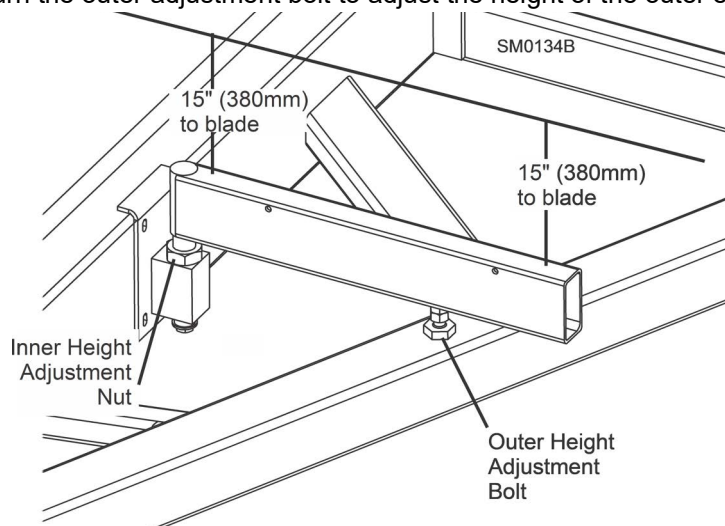


FIG. 7-21

9. Move the saw head so the blade is positioned over the center of the front main bed rail.
10. Measure the distance between the bottom of the blade and the bed rail at each end of the bed rail. The bed rail should measure 15" (375 mm) from the blade at each end of the rail.
11. Loosen the bed rail clamping bolts and turn the adjustment bolts to move the bed rails to the blade if necessary.

12. Retighten the clamping bolts and adjustment bolt jam nuts.

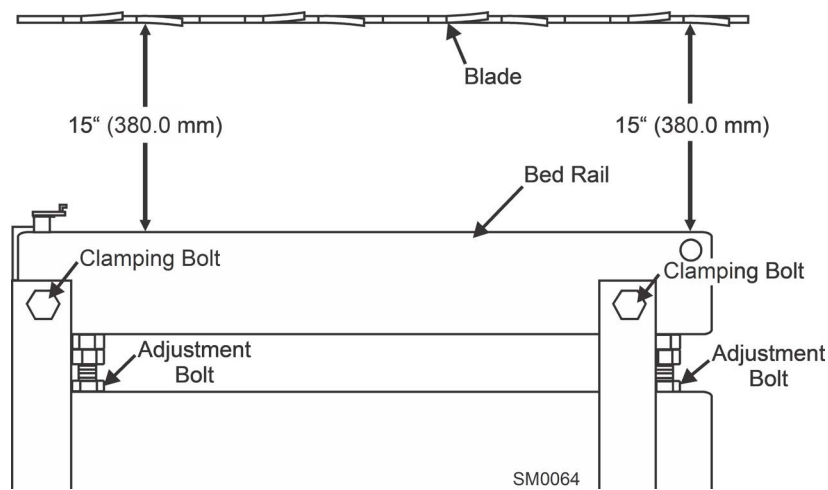


FIG. 7-22

13. Without adjusting the saw head height, check the three remaining main bed rails and the rear pivot rail. Adjust them so that all measure the same distance from the blade at both ends of the bed rail.

BLADE GUIDE INSTALLATION

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

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

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

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

1. Install the outer blade guide assembly (with waterlube tube) to the mounting block on the blade guide arm. Position the assembly so the roller flange is 1/8" (3.0 mm) from the blade.
2. Install the inner blade guide assembly to the mounting block on the saw head. Position the assembly so the roller flange is 1/16" (1.5 mm) from the blade.
3. Tighten the two previously-loosened tilt adjustment screws to secure the blade guide assembly.
4. Loosen the top vertical adjustment jam nut and tighten the bottom vertical adjustment jam nut to adjust the blade guide roller up so it does not touch the blade.

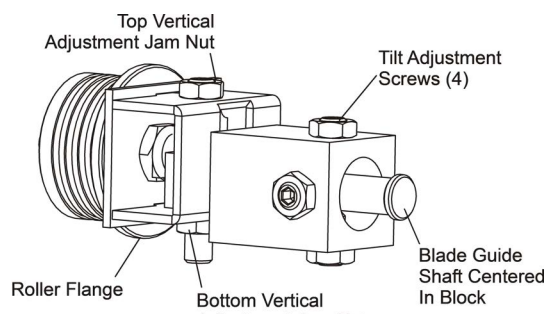


FIG. 7-23

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 out to 1/2" (13 mm) from fully open.
2. Use the inside top and bottom screws to adjust the arm up until the slide pad touches the saw head brace tube.
3. Tighten the jam nuts.

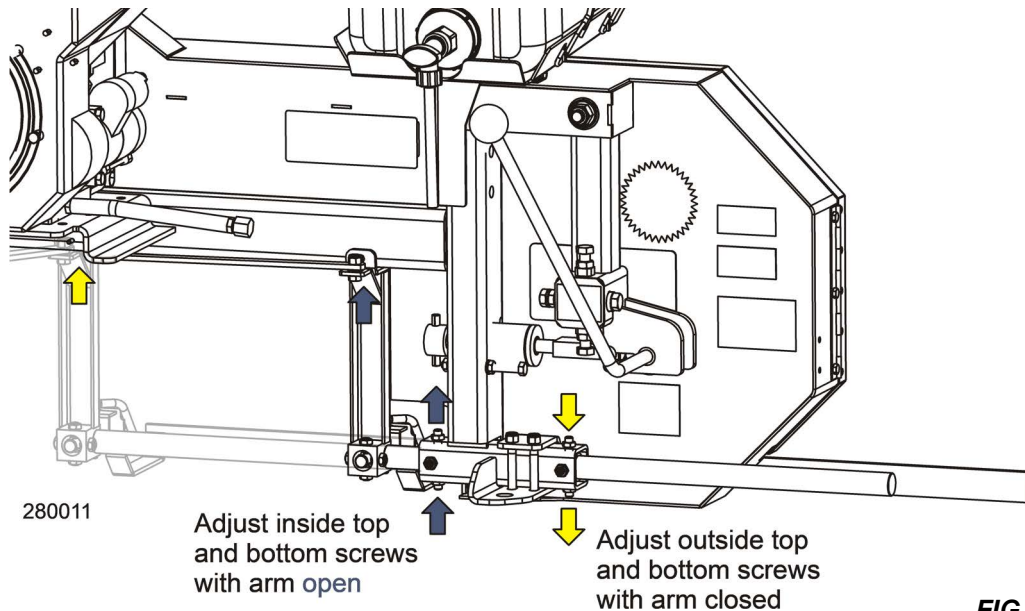


FIG. 7-24

4. Adjust the blade guide arm in all the way toward the other blade guide.
5. Use the outside top and bottom screws to adjust the arm up until the slide pad touches the saw head brace tube. Tighten the jam nuts.

NOTE: When adjusting the blade guide arm screws, be careful not to tighten the screws too much or put the arm in a bind. Operate the blade guide arm to ensure the arm moves easily in and out.

6. With the blade guide arm still all the way in toward the other blade guide, tighten all the side screws until they touch the arm.
7. Back the screws off 1/4 turn and tighten the jam nuts.

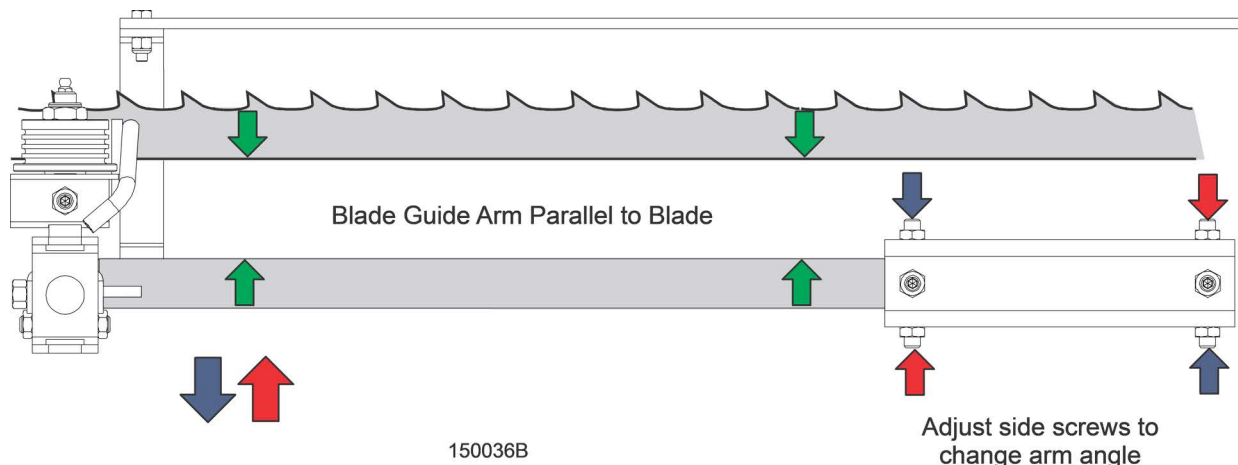


FIG7-25

8. Measure the distance between the blade guide arm and back edge of the blade. Adjust the appropriate side screws on the blade guide arm housing so the arm measures the same distance from the blade at both ends of the arm.
9. To move the blade guide end of the arm toward the front of the sawmill:
 - Loosen jam nuts on the front inside screw and the rear outside screw.
 - Turn the screws counterclockwise one full turn and tighten the jam nuts.
 - Loosen the jam nuts on the front outside screw and the rear inside screw.
 - Turn the screws clockwise until they touch the arm, back off 1/4" turn.
 - Tighten the jam nuts.
10. To move the blade guide end of the arm toward the rear of the sawmill:
 - Loosen jam nuts on the front outside screw and the rear inside screw.
 - Turn the screws counterclockwise one full turn and tighten the jam nuts.
 - Loosen the jam nuts on the front inside screw and the rear outside screw.
 - Turn the screws clockwise until they touch the arm, back off 1/4" turn.
 - Tighten the jam nuts.

BLADE GUIDE DEFLECTION

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

Make sure the two vertical adjustment set screws are threaded into the blade guide shaft until they touch each other.

2. Loosen the bottom jam nut and tighten the top jam nut until the blade guide deflects the blade down until the bottom of the blade measures 14 3/4" (370 mm) from the bed rail.

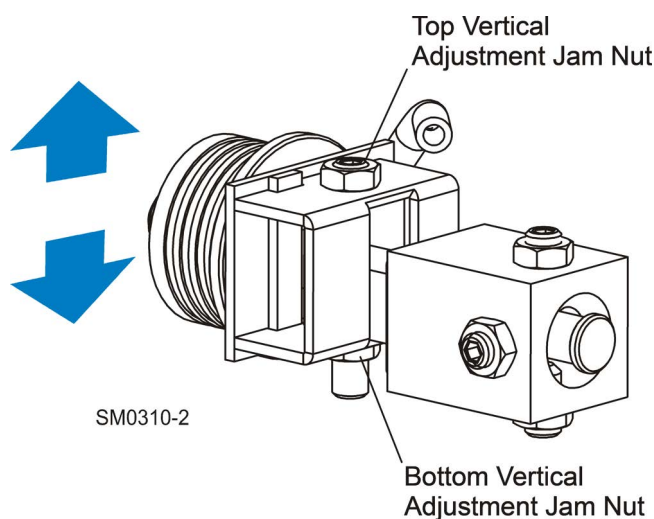


FIG. 7-26

3. Repeat for the other blade guide.

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

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

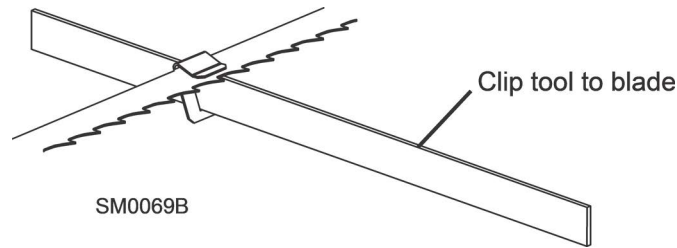


FIG. 7-27

3. Move 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.
6. Measure the distance from the bed rail to the bottom edge of the tool.
7. 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.
8. Loosen one set screw at the side of the blade guide assembly.
9. Loosen the jam nuts on the top and bottom vertical tilt adjustment screws.
10. To tilt the roller up, loosen the bottom screw and tighten top screw.
11. To tilt the roller down, loosen the top screw and tighten the bottom screw.
12. Tighten the jam nuts and recheck the tilt of the blade.

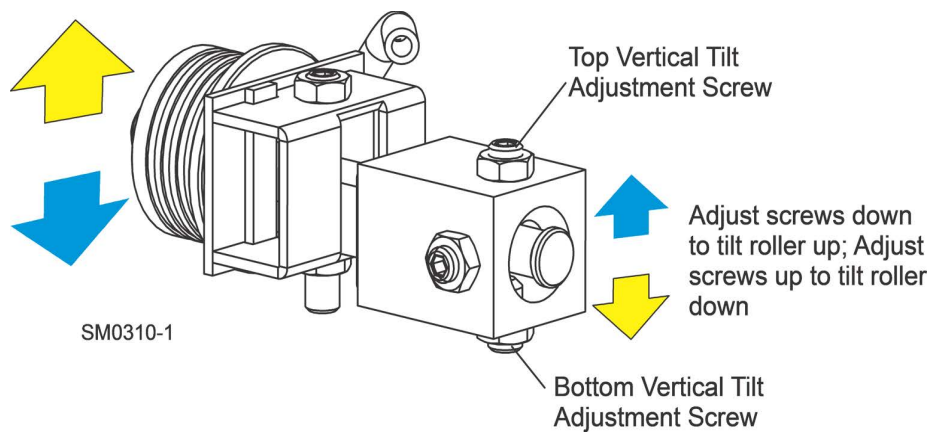


FIG. 7-28

13. Move the blade guide alignment tool close to the inner blade guide roller assembly and repeat the above steps.
14. Adjust the vertical tilt of the inner blade guide if necessary.
15. After adjusting the vertical tilt of the blade guides, recheck the blade deflection and adjust 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.

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

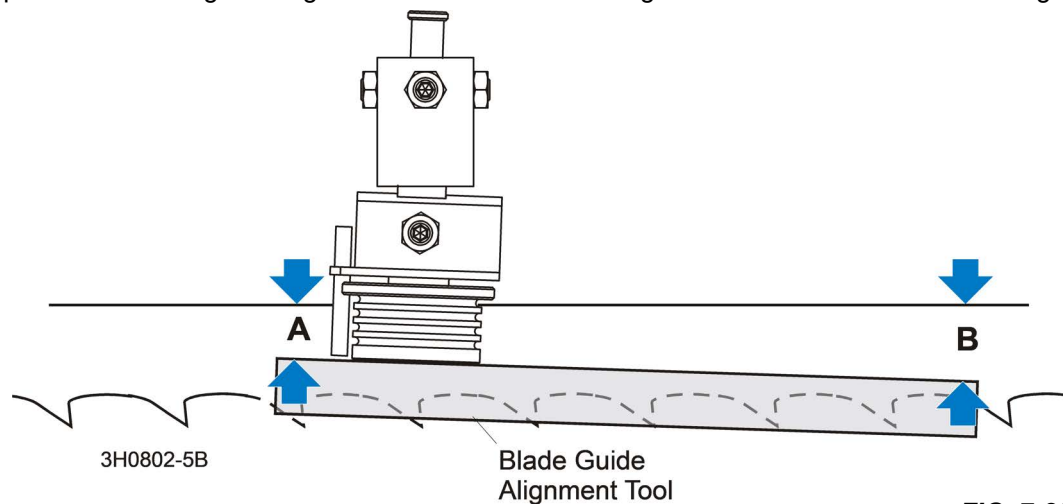


FIG. 7-29

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

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

5. Loosen the jam nuts on the horizontal tilt adjustment screws.
6. To tilt the roller left, loosen the right screw and tighten left screw.
7. To tilt the roller right, loosen the left screw and tighten the right screw.
8. Tighten the jam nuts and recheck the tilt of the blade.

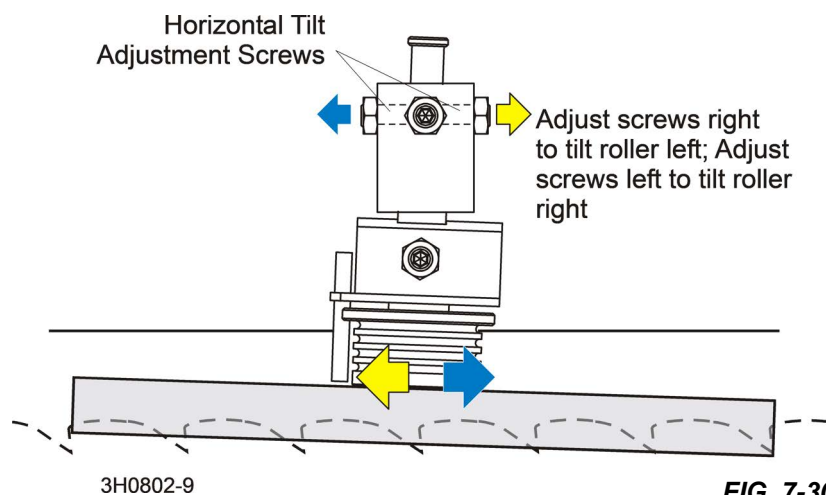


FIG. 7-30

9. 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.

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 the outer blade guide roller to the back edge of the blade. This distance should measure 1/8" (3.0 mm). Adjust the roller back or forward if necessary.
2. Loosen the top and one side screw shown.
3. Tap the blade guide forward or backward until properly positioned.
4. Retighten the screws and jam nuts.

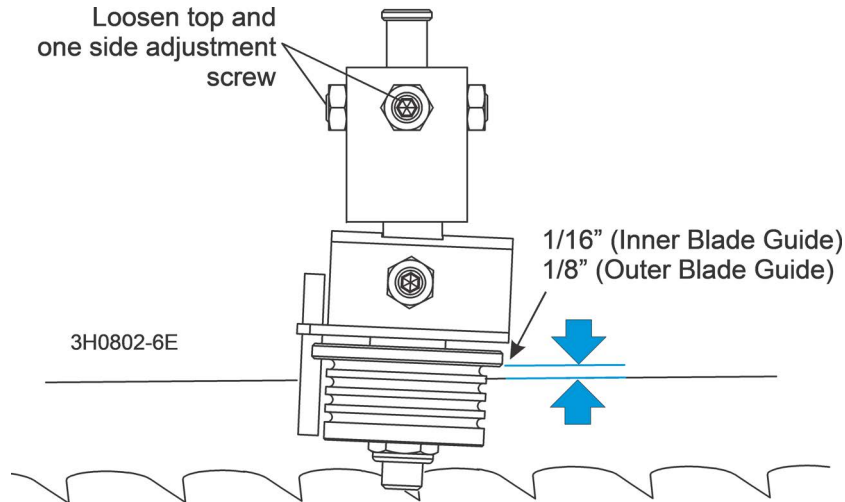


FIG. 7-31

5. Measure the distance between the flange on the inner blade guide roller to the back edge of the blade. This distance should measure 1/16" (1.5 mm). Adjust the roller back or forward if necessary.

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').
2. Adjust the horizontal tilt of the side support if necessary.
 - Loosen the two adjustment plate mounting bolts.
 - Use a mallet to move the plate until the side support is parallel to the bed tube in the horizontal position.
 - Retighten the mounting bolts.

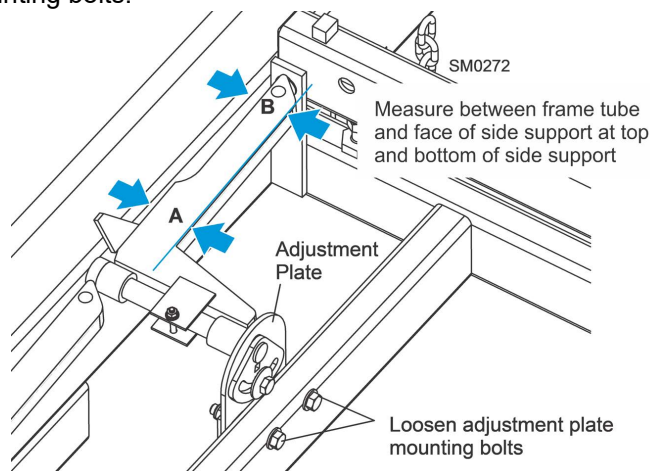
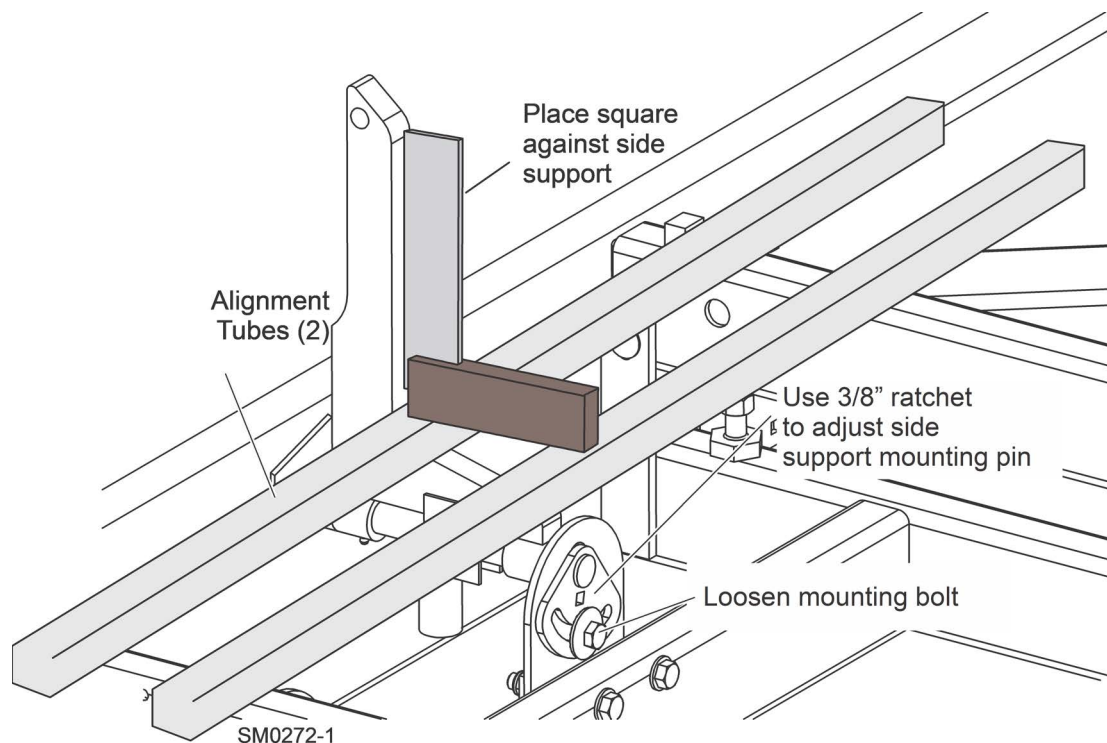


FIG. 7-32

3. Place square alignment tubes (Part No. S12831 - 2 required) across the bed rails.
4. Swing a side support up so that it is vertical.
5. Pull back at the top of the support to eliminate slack as if a log were being clamped against it.
6. 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).
7. Adjust the vertical tilt of the side support if necessary.
 - Loosen the side support mounting bolt.
 - Use a $3/8"$ ratchet to rotate the pin until the side support is square to the bed.

**FIG. 7-33**

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

SAW HEAD TILT

As the blade enters a wide log or cant, the outside of the saw head will drop down slightly. To compensate for the drop, the saw head is adjusted $1/16"$ (1.5 mm) higher at the outside.

1. Move the saw carriage so the blade is positioned over a bed rail. Adjust the blade guide arm to $1/2"$ (13 mm) from full open. The saw head should still be adjusted so the blade is $14\ 3/4"$ (375 mm) above the bed rails.

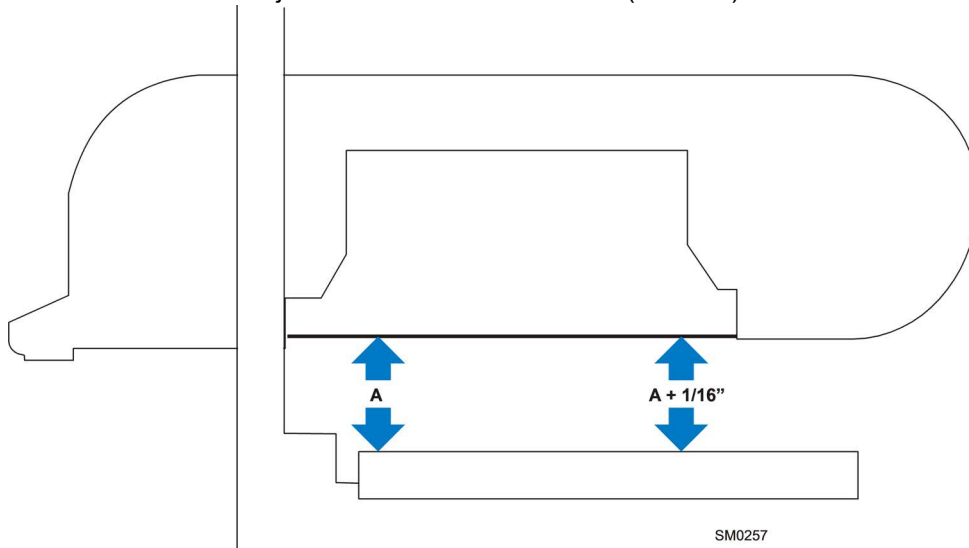


FIG. 7-34

2. Measure from the blade to the bed rail near the outer blade guide assembly.
3. To adjust the saw head tilt, use the horizontal adjustment nuts.
4. To raise the outside of the saw head, tighten the two adjustment nuts.
5. Recheck the measurement from the blade to the bed rails and adjust the horizontal adjustment nuts until the outside of the saw head is $1/16"$ (1.5mm) higher than the inside.

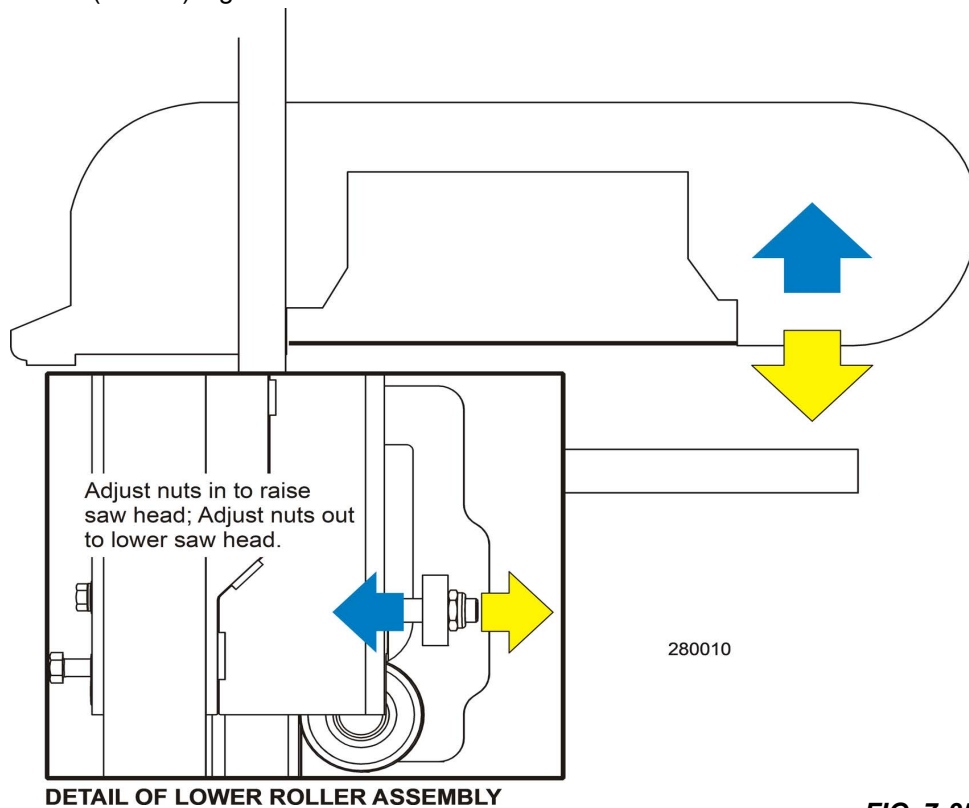


FIG. 7-35

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

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

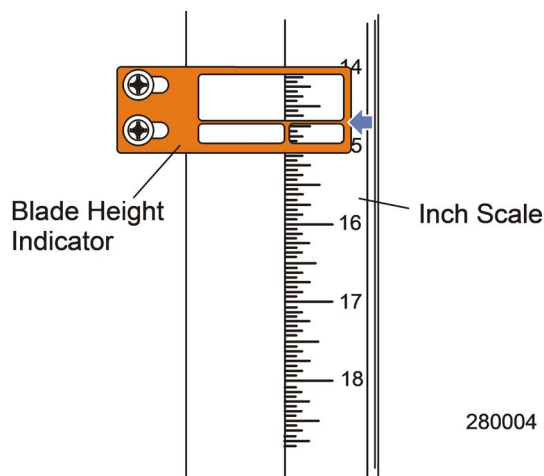


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