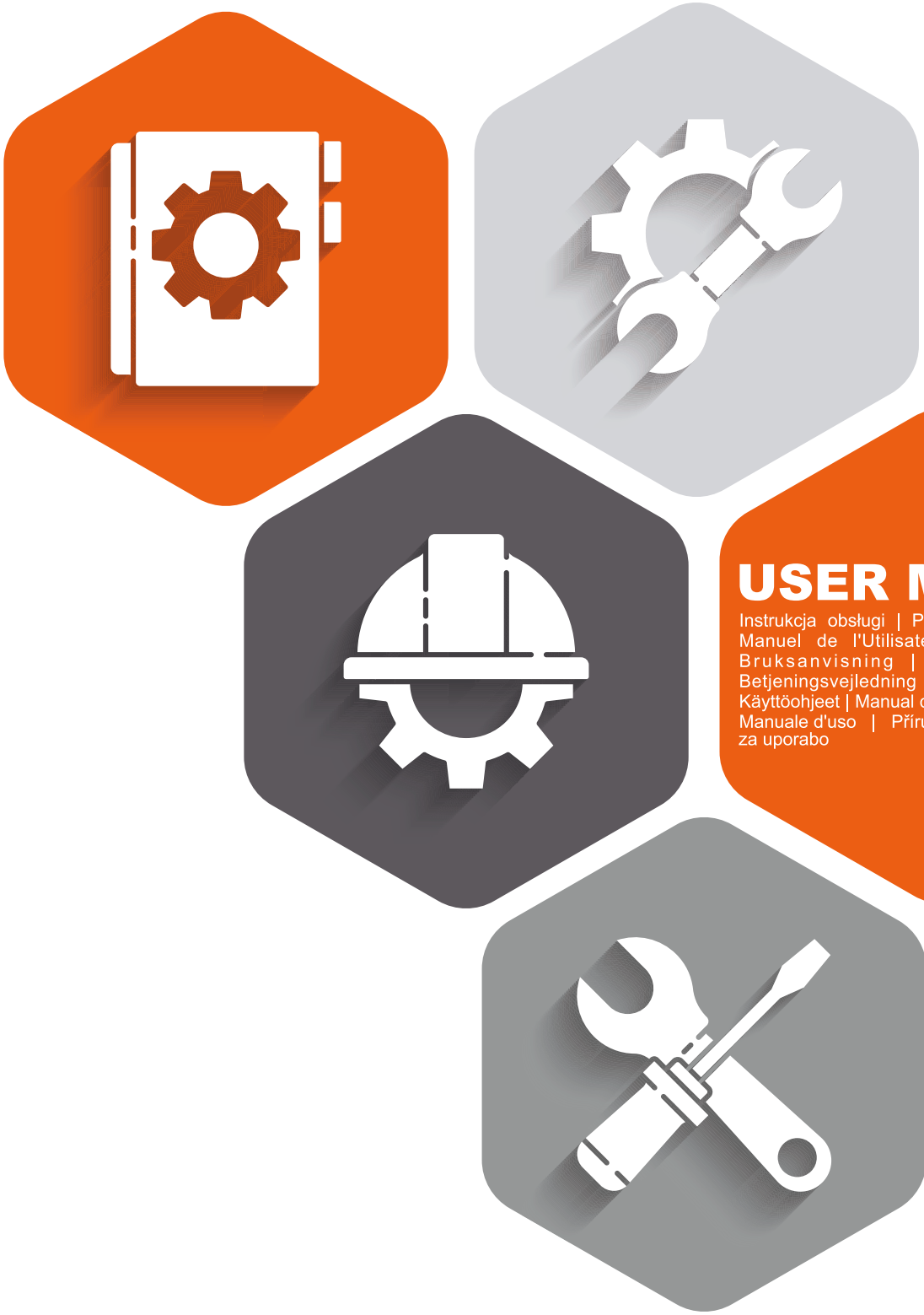


USER MANUAL

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

Wood-Mizer®

from forest to final form

Wood-Mizer®

Safety, Setup, Operation & Maintenance Manual

LX30 G9 **rev.A1.01**

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

Form #2635

This is the original language for the manual.

Please keep for future reference.

Table of Contents Section-Page

SECTION 1 SAFETY AND SPECIFICATION INSTRUCTIONS

1.1 Safety Symbols

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

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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

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

NOTICE indicates vital information.

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

Before operating the LX30 sawmill, read the operator's manual and all additional manuals provided with the machine. Observe all safety instructions included in these manuals!

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

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

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

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

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

1.2 Blade Handling

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

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

1.3 Sawmill Setup

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

WARNING! When loading the sawmill into a transport vehicle and unloading it from that vehicle, keep all persons away from the machine. Failure to do so may result in serious injury or death.

1.4 Sawmill Operation

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

NOTICE The operator of the sawmill should be trained in the operation and adjustment of the machine.

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

DANGER! Be sure the blade housing cover is in place and secured.

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

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

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

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

WARNING! Always wear eye, ear, respiration and foot protection as

well as safety clothing when operating or servicing the machine. Failure to do so may result in serious injury.

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

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

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

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

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

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

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

CAUTION! If optional loading ramps are used to load a log onto the sawmill bed, remove them from the brackets on the bed frame before sawing. The saw head may hit the ramp stops when adjusted for low cuts and get damaged.

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

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

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

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

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

CAUTION! The sawmill work area should be equipped with a 4-kilogram or larger dry powder extinguisher.

1.5 Refueling

WARNING! Store gasoline away from sawdust and other flammable materials. Failure to do so may result in serious injury.

1.6 Gas Engine Operation

DANGER! Operate your engine/machine only in well ventilated areas. Exhaust gases of your engine can cause nausea, delirium and potentially death unless adequate ventilation is present.

DANGER! Do not operate an engine with a fuel or oil leak. The leaking fuel or oil could potentially come in contact with hot surfaces and ignite into flames.

DANGER! Engine components can become very hot during operation (especially exhaust system parts). Contact with hot engine components can cause serious burns. Never touch or perform service functions on a hot engine.

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

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

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

WARNING! Do not operate the engine without proper and operational spark arrester/muffler. Sparks emitted from the engine exhaust could ignite surrounding materials, causing serious injury or death.

WARNING! Remove the blade before performing any engine service function. Failure to do so may result in serious injury.

WARNING! Always wear proper safety equipment when performing any service function. The required safety equipment includes gloves and eye, ear, respiration and foot protection.

NOTICE Always dispose of coolant, oil, fuel, oil filters and fuel filters in a responsible manner and in accordance with local, state and federal regulations.

WARNING! Always disconnect the sawmill battery cables before servicing.

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

1.7 Sawmill Maintenance

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

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

1.8 Safety Instructions

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

OBSERVE ALL SAFETY INSTRUCTIONS

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

Also read any additional manufacturer's manuals (e.g. the engine manual) and observe any applicable safety instructions including dangers, warnings, and cautions.

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

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

WEAR SAFETY CLOTHING

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

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

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

KEEP SAWMILL AND AREA AROUND SAWMILL CLEAN

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

DISPOSE OF SAWING BY-PRODUCTS PROPERLY

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

CHECK YOUR SAWMILL BEFORE OPERATION

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

KEEP PERSONS AWAY

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

DANGER! Ensure all persons are out of the path of the blade before starting the engine or motor. Failure to do so may result in serious injury.

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

KEEP HANDS AWAY

DANGER! Turn off the blade engine/motor before replacing the blade. Failure to do so may result in serious injury.

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

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

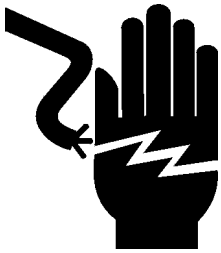
DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

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

USE PROPER MAINTENANCE PROCEDURES

DANGER! Electrical installation, service and/or maintenance work should always be performed by a qualified electrician and is in accordance with applicable electrical codes.

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



WARNING! Consider all electrical circuits energized and dangerous.

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

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

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

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

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

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

KEEP SAFETY LABELS IN GOOD CONDITION

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

NOTICE If replacing a component which has a safety decal affixed to it, make sure the new component also has the safety decal affixed.

See Table 1-1. See the table below for descriptions of the pictographic warning and informational decals placed on the LX30 sawmill.

TABLE 1-1

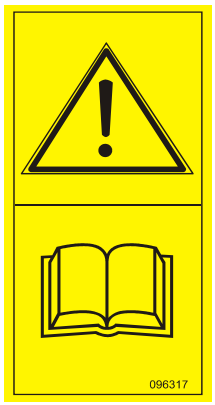
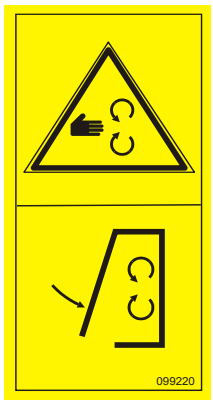
Decal View	Decal No.	Description
	096317	CAUTION! Read the entire Operator's Manual before operating the sawmill. Observe all safety instructions and rules when operating the machine.
	099220	CAUTION! Close all guards and covers before starting the machine.

TABLE 1-1

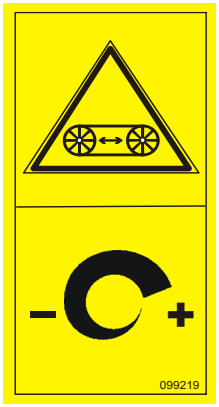
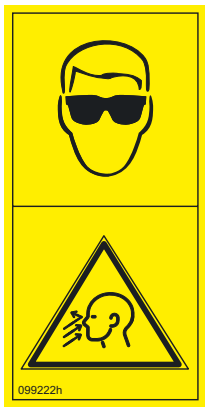
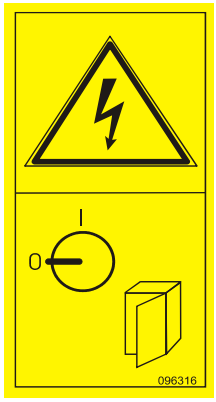
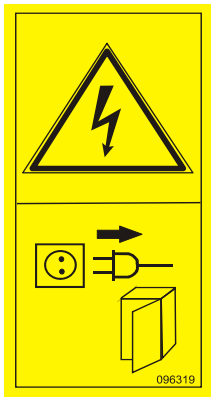
	099219	Blade tension. Turning the bolt clockwise will increase the blade tension, and turning the bolt counterclockwise will decrease the tension.
	099222H	CAUTION! Sawdust outlet. Protect eyes!
	096316	CAUTION! Do not open or close the electrical box when the switch is not in the ”0” position. (AC sawmills only)
	096319	CAUTION! Disconnect power supply before opening the box. (AC sawmills only)

TABLE 1-1

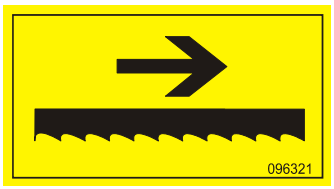
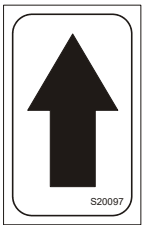
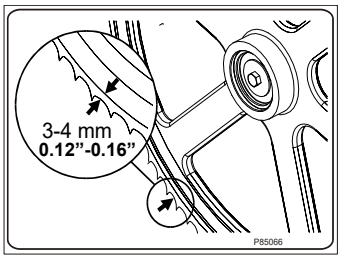
	086099	CAUTION! Keep away - hot parts!
	099540	CAUTION! Gear danger.
	096321	Blade movement direction
	S12004G	CAUTION! Always wear safety goggles when operating the sawmill!
	S12005G	CAUTION! Always wear protective ear muffs when operating the sawmill!

TABLE 1-1

	501465	CAUTION! Always wear safety boots when operating the machine!
	P85070	CE certification marking
	S20097	Motor revolutions direction
	P85066	Blade positioning

1.9 Belts

See Table 1-2. See the table below for numbers of the belts used on the LX30 sawmill.

Description	Belt Number
Drive-Side Blade Wheel Belt (G9)	593247
Idle-Side Blade Wheel Belt	X100-900

TABLE 1-2

1.10 Blade Sizes

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

Engine/Motor Size	Recommended Blade Type	
	Thickness	**Length**
G9	0.035" (0.90 mm) 0.039" (1 mm) 0.042" (1.07 mm) 0.045" (1.14 mm)	126" (3200 mm)

TABLE 1-3

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

1.11 Cutting Capacity

See Table 1-4. The log size capacities of the LX30 sawmill are listed below.

	Maximum Log Diameter	Maximum Log Length	Every Additional Bed Section
LX30	22" (56 cm)	130" (3.3 m)	52.3” (1.3 m)

TABLE 1-4

1.12 Engine/Motor Specifications

See Table 1-5. See the table below for specifications of the engines used on the LX30 sawmills.

Engine	Manufacturer	Model Number	Other Data
G9 gas engine	Kohler	PA-CH395-3149	9 HP

TABLE 1-5

1.13 Noise Level

See Table 1-6. The average level of noise generated by the LX30 sawmill is given in the table below[12].

Sawmill	Noise Level
LX30G9	L_{WA} = 106.3 dB

TABLE 1-6

1. The noise level measurement was taken in accordance with PN-EN ISO 3746 Standard. The noise exposure level given above concerns an 8-hour work day. Value for associated uncertainty K=1.9 dB.
2. The measured values refer to emission levels, not necessarily to noise levels in the workplace. Although there is a relation between the emission and exposure levels, it is not possible to determine with certainty if preventives are needed or are not needed. The factors affecting a current level of noise exposure during work are, among other things, room characteristics and characteristics of other noise sources, e.g. number of machines and machining operations nearby. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.

1.14 Sawdust Extraction System Specifications

See Table 1-7. See the table below for specifications of a sawdust extraction system that can be used with your LX30 sawmill.[1]

Airflow	3937 ft^3/h 1200 m^3/h
Collector inlet diameter (in front of fan)	5.9” 100 mm
Electric motor power	1.5 kW
Number of bugs for waste	1 piece
Capacity of bugs	8.8 ft^3 0.25 m^3
Pressure drop	0.22 psi 1.5 kPa [1]
Weight	242.5 lb 110 kg
Conveying speed when 10 m long hose is used	65.6 ft/s 20 m/s

TABLE 1-7

[1] The pressure drop between the inlet of the capture device and the connection to the CADES should not exceed 1.5 kPa (0.22 psi) (for the nominal air flow rate). If the pressure drop exceeds 1.5 kPa (0.22 psi), the machine might not be compatible with conventional CADES.

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

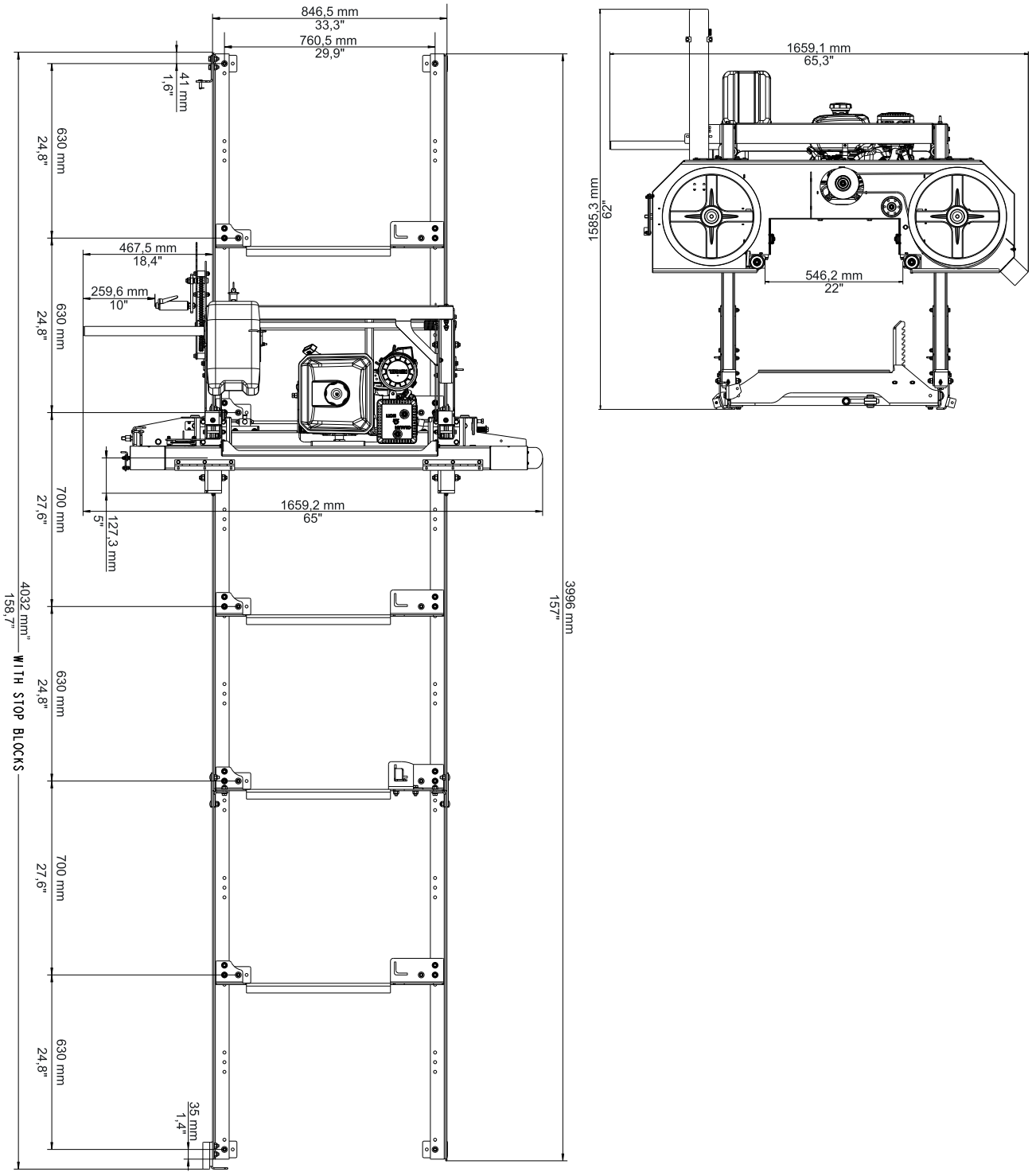
CAUTION! Always turn on the sawdust extraction system before starting the sawmill.

IMPORTANT! The total value of hand-arm vibration the operator may be exposed to does not exceed 8.2 ft/s^2 (2.5 m/s^2). The highest root mean square value of weighted acceleration to which the whole operator’s body is subjected does not exceed 1.64 ft/s^2 (0.5 m/s^2).

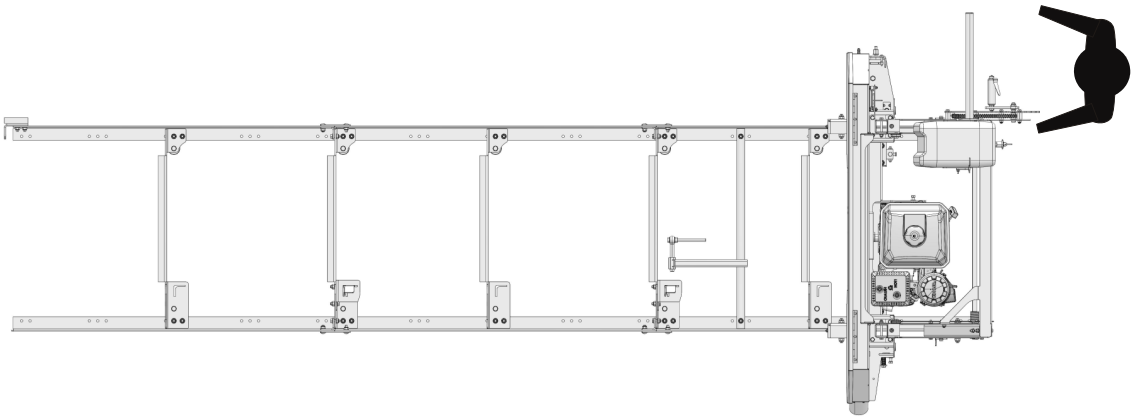
1. The requirements for chip and dust extraction systems for fixed installation are contained in EN12779:2016-04 European standard.

1.15 Overall Dimensions

The overall dimensions of the LX30 sawmill are shown below.

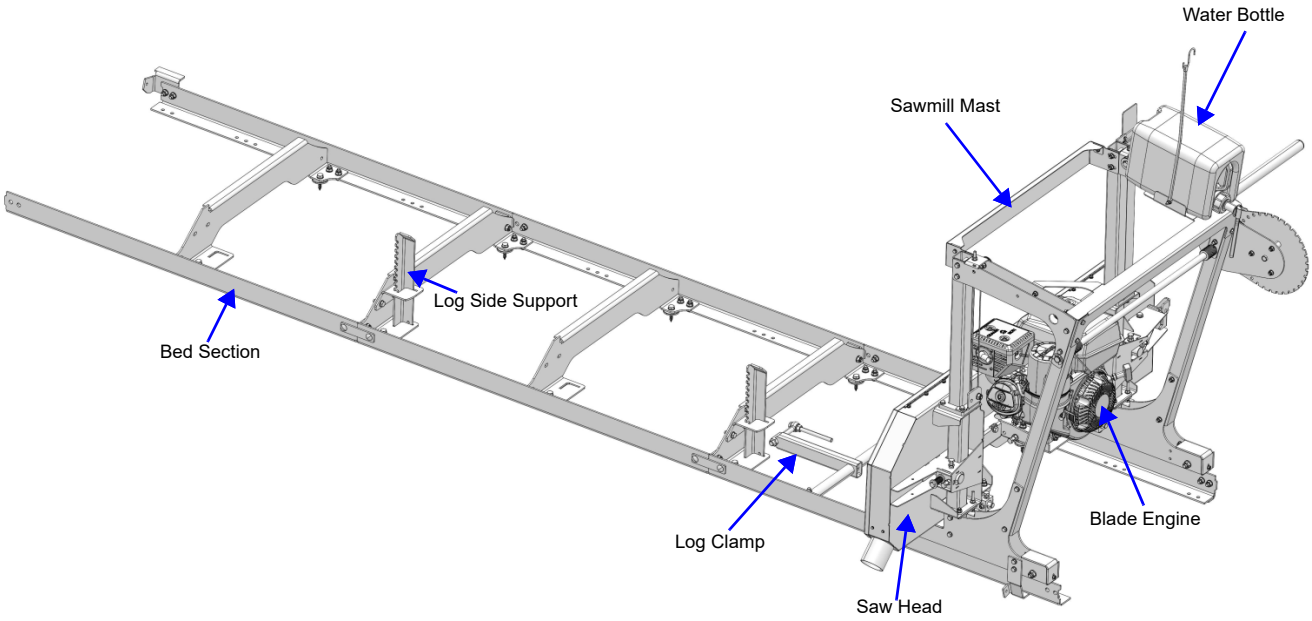


See the figure below for the operator's position.



1.16 Sawmill Components

The major components of the LX30 sawmill are shown below.



SECTION 2 SAWMILL ASSEMBLY

2.1 LX30 Sawmill Mounting Parts

Scan the code to watch the assembly video.

Mounting Parts Specification

Table 1:

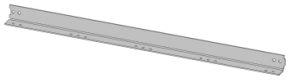
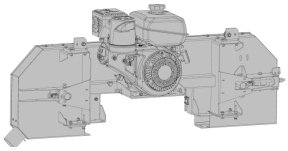
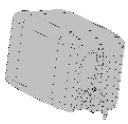
Figure	Wood-Mizer Part No.	Description	QTY LX30 G9	
			European CE version	Outside Europe and U.S. version
	587107-1	Track Rail	6	6
	587055-1	Mast Tube (99.8 cm)	2	2
	587072-1	Mast Tube (88.6 cm)	2	2
	587068-1	Up/Down Shaft (94.2 cm)	1	1
	601132-1	Round Zinc-Plated Tube (82.4 cm)	1	1
	LX30G	Parts Box	1	1
		Saw Head	1	1
	550744	Water Bottle	1	1

Table 1:

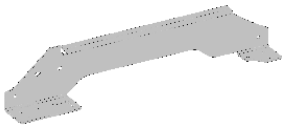
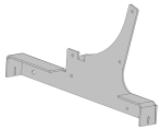
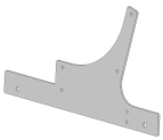
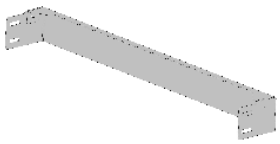
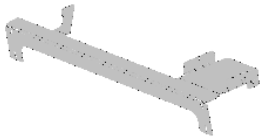
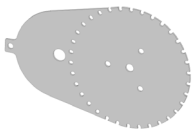
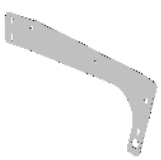
	587108-1	LX30 Bed Rail	5	5
	601187-1	LX30 Lower Mast Plate	2	2
	587071-1	LX30 Lower Mast Plate	2	2
	601182-1	Upper Mast Plate	1	1
	587105-1	LX30 Top Mast Beam	1	1
	587069-1	LX30 Top Mast Angle	1	1
	601110-1	LX30 Scale Plate	1	1
	601179-1	LX30 Up/Down Lock Plate	1	1
	601115-1	LX30 Upper Mast Plate	2	2
	587074-1	LX30 Upper Mast Plate	1	1

Table 1:

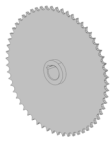
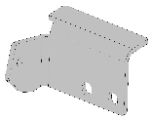
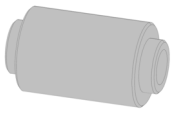
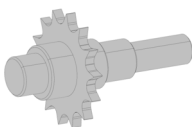
	601213-1	Large Sprocket Assembly	1	1
	601194	Push Bar Weldment	1	1
	601066-1	LX30 Mast Stop	2	2
	587110-1	LX30 Bed Angle	4	4
	531997-1	Crank Handle Mounting Plate	1	1
	601103-1	LX30 Bed Section Connection Plate	4	4
	601181-1	Bushing, Spacer	4	4
	601073-1	Mast Safety Plate	4	4
	T00031-1	LX30 Vertical Side Support	1	1
	601204-1	LX30 Small Sprocket Assembly	1	1

Table 1:

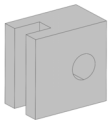
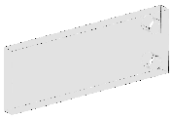
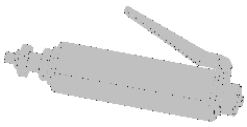
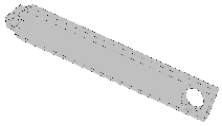
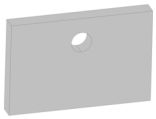
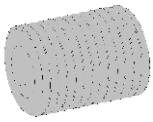
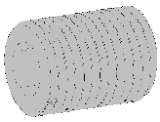
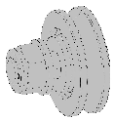
	601207	Chain 06B L=704.85 mm (74 Links)	1	1
	500972	Master Link 06B-1-szran	1	1
	X100-1179	Scale Stiffener Block	2	2
	094821	Scale Indicator	1	1
	096499	LX30 Crank Handle	1	1
	601131-1	LX30 Log Clamp Arm	1	1
	601183	Scraper	4	4
	587142	Steel Cable F3 L=1480	2	2
	534526	Left Bushing for Up/Down Cable	1	1
	532325	Right Bushing for Up/Down Cable	1	1
	587066	Up/Down Roller	2	2

Table 1:

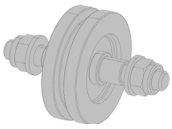
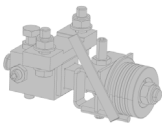
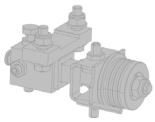
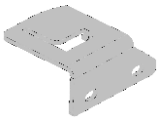
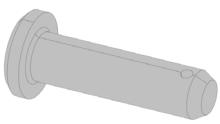
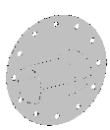
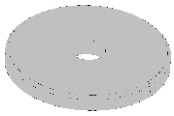
	091455	Bushing GFM-1618-12	2	2
	X100-1256	Bushing IGUS GFM-2023-16	4	4
	P07461	Rubber Strap w/Hook	1	1
	587138	Track Roller Assembly	4	4
	587129	Idle-Side Blade Guide Assembly	1	1
	587130	Drive-Side Blade Guide Assembly	1	1
	601042-1	LX30 Log Side Support Plate	2	2
	R01885	Water Lube Tubing (110 cm)	1	1
	F81047-3	Clevis Pin w/Head 8x30	1	1
	F81043-36	Cotter Pin	1	1
	110187	Exhaust Deflector Kohler 14HP	1	1

Table 1:

	593247	Belt	1	1
	601076	Clevis Pin w/Head 8x30	0	1
	601455-1	Cotter Pin	0	1
	601150-1	Bushing, Spacer	0	1
	524023-1	Belt	10	10
	LTBGAT	Alignment Tool	1	1
		Motor Manual	0	1
		Sawmill Manual	0	1
	LX30 G	Bolt Kit	1	1

Tools Necessary for Assembling the Sawmill

Table 2:

Required Tools	
Metric Flat Wrench # 8	2 pcs
Metric Flat Wrench # 10	2 pcs
Metric Flat Wrench # 13	2 pcs
Metric Flat Wrench # 17	2 pcs
Metric Flat Wrench # 19	2 pcs
Rubber Mallet	1 pc
Allen Wrench # 3	1 pc
Allen Wrench # 5	1 pc

Table 2:

Required Tools	
Flat Screwdriver	1 pc
Metric Measuring Tape	1 pc
Knife	1 pc
Chisel	1 pc
Torx Screwdriver T20	1 pc
Crowbar	1 pc
Square	1 pc

Description of the icons used in the manual

Use this bag containing fasteners in a given assembly step.

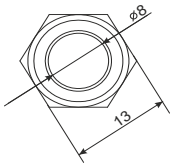
615892

The recommended number of persons to perform a given assembly step.

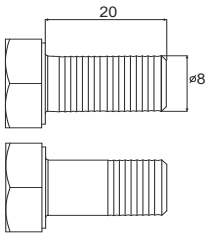
It is recommended that a cutting tool be used in a given assembly step.

Designations of fasteners.

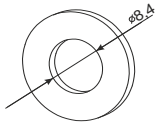
M8 Nut



M8x20 Bolt



8.4 Washer



CAUTION ! The engine is not filled with oil. Do not start the engine if it does not contain oil as it will result in engine seizure!

2.2 Unpacking the Sawmill

Scan the code to watch the assembly video.

IMPORTANT! It is recommended that the LX30 saw head and bed be assembled by **2** persons, and the saw head be installed to the mast by **3 to 4** persons.

1. When the LX30 sawmill is still on the pallet, remove the top panel from the box by lifting it at the corners as shown below.

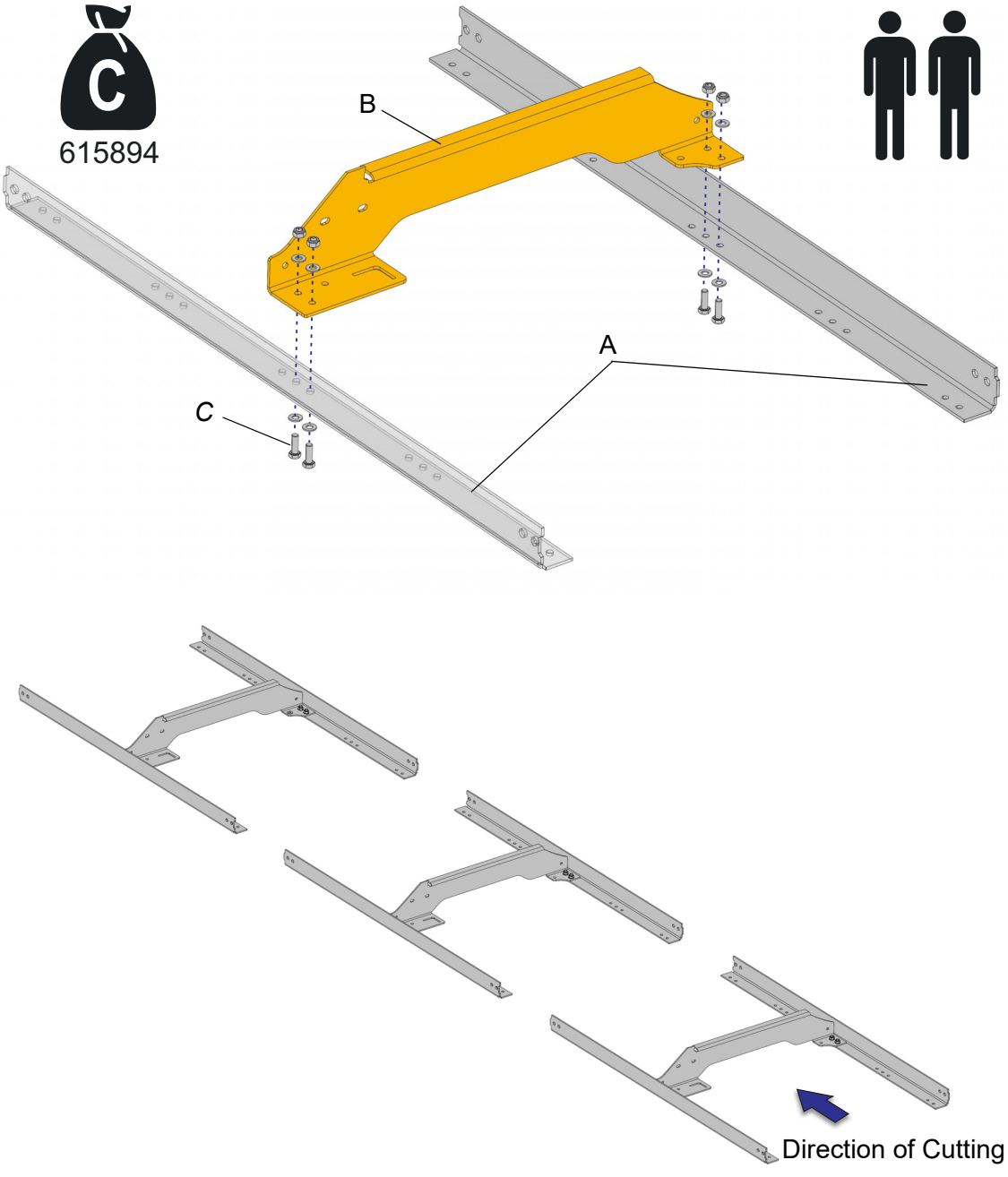
2. Using a wrench, unscrew the bed components from the wooden transport frame. Remove all parts from the pallet (except for the saw head) and lay them on a flat surface. Remove the plastic coverings from the parts.

2.3 Bed Frame Assembly

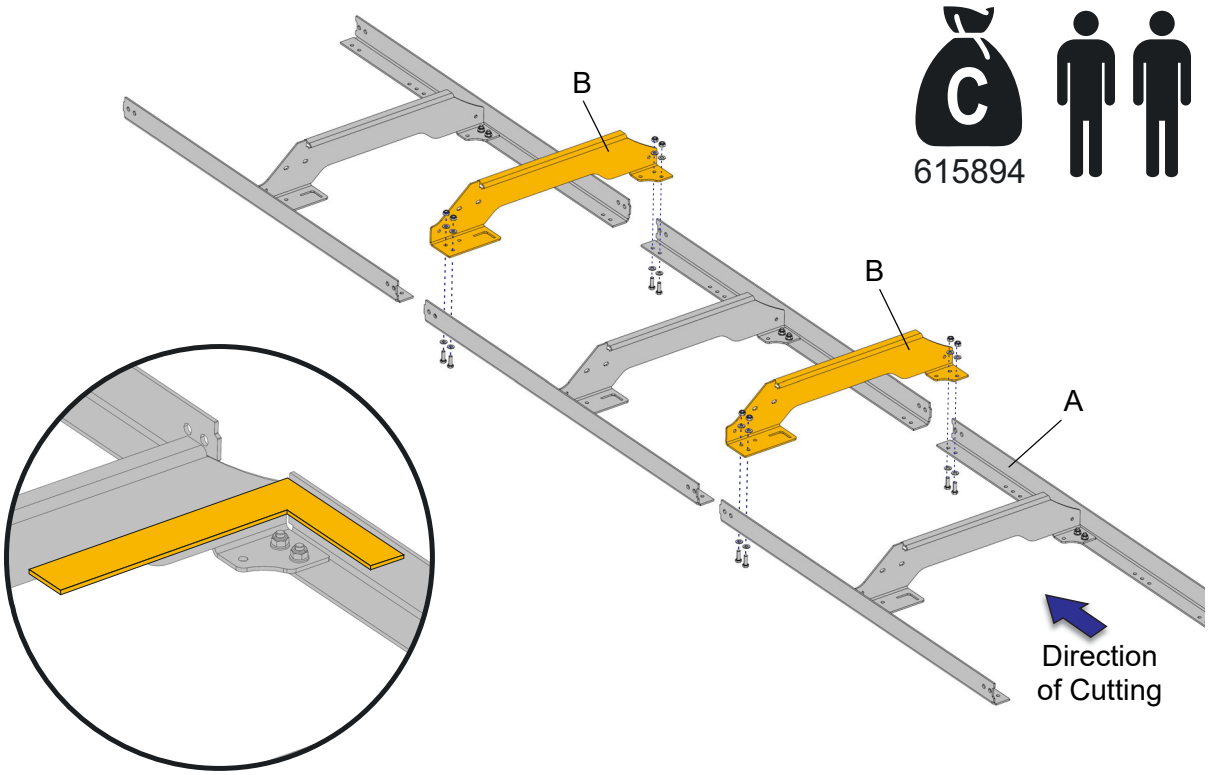
1. Lay the track rails No. 587107 **(A)** on an even surface.

2. Connect them with the cross bed rail No. 587108 **(B)** using the M10x30 bolts **(C).**
   NOTE: Do not tighten the bolts firmly (leave slight play) so that it is possible to adjust the angle.

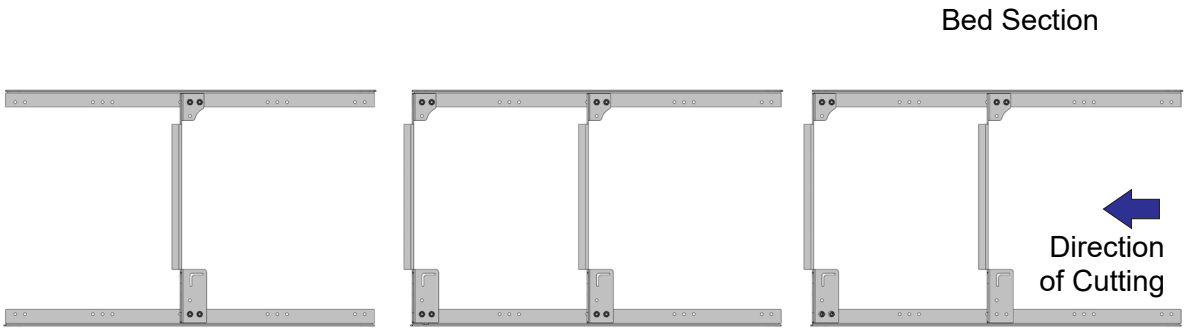
3. Repeat these steps for the second and third bed section.



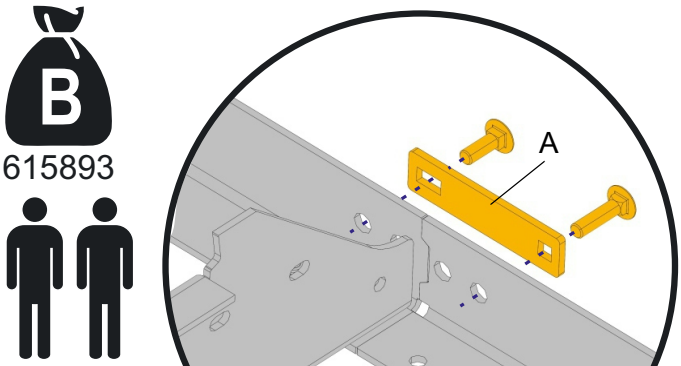
4. Bolt the remaining bed rails No. 587108 **(B)** to the assembled bed sections. Then use a square to check that there is a right angle between the track rail **(A)** and the bed rail **(B)** on each bed section. Tighten all bolts and check the angle again.

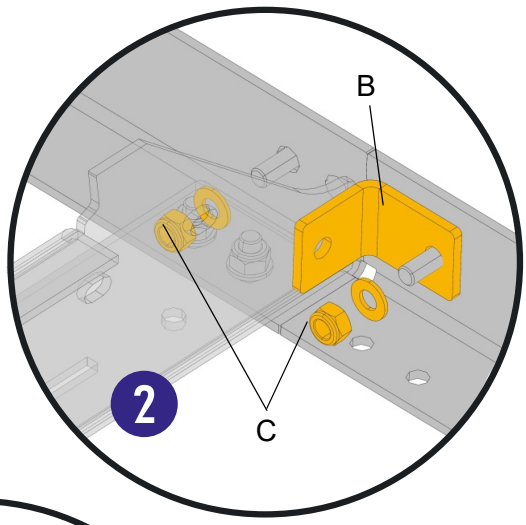


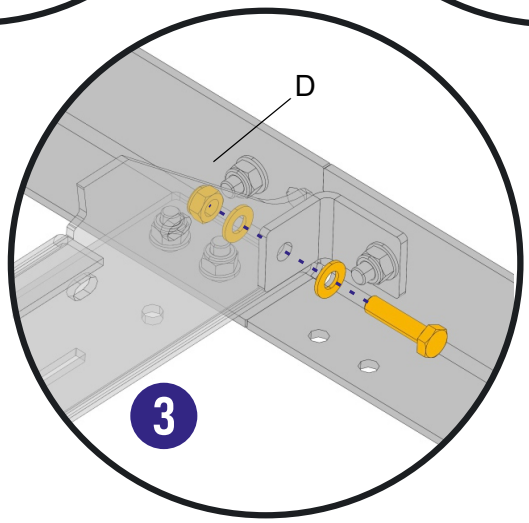
5. Slide all three assembled bed sections together in the order shown in the figure below.

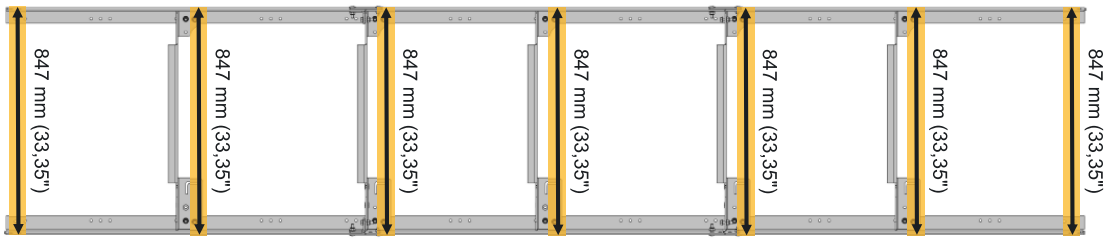


6. Connect the bed sections with the connecting plate No. 601103-1 **(A).** Do not tighten the bolts firmly. Next, lightly fasten the bed angle No. 587110 **(B)** to the bed section using the nuts **(C)**. Firmly tighten the nuts shown in the figure No. 3 **(D)** and then the nuts shown in the figure No. 2 **(C)**. Using a tape measure, check that the track rails on all bed sections are parallel to the track rails on the opposite side and the distances between the track rails measured on the outside are **33.35" (+- 0.04”), 847 mm (+- 1 mm)**. The places of measurements are marked in yellow in the figure below. If the dimensions are correct, tighten all fasteners completely.
NOTE: If the measurements are not the same, repeat this step until you obtain the correct dimensions.

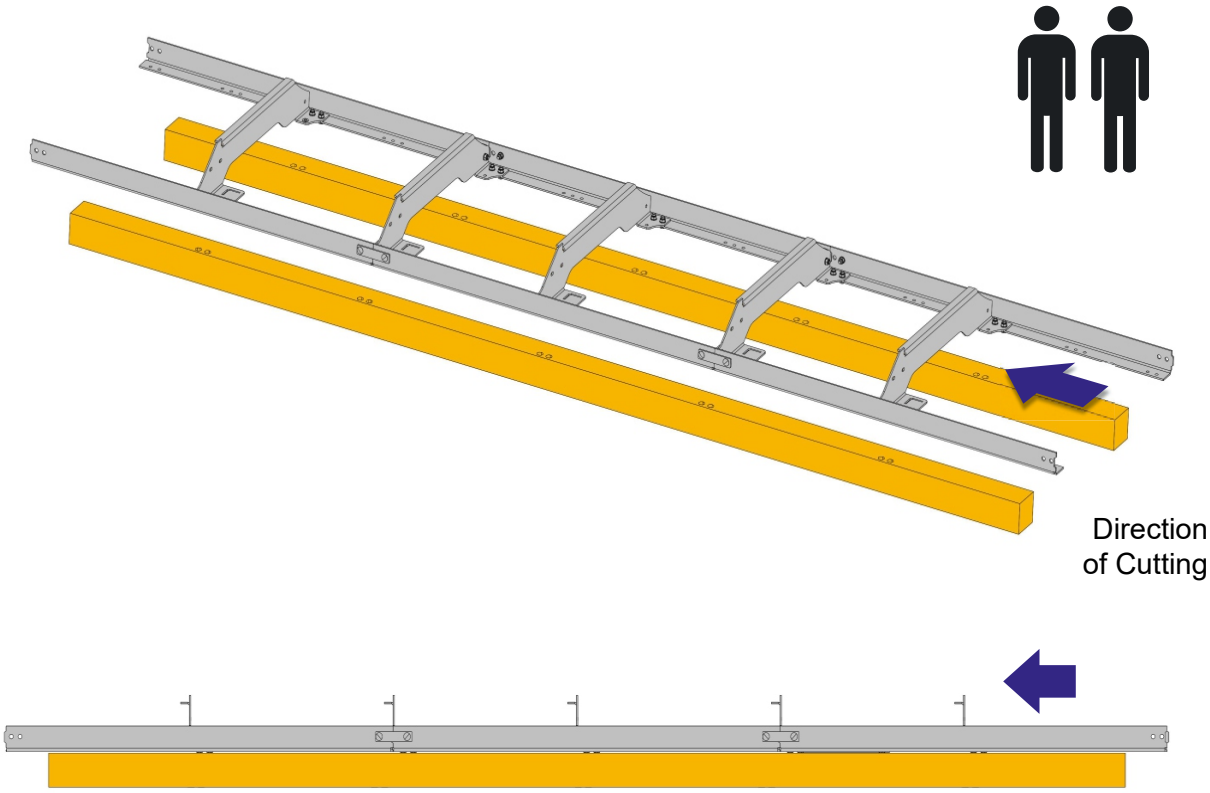






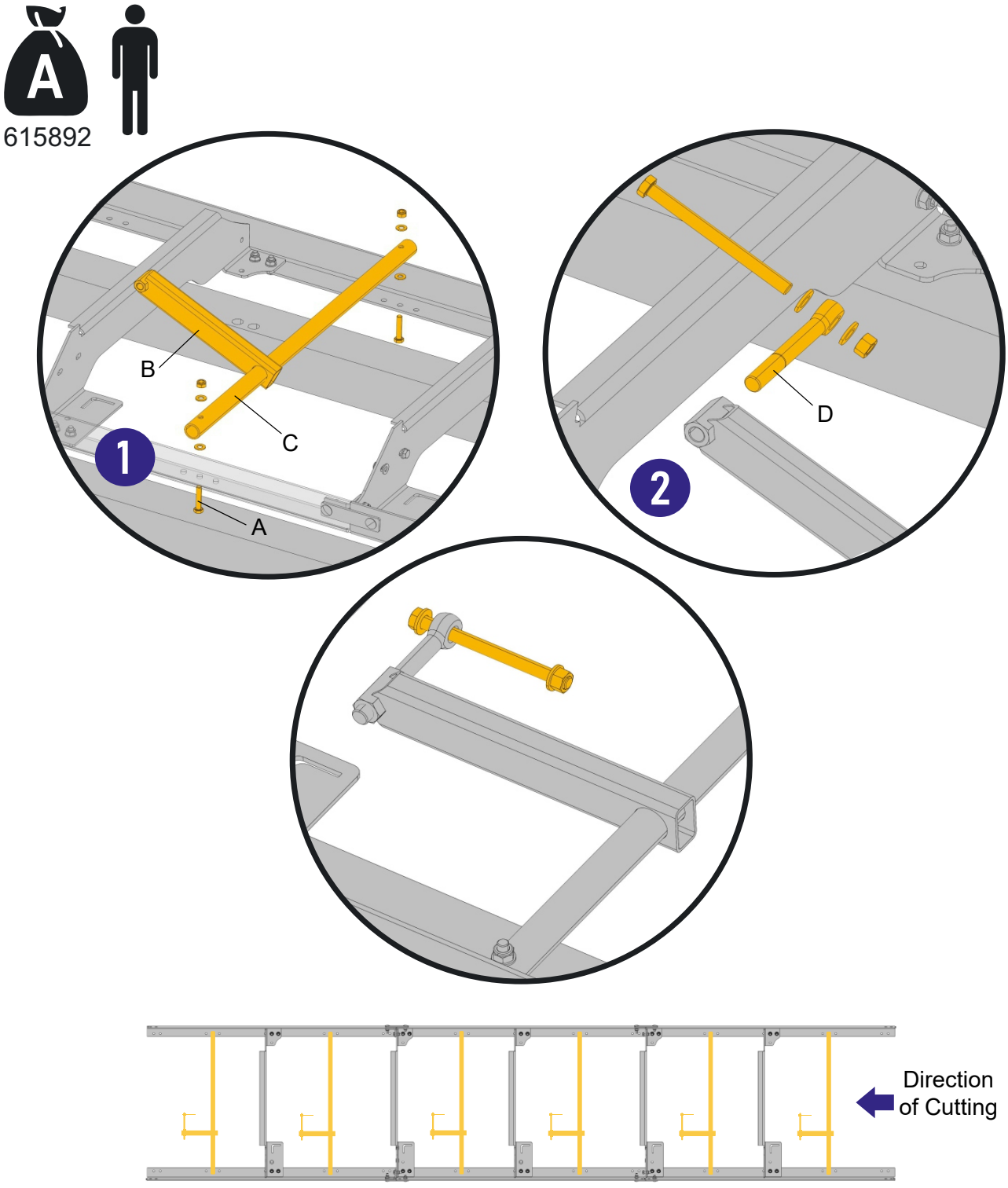


7. Place the assembled bed frame on cants of 4” x 4” x 46” (10 cm x 10 cm x 370 cm) as shown in the figure below.



2.4 Log Clamp Installation

1. Lift the sawmill bed frame and insert the M10x50 bolts **(A)** from underneath through the hole in the frame. Then slide the log clamp arm **(B)** onto the round tube **(C)**. Fasten the log clamp with the bolts shown below and screw in the log clamp bolt **(D)**. The log clamp can be mounted on the bed frame at the locations marked in yellow in the figure below.

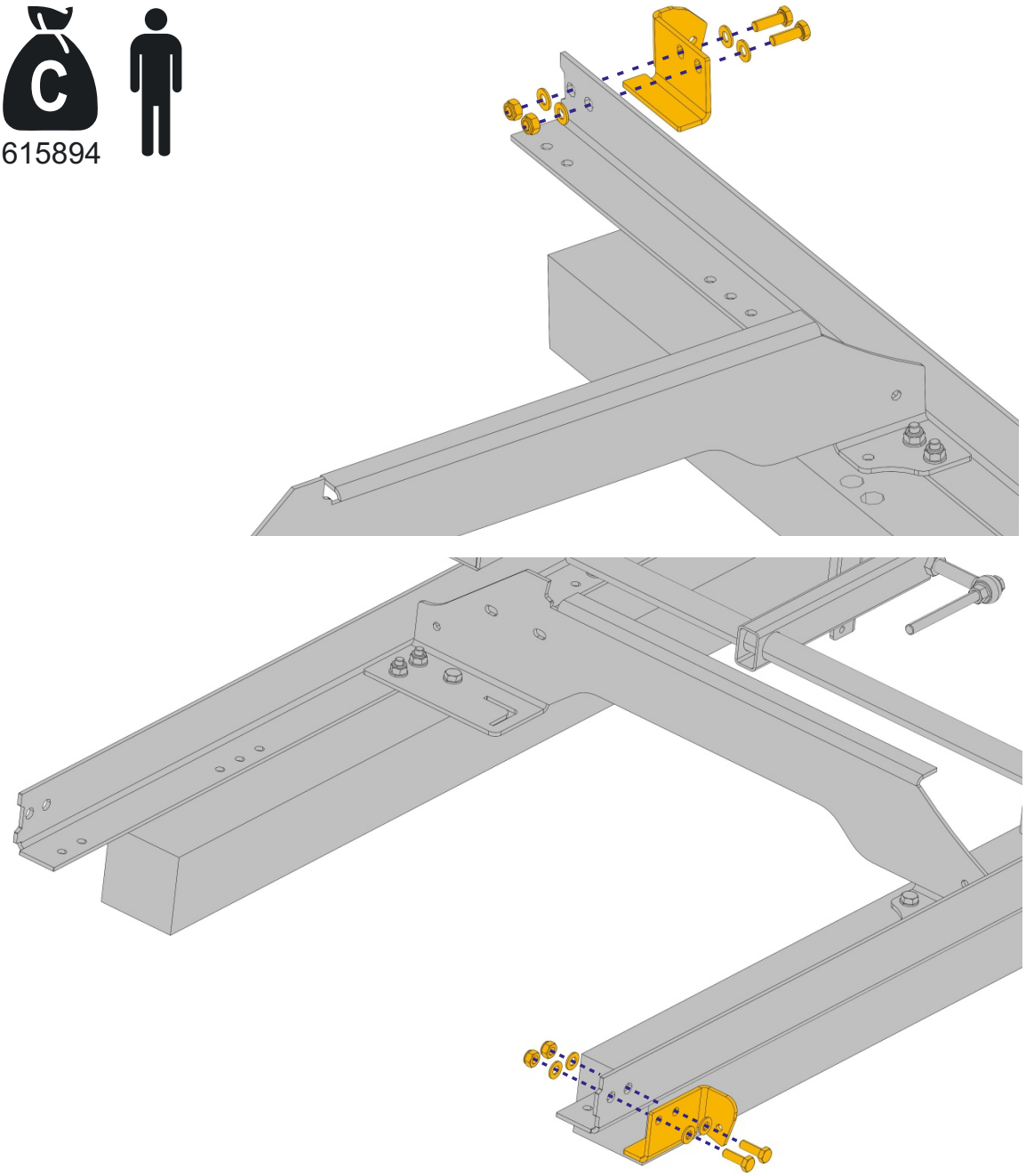


2.5 Mast Stop Installation

Attach the mast stop plates (Part No. 601066-1) to the outer surfaces of the first and last bed section. Use the M10x30 bolts.

WARNING! If the mast stops are not installed, or they are mounted incorrectly, the saw head may fall from the sawmill bed, causing serious injury or damage to the machine.

615894

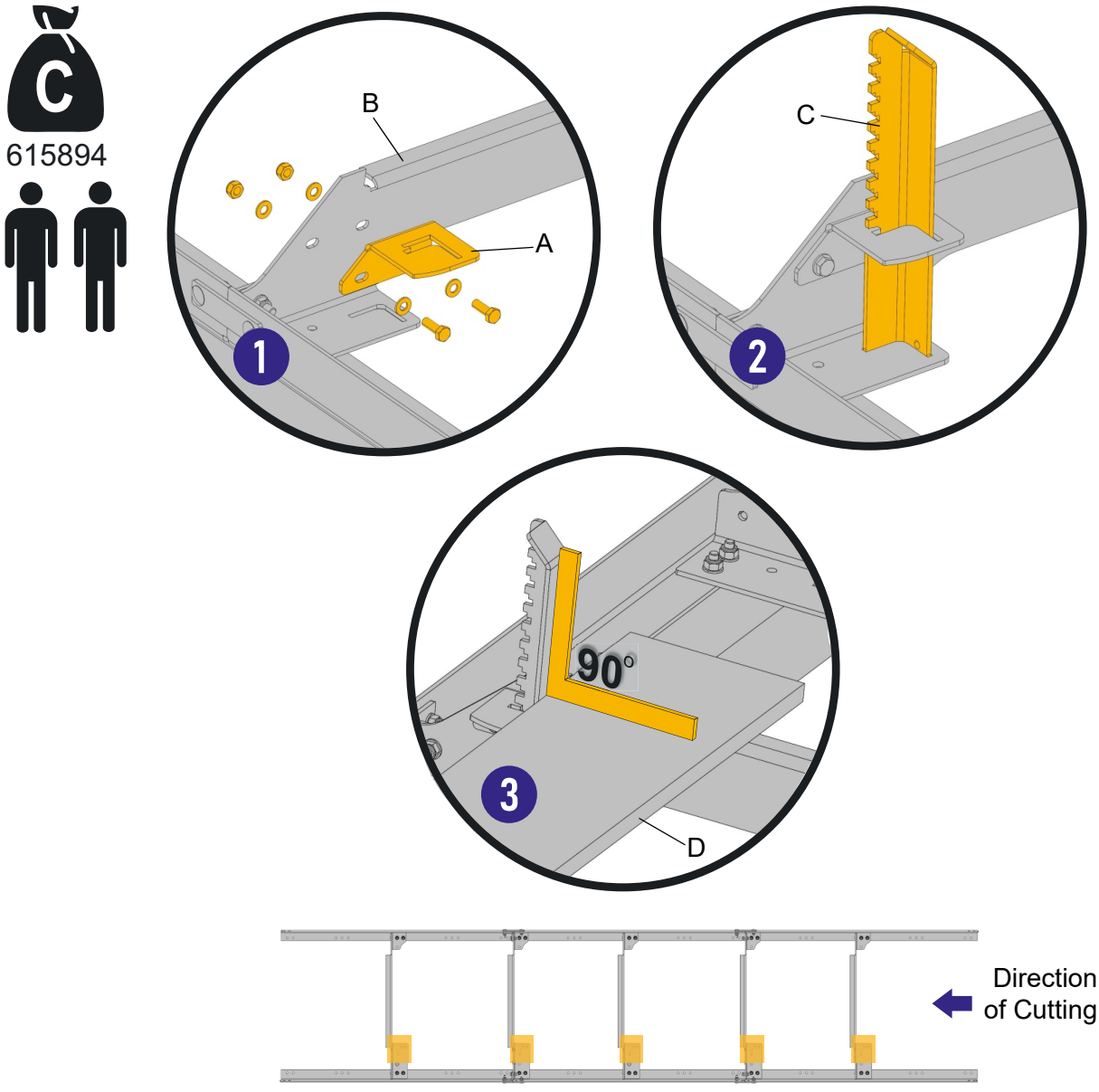


2.6 Log Side Support Installation

1. Fasten the log side support bracket No. 601042-1 **(A)** to the bed rail No**.** 587108-1 **(B)** using the M10x30 bolts. (Do not tighten the bolts fully.) Next, place the log side support No. T00031-1 **(C)** in this bracket inserting it from the top. Position a straight board or a level **(D)** on the sawmill bed frame, against the log side support **(C).** Then use a square to set a right angle between the side support **(C)** and the board or level **(D)**. After setting the right angle, tighten the bolts completely.

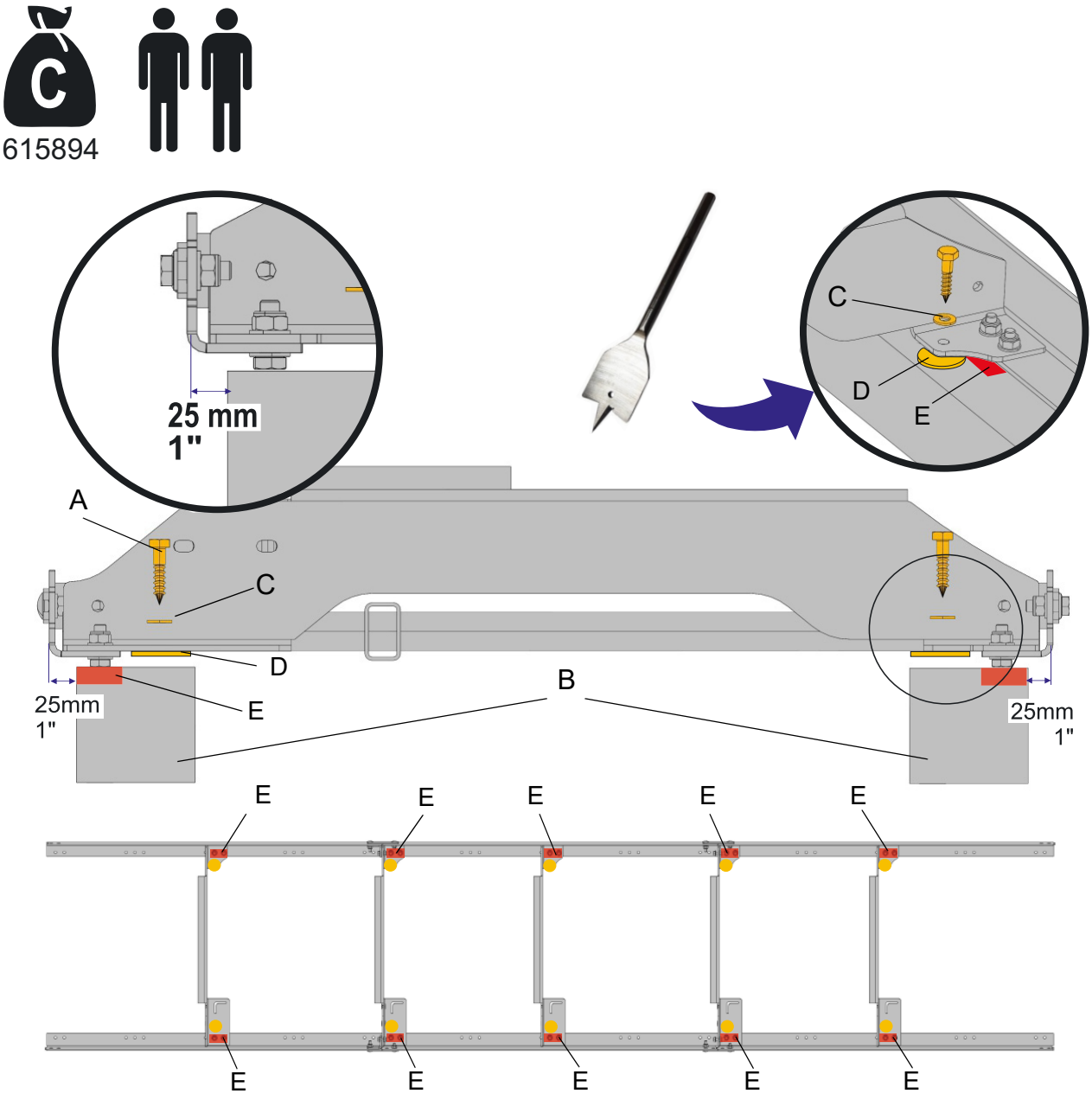
The log side supports can be mounted in the places shown in the figure below.

WARNING! Failure to install the log side supports on the sawmill bed may result in serious injury or damage to the machine caused by a log being loaded onto the bed.



2.7 Fastening the Bed Rails to the Cants

1. Position the cants **(B)** under the sawmill bed so that either cant is **1" (25 mm)** from the outside surface of the track rail as shown below. Then use a cutting tool (such as a chisel or a drill) to make cutouts in the cants in the places where the bed rail bolts (connecting the bed rails with the cants) contact the cants. The entire bed rail must rest on the cants. The heads of the bed rail bolts must be completely hiddden in the cutout places **(E)** (marked in red in the figure below). Using the delivered 10x50 wood screws **(A)** and washers **(C** and **D)**, fasten the bed rails to the cants at the locations marked in yellow in the figure below.



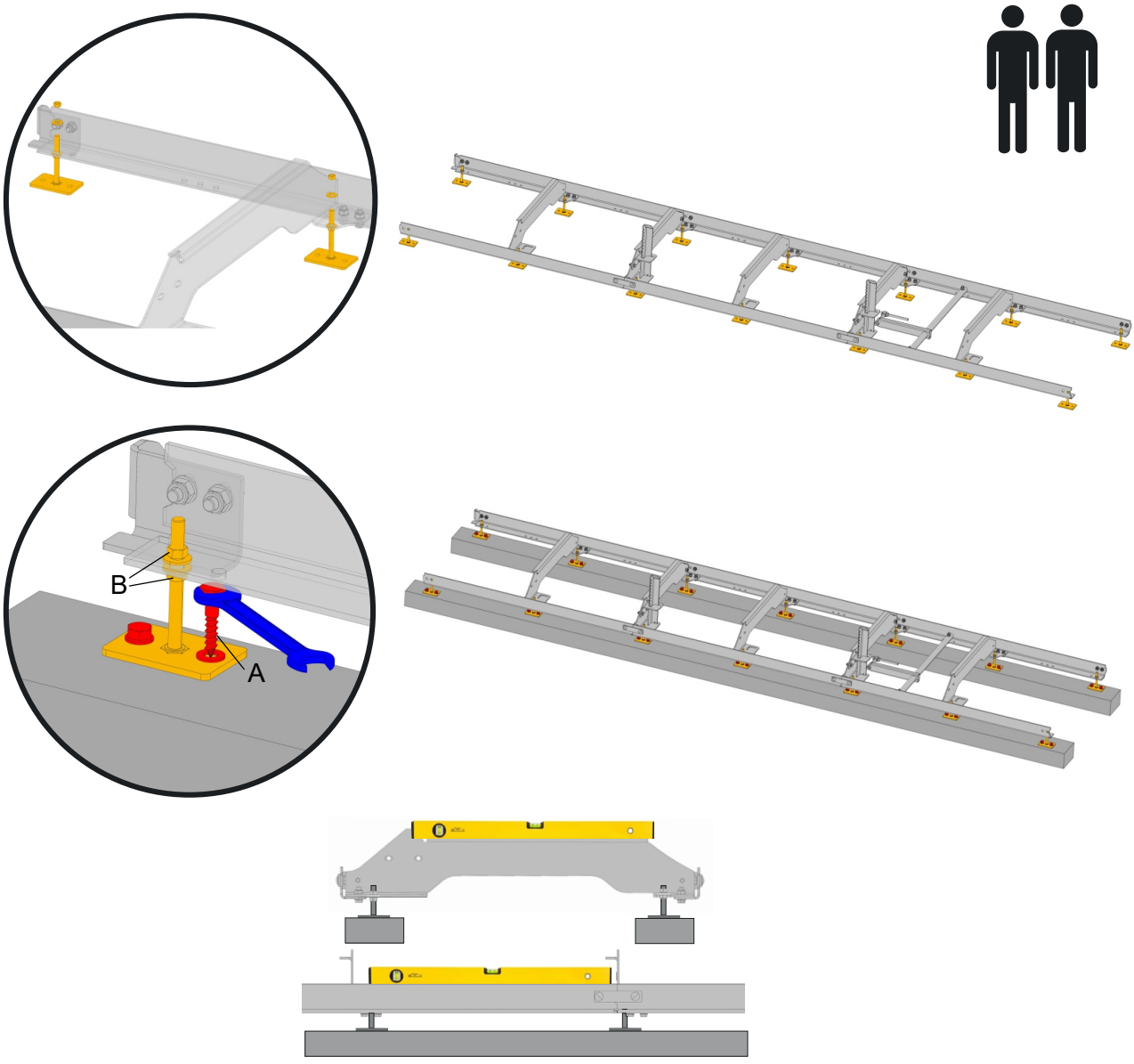
2.8 Mounting the Optional Legs and Leveling the Bed

1. Mount the legs to the sawmill bed.

2. Place the sawmill bed on the cants having the following dimensions: 150mm x 100mm x 4200 mm (6”x4”x165.3”).

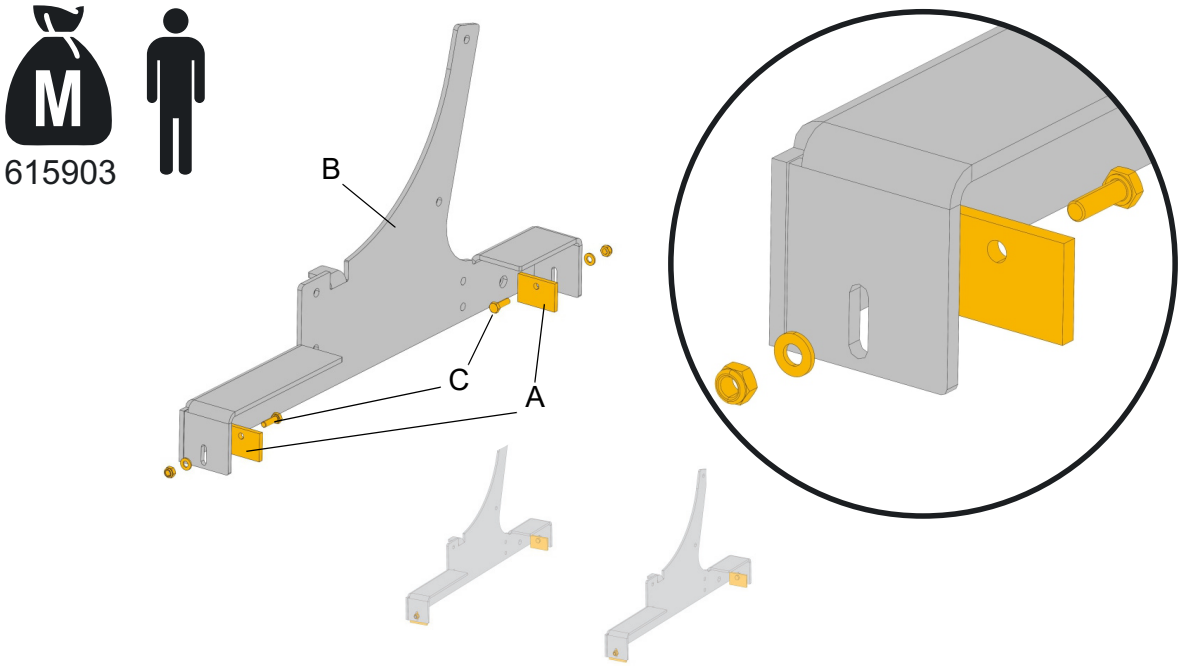
3. Fasten the legs to the cants with the 10x50 wood screws **(A)**, two for each leg.

4. Use a 120 cm level (or a laser level) to check if the bed is leveled. Use the nuts **(B)** to level the sawmill bed if needed.

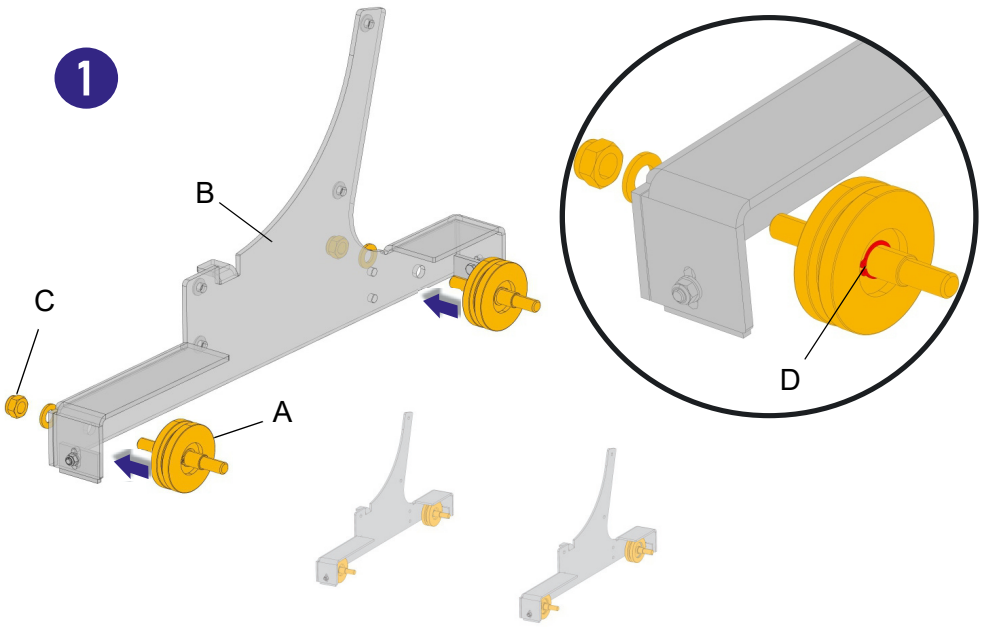


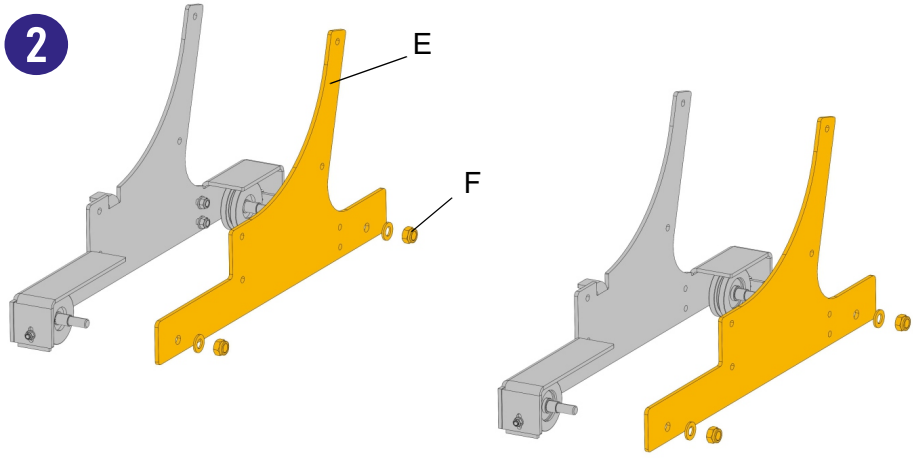
2.9 Saw Head Installation

1. Mount the scrapers No. 601183 **(A)** to the lower mast plate No. 601187-1 **(B)** so that the scraper freely lowers onto the mast track. Use the M6x20 bolts **(C).** Repeat for the other lower mast plate.
   NOTE: If the scraper plates do not fall on the mast track under their own weight, they will not effectively remove the sawdust, which will result in sawdust buildup on the track rollers and affect sawing accuracy.

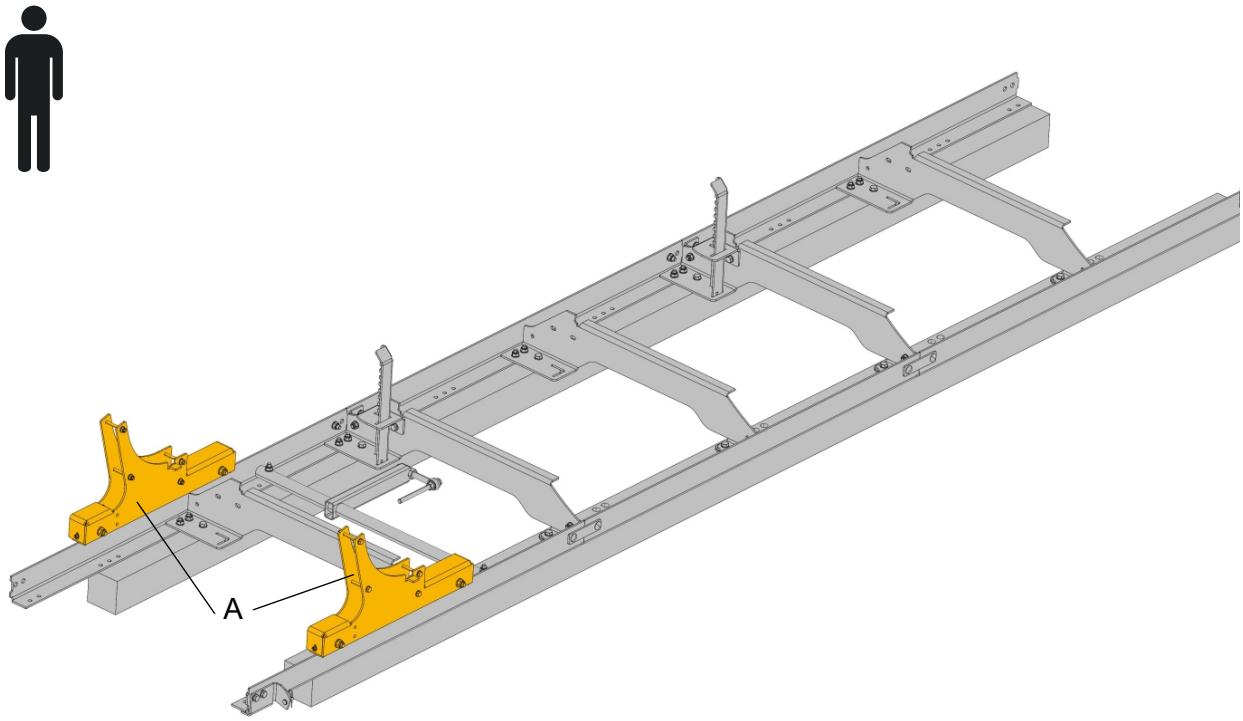


2. **(1)** Mount the track rollers No. 587056-1 **(A)** to the lower mast plate No. 601187-1 **(B)** and secure them with the nuts **(C)**.
NOTE: Make sure the retaining ring (D) on the track roller (A) is pointing the direction shown in the figure below.
(2) Fasten (leaving slight play) the lower mast plate No. 587071-1 **(E)** using the nuts **(F)**. Repeat for the other lower mast plate.

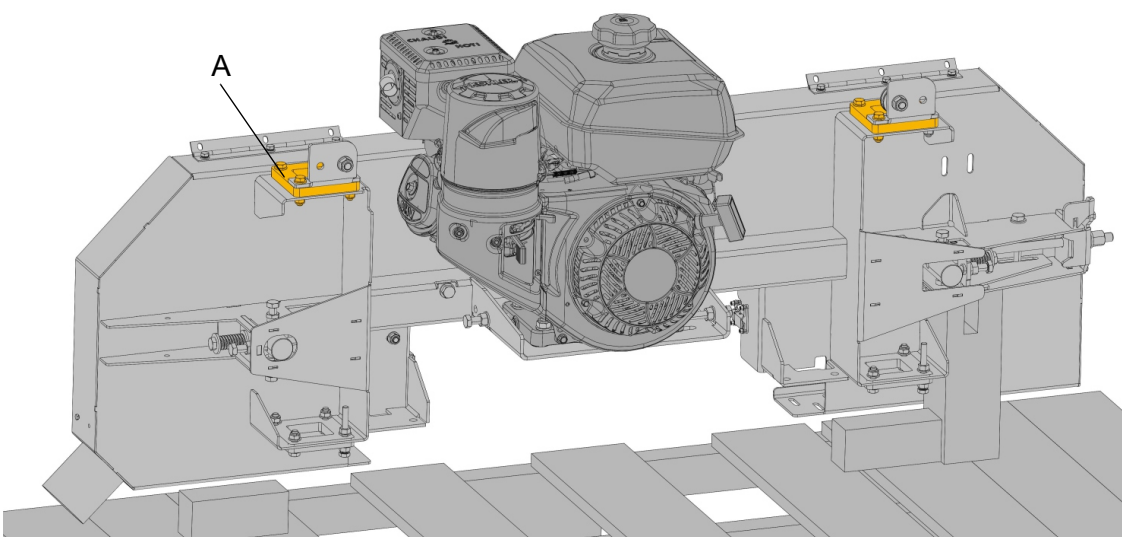




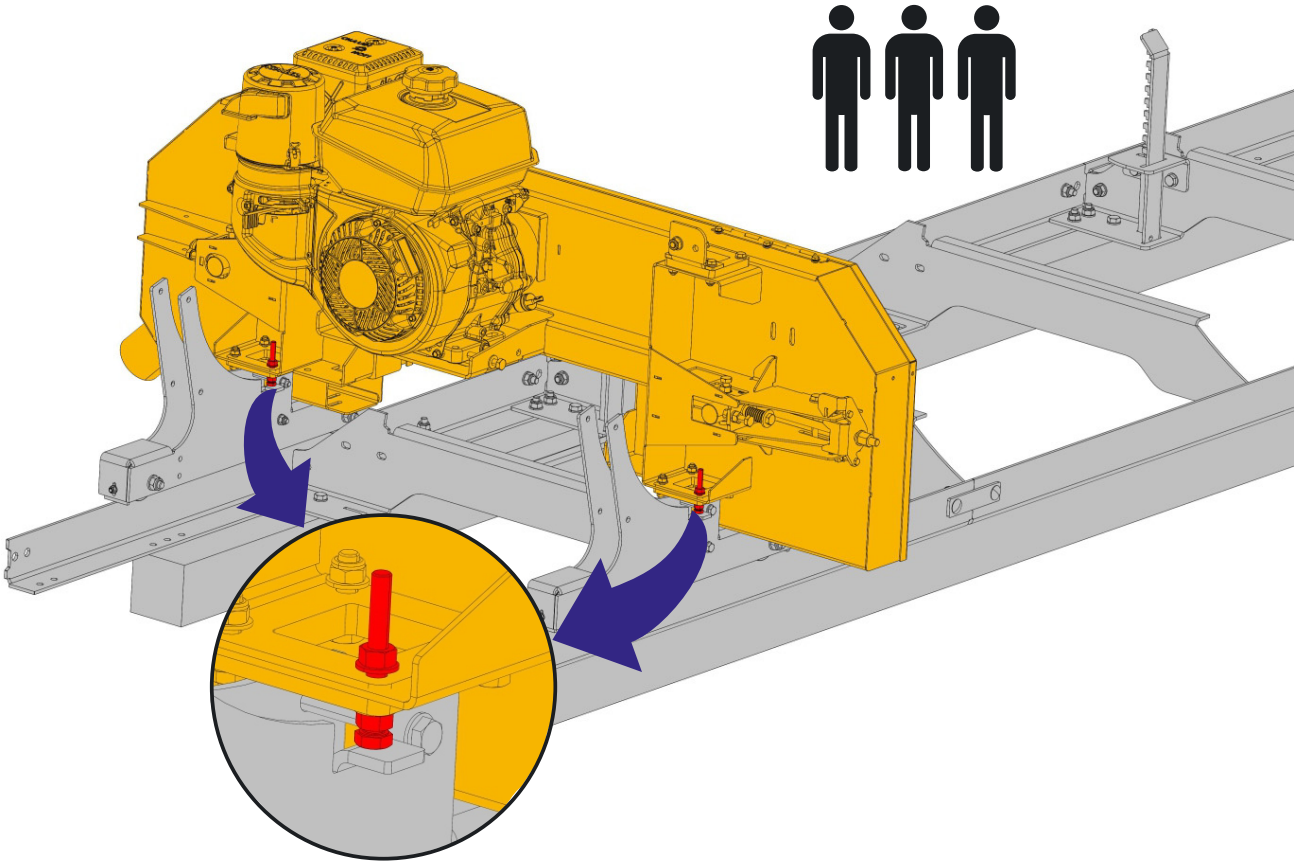
3. Place the lower mast plates **(A)** on the sawmill bed as shown below.



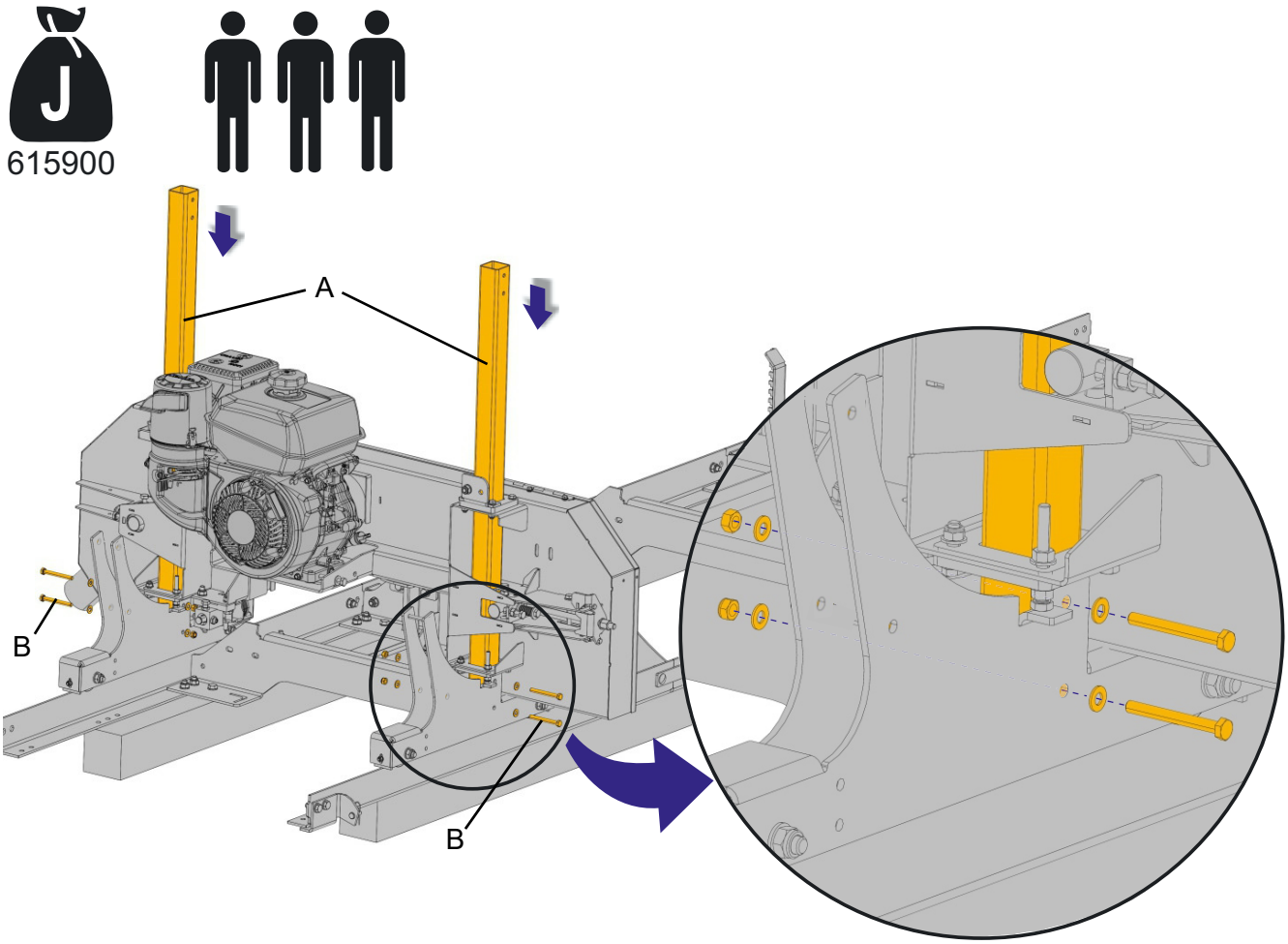
4. Loosen two guide blocks **(A)** shown below by loosening the nuts. Be sure to tighten them after installing the mast tubes.



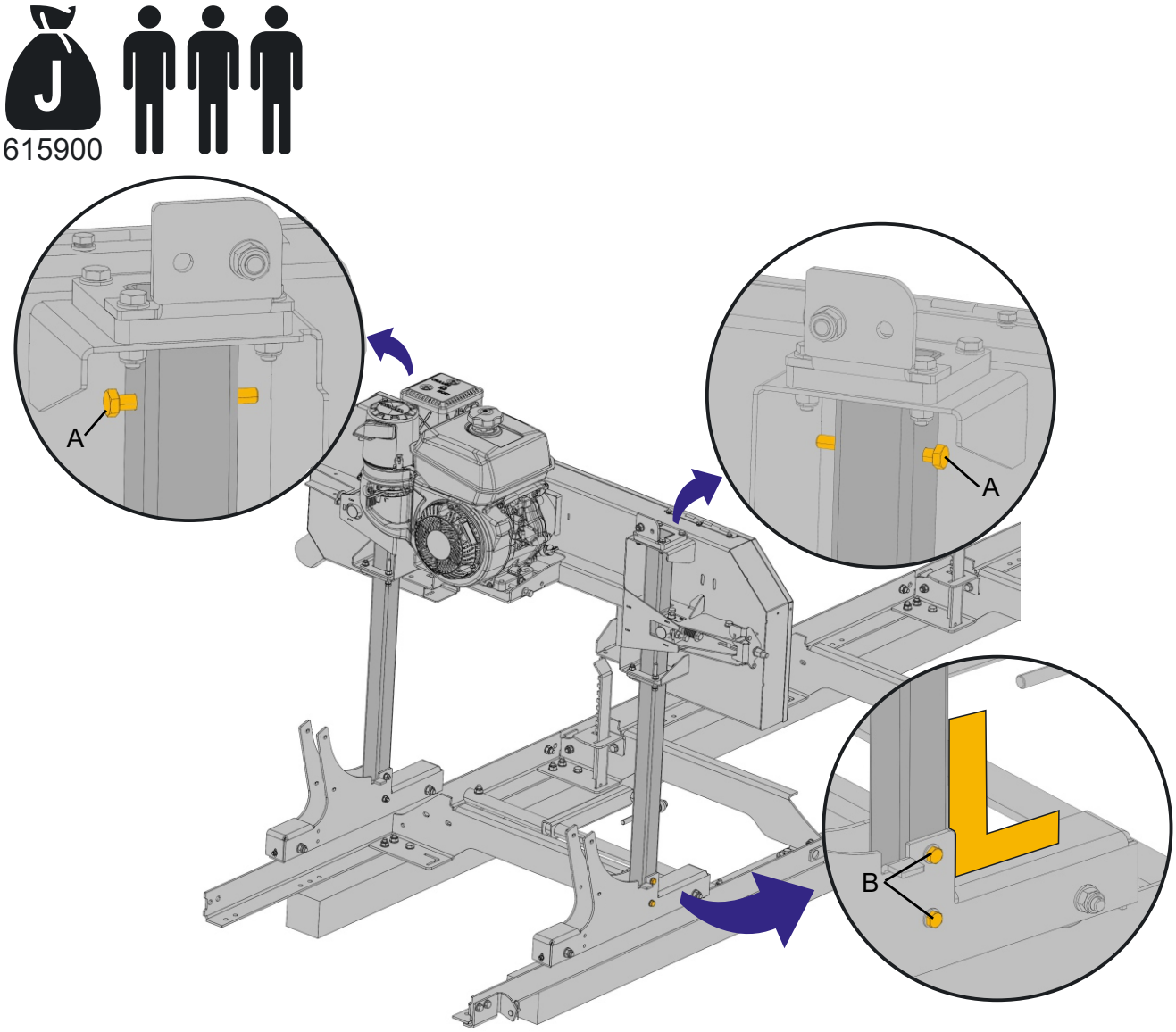
5. Place the saw head on the lower mast plates so that the stop bolts rest in the places shown below. Use at least three persons to do this. One of these persons must hold the saw head to prevent it from accidentally falling.
Please watch the movie if you are uncertain how to do it safely.



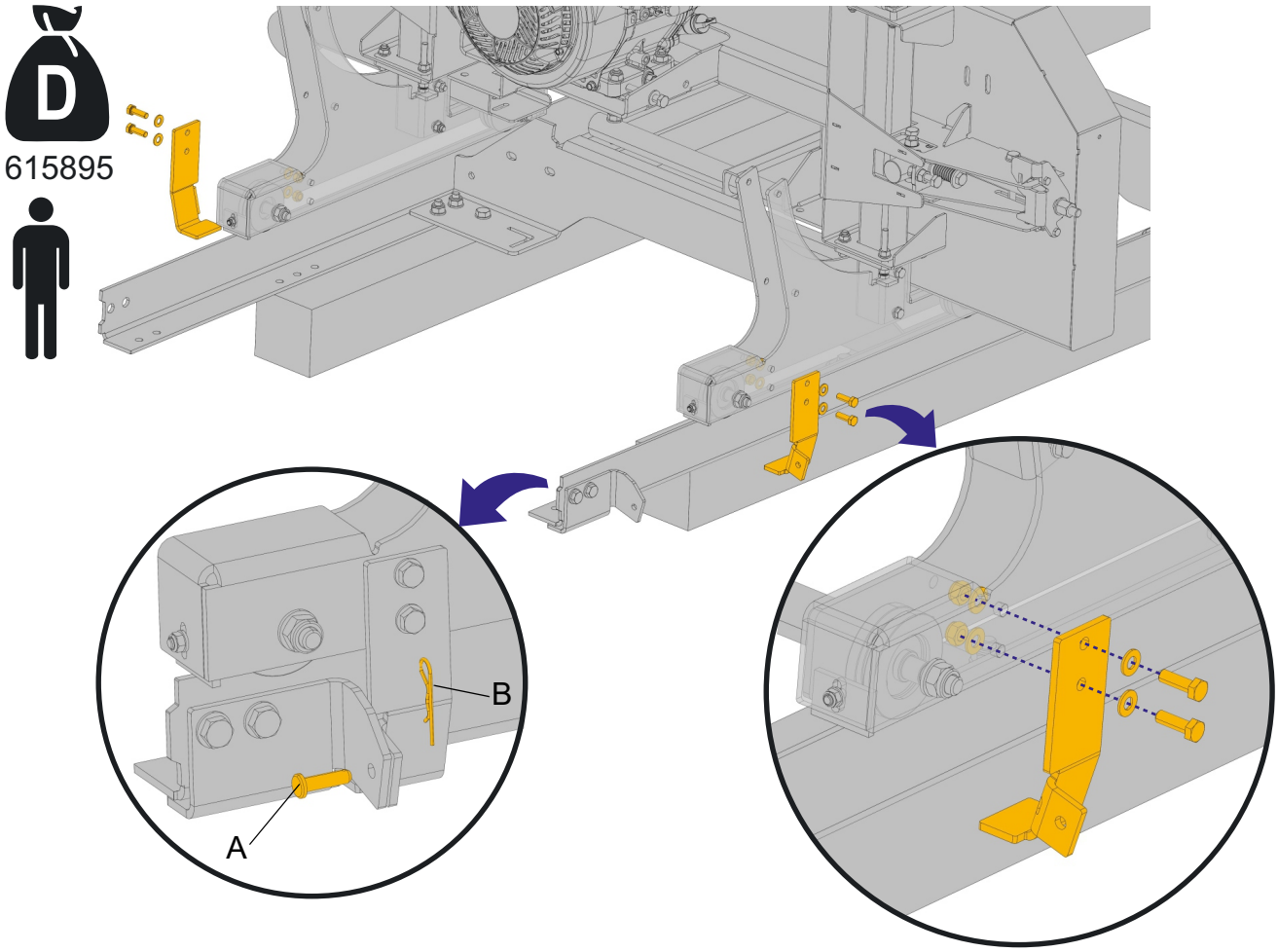
6. Insert the mast tubes No. 587055-1 **(A)** through the holes in the guide blocks. Fasten the mast tubes **(A)** to the lower mast plates using the M8x75 bolts **(B)**. (Do not tighten the bolts firmly). Use at least three people to perform this step. Tighten the guide blocks loosened in step 4.



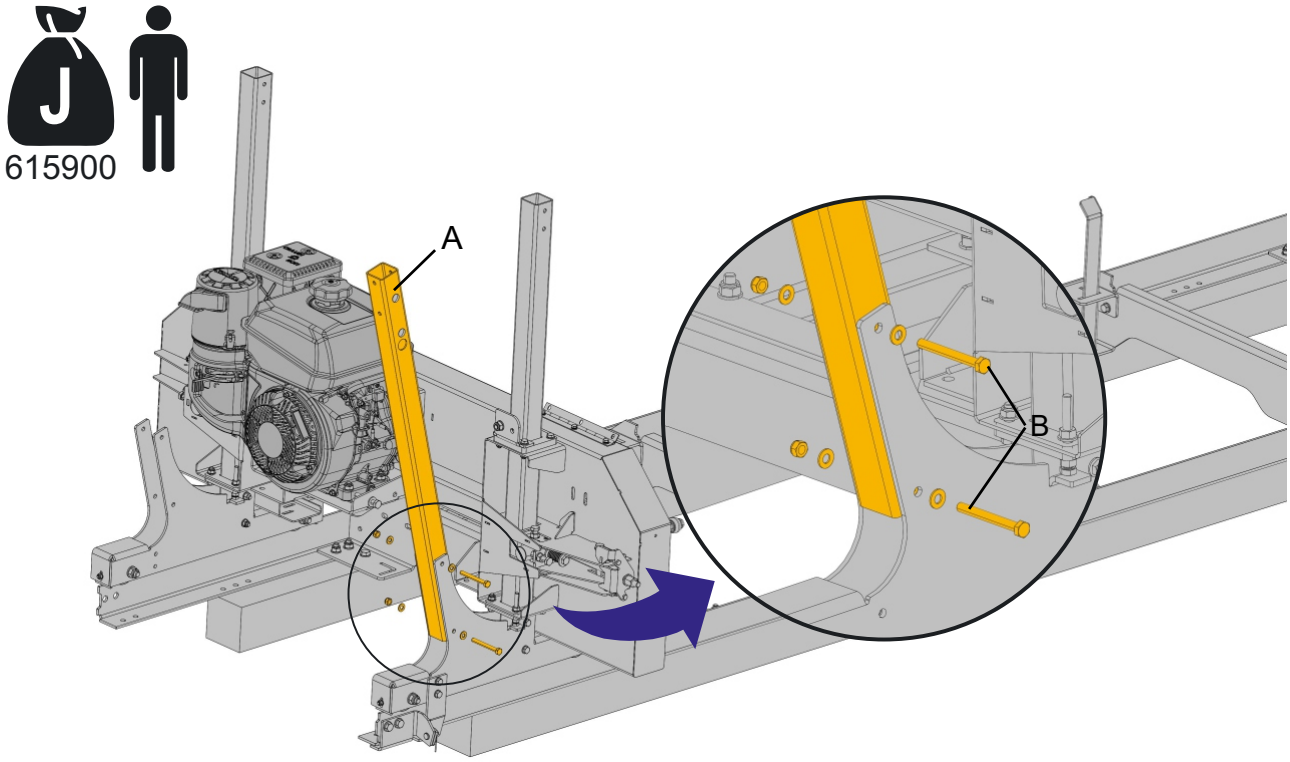
7. Raise the saw head and temporarily secure the mast with M8x75 bolts or rods **(A)** on both sides to prevent the saw head from moving down.Then use a square to set a right angle between the mast tube and the lower mast plate. Fasten the mast tube using the M8x75 bolts **(B)**. Repeat this step on the other side of the mast. Remove the bolts or rods **(A)** and lower the saw head to the lower mast plates.



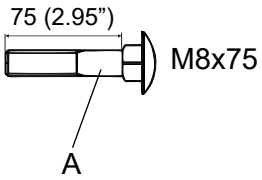
8. Use two M8x25 bolts to mount the mast safety plate No. 601073-1 on each side of the mast. Next, move the saw head to the front of the bed and insert the pin **(A)** through the hole in the element shown in the figure below. Secure the saw head with the cotter pin **(B)** to prevent the head from moving during further assembly operations.
CAUTION! Failure to install the mast safety plates may cause the saw head to fall from the bed frame.

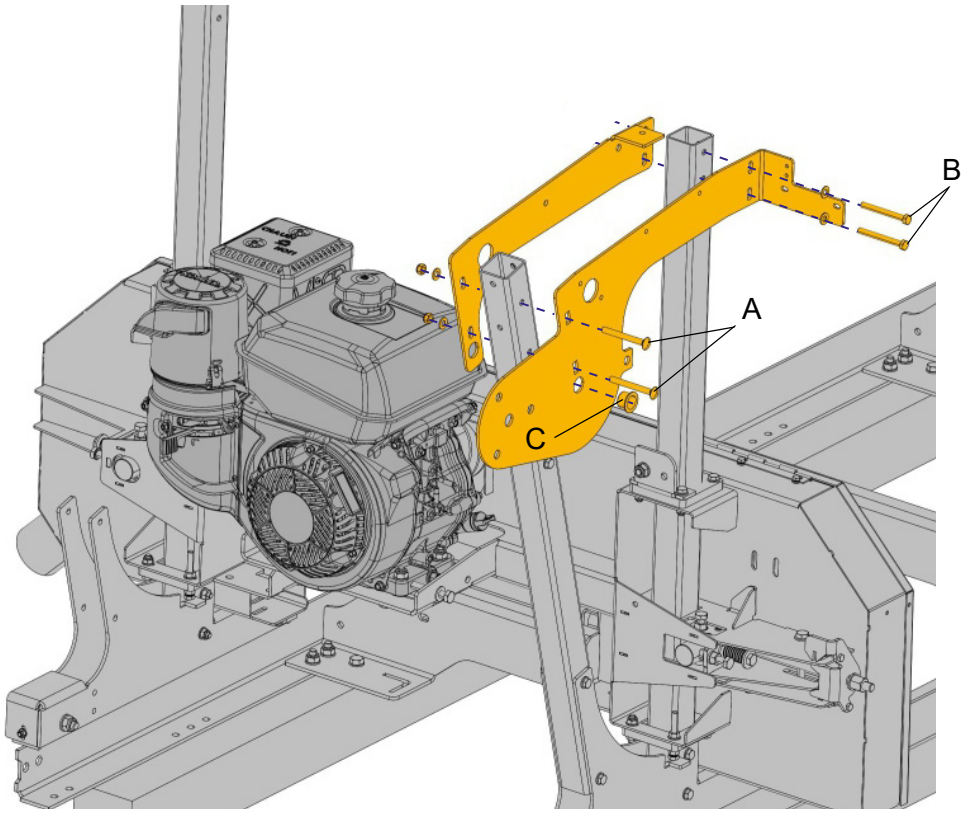


9. Place the mast tube No. 587072-1 **(A)** on the lower mast plate and secure with the M8x75 bolts **(B)**. Do not tighten the bolts firmly.

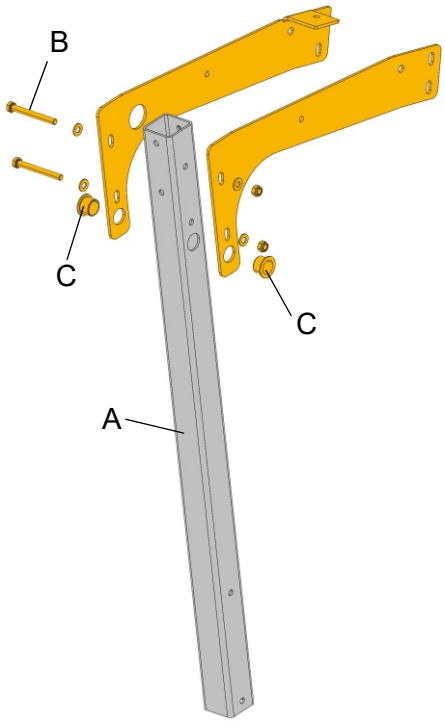


10. Bolt (leaving slight play) the upper mast plates using the M8x75 carriage bolts **(A)**. Insert the M8x75 bolts **(B)** through the holes as shown below, but do not tighten them. Place the bushing No. 091455 **(C)** in the hole.

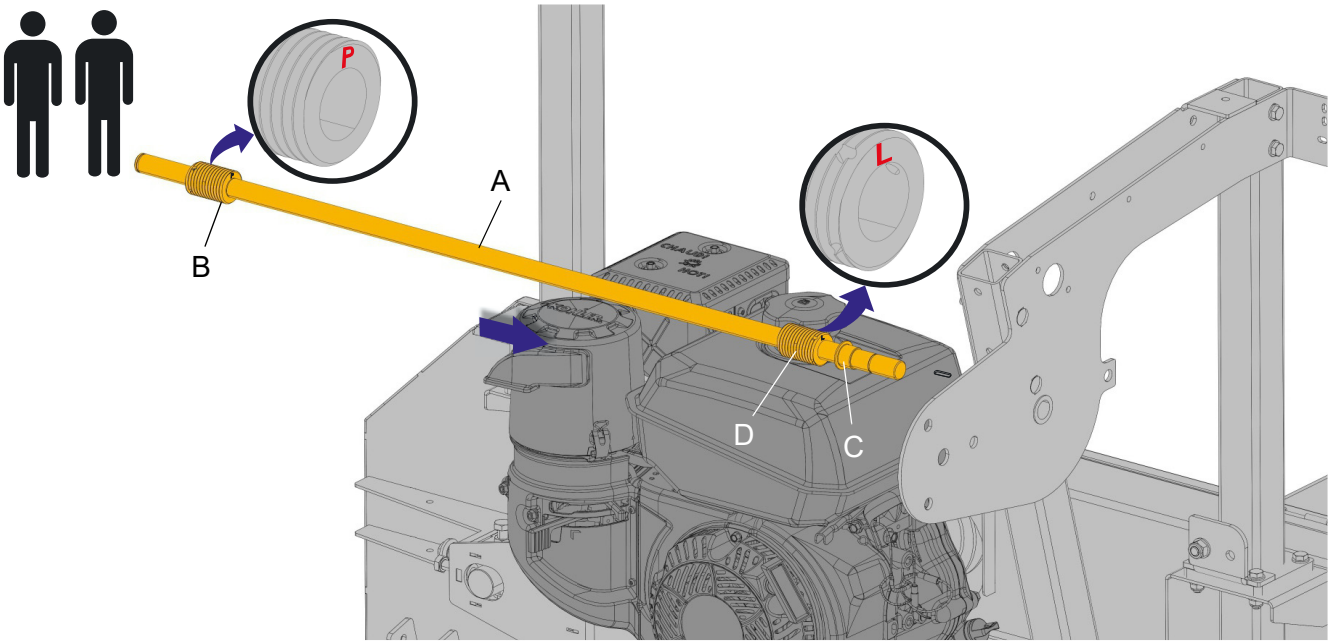




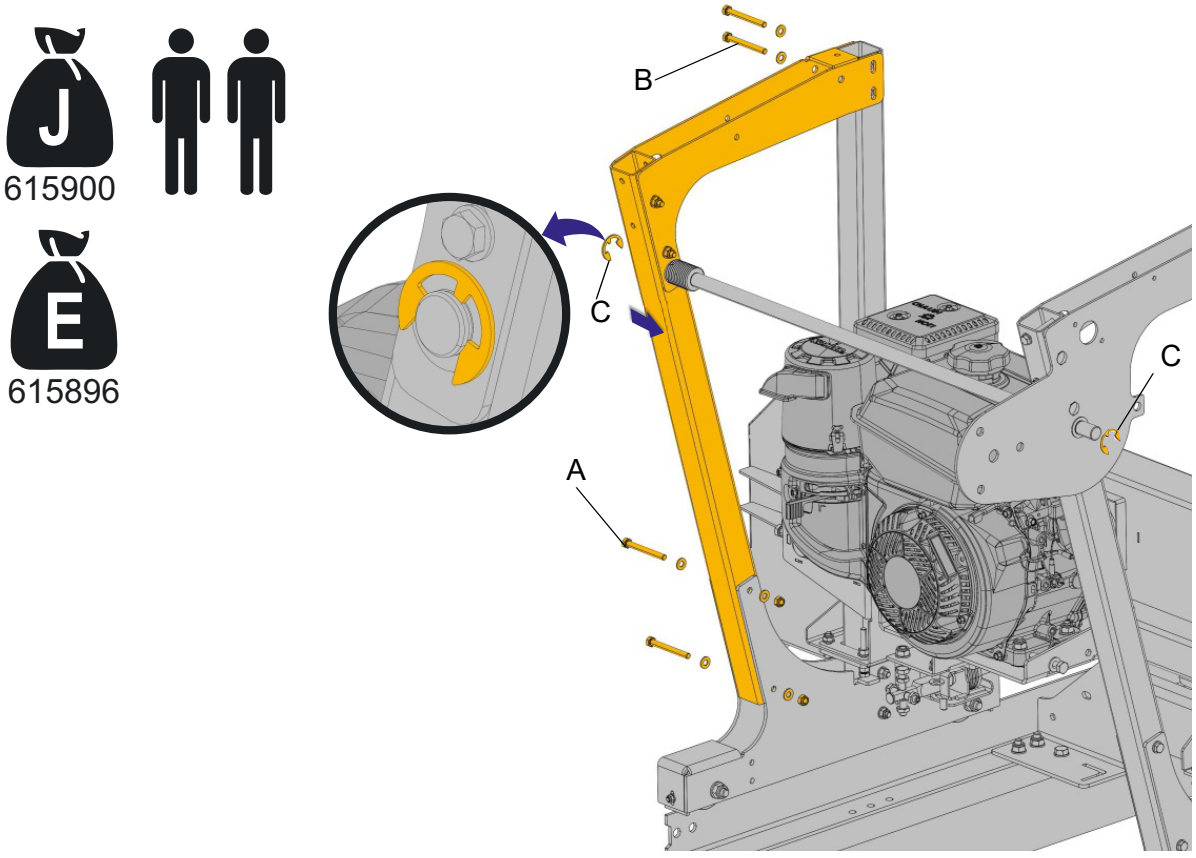
11. Fasten the upper mast plates to the left mast tube No. 587072 **(A)** using the M8x75 bolts **(B).** Do not tighten the bolts firmly. Place the plastic bushings **(C)** in the mast plate holes shown below.
NOTE: If either hole for the bushings (C) is too small, remove the excess paint from this hole.



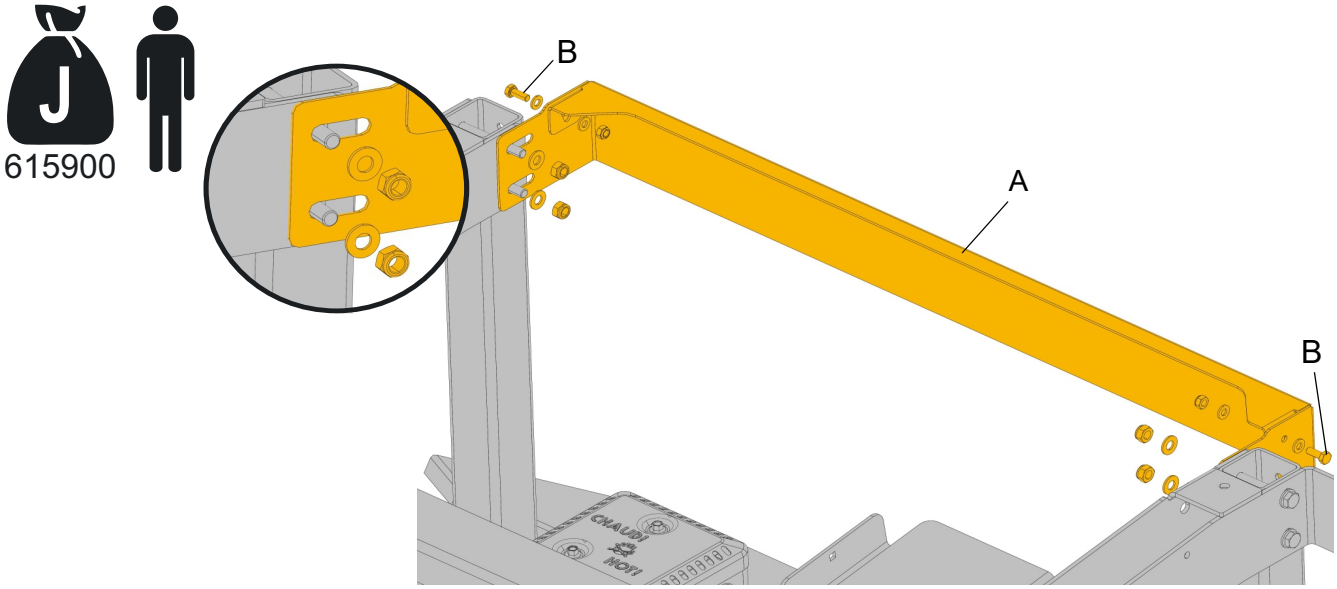
12. Install the up/down shaft No. 587067-1 **(A)** together with the plastic bushing No. X100-1256 **(C)** and the bushings for up/down cable: **(B)** No. 532325 (**P**) and **(D)** No. 534526 (**L**). See the figure below.



13. Slide the previously-assembled mast element (shown below) onto the up/down shaft and fasten with the M8x75 bolts **(A)**. Do not tighten the bolts firmly. Insert the M8x75 bolts **(B)** through the holes as shown below, but do not tighten them. Secure the up/down shaft by placing the retaining rings **(C)** in the grooves of the shaft at both its ends.



14. Fasten the top mast beam No. 587105-1 **(A)** to the mast tubes. Install and tighten the M6x16 bolts **(B).** The beam should be moved as far forward as possible.



15. Bolt the push bar No. 601194 with the M6x20 carriage bolts.

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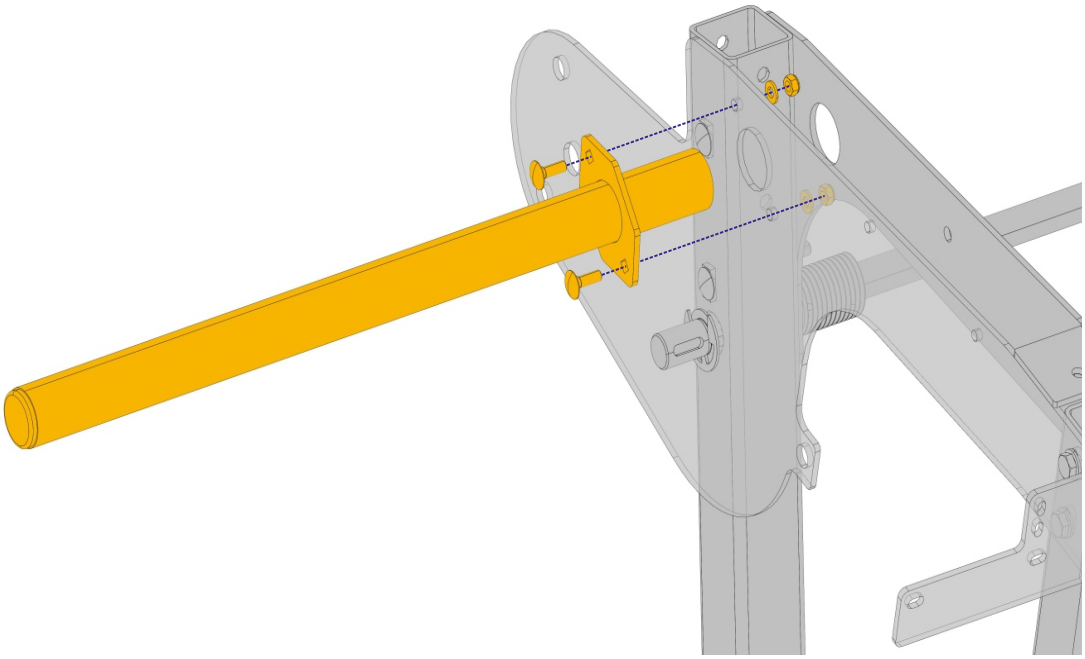
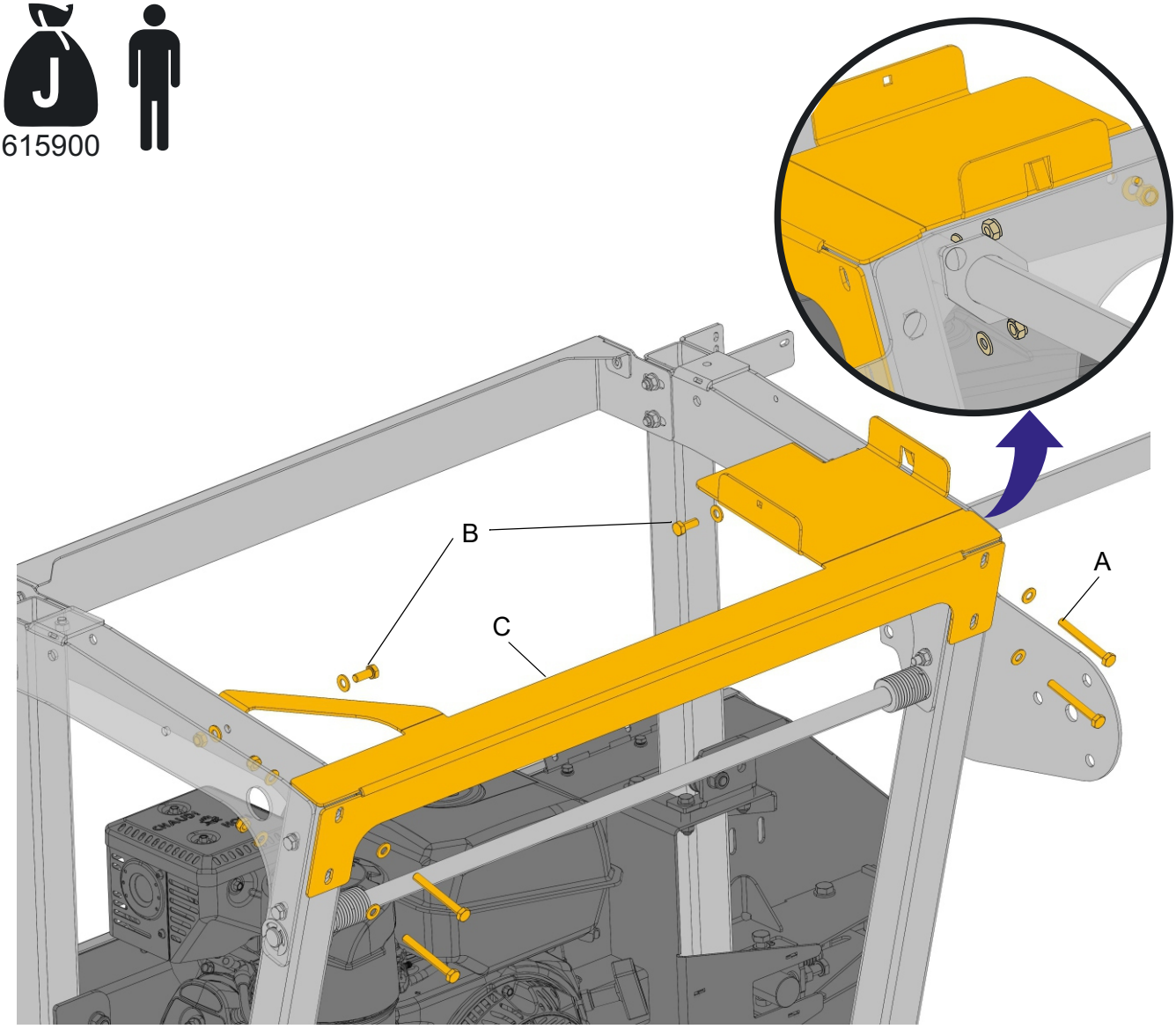
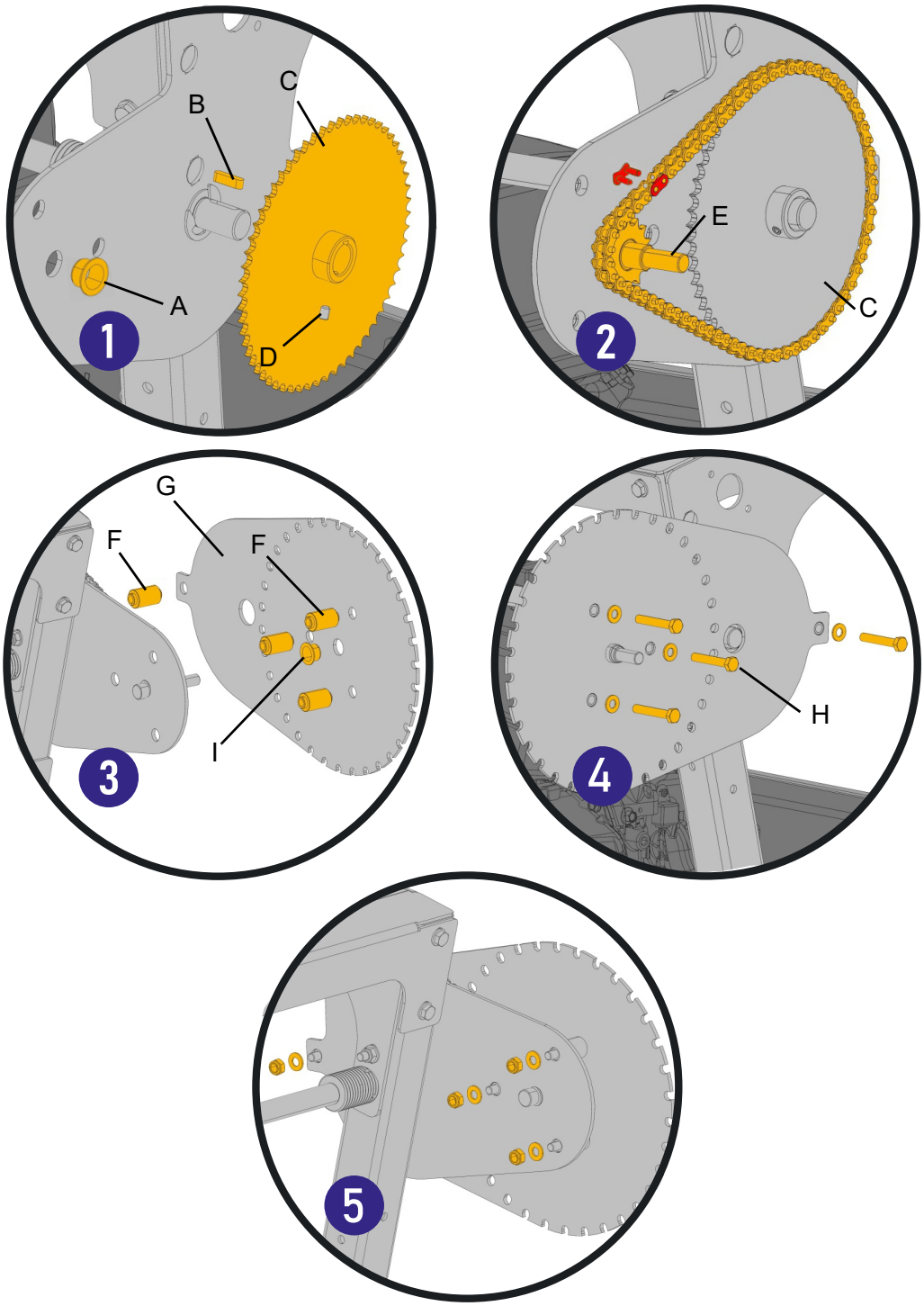


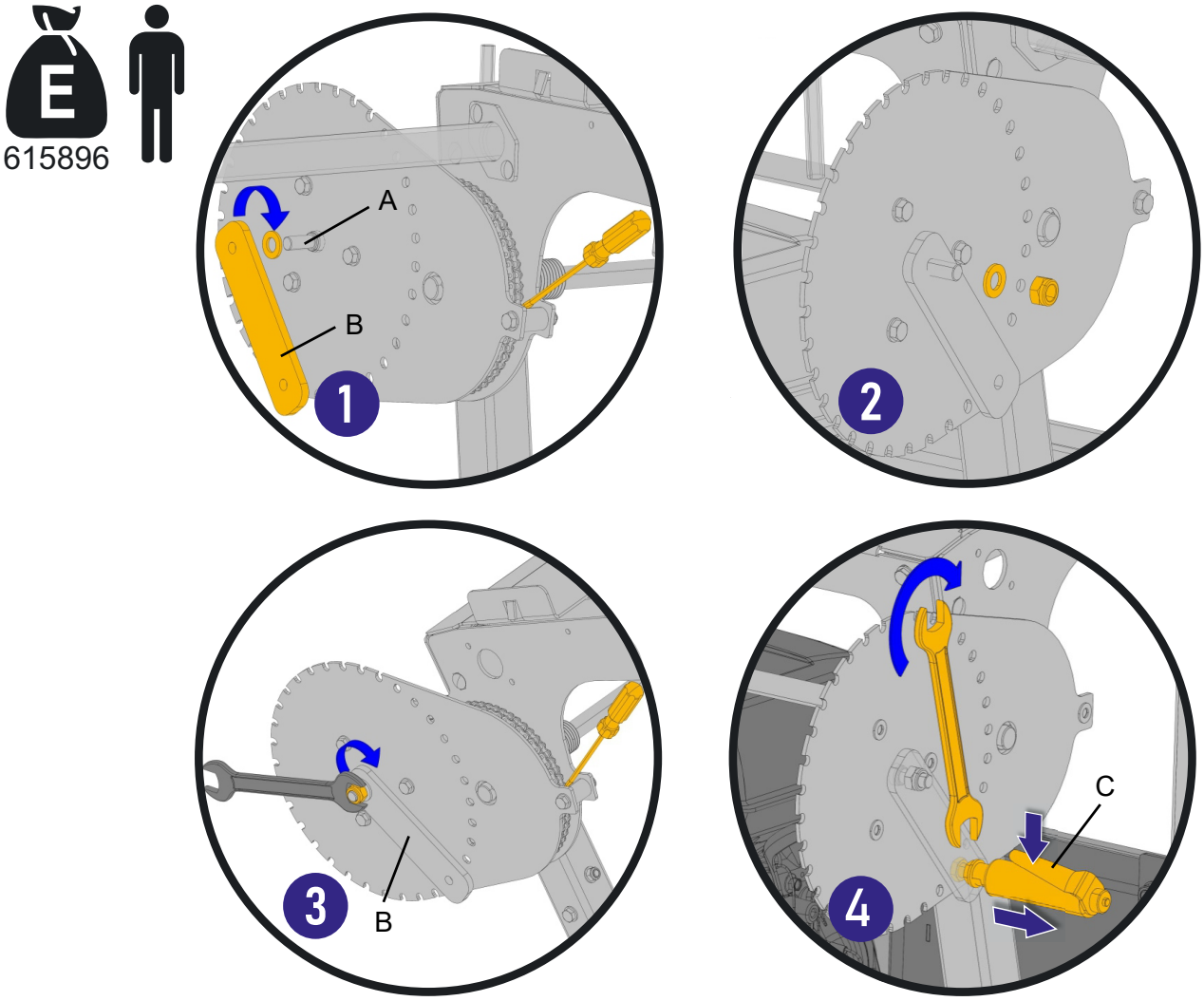
16. Use the M8x70 bolts **(A)** and M8x20 bolts **(B)** to bolt the top mast angle No. 587069-1 **(C)** to the mast frame. **After installing the top mast angle, tighten firmly all nuts that were not fully tightened in earlier steps.**



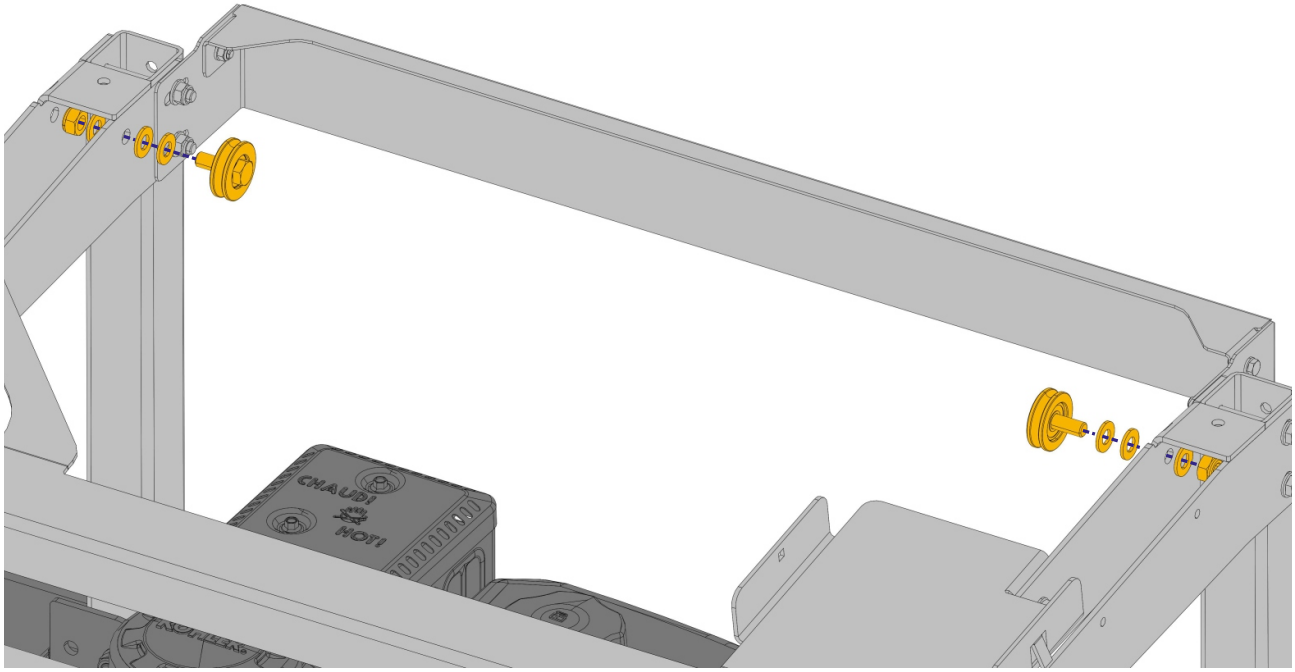
17. (1) Insert the bushing **(A)** into the hole. Insert the key **(B)** into the shaft slot and slide the sprocket **(C)** onto the shaft. Install and tighten the M6x8 set screw **(D)**. (2) Place the chain around the large sprocket **(C)** and the small sprocket **(E)**. Connect the chain ends with the master link and push the small sprocket assembly into the bushing **(A)**. (3) Install the spacers **(F)** and the plastic bushing **(I)** in the up/down lock plate **(G)**. If necessary, remove excess paint from the holes in the up/down lock plate **(G)**. (4), (5) Insert the M8x50 bolts **(H)** through the holes and secure as shown below.



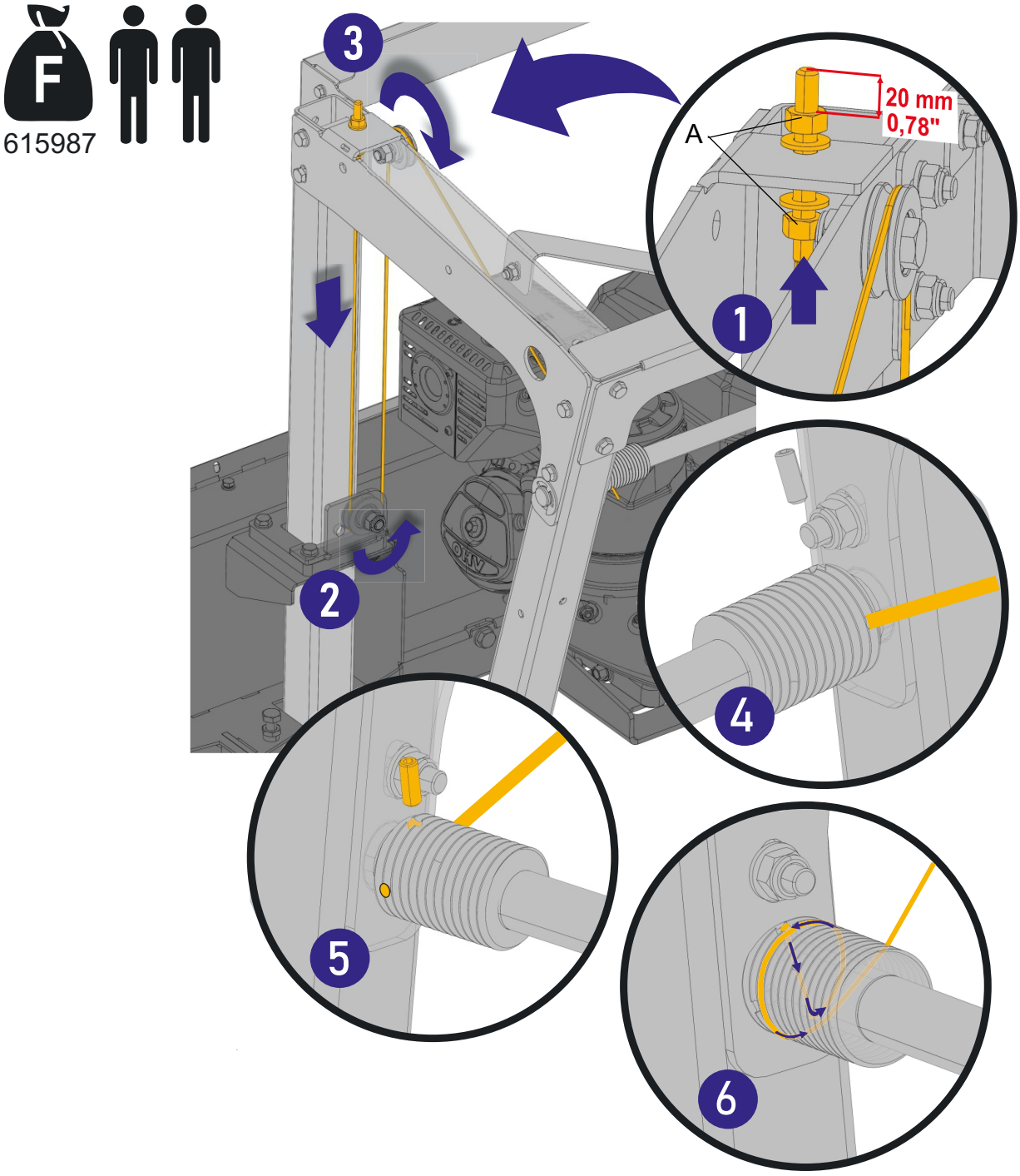
18. (1) Screw the crank handle plate **(B)** on the thread of the sprocket **(A)** as shown below. Block the chain with a screwdriver to prevent it from moving. (2) Place the washer and nut on the small sprocket shaft. (3) Use a wrench to tighten the nut securing the crank handle plate **(B)**. (4) Press and move the crank handle **(C)** as indicated by the arrows and fasten the crank handle with a wrench.



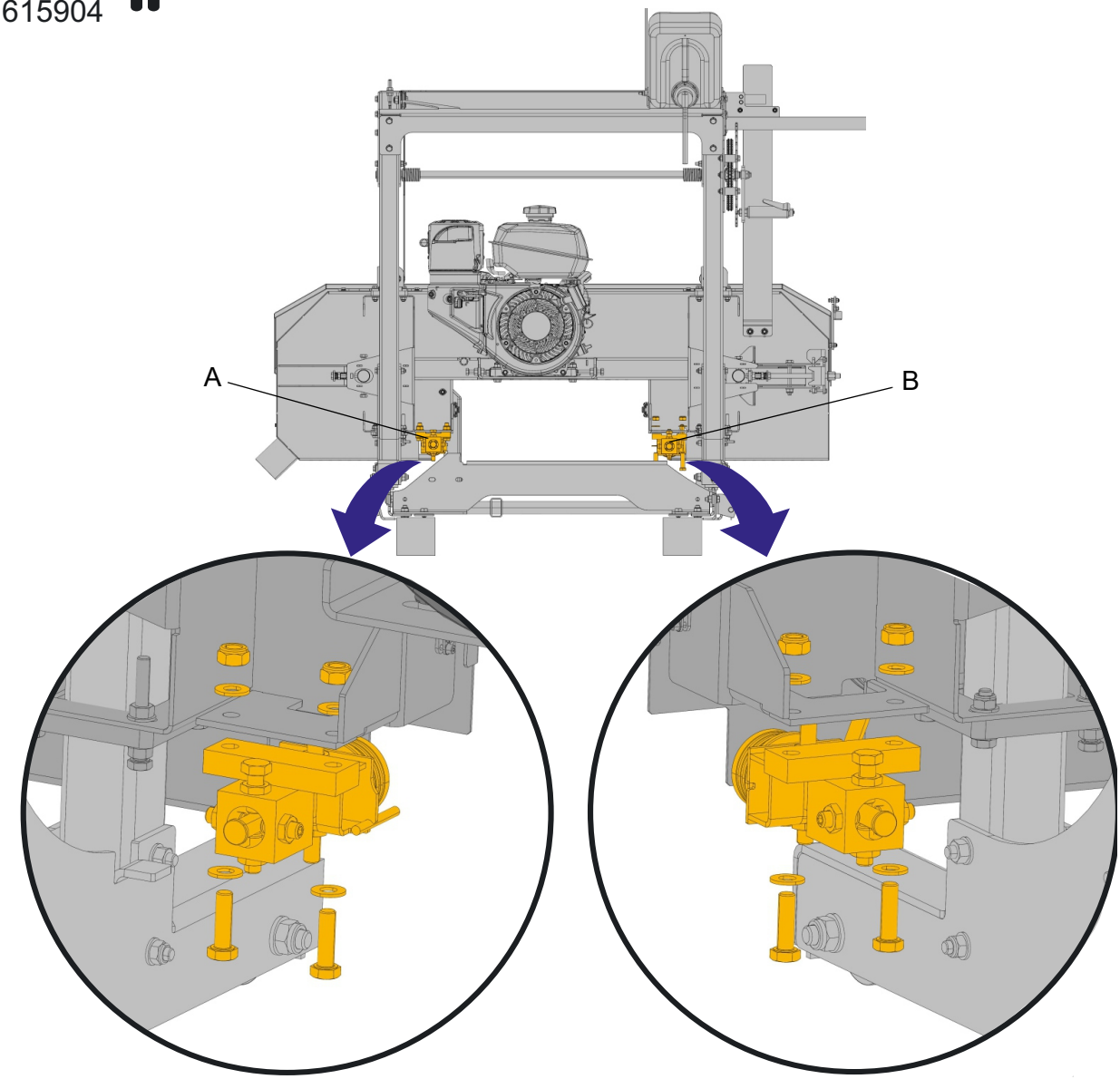
19. Install the up/down rollers.



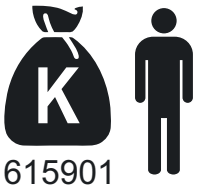
20. **(1)** Thread the steel cable through the hole in the mast and secure with the nuts. **(2, 3)** Then route the cable around the lower pulley to the upper pulley and down to the helical bushing.**(4)** Insert the cable through the hole of this bushing. The end of the cable must not protrude beyond the outline of the bushing. **(5)** Secure the cable with the set screw. **(6)** Wind the cable onto the first groove of the bushing and loop it around the bushing. Repeat this procedure for the cable on the other side of the mast. Use the nuts **(A)** to adjust the cables to the same length on both sides of the mast.
NOTE! Make sure there is one cable loop on the bushing when the saw head is lowered to its lowest position.



21. Mount the blade guide assemblies No. 587130 **(A)** and No. 587129 **(B)** using the M10x40 bolts.



22. Bolt the rubber strap that holds the water bottle to the mast. Use the M6x25 carriage bolt to do this. Install the water bottle. Fasten the other end of the strap in the place shown below **(A)**. Connect the hose from the water bottle drain tap to the metal tube of the blade guide.



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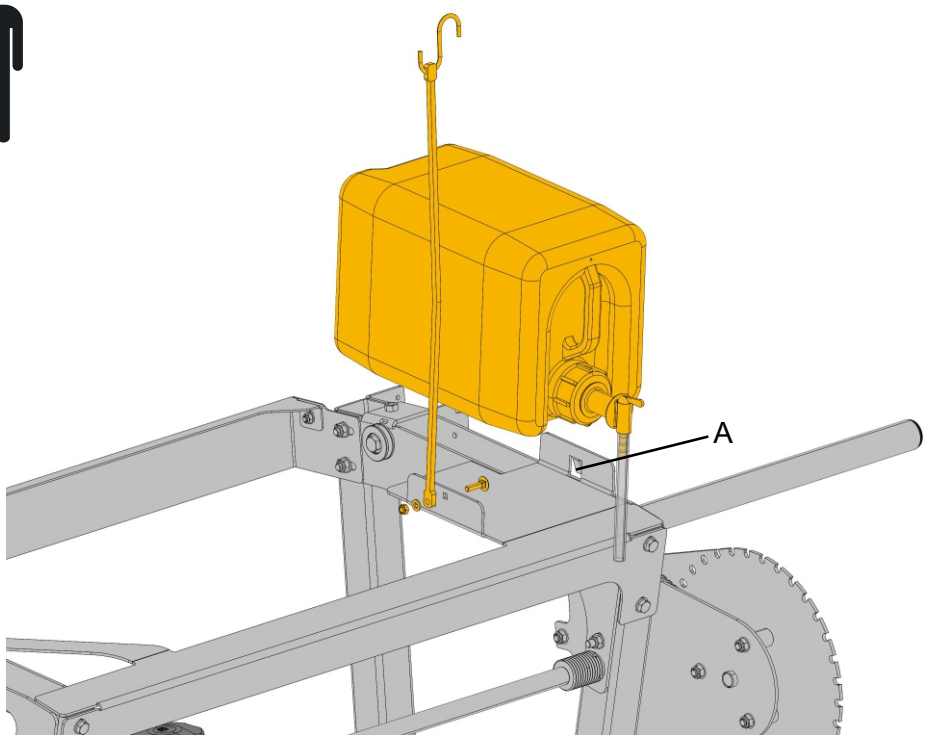
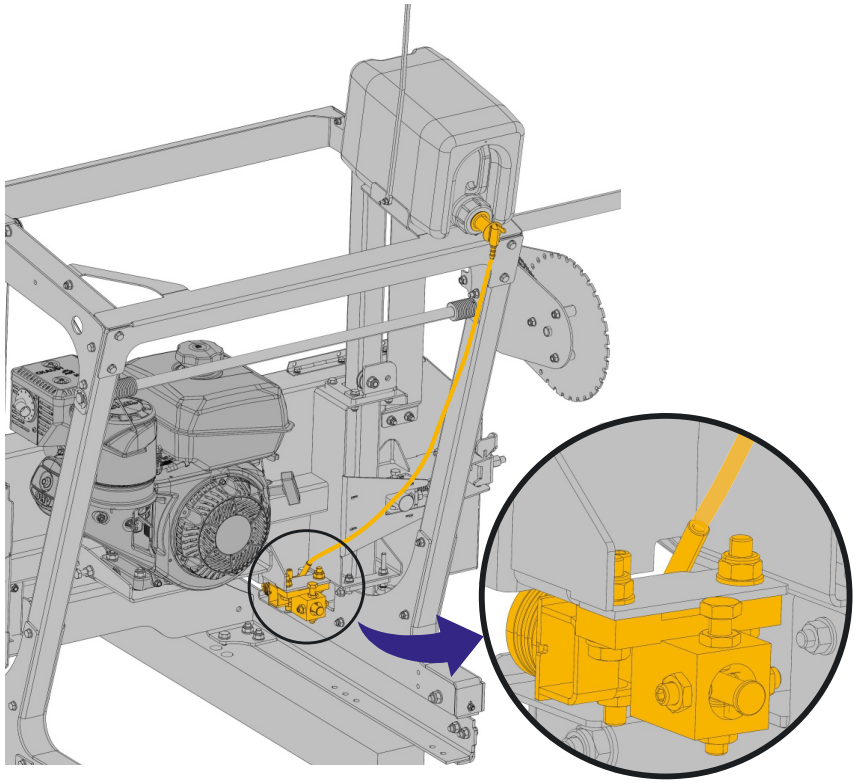
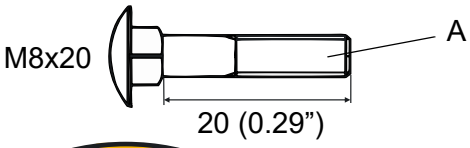
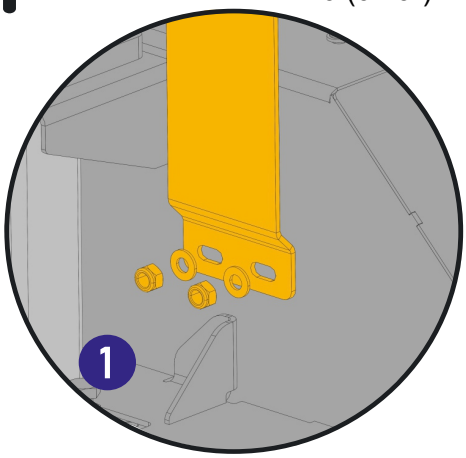
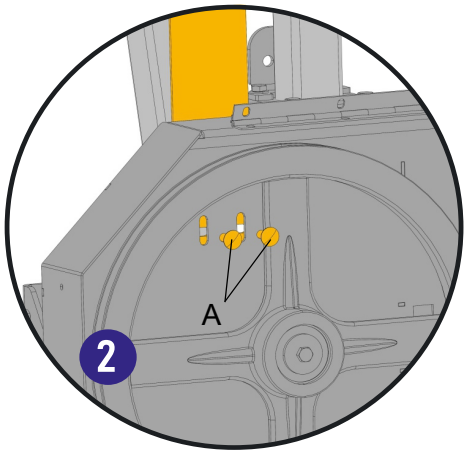


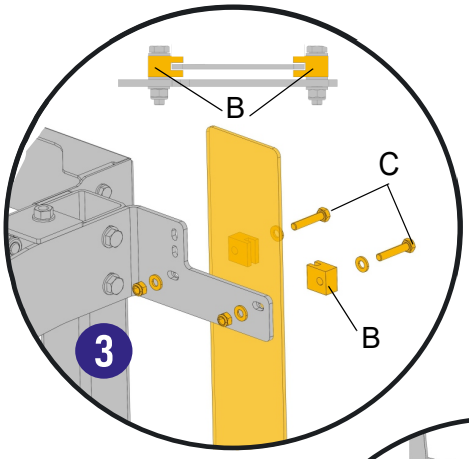


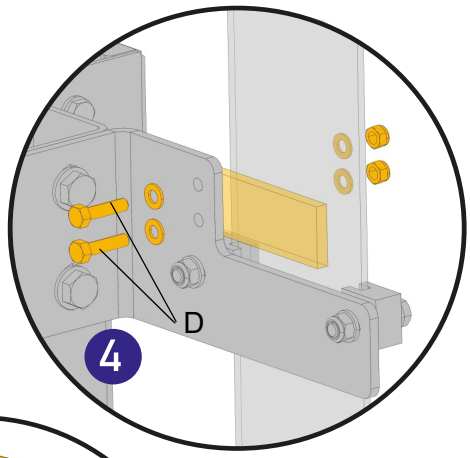
23. **(1, 2)** Fasten the blade height scale to the blade housing using the M8x20 carriage bolts **(A)**. **(3)** Place the stiffener blocks **(B)** on both sides of the scale and bolt the upper part of the scale with the M6x30 bolts **(C).** **(4)** Install the scale indicator No. 094821 to the scale using the M5x16 bolts **(D).** After installing the blade height scale, make sure it is positioned vertically (not tilted). **(5)** The scale is completely mounted.

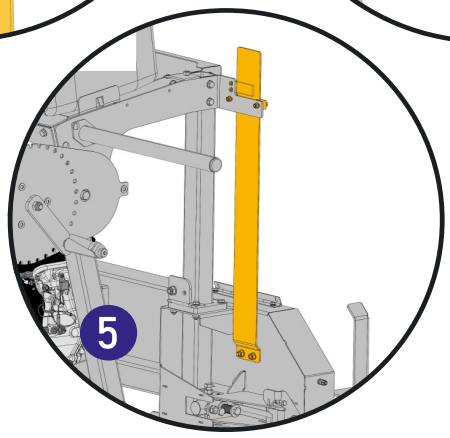




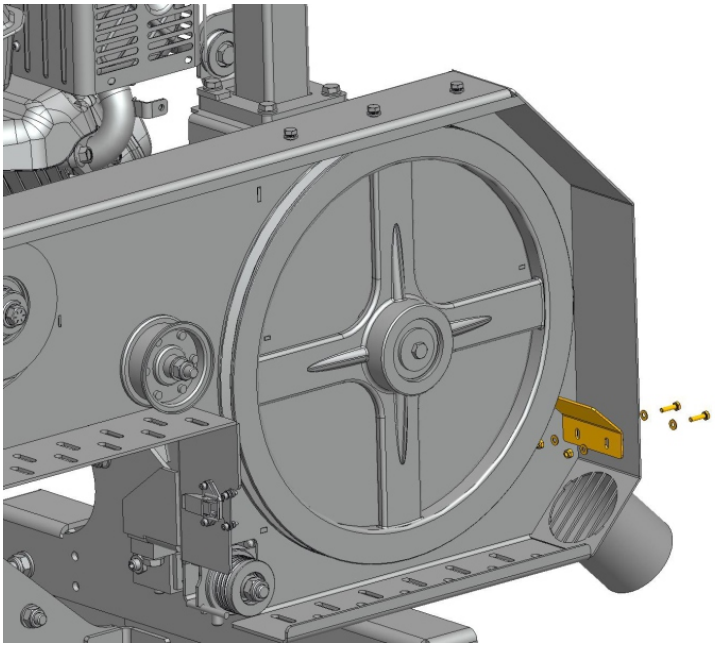




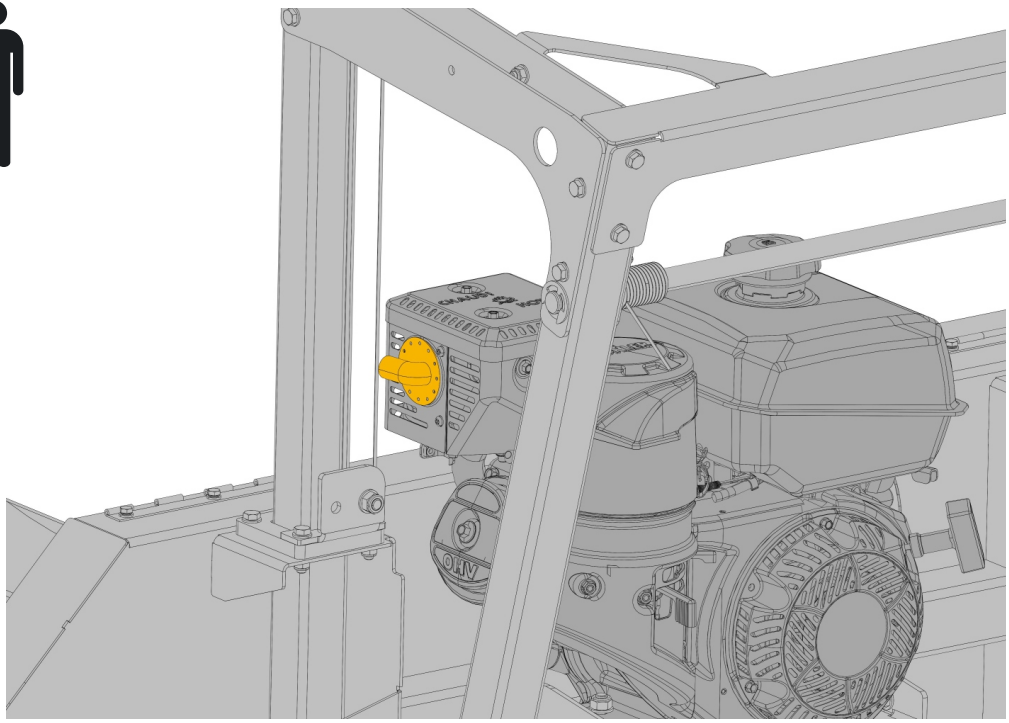




24. Fasten the sawdust chute deflector using the M4x16 bolts.



25. Install the exhaust deflector. When fastening the deflector, make sure its outlet **is not** pointing toward the operator side of the sawmill so that the operator is not exposed to engine exhaust gases.

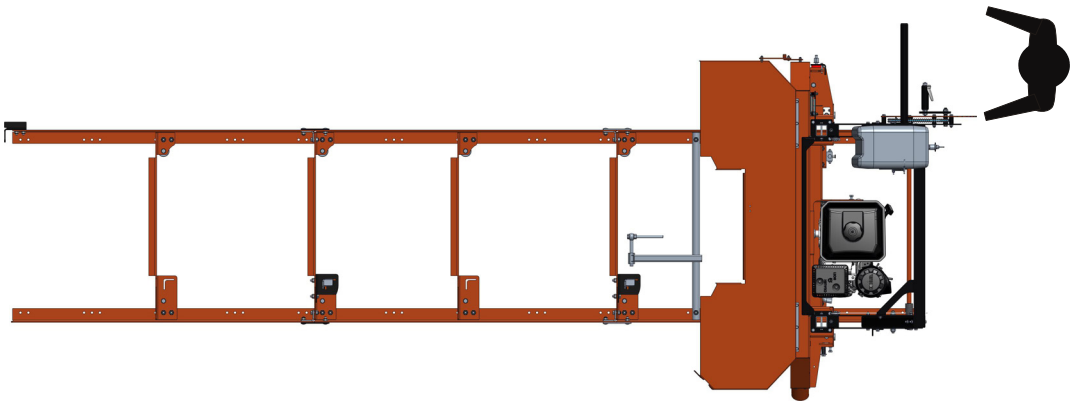


SECTION 3 SAWMILL OPERATION

3.1 Sawmill Setup

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

- Clean the area around the sawmill. Inspect the sawing site for debris or uneven surfaces that may become a trip hazard. Ensure that eye, ear, and respiration protection are readily available. Ensure that the operator is wearing foot protection and proper working clothes.
- The sawmill must not be operated indoors without a sawdust extraction system connected and started.
- Check the engine oil level. (See the Engine Manual.)
- AC sawmills must not be used outdoors when it is raining or snowing. In such a case, they must be used and stored under roof or indoors.
- Gas sawmills must not be used indoors. These sawmills can be operated outdoors without a sawdust collection system, but the operator should stand downwind. It will prevent the operator from being exposed to sawdust and engine exhaust gases.
- The sawmill can be operated in temperatures from –15^{o} C to 40^{o} C only.
- The light intensity in the operator's workplace must be at least 300 lx.
- The operator's workplace is shown below.



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

See Table 3-1.

3-Phase Volts	Circuit Breaker	Suggested Wire Size
400 VAC	8 A	2.5 mm^2 Maximum log length: 15 m

TABLE 3-1

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

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

DANGER! It is recommended that the electrical system be equipped with a ground fault interrupter (GFI).

3.2 Drive Pulley Alignment

See Figure 3-1. Using a ruler, check that the engine centrifugal clutch located on the engine shaft is aligned with the blade wheel. See the figure below.

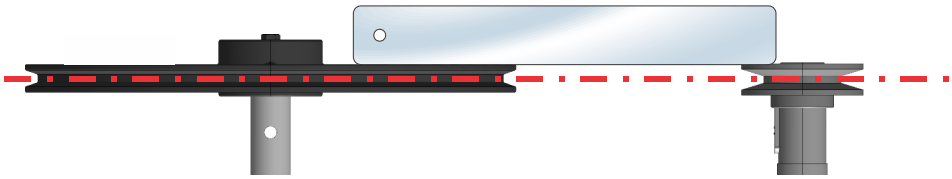


FIG. 3-1

See Figure 3-2. To align the pulleys, loosen or tighten the bolts located in the engine mount plate on both sides. Failure to align the pulleys correctly may result in premature drive belt wear.

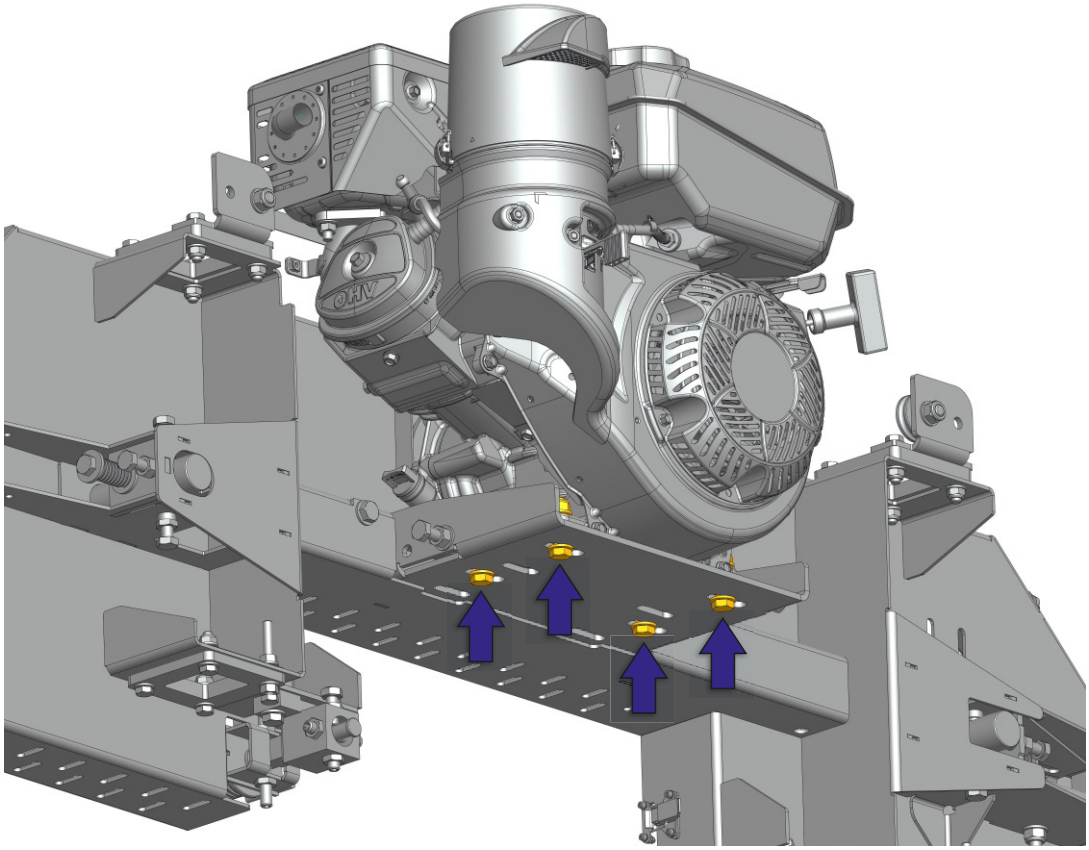


FIG. 3-2

3.3 Drive Belt Adjustment

1. The drive belt **(A)** should be tightened so there is 1" (25 mm) deflection with a 5.5 to 7.7 lbs (2.5 kg to 3.5 kg) deflection force.

   See Figure 3-3.

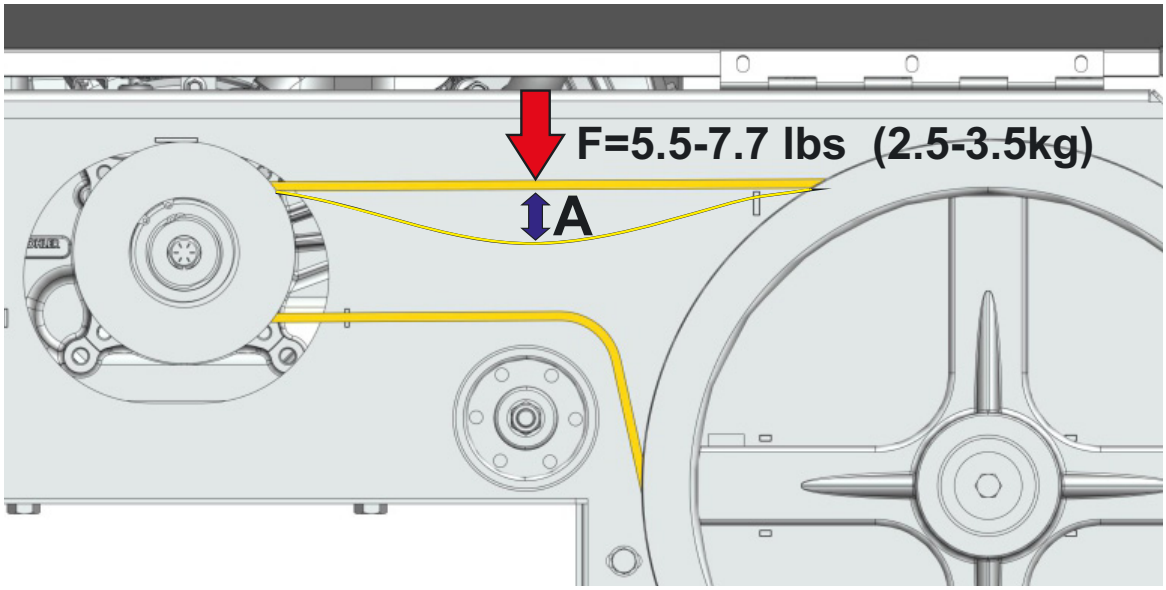


FIG. 3-3

2. To adjust the engine drive belt, use the bolts mounting the engine to the engine mount plate.

3. Loosen the four engine mounting bolts.

   See Figure 3-4.

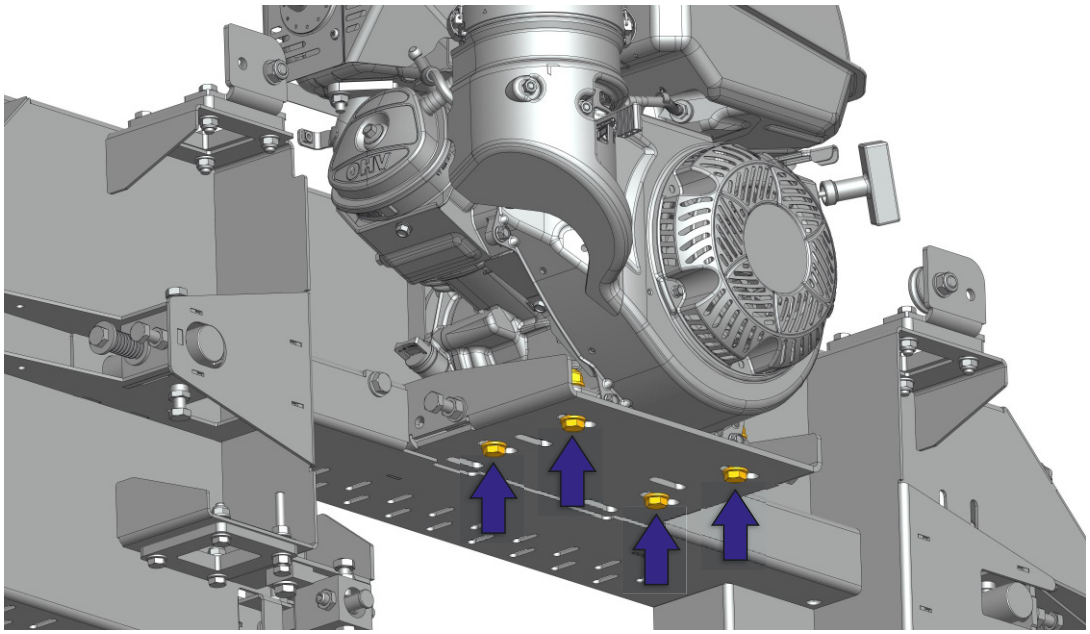


FIG. 3-4

4. To tighten the drive belt, loosen the bolt **B** and tighten the bolt **A**. To loosen the belt, loosen the bolt **A** and tighten the bolt **B**. Once the drive belt has been adjusted correctly, tighten the lock nuts of the bolts A and B and the four engine mounting bolts.

   See Figure 3-5.

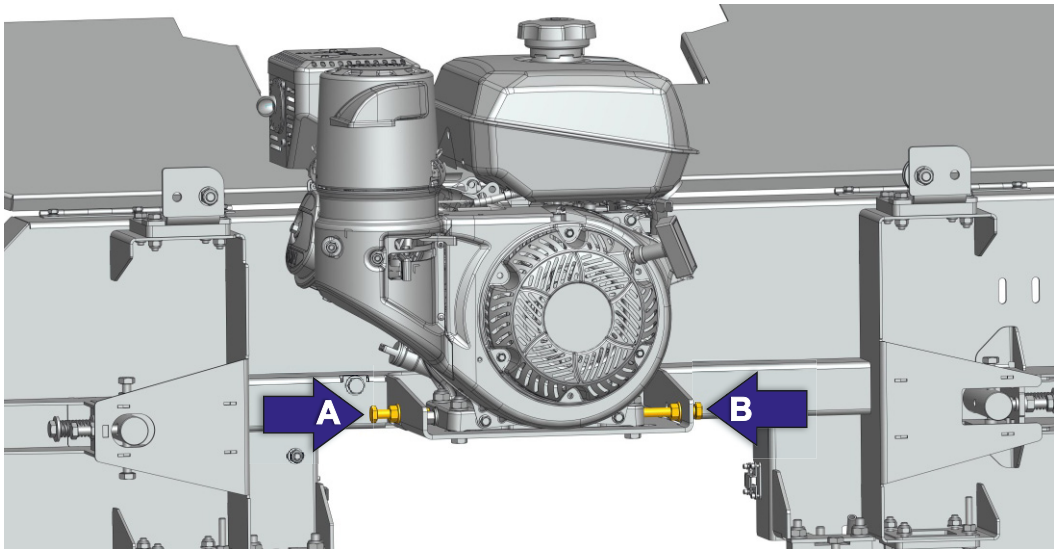


FIG. 3-5

3.4 Saw Head Adjustment

CAUTION! Remove the blade guide assemblies before adjusting the saw head.

1. Position the saw head above the cross bed rail at a height of about 3.9” (10 cm).

2. Check that the saw head is parallel to the bed rail. To do this, measure the distances (“A” and “B”) from the saw head to the mast foot on both sides of the saw head. If these distances differ, adjust the saw head on one or both sides so that it is parallel to the bed rail.

   See Figure 3-6.

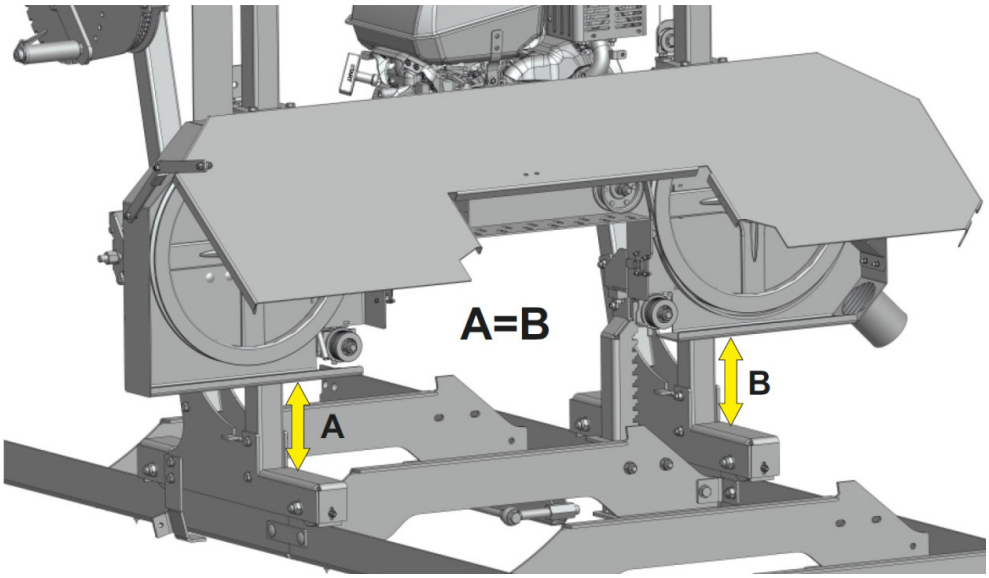


FIG. 3-6

3. To lower the saw head, loosen the lower nut, hold the threaded rod with pliers and turn the upper nut counterclockwise. To raise the saw head, loosen the lower nut, grab the threaded rod with pliers and turn the upper nut clockwise. Once the saw head is correctly positioned, tighten the lower lock nut.

WARNING! Do not completely unscrew the upper nut during adjustment as this may cause the saw head to fall.

See Figure 3-7.

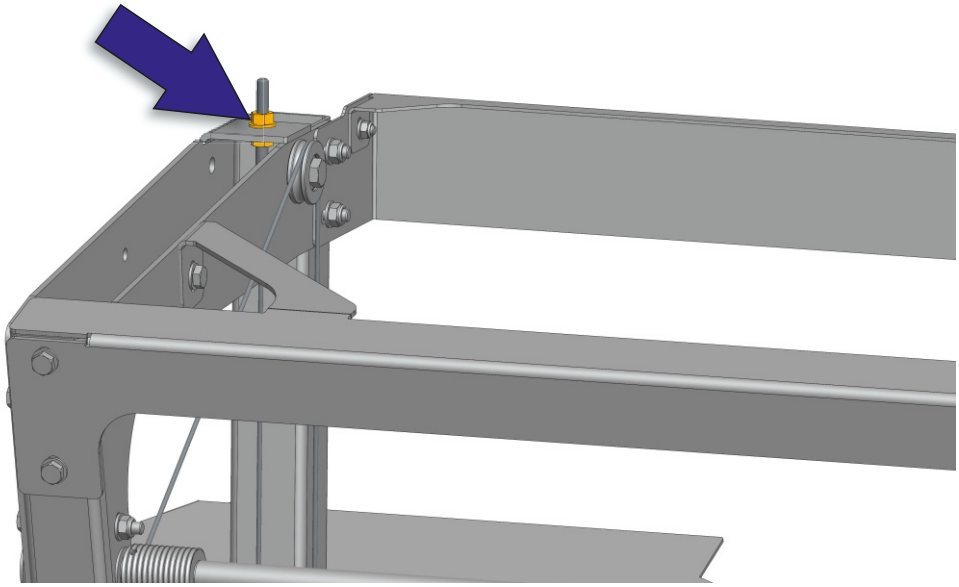


FIG. 3-7

3.5 Blade Installation

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

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

Turn the blade tensioner screw to decrease the blade tension until the blade is lying loose in the blade housing. Lift the blade out of the blade housing.

Place a new blade loosely around the blade wheels. When installing the blade, make sure its teeth are pointing the correct direction. Then tension and adjust the blade as described in the following sections.

3.6 Tensioning the Blade

To tension the blade, place a wrench (it is not provided with the sawmill) on the tensioner screw and turn the tensioner screw clockwise until the blade tension indicator is in the middle of the notch indicating the correct tension.

See Figure 3-8.

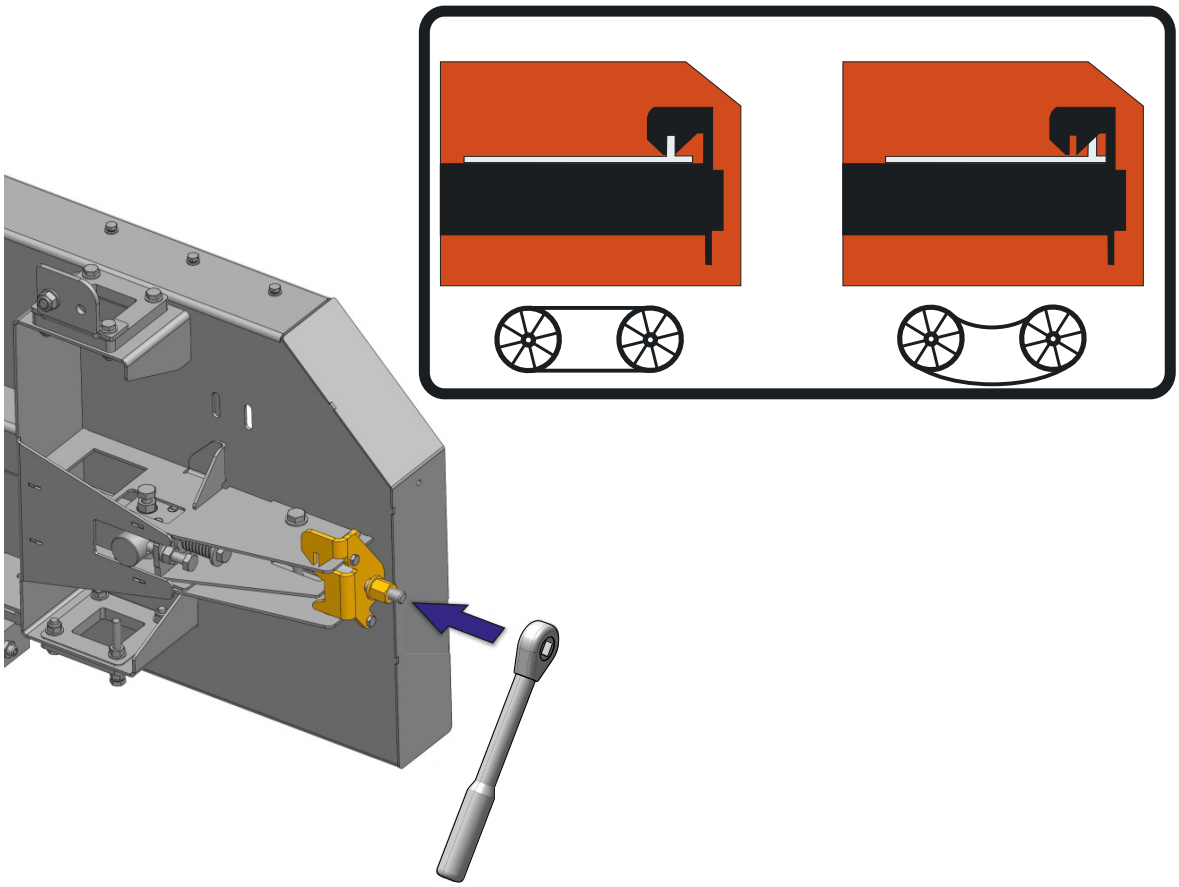


FIG. 3-8

CAUTION! Release the blade tension and remove the blade after you have finished using the sawmill (e.g. after every shift). Place information on the machine for other operators that it is necessary to tension the blade again before starting the sawmill.

3.7 Tracking 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.

CAUTION! Before adjusting the blade wheels, raise the blade guide rollers so that they do not touch the blade. (*See Section 3.9*.)

Tension the blade before adjusting its position on the blade wheels.

After tensioning the blade, check its position on the blade wheels. If it is necessary to adjust this position, open the blade housing and spin the blade wheel several times by hand.

Position 1 1/4” (32 mm) wide blade on the wheels so the gullet is 0.12” (3.0 mm) ± 0.04” (1.0 mm) out from the front edge of the wheel.

See Figure 3-9.

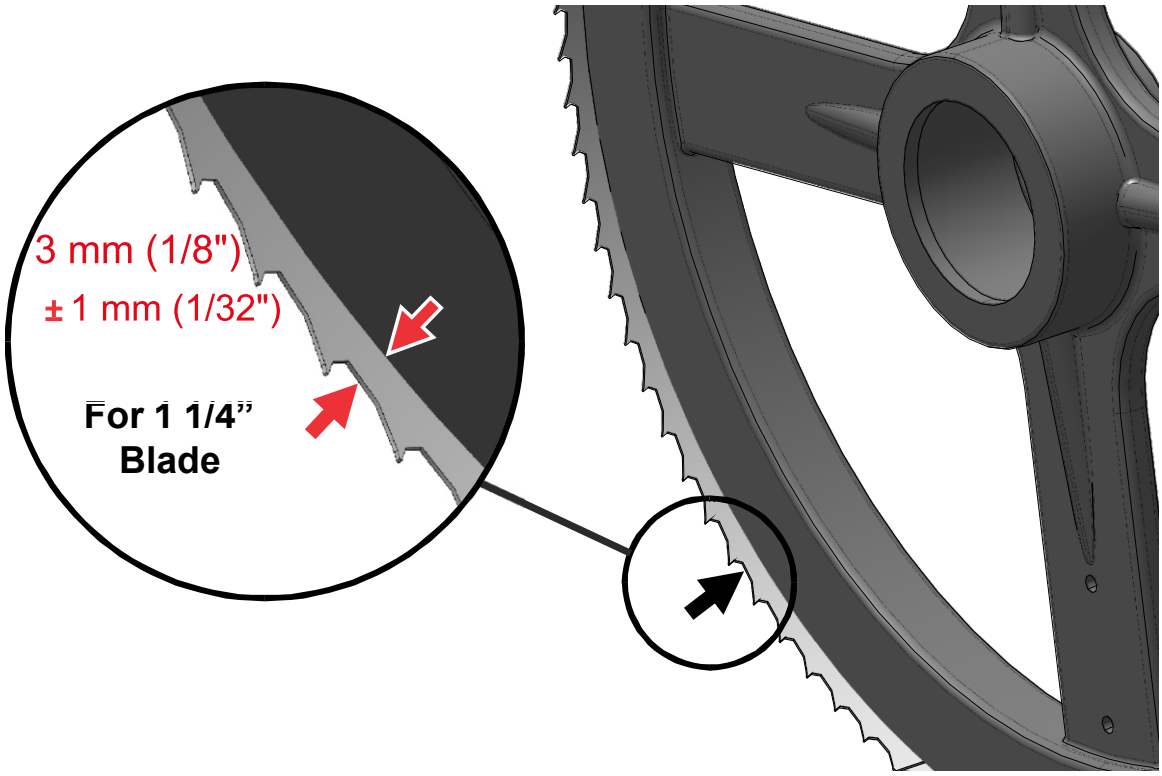


FIG. 3-9

If the blade is not tracking right on the wheels, adjust both blade wheels horizontally.

3.7.1 Horizontal Adjustment of the Idle-Side Blade Wheel

To adjust the idle-side blade wheel horizontally, loosen the nuts on the adjustment bolt shown below. If the blade is too far out on the wheels, turn the adjustment bolt clockwise. If the blade is too far in, turn the adjustment bolt counterclockwise.

CAUTION! Before adjusting the blade wheels, raise the blade guide rollers so that they do not touch the blade. (*See Section 3.9*.)

See Figure 3-10.

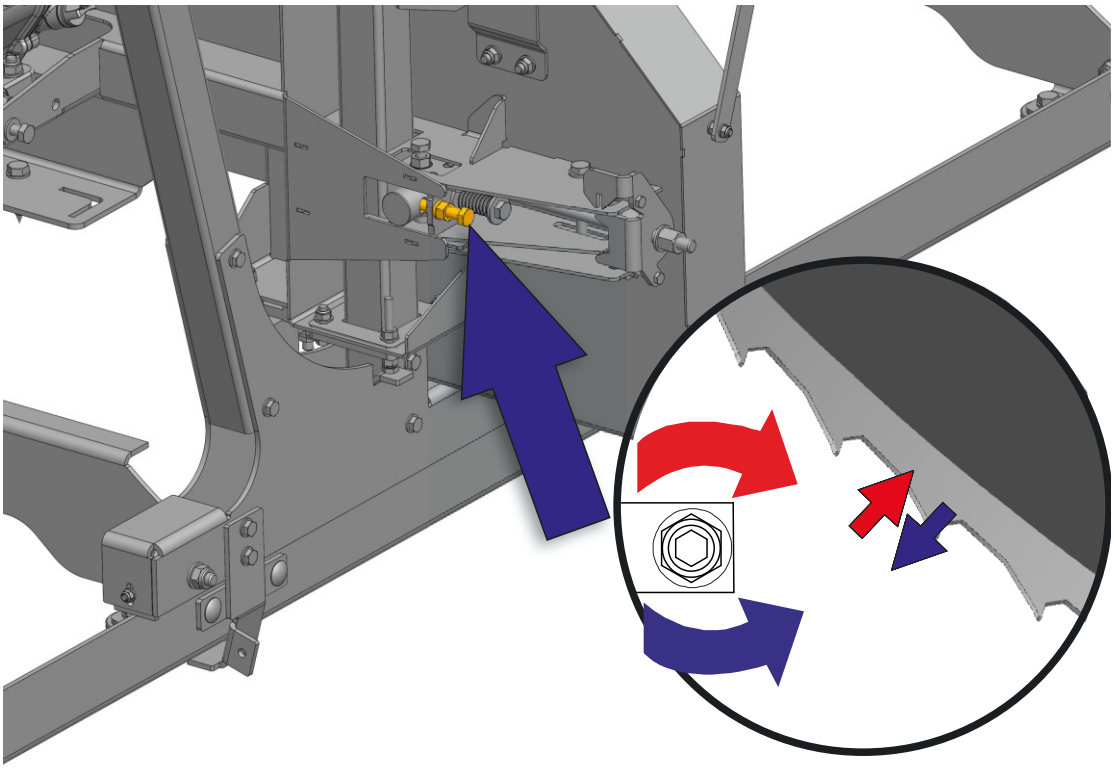


FIG. 3-10

3.7.2 Horizontal Adjustment of the Drive-Side Blade Wheel

Check the position of the blade on the drive-side blade wheel. The blade should be positioned on this wheel in the same way as on the idle-side blade wheel.

CAUTION! Before adjusting the blade wheels, raise the blade guide rollers so that they do not touch the blade. (*See Section 3.9*.)

To adjust the drive-side blade wheel horizontally, loosen the nuts on the adjustment bolt shown below. If the blade is too far out on the wheels, turn the adjustment bolt clockwise. If the blade is too far in, turn the adjustment bolt counterclockwise.

See Figure 3-11.

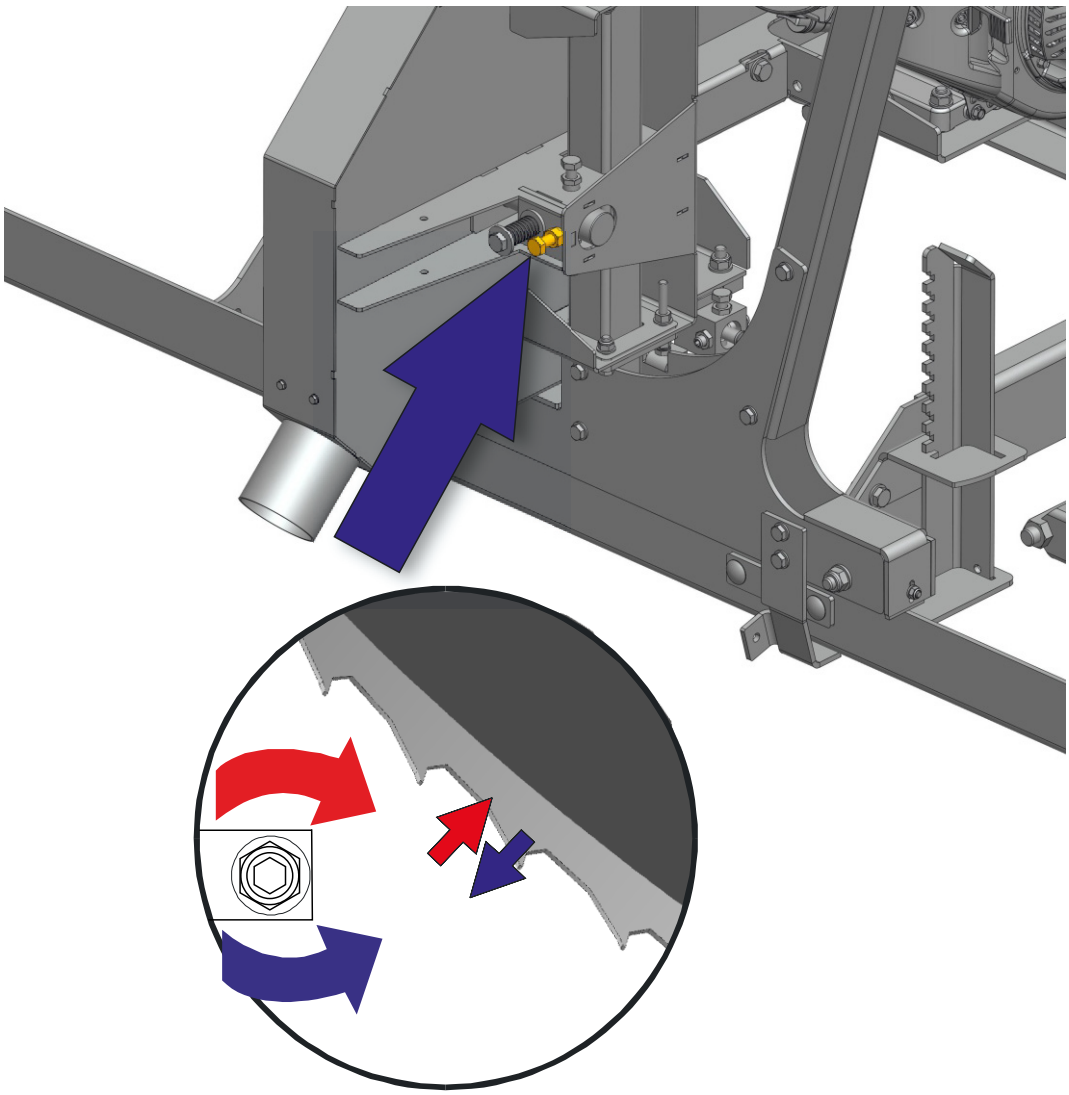


FIG. 3-11

3.8 Vertical Adjustment of the Blade Wheels

See Figure 3-12. The bolts for adjusting the position of the blade on the blade wheels are shown below.

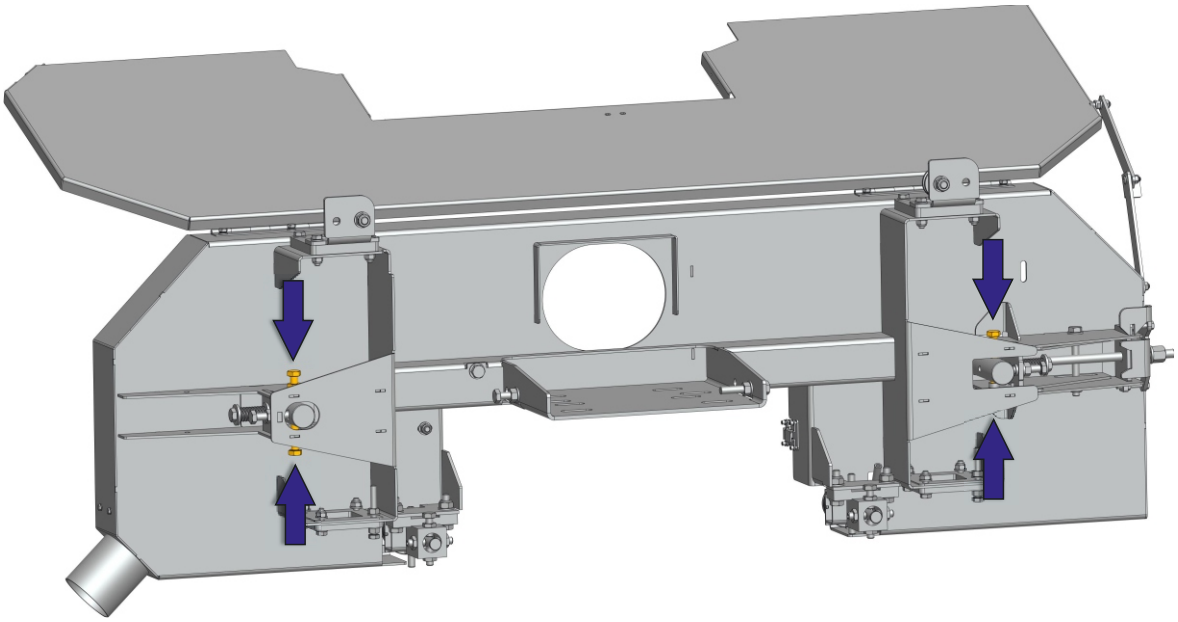


FIG. 3-12

3.8.3 Vertical Adjustment of the Drive-Side Blade Wheel

The blade wheels must be square to the sawmill bed and parallel to each other in the vertical and horizontal planes. If the blade wheels are tilted up or down, the blade will not be properly adjusted in relation to the sawmill bed and sawn wood. If the blade wheels are tilted horizontally, the blade will not track properly on them.

Use the provided blade guide alignment tool to check the vertical alignment of both blade wheels.

1. Attach the alignment tool to the blade near the drive-side blade guide. Be sure the tool does not rest on a tooth or burr, and is lying flat against the blade.

   See Figure 3-13.

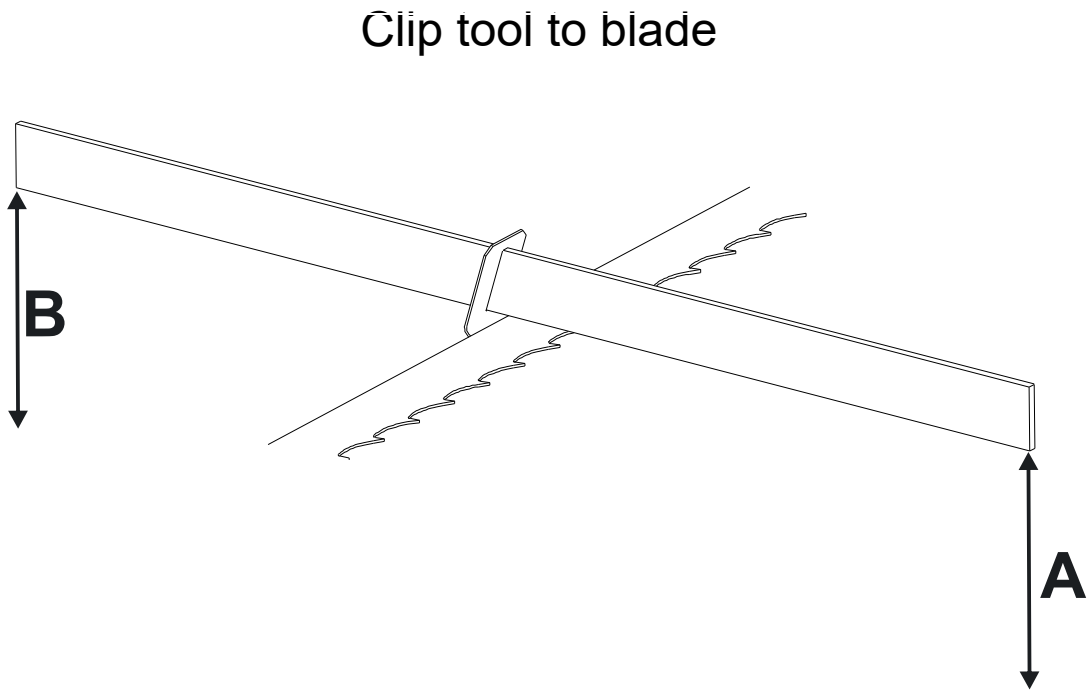


FIG. 3-13

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

   To adjust the drive-side blade wheel vertically, use the bolts shown in the figure below. To decrease the "A" dimension, loosen the top adjustment bolt half a turn and then loosen the nut on the bottom adjustment bolt and tighten this bolt. When the adjustment is complete, tighten the upper and lower nuts.

   To decrease the "B" dimension, first loosen the bottom adjustment bolt half a turn and then loosen the nut on the top adjustment bolt and tighten this bolt. When the adjustment is complete, tighten the upper and lower nuts.

See Figure 3-14.

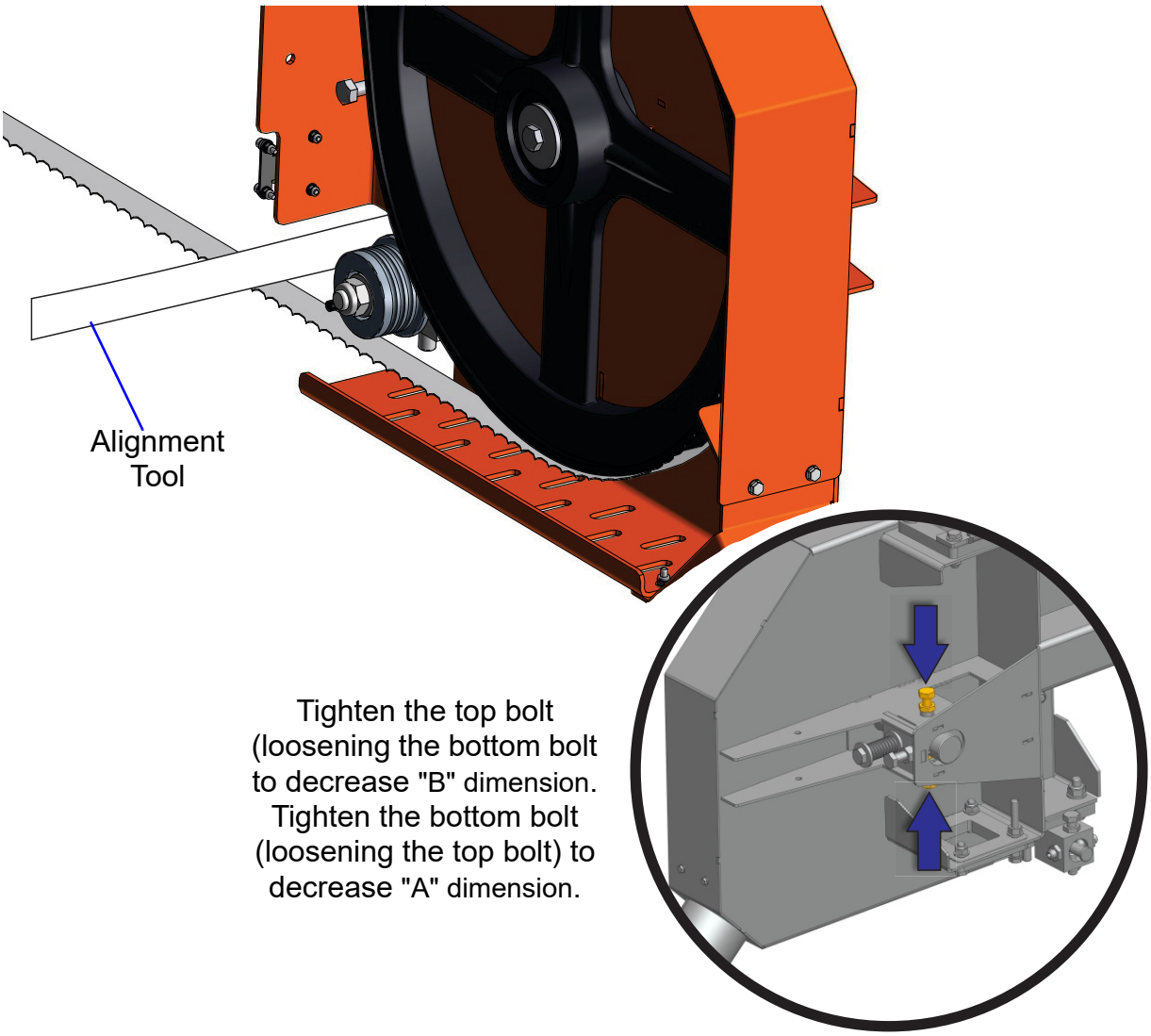


FIG. 3-14

5. Measure again the distance between the tool and the bed rail at both ends of the tool. If the measurements at the front and rear ends of the tool still differ by more than 1/16" (1.5 mm), adjust the idle-side blade wheel vertically.

3.8.4 Vertical Adjustment of the Idle-Side Blade Wheel

1. Attach the alignment tool to the blade near the idle-side blade guide.

2. Measure from the bottom of the tool to the bed rail at both ends of the tool ("A" and "B" dimensions). If the measurements are not equal (± 0.06" [1.5 mm]), adjust the idle-side blade wheel in the vertical plane.

   To adjust the idle-side blade wheel vertically, use the bolts shown in the figure below. To decrease the "B" dimension, first loosen the bottom adjustment bolt half a turn and then loosen the nut on the top adjustment bolt and tighten this bolt. When the adjustment is complete, tighten the upper and lower nuts.

   To decrease the "A" dimension, loosen the top adjustment bolt half a turn and then loosen the nut on the bottom adjustment bolt and tighten this bolt. When the adjustment is complete, tighten the upper and lower nuts.

   See Figure 3-15.

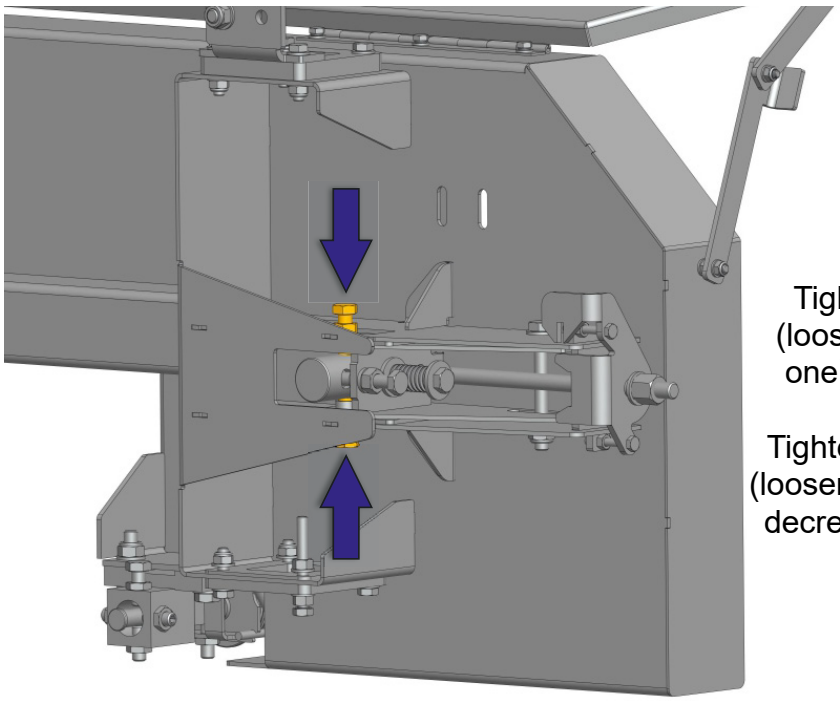


FIG. 3-15

3. Recheck the vertical tilt of the idle-side blade wheel. If it is still incorrect, repeat the adjustment procedure.

4. Check the position of the blade on the blade wheel.

3.9 Blade Deflection

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

1. Position the saw head so that the blade is directly above a bed rail. To calculate the blade deflection, measure the distance from the blade to the bed rail before installing the blade guide rollers, and then again after setting the blade guide roller. If the blade guides were earlier removed, they should be installed in their places.

   See Figure 3-16.

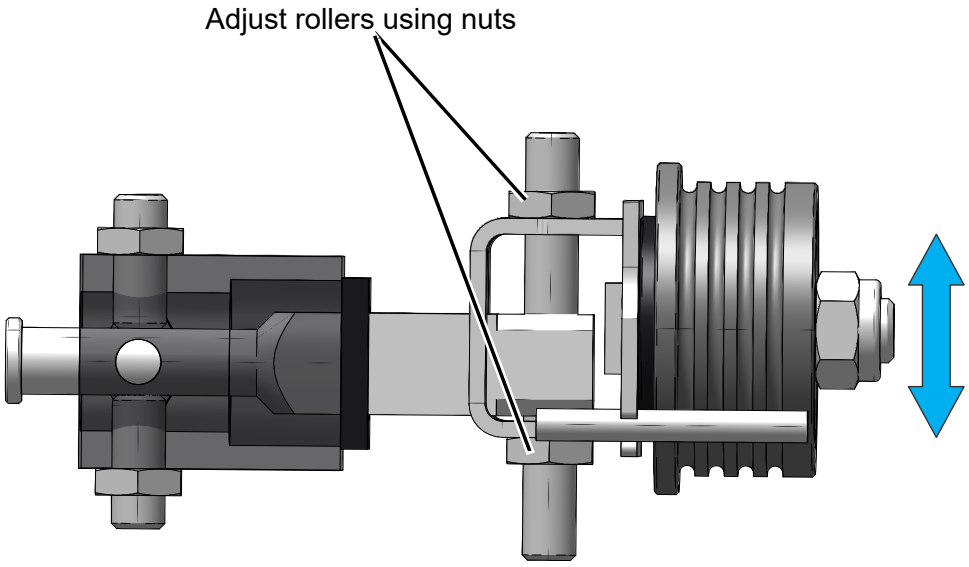


FIG. 3-16

2. Loosen the lower nut and tighten the upper nut until the blade deflects 0.16" - 0.24" (4 - 6 mm) compared to the distance before the blade guides were installed.

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

3.10 Blade Guide Vertical Adjustment

Make sure that the blade guides are correctly aligned in the vertical plane, i.e. that the blade is not tilted up or down. A Blade Guide Alignment Tool (BGAT) is provided to help you measure the vertical tilt of the blade.

1. Clip the alignment tool to the blade next to either blade guide assembly. Be sure the tool does not rest on a tooth or burr, and is lying flat against the blade.

2. Move the saw head so that the front end of the tool is positioned above a bed rail.

   See Figure 3-17.

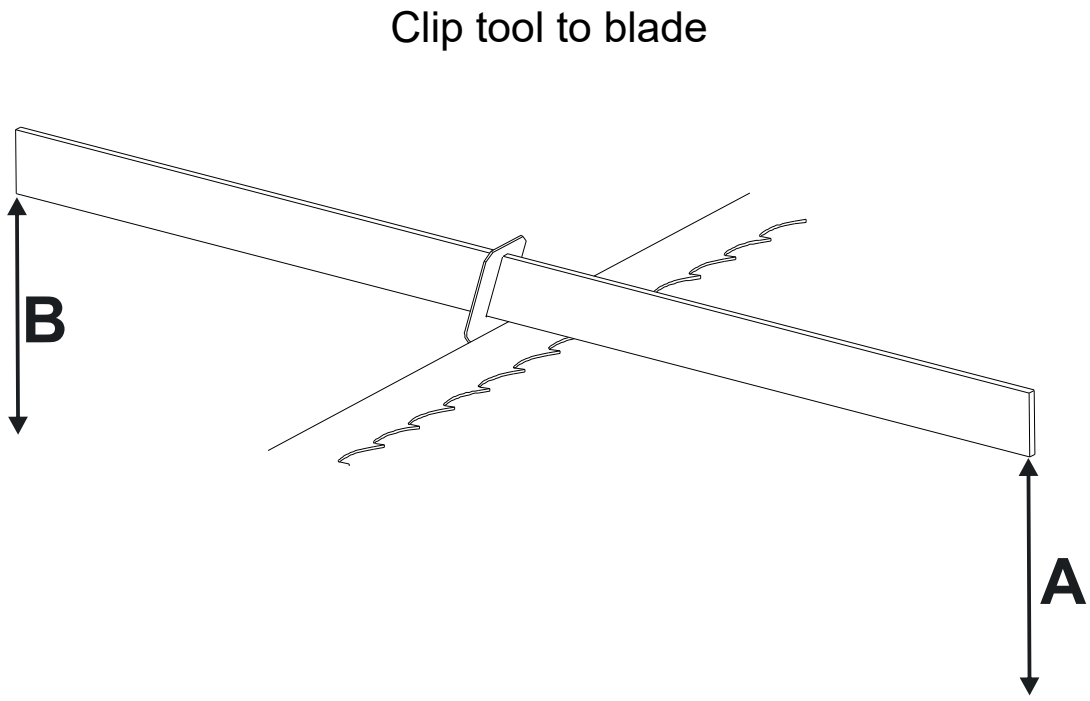


FIG. 3-17

3. Measure the distance from the bottom edge of the tool to the top surface of the bed rail ("A").

4. Move the saw head so that the rear end of the tool is positioned above the bed rail.

5. Measure the distance from the bottom of the tool to the bed rail ("B").

6. The two measurements ("A" and "B") should be the same. If they are not equal, loosen one side set screw of the guide assembly and adjust the blade guide in the vertical plane using the screws shown in the figure below.

See Figure 3-18.

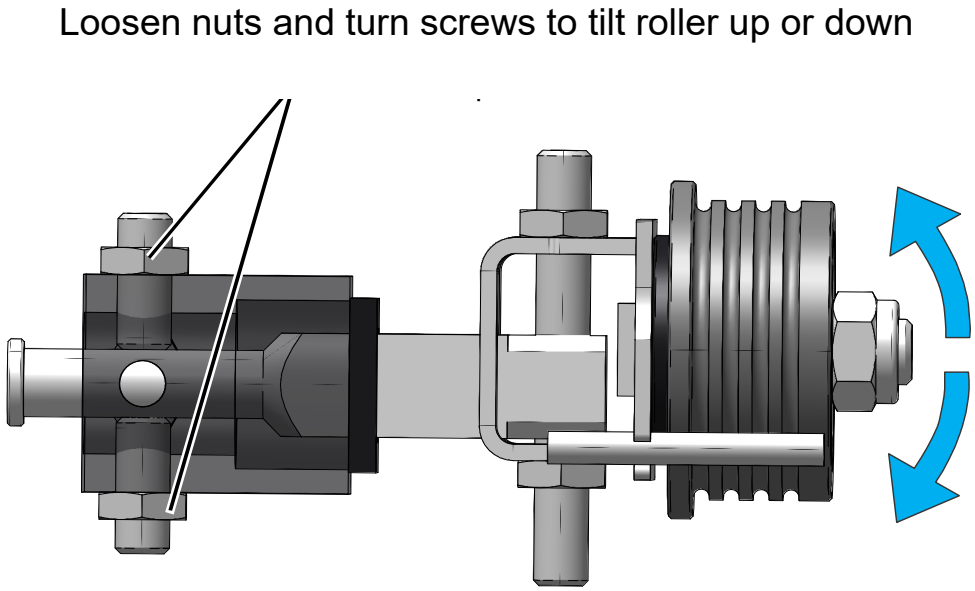


FIG. 3-18

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

8. Tighten the side adjustment screw when the adjustment procedure is complete.

NOTE: After making any adjustments to the blade guides in the vertical plane, make sure the blade deflection is correct (0.12" [3 mm]).

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

3.11 Blade Guide Flange Spacing

NOTICE: 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. Position the blade guide so the blade guide roller flange is approximately 1/16” - 1/8” (1.5 - 3.0 mm) from the back edge of the blade.

2. Loosen one side and one top set screw shown below. Adjust the blade guide in the horizontal plane so that the distance between the guide roller flange and the blade is correct.

   See Figure 3-19.

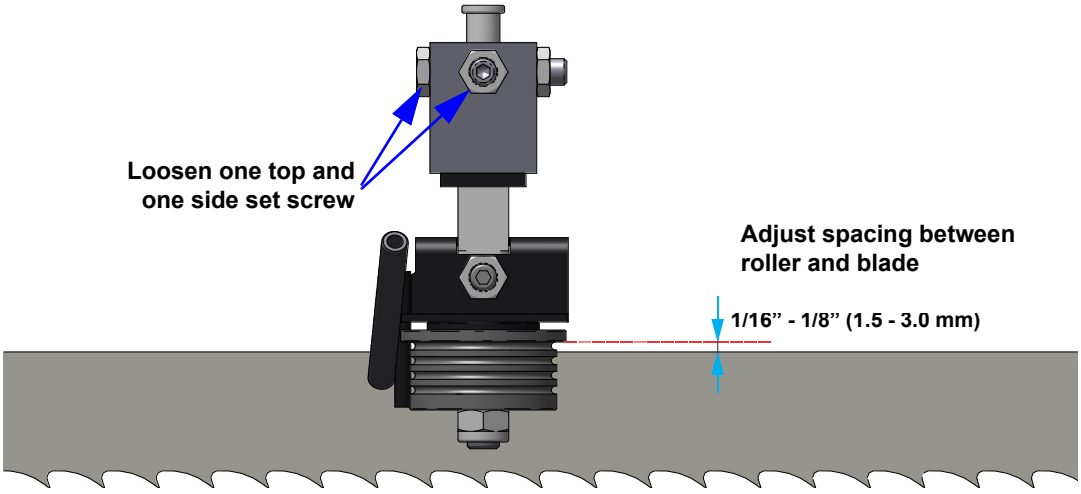


FIG. 3-19

3. Tighten the set screws.

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

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

3.12 Blade Guide Horizontal Adjustment

See Figure 3-20.

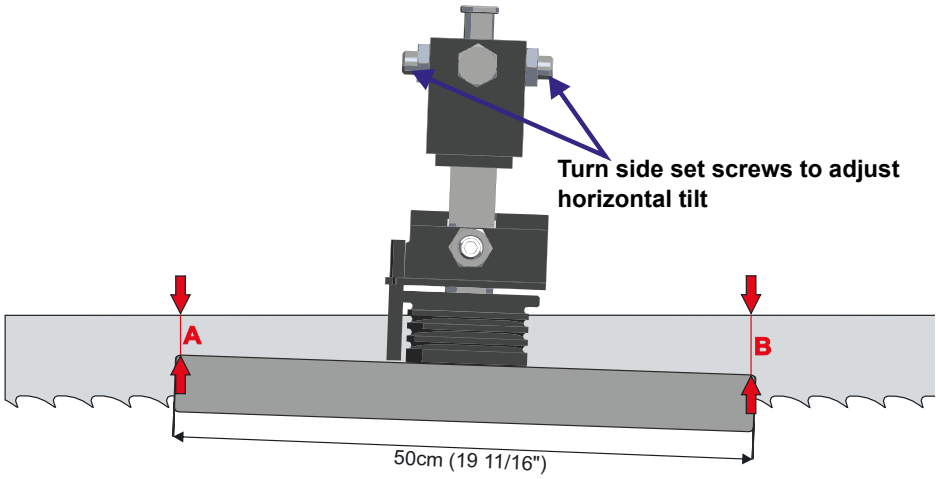


FIG. 3-20

1. Place the middle part of the Blade Guide Alignment Tool against the face of either blade guide roller as shown above.

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

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

4. The blade guide roller should be parallel to the blade (A=B) or tilted slightly in the horizontal plane as shown in the figure above (A = B-6 mm). If this condition is not met, adjust the roller in the horizontal plane using the side set screws on the blade guide.

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

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

3.13 Blade Height Scale Adjustment

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

1. Move the saw head so the blade is positioned directly above one of the bed rails. Measure from the bottom edge on a down-set tooth of the blade to the top of the bed rail (or to the stainless steel bed rail cover if your sawmill is equipped with these covers).

2. Loosen the scale mounting bolts and nuts shown below and adjust the scale so that the scale indicator indicates the distance measured in the previous step. Tighten the scale mounting bolts and nuts.
   Example: if the measurement from a down-set tooth of the blade to the top of the bed rail was 14 3/4" (375 mm), make sure the indicator reads 14 3/4" (375 mm) on the scale.

   See Figure 3-21.

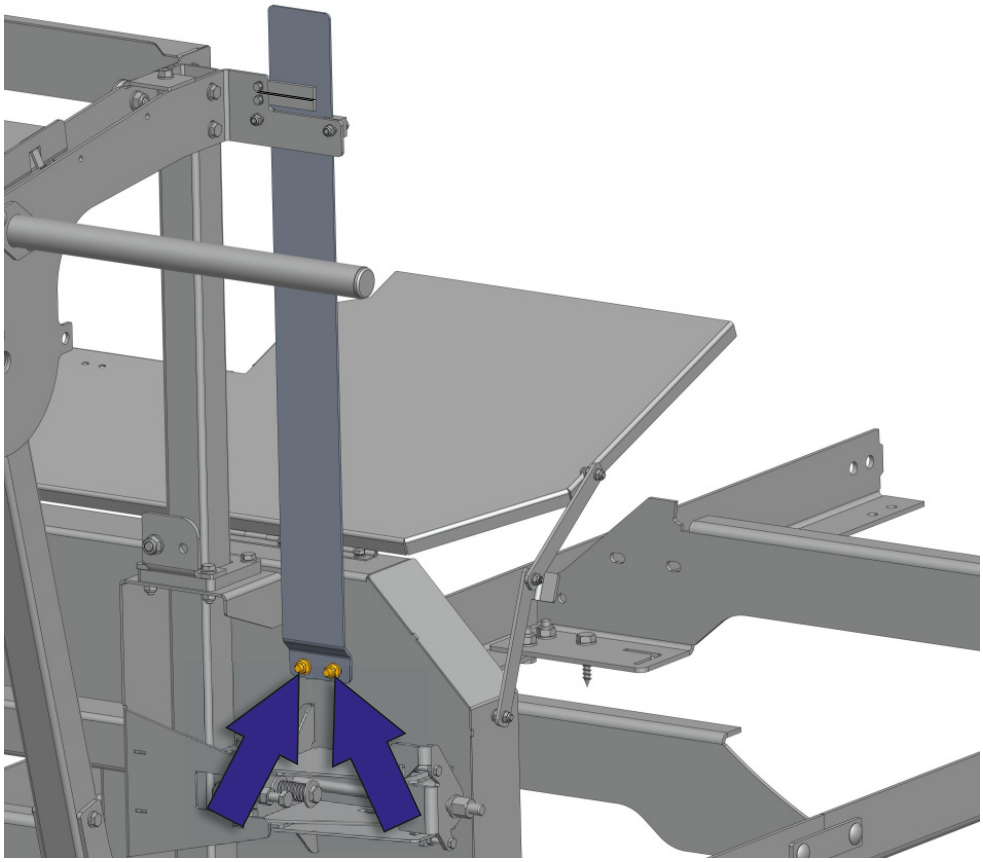


FIG. 3-21

IMPORTANT! If the scale indicator does not show the actual value after adjustment, refer to Section 3.15 and adjust the stop bolts.

3.14 Stop Bolt Adjustment

Adjust the stop bolts (which stop the saw head in its lowest position) so that the distance from a down-set tooth of the blade to the top of the bed rail is 1" (25 mm).

See Figure 3-22.

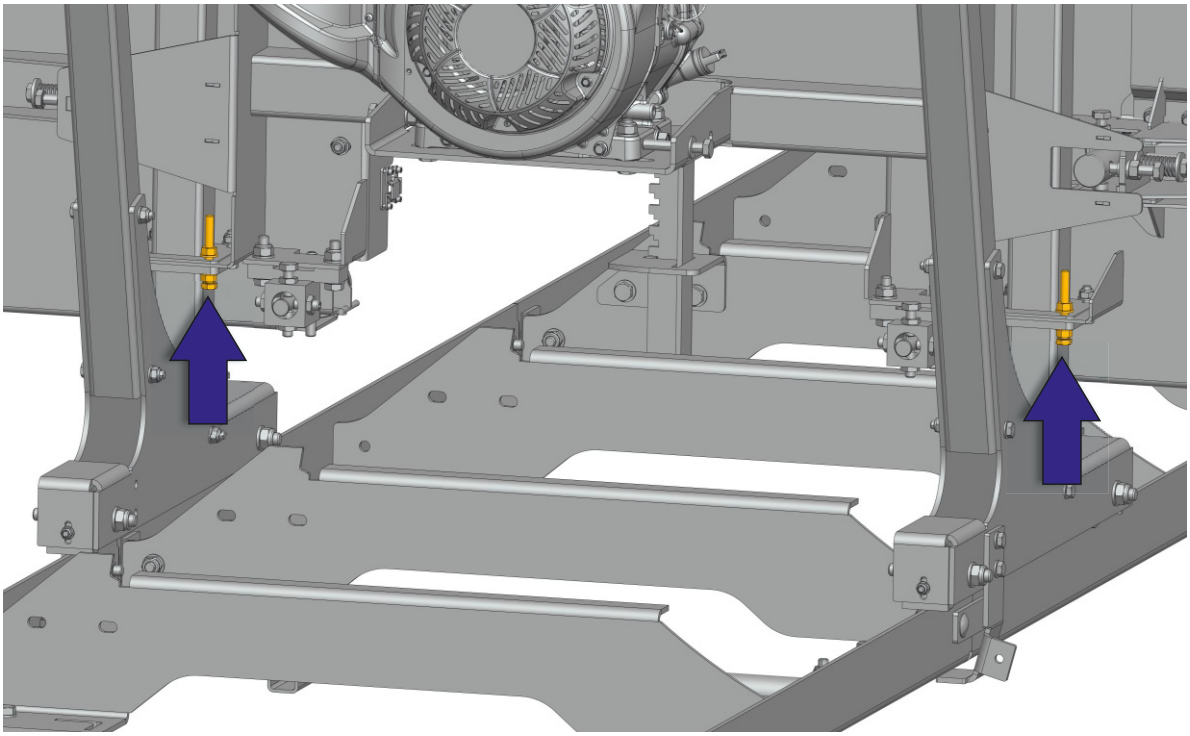


FIG. 3-22

3.15 Starting the Engine or Motor

See the engine/motor manual supplied with your machine for starting and operating instructions.

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

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

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

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

3.16 Loading, Turning and Clamping Logs

To load a log:

1. Move the saw head to the front end of the frame.

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

2. Adjust the log clamp all the way down and move toward the loading side of the sawmill frame.

   CAUTION! Be sure the log clamp is lowered completely before loading a log onto the bed. Failure to do so may result in machine damage.

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

4. Position the log parallel to the sawmill bed.

5. Use a cant hook to roll the log onto the sawmill bed. Position the log against the side supports.

   If your sawmill is not equipped with the loading ramps, load the log onto the sawmill bed with other equipment specifically designed for that purpose. You can also use boards to do this.

To turn a log:

1. Use a cant hook to spin the log against the side supports until it is turned for the first cut.

To clamp a log:

1. Position the log clamps against the log, far enough down so they are below your cuts on a given side of the log. Using the clamp handle, move the log firmly against the side supports.

2. Leave the crank in its bottom position to avoid damage to the blade during cutting.

   CAUTION! The log clamp should be mounted on the bed frame in such a place that it presses the middle part of the log.

See Figure 3-23.

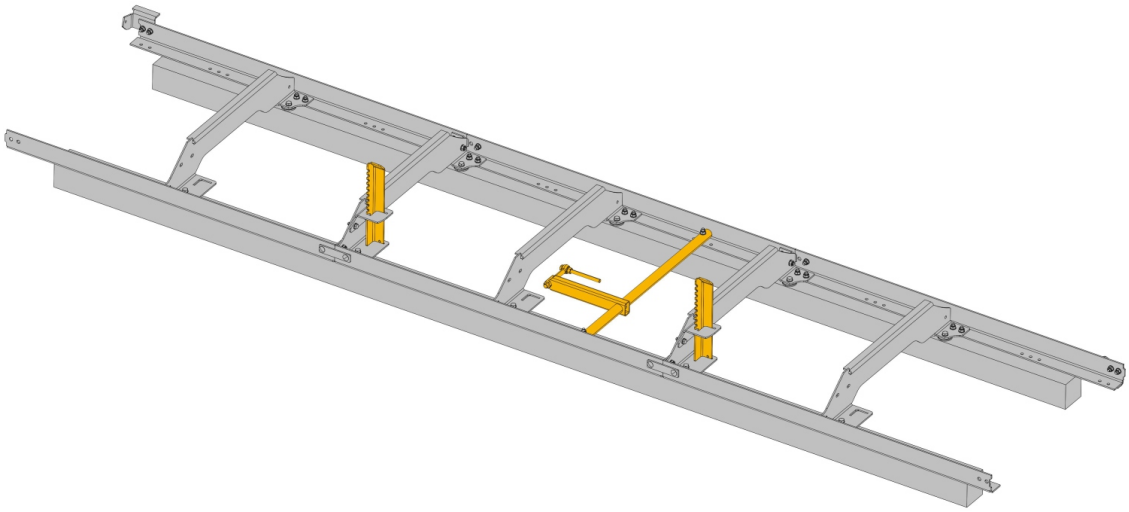


FIG. 3-23

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 height of last cut on a given side of the log.

3.17 Up/Down Operation

1. Install a blade, if needed, and check for correct blade tension.

2. Using the crank handle, position the saw head at the desired height (the blade height scale shows the height of the blade above the bed rails). One full turn of the crank handle causes the saw head to move 0.5” (12.5 mm).

   See Figure 3-24. The figure below shows the crank handle for raising or lowering the saw head.

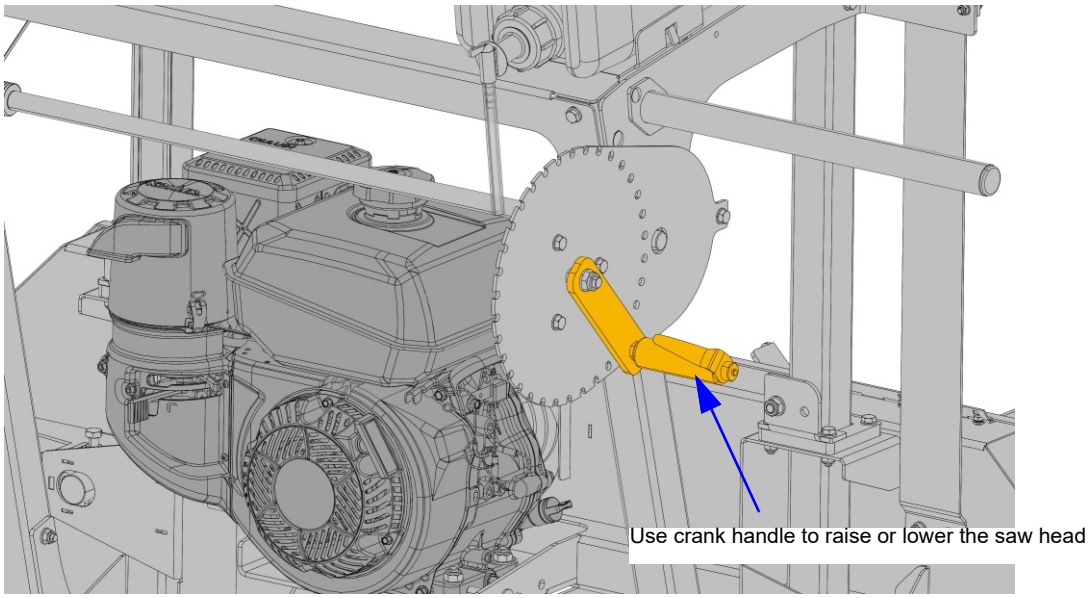


FIG. 3-24

CAUTION! DO NOT try to force the saw head above the 15.7” (40 cm) mark or below the 1” (2.54 cm) mark. Damage to the up/down system may result.

3.18 Blade Drive Operation

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

Close and secure the blade housing cover before starting. Use the rubber latches to fasten the blade housing cover shut. A safety switch on the blade housing cover prevents the sawmill engine/motor from starting if the cover is not closed properly. If you open the cover during sawmill operation, the blade engine/motor will be stopped.

3.19 Gas Engine Operation (G9)

WARNING! Before starting the engine, make sure that the throttle lever **(C)** is in the minimum gas position (right).

IMPORTANT! Read the engine manual for instructions and safety precautions before starting the engine.

1. Clear all loose objects from the area around the blade, engine, and drive belt.
2. Make sure the clamps and side supports are adjusted below the level of your cuts. Clamp log securely.

   See Figure 3-25.

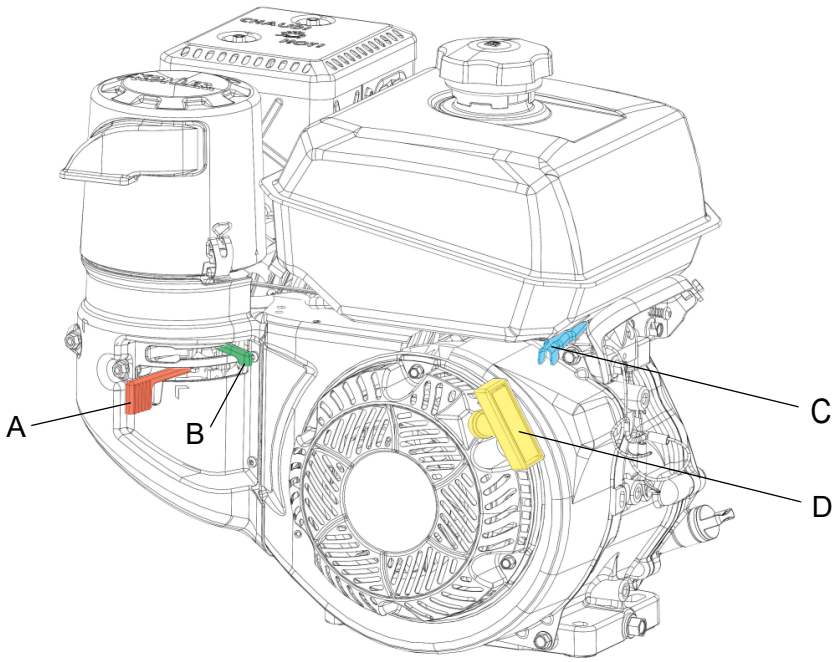


FIG. 3-25

CAUTION! If at any time you need to immediately disengage the blade drive, reduce the engine speed with the throttle lever **(C)** by moving it all the way to the right.

3. Push the fuel/ignition shut-off lever **(A)** to the "ON" position.
4. **Cold engine:** Move the choke lever **(B)** to the "ON" position.
5. **Warm engine:** A warm engine generally does not require the choke to be turned on.
6. Pull the engine starter cord **(D)** slowly until you feel resistance and then pull the cord quickly to start the engine.
7. **Cold engine:** Once the engine is started, slowly close the choke all the way by moving the choke lever **(B)** to the “OFF” position.

CAUTION! Let the engine idle for about 1 to 3 minutes (depending on ambient temperature) to warm up before starting the sawing operation.

Engine Shutoff

1. To stop the blade, reduce the engine speed to a minimum by moving the throttle lever **(C)** all the way to the right.

2. The engine should run without load for 15 seconds. Stop the engine by moving the ignition/fuel lever **(A)** to the ”OFF” position.

CAUTION! When stopping the engine, slowly reduce the load. Do not suddenly turn off the engine as this may cause the temperature to rise excessively.

3.20 Feed Operation

The feed operation is performed by pushing the saw head manually. The speed at which the saw head travels should be as steady as possible. Be sure the saw head will not hit any bed components while it is being moved forward or backward.

NOTE: To get a straight cut in the first part of the log, feed the blade into the log at a slow speed. This stops the blade from flexing and dipping up or down**.** Slowly push the saw head forward 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 drive belt and blade wear.

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

3.21 Cutting the Log

The following steps guide you through normal operation of the LX30 sawmill.

1. Once the log is placed on the sawmill bed, positioned for the first cut and clamped properly, move the blade close to the end of the log.
2. Use the blade height scale to determine where to make your first cut. Set the blade to the desired height. Make sure that the blade will clear the clamps and side supports.
3. Make sure all covers and guards are in place and secured.
4. Start the engine/motor.
5. Feed the blade into the log slowly. Once the blade completely enters the log, increase the feed rate as desired. Always try to cut at the fastest speed possible while keeping an accurate cut. Cutting too slowly will waste blade life and lower production!
6. Slow down toward the end of the log. When the teeth exit the end of the log: release the safety handle (AC sawmills), or set the throttle lever in the SLOW position (DC sawmills). Remove the slab that have just cut from the log.
7. Disengage the blade by reducing engine revolutions.
8. Return the saw head to the front of the sawmill.
9. 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). Can edge them on the mill later.
10. If the leveling wedge was used, remove it from the sawmill bed. Release the clamps and turn the log 90 or 180 degrees. Make sure the flat on the log is placed flat against the side supports if turned 90 degrees. If the log was turned 180 degrees, its flat side should rest on the bed rails. If the log was turned 90 degrees and it is necessary to level it on the bed, follow the leveling instructions below.
11. Repeat the steps used to cut the first side of the log until the log is square.
12. Cut boards from the cant.

    Example: Remember that the blade cuts a 0.08" (2 mm) wide kerf. If you want to get 1" (25 mm) thick boards, lower the carriage 1 1/16" (27 mm) for each board.

3.22 Edging

The following steps guide you through edging boards on the LX30 sawmill.

1. Raise the side supports to 1/2 the height of the boards that need to be edged.
2. Stack these boards on edges against the side supports.
3. Clamp the boards against the side supports halfway up the board height. (Wider boards should be placed to the clamp side. When they are edged, flip them over to edge the second side without disturbing the other boards 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 clamps and turn the edged boards over to edge the other side.
6. Repeat steps 2-4.
7. Loosen the clamps and remove the boards that have good clean edges on both sides.
8. Clamp the remaining boards and repeat steps 2-5.

3.23 Blade Height Scale

The blade height scale is mounted on the vertical mast. It includes:

- a blade height indicator **(A)**,
- a centimeter and inch scale **(B)**.

See Figure 3-26.

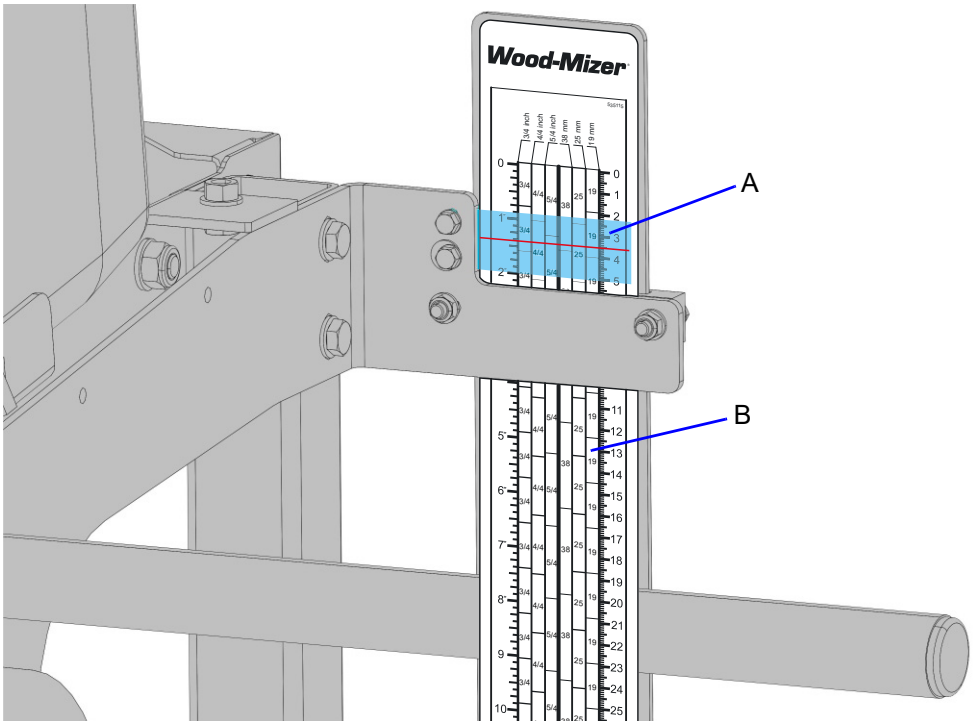


FIG. 3-26

Blade Height Indicator

Readings should be taken with eyes level with the indicator to avoid the parallax error (different scale reading at different viewing angles).

Scale

The blade height indicator shows the current distance from the bottom edge of the blade to the sawmill bed. If you know this distance, you can easily position the blade to cut the next board of the selected thickness.

Example: You want to cut 1" (25 mm) random width boards from a log. Position the blade for the first cut. Move the saw head to an even measurement on the scale. Make a trim cut. Return the saw head for the second cut and lower it 1 1/16" (27 mm) below the original measurement. (The extra 0.08", 2 mm allows for saw kerf and shrinkage of the lumber.)

3.24 Water Lube Operation

The Water Lube System keeps the blade clean during sawing. Water flows from a 2.6-gallon (10 liters) bottle through a hose to the blade guide where the blade enters the log. A valve in the bottle cap controls the amount of water flow.

See Figure 3-27. Open the valve on the water bottle to start the water flow.

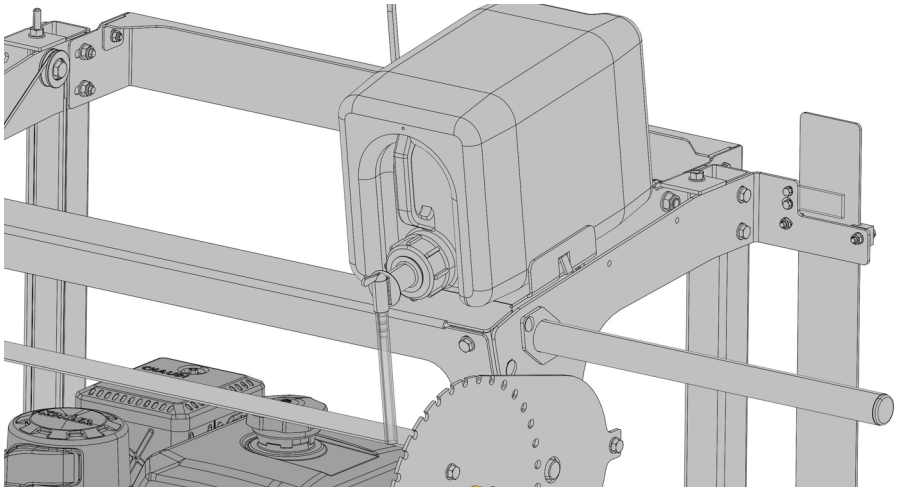


FIG. 3-27

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 is 1-2 gallons (3.8-7.6 liters) per hour. A squirt of liquid dishwashing detergent in the water bottle will help clean the blade when cutting wood with a high sap content.

WARNING! Use ONLY water 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.

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

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

3.25 Transporting the Sawmill

The assembled sawmill can be transported in an appropriately equipped pickup truck.

1. Move the saw head to one of the sections equipped with the stop and secure it in place with the locking pin.

2. Separate the bed frame sections.

3. Slide the bed frame sections into the truck.

4. Use a forklift to load the saw head with the mast and bed section into the truck and secure it with transport straps.

WARNING! When loading the sawmill into a transport vehicle and unloading it from that vehicle, keep all persons away from the machine. Failure to do so may result in serious injury or death.

3.26 Troubleshooting

DANGER! Before performing any service to this machine, turn off the motor/engine. Moving sawmill parts can cause serious injury or death.

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	Grind just enough metal to restore sharpness to the teeth. Use water/coolant while sharpening the blade.
	Poor sharpening techniques	Make sure the tips of teeth are sharpened properly.
Blades break prematurely	Rubber belts on blade wheels worn to a point that blade contacts metal pulley - look for shiny spots on edges of wheels.	Replace the blade wheel belts.
	Blade tension too tight	Tension blade to recommended specifications. (*See Section 3.6*)
Blade does not track right on wheels	Blade wheel improperly adjusted	Readjust. (*See Section 3.7*)
	Flat/worn blade wheel belts	Replace the belts.
Drive belts wear prematurely or jump	Engine/motor and drive pulleys out of alignment	Align the pulleys.
Boards thick or thin on ends or in the middle of board	Stress in log which causes log to not lay flat on 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.
	Incorrect tooth set	Resharpen and reset blade.
	Bed rails misaligned	Realign the bed.
Height adjustment jumps or stutters when moving up or down	Up/down cable improperly adjusted	Adjust the up/down cable.
	Vertical wear pads are too tight.	Adjust pads.
	Up/down cable too loose	Replace/adjust the up/down cable.

Lumber is not square	Vertical side supports not square to bed	Adjust side supports.
	Blade not parallel to bed rails	Adjust bed rails.
	Sawdust or bark between log/cant and bed	Remove particles.
	Tooth set problem	Resharpen and reset blade.
Sawdust builds up on track	Excessive lubrication	Apply white lithium grease.
	Worn scrapers	Adjust scrapers to firmer contact track or replace them.
	Track is sticky	Clean track and apply silicone spray.
Wavy cuts	Feed rate too high	Reduce feed rate.
	Improperly sharpened blade (This will be the problem 99% of the time!)	Resharpen blade, following the sharpener's instructions carefully.
	Blade guides improperly adjusted	Adjust blade guides.
	Sap buildup on blade.	Use Water Lube.
	Tooth set problem	Resharpen and reset blade.

SECTION 4 MAINTENANCE

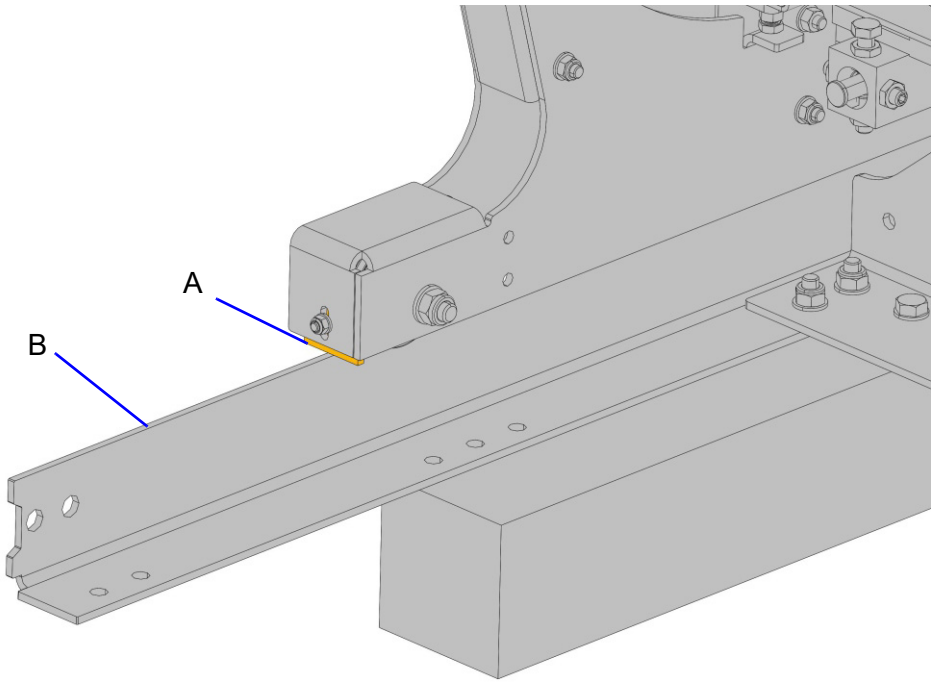
WARNING! Before removing any cover or guard, always turn off the engine/motor and wait until all parts stop moving. Failure to do so may result in serious injury or death.

4.1 Track Rails, Rollers and Scrapers

Properly maintaining the sawmill mast 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 feed movement.

CAUTION! Keep the track rails free of rust. Formation of rust on the mast track surfaces can cause rapid deterioration of these surfaces.

Make sure the track scrapers **(A)** touch the track surfaces and are free of sawdust buildup.



After using the sawmill, always remove any sawdust buildup from the track surfaces, bed rails and track rollers. Use a light-grade sandpaper to sand off any rust and other adhering particles from the track rails **(B)**.

4.2 General Maintenance

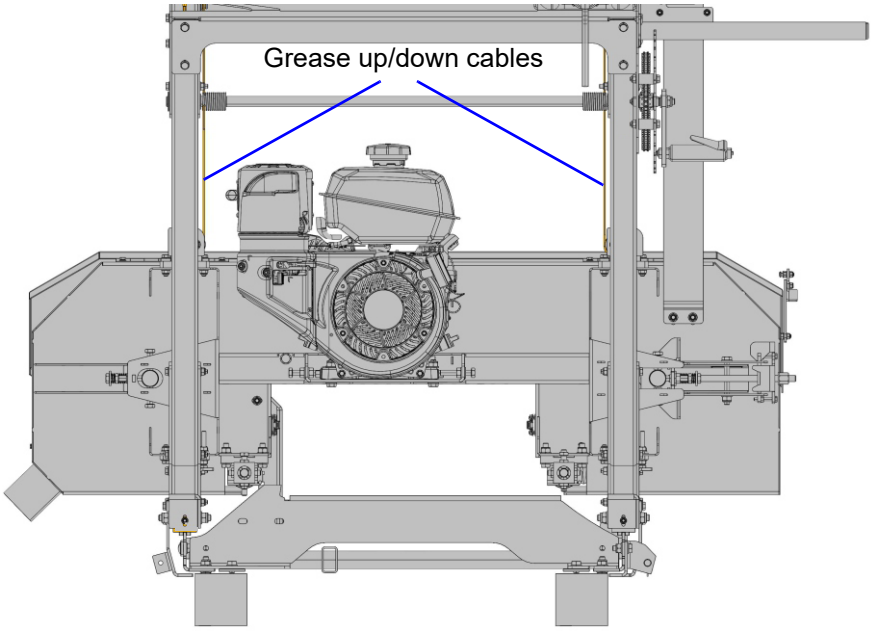
Every 8 Hours of Sawmill Operation

- Check the engine oil level. (See the Engine Manual.)
- Clean the track rollers, mast bases and track scrapers.
- After you have finished using the sawmill, lower the saw head all the way down so that it rests on the stop bolts and the lift cables remain tensioned.
- Check the blade wheel belts for damage and wear. Replace the spark arrester if it is damaged.
- Inspect the sawmill parts for damage.
- Open the blade housing cover and brush any sawdust buildup from the housing, cover and V-belts.

Monthly (every 160 hours of sawmill operation)

- Apply white lithium grease to the up/down cables on both sides of the saw head.

CAUTION! Make sure the up/down cables are in good condition. If either cable is damaged, immediately replace it with a new one.



4.3 Engine/Motor Maintenance

Refer to the engine/motor manufacturer's manual for maintenance procedures concerning the engine/motor.

WOOD-MIZER LX30 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures.)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		50 HRS	100 HRS	150 HRS	200 HRS	250 HRS	300 HRS	350 HRS	400 HRS	450 HRS	500 HRS
Clean & lubricate mast.	See Section 4.1										
Check blade wheel belts for wear.	See Section 4.2										
Lubricate blade tensioner screw.	See Section 4.2										

WOOD-MIZER LX30 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures.)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		550 HRS	600 HRS	650 HRS	700 HRS	750 HRS	800 HRS	850 HRS	900 HRS	950 HRS	1000 HRS
Clean & lubricate mast.	See Section 4.1										
Check blade wheel belts for wear.	See Section 4.2										
Lubricate blade tensioner screw.	See Section 4.2										

WOOD-MIZER LX30 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures.)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		1050 HRS	1100 HRS	1150 HRS	1200 HRS	1250 HRS	1300 HRS	1350 HRS	1400 HRS	1450 HRS	1500 HRS
Clean & lubricate mast.	See Section 4.1										
Check blade wheel belts for wear.	See Section 4.2										
Lubricate blade tensioner screw.	See Section 4.2										

WOOD-MIZER LX30 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures.)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		1550 HRS	1600 HRS	1650 HRS	1700 HRS	1750 HRS	1800 HRS	1850 HRS	1900 HRS	1950 HRS	2000 HRS
Clean & lubricate mast.	See Section 4.1										
Check blade wheel belts for wear.	See Section 4.2										
Lubricate blade tensioner screw.	See Section 4.2										

WOOD-MIZER LX30 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures.)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		2050 HRS	2100 HRS	2150 HRS	2200 HRS	2250 HRS	2300 HRS	2350 HRS	2400 HRS	2450 HRS	2500 HRS
Clean & lubricate mast.	See Section 4.1										
Check blade wheel belts for wear.	See Section 4.2										
Lubricate blade tensioner screw.	See Section 4.2										

WOOD-MIZER LX30 MAINTENANCE LOG

(Check Engine And Option Manuals For Additional Maintenance Procedures.)

PROCEDURE	MANUAL REFERENCE	TOTAL HOURS OF OPERATION *FILL IN THE DATE AND THE MACHINE HOURS AS YOU PERFORM EACH PROCEDURE.* *A SHADED BOX INDICATES MAINTENANCE IS NOT NEEDED AT THIS TIME.*									
		2550 HRS	2600 HRS	2650 HRS	2700 HRS	2750 HRS	2800 HRS	2850 HRS	2900 HRS	2950 HRS	3000 HRS
Clean & lubricate mast.	See Section 4.1										
Check blade wheel belts for wear.	See Section 4.2										
Lubricate blade tensioner screw.	See Section 4.2										