

PALAX®

C750.2 USER GUIDE

Ergo, Pro, Pro+



ORIGINAL INSTRUCTIONS
Version 1.1

PALAX®

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1 Warranty

"Warranty terms come into force when you register your customer ship on the extranet service found on our website."

The guarantee is valid for the original buyer for 12 months, starting from the date of purchase, but for no more than 1,000 operating hours. Always contact the machine's seller before undertaking any procedures in matters concerning warranty.

A warranty claim must be issued to the seller in writing **immediately** upon the discovery of a defect. If the defect concerns a damaged part or component, please send a photograph of the damaged part or component to the seller, if possible, so that the fault can be identified. When submitting a warranty claim, the buyer must always include the type and serial number of the machine in the claim and present a receipt that includes the date of purchase. Warranty claims must be submitted to an authorized retailer.

The warranty covers

- Parts damaged in normal use due to faults in the material or manufacturing.
- Repair expenses in accordance with the manufacturer. Faulty parts will be replaced with new ones. A faulty part or parts replaced due to a material fault must be returned to the manufacturer via the retailer.

The warranty does not cover

- Damage caused by normal wear or tear (such as saw blades and belts), improper use or failure to observe the instruction manual.
- Damage caused by negligence of maintenance or storage procedures detailed in the instruction manual.
- Damage occurred in transport.
- Cutting blades, V-belts and oil, as well as normal adjustment, care, maintenance or cleaning procedures.
- Defects in a machine to which the buyer has performed or commissioned structural or functional changes, to the degree that the machine can no longer be considered equivalent to the original machine.
- Other potential costs or financial obligations resulting from the procedures mentioned above.
- Indirect costs.
- Travel costs resulting from the warranty repairs.
- The warranty for parts replaced during the warranty period of the machine expires at the same time as the machine's warranty.
- The warranty is void if the ownership of the machine is transferred to a third party during the warranty period.
- The warranty is void if any of the machine's seals have been broken.

If a fault or defect reported by the customer is found not to be covered by the warranty, the manufacturer has the right to charge the customer for the identification and possible repair of the fault or defect in accordance with the manufacturer's current price list.

This warranty certificate indicates our responsibilities and obligations in full and excludes all other responsibilities.

2 EU Declaration of Conformity

Directive 2006/42/EC

Manufacturer: TP Silva Oy

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Product: Palax C750 Ergo, Palax C750 Pro, Palax C750 Pro+
a firewood processor with 4,3-m discharge conveyor

Powered by: Tractor P.T.O. or electric motor

Models: TR Powered by tractor equipped with own hydraulic system

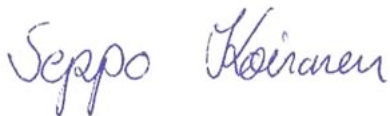
TR/SM Powered by tractor or electric motor

Serial number of the machine:

We hereby certify that the machine meets the requirements of the Government Decree 12.6.2008/400 on safety of machinery through which the Machine Directive 2006/42/EC has been put into effect, and that during the manufacturing process the following harmonized standards have been applied.

SFS-HANDBOOK 93-series, SFS-EN 349-1+A1, SFS-EN 609-1+A1, SFS-EN 618, SFS-EN 620, SFS-EN 847-1+A1, SFS-EN 847-2+A1, SFS-EN 847-3, SFS-EN 953+A1, SFS-EN 954-1, SFS-EN 982+A1, SFS-EN 1870-3+A1, SFS-EN 4254-1, SFS-EN 11684, SFS-EN 12100-1+A1, SFS-EN 12100-2, SFS-EN 13850, SFS-EN 13857, SFS-EN 14121-1, ISO/TR 14121-2, SFS-EN 60204-1+A1.

1.1.2023



Seppo Koiranen

Managing Director

TP Silva Oy

3 Introduction

This manual provides assembly, operating and maintenance instruction for the PALAX C750 Pro, PALAX C750 Pro+, and PALAX C750 Ergo machine.

This user manual contains all the information necessary for safe assembly and operation of the PALAX C750 Pro, Pro+, and Ergo machine. Read the instructions carefully before assembly and use and keep the manual for future reference.

You can find the latest versions of the assembly, operation and maintenance instructions on our website: palax.fi

4 Intended use


Palax C750 (Pro, Pro+, and Ergo) Firewood Processor with Conveyor is intended for the production of firewood from round timber. The use of the machine for any other purpose is prohibited.

Sand, nails or other impurities in wood may damage the machine. The maximum diameter of the wood processed with the machine is 30 cm. The shape and deformations, such as branches and knots, of the wood increase the actual diameter of the wood and may prevent it from being fed into the machine. The machine is designed to work optimally with wood with a diameter of +20 cm.

The maximum length of the tree to be split in the splitting chute must not exceed 55 cm.

5 Operating conditions

The machine can be operated in temperatures between -20°C to +30°C, in all weather conditions. Only use the machine outdoors.

 **Warning:** Do not operate the machine indoors, risk of dust and/or exhaust fumes.

Before operation, make sure that

- You have read and understood this instruction manual.
- The machine and conveyor have been checked and are in working order.
- There are no people in the operating range.
- The machine is on a hard and level surface, the machine is leveled and firmly in place.
- The operation environment is adequately lit.
- All protective guards are intact and secured properly.
- The circular saw blade is intact.
- All controls work properly.

- All electric conductors are in place.
- The hydraulic hoses and components are intact and secured properly.
- The oil level is sufficient.

PTO powered

- The PTO shaft is intact and the chain of PTO shaft cover is fastened.
- Make sure that TR powered machine is attached to three-point linkage.
- Make sure that there is sufficient space for the PTO shaft and its protective guard.

Winter conditions

- Make sure there is no ice or risk of slipping in the operation environment.

5.1 Ambient conditions of use

Do not use the machine in damaging environmental conditions.

6 Safety

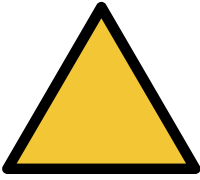
6.1 Signal words and symbols


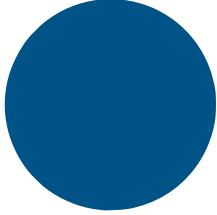
This manual contains danger, warning, and notice statements emphasized with symbols.

These hazard statements inform the user or authorized service representatives of any potential harm to the product or people.

Hazard is defined as source of potential injury to a person.











- The term "DANGER" indicates a hazardous situation which, will result in death or serious injury.
- The term "WARNING" indicates a hazardous situation which, if not avoided, could result in death or injury.
- The term "NOTICE" indicates a potential situation which, if not avoided, might result in property damage.





	<p style="text-align: center;">Hazard</p> <p>The black symbol inside a yellow triangle with a black border describes the hazard.</p>
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	<p style="text-align: center;">Prohibition</p> <p>The black symbol inside a red ring with a diagonal red bar describes the action that should not be taken.</p>
	<p style="text-align: center;">Mandatory action</p> <p>The white symbol inside a blue circle describes the action that must be taken to avoid a hazardous situation.</p>








6.1.1 Safety symbols used in this manual









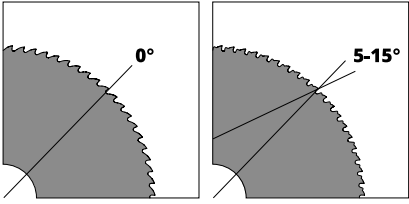
The safety symbols found in this manual may also be posted on the product. All personnel who install, disassemble, perform maintenance, or use the product must be familiar with and observe all safety symbols, labels, and instructions about the action they are performing.

Sign	Indication	Sign	Indication
	General warning. Risk of malfunctioning and/or damage.		Floor level obstacle.
	Sharp element.		Electricity.
	Loud noise.		Falling objects.
	General prohibition sign.		General mandatory action.
	Disconnect from mains plug.		Wear protective gloves.

Sign	Indication	Sign	Indication
	Wear safety footwear.		Wear eye protection.
	Wear ear protection.		Refer to manual.

6.1.2 Product information symbols

	Refer to instruction manual. Read and understand the instructions and plan your work beforehand.
	Wear eye and ear protection. Use ear and eye protection: Earmuffs, protective cover, protective glasses, or face protection.
	Wear protective gloves.
	Wear safety footwear.
	Do not wear loose clothes.
	Keep safe distance from the conveyor. Danger of injuries.
	Stay away from the moving parts. Danger of injuries.

	<p>Beware of rotating blade. Danger of cutting injuries. Wear adequate protection.</p>
	<p>Beware of PTO shaft. Danger of injuries.</p>
	<p>Make sure the log is not in an upright position when being fed for splitting. Risk of malfunction and/or damages. Danger of injuries.</p>
	<p>The machine may only be operated by one person. Danger of injuries.</p>
	<p>Make sure the circular saw blade is in upright position before opening the safety guard.. Danger of injuries.</p>
	<p>Disconnect before carrying out any service measures. Inactivate the electrical system and secure it against switching on accidentally before starting any cleaning, installation, maintenance, disassembly procedures or repairs.</p>
	<p>Emergency stop button.</p>
	<p>Revolutions range of the PTO shaft.</p>
	<p>Saw blade without teeth: rake angle 0 degrees.</p>
	<p>Blade with teeth: 5-15 degrees.</p>

6.2 Safety risks

Palax C750 is a very safe machine when used in accordance with the instructions given in this manual, and when it is regularly maintained and operated exercising caution and calmness.



To avoid safety risks related to the installation, maintenance, disassembly, and use of product, read and obey the following instructions before carrying out any measures.

- The machine is exclusively intended for the production of firewood.
- The machine may only be operated by one person at a time.
- The danger zone around the conveyor is 5 meters.
- The machine must not be operated by persons under 18 years of age.
- The machine must not be operated under the influence of alcohol or any other intoxicating substance.
- Do not remove any safety-related devices from the machine.
- Always wear proper eye and ear protection during operation.
- Always wear proper safety gloves and footwear during operation.
- Do not wear loosely hanging clothes during operation.
- Always exercise care during operation to avoid any hazard.
- Keep the working space clean and clear of foreign objects.
- Stay away from moving parts.
- Make sure all the protective guards are in place before operation.
- Make sure that the [operation conditions](#) apply.
- Make sure all the safety symbols are visible and intact.

The operator is responsible to

- Ensure that the safety-related devices of the machine are intact and the machine is maintained and in good working order before operation.
- Ensure that any third party is not subjected to any danger during operation.
- Make sure that the construction of the machine is not modified in any way.
- Make sure the machine is not operated under the influence of any intoxicating substance.

6.2.1 Noise emission and vibration



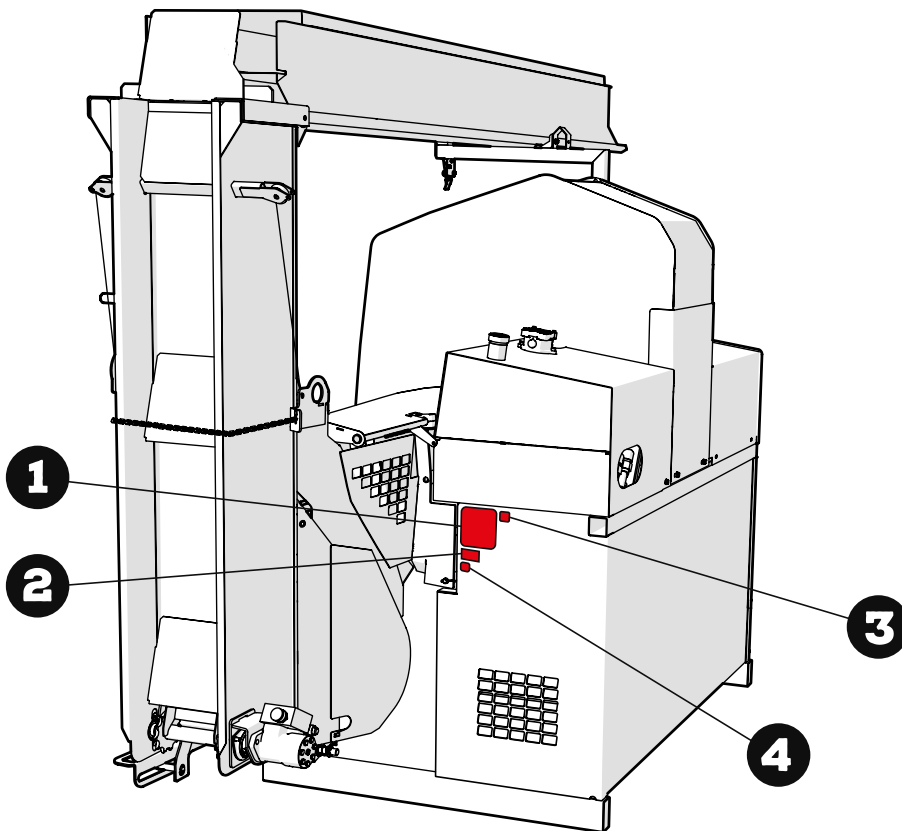
The sound pressure level around the machine during operation is 88.5 dB (A). The sound power level is 108.5 dB (A). Wear ear protection during operation.

The vibration emission values do not exceed 2.5m/s².

7 Technical data

7.1 Product identification (Nameplates)

Check the identification data on the product nameplate. The nameplate, date of last inspection, and QR codes for manuals, and customer support are located at the rear of the blade housing.



1. Nameplate
2. Date of inspection
3. QR code for feedback form
4. QR code for manuals

Table 1: The nameplate includes

Koneen nimi Machine Name	PALAX C750.2	CE UK CA
Tunnus / Code	C750.2	
Sarjanro Manufact.Nr	75023153	
Paino, Weight	TR840kg, TR/SM930kg	
Jännite, Voltage		
R / Min	Min 400, Max 450	
Ottoteho Input Power	11kw	
Valmistusvuosi Production Year	2023	
Malli Vuosi Model Year	2023	
<p>FIREWOOD PROCESSOR - TP SILVA OY Lahdentie 9 61400 Ylistaro www.palax.fi +358 6 4745100</p>		

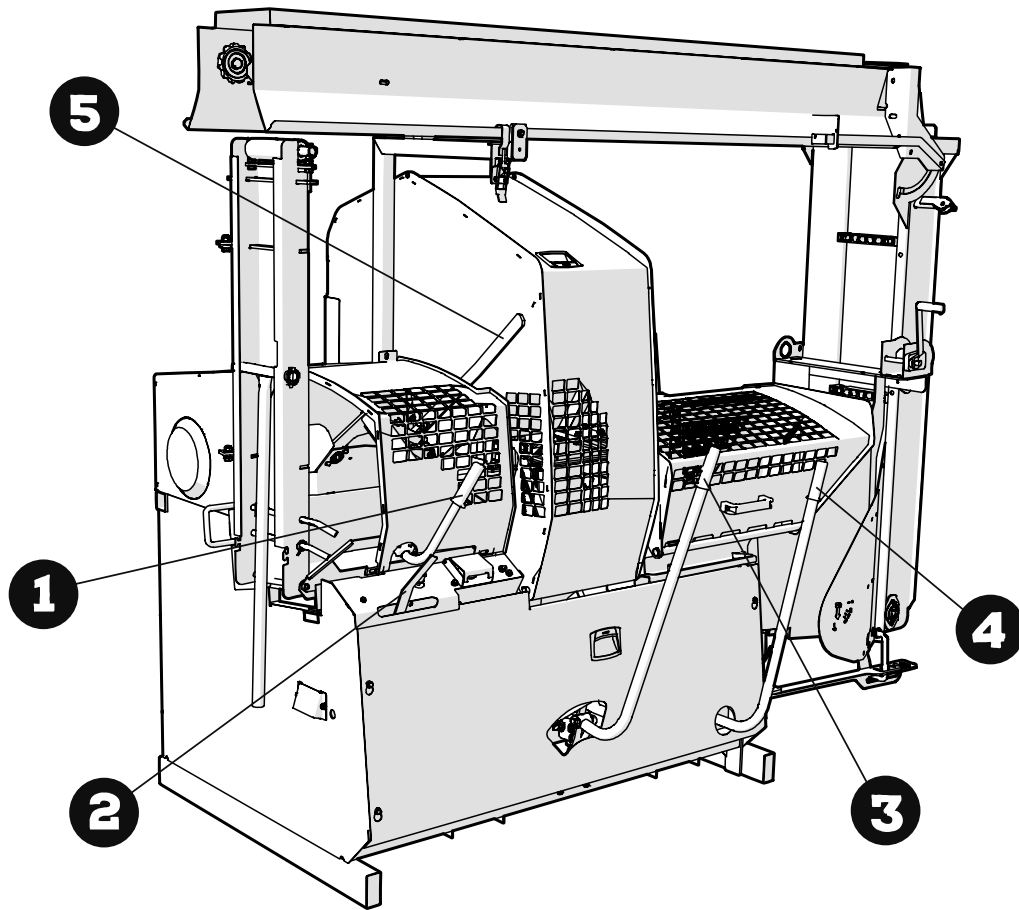
1. Machine name
2. Code
3. Manufacturer's designation of the product.
4. Total weight of the machine.
5. Voltage
6. Input power
7. Production year
8. Model year

7.2 Main dimensions

Table 2: The main dimensions and models of the machine

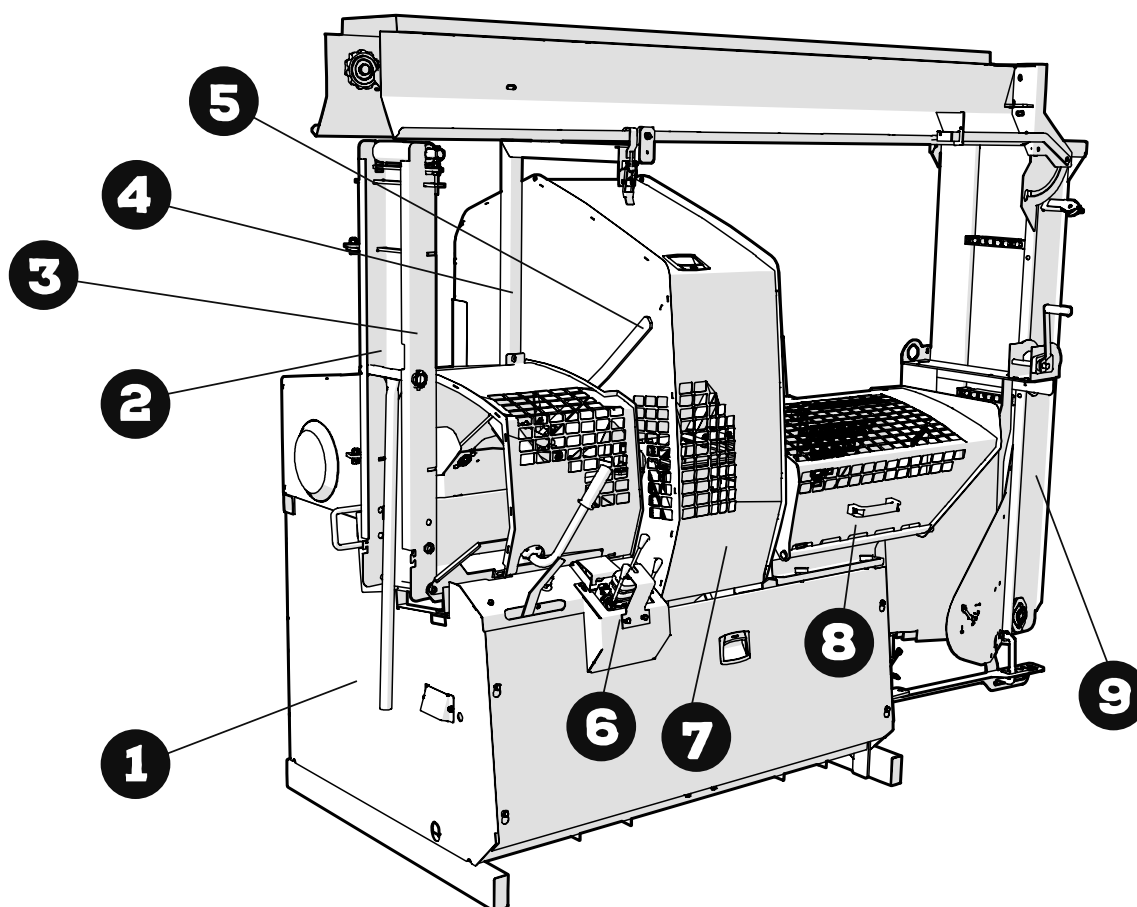
Machine model	PALAX C750 Ergo		PALAX C750 Pro, Pro+	
	PTO	PTO/EM	PTO	PTO/EM
Weight (4.3 m firewood conveyor included)	810 kg	900 kg	840 kg	930 kg
Powered by electricity	12.6 kW; fuse size: minimum 25A, continuous power 11kW			
Height / width / length in transport position	2.45 m / 1.3 m / 2.8 m			
infeed conveyor length / height	2.4 m / 0.9 m			
Diameter of blade / hole	750 mm / 35 mm			
Maximum diameter of the log	30 cm			
Cut length of the log	25-55 cm			
Conveyor length / width	4.3m / 0.27 m			

7.3 Main parts Ergo



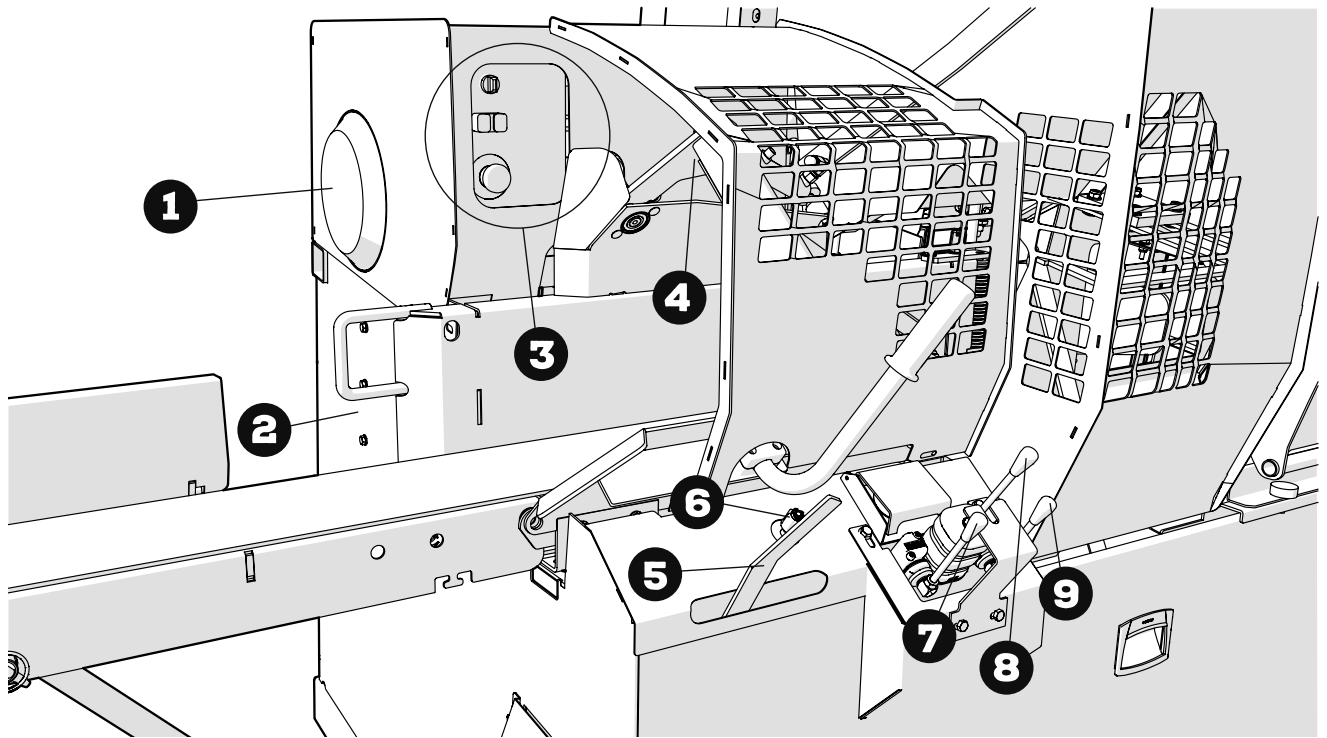
1. Log clamp
2. Manual lever for splitting
3. Multifunction lever
4. Adjustment lever for splitting wedge
5. Emergency stop lever for PTO powered machine

7.4 Main parts Pro/Pro+



1. Infeed conveyor support
2. Infeed conveyor belt
3. Infeed conveyor
4. Conveyor support
5. Emergency stop lever, PTO powered machine
6. Controls
7. Blade cover
8. Protective guard for splitting chute
9. Conveyor

7.5 Operating controls Pro / Pro+

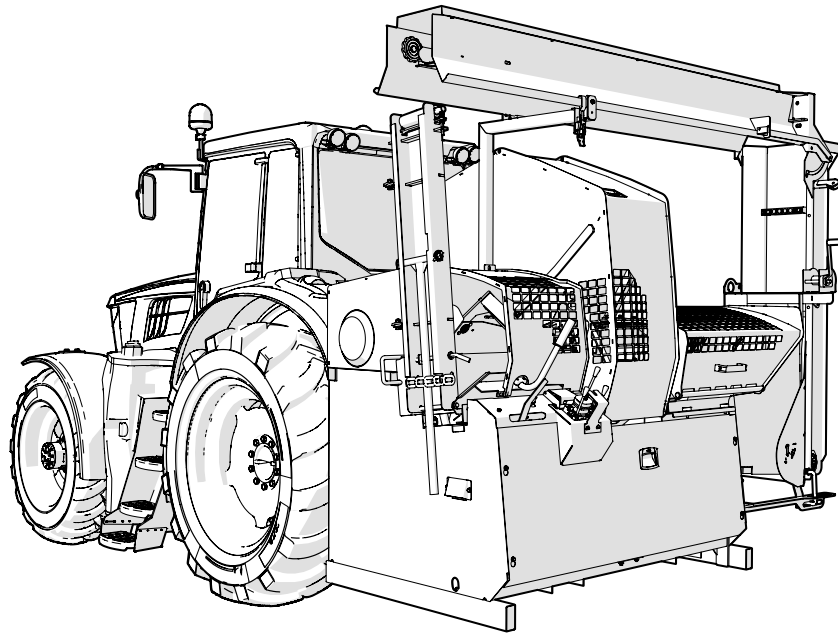


1. Motor
2. Optional hydraulics
3. Emergency stop button for electric motor powered machine
4. Log clamp
5. Manual start of the splitting cylinder
6. Speed adjustment lever of circular saw blade
7. Lever for additional hydraulics
8. Joystick valve to operate the splitting wedge and infeed conveyor
9. Hydraulic height adjustment of splitting wedge

8 Transport information

- ⚠ **Warning:** Lift and lock infeed deck and discharge conveyor in the transport position before transport.
- ⚠ **Warning:** When transporting the machine on the tractor's lifting equipment, the maximum allowed driving speed is 25 km/h.

Important: The width of the machine with the conveyor is approx. 2,83 m and the height is 2.45m This means that, the transport width of the conveyor on the right side of the tractor may slightly extend outside the rear wheel, depending on the size of the tractor.



8.1 Delivery acceptance inspection

Check that the machine has not been damaged during transit, and check that all necessary parts are included in the package.

In the event of any defects or damage, contact the retailer immediately.

8.2 Unpacking

The machine is delivered partly assembled and with the conveyor attached. To avoid damage during transport, all protruding levers and hitching parts for a PTO powered machine are delivered separately from the machine. The extension table for the infeed conveyor and the loading conveyor are in transport position. The angular gear is filled with transmission oil.

Remove any cable ties and strap supports installed for transport.

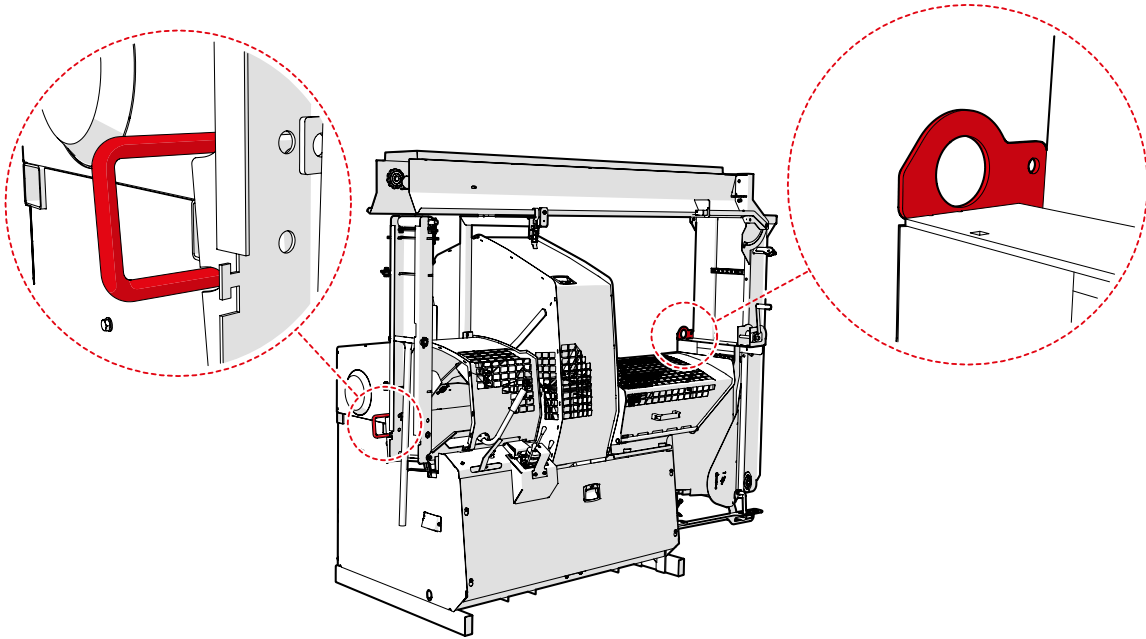
Dispose of the machine's packaging material in an environmentally friendly manner.

8.3 Lifting

⚠ Warning: The machine is very heavy. Lift the machine using crane or forklift.

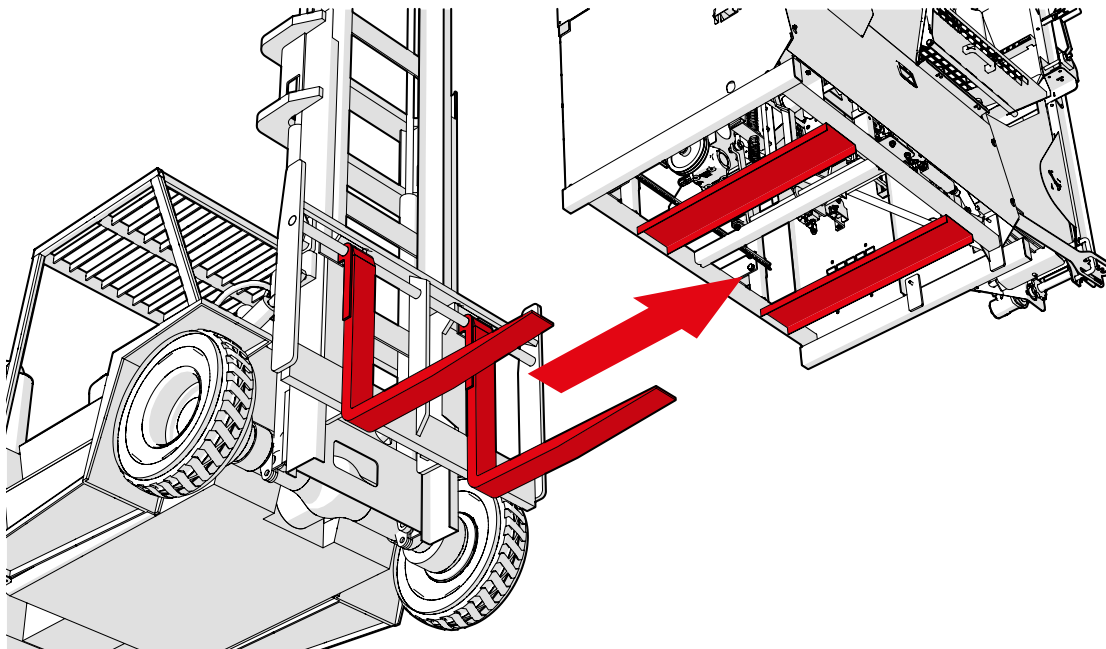
Lifting by crane

The lifting lugs for lifting by crane are located at both ends of the machine. One is located at the rear of the splitting chute and the other at the rear edge of the infeed deck.



Lifting by forklift

The machine can be lifted by forklift from both sides. There are guide rails for lifting forks under the chassis of the machine.



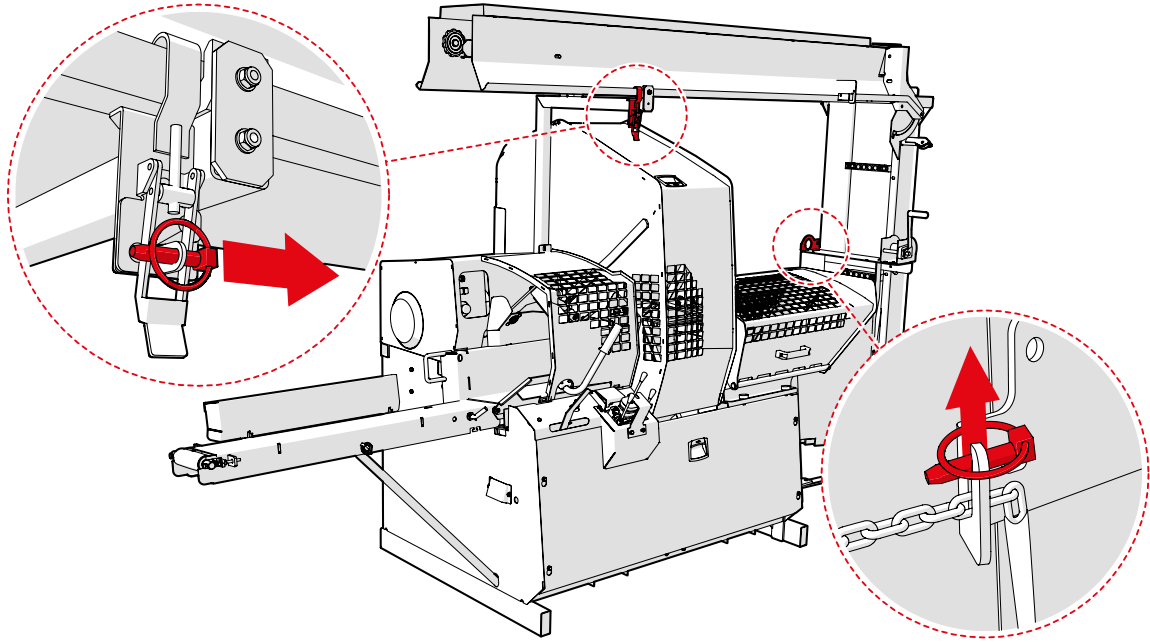
9 Assembly

Before assembly, check that [operating conditions](#) apply.

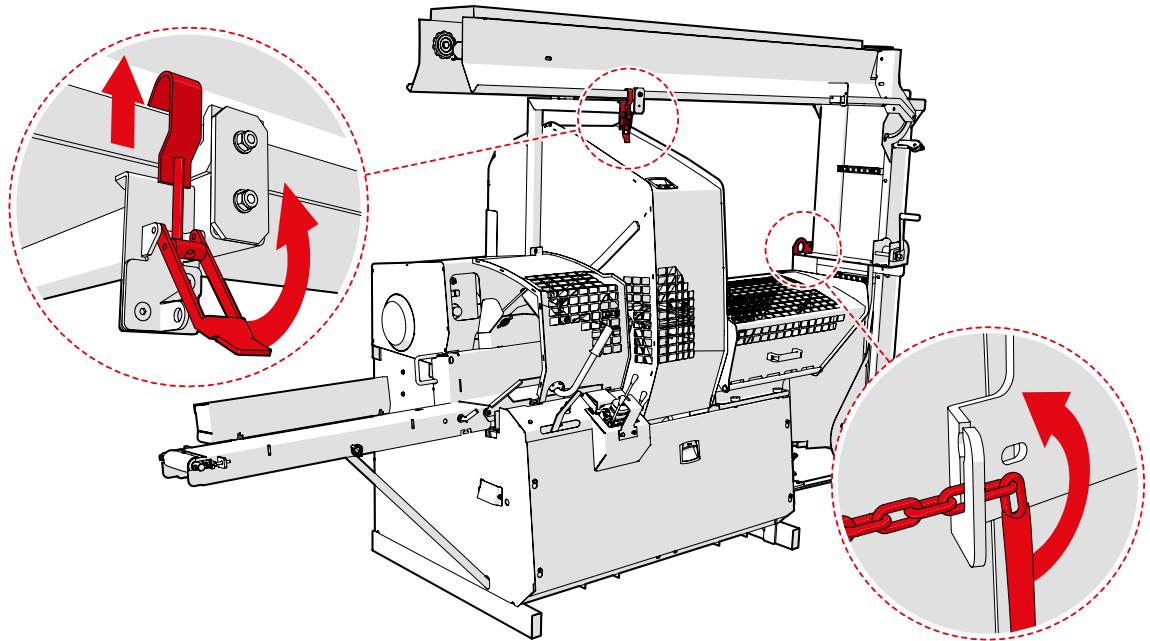
9.1 Set the conveyor in operating position

⚠ Warning: Hold on to the winch handle when lowering the conveyor.

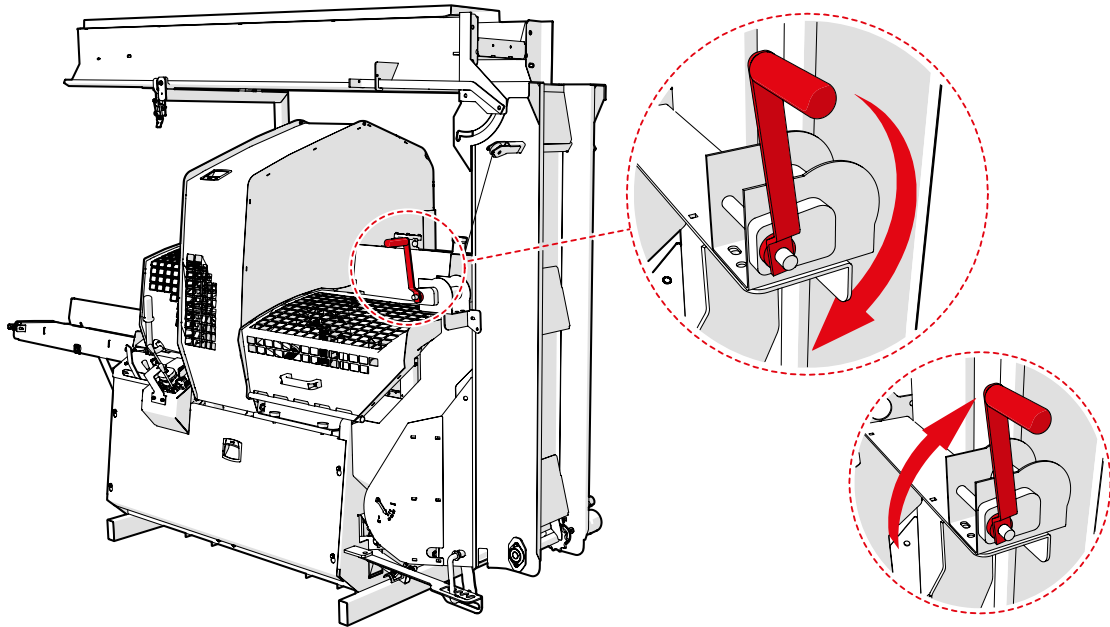
1. Remove the locking pins.



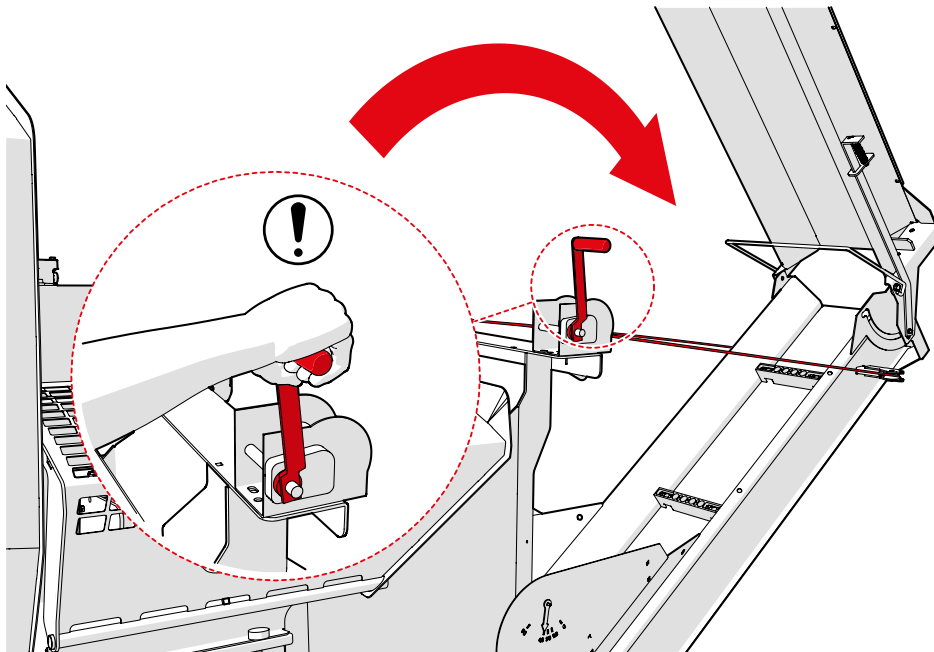
2. Open the locks.



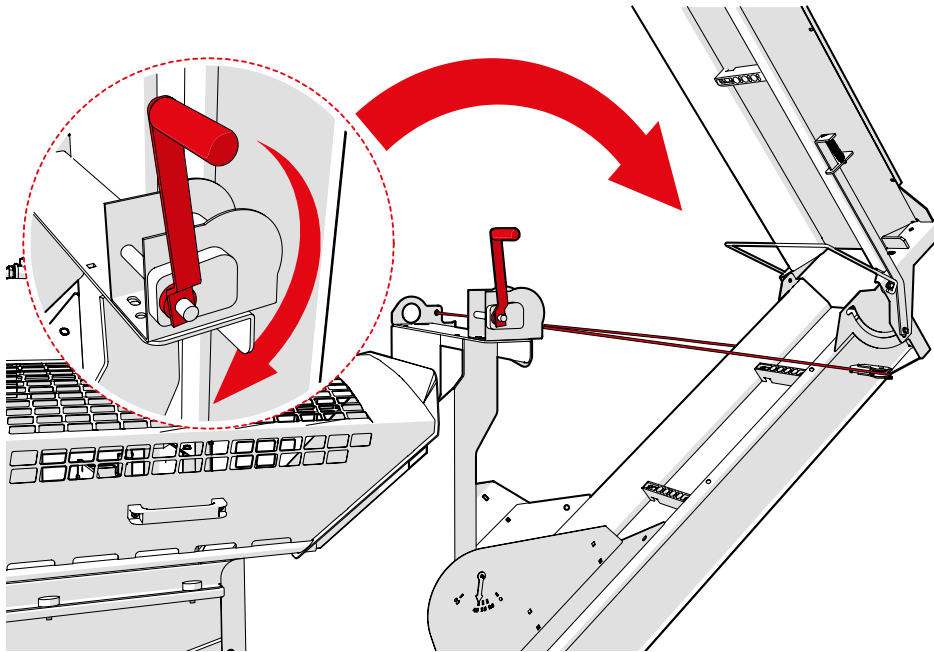
3. Loosen the winch cable a few turns.



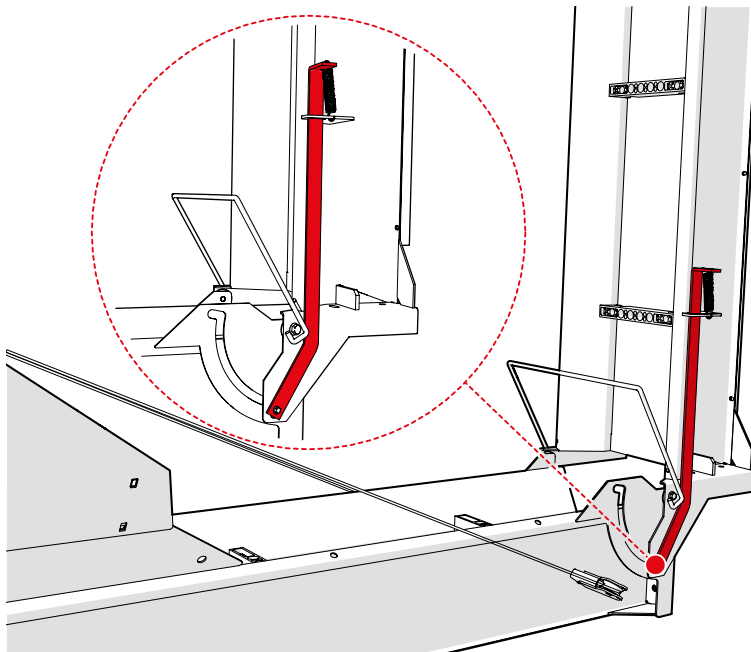
4. Push the conveyor out so that it hangs on the winch cable.



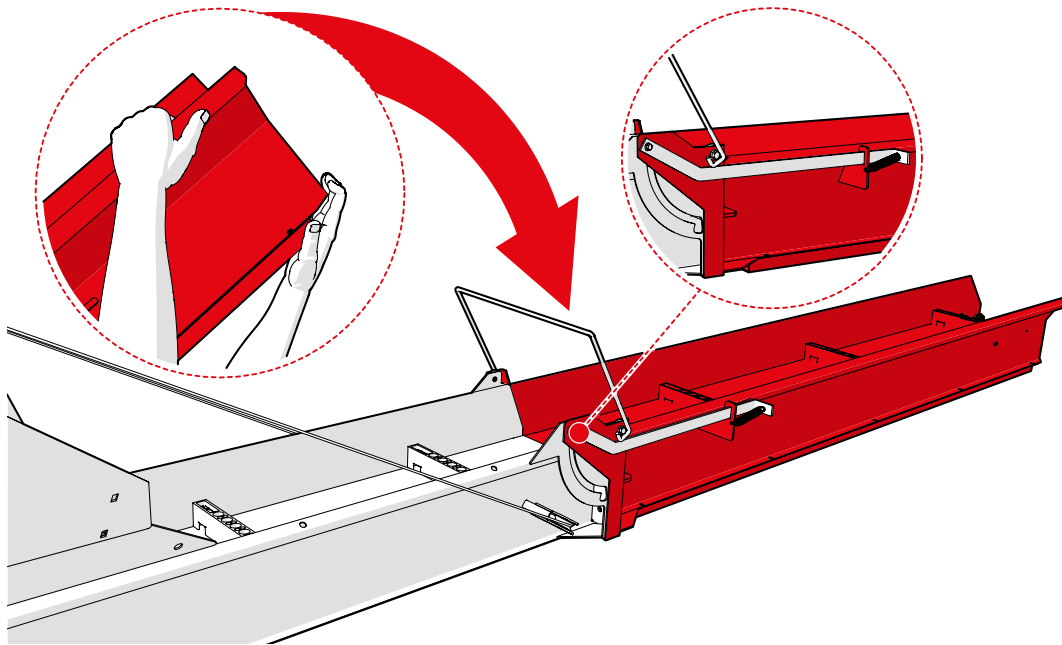
5. Use the winch to lower the conveyor to the ground.



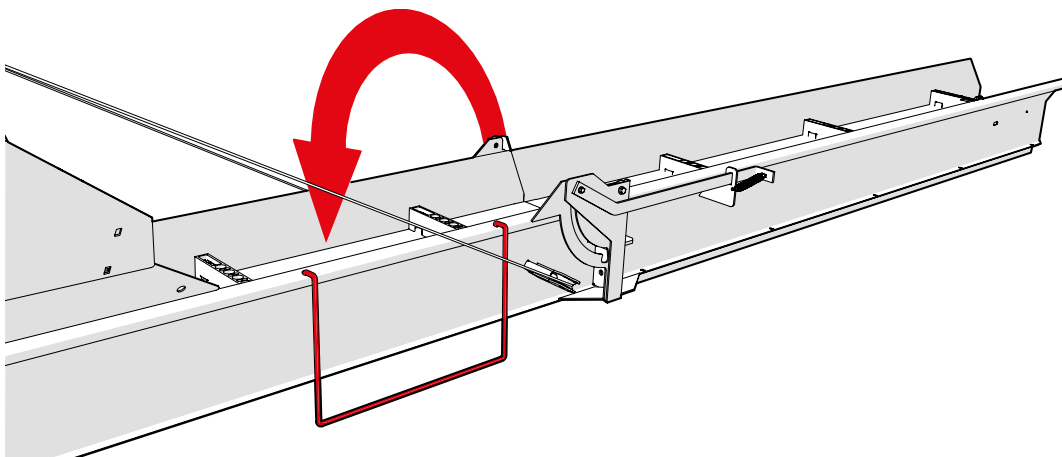
6. Pull to open the lock.



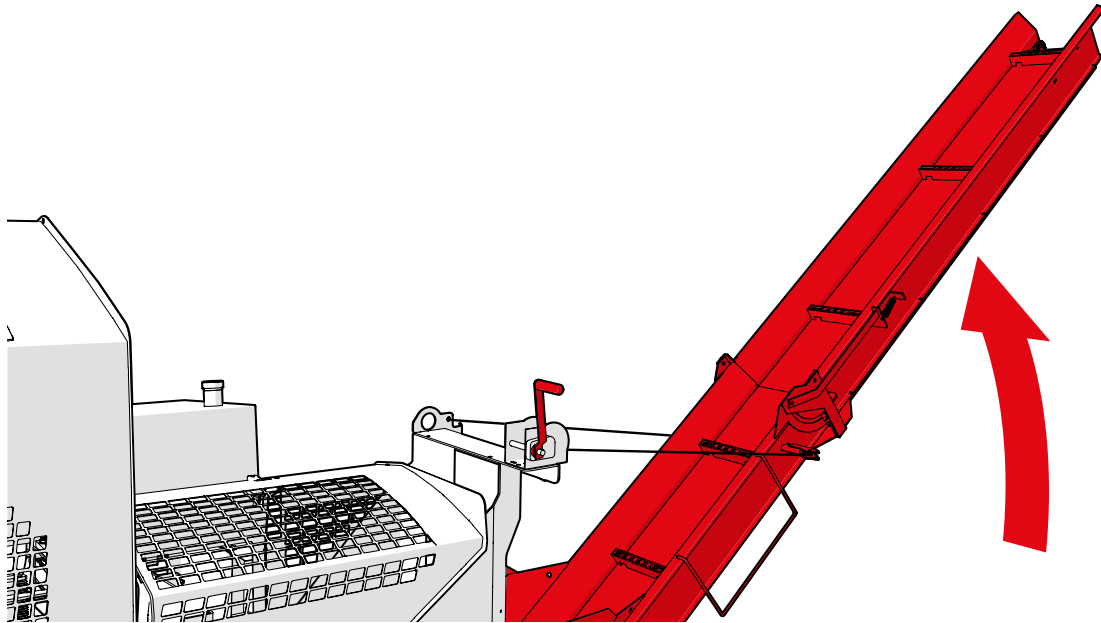
7. Fold the top of the conveyor down.



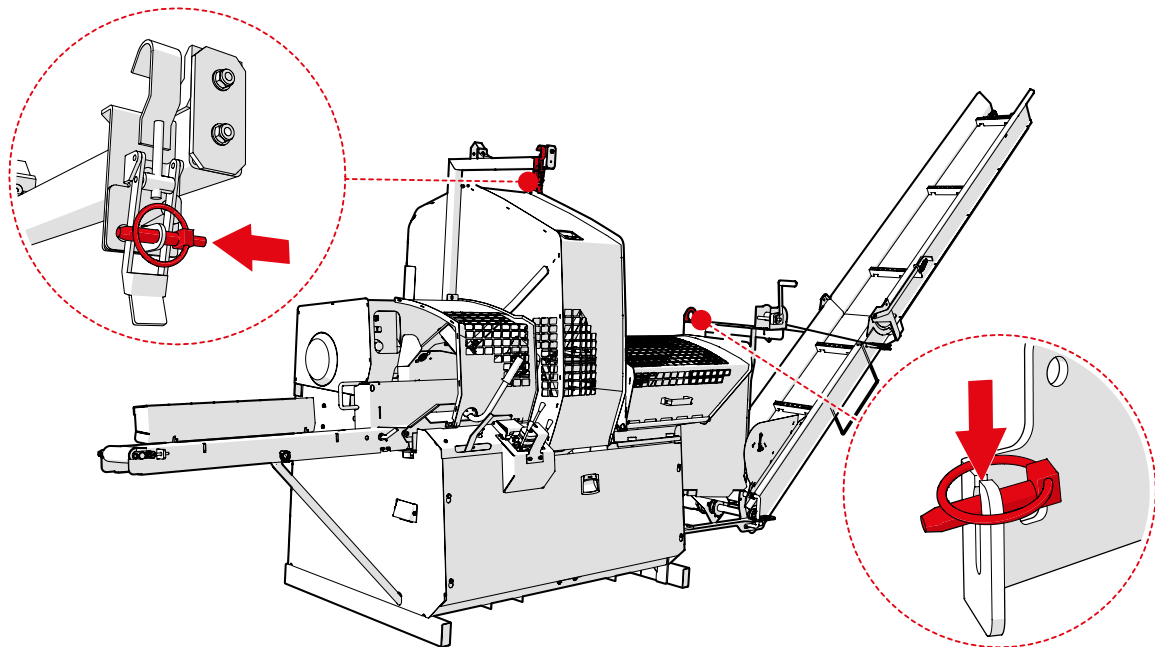
8. Remove the support bar of the conveyor chain.
9. Insert the support bar into the holes in the edge of the conveyor.



10. Lift up the conveyor using the winch.



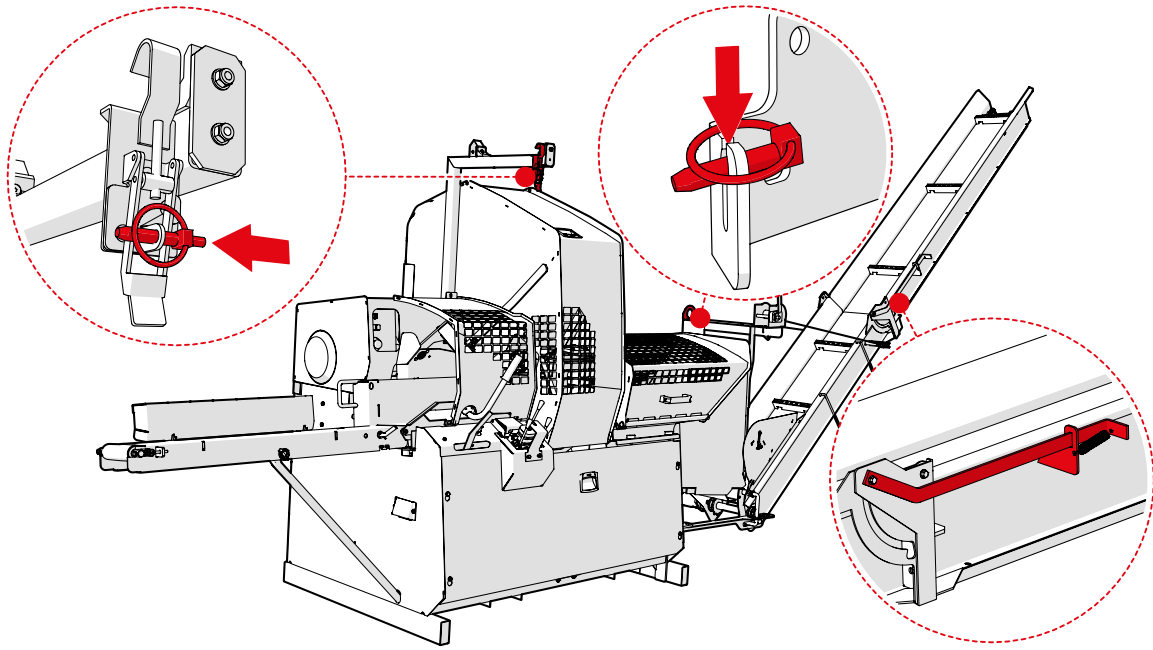
11 Put the locking pins in place.



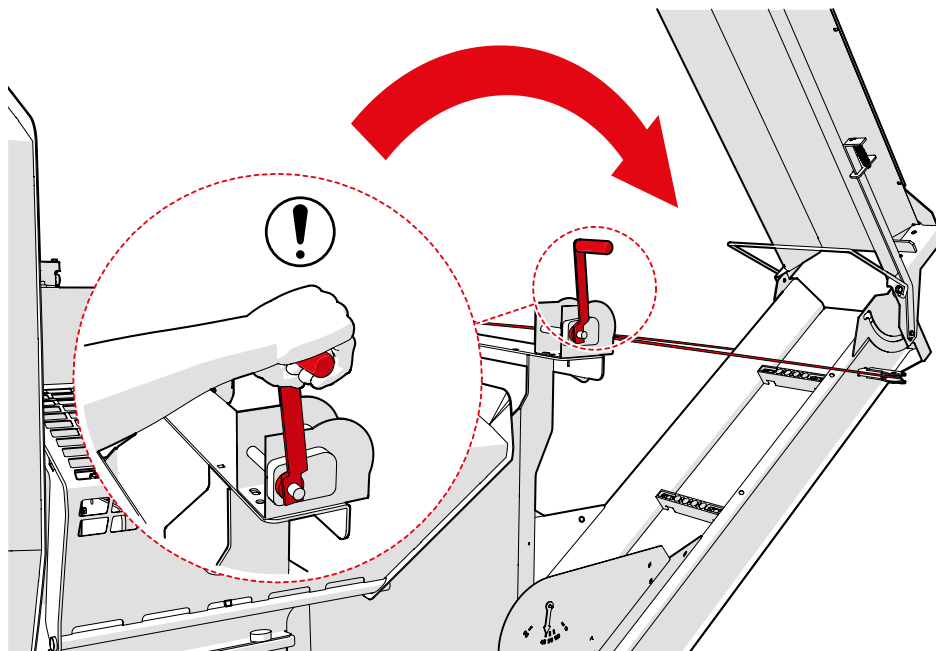
9.2 Set the conveyor in transport position

⚠ Warning: Hold on to the winch handle when lowering the conveyor.

1. Open the locks of the conveyor.



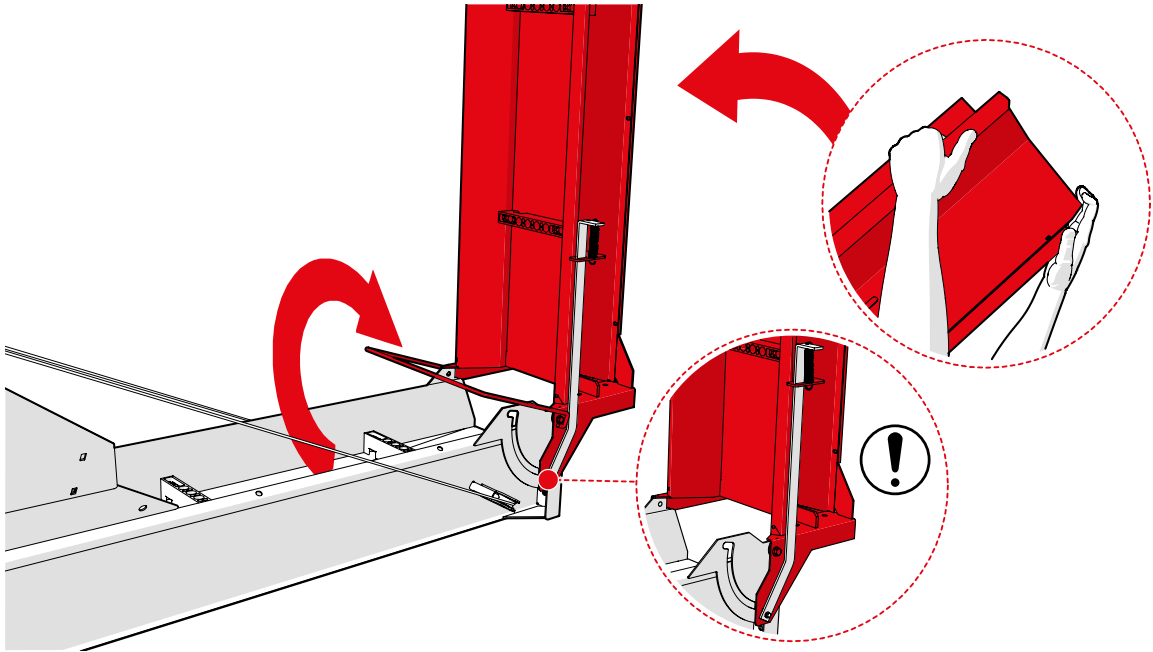
2. Use the winch to lower the conveyor to the ground.



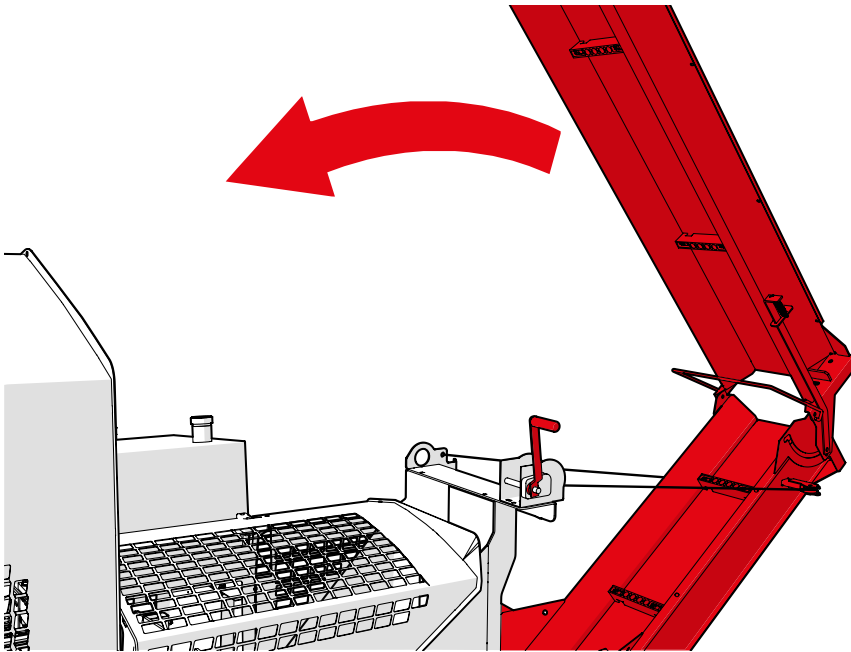
3. Attach the support bar of conveyor chain.

4. Pull to open the lock.

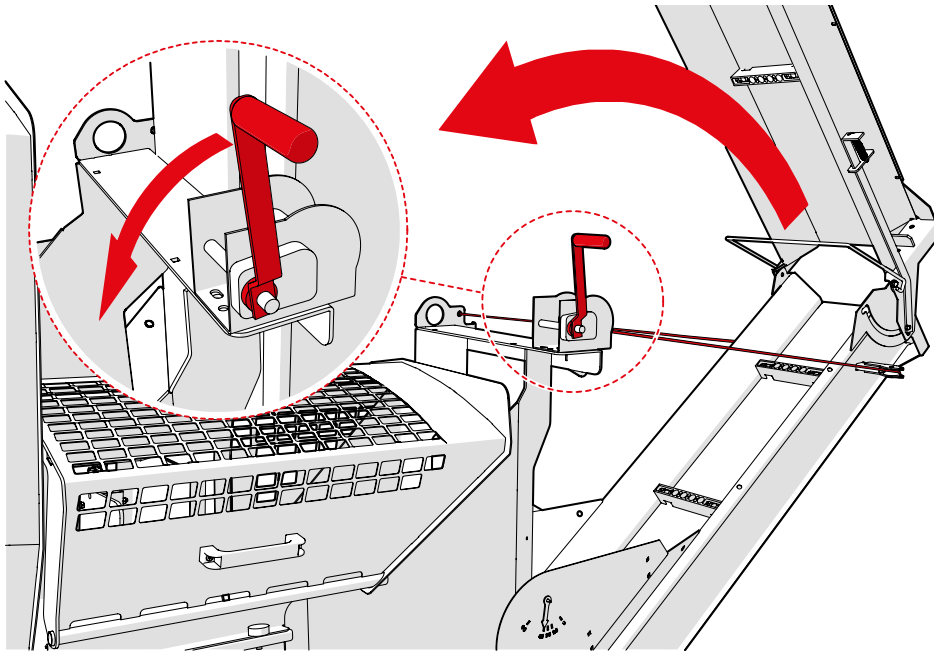
5. Lift the conveyor top upright.



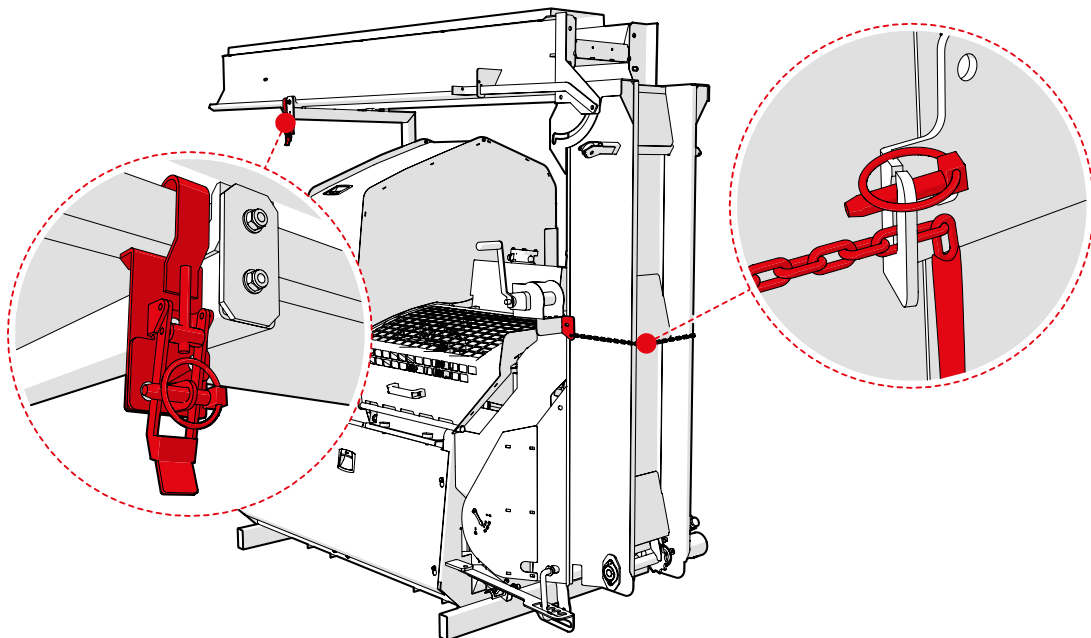
6. Close the lock. Make sure that the lock is properly locked.
7. Use the winch to lift up the conveyor.



8. Tighten the winch cable lightly so that the cable does not uncoil from the spool.



9. Lock the conveyor with the lock, the chain, and the safety pin.



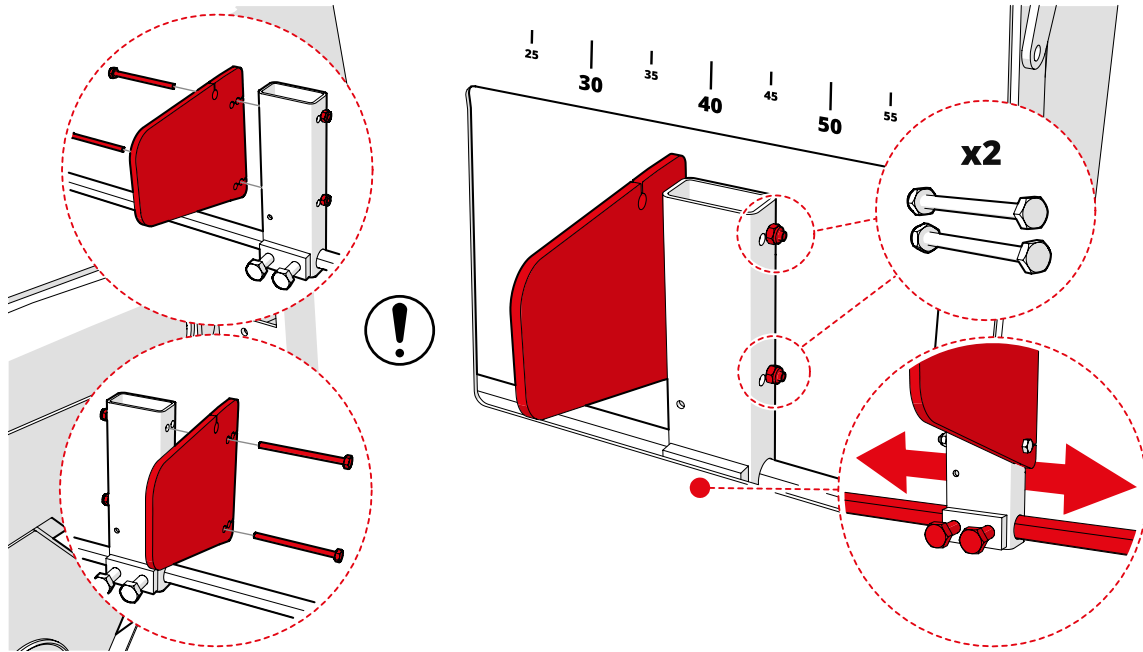
9.3 Adjust the log stop

The log-stop can be set in the range 25-55 cm. The log-stop is equipped with two break bolts. Bolt size is M 8x100, sub-thread, strength class 8.8, nut m8 Nyloc.

Important: The break bolts protect the log-stop structure from damage that may occur when an over length tree enters the splitting chute and is pushed upwards by the pusher to a vertical position against the log-stop.



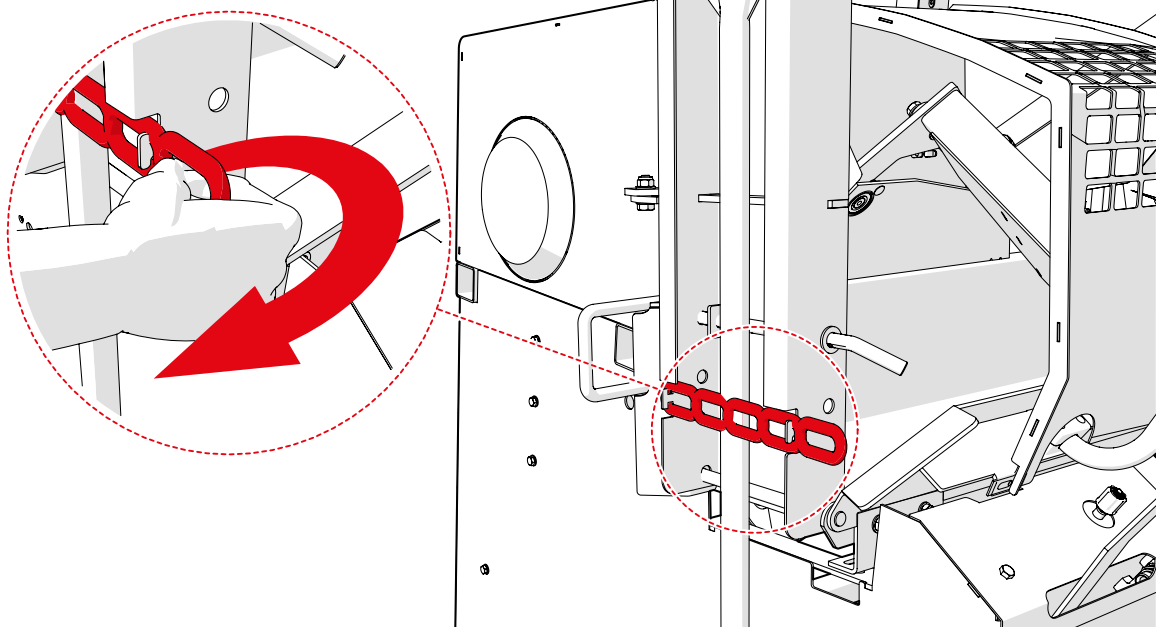
Attention: Always fasten the nut on the log-stop plate side.



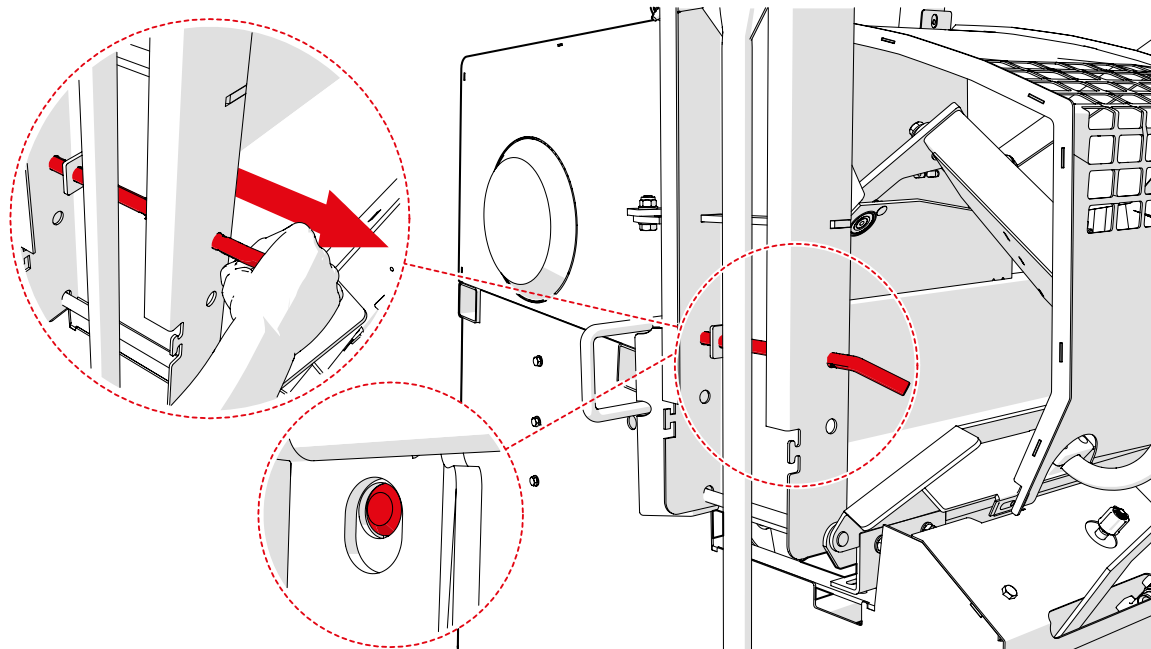
1. Set the cut-off length accordingly using the measuring scale.
2. Tighten the log-stop screws with a wrench.
3. Lower the circular saw blade. The log-stop automatically moves away from the log, allowing the log to fall freely.

9.4 Table extension

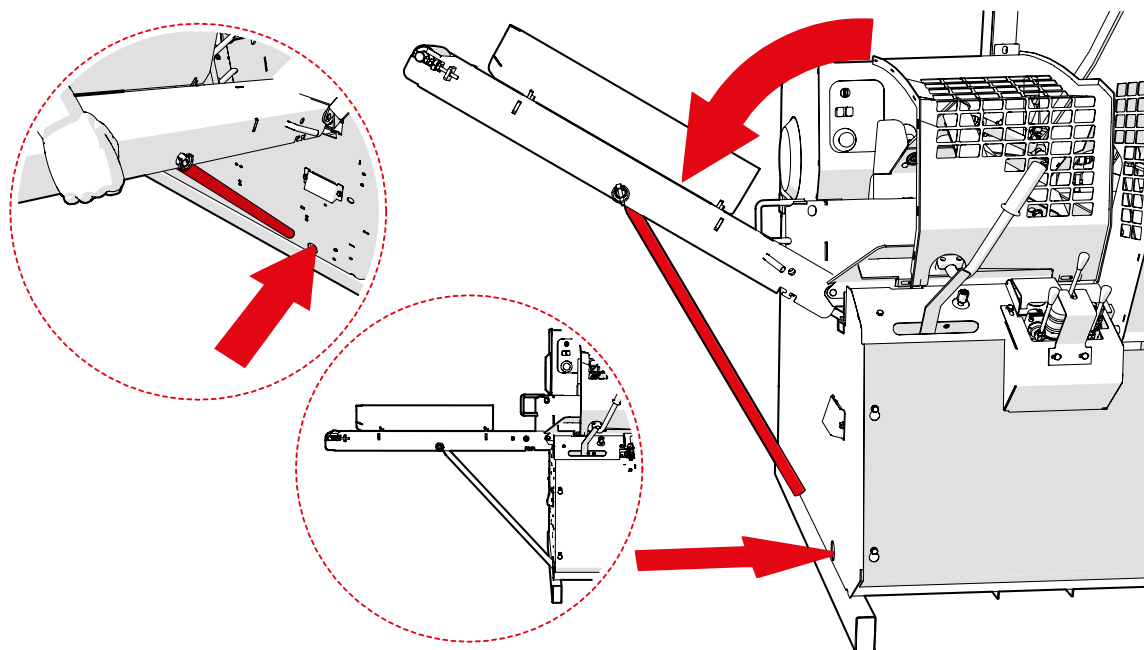
1. Disconnect the rubber spring.



2. Pull open the locking pin.









3. Pull the conveyor down.
4. Place the leg into the opening in the bottom of the infeed conveyor support.





5. Reconnect the rubber spring.

10 Operation

-  **Warning:** Exercise caution when sawing knotty or crooked logs. Risk of the log rolling and the saw blade breaking.
-  **Warning:** Make sure the support roller of the cutting table is against the wood at the point of cutting. Risk of the log rolling and saw blade breaking.

-  **Warning:** If the sound is loud or cracks, cutting speed and saw blade revolutions are too high. This causes clogging. Check revolution, cutting speed & blade sharpness before proceeding.
-  **Warning:** Only cut one log at a time.
-  **Warning:** Operating on trees with large branches may cause the cylinder to run out of power if not operated accordingly.
-  **Warning:** When splitting large trees or trees with large branches, the cylinder may run out of power and logs may get stuck.

Maximum wood dimensions

- Diameter: 30 cm
- Length: 4 m
-  **Note:** For long trees, use a specific log-lifting deck with rollers or hydraulic feed.
-  **Note:** If you are using an extension table, maximum length of the firewood can be longer.

10.1 General

Pay particular attention during operation when splitting or cutting crooked, large or small trees, trees with big branches and when re-splitting logs.

10.1.1 Crooked trees

Always cut crooked trees at the bend. Make sure that the support roller leans against the log.

10.1.2 Big trees

When cutting big trees, pay attention to the cutting sound. Cutting speed and saw blade revolutions are correct when the sound is soft.

10.1.3 Small trees without splitting

Small trees can be cut faster without splitting.

1. Remove the wedge.
2. Feed the small trees.

10.1.4 Re-splitting

To produce small logs from large trees, splitting with 4- or 6-way wedge may still produce too large logs.

To re-split logs smaller

1. Open the protective guard.
2. Place the logs into the splitting chute.

Important: Place the logs on top of each other. They stay in place when the blade gently snaps them together.

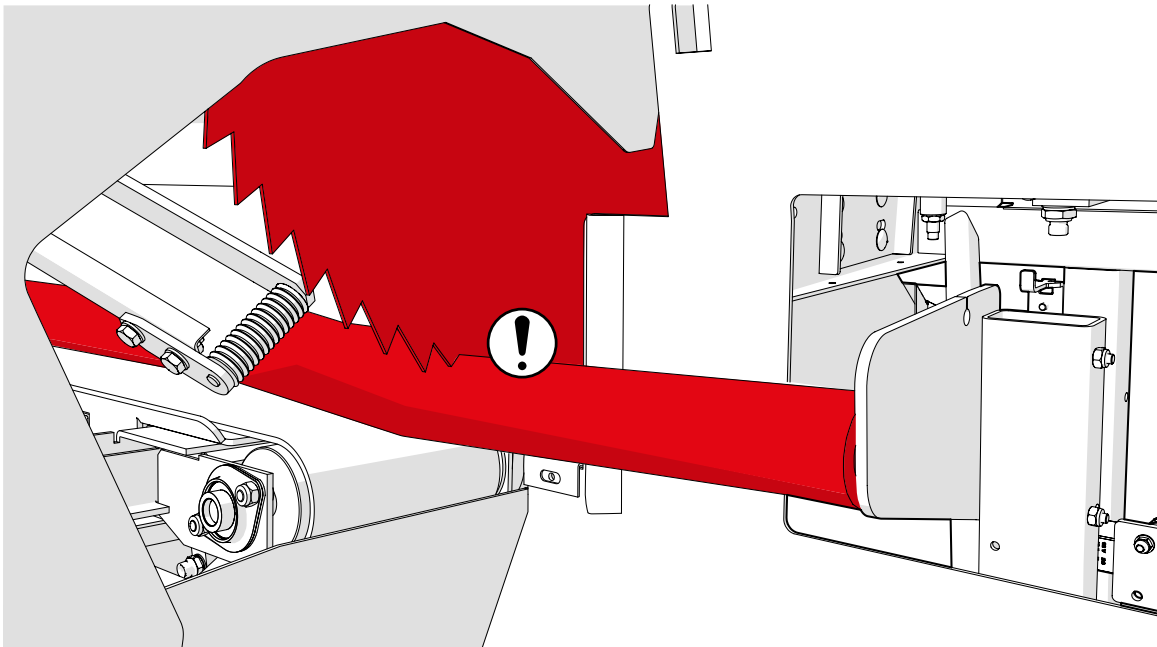
3. Close the protective guard.
4. Use the hand lever to start splitting.

10.1.5 Trees with large branches

To cut trees with big branches

1. Turn the trees so that the root end goes in first.
2. Make sure that the tree goes root end first into the wedge and the big branch splits.

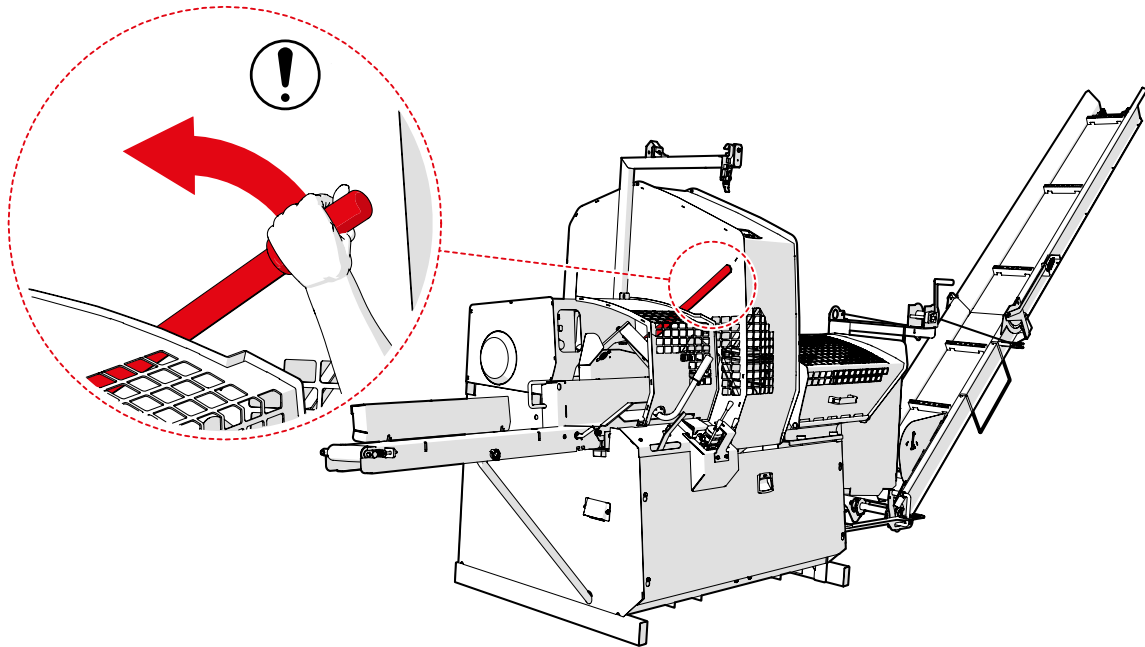
10.1.6 Stuck log - faulty cutting



If a tree is stuck as a result of faulty cutting, follow the instructions below.

PTO powered

1. Stop the machine by using the emergency stop lever.



2. Disengage the PTO shaft.
3. Loosen the stuck log.
 - Tip:** Use another log to knock the stuck one loose.
4. Inspect the saw blade and make sure there are no cracks at the roots of the teeth.

Electric motor powered

1. Stop the machine by using the emergency stop button or the power off switch.
2. Loosen the stuck log.
 - Tip:** Use another log to knock the stuck one loose.
3. Inspect the saw blade and make sure there are no cracks at the roots of the teeth.

10.1.7 Stuck log - cylinder out of power

If the cylinder runs out of power and a tree gets stuck,

1. Use manual control to reverse the cylinder.
2. Lift up the splitting wedge.
3. Retry splitting with the manual control.

If the tree does not split, open the protective guard and use a log to knock the stuck tree loose.

10.2 Alternative power sources



Attention: Always remove the power take-off shaft before using electric motor as the power source.

The machine is equipped with two power source modes, PTO as the power source or electric motor as the power source.

The machine is equipped with a dual use prevention system.

Important: Never remove the dual access plate from the machine.

- To use PTO as the power source, turn the cover plate up and connect the machine to the PTO shaft.
- To use electric motor as the power source, turn the cover plate down and connect the extension cord to the electric motor.

10.3 PTO powered

- Use a PTO shaft with a power transmission of approx. 26 kW. A safety clutch is not required for the PTO shaft.
- Preferably use a PTO shaft with a free clutch.
- Only use an intact PTO shaft and always attach the chains of the cover shaft to the machine.
- Hang the PTO shaft to the hook on the machine when you disconnect the PTO shaft from the tractor/other power source.
- The appropriate rotation speed range for the PTO shaft is min.

400 max. 450 r/min.

Important: If the tractor connected to PTO shaft has a high rpm range, use it.

10.3.1 Emergency stop

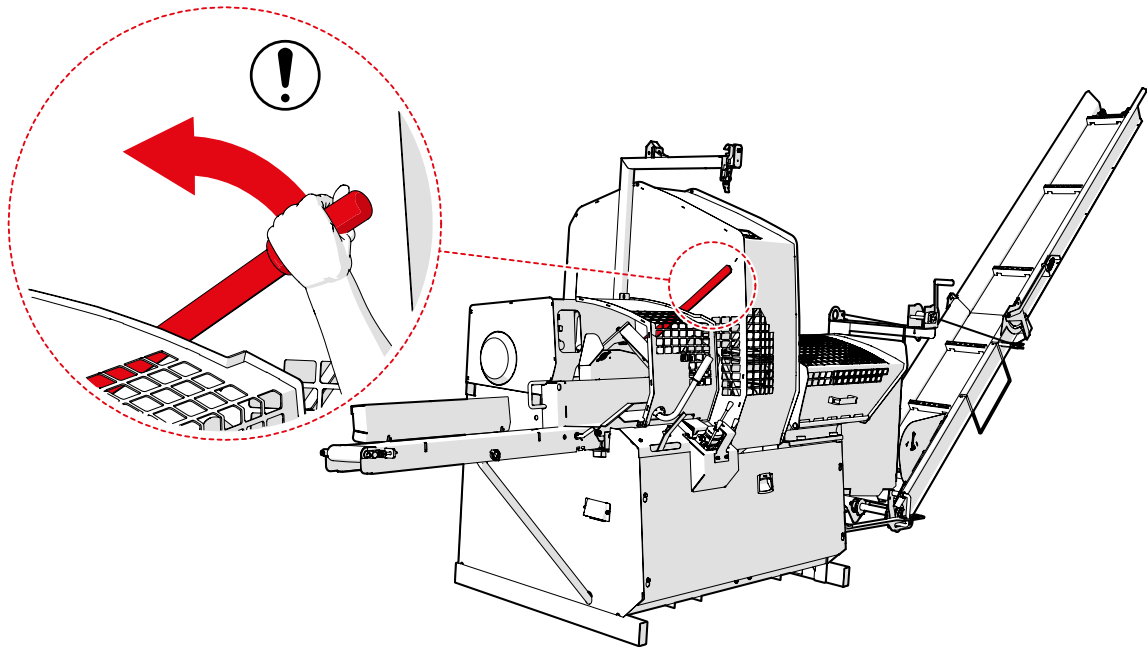
The PTO machine is equipped with a Rapid Stop Device which disengages the transmission from the angular gear to the machine instantly and stops the operation of the machine completely.



Attention: Use the lever only in an emergency, as the V-belts rub against the pulley of the angular gear and can wear out quickly.

In an emergency,

1. Push the emergency lever upwards so that the lever locks, leaving the V-belts loose.



2. Switch off the PTO shaft transmission from the tractor.

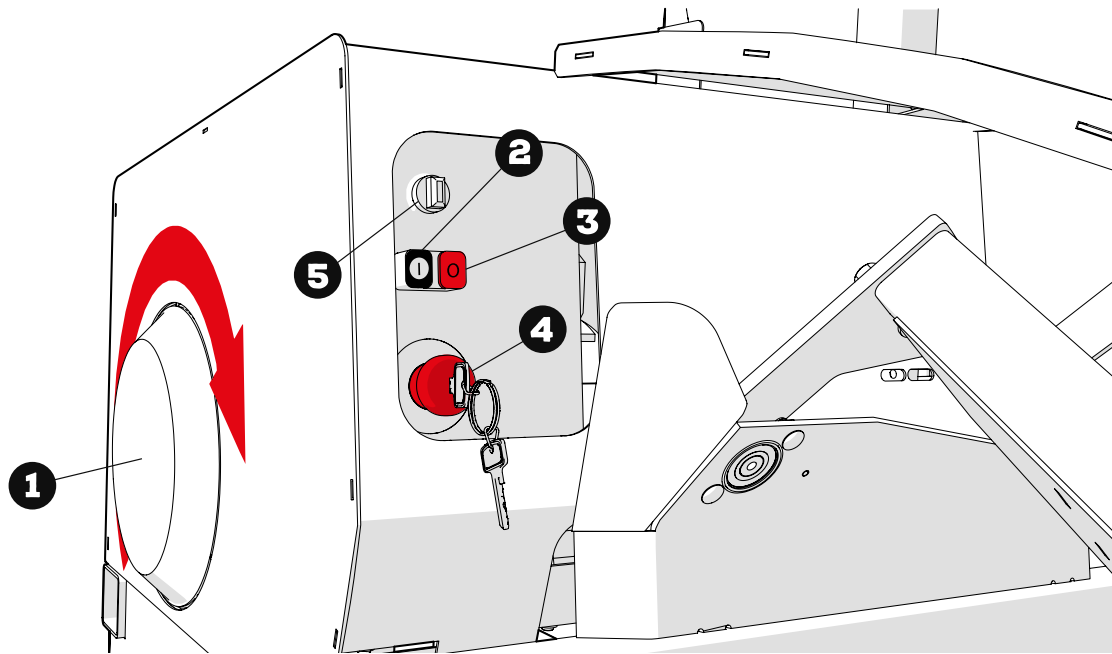
10.3.2 Cold start

Run the machine in sub-zero temperatures (°C) for about 5 minutes at low ($\frac{1}{4}$) revolutions to allow the oil to warm up.

Important: This will greatly reduce wear on the hydraulics and prevent damage.

10.4 Electric motor powered

- The power output of the electric motor is 12.6 kW and the speed is 1480 rpm.
- The machine is equipped with an automatic Y - D starter with emergency stop.
- All the required electric installations are installed.
- The cross-section of the extension cord required for 380V must be minimum 6 mm² and fuse size must be minimum 25A.
- The motor and the starter are located under the protective covers.



1. Motor
2. Start
3. Stop
4. Emergency stop button
5. Electric heater start/stop

10.4.1 Rotation direction check

Before starting the motor and continuing with operation, run a rotation direction check on the motor.

1. Carry out a momentary start and an immediate stop of the motor.
2. During the momentary start, make sure that the direction of the rotation of the motor corresponds to the direction arrow at the end of the motor.

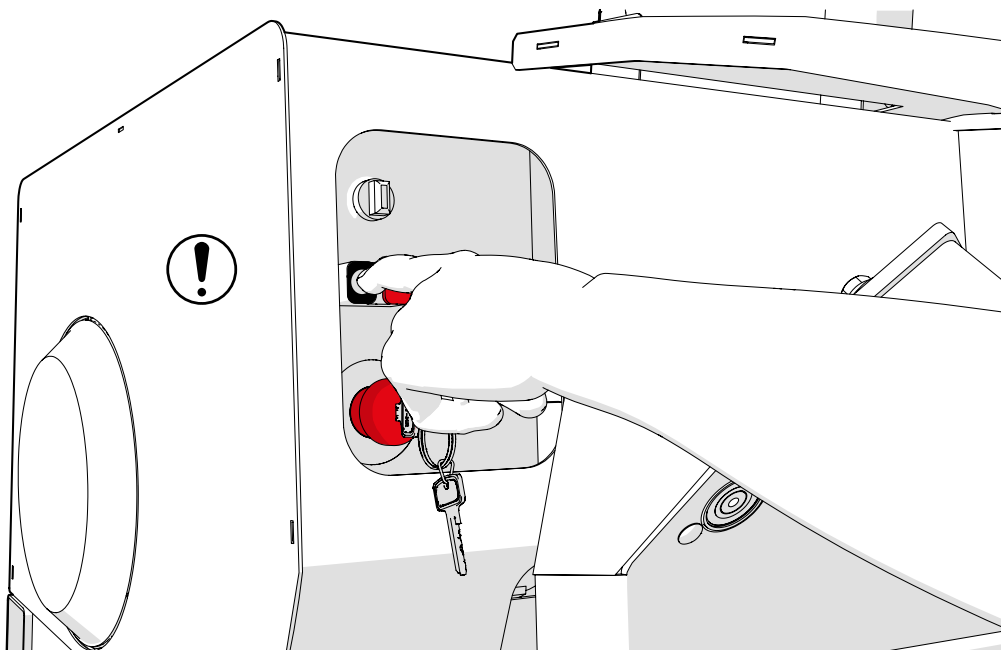
Important: The electrical work required to change the direction of rotation may only be carried out by a qualified person.

Important: Only use an extension cord with a changeover switch for rotation direction of the motor that can be adjusted with screwdriver.

10.4.2 Start the motor

Warning: Do not operate the machine until the engine is running at full speed.

1. Press start button.



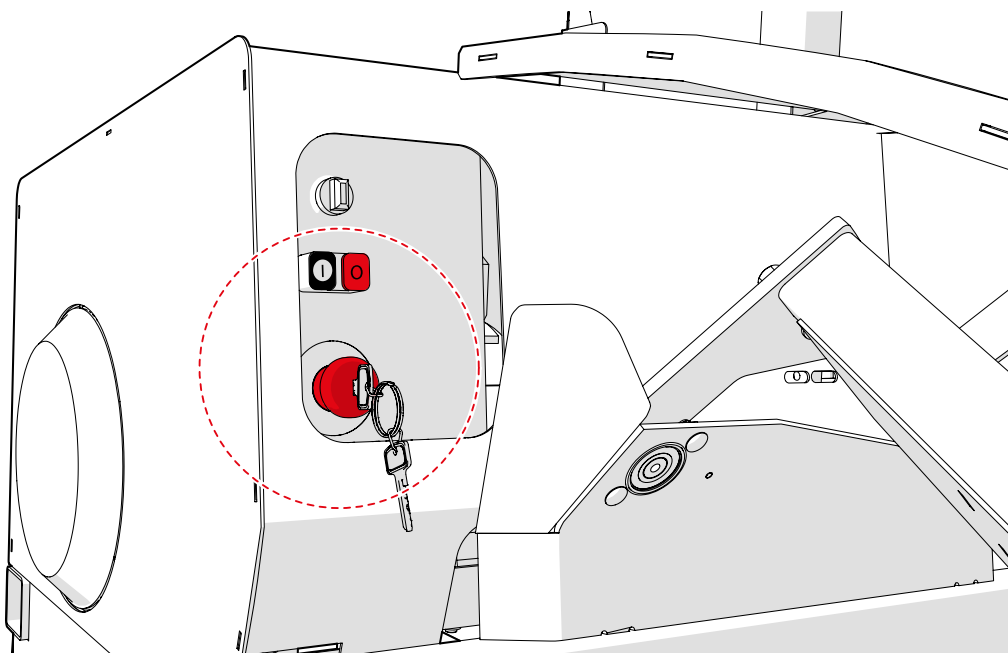
2. Wait for the full speed signal light to turn on.

The start-up phase takes tens of seconds. The engine starts to rotate slowly in Y-position with low output. As the revolutions increase, D-position is engaged and the engine quickly reaches full revolutions and signal light turns on.

10.4.3 Emergency stop

In an emergency, push down the emergency stop button.

The emergency button is released by rotating it clockwise.



10.4.4 Cold conditions

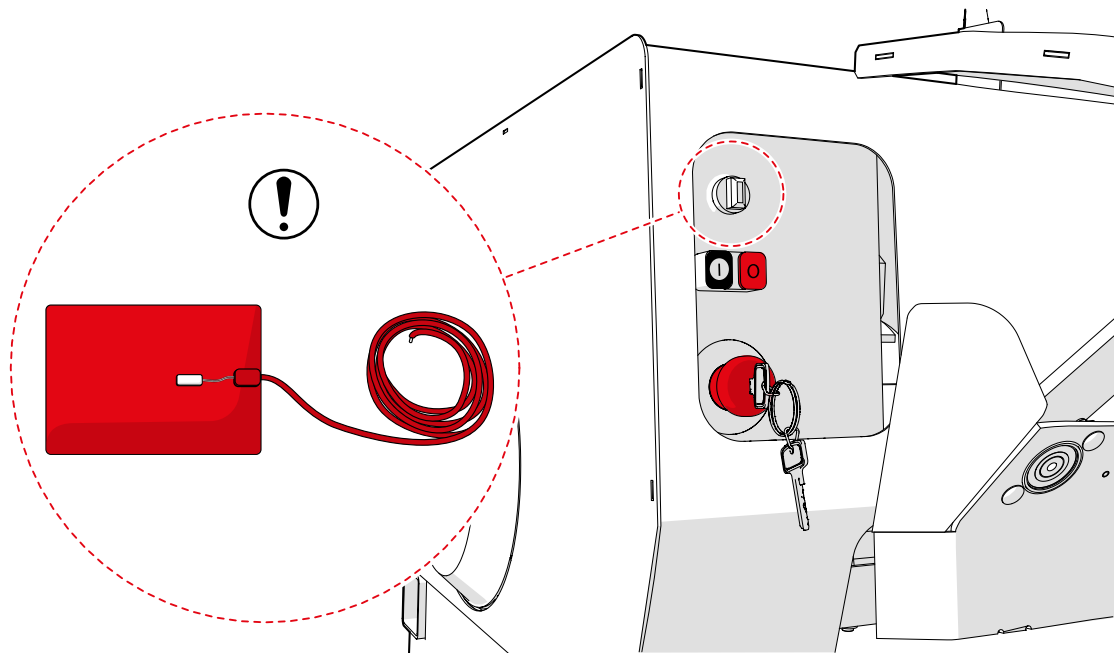
If the machine powered by electric motor is operated in temperatures below -15°C , use low viscosity hydraulic oil, e.g. ISO VG 22 S multigrade oil or synthetic hydraulic oil.

10.4.5 Electric heater (for oil tank)

Important: The electrical work required for the installation of the heater must be carried out by a qualified person.

The hydraulic oil tank can be equipped with optional A 300 W electric heater, with tape attachment and thermostat. The heater is standard for machines sold in Finland. The heater is sold as an optional accessory for the machine outside of Finland,

- The starter of the machine is equipped with an operating switch for the heater .
- Heating the oil for 1 to 2 hours is sufficient to enable smooth start.
- The size of the heater is 200 x 300 mm.
- The capacity is 300 W.

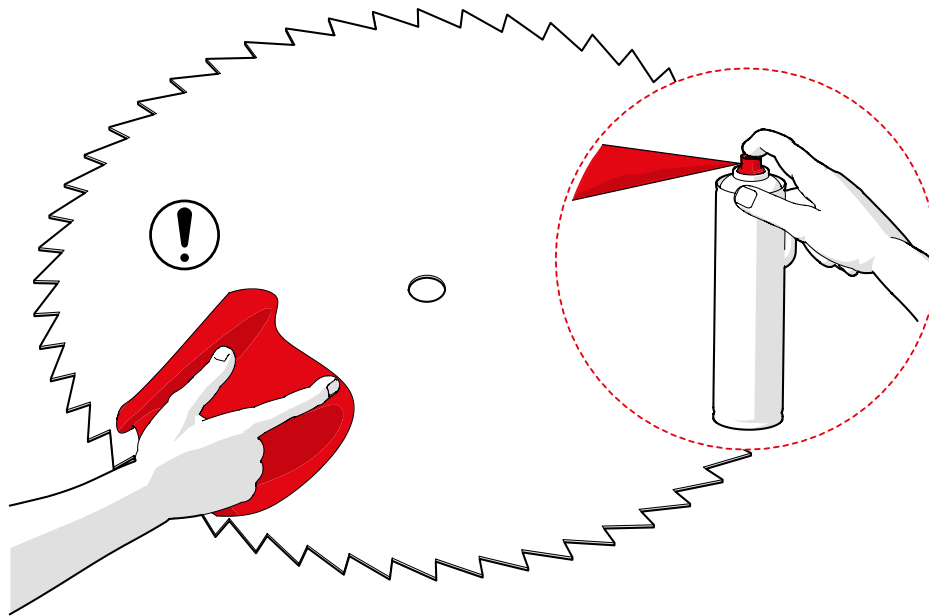


11 Circular saw blade operation




- ⚠ **Warning:** One person operation only.
- ⚠ **Warning:** Never leave the machine unattended.

11.1 Before the circular saw blade operation

Before the operation, make sure to clean any protective grease from new saw blade. A greasy blade collects resin, making it heat up, which will cause the blade to lose tension and start to jerk.



11.2 During the circular saw blade operation

-  **Warning:** Use caution during circular saw blade operation, always keep your hands away from the saw blade.
-  **Warning:** Cutting force may roll crooked trees over on the deck and cause the saw blade to break.
-  **Attention:** Sawing several logs simultaneously may cause the blade to heat up and lose tension.

During circular saw blade operation,

- Always saw one log at a time.
- Never stop the rotation of the blade by pressing wood against it.
- Make sure that at the cutting point the log always leans against the support roller and the infeed roller.
- Keep log-pusher handle down to hold the log in position.

Important: Especially important when handling small logs, and when cutting the last, short and lightweight, log piece.

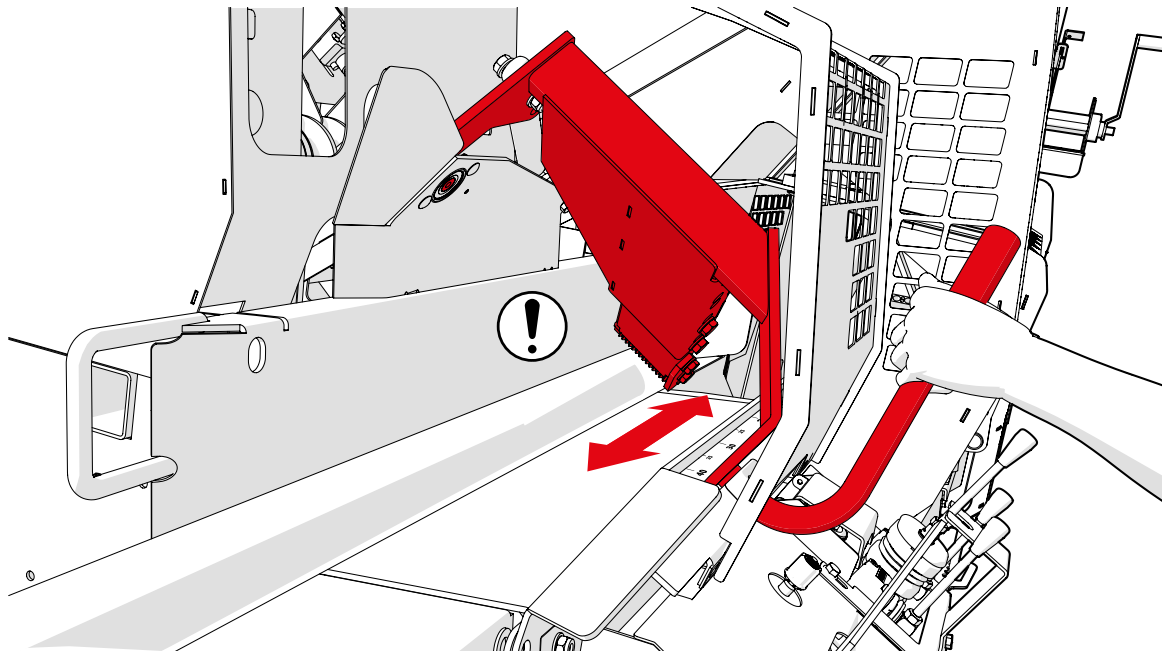
- Cut crooked trees at bends to ease the operation.
- Make sure that the log is under the clamp during cutting. The minimum length for the log is 25 cm.

11.3 Cut to equal length (Ergo)

- Cut off the leftover piece of the log when there is still one or two pieces of the desired length left.
- Use the scale at the end of the infeed conveyor deck as an aid.



Attention: When operating with Ergo: To avoid short or small trees to roll over, press the handle to increase the clamping force.



11.4 Operation on the last log

The minimum length of the log is 25 cm and the maximum length is 55 cm.



Warning: Do not saw logs shorter than 25 cm. Risk of the blade damage.



Warning: If the tree tilts, jerks, or moves during the operation, stop cutting immediately.

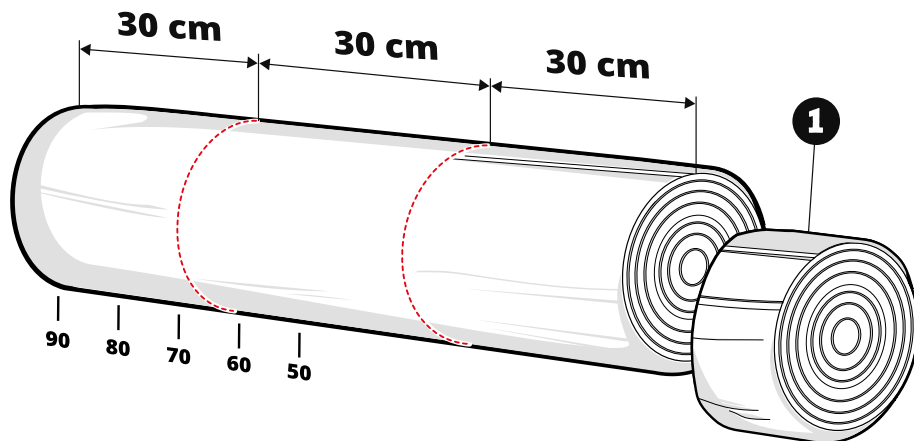


Warning: Always check the length of the remaining tree.

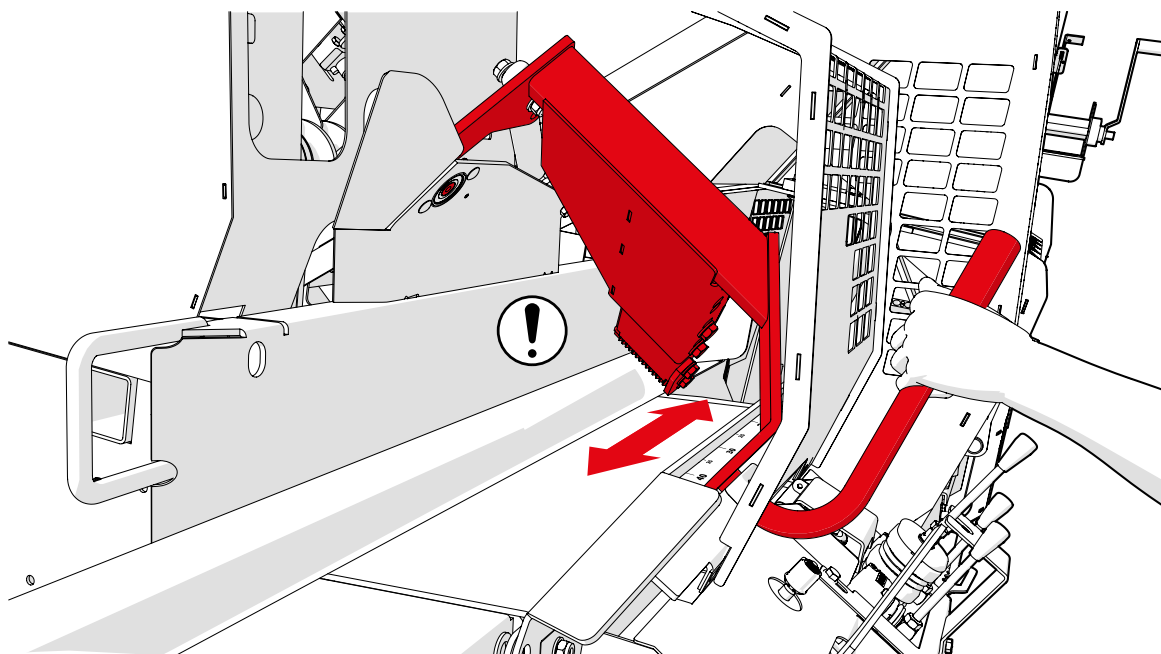
Make sure there is always enough tree left for the last cut. For example, if you intend to saw i.e. 30 cm logs, make the last cut when there is 2 x 30 cm of the tree left.

Cut the leveling piece 1 whenever there is still 2 or 3 intended length pieces left.

For example, if you intend to saw 30 cm logs:



Ergo operation: Keep log-pusher handle down to hold the log in position.

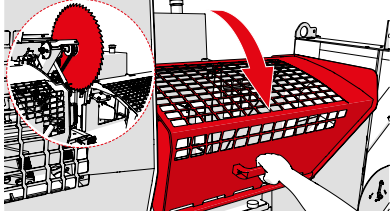
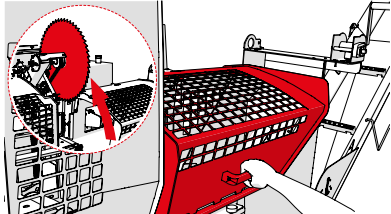
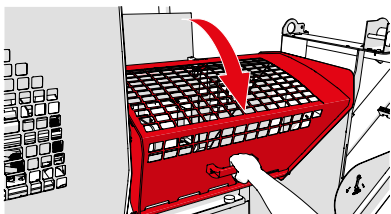


Note: This speeds up the process. As the pusher reverses, the log falls into the splitting chute and the operation can be launched manually immediately.

12 Fully hydraulic control (Palax Pro & Palax Pro+)

Circular saw blade operation, start of splitting, infeed conveyor operation, and accessory operation can be controlled by fully hydraulic joystick-valve.

12.1 Safety device

Issue	Solution
The saw blade does not lower.	<p>Close the protective guard of splitting chute.</p> 
The protective guard of the splitting chute does not open.	<p>Raise the circular saw blade in its upper position.</p> 
Manual start of splitting does not start.	<p>Close the protective guard of splitting chute.</p> 

12.2 Joystick


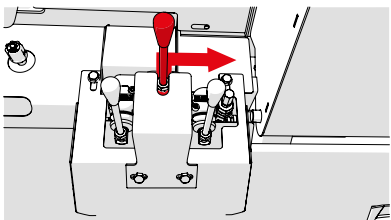
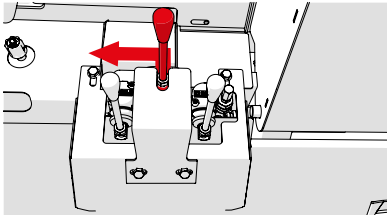
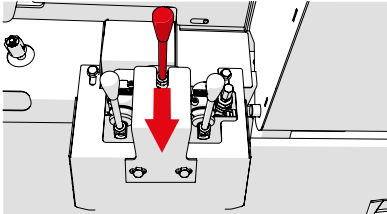
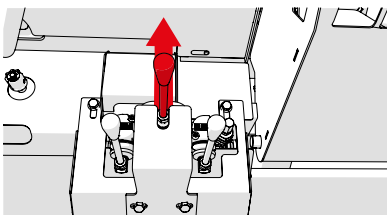
 **Warning:** When cutting thick logs, pull joystick back gradually to control speed. Risk of malfunction.

Table 3: Joystick operation

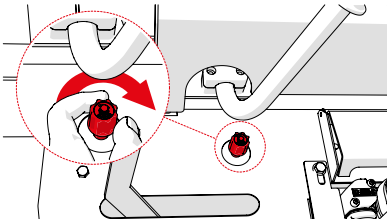
Operation	Action
The conveyor feeds the log against the log-stop.	<p>Push the joystick forward and right.</p> 

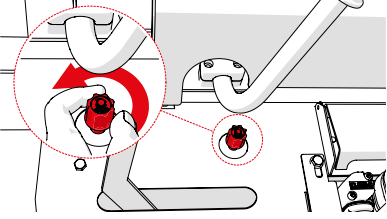
Operation	Action
The conveyer reverses.	<p>Push the joystick forward and left.</p> 
The circular saw blade comes down and cuts through the wood.	<p>Pull the joystick back. Pull gradually to control the speed.</p> 
The circular saw blade comes up and launches splitting.	<p>Push the joystick forward.</p> 

12.3 Circular saw blade feed rate valve (Pro, Pro+)

Important: Reduce the feed rate when operating on thick logs to reduce the stress on the transmission circular saw blade. Reducing the feed rate does not affect the operation time.

Table 4: Circular saw blade feed rate valve operation

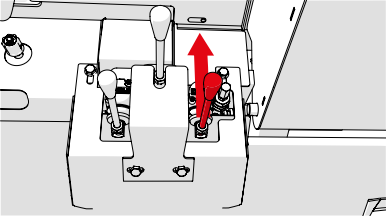
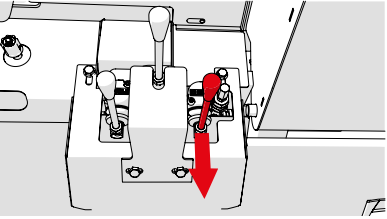
Operation	Action
Reduce the feed rate	<p>Turn the valve clockwise</p> 

Operation	Action
Increase the feed rate	Turn the valve counterclockwise 

12.4 Lever for splitting

The lever for splitting is located on the right of the joystick. The left lever operates the optional accessory, i.e. log stand or table, similarly.

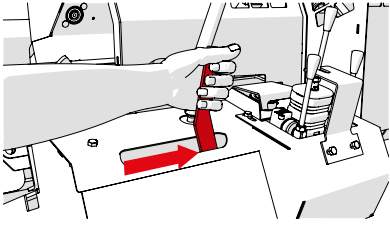
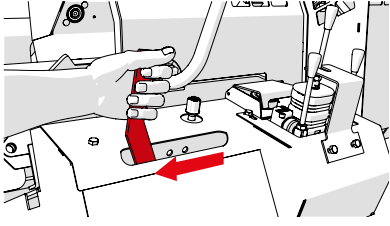
Table 5: Splitting lever operation

Operation	Action
Raise the splitting wedge	Push the lever forward. 
Lower the splitting wedge	Pull the lever back. 

12.5 Manual lever for splitting

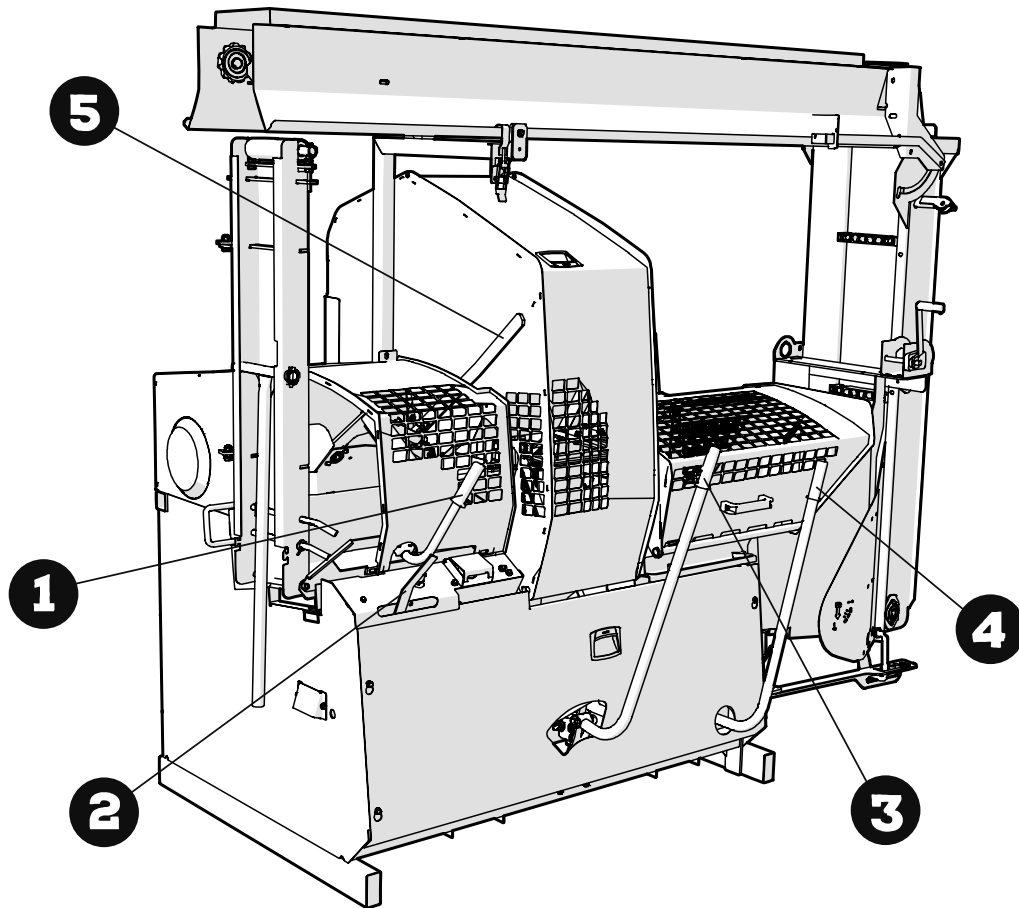
- ⓘ **Note:** The manual lever for splitting automatically returns to center after the nudge.

Table 6: Manual lever operation

Operation	Action
Launch splitting	<p>Nudge the lever to the right.</p> 
Stop splitting and reverse the cylinder	<p>Nudge the lever to the left.</p> 

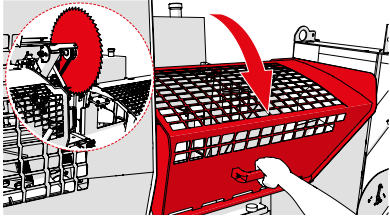
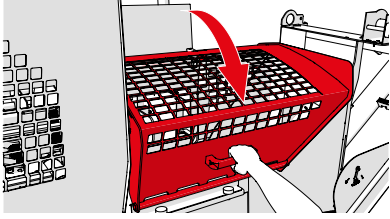
13 Mechanical control (Palax C750 Ergo)

The multifunction lever is used for the circular saw blade, splitting start-up, and infeed conveyor operations. The multifunction lever is precise, as the shaft and the controls are fully ball-bearing mounted.



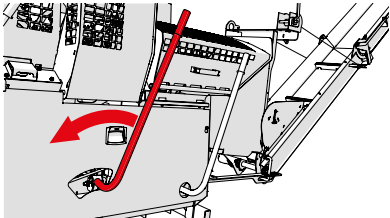
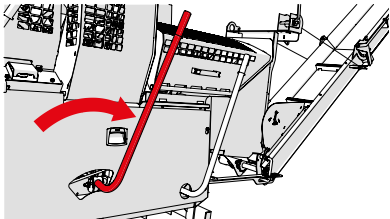
1. Log clamp
2. Manual lever for splitting
3. Multifunction lever
4. Adjustment lever for splitting wedge
5. Emergency stop lever for PTO powered machine

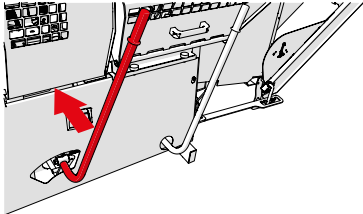
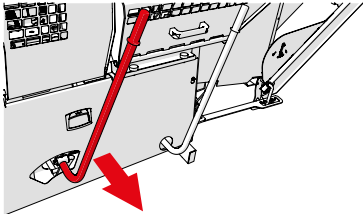
13.1 Safety device

Issue	Solution
The saw blade does not lower.	Close the protective guard of splitting chute. 
The protective guard of the splitting chute does not open.	Push the multifunction lever to the extreme position to the right. The multifunction lever must always be in the extreme right position to open the protective guard.
Manual start of splitting does not start.	Close the protective guard of splitting chute. 

13.2 Multifunction lever

Table 7: Multifunction lever operation

Operation	Action
Lower the circular saw blade and start cutting	Move the multifunction lever to the left. 
Raise the circular saw blade and launch splitting	Move the multifunction lever to the right. 

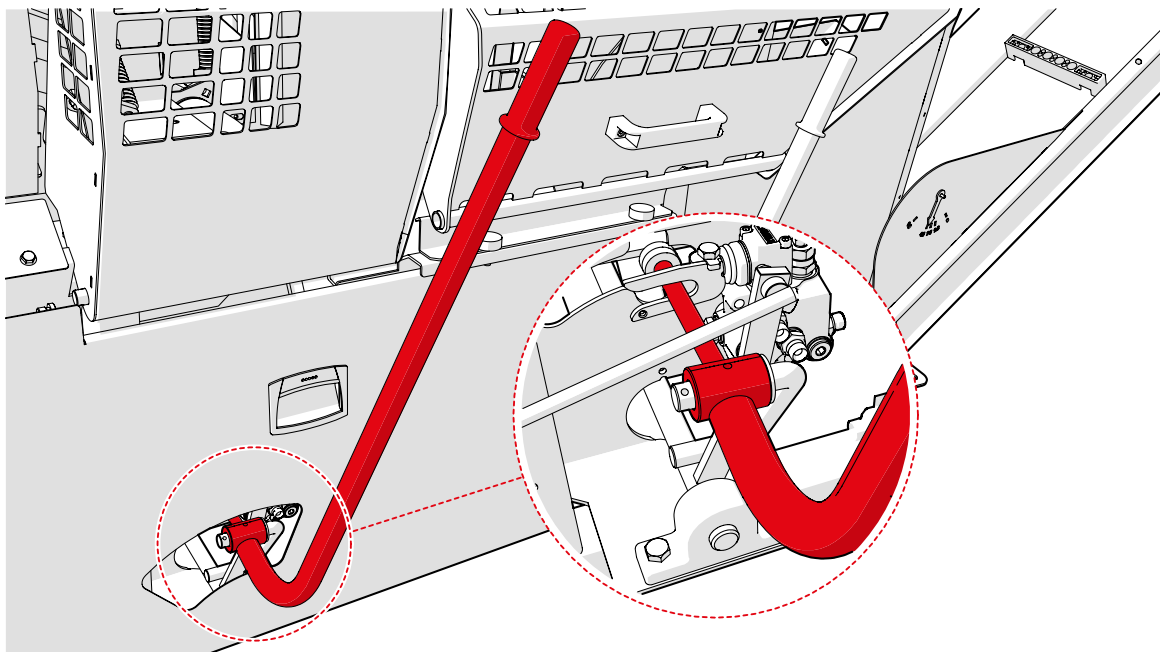
Operation	Action
Lock all functions	Move the multifunction lever to extreme right. This also enables opening the protective guard.
Feed logs with the infeed conveyor	Keep the multifunction lever upwards. This moves the circular blade up, which enables the feeder to feed logs. 
Reverse the infeed conveyor	Pull the multifunction lever downwards. 

13.2.1 Install the multifunction lever

The multifunction lever is not pre-installed to avoid damage during transport.

Installing the multifunction lever

Install the multifunction lever.

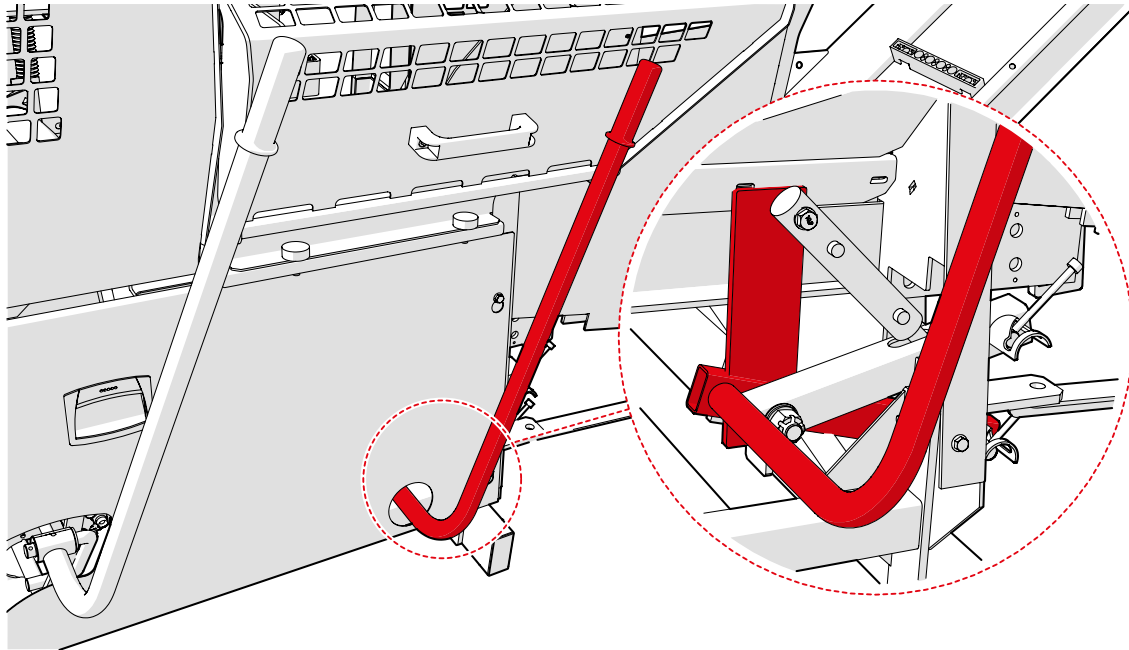


13.3 Adjustment lever for splitting wedge

The adjustment lever for splitting wedge is not pre-installed to avoid damage during transport.

Installing the adjustment lever for splitting wedge

1. Install the multifunction lever, the friction plate and spring plates according to **figure**.



2. Tighten the crown nut and insert the splint.

Important: The crown nut is tight enough when the adjustment lever is easy to operate but the splitting wedge blade stays steadily in its upper position.

14 Maintenance instructions

The maintenance of the machine is divided into periodical intervals. These intervals are illustrated in the table [Maintenance](#).

Warning: Before performing any maintenance work, make sure that the power is switched off and the electrical system is inactivated.

Object	Task	Daily	Interval 100h	Interval 500h	Interval 1000h	Before/after a break in use	As required	Method
Machine	Clean	X				X	X	Clean the machine
Electric motor	Clean	X				X	X	
Electric equipment	Clean	X				X	X	
All levers	Lubricate	X				X		Lubricating oil
Conveyor chain	Lubricate	X				X		Lubricate the conveyor chain.
Hydraulic oil	Check	X				X		Change hydraulic oil
	1st change			X				
	2nd change				X			
Valve	Lubricate		X			X		Lubricate the valve
Angular gear PTO-powered	Check oil		X			X		Change oil in the angular gear.
	1st oil change			X				
	2nd oil change				X			
Oil filter	1st change			X				
	2nd change				X			
Blade shaft bearings & main shaft	Lubricate		X			X		Lubricate the shaft bearings
V-belts: Blade shaft	Check & Tighten					X	X	Check and tighten the V-belts.
V-belts: Angular gear	Check & tighten					X	X	Check and tighten the V-belts.
Circular saw blade	Check		X			X		Sharpen the circular saw blade
	Sharpen						X	

14.1 Clean the machine

The machine should be washed occasionally. Make sure to wash the machine before and after, when the machine is left standing for a longer period of time.

- Use a high pressure washer.
- Lubricate the machine after cleaning.



Attention: Do not direct the high pressure washer onto electric devices or bearings.

14.2 Clean, tighten, and lubricate the conveyor chain

The conveyor is hydraulically driven and it is equipped with automatic chain tensioning. Clean and lubricate the conveyor chain daily.

14.3 Change hydraulic oil

The normal hydraulic oil volume for the first fill is 55 l. Use ISO VG 32 oil, such as SHELL Tellus 32, NESTE HYDRAULI 32, or equivalent.

If working in continuously warm conditions, use ISO VG 46.

If working in cold conditions (below -15 C) and the machine is powered by electric motor, use a less viscous hydraulic oil, such as ISO VG 22S.

Pay attention to cleanliness when changing the hydraulic oil. Impurities in the hydraulic oil can clog the valves and rend the machine inoperable

14.4 Lubricate the valve

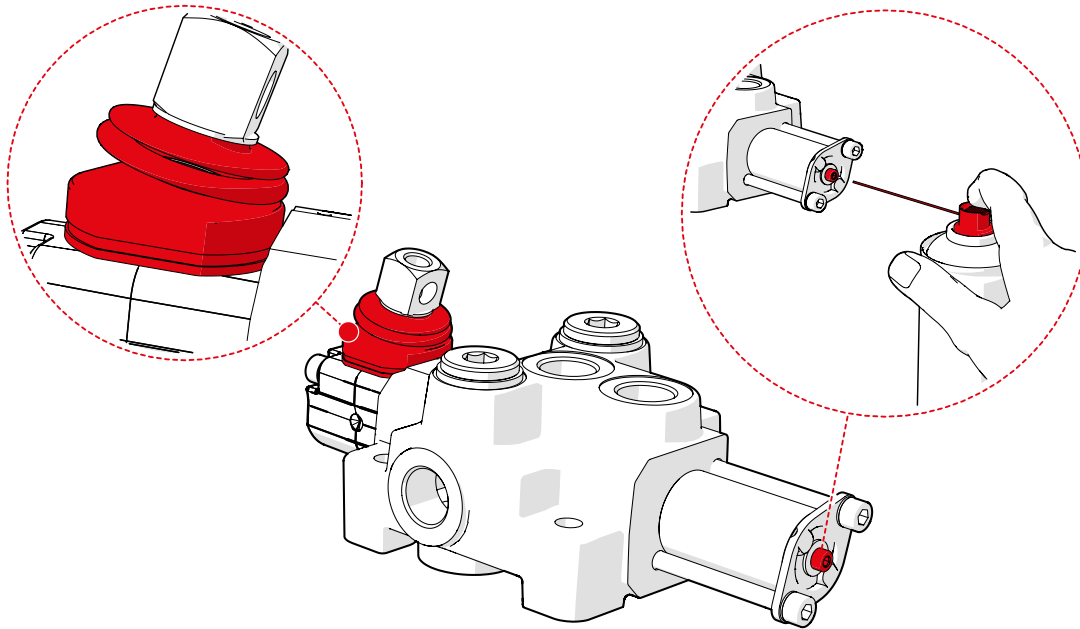


Warning: If the locking head of the valve rusts, the machine will not operate properly.

The locking head, the spool shifter of the valve require regular lubrication to endure and operate properly.

Important: Lubricate the valve parts carefully, if the machine has not been used for several months.

Important: Only use oil that is designed for low temperatures.



Lubricate the locking head

You can spray lubricating oil to the moving parts of the locking head through the small hole in the middle of the end plate. Use a spray bottle with a nozzle tube.

1. Remove the cap screw on the end plate.
2. Insert the nozzle tube of the spray bottle into the hole and press for one second. Repeat this 2 to 3 times. The oil will spread evenly onto the moving parts of the locking head.

Lubricate the spool extension

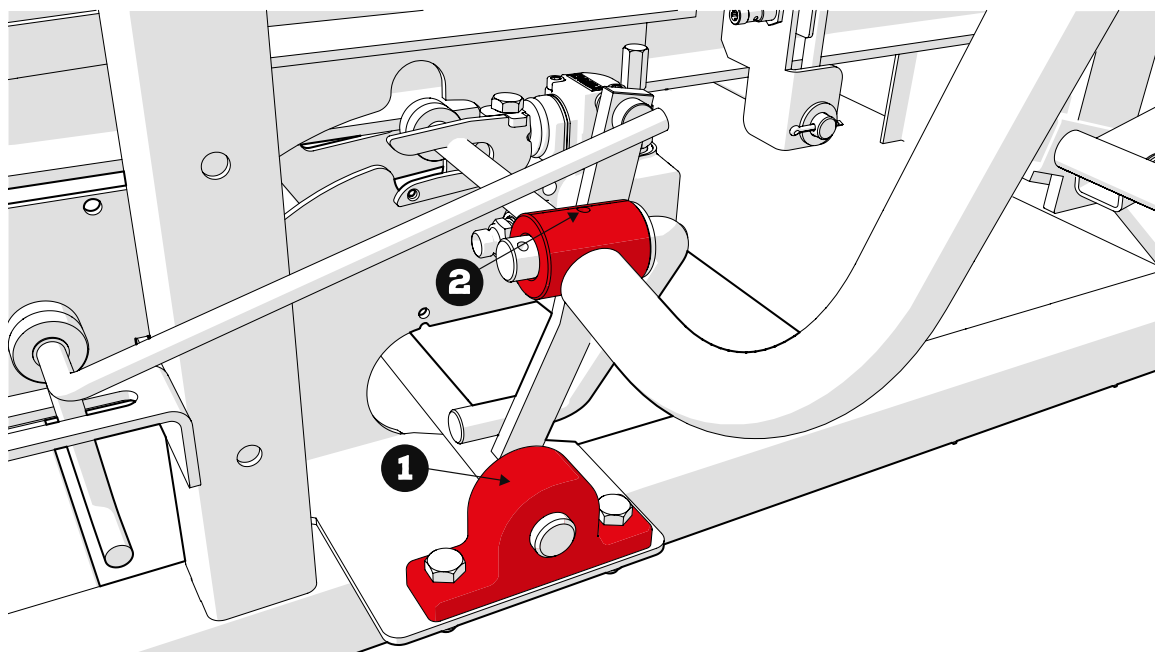
There is a joint pin and a ball joint on the spool extension.

1. Lift up the edge of the protective rubber on the spool extension.
2. Spray oil on both sides of the pin and onto the ball joint.
3. Check that the protective rubber is intact.

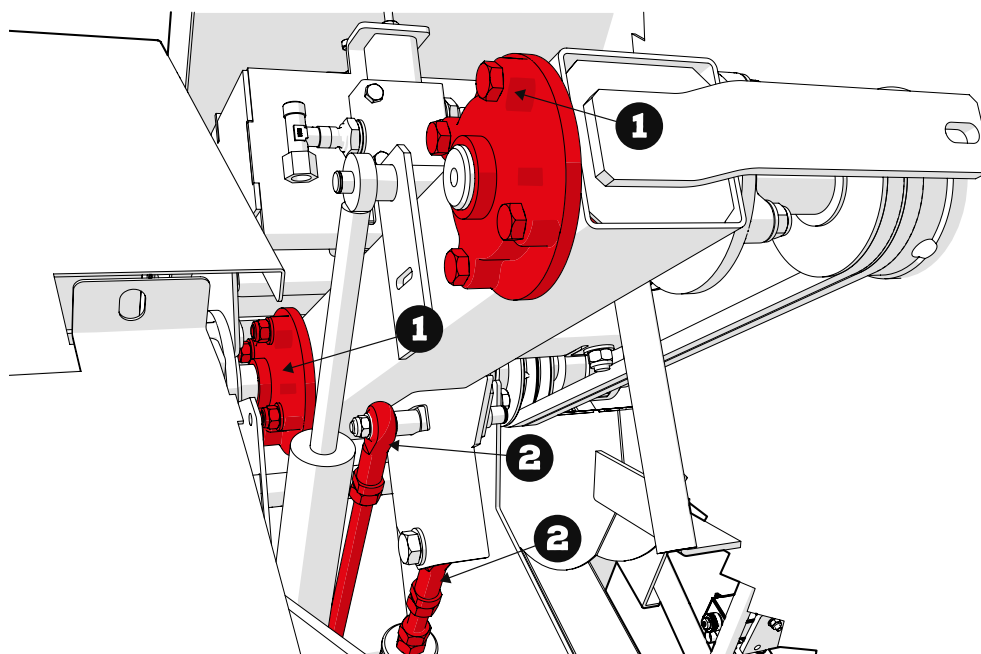
14.5 Lubricate the machine

Use vaseline to lubricate the nipples on the bearings.

1. Lubricate the nipple on the multipurpose shaft.
2. Lubricate both nipples on the bearings on the multipurpose shaft.



1. Use a pressure grease gun to lubricate the 6 nipples on the blade beam bearings.
2. Lubricate the nipples on the spherical bearings on the operating levers for the blade.

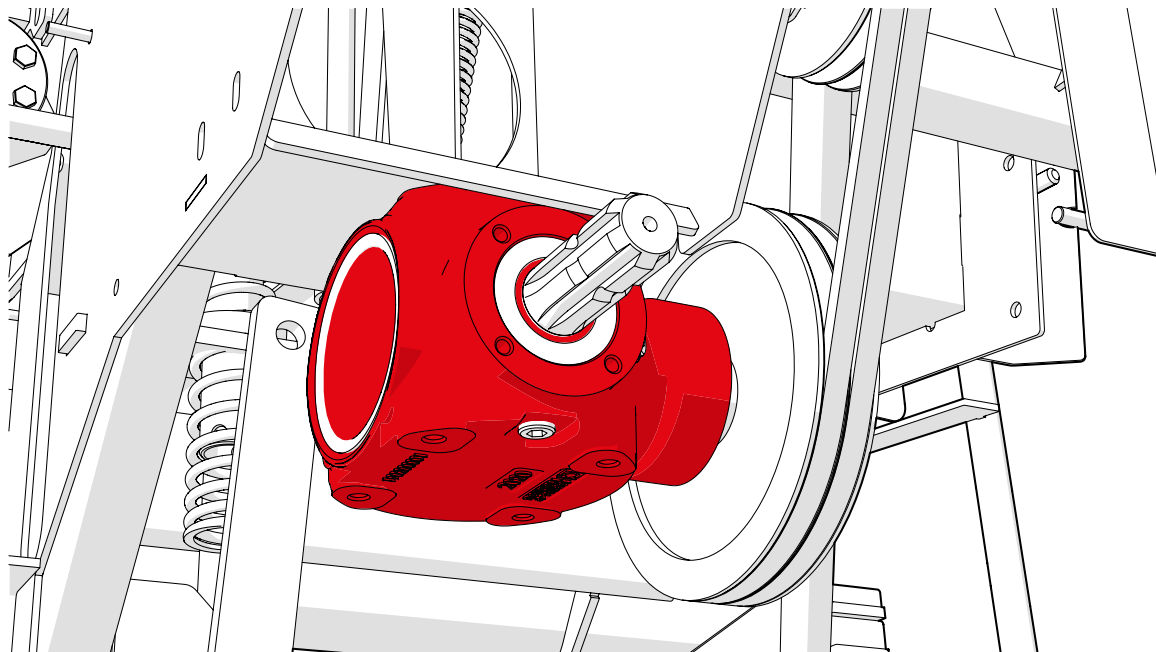


14.6 Lubricate the main and blade shaft bearings

Use class NLGI 2 vaseline to lubricate the blade shaft bearings and the main shaft.
 Apply one pump (1cm³) onto the main and blade shaft bearings.

14.7 Change oil in the angular gear

1. Open the oil plug.
 2. Remove old oil with a suction drain.
- ⚠ **Note:** If a suction drain is not available, remove the entire angular gear.
3. Add 0.5 litres of new SAE 80 oil.

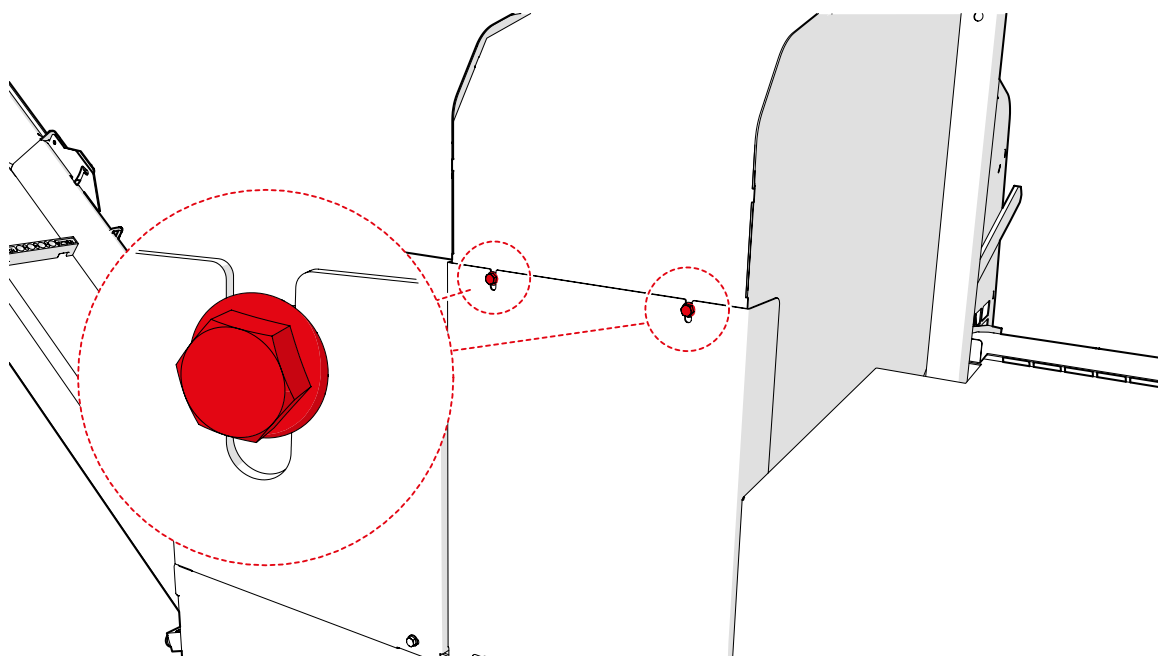


14.8 Remove and replace the circular saw blade

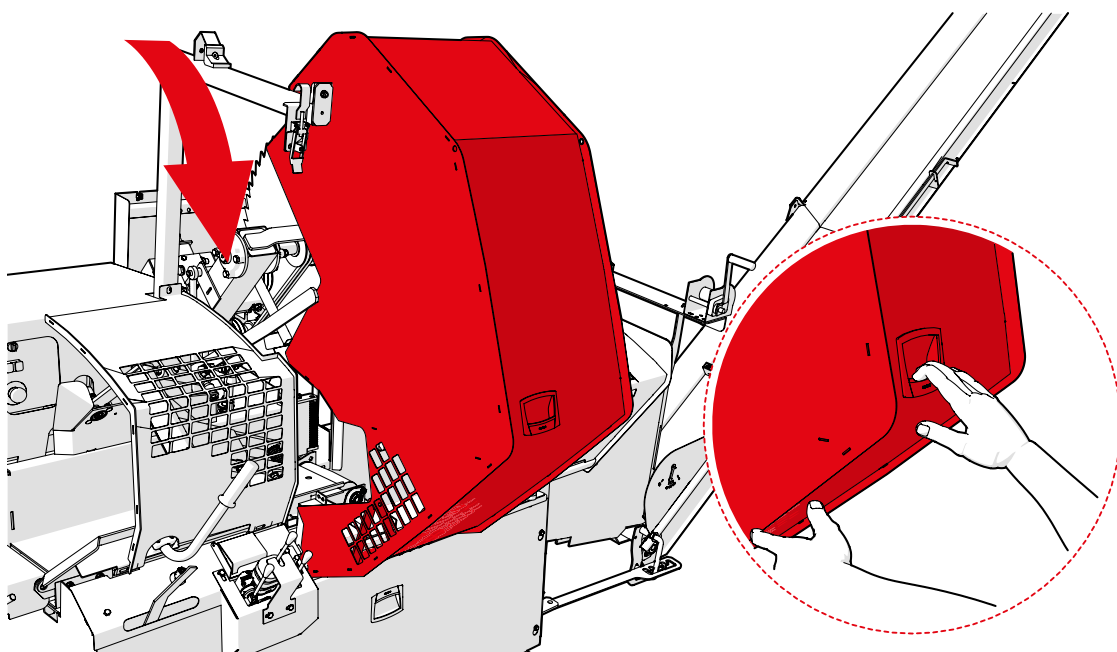
If you process a lot of firewood, have a spare blade at hand.

⚠ **Attention:** Use protective gloves when handling the saw blade.

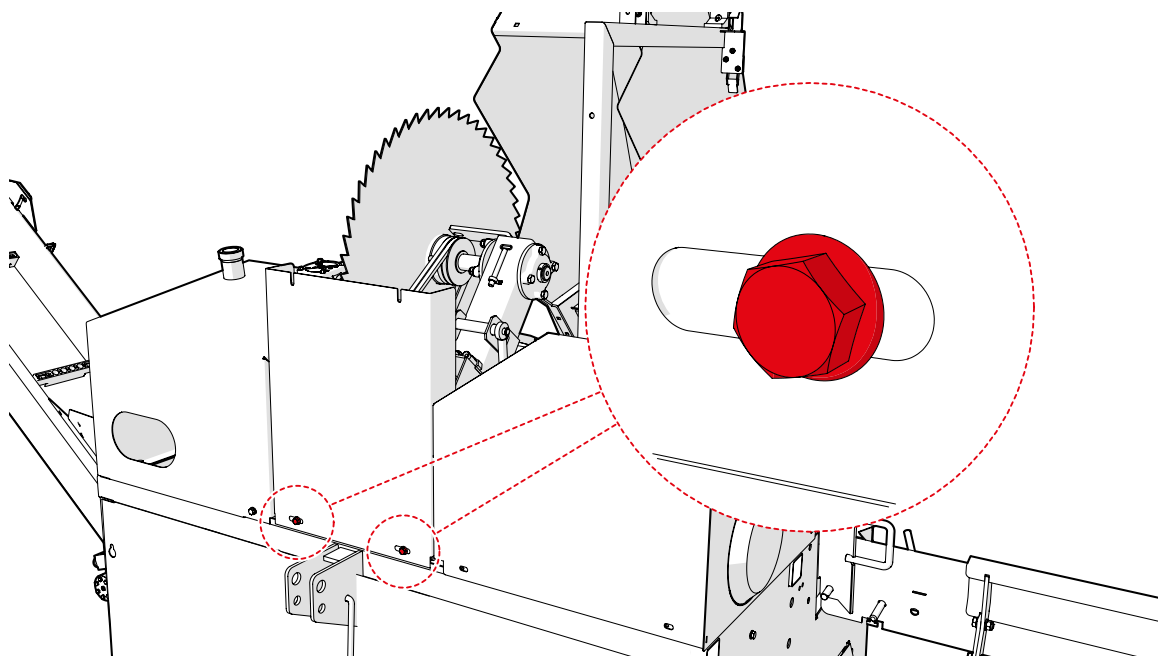
1. Use a 13 mm wrench to loosen the fastening screws of the protective guard.



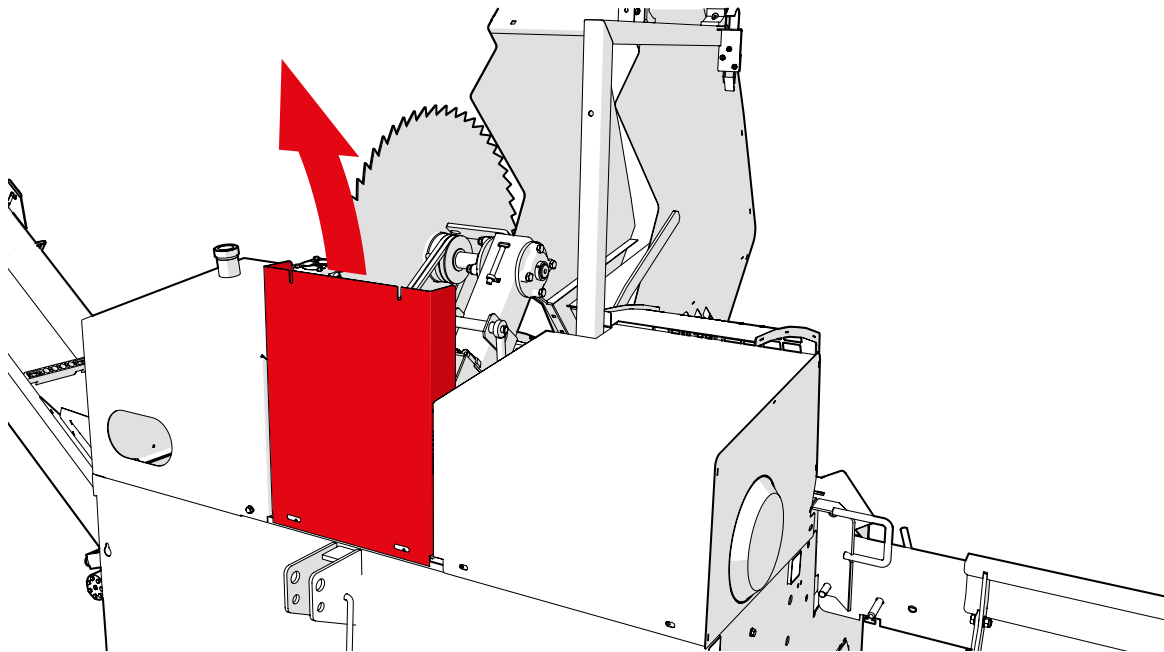
2. Swing the protective guard open.



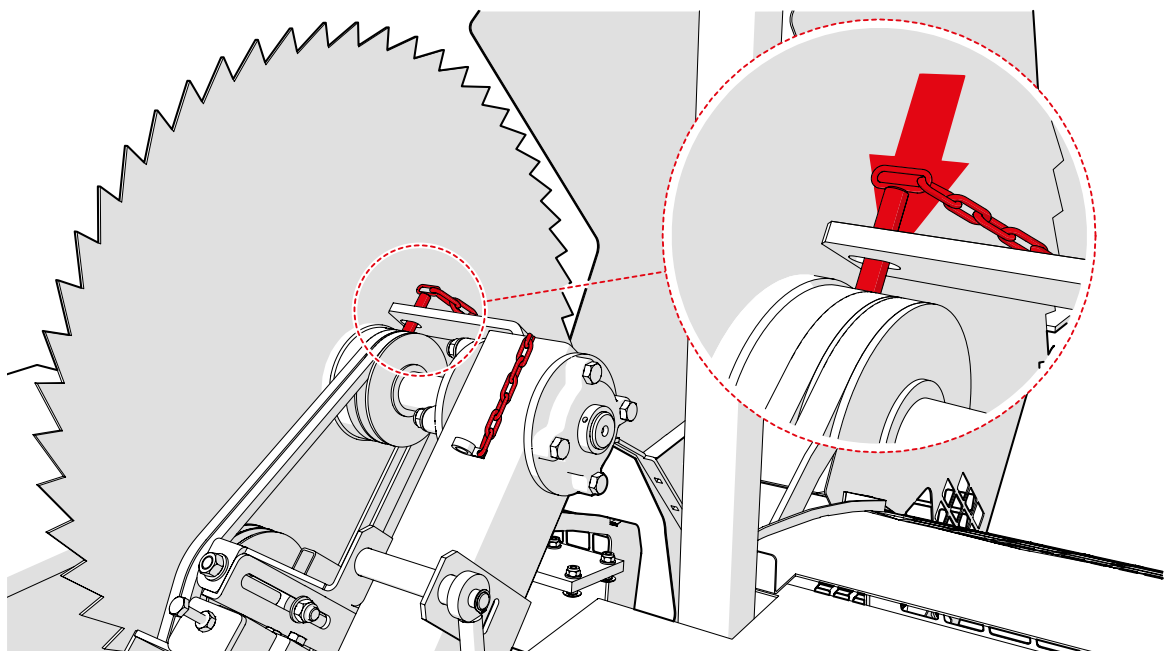
3. Use the same wrench to remove the fastening screws of the blade cover.



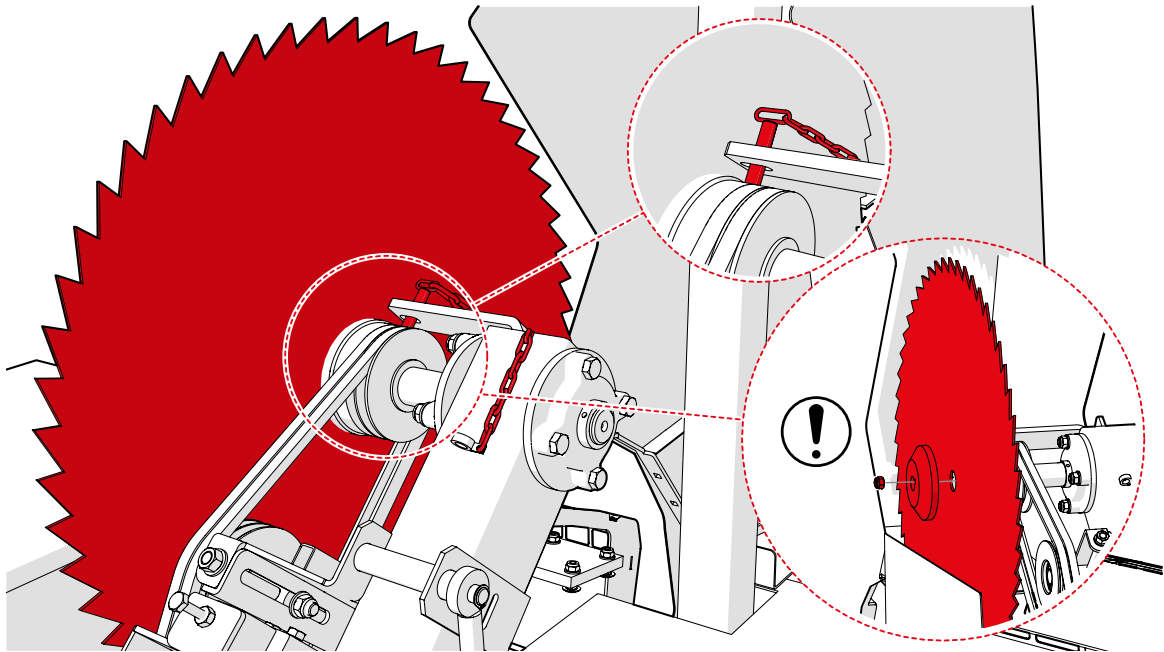
4. Remove the blade cover.



5. Clean excess sawdust.
6. Insert the locking pin located next to the V-belts into the hole in the V-belt pulley to prevent the blade from rotating.

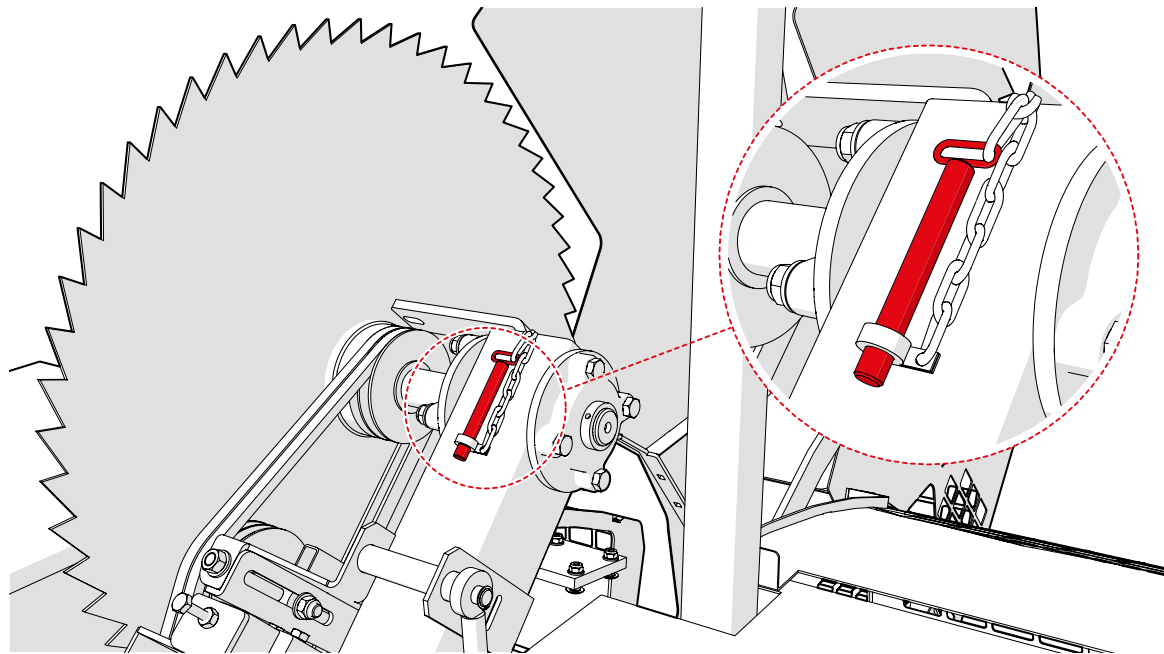


7. Open the blade nut. Right-hand thread, key 36 mm. Nut thread M 24 x 2
8. Remove the saw blade.
9. Clean the flange surfaces of the new saw blade carefully.
10. Make sure that the locking pin is in place before installing the new saw blade. The pin prevents the saw blade from rotating.



11 Install the new saw blade.

12 Remove the locking pin and place it in the holder.





13 Install the blade cover back in place.

14 Install the protective guard back in place.

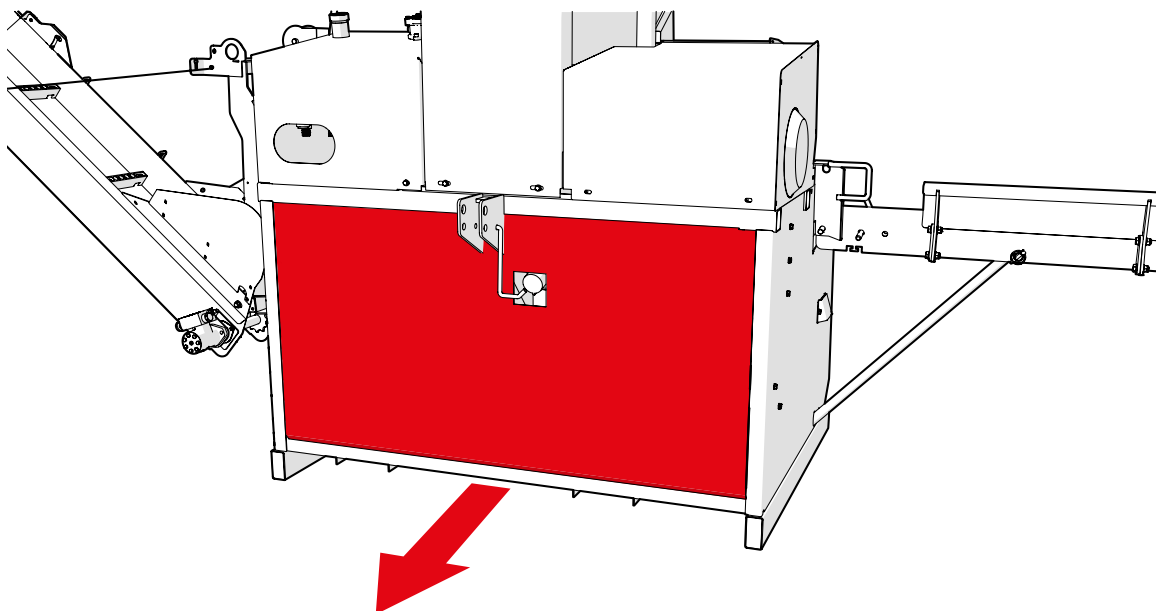
14.9 Tighten the V-belts, angular gear/centre shaft

The V-belts between the angular gear and the centre shaft are automatically tightened by spring force and the pressure roller. The V-belts remain at the correct tension by spring force from pressure roller against the V-belts on their slack side.

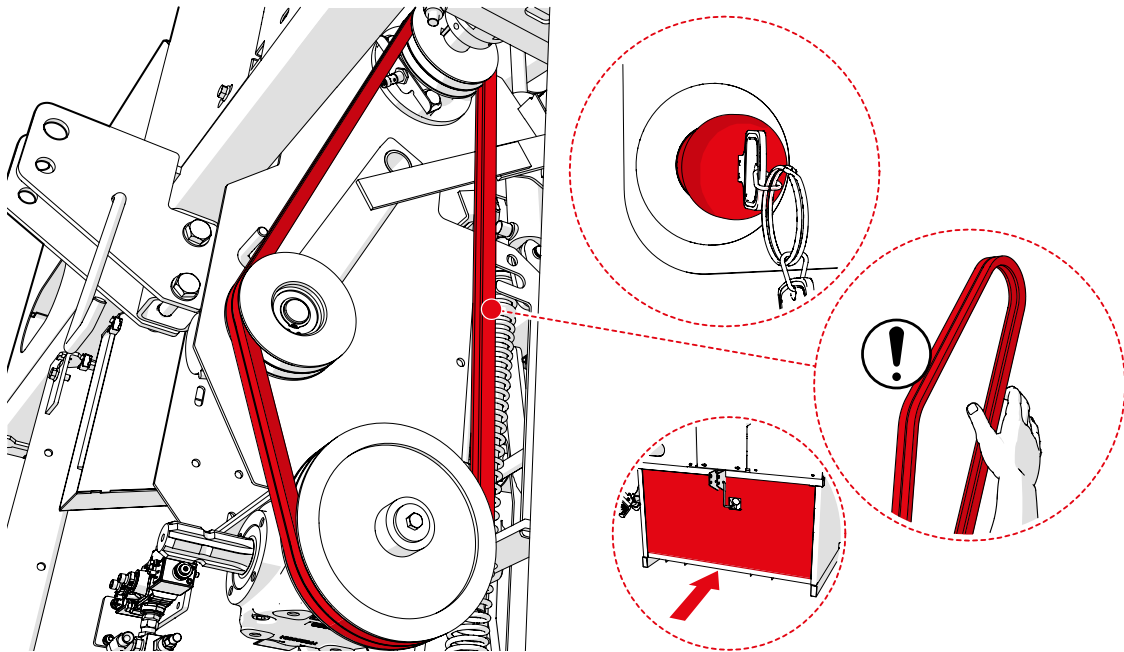
14.10 Replace the V-belts, angular gear/centre shaft

-  **Warning:** Only use V-belts obtained from an authorized manufacturer.
-  **Attention:** If the machine is equipped with an electric motor, loosen the motor mounting and move the motor outwards until there is a gap in the clutch so that the V-belts fit between them.

1. Remove the rear guard and the guard for electric motor from the machine.



2. Loosen the V-belts using the emergency stop switch.
3. Remove the old belts and replace with new ones.
4. Tighten the V-belts using the emergency stop switch.
5. Attach the protective guard.

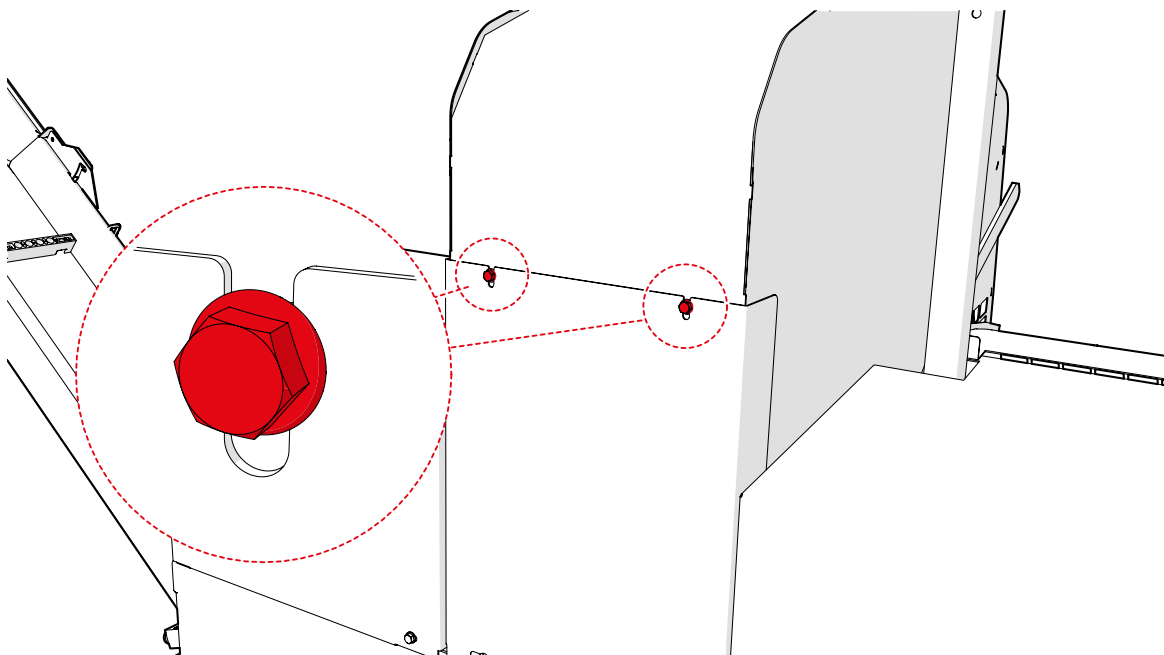


14.11 Tighten the V-belts, centre shaft/blade shaft

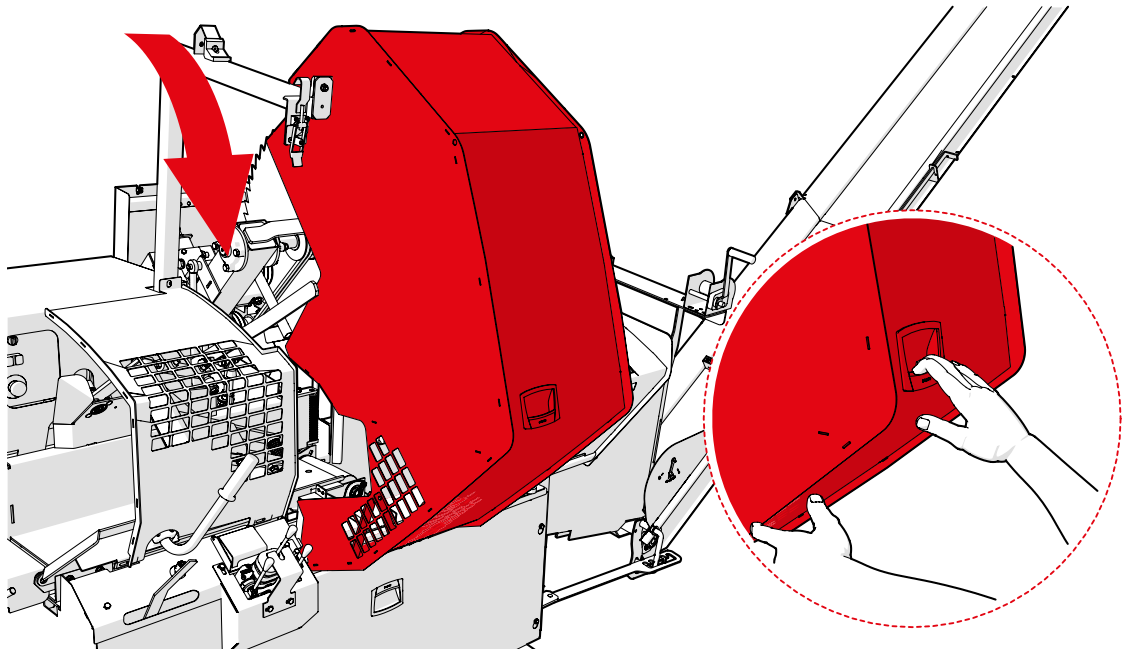
Retighten the V-belts before the first operation, after the first 4-8 hours of operation, and always when the V-belts are replaced.

Check the tightness of the V-belts regularly.

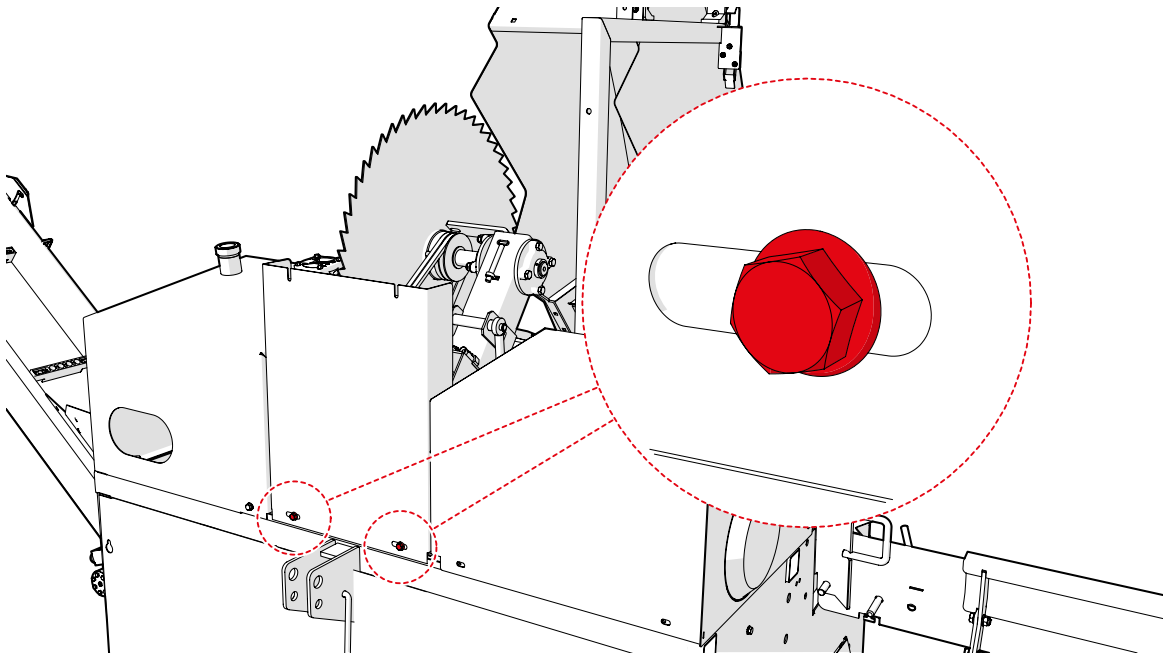
1. Use a 13 mm wrench to loosen the fastening screws of the protective guard.



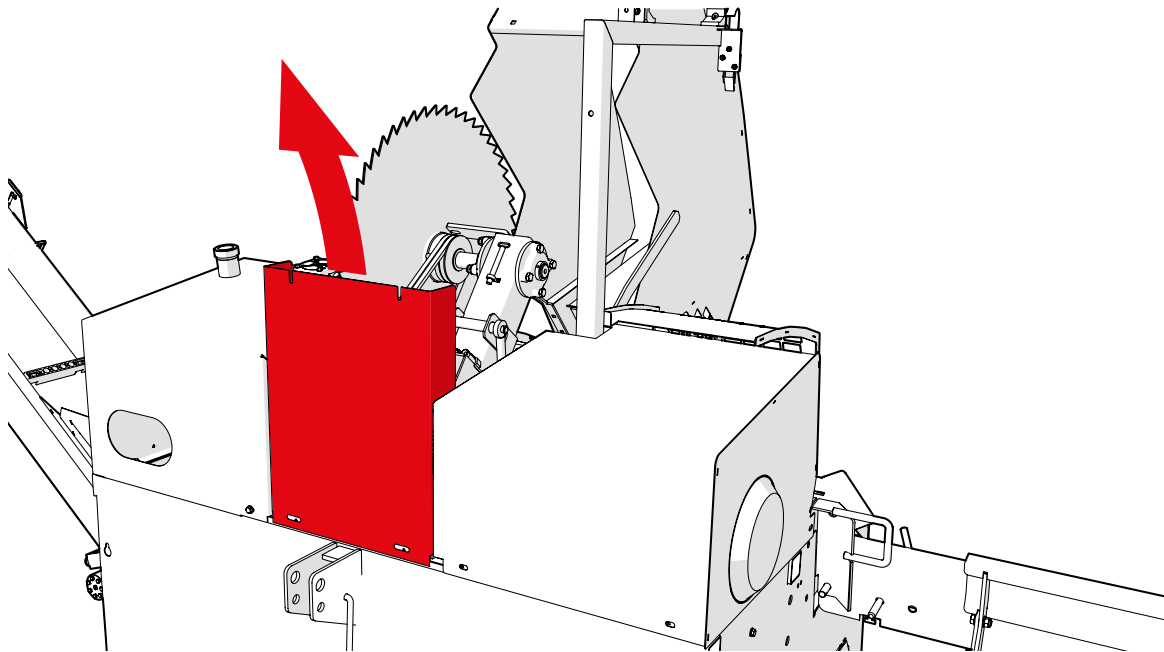
2. Swing protective guard open and lower it all the way down so it hangs on the support chains.



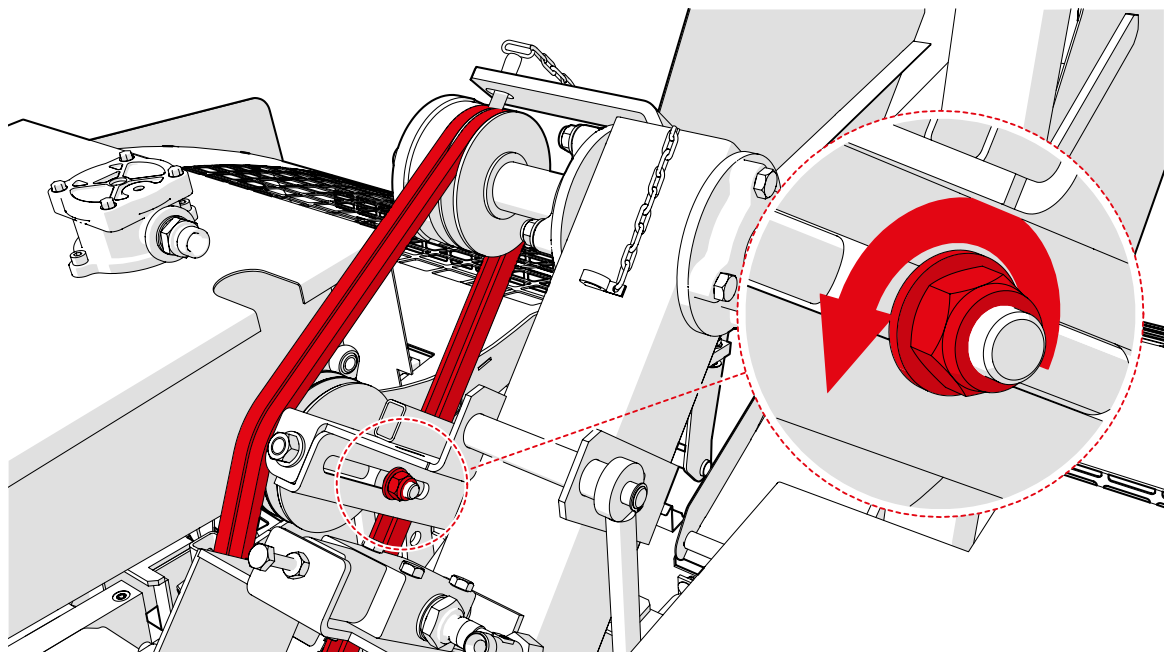
3. Use the same wrench to remove the fastening screws of the blade cover.



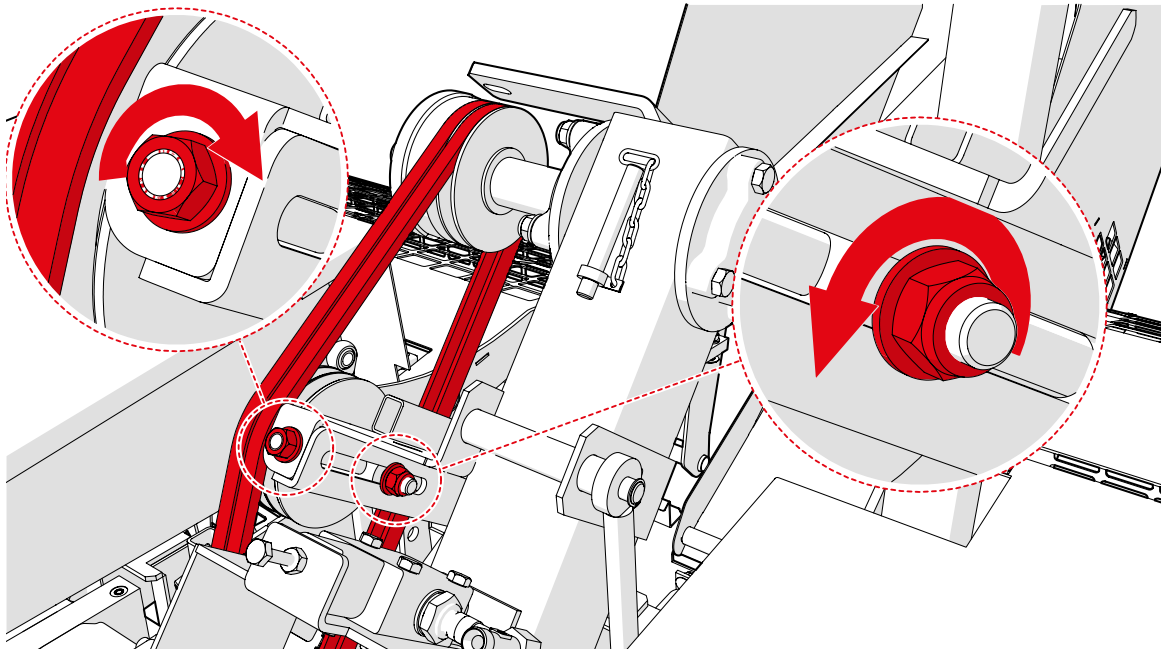
4. Remove blade cover.



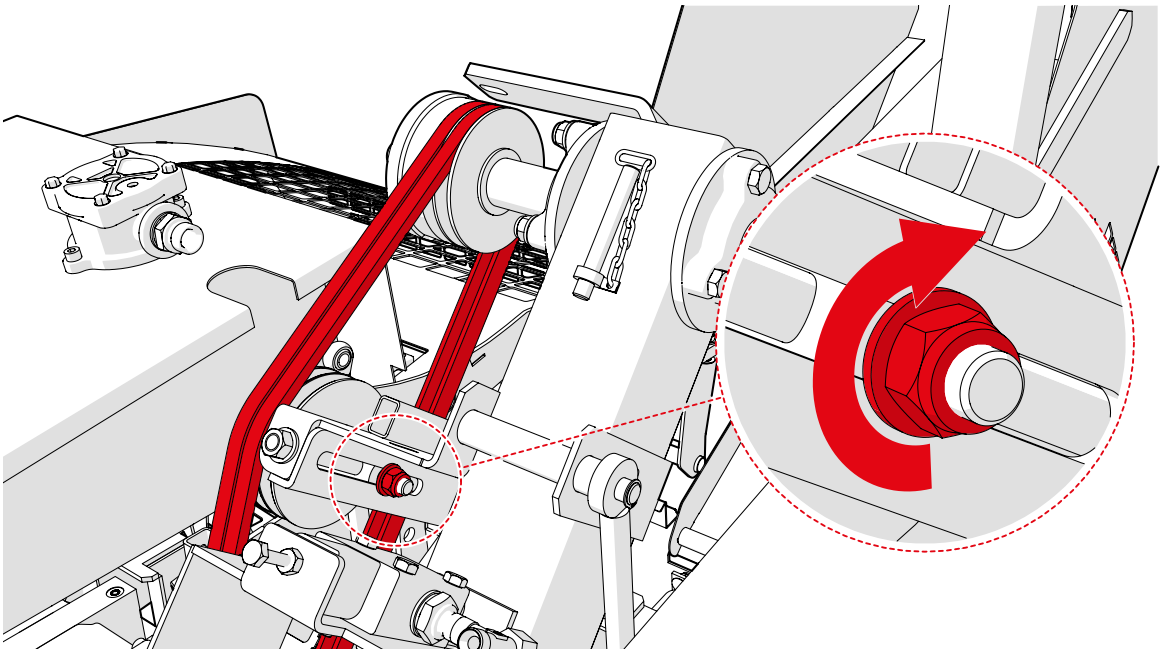
5. Clean excess sawdust.
6. Loosen nut A slightly.



7. Tighten nut B.

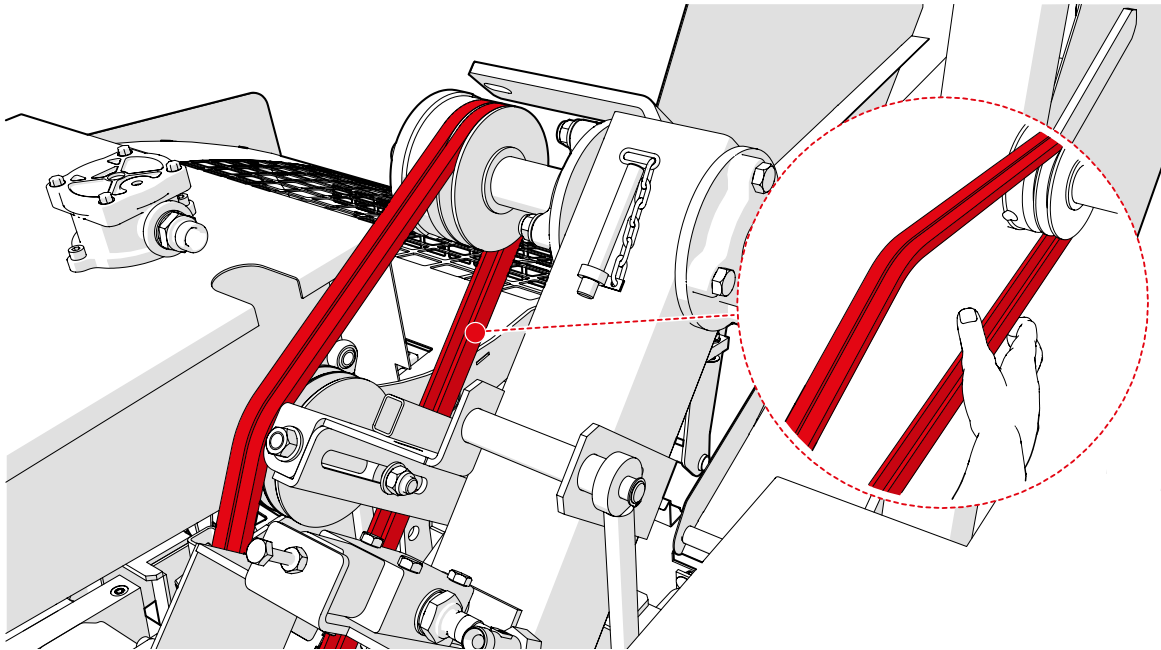


8. Tighten nut A.



9. Check the tightness of the V-belts.

The tightness is correct when bottom belt flexes 10-15 mm in the middle with a force of 2-3 kg.

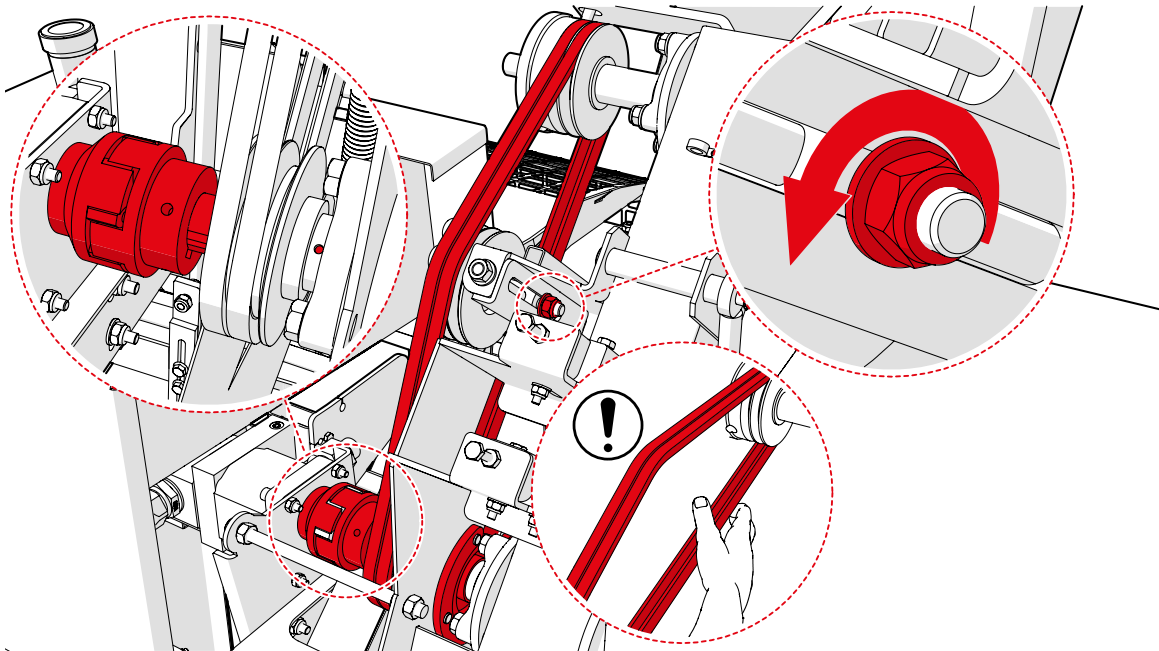


14.12 Replace the V-belts, centre shaft/blade shaft

If the machine is powered by electric motor, loosen the motor mounting and move the motor outwards so that there is a gap in which the V-belts fit through.

⚠ Warning: Only use V-belts obtained from an official dealer.

1. Remove the circular saw blade.
2. Remove the four nuts on the mounting plate
3. Remove the mounting plate
4. Using the emergency stop lever, loosen the V-belts.
5. Remove the old V-belts and replace them with new ones.
6. Tighten the V-belts using the emergency stop lever.
7. Install the mounting plate back in place.
8. Install the circular saw blade back in place.
9. Tighten the V-belts.
- 10 Attach the rear protective guard back in place.
- 11 Install the protective guard back in place.



14.13 Sharpen the circular saw blade, hard-metal

Use appropriate grinding machine with a diamond grinding wheel for the best result and durability of the saw blade.

ⓘ **Note:** You can use a diamond file for light sharpening of the saw blade.

14.14 Tension the circular saw blade, hard-metal

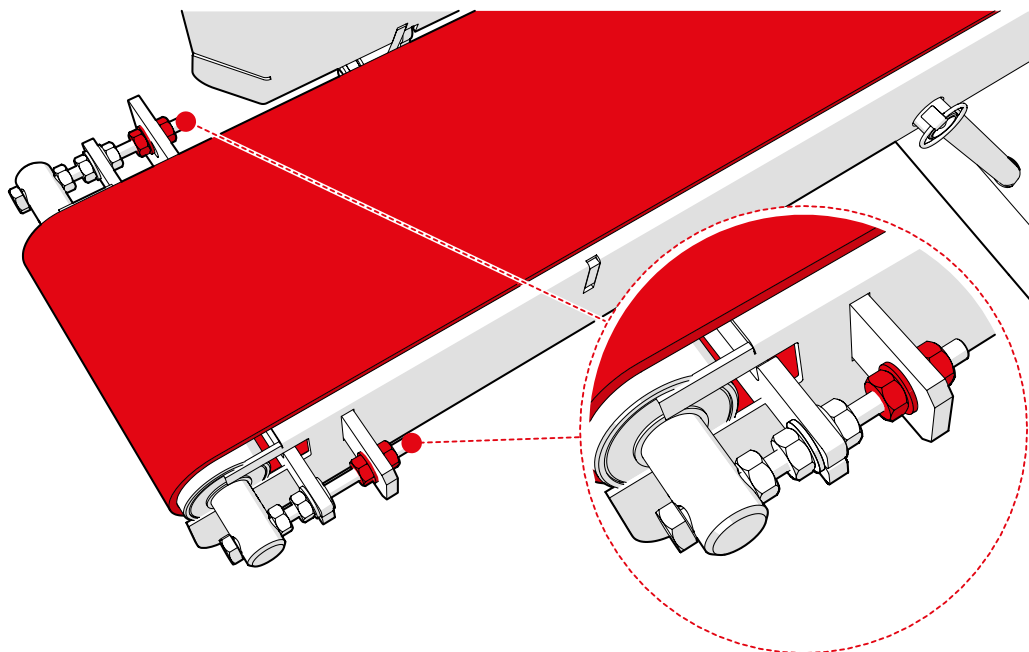
⚠ **Warning:** Sawing with a dull saw blade may result in tension faults.

⚠ **Attention:** If tension faults occur, leave the tensioning of the hard-metal blade to a professional.

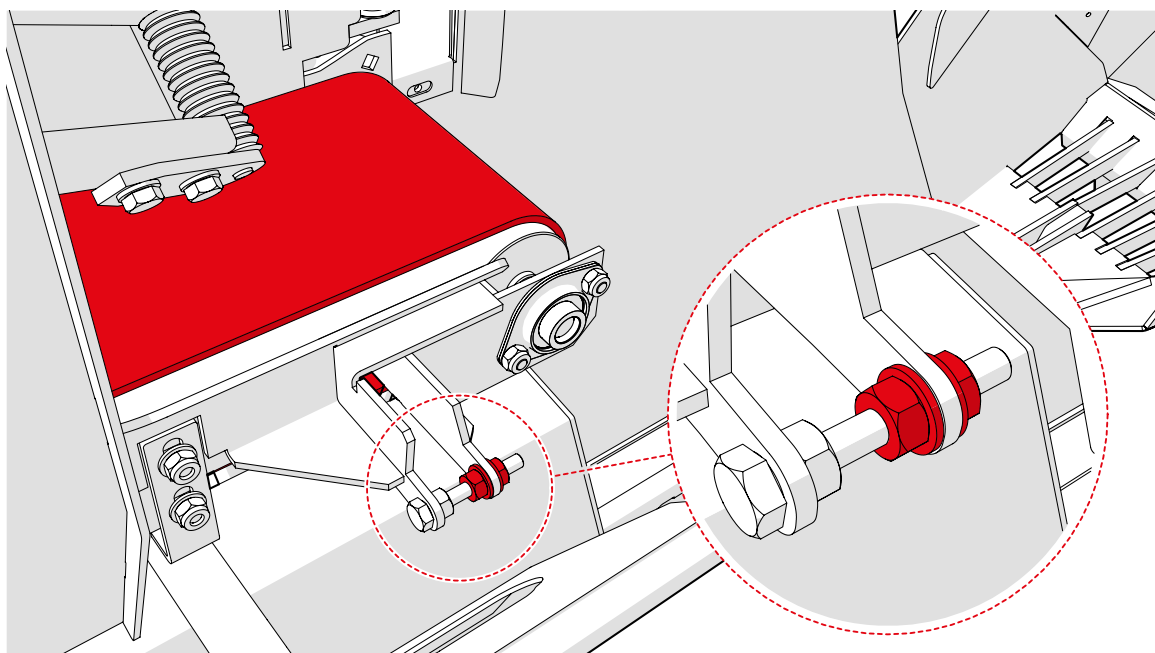
Tension faults rarely occur in hard-metal blades. To avoid tension faults, always make sure the blade is sharp.

14.15 Tighten the infeed conveyor belt

1. Make sure that the plane is as close to the roller as possible. Adjust accordingly.
2. Use the tightening screws, located at the end the conveyor belt's extension deck, to tighten the conveyor belt.



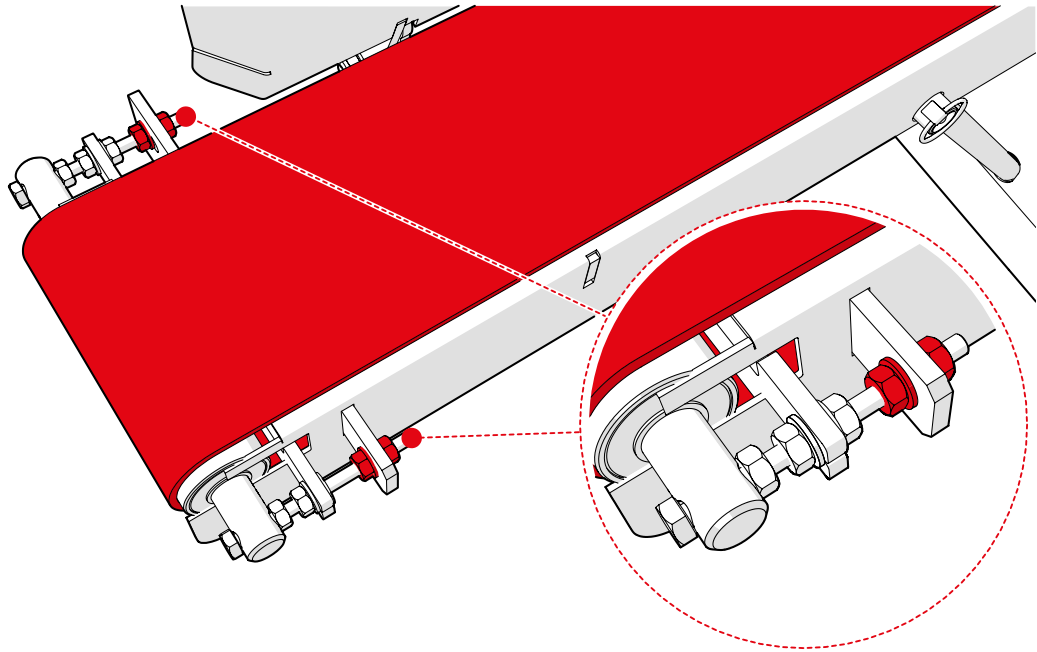
3. Make sure that the conveyor belt runs in the middle of the roller. If necessary, adjust the screw at the blade end of the conveyor belt so that the belt runs straight.



14.16 Replace the infeed conveyor belt

Important: Only use a conveyor belt obtained from an authorized manufacturer.

1. Disconnect the hydraulic motor hoses.
2. Protect the hose connections to prevent contamination of the motor and hoses.
3. Loosen the tightening screws of the belt



4. Change the belt.
5. Attach the hydraulic hoses and tighten the belt.

14.17 Rotation direction of the infeed conveyor belt

- ⚠ **Warning:** Check the tension of the mat regularly.
- ⚠ **Warning:** If the belt is placed the wrong way up, the joint of the belt may break.
- ⚠ **Warning:** Check that the drive roller does not slide.

Important: The mat should move in the direction of the arrow when you are feeding wood.

1. Check the correct direction of the belt according to the arrow.
2. Make sure that the belt is installed correctly.

14.18 Clean the conveyor

Use a high-pressure washer to clean the conveyor.

- Keep the conveyor clean of debris to ensure trouble-free operation.
- It is particularly important to clean the conveyor in winter, before breaks in use.

15 Troubleshooting

Table 8: Troubleshooting

Issue	Cause	Solution
Motor		
The electric motor does not start.	The emergency stop button has been pressed.	Reset the emergency stop button.
The electric motor makes loud noise but does not start.	The fuse is blown.	Replace the fuse.
The electric motor stops easily and the thermal relay trips.	The saw blade is dull.	Sharpen the saw blade.
	The thermal relay is not set correctly.	Contact the electric motor manufacturer.
The splitting cylinder does not move backwards.	Impurities in the splitting cylinder.	Clean the machine.
Saw blade		
The saw blade cuts heavily and heats up.	Saw blade is dull.	Sharpen the saw blade.
	Too much resin on saw blade.	Clean the saw blade.
The saw blade wobbles.	Impurities between the flanges.	Clean the saw blade. Clean the flanges.
	Tension faults, the saw blade is dull.	Sharpen the saw blade. Tension the saw blade.
	Faulty circular saw blade operation. The log has rotated.	Do not use the machine before replacing the saw blade.
The saw blade whines.	The motor running too fast. PTO Max. 450 r.p.m.	Reduce speed.
	Fracture in the root of the saw blade.	Do not use the machine before replacing the saw blade.
The saw blade rotates in the wrong direction.	Incorrect phase sequence.	Use a cord with a phase switch and adjust phase sequence.
The saw blade does not lower.	The protective guard of the splitting chute is open.	Close the guard.
Protective guard		

Issue	Cause	Solution	
The protective guard does not open.	The saw blade is not in its upper position.	PALAX C750 Ergo	Push the multifunction lever to the far right.
		PALAX C750 Pro, Pro+	Start the machine and lift the saw blade with joystick valve.
Operational issues			
Whining sounds during the splitting operation and revolution decreases.	The V-belts are loose.	Tighten the V-belts.	
	The V-belts are worn.	Change the V-belts.	
Splitting cannot be launched manually.	The protective guard of splitting chute is open.	Close the protective guard.	

16 Storage

The machine is intended for outdoor use. However, for longer standstills store the machine preferably indoors or under a canopy to avoid corrosion and consequential damage and/or malfunctions.

17 Accessories

17.1 Automatic high-speed valve

The machine is equipped with an automatic high-speed valve. The valve reduces the splitting speed only when the pressure rises above 120 bar. The valve speeds up the splitting of thick logs, as the stroke approaching the wedge occurs at high speed.

Pro+ is equipped with a power-speed valve option. The power-speed valve allows the pressure to rise to 150 bar.

17.2 Splitting wedges

Standard wedge

- The 2/4 wedge for splitting the wood in half or four pieces.

Optional wedges

- The short straight wedge for splitting the wood in half or, if the wedge is lowered, no splitting will take place.
- The 2/6 wedge for splitting the wood in half or six pieces. Normally requires a cylinder of 5-6 tons.
- 8 wedge for splitting soft wood in eight pieces. Only use 8 wedge for soft wood i.e. pine.



Note: If the machine is equipped with a 9 ton splitting cylinder, the machine has enough power to split hard wood with the 8 wedge.

17.3 Splitting cylinder

The machine can be equipped with a splitting cylinder of either 4, 6, or 9 tons.

- Ergo and Pro 4 or 6 tons.
- Pro+ 6 or 9 tons.

17.4 Log table or stand

To avoid unnecessary lifting and to make the operation faster, a suitable stand, where logs are at the height of the feeding deck, is recommended.

Suitable options are:

- Palax Mega - log deck
- Palax Midi - log deck
- Palax Log - log stand

18 PALAX manuals & feedback

Palax Manuals



Feedback form for customers



PALAX

PALAX C750.2

User Guide

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