

Firewood Processor SSP520



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Read the operating instructions carefully before
commissioning the machine!

This manual is valid for:

Model	Article number
SSP520 D	SSP-M52-1
SSP520 E	SSP-M52-2

Version of this manual: SSP520 1.0

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1 EC Declaration of Conformity

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

Designation: _____
Type: SSP520
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
Binderberger Maschinenbau GmbH
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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:

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

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 52cm 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.

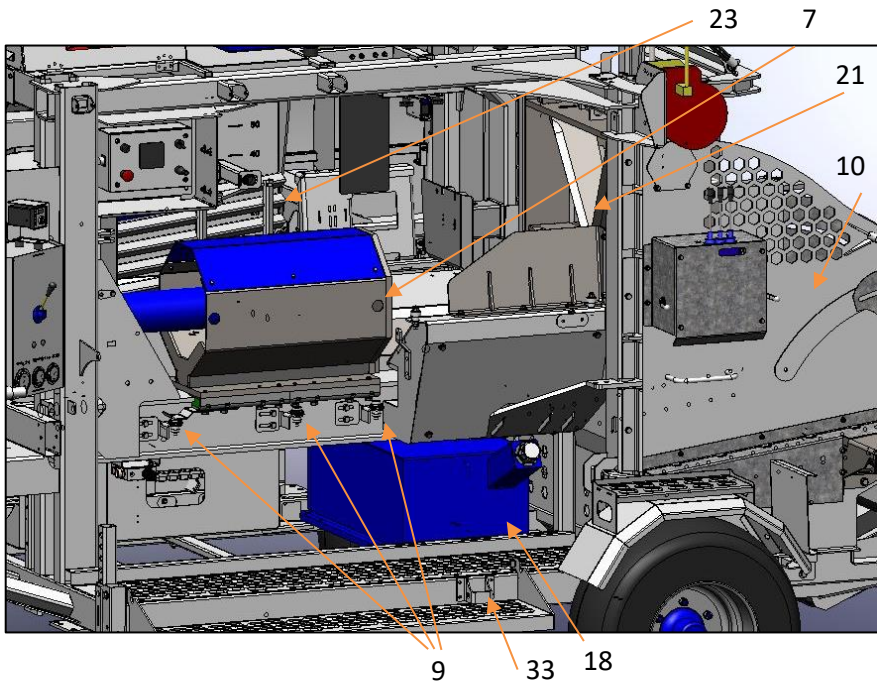
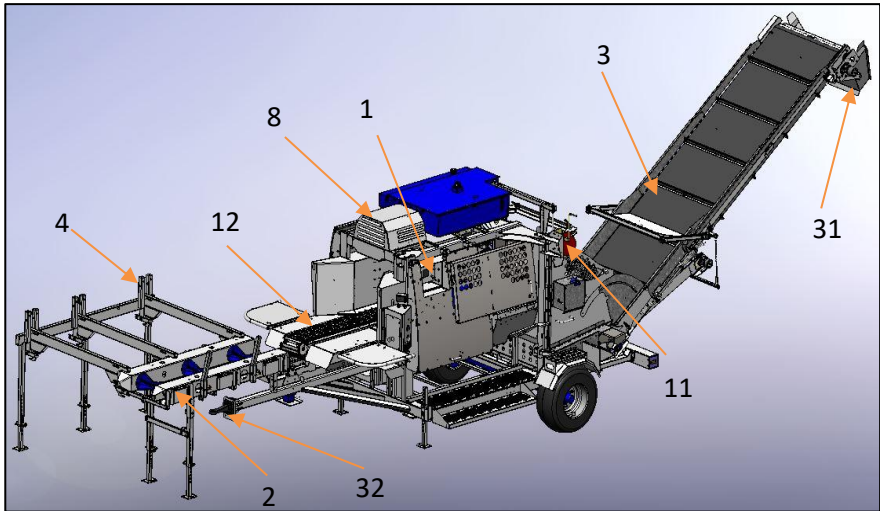
The working process can then be triggered. The firewood automat can be started either in semi-automatic or in fully automatic mode. In semi-automatic mode, the infeed, sawing and splitting functions are operated manually via a joystick. In fully automatic mode, these functions run automatically.

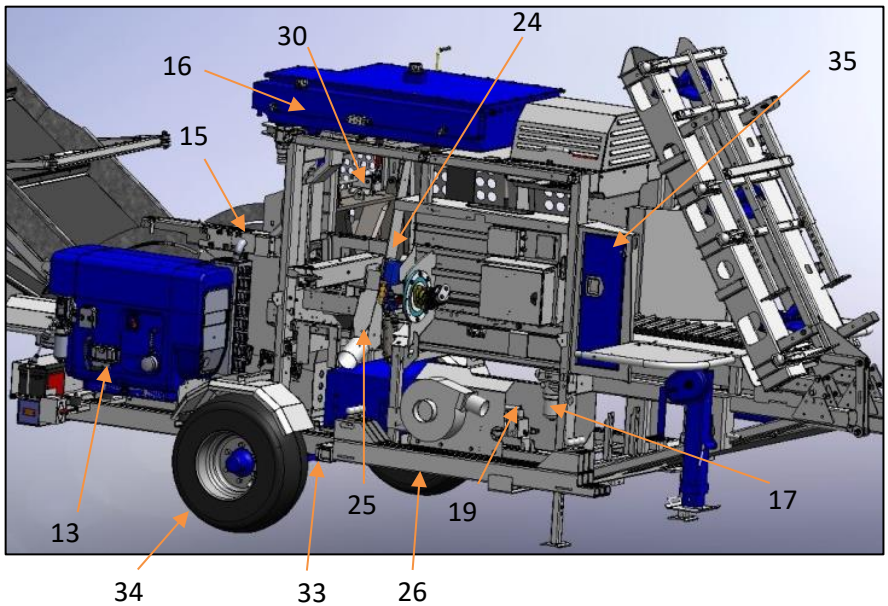
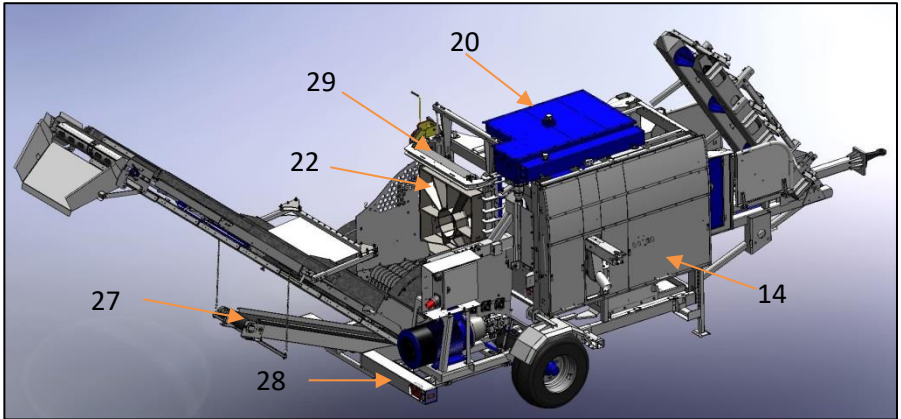
The log is moved into the sawing area until the timber starts to move at the fixed stop, thus giving the signal for further processing. The sawing process is initiated. In this step, the log is first clamped and then the log is cut by the hydraulic chain saw.

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 Overview





3.3 Parts explanation

Number	Component
1	Control
2	Infeed trestle
3	Outfeed conveyor belt
4	Feeder
5	Front protective hood
6	Sliding door
7	Handle
8	Oil cooler
9	Pusher sensor
10	Dirt separator (or wood chute)
11	Cable winch for height adjustment of the conveyor belt (hydraulic)
12	Infeed conveyor belt
13	Diesel engine (operating instructions enclosed) or electric motor
14	Rear protective cover
15	Adjustable fixed fence (with length measurement)
16	Chain oil tank
17	Oil filter
18	Diesel tank
19	Control block
20	Hydraulic oil tank
21	Front splitting wedge
22	Rear splitting wedge
23	Timber clamp
24	Harvester
25	Chip ejector (or chip extraction flange)
26	Support for infeed trestle
27	Residual wood belt incl. vibrating plate
28	Bumper (with or without lighting or 40 km/h)
29	Splitting wedge holder
30	Splitting wedge lock
31	Transition chute
32	Drawbar (or bottom hitch)
33	Holder for draw-in frame
34	Axle (trailing axle, hydraulic, - air braked)
35	Toolbox

3.4 Technical data

Type	SSP520 E	SSP520 D
Weight*	4680 kg	4680 kg
Drawbar load*	850 kg	850 kg
Working height	1m	
Chainsaw	Chain Tensioner F2L	
Chainsaw bar	JPS F2	
Power	30kW	45,1 kW
RPM	1450	1450
Fuse	63 A	---
Splitting force	30 t	
Wood length	25-50cm	
Max. Wood diameter	52 cm	
Hydraulic oil	120 Litres HVI 46	
Diesel tank capacity	---	70 l
Splitting speed	10 cm/sec	
Return speed	12 cm/sec	
Chain tensioning pressure	30 bar	
Working dimensions L x W x H*	11000x 2500 x 2750 mm	
Transport size L x W x H*	6160 x 2480 x 3370 mm	

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


3.5 Equipment

Item number	Equipment
	Feeder
SSZ-ZAL-61	Feeder stand 2m, hydr. Foldable
SSZ-ZAL-04	Feeder frame 2m, hydr. Stationary
SSZ-ZAL-05	Feeder frame 3m (4 hydr. Driven star rollers) stationary
SSZ-ZAL-06	Lower hitch (approx. 450mm hitch height for 3-point crane)
SSZ-ZAL-07	hydr. Preparation for cross conveyor
	Splitting wedge
SSZ-ZAL-18	2-4-6 / 18—piece box blade PRO-System
SSZ-ZAL-19	Scaling on the Pro-System
	Conveyor belt with options
SSZ-ZAL-21	Loading conveyor belt 4,6m, hydr. Telescopic, 120cm belt width
SSZ-ZAL-22	Transition chute from end of conveyor to packing station
SSZ-ZAL-23	Manual winch for loading conveyor
SSZ-ZAL-24	Hydraulic winch for loading conveyor
SSZ-ZAL-26	Hydraulic preparation for packing machine
	Chip sorting – Wood chutes
SSZ-ZAL-27	Wood chute after splitting unit (only in connection without conveyor belt and without chip sorter) Chip sorter without end flap
SSZ-ZAL-28	Chip sorter without end flap
SSZ-ZAL-29	Chip sorter with end flap
SSZ-ZAL-30	Automatic chip discharge
SSZ-ZAL-31	Hydr. Driven chip discharge

	Chassis
SSZ-ZAL-32	Stationary base
SSZ-ZAL-33	Running axle unbraked incl. lighting
SSZ-ZAL-35	Running gear 25 km/h incl. equipment, compressed air and lighting
SSZ-ZAL-56	Hydraulic support log
SSZ-ZAL-64	Chassis 40 km/h incl. equipment, compressed air and lighting
	General equipment & accessories
SSZ-ZAL-39	Electric throttle adjustment (diesel engine)
SSZ-ZAL-40	Oil cooler
SSZ-ZAL-43	Saw chain, 89 driving links (for 2,0mm bar
SSZ-ZAL-47	Harvester bar 75cm, 2,0mm
SSZ-ZAL-49	Starter package 1xSchwert, 3x chains, je 1x limit switch each, 1x Filter set
SSZ-ZAL-61	Service Set for Hatz 3 Cylinder Engine (2 Oil filter, 2 fuel filters)

4 Transport of the Machine

4.1 Safety instructions during transport

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

4.2 Transport

Before transporting the machine, all points of decommissioning must be carried out.

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

When driving on public roads, a maximum width of 2.50 m must not be exceeded.

Furthermore, the lighting must be checked every time the machine is driven.


The machine must be cleaned of the coarsest dirt.


Checklist:

- Infeed trestle folded up and stopcock closed (5.7)
- Retract discharge conveyor and lock with transport lock (5.10)
- Move pusher into transport position (5.12)
- Fold up footboard (5.13)
- Lighting in order


5 Set up of the machine

5.1 Safety instructions for set up

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

WARNING	
	<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">• <i>Always check the machine for transport damage before setting it up.</i>• <i>Set up the machine on a level and firm surface!</i>• <i>Use the support feet of the machine!</i>• <i>Ensure that no persons are endangered by the installation and that there are no persons or foreign objects in the danger zone.</i>• <i>Machine connections Lay cables and hoses so that there are no tripping hazards!</i>• <i>The machine may only be operated when in perfect condition!</i>

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">• <i>Check electrical connections before starting</i>• <i>Check safety devices for proper functioning</i>• <i>Check all bolts and screw connections for tightness before starting work!</i>• <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>• <i>Check oil cooler for cleanliness</i>• <i>Check electrical and hydraulic connections, as well as lubricant supply and hydraulic oil level (Attention: Never work without chain lubricating oil).</i>• <i>At outdoor temperatures below 0°C, let the machine run for approx. 5 minutes at idle speed without load.</i>

5.3 Electrical supply line

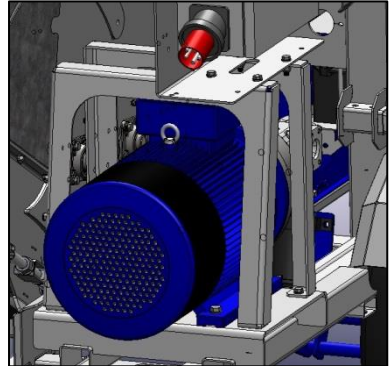
The fuse protection and dimensioning of the electrical supply line must be selected by an electrician in accordance with national standards and depending on the line length!

Connect the 400V/63A supply cable to the plug.

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

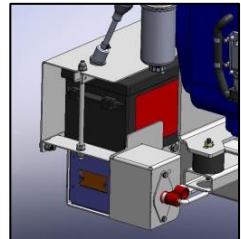
5.4 Check direction of rotation of the motor (only for electric machines)

Switch on the motor only briefly and check the direction of rotation on the fan blade of the motor. You can see the correct direction of rotation from 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. To change the direction of rotation, please contact an electrical specialist.

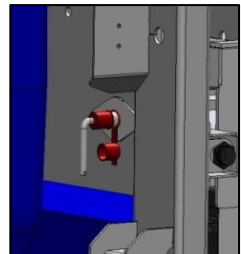


5.5 Switching the Batterie main switch (only Diesel-Engines)

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 and the display on the engine is switched on.

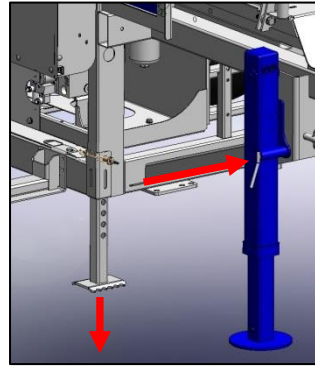
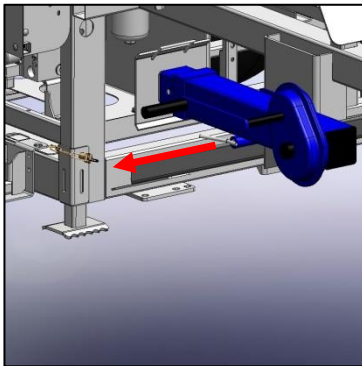


5.6 Bring the machine into working position

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

Set the support foot in position:

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

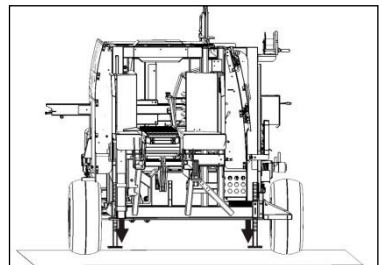


Secure the machine with chocks to prevent it from rolling away and, with the aid of the support foot, crank it upwards until the load on the towing jaw is completely relieved.

Now the Firewood Processor can be disconnected from the towing vehicle.

Raise the machine with the aid of the support foot using the hand crank or, in the case of the hydraulic support foot, with the aid of the control unit until it reaches a horizontal position.

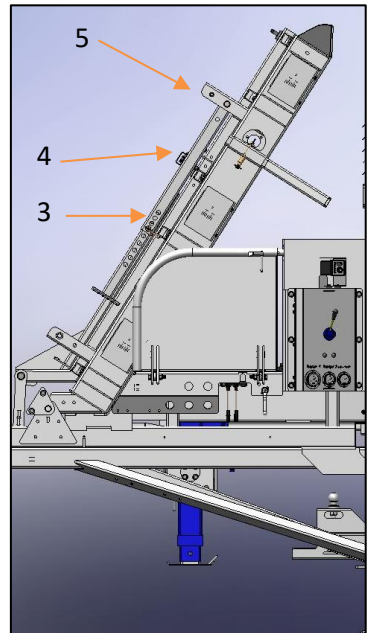
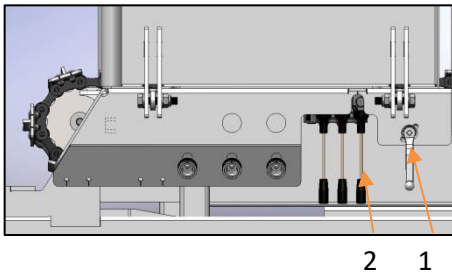
Now the supports at the front of the machine must be adjusted to the ground and the support foot must be relieved!



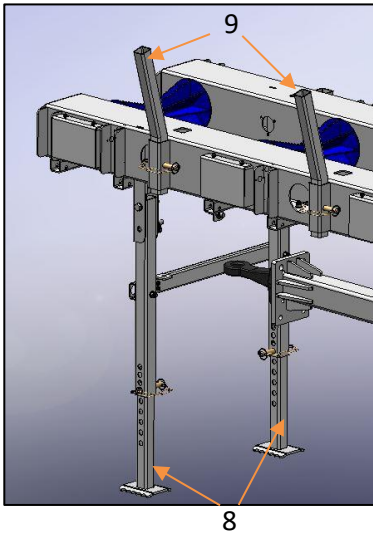
5.7 Unfold the feeder

Turn the stopcock (1) 90° anticlockwise (direction of passage).
Now you can tilt the feeder by pressing the right lever (2).

However, do not tilt the feeder completely into its horizontal position, because the support legs (3) must be folded out first. To do this, turn the spring latch (4) half a turn until it is completely pulled out. Swivel the legs by 90° and secure them with the two spring locks (5) on the inside of the supports.



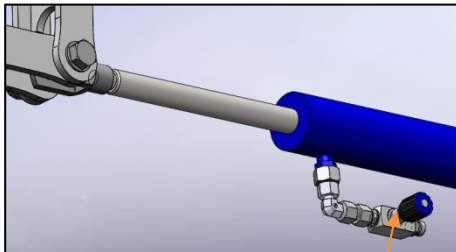
5. Set up of the machine



After that, the feeder can be brought into the horizontal position.

The two adjustable feet (8) can be used to adapt the feet 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.

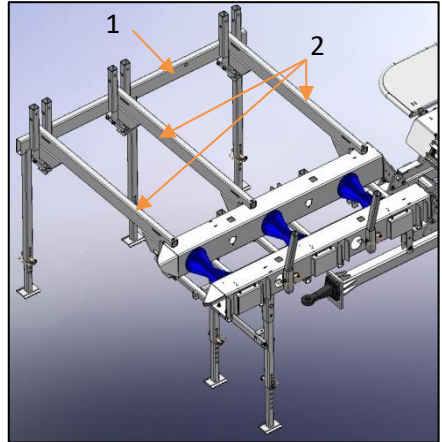


The lifting and lowering speed can be adjusted with the handwheel on the throttle.

10

5.8 Support frame

The feeder consists of the support H (1) and the 3 transverse tubes (2). To set up, hang the first transverse tube with the ball into the socket of the feeder. Now place the support H to the feeder and hang the transverse tube into the socket here as well. The two ball cups can now be locked. Proceed in the same way with the other two transverse mould tubes. Finally, adjust the feet of the support H so that the transverse mould tubes are horizontal.

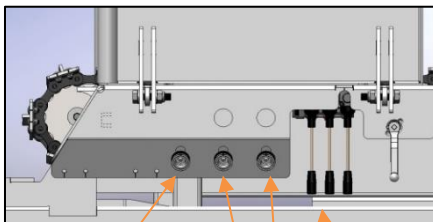
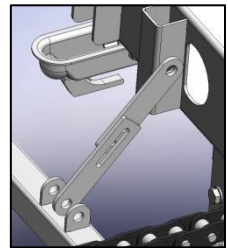


5.9 Attachment cross conveyor

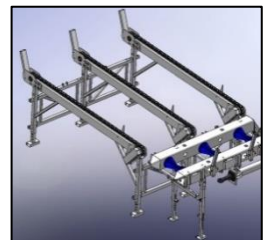
A cross conveyor can be optionally added to the feeder.

Connections:

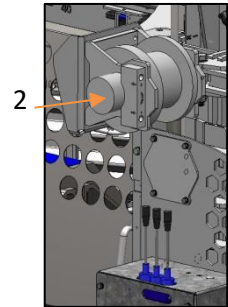
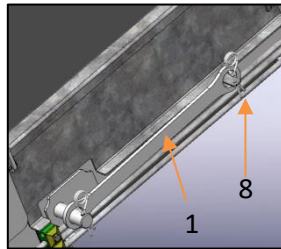
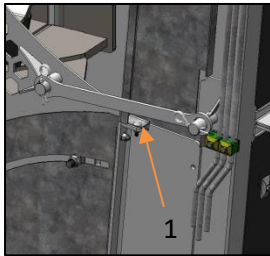
1. pressure
2. return
3. leakage oil line
4. control lever



3 2 1 4

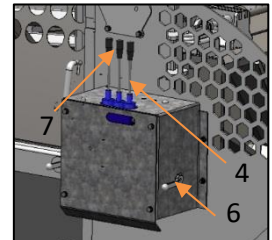


5.10 Bringing the discharge conveyor belt into working position



First remove the transport lock (1) and secure it with the cotter pin (8) on the lug provided for this purpose on the conveyor belt. Now, using the manual cable winch or hydraulic cable winch (2) with pulley block option on the wooden holder (3), bring the conveyor belt into the desired position either by manually cranking the manual cable winch or by operating the right-hand control lever (4).

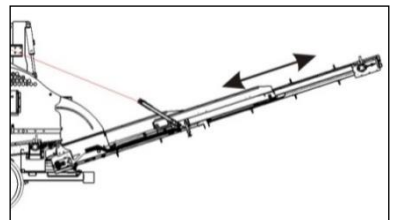
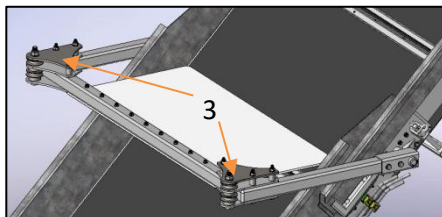
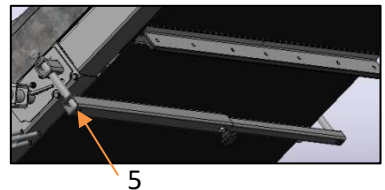
Now remove the protective bracket (5) which serves to hold the conveyor belt mat on the underside of the conveyor belt.



Open the stopcock (6) of the control unit (vertical - direction of flow).

Then, using the middle lever (7), extend the conveyor belt so that the conveyor belt mat is well tensioned.

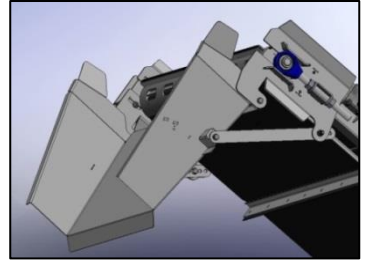
Finally, close the stopcock (6) (horizontal position) so that the conveyor belt does not lose its set position and remains taut.



5.11 Adjusting the transition slide

The transition slide can be adjusted to 4 positions.

Depending on the setting, the angle of the slide changes



5.12 Move the slider into working position

First open the large rear door upwards.

Now remove the two locking bolts (1) and pull the slide out to the rear to bring it into the working position. Lock the slider again with the two bolts and secure them with the enclosed cotter pin.

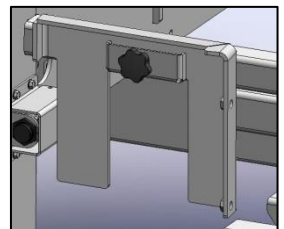
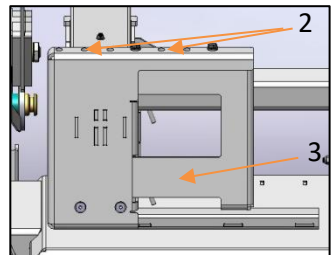
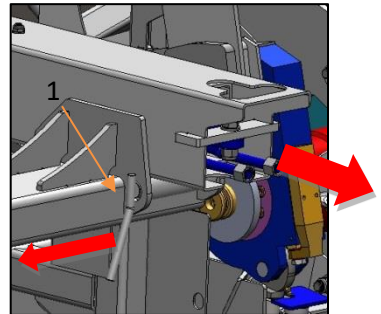


If finished log lengths of more than 33cm are produced, the slider plate (3) must be attached to the slider.

To do this, simply unscrew the two M10 screws (2), pull out the plate (3) and fix it again with the two M10 screws (32) (+ spring washer + washer).

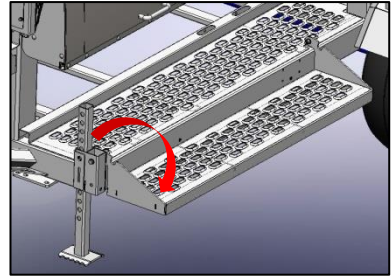
If the slider plate is not needed, fix it in the holder next to the door sensor at the rear with the star screw.

If finished log lengths of more than 33cm are produced, the slide plate (3) must be attached to the slide.



5.13 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.

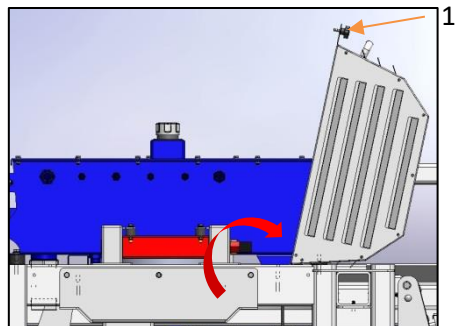


5.14 Oil cooler

On dry days when the ambient temperature is 30°C and above, open the oil cooler during continuous operation (continuous operation, compared to 8h shift per day).


To do this, unscrew the star screw (1) and carefully fold back the cover.


Before closing the cover, carefully clean the cooling fins.




6 Operation

6.1 Safety instructions during operation

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

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

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

CAUTION



Risk of injury due to negligent use of personal protective equipment!

- *Wear protective goggles, ear protection, protective gloves and safety shoes with steel toecaps!*


CAUTION



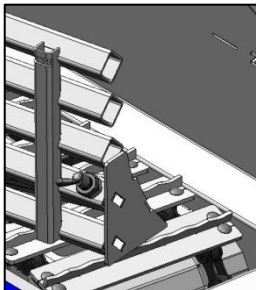
Risk of injury during operation

- *Only one person may work on the machine at a time!*
- *Make sure that no other persons are in the area of the machine.*

6.2 Important notes during operation

<h1>NOTICE</h1>	
	<ul style="list-style-type: none">• <i>The firewood processor with electric drive must not be operated in the rain.</i>• <i>The operating personnel must ensure that no unauthorised persons are in the working area of the machine.</i>• <i>Before switching on the machine, inform yourself about the correct behaviour in the event of a malfunction.</i>• <i>Before switching on the machine, carry out the points listed in the chapter "Duties before starting work".</i>• <i>After switching off the machine, always carry out the work steps in the following chapter "Decommissioning".</i>• <i>If the operator leaves the machine unattended, it must be shut down and secured against unauthorised restarting.</i>

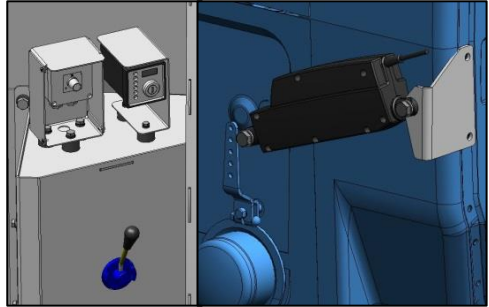
6.3 Log lifter



The log lifter is only used for crooked wood. It is fastened with a spring bolt and takes over the task of lifting the crooked wood so that the saw does not get stuck.

6.4 Electric throttle control

To facilitate operation and optimise the performance of the drive due to temperature fluctuations, it can happen that the engine stalls at the lowest setting of the potentiometer.



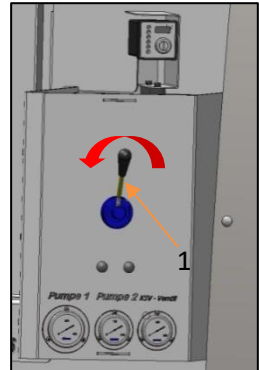
In this case, simply increase the setting of the potentiometer for idle speed until the engine runs smoothly. Adjust the potentiometer from left (min.) to right (max).

6.5 Reversing the direction of rotation on the log feeder

If there are problems with the wood intake:

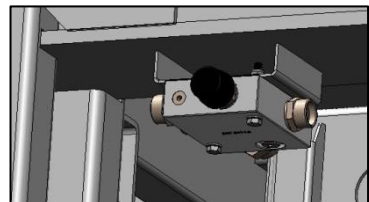
It is possible to reverse the direction of rotation of the feeder. This is necessary if the wood gets stuck when being fed in.

The lever for reversing the direction of rotation (1) is located to the left of the control above the pressure gauges.

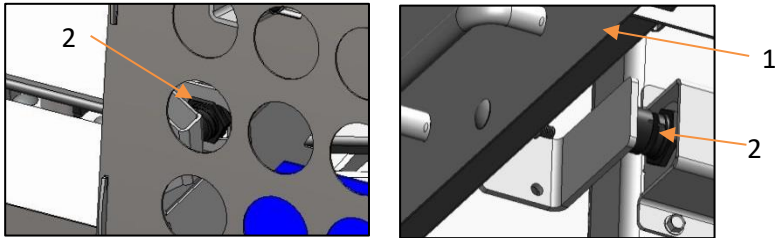


6.6 Pusher-speed

Speed Control Valve:
for speed control of the empty travel
from the pusher



6.7 Safety circuit



The firewood processor is equipped with a safety circuit on the sliding door and on the rear protective cover (1). The safety doors are monitored by means of a sensor on the frame and its counterpart (2) on the sliding door and the protective cover. If one of the two protective doors is opened, the machine stops.

If the safety doors are closed, work can continue.

Important! If a safety door is opened and closed too quickly, the machine may not be able to be switched on. If this happens, proceed as follows:

1. open the safety door.
2. Wait a few seconds and then close the door.
3. switch the control unit off and on again at the main switch.

If the machine still does not work, check the sensors!

There is a crosshair on the sensors and on the counterpart, which must always be exactly aligned!

To ensure consistency and reliability, the distance between the sensor and the counterpart must always be between 1 and 3mm parallel.

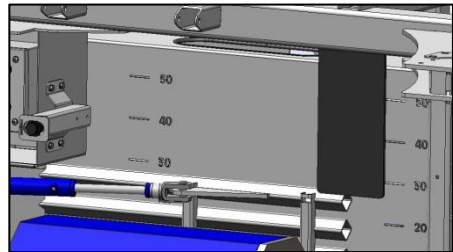
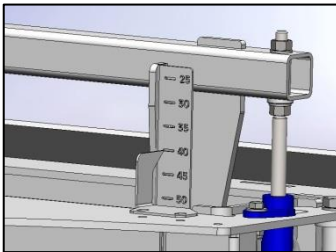
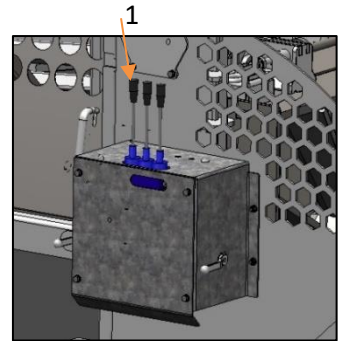


6.8 Height adjustment of the box blade

The splitting wedge is hydraulically height-adjustable as standard. The control lever (1) for this is located by the levers for the discharge conveyor belt. The left lever is used to control the splitting wedge.

Always set the splitting wedge to the centre height of the wood.

If the splitting wedge is moved downwards during operation, the machine **MUST** be switched off at the control panel (1) and the split wood removed from under the splitting wedge.



The measuring scale can be used to set the ideal splitting position. It serves as a rough guide to the correct setting of the box wedge.

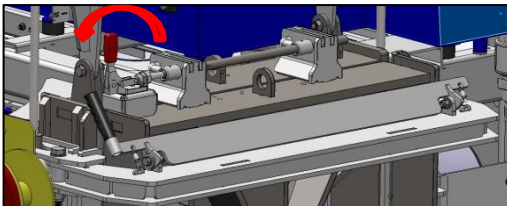
The exact position is set according to the diagram "Splitting diameter".

The wood diameter can be read off the feed plate.

6.9 Moving the second splitting wedge

Move the wedge upwards so that you can reach the lever of the toggle clamp without danger.

1. to release the connection between the two wedges, push the knee lever down into the horizontal position by pulling on the hand lever.
2. fold the retaining bracket in the direction of the wedges.



Move the wedge so far upwards that the retaining bracket folded forwards engages in the second wedge.



Since the connection between the two splitting wedges has been loosened, only the front wedge moves when the control lever is operated.

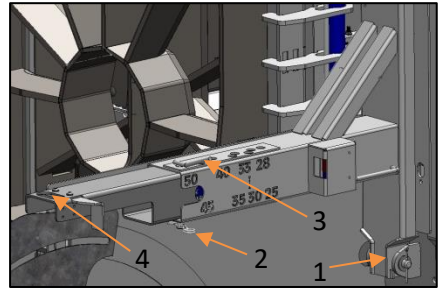
If you want to use the second blade again, extend the first blade to its maximum position and fold the retaining bar back.

Lower the blade a few centimetres and fold the retaining bar forward again. Lower the wedge so far that you can reach the lever of the toggle clamp without danger and push the lever of the clamp back into the vertical position. Make sure that the lever is safely moved beyond the dead centre.

6.10 Adjusting the Log length by means of a fixed stop

The fixed stop is secured against overload by a shear bolt (1). In the event of an overload, this breaks off and allows the fixed stop to swing out backwards.

The log length can be adjusted in steps within a range of 25-50 cm. The log length is adjusted to the right of the box cutter.



To adjust, first remove the safety cotter pin (2) from the bolt.

Now the bolt (3) can be pulled out and the wooden stop on the handle (4) can be brought into the desired position.

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

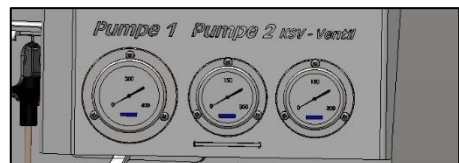
6.11 Reading the pressures of the hydraulic system

To read the pressures of the hydraulic system, there are three pressure gauges on the SSP to the left of the control.

Pump1 - high pressure pump: When the machine is idling, the pressure gauge must show approx. 25 bar. This is the stand-by pressure for the hydraulic system. Under load, this pressure gauge shows the actual pressure.

Pump2 - Load-sensing pressure: Sectional pressure of the discharge conveyor, infeed conveyor, timber holder, pusher, saw feed cylinder and the hydraulic fixed stop.

KSV-valve - chain tensioning pressure: approx. 30-35 bar, indicates the pressure of the saw-chain tension.



6.12 Changing box wedge

Change the rear wedge:

Remove the screw on the wedge holder on one side and fold the wedge holder back.

The sling can now be attached to the middle strap and lifted out of the guide.

Change the front wedge:

(prior removal of the rear wedge is required).

To do this, remove the wedge including the support (1). To prevent damage, both cylinders must be retracted.

Now remove the two nuts (2).

The support can now be lifted out together with the wedge.

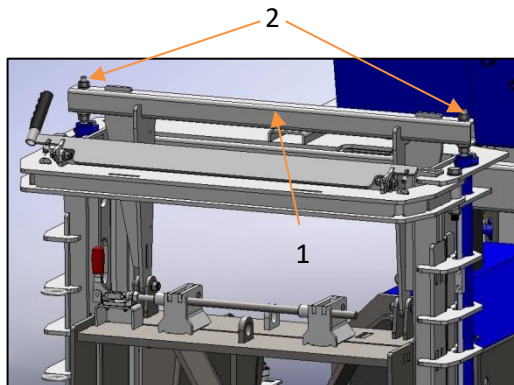
When removed, the blade can now be unscrewed from the gallows.



When installing and removing the wedge, make sure that it is lifted out/inserted evenly.

When reinserting the two wedges, it helps to grease the guide beforehand.

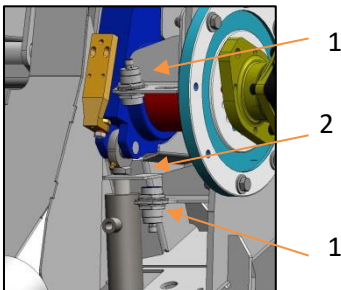
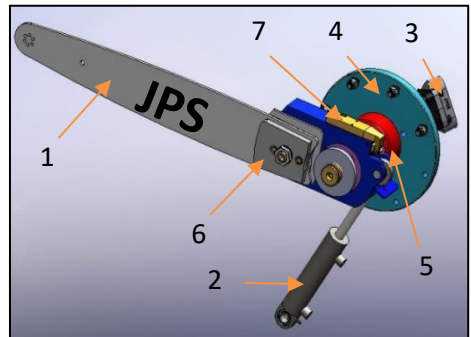
Again, only insert the wedges one after the other (front wedge first).



6.13 Harvester head

- Always wear protective gloves when working on the chain. Remove the chain when service or adjustment work is required.
- 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 spanners and protective gloves when working on the machine.

- 1 Saw bar
- 2 Saw cylinder
- 3 Hydraulic motor
- 4 Mounting flange
- 5 Bearing housing
- 6 Saw bar holder
- 7 Chain tensioning cylinder



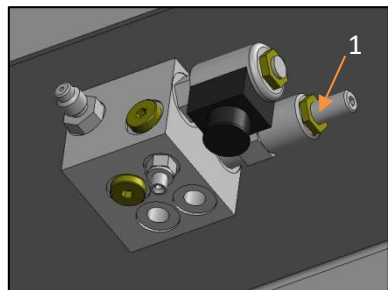
The sensor (1) must have 5mm to the sensor plate (2) when retracted or extended.

6.14 Adjusting the chain tension pressure

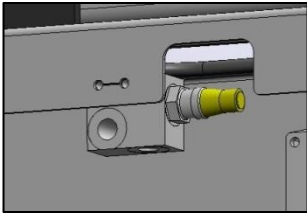
If the chain jumps off the guidebar during sawing, the tensioning pressure may be too low. The chain tensioning pressure must be readjusted. The tensioning pressure is measured at the pressure measuring point, which is located in front of the pressure control valve.

If readjustment is necessary, follow the steps below.

1. remove the saw chain (see “**6.16 Changing the chain**”).
2. start the machine and let it idle. If no chain is inserted, the bar moves to the outer position and stays there.
3. Check the back pressure at the control panel at the front of the machine.
4. Set the back pressure of 30-35 bar on the pressure control valve (1).
5. Important! Never set a pressure without a pressure gauge.
6. When the back pressure is within the tolerance, counter the adjusting screw again.
7. Put the chain back in place.



6.15 Adjustment of the pressure relief valve



The pressure for extending the saw cylinder is set with the help of the pressure relief valve. The valve must be set to 30bar, which must be checked at the measuring point (see fig.).

6.16 Changing the saw 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.

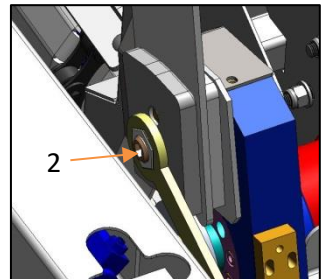
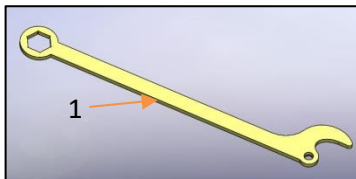
New chains must be placed in clean chain lubricating oil overnight before fitting. This allows the chain oil to penetrate all the chain links.

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 be caused by a dirty chain or dirt particles in the lubrication channels. The mobility of the guidebar may be restricted by dirt particles. If this is the case, the centreboard holder must be disassembled and cleaned.
6. **Important** Always wear gloves and suitable work clothes when changing the chain.

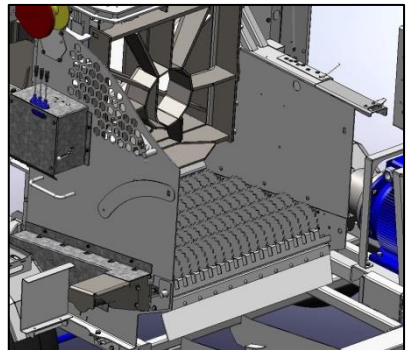
6.17 Replacing the saw bar

1. Remove the chain.
2. Using the tool supplied (1), loosen the hexagon nut (2) and pull out the guidebar.
3. Insert the guidebar and tighten the hexagon nut.
4. Attach the chain.



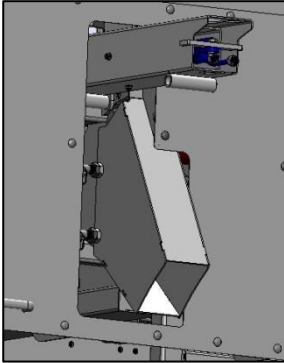
6.18 Dirt separator

For safety reasons, the dirt separator must never be left open at the rear. It must be lubricated at continuous intervals (lubrication schedule).

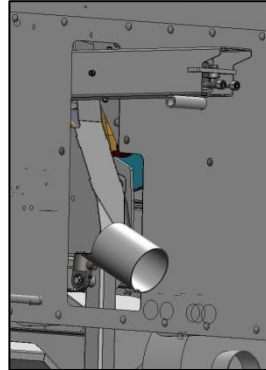


6.19 Chip extraction

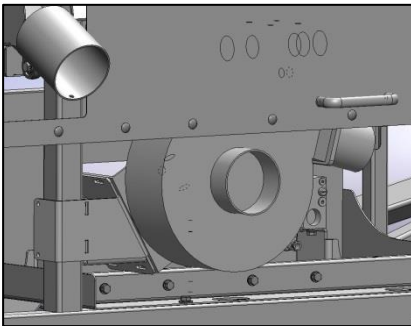
Chip ejection (1):



Chip suction (2):



The chip suction flange (2) is only permitted in combination with a chip suction device. Otherwise, the hopper may become clogged.



The optional chip extractor can be attached to the mould tube below the harvester by means of a fan adapter.

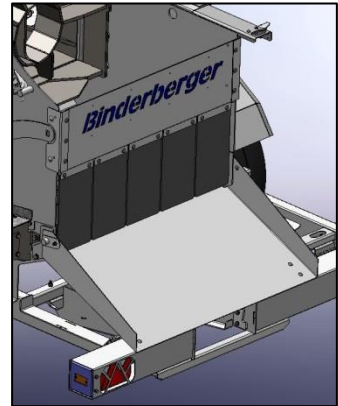
The hydraulic motor is connected directly to the hydraulic pump.

When connecting the chip suction flange to the chip extractor, make sure that the hose is not kinked. The hose must also be removed before transport on the road.

6.20 Dirt separator with a curtain

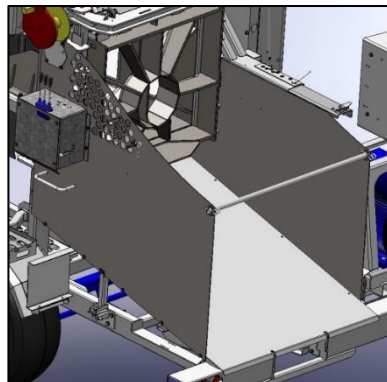
If the dirt separator is used without a conveyor belt, this protective curtain (see illustration) is fitted.

The individual flaps are designed in such a way that they always close themselves by their own weight, thus ensuring safety.



6.21 Wood slide

Optional if no dirt separator is fitted.

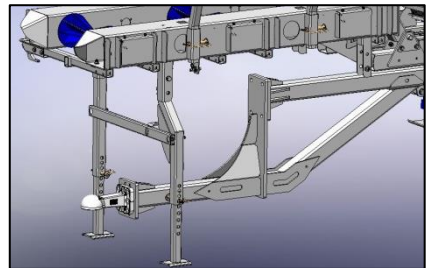
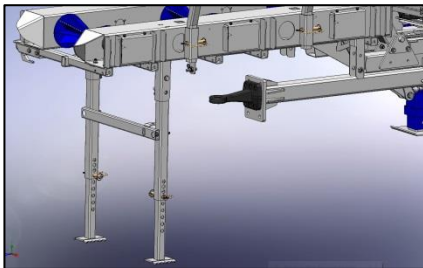


6.22 Hitching

With normal hitching, the standard folding foot is installed on the draw-in stand.

For bottom hitching, the assembly group "cranked folding foot" must be installed.


The hitching is done either by means of a flange towing eye or, with the lower hitch option, by means of a flange towing eye or flange towing eye K80.




7 Shutdown

7.1 Safety instructions for the shutdown procedure

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

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

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

7.2 Switch off the drive

To avoid damage to the machine due to overheating, let the machine run for several minutes after full load before switching off the drive unit.

Only when the oil cooler switches off may the diesel unit be switched off/the electric motor switched off.

7.2.1 Diesel engine

After a longer period of full load, allow the machine to come back to operating temperature for a few minutes without load on low throttle before shutting it down.

If you are using an electric engine adjuster, turn it down so that the engine still runs smoothly.

After switching off the engine, wait until the display on the engine has gone out and only then switch off the main battery switch (see chapter 5.5).


7.2.2 Electric drive


1. Switch off the drive by pressing the switch!
2. Disconnect the 400V/64A supply cable from the plug and secure the drive against being switched on again.


8 Maintenance


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


8.1 Safety instructions during maintenance

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


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

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

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

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

8.2 Important instructions during maintenance

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

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 Daily maintenance

Check that:

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

8.6 Duties before the end of work

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 operation 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 naked flames or smoke.

8.7 Cleaning

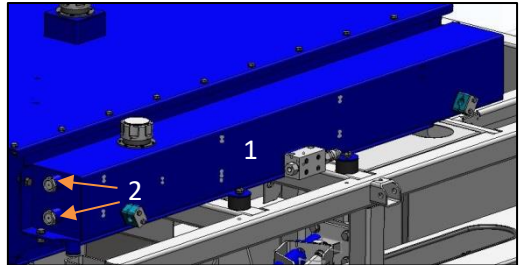
After each operation and before each maintenance, the machine must be cleaned of dirt!

8.8 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!

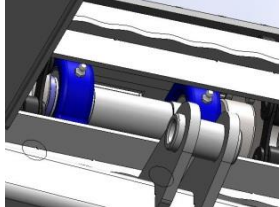
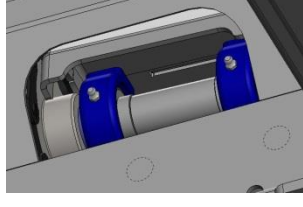
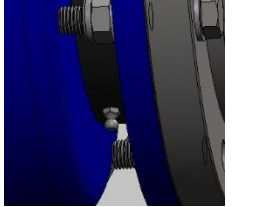
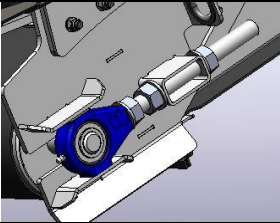
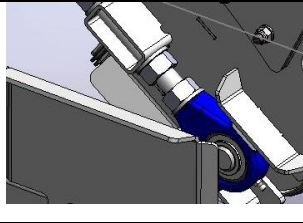
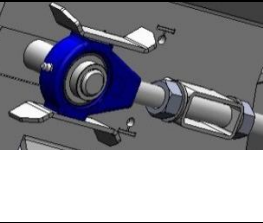
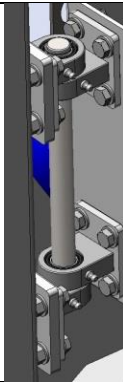

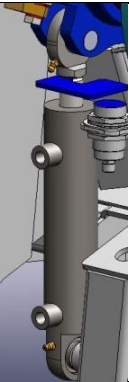
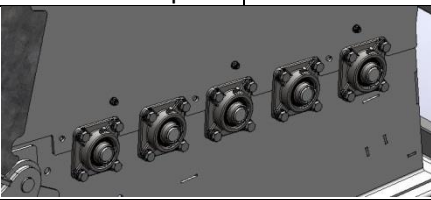
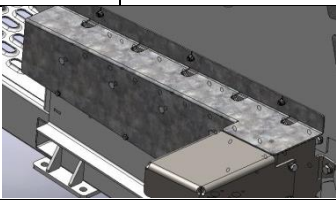
To check the oil level in the chain oil tank (1), there are two sight glasses (2) on the front side, whereby it must be ensured that the upper sight glass is filled up to half and the machine is standing straight.



8.9 Lubrication points

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

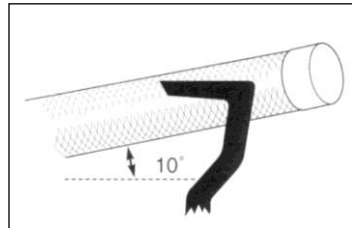
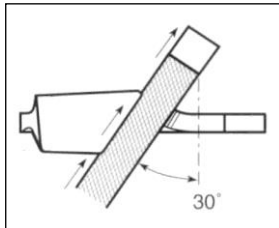
<i>Lubrication point</i>	<i>Pieces</i>	SSP520D	SSP520E
Timber Clamp	4	x	x
Harvester head	2	x	x
Telescopic conveyor belt	3	x	x
Telescopic conveyor belt guides	-	x	x
Infeed conveyor	4	x	x
Support foot	1	x	x
Electric motor	1		x
Guide box wedge	-	x	x
Dirt separator	10	x	x
Feeder	3	x	x

		
Infeed belt – rear end	Infeed belt – front end	Electric motor
		
Conveyor belt – bottom left	Conveyor belt – bottom right	Conveyor belt – top right
	 Feeder	
Timber clamp		Harvester
		
Dirt separator – rear end	Dirt separator – front end	

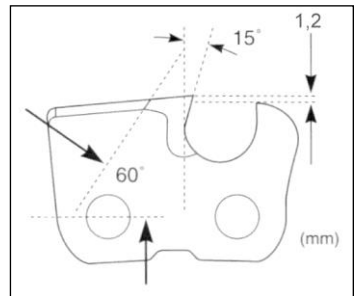
8.10 Sharpening the saw chain

When sharpening the chain, the following dimensions must be observed in order to achieve perfect chain sharpening.

The following dimensions 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 above angles will result by themselves.
- 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 of the chain must not be filed.
- The saw teeth must all be 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 the chain to break.
- 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.

8.11 Maintenance work every 250 hours

Check that:

- no brackets or fasteners are missing.
- the hydraulic hoses are not damaged.
- no damage or breaks have occurred to the saw unit.
- there are no leaks.

All damaged or worn parts must be repaired or replaced.

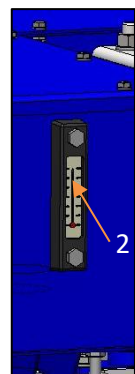
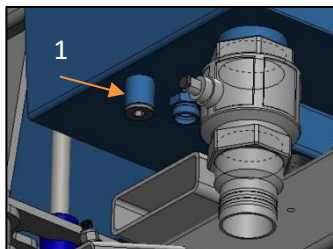
8.12 Oil change

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 (min. 200l) is available.

To drain the hydraulic oil, open the drain plug on the tank (1). When the oil has been drained from the tank, close the tank tightly again. Fill the tank with oil again. There is a sight glass on the tank for the filling level.

After filling, start up the firewood processor and run through a few cycles without wood. Check the oil level again at the sight glass (2) and top up with hydraulic oil if necessary.

If necessary, also bleed the chain tensioning system.

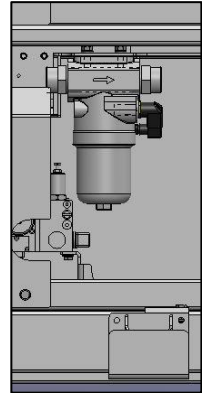


8.13 Changing the oil filter

The oil filter should be changed regularly every 250 operating hours.

The machine must be switched off and cooled down at this point.

1. Open the rear protective cover.
2. Position the oil drain channel under the hydraulic filter.
3. Unscrew the outer filter sleeve.
4. Replace the filter cartridge.
5. Screw the filter sleeve back in place.
6. Check for leaks.
7. Dispose of drained oil and refill hydraulic oil



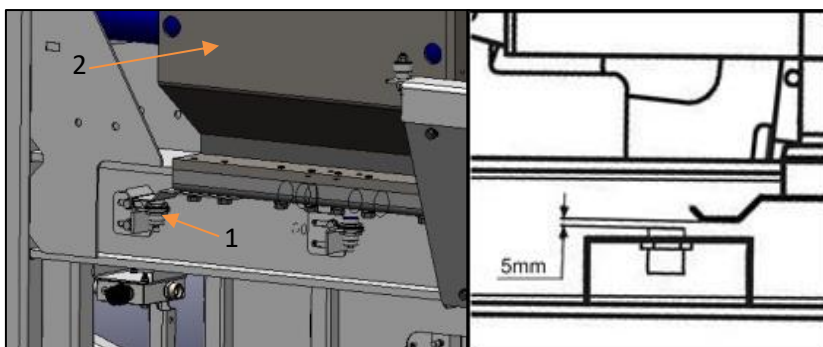
8.14 Changing the hydraulic hoses

All hydraulic hoses must be replaced after 5 years due to ageing and durability.

Otherwise, damage (brittle spots, etc.) to the hoses can cause serious injuries.


8.15 Adjusting the sensors on the pusher


1. Open the protective covers. There are two sensors (1) on the I-beam that determine the extended and retracted position. The counterpart is on the pusher (2), a curved plate at the rear left. This must pass 5mm above the sensors.
2. Move the sensors in such a way that the pusher extends or retracts completely, but still does not go to overpressure.
3. Tighten the sensors properly so that they cannot loosen by themselves.
4. Then close the cover again.




9 Help in case of malfunctions

9.1 Safety instructions

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

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

CAUTION	
	<p><u>Risk of injury!</u></p> <ul style="list-style-type: none">• <i>Allow the machine to cool down to ambient temperature before carrying out any maintenance work.</i>• <i>Avoid contact with skin and eyes</i>• <i>Use suitable protective equipment (gloves, safety goggles).</i>

Also read the chapter "General safety instructions".

9.2 Troubleshooting

Error	Cause	Error correction	Look up
Saw chain comes off guide bar	Chain tensioning pressure is too low	Adjust the chain pressure	6.14
	Leaky non-return valve	Check the non-return valve, clean or replace it.	Contact a specialist
Saw chain is not lubricated	Lubrication tank is empty	Fill the tank with chainsaw oil	8.8
	Air in lubrication system	Bleed the system	Contact a specialist
	Hydraulic hoses of the lubrication system defective	Replace hydraulic hose	8.14
	Leakage in the chain lubrication pump	Check chain lubrication pump, clean or replace it	Contact a specialist
	Machine tilted at an angle	Move machine into horizontal position	5.6
Hydraulic oil gets very hot	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	8.13
	Not enough hydraulic oil in the system	Check oil level	8.12
	Machine is tilted	Bring machine into horizontal position	5.6
Saw chain comes off guide bar	Chain tensioning pressure is too low	Adjust the chain pressure	Contact a specialist
Long sawing times	Chain is blunt	Sharpen chain	8.10
Conveyor belt doesn't run or jerks	Not enough hydraulic oil in the system	Check oil level	8.12

Splitting cylinder does not retract	Limit switch does not switch	Check limit switch	8.15
Splitting cylinder does not advance			
Splitting cylinder advances and does not switch off			
Splitting cylinder retracts and does not switch off			
Infeed belt does not run	Limit switch triggered	Check limit switch	Contact a specialist
	Flow divider incorrectly set	Adjust flow divider	
Infeed belt does not switch off	Limit switch doesn't turn off	Check limit switch	
Chain saw does not move downwards / upwards	Speed regulator of the chain saw has tripped check limit switch	Adjust speed	6.14
	Limit switch of the chain saw has triggered	Check limit switch	6.13
Saw motor doesn't run	Solenoid valve does not switch	Diagnostic menu / manual operation	Contact a specialist
Outfeed conveyor belt doesn't run			
Wood holder does not extend / retract			
Pusher does not push / retract			
If the malfunctions cannot be eliminated according to the above instructions. Please contact your dealer! He will be happy to help you.			

10 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.

11 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).

Dealer's stamp:

Name plate:



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