

# Firewood Processor SSP450-Eco



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Read the operating instructions carefully before  
commissioning the machine!

**This manual is valid for:**

<b>Model</b>	<b>Article number</b>
SSP450 Z	SSP-E45-1
SSP450 E	SSP-E45-2
SSP450 D	SSP-E45-3

**Version of this manual:** SSP450 1.0

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## 1 EC Declaration of Conformity

We hereby declare that the various technical versions of the machine:

Designation: \_\_\_\_\_  
Type: SSP450 Eco  
Serial number: \_\_\_\_\_

comply with the provisions of the Machinery Directive 2006/42 / EC and the other related standards.

The machine mentioned meets the requirements of the EMC Directive 2004/108 / EC and the Low Voltage Directive 2006/95 / EC.

The accompanying safety regulations and operating instructions apply to these machines.

The machines must not be modified. If changes are made to the machine that have not been agreed with us, this declaration becomes invalid.

The following named place

- has carried out the type examination. The product has received the EC type examination under the number \_\_\_\_\_.
- has carried out the EC type-examination procedure specified in Annex IX of 2006/42 / EC.

*Notified checkplace for type examination according to Annex IX*

The following is the name and address of the person authorized to compile the technical documentation.

CEO Karl Binderberger  
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## 2 Safety instructions

### 2.1 Explanation of symbols

Please pay attention to the meaning of the following symbolic explanations and instructions description. They are divided into levels of risk and classified in accordance with ISO 3864- 2

#### **DANGER**



*Indicates an immediate threat of danger.  
If the information is not followed, death or serious bodily injury (invalidity) is the result.*

#### **WARNING**



*Indicates a potentially dangerous situation.  
If the information is not followed, death or serious bodily injury (disability) are the result*

#### **CAUTION**



*Indicates a potentially dangerous situation. If the information is not followed, material damage as well as minor or moderate physical injuries are the result.*










#### **NOTICE**



*Indicates general instructions, useful operator instructions and working recommendations that have no influence on the safety and health of personnel.*



## 2.2 Pictograms and their meaning:

	<p><i>Read the operating instructions carefully before commissioning!</i></p>
	<p><i>During operation, ear protectors and protective glasses must be worn!</i></p>
	<p><i>During operation, safety shoes (with steel cap) are to wear!</i></p>
	<p><b>Note that the machine may only be operated by one person!</b></p>
	<p><i>Warning of hazardous electrical voltage</i></p>
	<p><i>Risk of injury due to stumbling</i></p>
	<p><i>Risk of injury due to slipping</i></p>
	<p><i>Warning against hot media</i></p>
	<p><i>Lubrication point</i></p>

## **2.3 Keep information available**

These operating instructions must be kept with the machine. It must be ensured that all persons who have to carry out activities on the machine can read the operating instructions at any time. All safety instruction signs and operating instruction signs on the machine must always be kept in a clearly legible condition. Damaged or illegible signs must be replaced immediately.

## **2.4 General safety instructions**

The machine may only be operated by people who are trained, instructed and authorised for its use. These people must know the operating instructions and act in accordance with them. The respective competences of the operating personnel are clearly defined.

Operating personnel undergoing training may only initially work with the machine under the supervision of an experienced person. The completed and successful instruction is to be confirmed in writing.

## **2.5 Intended use**

The firewood processor is designed exclusively for sawing and splitting logs up to 45cm in diameter. All other forms of usage do not comply with the intended use. The manufacturer is not responsible for any personal injury or material damage that originates from non-compliant usage, but rather the operator of the machine is!

The reading of this manual as well as the observance of all instructions contained within it, particularly the safety instructions, also comply with the intended use. Also included is the fact that all inspection and servicing work is to be conducted in the prescribed time intervals.

## 2.6 Operator's duty of care

The machine was designed and built taking into account a hazard analysis and after careful selection of the harmonised standards to be complied with, as well as other technical specifications. It therefore corresponds to the current state of the art and ensures the highest level of safety.

Furthermore, for safe operation, the operator must ensure that:

- the machine is only used for its intended purpose (cf. chapter "Intended use")
- the machine is only operated when it is in perfect working order and, in particular, that the safety devices are regularly checked to ensure that they are in good working order.
- the necessary personal protective equipment is available and used by the operating, maintenance and repair personnel.
- the operating manual is always available at the place of use of the machine in a legible condition and complete.
- only sufficiently qualified and authorised personnel operate, maintain and repair the machine.
- this personnel is regularly instructed in all applicable questions of occupational safety and environmental protection, and is familiar with the operating instructions and in particular the safety instructions contained therein.
- all safety and warning notices attached to the machine are not removed and remain legible.

## 2.7 Operator requirements

No special knowledge of mechanical or electrical engineering is required to operate the machine. However, the operator must be at least 18 years old. The operator must be trained and instructed accordingly by the operator of the machine before starting work for the first time (see General safety regulations). Protective shoes and close-fitting clothing must be worn when operating the machine.

If the operator carries out maintenance and servicing work, he must have the necessary specialist knowledge.

After training, the operator must be able to carry out the following activities independently:

- Checking the safety equipment before starting work and during operation.
- Eliminating faults for which no professional training in mechanical or electrical engineering is required.

## 2.8 Maintenance and servicing personnel

This manual contains all the information necessary for maintenance and set-up and is intended for instructed personnel with the following tasks:

- Inspection, maintenance and repair of the machine.
- Setting up and adjusting the machine.
- Checking the safety devices.
- Carrying out test runs.
- Eliminating faults for which vocational training in mechanical or electrical engineering is required.

## 2.9 Modifications to the machine

For safety reasons, no unauthorised modifications may be made to the machine; this applies in particular to welding work on load-bearing parts.

Only use original spare parts / original wear parts / original accessories - these parts are specially designed for the machine. In the case of externally sourced parts, there is no guarantee that they are designed and manufactured to withstand stress and safety.

Parts and special equipment not supplied by us are also not approved by us for use on the machine.

## 2.10 Environmental Protection

For all work on and with the machine, the regulations on waste avoidance and proper waste recycling and disposal must be observed.

Particularly during installation and maintenance work as well as during shut down, care must be taken to ensure that substances hazardous to groundwater - such as grease, oil, cleaning fluids containing solvents, etc. - do not contaminate the soil or enter the sewage system. These substances must be collected in suitable containers and disposed of.

## 2.11 Misuse and residual risks

Despite correct application of all safety instructions for the machine, residual risks can still occur. These usually result from misuse of the machine.

- Touching rotating or moving components
- Injury from flying wooden or machine parts.
- Fire hazard due to inadequate ventilation of the engine
- Hearing damage from working without hearing protection
- Human error:
  - Mental overload
  - Entering a danger zone
  - Distractions
  - Neglected control activities

## **3 Description of the machine**

### **3.1 How it works**

The firewood automat is hydraulically driven. The hydraulic circuit is driven by PTO pump, diesel or electric motor.

The machine is set up as described in the chapter "Set up of the machine" and made ready for operation. The desired log length must be set and the splitting wedge adjusted according to the log diameter. The logs are placed on the feeder.

The working process can then be triggered. The firewood automat can be started either in semi-automatic or in fully automatic mode. In semi-automatic mode, the infeed, sawing and splitting functions are operated manually via a joystick. In fully automatic mode, these functions run automatically.

The log is moved into the sawing area until the timber starts to move at the fixed stop, thus giving the signal for further processing. The sawing process is initiated. In this step, the log is first clamped and then the log is cut by the hydraulic chain saw.

When the wood is cut, it is transported by the cross pusher to the splitting area, where it is subsequently split. During the splitting process, the log is already moved into the sawing area for the next cutting process.

Finally, the split wood is transported away via the conveyor belt.

The automatic firewood processor may only be used, serviced or maintained by persons who are familiar with it and have been informed about the dangers.

### 3.2 Technical Data

Type	SSP450 Z	SSP450 E	SSP450 D
Weight*	2000 kg	2100 kg	3300 kg
Working height	1,1 m		
Chainsaw	Oregon 40HX86		
Chainsaw blade	Oregon EV 59752-4		
Power	45kW	22kW + 9kW	34 kW
Speed [rpm]	440	1450	1450
Fuse	---	64 A + 32 A	---
Splitting force	16 t		
Wood length	25-50 cm		
Max. Wood diameter in semi-automatic mode	45 cm		
Max. Wood diameter in fully automatic mode	42 cm		
Splitting speed	10 cm/sec		
Return speed	12 cm/sec		
Hydraulic oil	120 Litres HVI 46		
Chain tensioning pressure	20 bar		
Transport size L x W x H	1800 x 3000 x 2550 mm		

\*...the dimensions and weights given are approximate values


### 3.3 Equipment

Item number	Equipment
	<b>Feeder</b>
SSZ-ZAL-01	Feeder frame 2m foldable in connection with extended drawbar
SSZ-ZAL-03	Feeder frame 2m stationary
SSZ-ZAL-05	Feeder frame 3m (4 hydraulically driven star rollers) stationary
SSZ-ZAL-07	hydr. preparation for cross conveyor assembly
	<b>Splitting wedge</b>
SSZ-ZAL-11	Splitting cross 12 - divider
SSZ-ZAL-12	Splitting cross 2-4-6 divider
SSZ-ZAL-13	Splitting cross 2-4-8 divider
	<b>Conveyor with options</b>
SSZ-ZAL-25	Hydr. preparation for external cleaning machine with hydr. flap
SSZ-ZAL-26	Hydr. preparation for external packing machine
	<b>Running gear</b>
SSZ-ZAL-34	Lighting for undercarriage 25 km/h
SSZ-ZAL-37	TÜV 25 km/h
SSZ-ZAL-56	hydr. support foot with tractor hydraulics
SSZ-ZAL-59	Running axle without brakes
SSZ-ZAL-60	Extended drawbar
	<b>General equipment</b>
SSZ-ZAL-31	Hydraulic chip extractor (splitter hydraulics)
SSZ-ZAL-40	Oil cooler
SSZ-ZAL-42	Saw chain, 66 driving links (for 2,0mm bar)
SSZ-ZAL-46	Harvester bar 54cm, 2,0mm
SSZ-ZAL-49	Starter package 1x bar, 3x chains, 1x Limit shift each, 1x filter set
SSZ-ZAL-50	Cardan shaft BG4, 1010mm
SSZ-ZAL-51	E-Motor Trolley as E-version for standard Z (30kW / 400V / 63A)
SSZ-ZAL-55	Training



## 4 Transport of the Machine

### 4.1 Safety instructions during transport

<b>WARNING</b>	
	<p style="text-align: center;"><b><u>Risk of injury during transport!</u></b></p> <ul style="list-style-type: none"><li>• <i>Make sure that there are no persons in the danger zone and that a sufficient safety distance is maintained.</i></li><li>• <i>Suspended loads can fall down, then there is danger to life - do not stay under suspended loads!</i></li><li>• <i>Always use suitable lifting equipment to load the machine.</i></li><li>• <i>The machine may only be lifted at the intended holding points</i></li></ul>

Before transporting the machine, all points of the chapter “**shut down**” must be carried out.

When driving on public roads, the legal regulations must be observed!

## 4.2 Transport journeys and journeys on public roads

First of all, follow the instructions for turning of the machine in the chapter “**shut down**”.


If you want to transport the firewood automat with the tractor, make sure that it is properly attached and held securely to your vehicle.


When driving on public roads, the legal regulations must be observed!

- Only transport the SSP when it is folded up.
- See chapter: **7.5 Folding the conveyor.**
- Keep reflectors and lamps clean.
- When driving the vehicle, the driving speed must be adapted to the ground conditions. In this way, you protect the SSP from strong vibrations that have an unfavourable effect on the connections.
- Be aware of reduced steerability due to the heavy weight and great length of the machine.
- Be aware of the overall height when passing under bridges.


## 5 Set up of the machine

### 5.1 Safety instructions for set up

<b>DANGER</b>	
	<p style="text-align: center;"><u><i>Danger to life from electric shock!</i></u></p> <ul style="list-style-type: none"><li>• <i>Machines with electric drives must be operated on a mains supply that is protected by a 30-mA residual current circuit breaker.</i></li><li>• <i>Before each start-up, check the supply line for damage!</i></li></ul>

<b>WARNING</b>	
	<p style="text-align: center;"><u><i>Risk of injury if the machine is not set up correctly.</i></u></p> <ul style="list-style-type: none"><li>• <i>Always check the machine for transport damage before setting it up.</i></li><li>• <i>Set up the machine on a level and firm surface!</i></li><li>• <i>Use the support feet of the machine!</i></li><li>• <i>Ensure that no persons are endangered by the installation and that there are no persons or foreign objects in the danger zone.</i></li><li>• <i>Lay machine connections, cables and hoses so that there are no tripping points! The machine may only be operated when in perfect condition!</i></li></ul>

## 5.2 Duties before starting work

<h1>NOTICE</h1>	
	<p><u>Carry out the following activities before starting work:</u></p> <ul style="list-style-type: none"><li>• <i>Check electrical connections before starting</i></li><li>• <i>Check safety devices for proper functioning</i></li><li>• <i>Check all bolts and screw connections for tightness before starting work!</i></li><li>• <i>Before starting work, check the direction of rotation of the electric motor. If the direction of rotation is incorrect, the pump will be destroyed.</i></li><li>• <i>Check oil cooler for cleanliness</i></li><li>• <i>Check electrical and hydraulic connections, as well as lubricant supply and hydraulic oil level (Attention: Never work without chain lubricating oil).</i></li><li>• <i>At outside temperatures below 0°C, let the machine run for approx. 5 minutes at idle speed without load.</i></li></ul>

## 5.3 Electrical supply line

The fuse protection and dimensioning of the electrical supply line must be selected from the line length! This should be done by an electrician according to national standards.

The supply line must be 400V / 63A.

**Never carry out work on electrical systems if you do not have the necessary expertise!**

## 5.4 Check direction of rotation of the motor

(only for electric machines)

Switch on the motor only briefly and check the direction of rotation on the fan blades of the motor. The correct direction of rotation is indicated by the sticker on the fan cover of the motor. If the direction of rotation is not correct, disconnect the supply line to the firewood processor.



There is a phase inverter in the plug with which you can change the direction of rotation of the motor (press the disc in the plug in with a screwdriver and turn it 180°). If the direction of rotation is still not correct, please contact an electrical specialist.

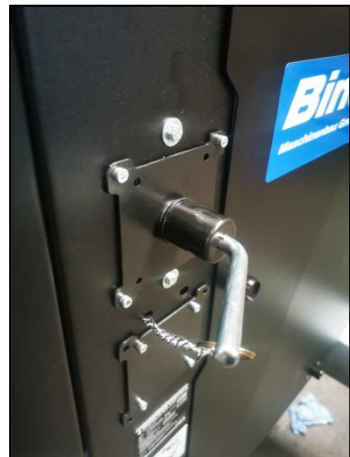


## 5.5 Switch on Battery main switch

(only for diesel machines)

There is a main switch for the battery on the SSP. This must be switched on before each operation to enable the engine to start and to supply the control unit with power.

To avoid discharging the battery, the main switch must be switched off again after each operation. However, the main switch must not be switched off as long as the oil cooler is running.

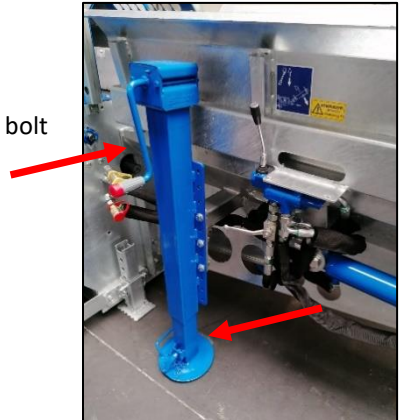


## 5.6 Bring the machine into working position

To prevent serious personal injury and machine damage, always place the machine on a level and firm floor and follow the instructions below carefully.

Move the support foot into position:

1. remove the locking bolt
2. turn the support leg downwards
3. secure the support leg with the safety bolt



Now the SSP can be disconnected from the towing vehicle.

The machine can be brought into a horizontal position with the aid of the support leg (hydraulically or with a hand crank).

## 5.7 Unfold the feeder

Turn the stopcock (1) 90° counter-clockwise (direction of passage).

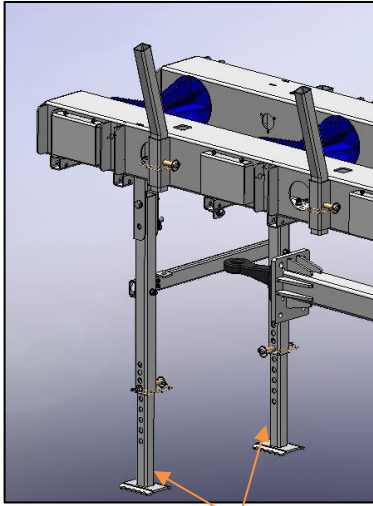
Now you can tilt the feeder by operating the right lever (2).

However, do not tilt the feeder completely into its horizontal position yet, because the support legs (3) must be folded out first. To do this, turn the spring latch half a turn until it is pulled out completely. Turn the legs 90° and secure them with the two spring locks on the inside of the supports.





## 5. Set up of the machine



4

Then the feeder can be brought into the horizontal position.

With the two adjustable feet (4) the feeder can be adapted to the ground. Always make sure that both legs are in contact with the ground.

Finally, the stopcock (1) must be closed again to prevent unintentional operation.

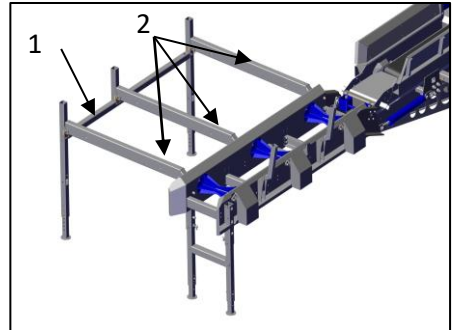
When folding, make sure that the support legs are turned downwards (transport height).

The lifting and lowering speed can be adjusted with a hand wheel. This is located next to the lever for changing the feed direction.



## 5.8 Support frame

The support trestle consists of the support H (1) and the 3 transverse form tubes (2). To set up the trestle, insert the bevelled side of the transverse tube into the feeder. Now add the support H and insert the transverse moulded tube into the provided support here as well. A bolt with a cotter pin is necessary to secure it.

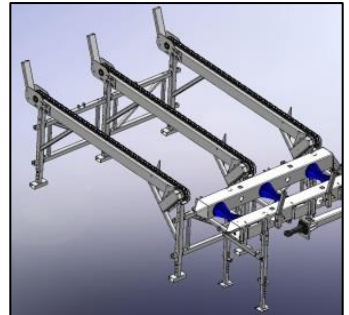


Finally, adjust the feet of the support H so that the transverse mould tubes are horizontal.

## 5.9 Attachment cross conveyor

A cross conveyor can optionally be added to the feeder.

The connections for this are located on the opposite side of the cross conveyor.



## 5.10 Unfold the footboard

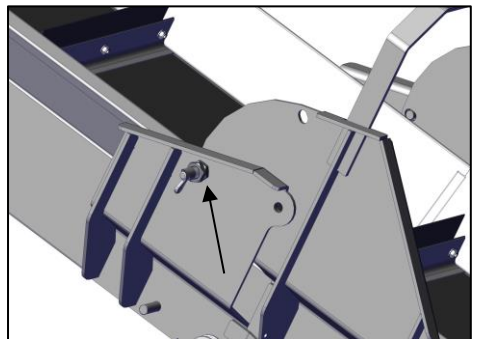
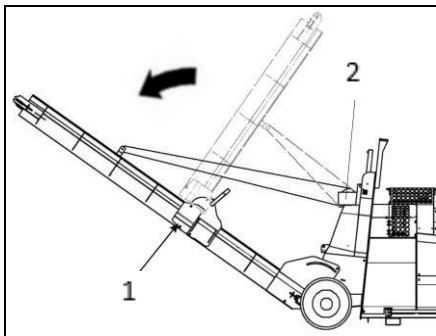
Always unfold the footboard before starting work. Using the platform when it is folded in gives you no foothold and creates a high risk of accident.



### 5.11 Bringing the outfeed conveyor into working position


Use the manual cable winch (2) to slacken the cable a little. Then manually pull back the entire conveyor belt (1) until the rope is taut again. Then lower the conveyor belt down using the crank. Afterwards open the locking bolt in the middle of the belt.


Now slacken a little rope again and fold back the upper part manually until the rope is taut. Now the upper part can also be folded back by means of the crank until the locking bolt engages again.





## 6 Operation


### 6.1 Safety instructions during operation

<b>DANGER</b>	
	<p><b><u>Risk of injury from being caught or pulled in on moving machine parts!</u></b></p> <ul style="list-style-type: none"><li>• <i>Keep a sufficient safety distance from moving machine parts!</i></li><li>• <i>Illuminate the workplace sufficiently</i></li></ul>

<b>WARNING</b>	
	<p><b><u>Risk of injury during operation!</u></b></p> <ul style="list-style-type: none"><li>• <i>Make sure that there are no persons in the danger zone and that a sufficient safety distance is maintained.</i></li><li>• <i>Before removing jammed pieces of wood, the drive must be switched off.</i></li><li>• <i>Keep away from suspended loads</i></li></ul>

<b>CAUTION</b>	
	<p><b><u>Stumbling over parts lying around!</u></b></p> <ul style="list-style-type: none"><li>• <i>All parts that do not belong to the machine must be removed from its vicinity!</i></li></ul>

<b>CAUTION</b>	
	<p><u>Risk of injury due to negligent use of personal protective equipment!</u></p> <ul style="list-style-type: none"><li>• <i>Wear protective goggles, ear protection, protective gloves and safety shoes with steel toecaps!</i></li></ul>

<b>CAUTION</b>	
	<p><u>Risk of injury during operation</u></p> <ul style="list-style-type: none"><li>• <i>Only one person may work on the machine at a time!</i></li><li>• <i>Make sure that no other persons are in the area of the machine.</i></li></ul>

## 6.2 Important notes during operation

### NOTICE



- *The firewood automat with electric drive must not be operated in the rain.*
- *The operating personnel must ensure that no unauthorised persons are in the working area of the machine.*
- *Before switching on the machine, inform yourself about the correct behaviour in the event of a malfunction.*
- *Before switching on the machine, carry out the points listed in the chapter "Duties before starting work".*
- *After switching off the machine, always carry out the work steps in the following chapter "Shut down".*
- *If the operator leaves the machine unattended, it must be shut down and secured against unauthorised restarting.*
- *A minimum distance of 1.5m should be kept around the operator's position.*
- *No persons are allowed within a radius of at least 4m in the area of the conveyor belt ejection.*
- *Pay strict attention to the safety distance when working under power lines. No part of the unit may come closer than the specified safety distances:*
  - *For low-voltage lines: min. 2 metres*
  - *For high-voltage lines: min. 6 metres*

### 6.3 Manual operation

1. Switch the selector switch to manual so that the machine can be controlled with the joystick.
2. Move the joystick upwards to reach the home position. (discharge conveyor belt starts)
3. Push the joystick to the right to activate the infeed. Stay in this position until the log arrives at the fixed stop and activates the sensor.
4. Press the joystick down to saw until the log is cut.
5. Press the joystick to the left on Splitting to activate the splitting process.
6. As soon as the splitting process is finished, you can start again with step 2.



### 6.4 Automatic mode

The machine operates fully automatically. However, stay close to the machine as it may malfunction.

There are several ways to stop the machine:

- Emergency stop switch
- Open the protective covers
- Joystick in home position
- Move selector switch to "0"

## 6.5 Reverse the direction of the log feeder

If there are problems with the wood intake:

It is possible to reverse the direction of rotation of the feeder. This is necessary if the wood gets caught when being fed in.

The lever for reversing the direction of rotation (1) is located below the control on the right-hand side of the operator's position.



## 6.6 Height adjustment of the splitting wedge

The splitting wedge is hydraulically height-adjustable as standard. The control lever for this is located next to the manual winch of the outfeed conveyor belt.

Always set the splitting wedge to a central height relative to the timber.

If the splitting wedge is adjusted downwards during the splitting process, the machine **MUST** be switched off at the control panel. Only then may the split and jammed wood be removed from under the splitting wedge.







## 6.8 Adjustment of the log length using a fixed stop

The fixed stop is secured against overload by a shear bolt (1). In case of overload, this breaks off and allows the fixed stop to be pushed backwards.

The splitting length can be adjusted via steps in a range of 25-50cm. The splitting length is adjusted to the left of the splitting wedge.

To adjust, first remove the safety cotter pin from the bolt.

Now the bolt can be pulled out and the wood stop on the handle can be brought into the desired position.

Then fix the fixed stop with the bolt again and secure it with the safety cotter pin.

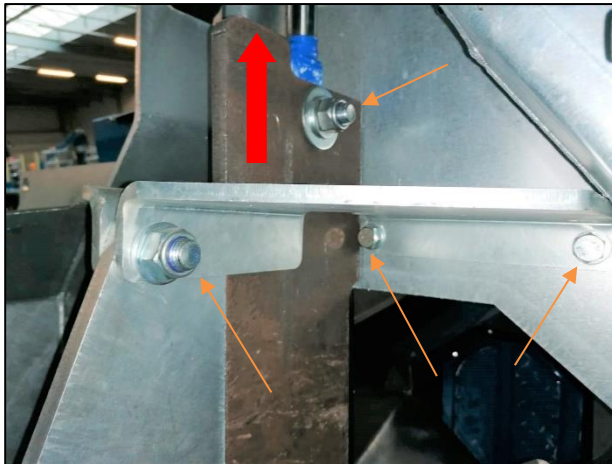


## 6.9 Changing the splitting wedge

To change the splitting wedge, retract the height adjustment cylinder so that the splitting wedge is pulled upwards. Secure the splitting wedge in this position with a suitable belt or chain. A front loader or crane is ideal for this purpose.

Then loosen the screws on the cover plates at the top of the machine and remove these plates. Now also disconnect the cylinder for height adjustment from the splitting wedge. Now the splitting wedge can be pulled out upwards.

**Be careful when lifting out the splitting wedge and keep away from suspended loads.**



## 6.10 Half splitting function

With the firewood processor, it is possible to switch to the half splitting function for timber lengths of 25-33 cm, i.e., the pusher only travels to the splitting wedge up to the set length, so that the next timber can be conveyed into the splitting channel straight away, thus increasing speed and also efficiency.

To switch the half splitting travel on and off, simply turn the selector switch to the left position.

For exact positioning of the pusher at half splitting travel, it is necessary to adjust the sensors to the desired length. (See chapter 9.10 **Adjusting the pusher sensors**).



## 6.11 Harvester head

- Always wear protective gloves when working on the chain. Remove the chain when servicing or adjusting it.
- Never adjust the pressure of the hydraulic system without a pressure gauge.
- Always close all connections to avoid unnecessary oil loss.
- The chainsaw has sharp edges and corners. Therefore, always use suitable protective gloves when working on the machine.

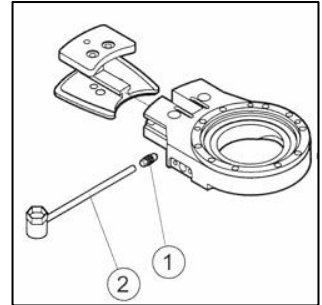


## 6.12 Adjust the chain tension pressure

If the chain jumps off the bar during sawing, there may either be air in the tensioning system or the tensioning pressure is too low.

To solve the problem, bleed the system at the harvester bar holder. As shown in picture 1.

If the problem persists, the chain tensioning pressure must be readjusted. The tensioning pressure is measured at the pressure measuring point, which is located in front of the pressure control valve.



If readjustment is necessary, follow the steps below.

1. Remove the saw chain (see **6.14 Changing the chain**).
2. Connect a pressure gauge to the pressure measuring point for the chain tensioning circuit.
3. Start the machine and leave it idle. If no chain is inserted, the bar moves to the outer position and stays there.
4. Check the back pressure.
5. Set the back pressure between 20 and 25 bar on the pressure control valve (1).

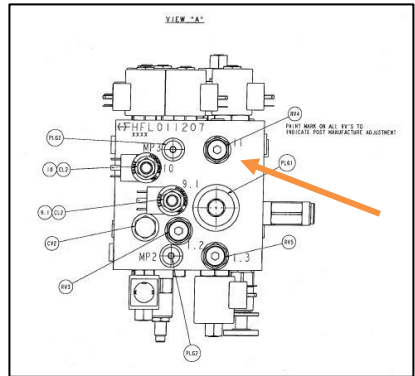
**Important!** Never set a pressure without a pressure gauge.

If the back pressure is within the tolerance, counter the adjusting screw again.

6. Replace the chain.

### 6.13 Adjust the Pressure limiting Valve

The pressure relief valve is for extending the saw cylinder. (lowering of the harvester). It must be set to 80 bar.



### 6.14 Changing the chain

The first signs of a dull chain are very long sawing times and blue smoke coming from the cut. If you want to change the chain, follow the instructions below.

New chains must be placed in clean chain lubricating oil overnight before fitting. This allows the chain oil to penetrate all the chain links.

Before changing the chain, the machine must be stopped and disconnected from the tractor or the mains.

1. The chain tensioner will release itself when the hydraulic system is depressurised.
2. Remove the chain.
3. Remove any dirt from the guidebar.
4. Mount the new chain (pay attention to the cutting direction).
5. Problems when changing the chain can come from a dirty chain or from dirt particles in the lubrication channels. The mobility of the guidebar may be restricted by dirt particles. If this is the case, the guidebar holder must be dismantled and cleaned.
6. Important Always wear gloves and suitable work clothes when changing the chain.

## 6.15 Changing the saw-bar

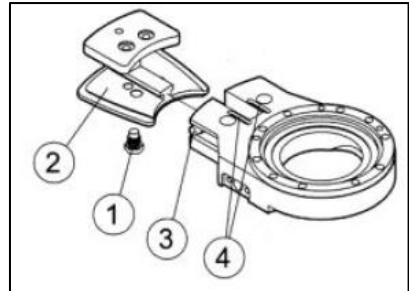
- Remove the saw-chain (see **6.14 Changing the chain**).
- Remove the saw-bar by loosening the guide screws (1).
- Insert the new saw-bar and tighten the guide screws.
- Replace the saw-chain.

1. Guide screws, 2 pcs.

2. Rail holder

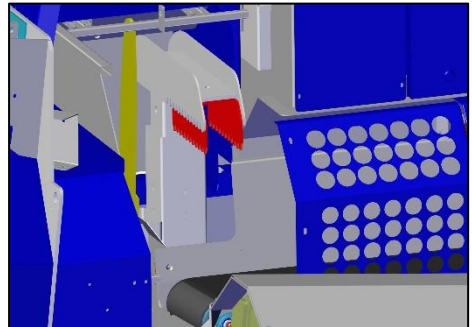
3. Locking device

4. grooves



## 6.16 Clamping attachment

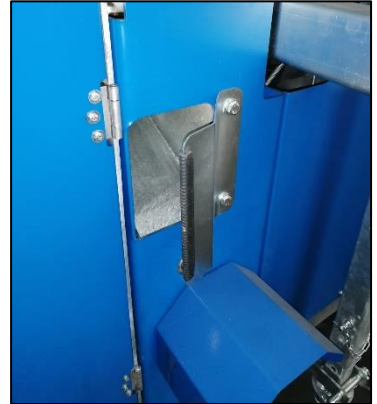
To ensure a proper cutting process, a clamping attachment is required for wood diameters of less than 15 cm. This clamping attachment is attached to the centre of the downholder with a screw.



## 6.17 Chip ejection

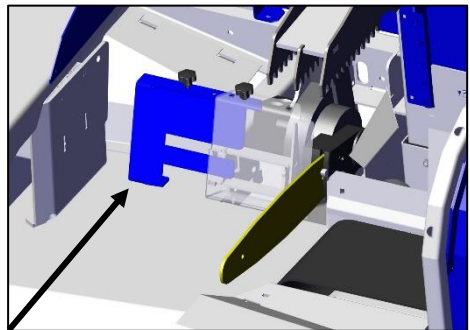
The chip ejector is covered with a protective plate to make it difficult to reach into the machine.

If the chip channel becomes blocked, do not solve the problem with the machine switched on. A wooden stick or similar is recommended to remove the chips.



## 6.18 50cm Extension

For log lengths of 50cm, an extension of the cross slide is required. This attached extension prevents the log from turning/warping and thus ensures a smooth workflow. The extendable plate attachment is fixed with star grip screws and can be moved by hand. If the machine is changed back to shorter lengths, the extension of the cross slide must also be retracted or removed again.







## 7 Shutdown

### 7.1 Safety instructions for the shutdown procedure

<b>DANGER</b>	
	<p><u>Risk of injury from being caught or pulled in by moving machine parts!</u></p> <ul style="list-style-type: none"><li>• <i>After parking, wait until all moving machine parts have come to a standstill!</i></li><li>• <i>Keep a sufficient safety distance from moving machine parts!</i></li></ul>

<b>WARNING</b>	
	<p><u>Risk of injury when taking out of operation!</u></p> <ul style="list-style-type: none"><li>• <i>Make sure that there are no persons in the danger zone and that a sufficient safety distance is maintained.</i></li><li>• <i>Read the chapter "General safety instructions".</i></li></ul>

<b>WARNING</b>	
	<p><u>Risk of injury when the machine is switched on by unauthorised persons!</u></p> <ul style="list-style-type: none"><li>• <i>Secure the machine against unauthorised switching on after operation.</i></li></ul>

## 7.2 Switch off the drive

### 7.2.1 Diesel-engine

If the machine has been used under full load for a longer period of time, you should let the automatic firewood processor run for a few minutes without load before shutting it down. This allows the machine to return to operating temperature and can be shut down without any problems.

If an electric motor adjustment is used, it should be adjusted back so that the motor still runs smoothly.

After shutting down the machine, disconnect the main battery switch.



### 7.2.2 Electric drive

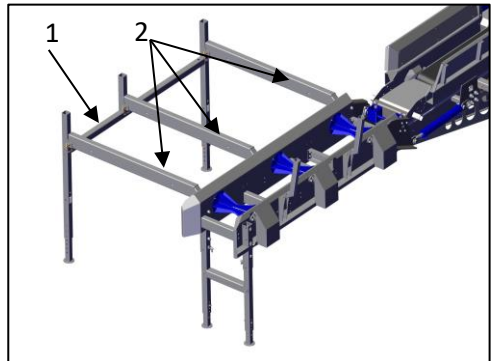
1. Switch off the drive by pressing the switch!
2. Disconnect the 400V/63A supply cable from the plug and secure the drive against being switched on again!

### 7.2.3 PTO drive

Disconnect the PTO drive on the tractor and then park the tractor. Secure it against being switched on again and disconnect the PTO connection.

### 7.3 Dismantling the support frame

To dismantle the support frame, open the two locks of the ball cups on the first transverse forming tube (2). Now you can lift out the first cross tube. Proceed in the same way with the other two. With the last one, first lift the transverse moulding tube out of the support H (1) and place it on the ground. Only then remove the transverse moulding tube.



### 7.4 Folding the feeder

When folding in the feeder, proceed exactly as in chapter "5.7 Unfold the feeder" only in reverse order.

Make sure that the lines are closed again with the stopcock.

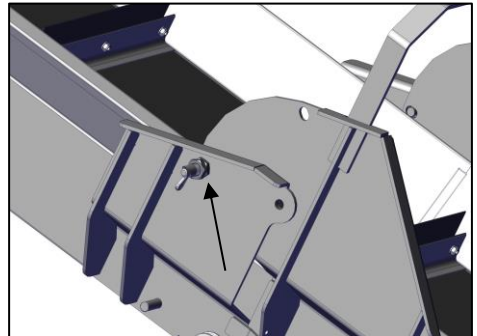
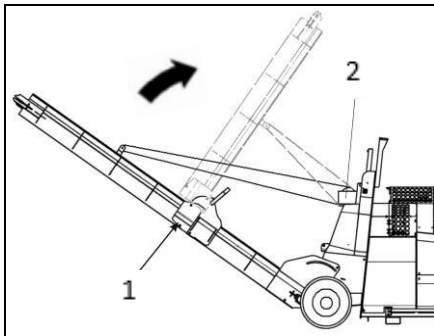
## 7.5 Folding the outfeed conveyor

First turn the spring bolt (1) half a turn until it engages. Then the upper part of the conveyor belt can be pulled forward with the manual cable winch (2) until the spring bolt engages again.

Afterwards, the entire conveyor belt can be pulled further forward by turning the crank.


If the conveyor belt moves beyond the tipping point, the direction of the crank must be changed and the cable slackened in order to lower the conveyor belt further.


Finally, the rope must be tightened with the crank so that the belt can no longer move.





## 8 Servicing


### 8.1 Safety instructions during servicing

<b>DANGER</b>	
	<p><u>Danger to life from switching on the drive during maintenance work</u></p> <ul style="list-style-type: none"><li>• <i>Switch off the machine</i></li><li>• <i>Secure against being switched on again</i></li></ul>


<b>DANGER</b>	
	<p><u>Danger to life due to electric shock</u></p> <ul style="list-style-type: none"><li>• <i>Work on electrical systems may only be carried out by qualified personnel!</i></li><li>• <i>Secure the machine against being switched on or the power line being plugged in.</i></li></ul>

<b>CAUTION</b>	
	<p><b><u>Slipping on oil residues during maintenance work (oil change)!</u></b></p> <ul style="list-style-type: none"><li>• <i>Use suitable collection containers.</i></li><li>• <i>Remove spilled oil immediately</i></li></ul>

<b>CAUTION</b>	
	<p><b><u>Risk of injury! Scalding from hot machine components!</u></b></p> <ul style="list-style-type: none"><li>• <i>Allow the machine to cool down before carrying out any maintenance work</i></li></ul>

<b>CAUTION</b>	
	<p><b><u>Risk of chemical burns from contact with lubricants!</u></b></p> <ul style="list-style-type: none"><li>• <i>Avoid contact with skin and eyes</i></li><li>• <i>Use suitable protective equipment (gloves, safety goggles).</i></li></ul>

## 8.2 Important instructions during servicing

<h1>NOTICE</h1>	
	<ul style="list-style-type: none"><li>• <i>Immediately replace all machine parts that are not in perfect working condition.</i></li><li>• <i>Use only original spare parts</i></li><li>• <i>Ensure that suitable collection containers are available for all substances hazardous to groundwater (oils, coolants, etc.)</i></li><li>• <i>Use only the specified operating materials.</i></li><li>• <i>Self-locking bolts and nuts must always be renewed.</i></li><li>• <i>All operating materials and lubricants that are not used again must be disposed of in an environmentally friendly manner.</i></li><li>• <i>Installing the wrong spare parts or wearing parts can cause serious damage to the machine.</i></li><li>• <i>There is a risk of fire during welding work. Keep fire extinguishers ready.</i></li><li>• <i>Improperly routed cables can cause braising and cable fires.</i></li><li>• <i>Check the running direction of the motor. Incorrect direction of rotation will destroy the pump.</i></li><li>• <i>Never release the machine for operation without the factory-provided safety devices.</i></li><li>• <i>It is strictly forbidden to remove safety notices attached to the machine.</i></li><li>• <i>Always observe the warning notices located on the machine. They help to avoid hazards.</i></li><li>• <i>Do not carry out any repairs if you do not have the required qualifications.</i></li></ul>

### **8.3 Notes when working on electric equipment**

All work on the electrical equipment of the machine may only be carried out by trained electricians. Check electrical equipment regularly:

- Reattach loose connections.
- Replace damaged lines or cables immediately.

Whenever work is carried out on live machine parts or cables, a second person must always be present to disconnect the power supply in an emergency. Never clean electrical equipment with water or similar liquids.

### **8.4 Notes when working on hydraulic equipment**

All work on the hydraulic equipment of the machine may only be carried out by trained specialists.

Depressurise all hydraulic systems and parts before starting work.

Before starting work, ensure that suitable collection containers are available for all substances hazardous to groundwater (oils, coolants, etc.).



## 8.5 Duties before finishing maintenance

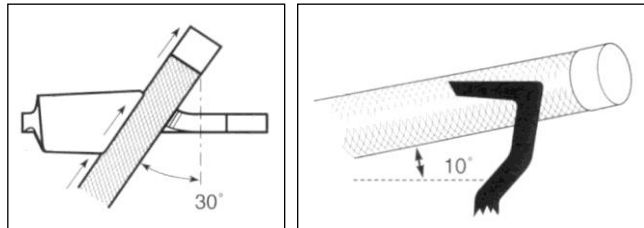
After completing the maintenance work and before starting the machine, observe the following points:

- Check all previously loosened bolted connections for tightness.
- Check that all previously removed guards, covers, container lids, .... are properly reinstalled.
- Ensure that all tools, materials and other equipment used have been removed from the work area.
- Clean the work area and remove any spilled liquids and similar substances.
- Ensure that all safety devices of the machine are working properly again.
- Check the function of the safety devices. Do not release the machine for use if the safety devices are not functioning properly.
- Assemble and secure dismantled safety devices.
- Remove any tools, foreign parts and operating materials that have been left lying around.
- Carry out a test run with a function check of the repaired components.
- Secure the machine against unauthorised switching on if you have not completed the work.
- Do not handle open flames or smoke.

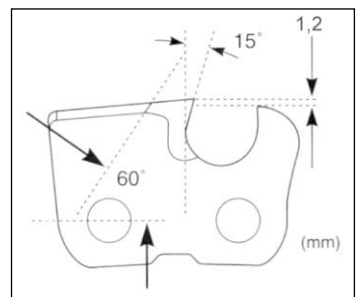
## 8.6 Sharpening the saw chain

When sharpening the chain, the following steps must be followed in order to achieve perfect chain sharpness.

The following steps refer to the original Oregon 18H chain used on the machine.



- The sharpening angle must be the same for all chain teeth, otherwise the chain will run unevenly and roughly. This leads to increased wear.
- When sharpening, the file must have an angle of 10 degrees to the ground.
- It is advantageous to use a file holder when sharpening.
- When sharpening accurately, the angles shown on the right are self-evident.
- The depth gauge determines the depth of the cut. This should be 1.2mm for an optimal cut.
- The depth gauge distance must be checked using a filing gauge. If the depth gauge overlaps the file gauge, it must be filed flush with the gauge using a flat or triangular file.
- Use a special chain file with a diameter of 5.5 mm to sharpen the chain teeth.
- The cutting edges must always be filed from the inside to the outside.



- File quickly. Note that the file only removes material in the forward movement. During the backward movement, the file must be lifted off.
- The file should be turned again and again, otherwise one-sided wear will result.
- **Caution:** The connecting and driving links must not be filed.
- The saw teeth must all have the same length. Different lengths also result in different tooth heights. If they are not the same height, this will cause the chain to run unevenly and may even cause chain cracks.
- First determine the shortest tooth. This is now sharpened and then the other teeth are filed back to this length.
- First sharpen all the cutting teeth on one side and then those on the other side.
- Check the chain often for cracks and damaged rivets.
- Damaged chain parts must be replaced.
- The new chain parts must be filed to the same size as the other chain links.
- It is better to sharpen more often but file away less. Usually, 2-3 file strokes are enough.
- After sharpening, the chain must be cleaned of all chips with petrol or other solvents.
- Then it must be lubricated again in an oil bath.
- For longer breaks, the chain should be removed and placed in an oil bath.

## 8.7 Tensioning the conveyor belt

If the conveyor belt makes very loud noises when idling, this can normally be remedied by proper tensioning of the conveyor belt.

For tensioning, there are 2 nuts at the bottom of the pulley on the left and right.


When tensioning, always make sure that you pre-tension the roller equally on both sides, otherwise the conveyor belt is only loaded on one side and can tear.





## 9 Maintenance


During the first month every week all screws and connections should be checked for tightness.


### 9.1 Safety instructions during maintenance

<b>DANGER</b>	
	<p><u>Risk of severe injury by switching on the driving mechanism during maintenance work!</u></p> <ul style="list-style-type: none"><li>• <i>Switch off machine!</i></li><li>• <i>Secure against unintentional restart!</i></li></ul>

<b>DANGER</b>	
	<p><u>Danger to life due to electric shock</u></p> <ul style="list-style-type: none"><li>• <i>Work on electrical systems may only be carried out by qualified personnel!</i></li><li>• <i>Secure the machine against being switched on or the power line being plugged in.</i></li></ul>

<b>CAUTION</b>	
	<p><u>Slipping on oil residues during maintenance work (oil change)!</u></p> <ul style="list-style-type: none"><li>• <i>Use suitable collection containers.</i></li><li>• <i>Remove spilled oil immediately</i></li></ul>

<b>CAUTION</b>	
	<p><b><u>Risk of injury! Scalding by hot machine components!</u></b></p> <ul style="list-style-type: none"><li>• <i>Allow the machine to cool down to ambient temperature before carrying out any maintenance work.</i></li></ul>

<b>CAUTION</b>	
	<p><b><u>Risk of chemical burns from contact with lubricants!</u></b></p> <ul style="list-style-type: none"><li>• <i>Avoid contact with skin and eyes</i></li><li>• <i>Use suitable protective equipment (gloves, safety goggles).</i></li></ul>

## 9.2 Cleaning

After each operation and before each maintenance, the machine must be cleaned of dirt!

## 9.3 Daily maintenance work

Check that:

- nothing abnormal has occurred on the attachments and hydraulic hoses of the saw unit.
- there is no damage or breakage of the saw unit.
- there are no leaks.
- you start working with a sharp saw chain.

## 9.4 Check chain-oil level

Check the chain oil level before each operation and top up the tank if necessary.

Attention! Only use chain oils with a viscosity number of 140!

To check the oil level in the chain oil tank, there are two sight glasses on the front side, making sure that the upper sight glass is half full and the machine is standing straight.



## 9.5 Maintenance work every 250 hours

Check that:

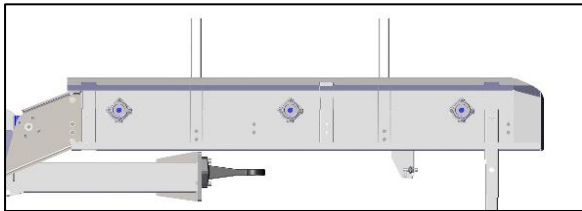
- no brackets or fasteners are missing.
- the hydraulic hoses are not damaged.
- there is no damage or breakage to the saw unit.
- there are no leaks.

All damaged or worn parts must be repaired or replaced.

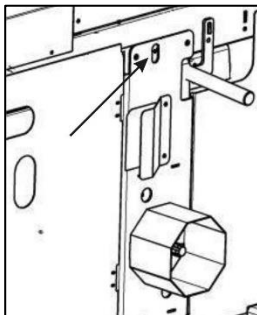
## 9.6 Lubrication points

The lubrication points must be lubricated according to the specified lubrication intervals.

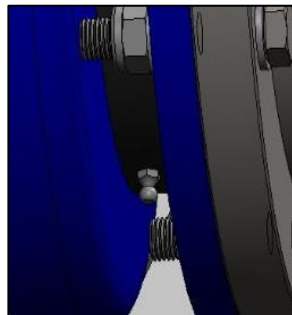
Lubrication point	Number	SSP450D	SSP450E
Harvester head	1	x	x
Electric motor	1		x
Feeder	5	x	x



*Feeder*



*Harvester head*



*Electric motor*

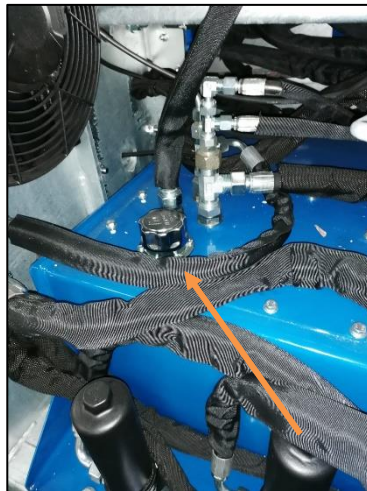


## 9.7 Oil change

The first oil change is carried out after 250 operating hours. Thereafter, the oil must be changed every 1000 operating hours or once a year. HVI 46 or equivalent oil must be used as hydraulic oil. Make sure that an appropriately large collection container (at least 200l) is available.

To drain the hydraulic oil, open the drain plug on the tank. When the oil has been drained from the tank, close the tank tightly again. Fill the tank with oil again.

After filling, start up the firewood processor and run it through a few cycles without wood. Check the oil level again and top up with hydraulic oil if necessary. You may also need to bleed the chain tensioning system.



## 9.8 Changing the oil filter

The oil filter should be changed regularly every 250 hours of operation.

- Open the rear protective cover.
- Unscrew the outer filter sleeve.
- Replace the filter cartridge.
- Screw the filter sleeve back in place.
- check for leaks



## 9.9 Changing the hydraulic hoses

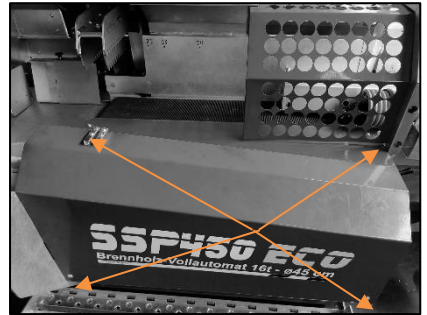
All hydraulic hoses must be replaced after 5 years.

Otherwise, damage to the hoses can cause serious injuries.

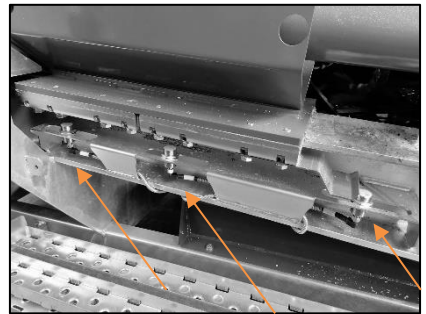
### 9.10 Adjusting the pusher-sensors

In the course of time, it is possible that the sensors of the pusher become loose and need to be readjusted. If the "half-split" function is used, the log length must be adjusted by the middle sensor.

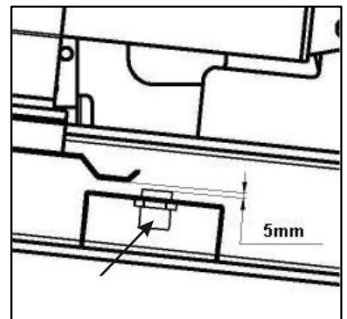
To access the sensors, it is necessary to remove 4 screws and take off the cover plate.



There are three sensors on the I-beam that determine the extended and retracted position. The counterpart is located on the pusher, a curved plate on the front right. This must pass 5mm above the sensors.





The outer sensors must be moved in such a way that the pusher extends or retracts completely, but still does not go to overpressure. The middle one must be adjusted to the length of the log. If the sensor is moved in the direction of the splitting wedge, the splitting path is extended.





## 10 Help in case of malfunctions

### 10.1 Safety instructions

<b>DANGER</b>	
	<p><u>Danger to life from switching on the drive in the event of a malfunction</u></p> <ul style="list-style-type: none"><li>• <i>Switch off the machine</i></li><li>• <i>Secure against being switched on again</i></li></ul>

<b>DANGER</b>	
	<p><u>Danger to life due to electric shock</u></p> <ul style="list-style-type: none"><li>• <i>Work on electrical systems may only be carried out by qualified personnel!</i></li><li>• <i>Secure the machine against being switched on or the power line being plugged in.</i></li></ul>

<b>CAUTION</b>	
	<p><u>Risk of injury! Scalding from hot machine components!</u></p> <ul style="list-style-type: none"><li>• <i>Allow the machine to cool down to ambient temperature before carrying out any maintenance work.</i></li></ul>

<b>CAUTION</b>	
	<p><u>Risk of chemical burns from contact with lubricants!</u></p> <ul style="list-style-type: none"><li>• <i>Avoid contact with skin and eyes</i></li><li>• <i>Use suitable protective equipment (gloves, safety goggles).</i></li></ul>

## 10.2 Troubleshooting

<b>Error</b>	<b>Cause</b>	<b>Error correction</b>	<b>Look up</b>
<b>Saw chain comes off guide bar</b>	Chain tensioning pressure is too low	Adjust the chain pressure	6.13
	Leaky non-return valve	Check the non-return valve, clean or replace it.	Clean and/or contact a specialist
<b>Saw chain is not lubricated</b>	Lubrication tank is empty	Fill the tank with chainsaw oil	9.4
	Air in lubrication system	Bleed the system	Contact a specialist
	Hydraulic hoses of the lubrication system defective	Replace hydraulic hose	Contact a specialist
	Leakage in the chain lubrication pump	Check chain lubrication pump, clean or replace it	Clean and/or contact a specialist
	Machine tilted at an angle	Move machine into horizontal position	5.6
<b>Hydraulic oil gets very hot</b>	Oil cooler not cooling properly	If the fan blade does not turn, check power supply; check cleanliness	5.4
	Oil filter clogged or heavily contaminated	Check oil filter and change if necessary	9.8
	Not enough hydraulic oil in the system	Check oil level	9.7
	Machine is tilted	Bring machine into horizontal position	5.6
<b>Hydraulic cylinder leaking</b>	Sealing sleeve worn out	Change sealing sleeve	Contact a specialist

<b>Long sawing times</b>	Chain is blunt	Sharpen chain	8.6
<b>Conveyor belt doesn't run or jerks</b>	Not enough hydraulic oil in the system	Check oil level	9.7
<b>Splitting cylinder does not retract</b>	Limit switch does not switch	Check limit switch	9.10
<b>Splitting cylinder does not advance</b>			
<b>Splitting cylinder advances and does not switch off</b>			
<b>Splitting cylinder retracts and does not switch off</b>			
<b>Splitting cylinder moves to overpressure without load</b>	Limit switch incorrectly positioned	Check limit switch	9.10
<b>Infeed belt does not run</b>	Limit switch triggered	Check limit switch	Contact a specialist
	Flow divider incorrectly set	Adjust flow divider	
<b>Infeed belt does not switch off</b>	Limit switch doesn't turn off	Check limit switch	
<b>Chain saw does not move down</b>	Chain saw limit switch has triggered	Check limit switch	Contact a specialist
<b>Chain saw does not move upwards</b>	Chain saw limit switch has triggered	Check limit switch	Contact a specialist
	Solenoid valve does not switch	Diagnostic menu / manual operation	
<b>Chain comes off guide bar</b>	Chain tensioning pressure too low	Adjust the tensioning pressure	6.13
	Air in the chain tensioning system	Bleed chain tensioning system	Contact a specialist

<b>Saw motor doesn't run</b>	Solenoid valve does not switch	Diagnostic menu / manual operation	Contact a specialist
<b>Outfeed conveyor belt doesn't run</b>			
<b>Wood holder does not extend</b>			
<b>Wood holder does not retract</b>			
<b>Pusher doesn't advance</b>			
<b>Pusher does not retract</b>			
<p><b>If the malfunctions cannot be eliminated according to the above instructions. Please contact your dealer! He will be happy to help you.</b></p>			

## **11 Guarantee and Warranty**

A guarantee period of 12 months and a warranty period of 24 months from the date of invoice is granted for the firewood processor (please keep the invoice!).

The warranty claim covers all material and / or manufacturing defects. Defective parts will be replaced free of charge - they may only be replaced by a specialist. Please request and replace damaged stickers.

No warranty is given for:

- Damage caused by improper handling or use.
- Transport damage - this must be reported to the delivery company immediately after receipt of the goods delivery.
- Modifications or changes to the machine or if no original spare parts or standard parts were used for repair work.

## **12 Conduct when dealing with accidents**

As a matter of routine, ensure you have up-to-date information about available first aid options.

After the initial care of injured people, immediately inform your supervisor of any personal injuries, damage to the machine or material damages.

In the event of the specific use of emergency vehicles, state the severity of the injury and damage.

In a disaster situation, immediately leave the machine (fire).







## **Note**

In the pursuit of technical advancement, Binderberger Maschinenbau GmbH continually works to improve its products. We reserve the right to make changes from the illustrations and descriptions in this operating manual/replacement parts list. This cannot give rise to any claim to changes on machines that have been already delivered. The technical data, dimensions and weights are not binding.

Errors excepted.

Dealer's stamp:

Name plate:



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