English

Hakki Pilke 38 Easy

LOG SPLITTER

– Instructions for assembly, operation and maintenance
– EU Declaration of Conformity
– Safety instructions
– Warranty terms

The operator must read and understand these instructions before operating the log splitter!

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Contents

1. General information

1.1.Introduction

The purpose of this manual is to ensure that the machine is used in the manner intended by the manufacturer, taking safety into consideration. Everyone operating the machine or working in close proximity to it must carefully study this manual.

Operators of the machine are expected to have basic skills in tractor handling, such as utilising the cardan shaft drive and the tractor's lifting equipment. Before commencing work, operators must also familiarise themselves with the machine's control and safety equipment, and ensure their proper operation.

Additional information on Maaselän Kone Oy's products is available on our Web site at www.maaselankone.fi.
Keep this manual in the immediate vicinity of the machine.

1.2.Purpose of use

The Hakki Pilke 38 Easy log splitter is designed for preparing firewood from pruned wood or logs. The log splitter must not be used to process any treated wood, such as is found in construction waste. Sand, nails or other impurities in the wood may damage the machine.

The maximum diameter for logs to be split is 38 cm. This limit must not be exceeded. When estimating the diameter of the log you are about to cut, note that the shape of the log and other factors, such as branches and burrs, make the actual diameter larger, and may prevent the log from being fed to the machine. **The splitting groove is designed for logs up to 60 cm in length. Never cut or split logs that exceed the maximum length.**

1.3.Machine models and basic information

Model	TR	Combi	
Drive	Tractor's cardan shaft (TR)	TR	Electricity
Weight	900kg	980kg	
TR/Electrical drive	min. min. 25 hp/max 500r/min	10kW (min 25 A fuse)	
Height/width/length	in the transport position 2,500/2,460/1,300 (mm)		
Input/output conveyor	2,200/4,000 (mm)		
Blade flange/chain	Flange: 16” groove 1.5mm chain: 67 loops, pitch 0.325”		
Max log diameter	38cm		
Max/min log length	max. 60cm; min 17cm		

The machine’s serial number, manufacturing date, weight, operating voltage (electrically-operated machines) and model are indicated on the grey type plate located on the machine frame, below the locking latch of the output conveyor, on the right side of the operator.

1.4.Operating conditions

- The temperature range within which the machine can be operated is -20 – +30 °C. In the winter, the operator must ensure that there is no risk of slipping in the working area.

- The working area must be even and clear of unnecessary items. No extra or unauthorised persons are allowed in the working area. The working area must also be sufficiently illuminated.
- The machine may not be used indoors.

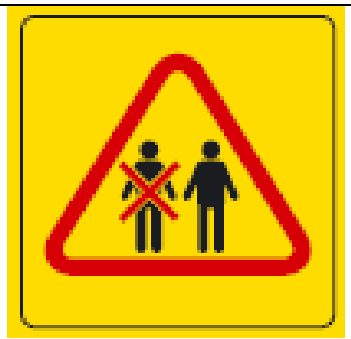
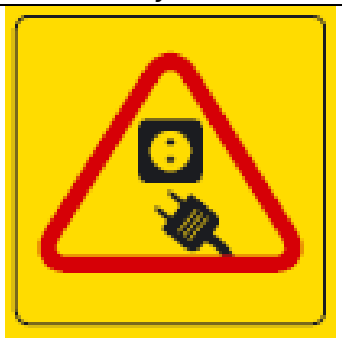
1.5.Safety instructions

- This machine is intended to be operated by only one operator. The danger zone around the machine is 10 metres.
- Persons under 18 years of age may not operate the machine.
- The operator must ensure that using the machine does not cause danger to others and that there are no extra or unauthorised persons in the danger zone.
- The machine may not be operated while under the influence of alcohol or drugs, or when tired.
- The machine may not be operated unless the operator has familiarised themselves with this instruction manual.
- The machine has been designed solely for making firewood.
- The machine must be arranged for transport whenever it is moved. When transporting the machine on a public road, it must be equipped with additional lights.
- The operator is not permitted to modify the structure or operation of the machine, or to remove protective equipment.
- Operators must wear ear protection, sufficiently tight-fitting work clothing, work gloves, protective goggles and safety footwear.
- Before starting up the splitter, the operator must ensure that the machine and its shields are intact.
- When powering the machine with a tractor, the operator must ensure that the cardan shaft is undamaged and that the rpm range is correct. The machine must be attached to the tractor's lifting equipment during operation.
- Before starting up the splitter, the operator must ensure that all the control and safety devices are functional.
- When cleaning or maintaining the machine, it must be disconnected from its power source.

1.6.Noise and vibration

A-weighted sound pressure level at the working location is 87.0 dB (A), and the sound power level is 98.0 dB (A). The vibration values do not exceed 2.5 m/s2.

1.7. Warning symbols

 *Read the machine's manual before operating the machine.*	 *Wear eye and ear protection.*	 *Wear safety footwear and work gloves.*
 *Do not wear any loose items of clothing.*	 *Always grab the piece of wood or log from the side.*	 *Lifting point for forklift*
 *Beware of moving parts.*	 *Beware of the cardan shaft.*	 *Beware of the chain.*
 *Beware of the blade.*	 *Only one person may operate the machine.*	 *Disconnect the power supply before maintenance.*

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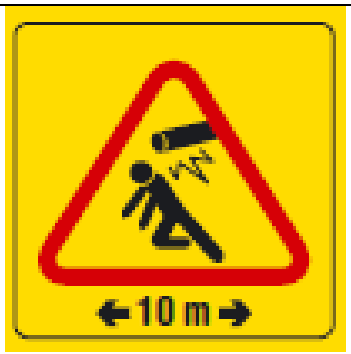
<td> 

The danger zone around the machine 10 metres.</td>
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Risk of crushing</td>
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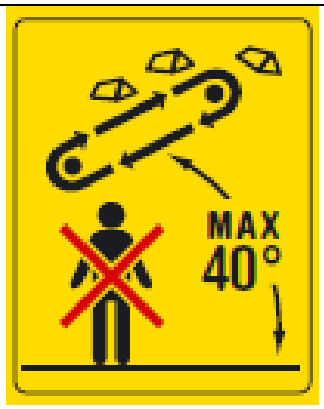
<td rowspan="2"> 

The maximum permitted angle of the conveyor is 40°.
Do not walk under the conveyor.</td>
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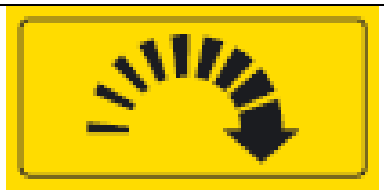
The maximum speed for the cardan shaft is 500 rpm.</td>
<td> 

The rotation direction is in the direction of the arrow.</td>
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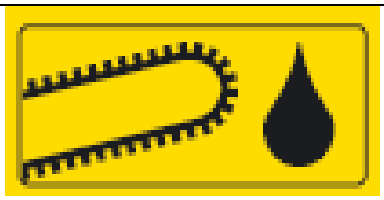
<td> 

Blade chain oil</td>
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Danger zone</td>
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Lubrication point</td>
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2. Receipt and assembly

2.1.Receipt inspection

Dispose of the machine's packaging materials in an environmentally friendly manner.
Check that the splitter has not sustained any damage during transit, and ensure that all necessary parts are included in the package. In case of any defects or damage, contact the retailer immediately.

2.2.Lifting and moving the machine

When moving the machine, make sure that the moving and lifting capacity of your tractor or forklift is sufficient for the machine's weight. Only lift the splitter by the indicated lifting points or with the lifting equipment of the tractor.

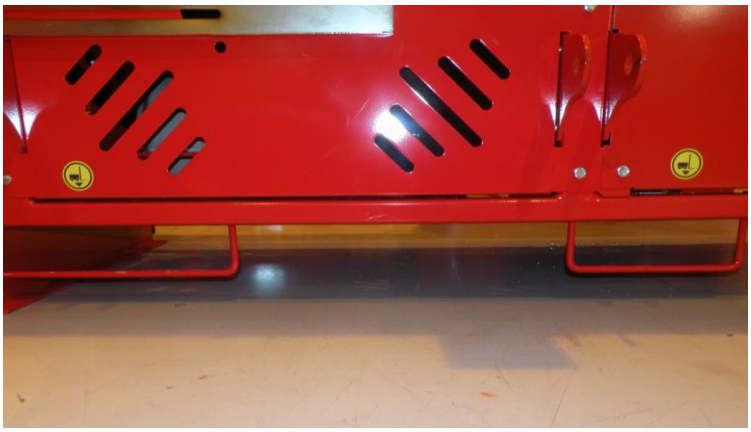

Figure 1. Lifting points

When connecting the machine to the tractor's lifting equipment, the tractor cabin must be free of people in order to prevent any accidental contact with the controls. Check all connecting devices of the tractor and the log splitter before connecting them. Never use faulty equipment. The pins that are used to connect the pushbars and drawbars to the log splitter must be of the correct size, and the appropriate locking pins must be used to secure them.

The splitter must be placed in the transport position if it is to be moved more than 5 metres. Exercise extreme caution when moving the machine in the operating position. Always lower the machine to the ground when you stop.

Note! Incorrect lifting may cause a hazardous situation or damage the machine.

2.3.Main components of the machine

The Hakki Pilke 38 Easy is a log splitter with fully hydraulic controls. In other words, all of the machine's functions are controlled hydraulically with operating levers on the machine's control panel. The guard of the cutting and splitting section is interlocked to the machine's operation: opening the guard stops all functions.

A. Input conveyor
B. Control unit
C. Cutting and splitting unit
D. Output conveyor

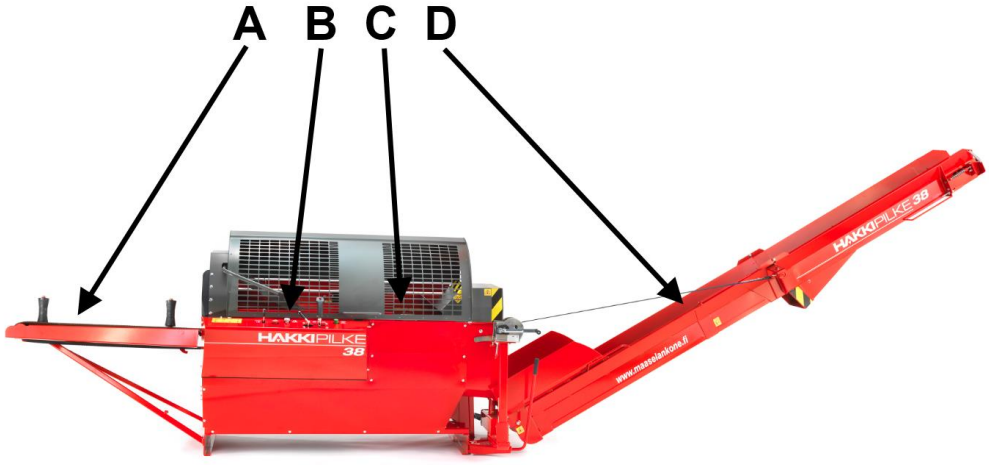

Figure 2. Main components of the machine.

2.4.Preparing the machine for operation

Note! The pushbar lugs may be installed either way depending on the size of the tractor.

3. Control functions and preparation

3.1.Arranging the machine for operation and transport

Before arranging the machine for transport, ensure that the operating conditions detailed in Section 1.4 are met and review the safety instructions in Section 1.5.

Note! Inspect and clean the machine according to Sections 4.3 and 5.8 before arranging it for transport.

3.1.1. Placing the input conveyor in the operating or transport position

Place the input conveyor in the operating position as follows:

1. Ensure that sufficient room is available to lower the input conveyor (approx. 2 m).

2. Release the lock by lifting handle A upward with your left hand. **Note! At the same time, hold the end of the input conveyor with your right hand!**

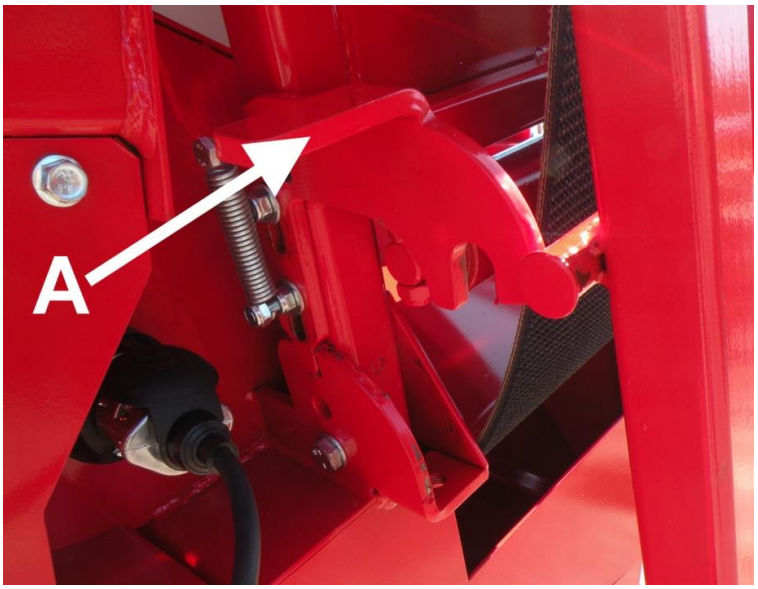

Figure 3.

3. Lower the input conveyor down with your right hand and, at the same time, use your left hand to guide the support leg C into slots B, as instructed in Figure 4.

When placing the input conveyor in the transport position, lift the conveyor up and ensure that the locking latch locks it in place, as instructed in Figure 3.

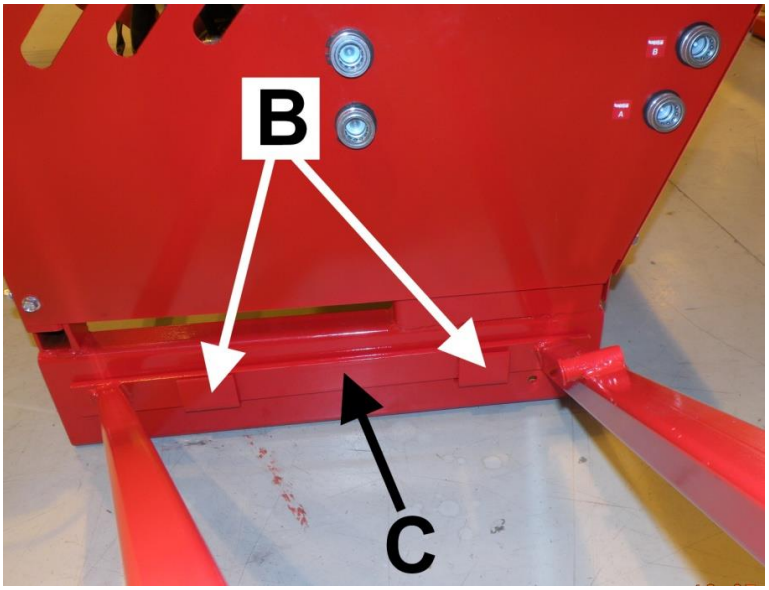

Figure 4.

3.1.2. Placing the output conveyor in the operating or transport position

Place the output conveyor in the operating position as follows:

1. Ensure that there is sufficient room for lowering the output conveyor.

2. Turn off the machine.

3. Keep lock A open and lower the output conveyor down with a winch to its lowest position.

   Note! Leave a sufficient clearance (approx. 30 cm) for the discharge opening of the conveyor.

4. Turn the upper section of the conveyor to the operating position with handle C at the upper end.

5. Turn the output conveyor's support bar B to the side.

6. Straighten the splitting groove guard E into the operating position.

7. Lift the conveyor to the desired angle with the winch, and use lock D on the bottom of the conveyor to lock the upper section of the output conveyor in the operating position.

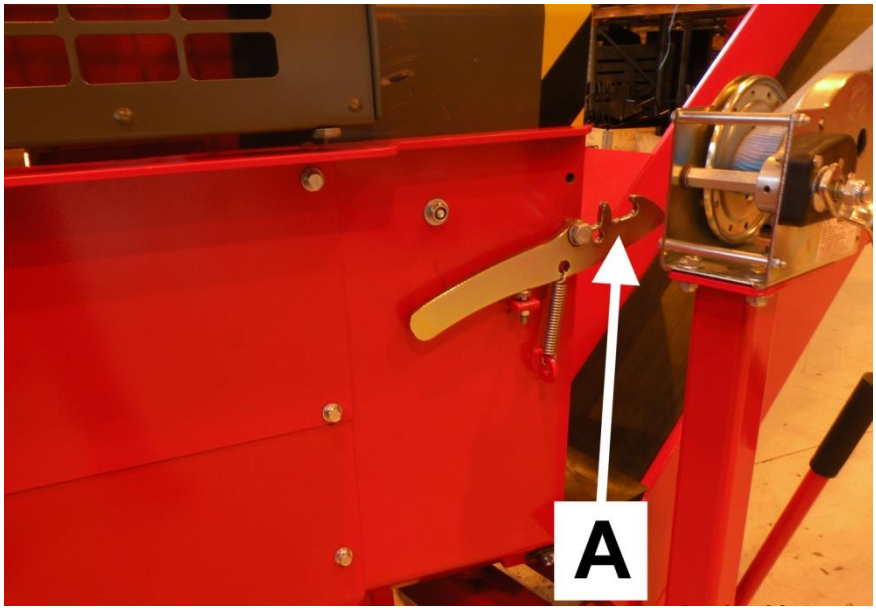

Figure 5.

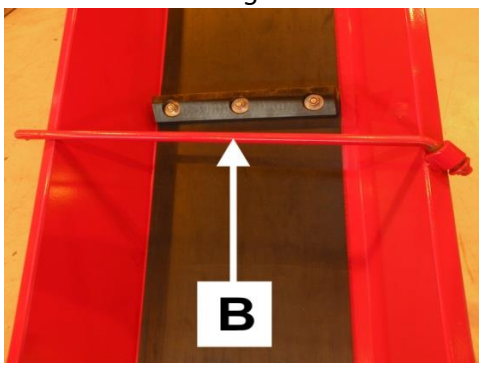

Figure 6.

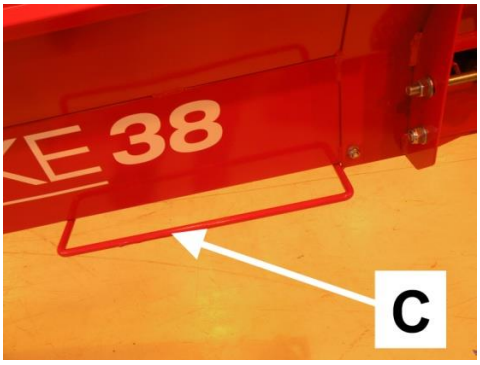

Figure 7.

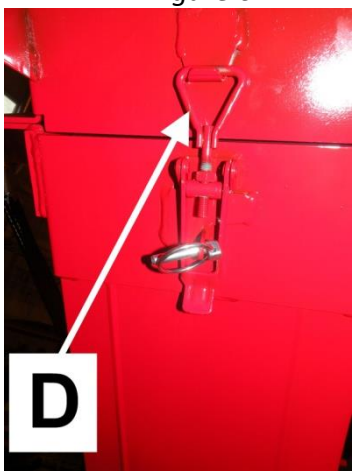

Figure 8.

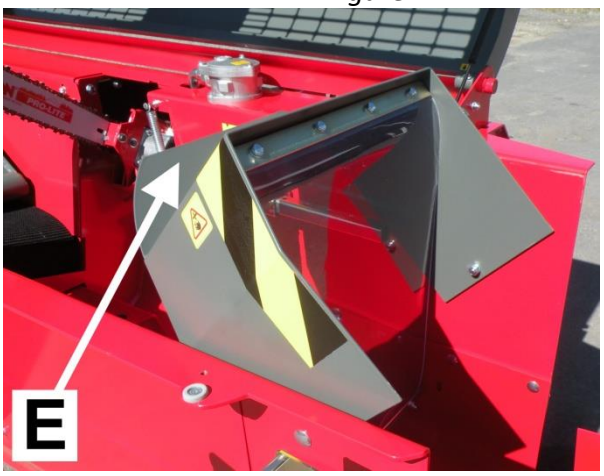

Figure 9.

Place the output conveyor in the transport position as follows:

1. Turn off the machine.
2. Release lock D that holds the upper section of the conveyor in place, and lower the conveyor to the lowest possible position with the winch.
3. Position support bar B over the belt, and fold the upper section of the conveyor onto the lower section with handle C.
4. Turn the conveyor to the middle position. See Section 3.2.4.
5. Turn the splitting groove guard E into transport position, as shown in Figure 9.
6. Lift the conveyor with the winch until it locks into the raised position. Ensure that lock A connects firmly.

3.2.Controls

Figure 10. The control of the machine

Names and functions of the controls in Figure 10

A. Control of an auxiliary device (such as log hoist).
B. Splitting cylinder reversal.
C. Adjustment of the lowering speed of the cutting flange
   - Turning the knob clockwise increases the speed of the motion, and vice versa.
D. Wood press handle. With the handle, wood can be pressed against the table during sawing in order to make cutting the wood as safe and stable as possible.
E. Height adjustment for the cutting blade.
F. Joystick
   - Input conveyor control – upper right and upper left
   - Cutting control – down
   - Splitting activation – up and down movement (the flange must be fully in the lowest position)
   - Blade chain activation – button A in Figure 11
   - Splitting motion activation – button B
G. Adjustment for the running speed of the output conveyor
   - Turning the knob anti-clockwise increases the speed.
   - The conveyor slows down and eventually stops when the knob is turned clockwise.

Figure 11: Joystick.

3.2.1. Tractor drive

A tractor-powered splitter must be connected to a three-point lifting device and the tractor's cardan shaft. To connect the machine to the cardan shaft, you have to move the protective cover A of the socket and angle transmission into a position where it covers the socket.

Connecting the cardan shaft is a task for only one person. The tractor cabin must be free of people in order to prevent accidental contact with the controls while the log splitter is being connected to the tractor. Check all connecting devices of the tractor and the log splitter before connecting them. Never use faulty equipment.

The power cable for the electric controls is connected to the tractor's 12 V socket for lights.

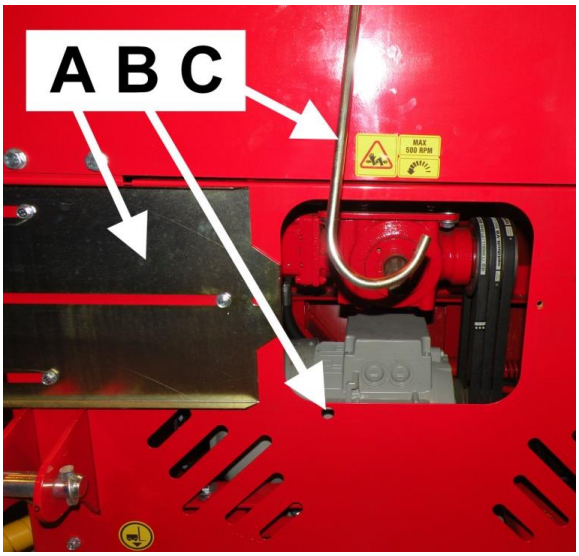

Figure 12.

When using the cardan shaft, observe any instructions provided by the shaft's manufacturer. The splitter requires 10 kW of power, which must be taken into account with regard to the capacity of the cardan shaft. A suitable cardan shaft is of power class four. Check that the shaft is properly locked to the splined shaft of the angle transmission. Connect the chain that prevents the protective cover from rotating to opening B. If necessary, the cardan shaft can be suspended from hook C. Finally, ensure that all the connections are safe and secure. Never use a damaged or unprotected cardan shaft.

Note! Tractor-powered splitters must be attached to the tractor's lifting equipment.
Note! The starter (Figure 15) only functions when the machine is powered by electricity.

3.2.2. Electrical drive

An electrically-powered splitter functions with a power of 10 kW. The electric motor IP- rating is 55. The fuse must be at least 25 A. The electrical cable must be at least 5 x 4 mm². In order to connect the cable, move the protective cover B of the socket A and angle transmission into a position where it covers the angle transmission.

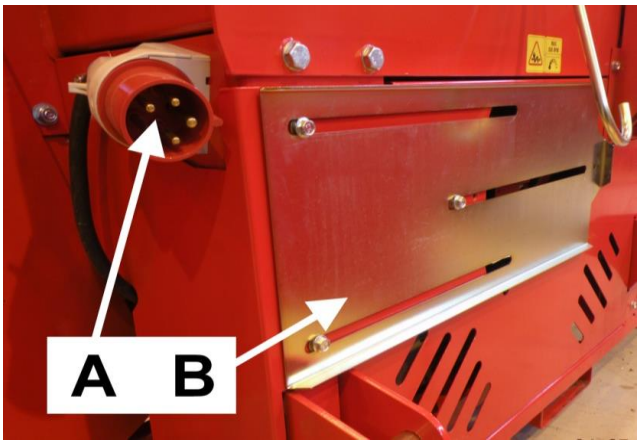

Figure 13. Powering the machine with electricity

In an electrically-powered machine, the power cable of electric control is connected to the socket on the side of the machine.

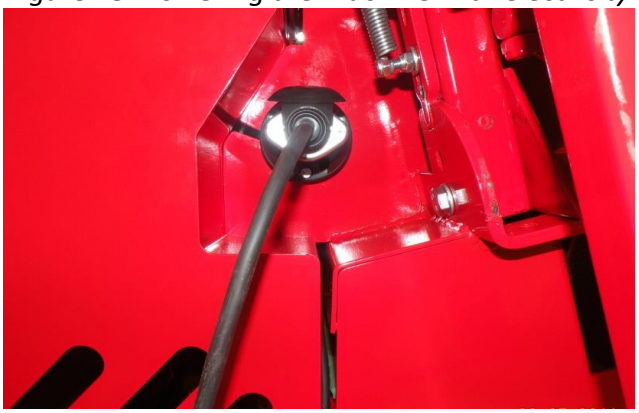
Figure 14. Electrical connector for an electric control device

The splitter can be activated with the green button of the starter in the control panel in the front panel of the machine. If the electric motor rotates in the wrong direction (i.e. the machine makes an abnormal noise and the hydraulic functions are inoperable), the current phase is incorrect. We recommend using an extension cord that allows you to switch the current phase, or an adapter.

Note! If the extension cord does not have a phase switch, the electrical work related to changing the phase must be performed by an electrician.

Figure 15. Starter

3.2.3. Adjusting the log length

The Hakki Pilke 38 Easy is equipped with a mechanical log measurement device with an incremented adjustment value of 25–60 cm.

1. Turn the machine off, disconnect it from any power source, and open the protective cover of the machine.
2. When the wood limiter is in the splitting position, set it to the desired length by removing the cotter pin B in the limiter's locking pin and by pulling out the locking pin A. Lock the limiter plate C in the desired position. Re-insert the locking pin A and the cotter pin B.

Note! If necessary, turn the limiter plate to the correct position according to the thickness of the log. (See Figures 17 and 18).

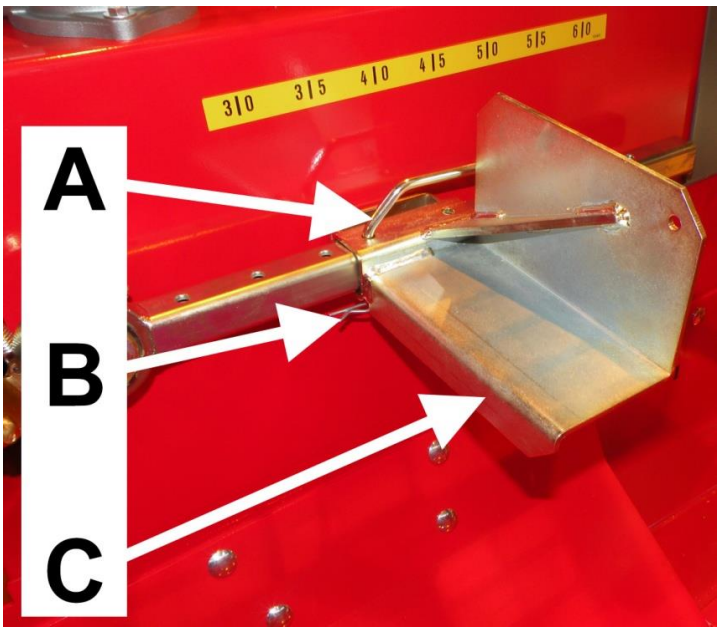

Figure 16. Log length adjustment

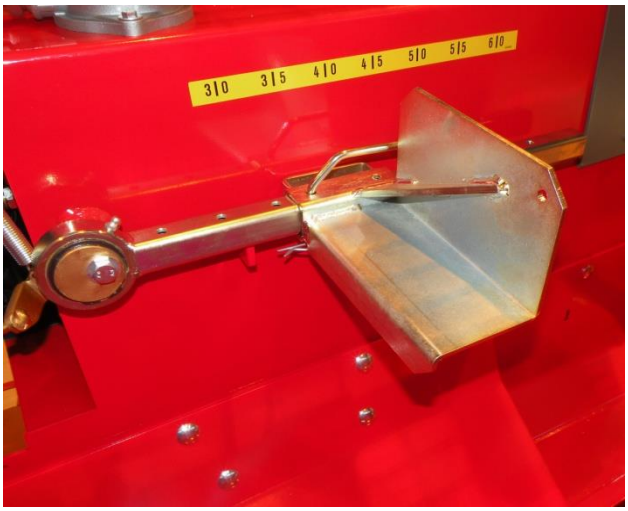

Figure 17. Limiter plate position for large logs of more than 25 cm in diameter.

Figure 18. Limter plate position for small logs

3.2.4. Using the output conveyor

The belt of the Hakki Pilke 38 Easy log splitter's output conveyor is driven by a hydraulic motor. To change the speed of the belt, use the adjuster G shown in Figure 10. The following describes how the conveyor can be turned laterally by using the turning lever A and handle B:

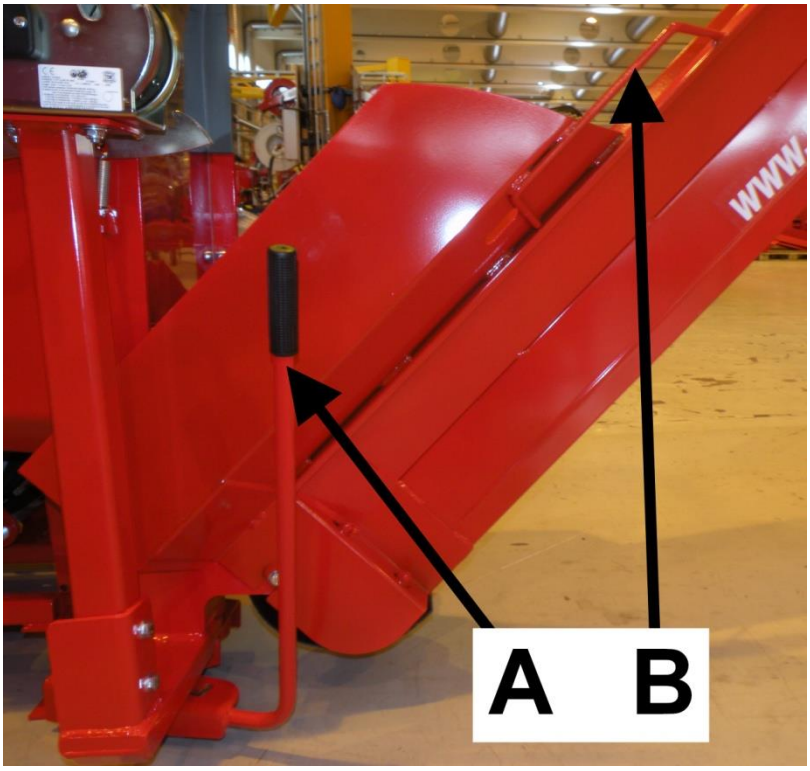

Figure 19.

Release the lock of the conveyor by pushing the lever A towards the conveyor, and turn the conveyor to the desired position with the handle B.

3.2.5. Adjusting the splitting blade

The splitting blade can be controlled hydraulically by moving the control lever E in Figure 10 up or down. Logs should always be as centred as possible when passing the blade in order to keep the size of the firewood consistent.

The blade can be driven to the lowest position by raising the blade and clearing the space under the blade. The machine must be shut down and disconnected from its power source for the duration of the cleaning.

3.2.6. Using the dust collector

A hydraulic dust collector is available as an accessory for the splitter. It allows you to collect sawdust for any purposes you may wish to use it. The dust collector is automatically activated when the machine starts up.

4. Operating the machine

4.1. Test running the machine

The machine may not be used before a test run testing all of the functions of the machine has been carried out. Both the test run and testing can only be performed by a person who has studied the manual of the machine.

Before the test run, all components of the log splitter must be checked. If any faults or wear that may affect the safe use of the machine are discovered, the log splitter may not be used until the faulty or worn component is replaced and safe use can be ensured.

1. Check that the guard of the log splitter's cutting and splitting section is down.
2. Check that the input and output conveyors are in the operating position.
3. Ensure that the splitting groove is empty.
4. Make sure that you are familiar with the functions of the splitter's controls. If necessary, refer to Section 3.2.
5. Activation
6. Tractor-powered: Insert the connector of the electric control device into the tractor's electrical socket. Start the tractor and connect the output, starting with a slow speed and increasing the speed to a maximum of 500 rpm.
7. Electrically-powered: Connect the cable to the log splitter's socket, start the splitter by pressing the start button and wait a moment. This activates the electric motor at full speed.
8. Start the splitting motion with the joystick F of the machine, shown in Figure 10, by lowering the cutting flange fully into the lowered position by lifting the joystick to the upper position. The splitting motion must be normal. The splitting motion can also be activated by pressing the B button of the joystick (as shown in Figure 11).
9. Do the following to ensure that the blade chain lubrication functions automatically: (If necessary, see Section 7.0.)
    a. Use the joystick F in Figure 10 to perform a few sawing motions without sawing any actual logs.
    b. Turn off the splitter and disconnect it from the power source.
    c. Open the guard and see if the blade chain has been supplied with oil.
10. Ensure that the blade chain can be activated by pressing button A of the joystick (please see Figure 11).
11. Start the splitting motion and stop it by opening the cradle guard of the cutting and splitting section.
12. Make sure that the splitting beam returns to its initial position (in the middle of the splitting motion) by pressing button B (please see Figure 10).
13. Test run the input conveyor's feed and return motion with joystick F in Figure 10.
14. Start the output conveyor by using the control G (please see Figure 10) to adjust the speed to an appropriate level.

If a fault occurs during the test run, determine the cause and take remedial action as deemed necessary. The machine must be shut down and disconnected from the power source for the duration of both the diagnostics and repairs.

4.2.Placing logs on the log holder

We recommend the use of auxiliary devices, such as the HakkiFeed 422 log holder. If a log holder is not attached to the splitter, the maximum allowed log length is 4.5 m. Puun nosto ja asettaminen syöttöpöydälle on tehtävä turvallisesti ja käyttäjää vaarantamatta.

Note! Placing logs directly on the input table with a loader is strictly prohibited.
Note! Make sure that the log's centre of gravity stays on the conveyor.

4.3.Feeding and sawing wood

The input conveyor feeds the wood to be processed into the splitter. Push the joystick F in Figure 10 of Section 3.2 to the upper right direction to feed wood into the machine. The feed can be cancelled by pushing the joystick to the upper left direction.

When feeding the log to machine, make sure that it does not present a risk of your clothes, hands or other parts getting caught in the machine, for example due to the shape of the log. Do not use your hand to guide the log into the cutting section. Adjust the wood measuring device to the desired length and make sure that the speed of the output conveyor belt is suitable by adjusting it.

1. Choose the log to process. Note that the maximum log diameter is 38 cm. The knottiness and shape of the log increase the diameter.
2. Feed the logs for cutting with the input conveyor with the joystick F. Push the joystick in the upper right direction to activate the feeding function.
3. Once the log stops for cutting in the mechanical measuring device, lock the log in place with the wood press by pressing the handle D of the press (please see Figure 10) downward.
4. Cut the log by pressing the push button A (Figure 11) of the joystick, which activates the blade chain, and by lowering the cutting flange by moving the joystick F (Figure 11) backwards.
5. Return the cutting flange to the raised position by pushing the joystick F forwards, which automatically starts the splitting function.

Note! The splitting motion can be prevented by pressing the button B (Figure 10). This prevents the splitting motion from starting in any situation. The splitting motion can be re-activated by pressing the button B again.

4.3.1. **Jamming of the cutting blade**

Make sure that the downward motion of the cutting flange has not been adjusted (pressure regulating valve C in Figure 10 of Section 3.2) to be too fast in proportion to the size of the log.

If the cutting blade gets jammed in the log, stop sawing and try again from another section of the log. If the cut is misaligned because the flange drags to one side, the sharpness of the blade chain must be checked. A chain that is not evenly sharp will always drag to the duller side, which makes cutting a thick log impossible. On the other hand, sawing with an evenly dull chain is inefficient, and the blade chain must be sharpened or replaced (see Section 5.1.1).

4.3.2. **Sawing the last log**

When sawing wood, the second to last piece should be sawed in such a way that the remaining piece is of a sufficient length. This ensures that the log will stay firmly under the wood press and that the sawing will be steady and safe. Drive the last log directly into the splitting section, and start the splitting process with the control lever F.

4.3.3. Using the quick couplings of the additional hydraulics

Connect the additional hydraulics (for example Connect the additional hydraulics (for example when using the WoodLift 381 log hoist) by pushing the hydraulic hoses of the auxiliary device to quick couplings C and D (please see Figure 20 in Section 4.3.4).

4.3.4. Using the quick couplings of the auxiliary feed rollers

The auxiliary feed rollers can be connected in series with the input conveyor. This way, the rollers are automatically synchronised to operate with the input conveyor when feeding logs with the joystick F.

1. Connect the hoses of the auxiliary rollers to quick couplings C and D in the Figure 20.

2. Remove the guard as instructed in the instructions of point 2 of Section 4.4.4.

3. Turn ON the cock A in Figure 21 with the handle B, which allows oil to flow to the quick couplings shown in Figure 20.

4. Make sure that the rotation direction of the rollers is the same as the conveyor's direction. If necessary, change the connections.

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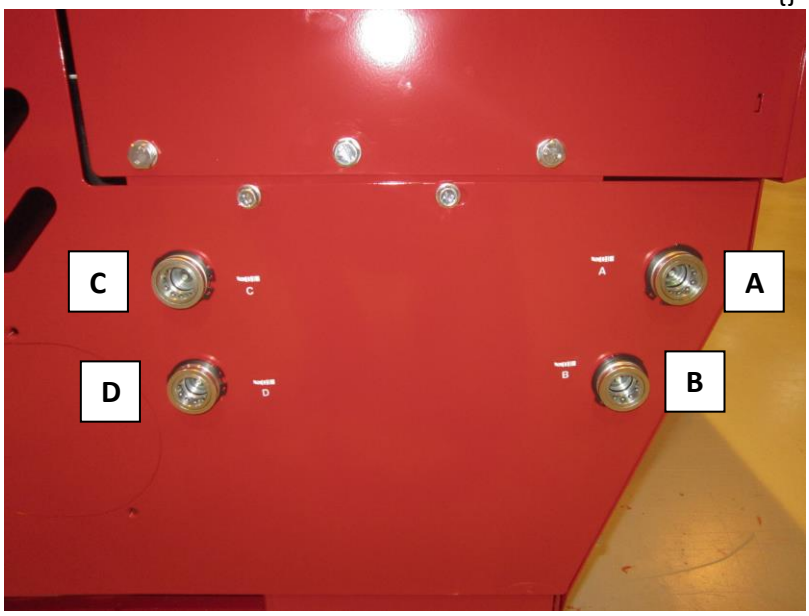

Figure 20.

Note! Cock A must be closed (as in Figure 21) whenever the quick couplings C and D in Figure 20 are not in use!

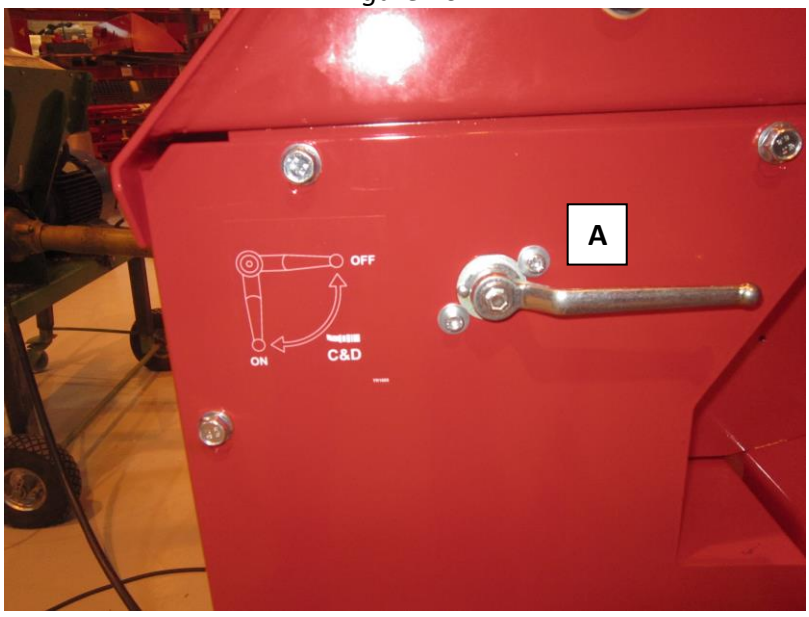

Figure 21.

4.4.Splitting logs

The splitting beam of the machine performs the splitting motion automatically every time the cutting flange is lowered fully into the low position with control lever F and the control lever F is used in the raised position. In other words, the splitting motion starts when the log is dropped into splitting groove after cutting and the cutting flange is lifted up.

Splitting can also be activated by the push button B of control lever F (see Figure 11). This function is useful, for example, when the last log to be split has been driven into the splitting groove: this way, the operator does not have to unnecessarily move the cutting flange into the low position, but the splitting function can be activated with this button much quicker.

In order to prevent unnecessary splitting motions, press button B in Figure 10 once, which prevents the splitting function of the machine from being used. Please note that you can also use this button to stop splitting even in the midst of the splitting motion. This function can be used, for instance, when the log to be split is small (less than 5 cm in diameter) and several logs are to be split with the same splitting motion. The splitting motion can be re-activated by pressing the button B again.

4.4.1. **Wood jamming on the splitting blade**

If a piece of wood gets jammed on the splitting blade in a situation where the splitting force is insufficient to push the piece past the blade despite several attempts to do so, do the following:

1. Restore the splitting beam into its initial position with the reverse switch B (please see Figure 10).
2. Lift the splitting blade to the highest possible position with lever E (in Figure 10) and activate the splitting.
3. If necessary, cut a sufficiently thick piece of wood (approx. 20–25 cm) into the splitting groove, and activate the splitting process. The new piece will then push the jammed piece past the blade.
4. Lower the blade some 10 cm lower and repeat step 3. Repeat step 4 until the jammed piece of wood has passed the blade piece by piece.

4.4.2. Re-splitting or splitting without cutting

1. Raise the guard of the cutting and splitting section.
2. Place the log you want to split in the splitting groove.
3. Close the guard of the cutting and splitting section.
4. Activate the splitting process with push button B (Figure 11).

As necessary, the above procedure can be used to split wood without cutting it.

4.4.1. Replacing the splitting blade

Exercise extreme caution when handling the blade, and wear protective gloves.

1. Lower the splitting blade into its low position, which releases shaft A from the blade slot B.
2. Shut down the splitter and disconnect it from its power source.
3. Open the guard and lift the splitting blade out of its slot.
4. Install a new splitting blade by reversing the above steps.

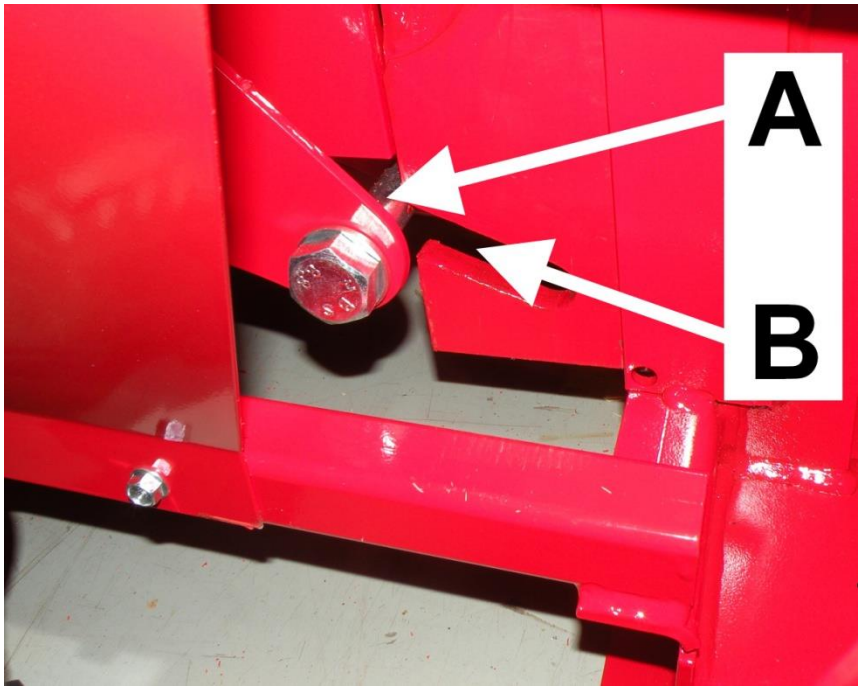

Figure 22. Replacing the splitting blade

4.4.2. Adjusting the length of the splitting motion

In the Hakki Pilke 38 Easy log splitter, the splitting cylinder controlled electrically with sensor A and C in Figures 24 and 25. Stroke length of the splitting cylinder can be adjusted as follows:

1. Shut down the splitter and disconnect it from its power sources.

2. Remove the cover plate shown in Figure 23. Note! The fastening bolts (5 pcs) do not have to be removed completely. Simply loosen the bolts and slide the cover plate so that the bolt heads fit through the hole.

Figure 23.

3. Sensor A is used to determine the point at which the splitting cylinder will stop during the reversal motion. If necessary, the position of the sensor can be changed with tightening nut B.

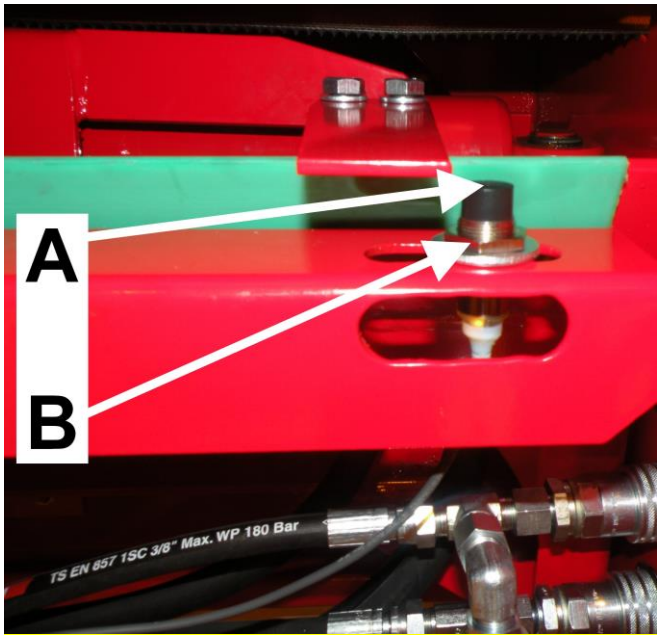

Figure 24.

4. Sensor C is used to determine the point at which the splitting cylinder changes direction during the splitting motion, in other words, how close to the splitting beam will the splitting blade go. If necessary, the position of the sensor can be changed by tightening nut D.

Note! The covers and guards must be reattached after maintenance.

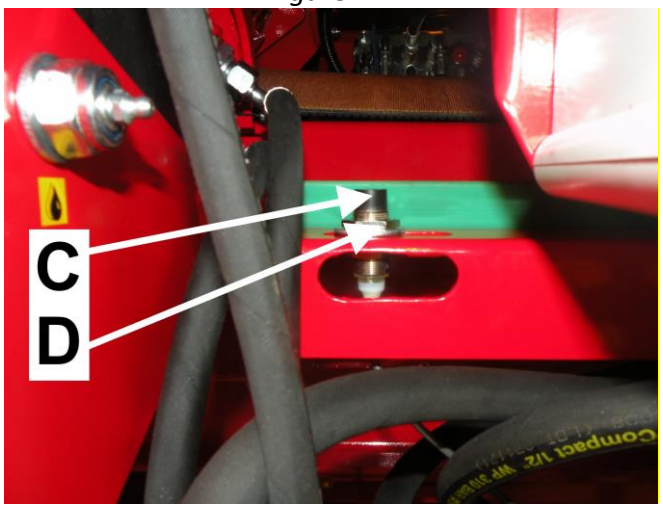

Figure 25.

4.5.Using the output conveyor

The output conveyor can be controlled horizontally and vertically. The safety zone for the output conveyor is 10 metres. When operating the machine, the maximum permitted angle of the output conveyor is 40°. The running speed of the output conveyor can be freely adjusted with the adjustment screw G (in Figure 10). If the conveyor is jammed for any reason, its running speed must be set to zero and the splitter must be shut down before removing the cause. There must be at least 50 cm between the end of the output conveyor and the pile of processed firewood.

The tension (and alignment) of the output conveyor's belt is adjusted with nuts A (2 pcs) by loosening the adjustment nut on the side to which you wish the belt to run.

The output conveyor has an automatic debris removal device. It separates debris and sawdust from the processed firewood.

The following issues significantly affect the operation of the debris removal device: the angle of the discharge conveyor, the speed of the belt and the distance of the separation plate C from the upper roller of the conveyor. In other words, the debris separation result is better the steeper the angle (however, no more than 40 degrees), the lower the speed and the longer the distance between the separation plate C and the upper roller. The distance of the separation plate C is optimised at the factory in conjunction with the testing of the machine. However, the adjustment can be changed, if necessary.

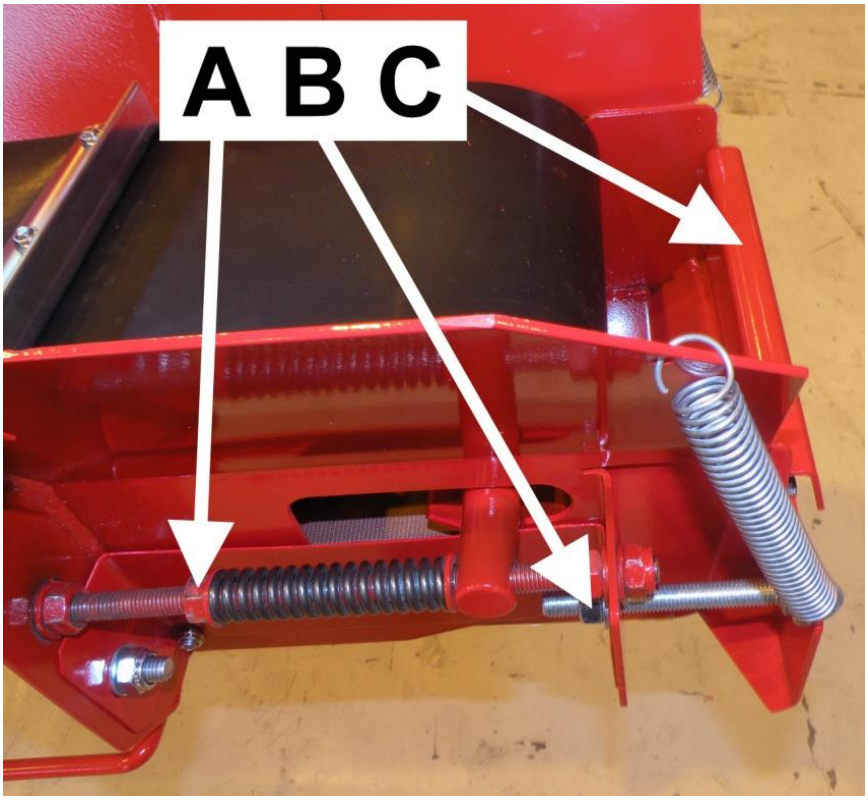

Figure 26.

The optimal running speed for the belt can be determined by trying different settings. The split logs should only just pass over the plate. The adjustment plate can be adjusted with the separation plate screws B.

Note! The operator must ensure that the distance between the debris discharge opening and the pile of debris that accumulates under it is at least 20 cm.

4.6.After use

1. After you have finished making firewood, stop the output conveyor, shut down the machine and remove the firewood from the splitting groove and conveyor.
2. Ensure that the machine has not been damaged.
3. Place the output conveyor into a position that allows the conveyor and log splitter to be moved safely off the processed firewood.
4. Clean the log splitter.

If you will not be using the splitter for a while, do the following:

5. As necessary, use your tractor's hydraulics or a forklift to hoist the log splitter and carefully move it to a location where you can place the input and output conveyors as well as the working platform into their transport and storage positions.
6. Place the conveyors into the transport and storage position.
7. Clean and maintain the machine.
8. Store the splitter according to the instructions in Section 10.

5. Machine maintenance

The splitter must be disconnected from its power source before maintenance, adjustment, replacement or cleaning procedures. Only use spare parts supplied by the manufacturer or your retailer. If the guards of the machine have to be removed for maintenance, they must always be reattached before activating the machine. After maintenance and adjustment measures, the splitter must have a test run according to the instructions in Section 4.1.

5.1. Cutting blade and drive end

If the machine's cutting blade does not properly penetrate the wood or the cut is skewed, the blade chain is most likely dull. It is a good idea to keep a replacement chain handy so that you do not need to interrupt your work for sharpening the chain.

5.1.1. **Replacing and tightening the blade chain**

Replace the blade chain as follows:

1. Shut down the splitter and disconnect it from its power source.
2. Open the guard.
3. Put on protective gloves and manually press the drive end down, as show in the figure. Discharge the pressure by lowering the drive with the controls.
4. Loosen the flange bolts B.
5. Fully loosen the adjustment screw A for blade chain tension.
6. Remove the old blade chain.
7. Install the new blade chain, and ensure that the cutting teeth come first in relation to the rotating direction.
8. Lift the flange from the front section to tighten the chain as you are attaching the flange bolts.
9. Use the adjustment screw A to tighten the chain.

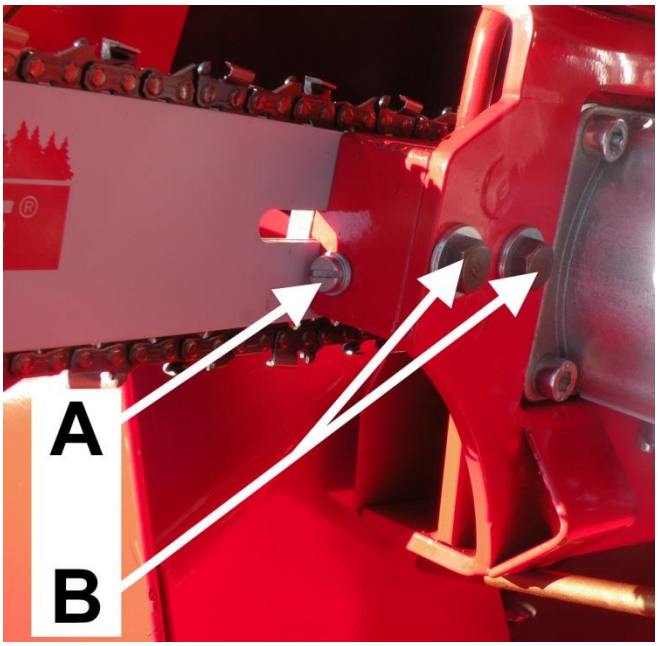

Figure 27.

To check the tension of the blade chain, wear protective gloves and pull the lower edge of the chain. The tension is correct if you can pull out three teeth by applying moderate force.

5.1.2. Replacing the blade flange

Replace the blade flange as follows:

1. Remove the blade chain according to steps 1–6 of Section 5.1.1.
2. Remove flange bolts (2 pcs) and remove the flange fastening plate A.
3. Remove the flange from the groove.
4. Place the new flange against the gear wheel B, twist it into the groove and loosely attach the flange bolts and the fastening plate A.
5. Install and tighten the blade chain according to steps 7–9 of Section 5.1.1.

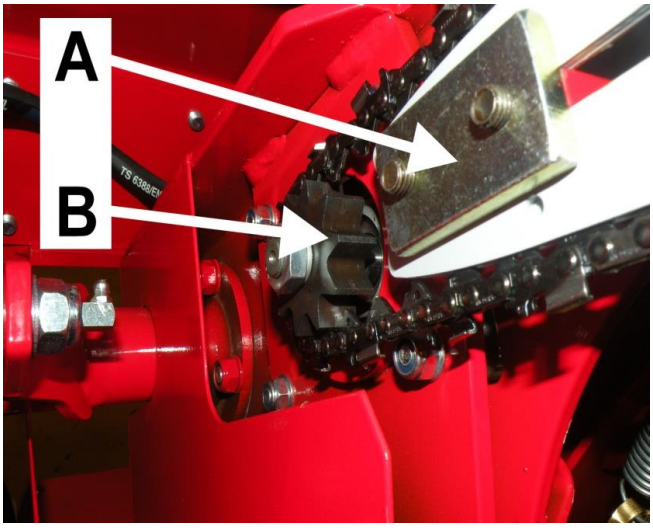

Figure 28.

5.2. Replacing and tightening the V-belts

Replace the V-belts as follows:

1. Shut down the splitter and disconnect it from its power sources.

2. If necessary, slide the cover of the socket and angle transmission into a position where the angle transmission is visible.

3. Remove the cover of the sawdust box A (Figure 29) by removing the fastening bolts (2 pcs).

4. Remove the lifting pins (2 pcs) and the fastening bolts of the rear cover (6 bolts in Figure 31 and 1 bolt next to the electrical connector) of the machine and remove the cover plate B.

5. Remove the cover C of the V-belts by removing the fastening bolts (2 pcs) in the figure.

Figure 29.

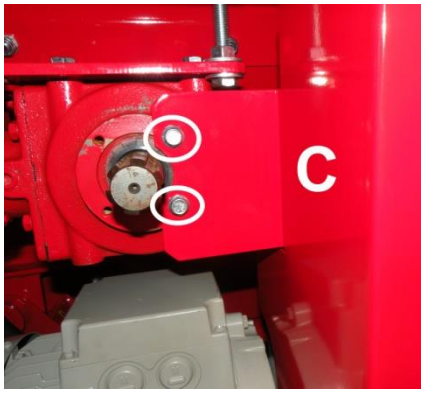

Figure 30.

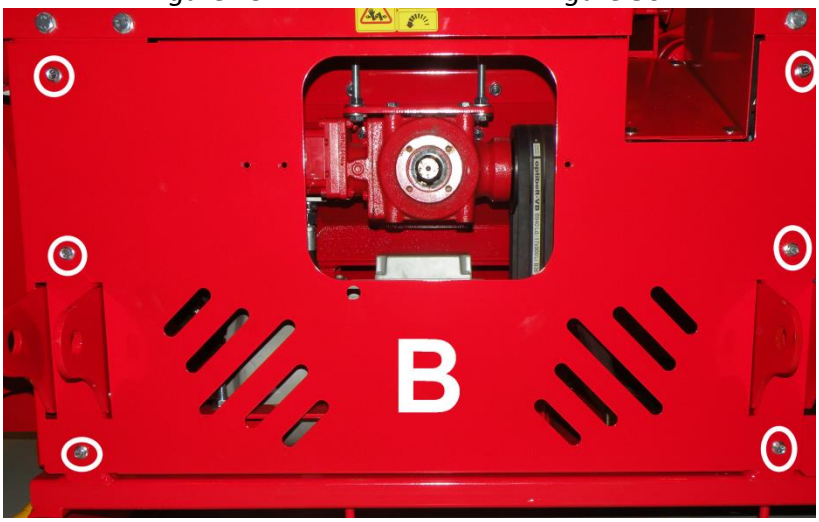

Figure 31

6. Use the adjustment screws E (4 pcs) to lift the motor bed F high enough to enable you to remove the V-belts D (3 pcs).

7. Remove the old V-belts and install the new ones.

8. Lower the motor bed with the adjustment screws E in order to tighten the V-belts. Note! Make sure that the belt pulleys are aligned. If necessary, the location of the motor can also be adjusted horizontally.
   The V-belts are at the correct tension when they give approximately 20 mm when the belt is pressed down at a moderate force.

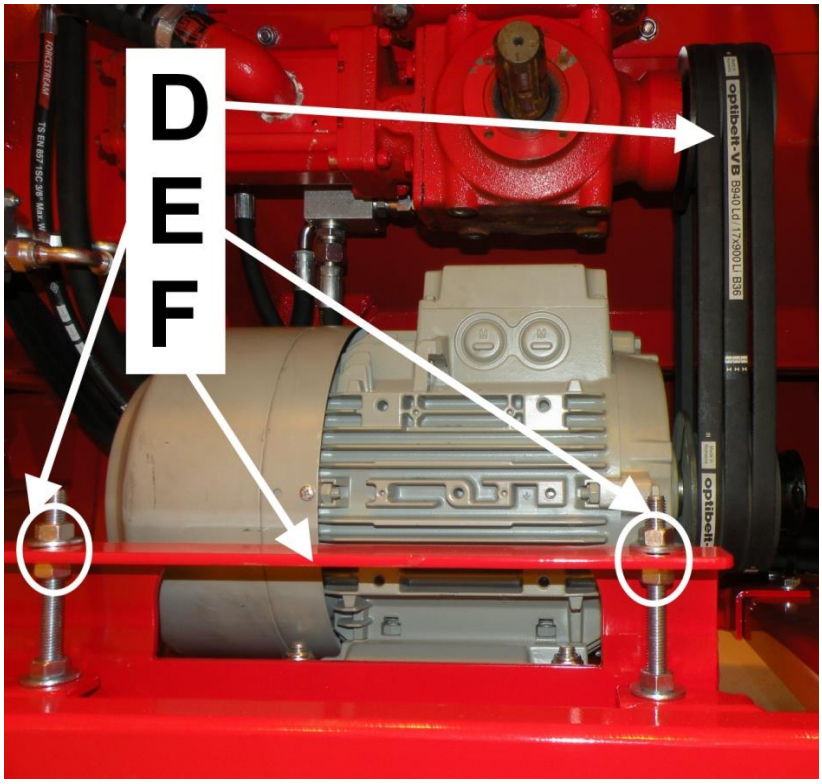

Figure 32.

5.3. Changing the oil of the splitter

Change the hydraulic oil of the splitter as follows:

1. Shut down the splitter and disconnect it from its power sources.
2. Remove the rear cover of the machine in accordance with the instructions in steps 1–5 in Section 5.3.
3. Open the filler cap A of the hydraulic oil tank (this will allow the oil to drain more easily).
4. Open the drain plug B and drain the oil into a suitable container.
5. Open the cover of the hydraulic filter C and replace the filter.
6. Tighten the plug B firmly, and fill the tank with fresh oil (approx. 55 litres).
7. Finally, ensure that the oil level settles between the maximum (E) and minimum (D) limits indicated on the dipstick.

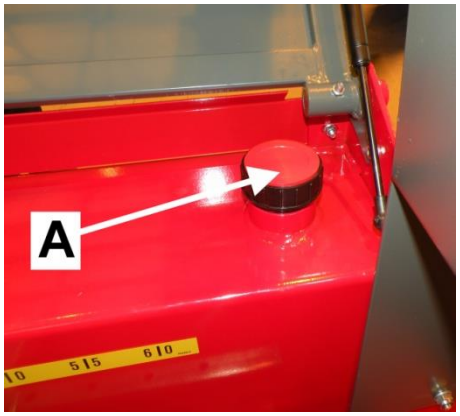

Figure 33.

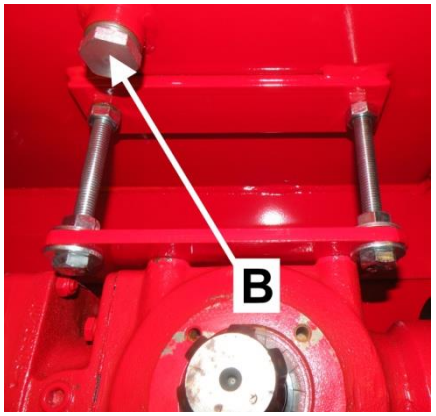

Figure 34.

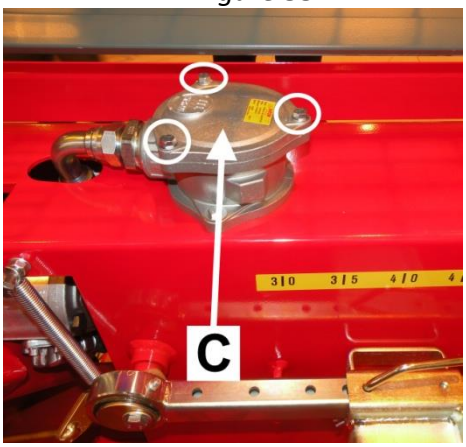

Figure 35.

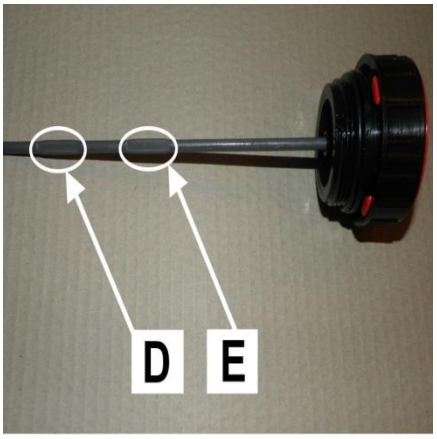

Figure 36.

5.4.Changing the oil of the angle transmission

1. Remove the rear cover of the machine in accordance with the instructions in steps 1–5 in Section 5.3.
2. Open the filler cap A (this will allow the oil to drain more easily) and the drain cap C and the drain the oil into a suitable container.
3. Close the drain cap C and open the inspection cap B.
4. Add appropriate oil into the angle transmission through filling hole A, until the oil surface is level with the level inspection hole B.
5. Finally also close caps A and B, and re-install the rear cover of the machine in reverse order of steps 1 to 5 in Section 5.3.

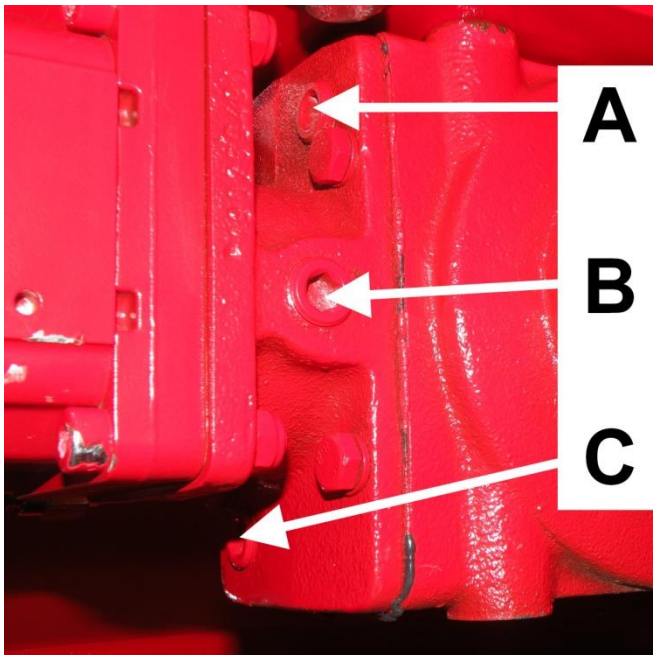

Figure 37.

5.5.Conveyor maintenance

5.5.1. **Replacing and tightening the belt of the input conveyor**

Replace the belt of the input conveyor as follows:

1. Shut down the splitter and disconnect it from its power sources.
2. Raise and lock the input conveyor into the transport position. (See Section 3.1)
3. Move the belt joint to a suitable height.
4. Disconnect the joint by using, for example, pliers to pull out the pin (A) holding the joint together.
5. Remove the old belt.
6. Slide the new belt under the table from the side of the input conveyor's drive roller until you can pull the belt out from the other end (C).
7. Lead the rest of the belt under the wood press, around the rear roller and, finally, behind the conveyor.

Figure 38.

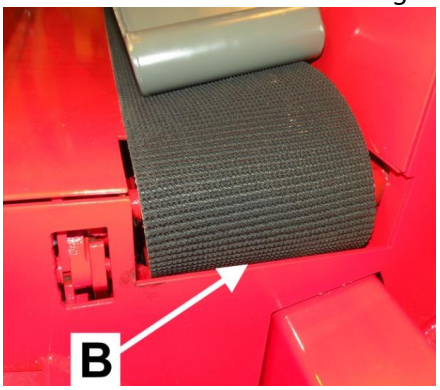

Figure 39.

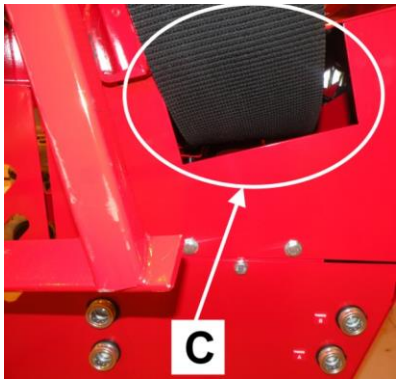

Figure 40.

8. Connect the joint by inserting the pin A in the joint.
9. Turn the conveyor back to the operating position and tighten the belt.
10. Finally adjust the belt to the correct tension and to run straight with the adjustment nuts (D).

The belt is at the correct tension when its middle section is raised approx. 5 cm when the conveyor is in the operating position. An excessively tight belt may be damaged more easily, and it places unnecessary strain on the conveyor's bearings.

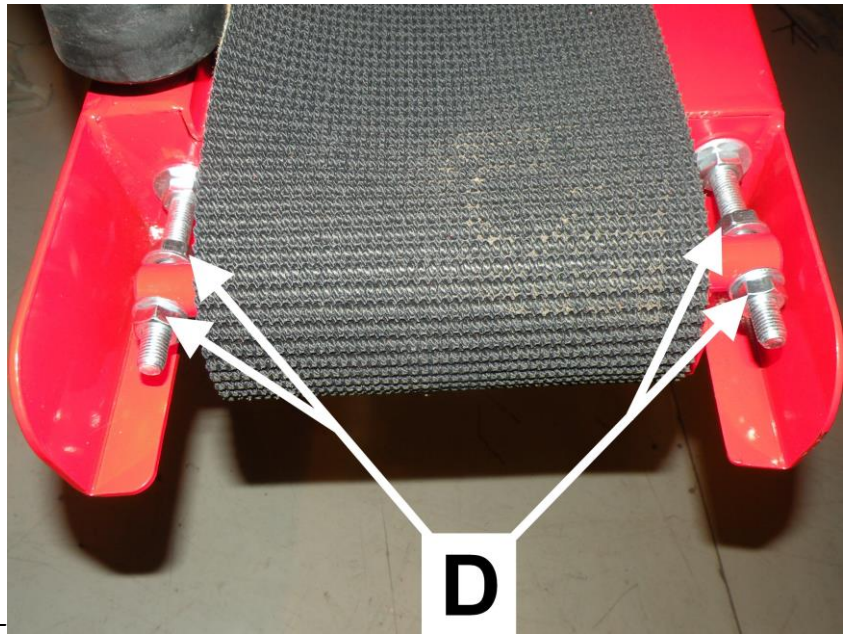

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Figure 41.

5.5.2. Replacing and tightening the belt of the output conveyor

The tightening and alignment of the output conveyor is instructed in Section 4.5.

Replace the belt of the output conveyor as follows:

1. Pull out the pin locking the conveyor in place, and lower the conveyor to the ground.
2. Shut down the splitter and disconnect it from its power sources.
3. Move the belt joint to the beginning of the conveyor.
4. Fold the conveyor, but do not place the belt support in the transport position. This will allow the belt to hang loose.
5. Disconnect the joint by opening the bolts.
6. Remove the old belt.
7. First, insert the new belt under the folded conveyor (bottom opening) from the end of the conveyor with the plates facing down. Feed the belt in until you can pull it out from the other end of the conveyor. Pull out a length of approx 60 cm.
8. Push the other end of the belt into the upper section of the folded conveyor (top opening) from the end of the conveyor. Feed it in until you can connect the joint.
9. Pull the excess belt to the beginning of the conveyor.
10. Lower the conveyor back to the operating position and tighten the belt.

The belt is at the correct tension when its middle section is raised approx. 15 cm when the conveyor is in the operating position. An excessively tight belt may be damaged more easily, and it places unnecessary strain on the conveyor's bearings.

5.5.3. Replacing the plates of the output conveyor

The plates of the output conveyor can be replaced by disconnecting the bolt joints (3 x M8) fastening the plates and replacing the plates with new ones. It is recommended to move the belt into a position that puts the plate to be replaced above the conveyor. Shut down the machine and disconnect it from the power source for the duration of the procedure.

6 Lubrication

All of the log splitter's lubrication points, which require Vaseline, have been labelled. The lubrication must be performed every 10 hours. There are nine lubrication points, presented in the figures below.

1. Grease nipples of the height adjustment device of the splitting blade (2 pcs) in Figure 42.
2. Grease nipple of the output conveyor reversal link (1 pc) in Figure 43.
3. Hinged nipples of the guard (2 pcs) in Figures 44.
4. Cylinder nipples of the cutting unit (2 pcs) in Figures 45 and 47.
5. Grease nipples of the joint of the cutting unit (2 pcs) in Figure 46.
6. Grease nipple of the log length device in Figure 48.

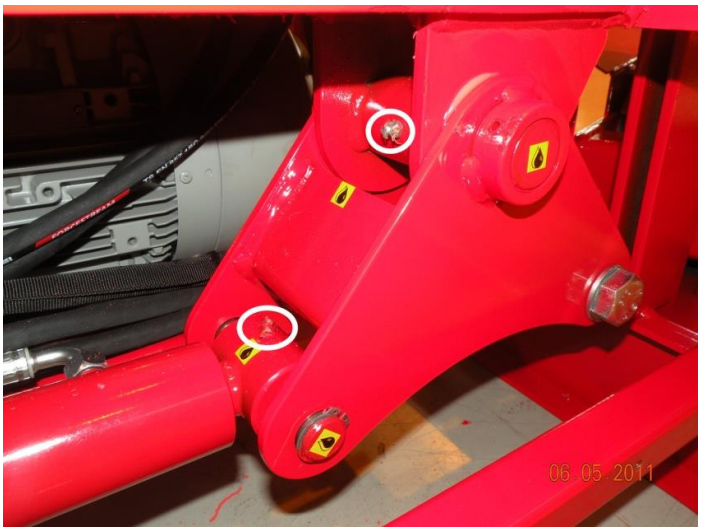


Figure 42.

Figure 43.

Figure 44.

Figure 45.

Figure 46.

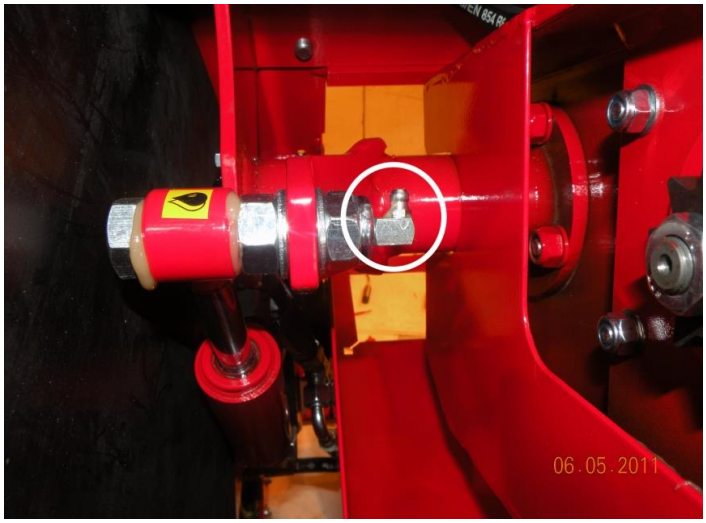


Figure 47.

Figure 48.

7 Blade chain lubrication

The blade chain is automatically lubricated whenever the cutting flange is pressed down. As the oil is fed to the blade chain by means of pressure, the same amount of oil is supplied regardless of the temperature. Therefore, the splitter is not equipped with a separate valve for adjusting the amount.

Add blade chain oil through the filler cap A. The oil level gauge B indicates the proper time to add oil. When the gauge B is light brown, the oil level is sufficient, but when the gauge is clear, oil must be added.

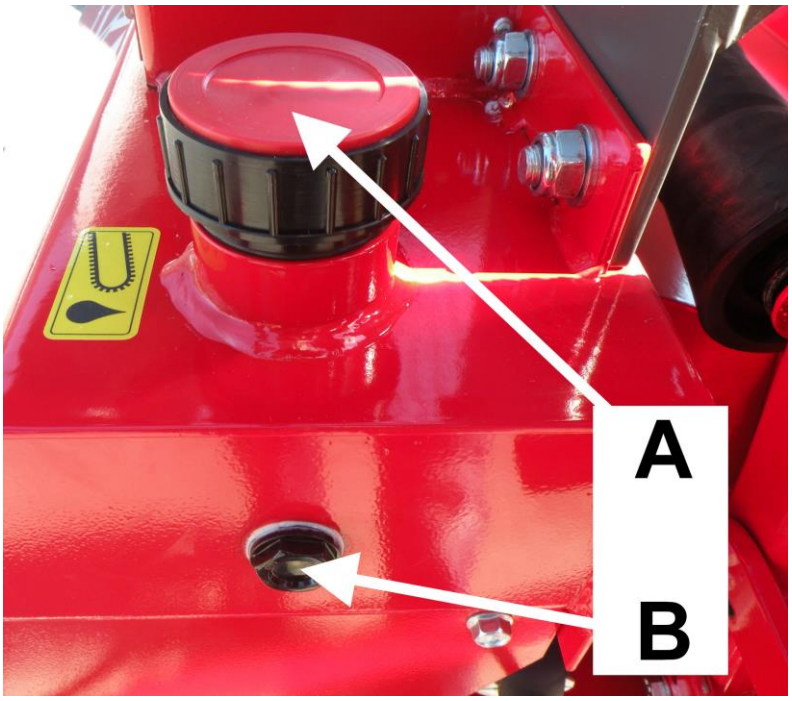


Figure 49.

8 Solenoid and pressure regulating valves

The pressure regulating valves are adjusted to the correct settings at the factory. The splitter's guarantee becomes void if the factory adjustments are changed. If you need to change the adjustments, first contact the manufacturer or retailer and follow their instructions carefully. Changing the valve settings incorrectly may damage the machine or render it hazardous to operate. The relief valve adjustments can be changed as follows: loosen the locking nut and rotate the hex socket screw clockwise or anti-clockwise (when turning screw clockwise, the pressure increases and vice versa). Finally tighten the locking screw. The locations of the relief valves are indicated in the following figures.

1. Motor relief valve of the output conveyor (70 bars).
2. The main relief valve of the machine (210 bars).
3. Relief valve of the acceleration valve (150 bars).
4. Motor relief valve of the input conveyor (40 bars).
5. Relief valve of the saw motor (190 bars).
6. Relief valve of the splitting valve (190 bars).

Figure 50.

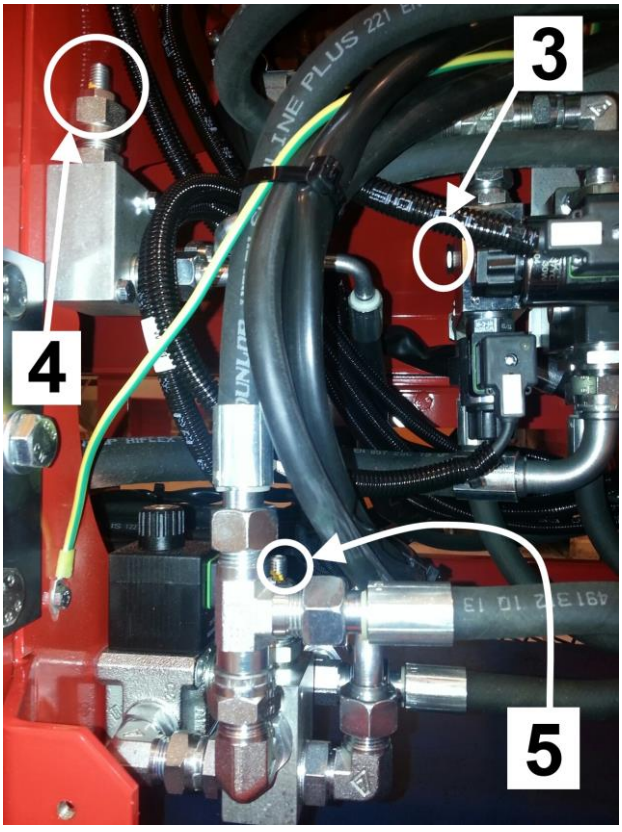


Figure 51.

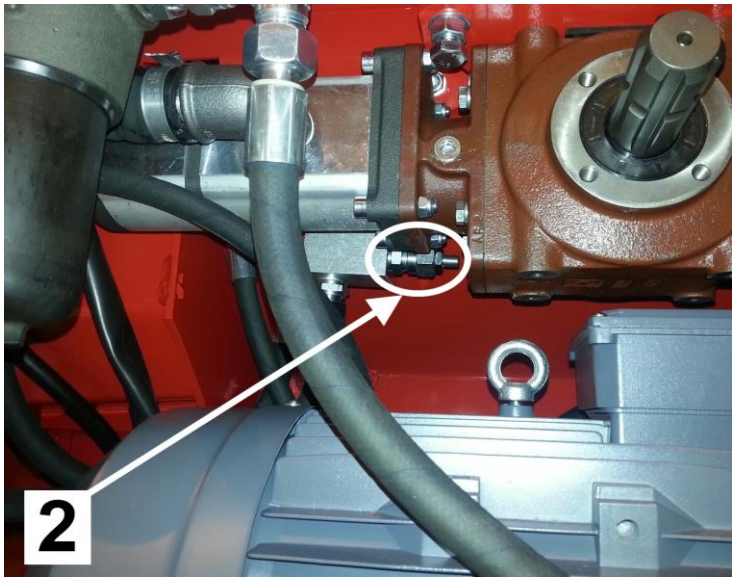


Figure 52.

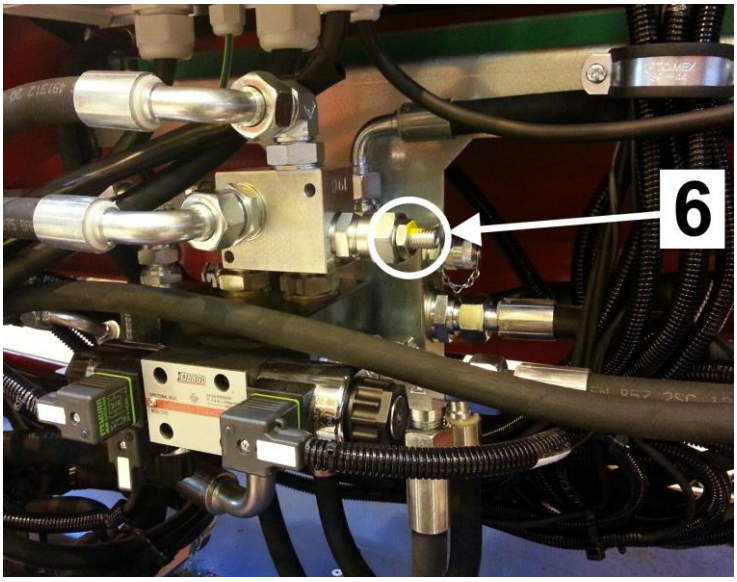


Figure 53.

9 Washing and cleaning

Loose debris and sawdust can be cleaned from the machine with pressurised air, for example. The machine can also be washed with a pressure washer, as long as the water jet is not aimed directly at the bearings or electrical equipment.

Always ensure that the machine and the working area are sufficiently clean when operating the splitter. The machine must always be cleaned after use. Clean the machine as necessary, and always before storing the machine for a prolonged time. After washing, the splitter must be lubricated according to the instructions in Section 5.7.

10 Storage

Although the splitter is intended for outdoor use, it should be covered up and stored in a sheltered location or indoors. Before prolonged storage, the machine must first be cleaned, then washed according to Section 5.8 and lubricated according to Section 5.7.

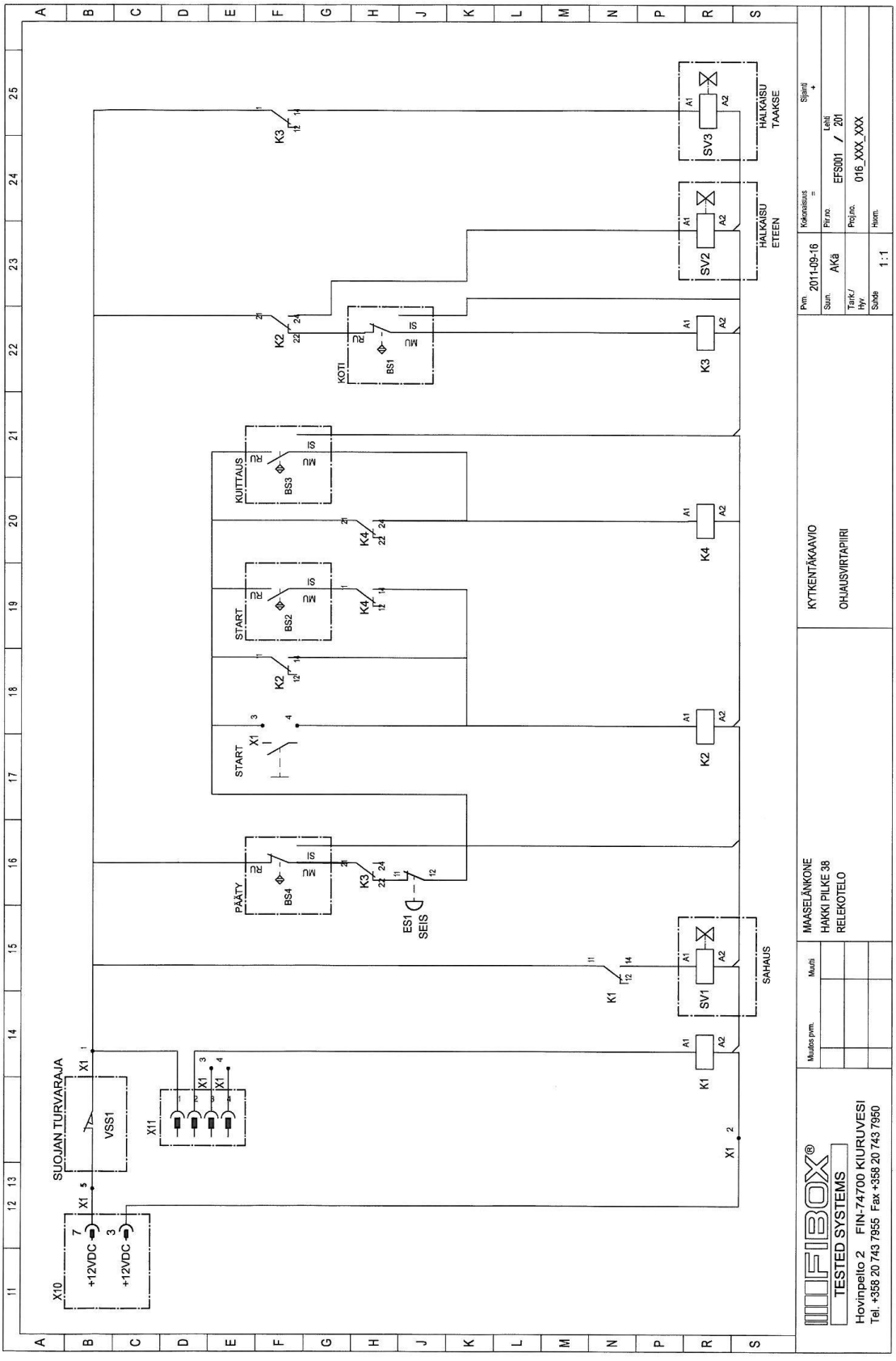
11 Maintenance table

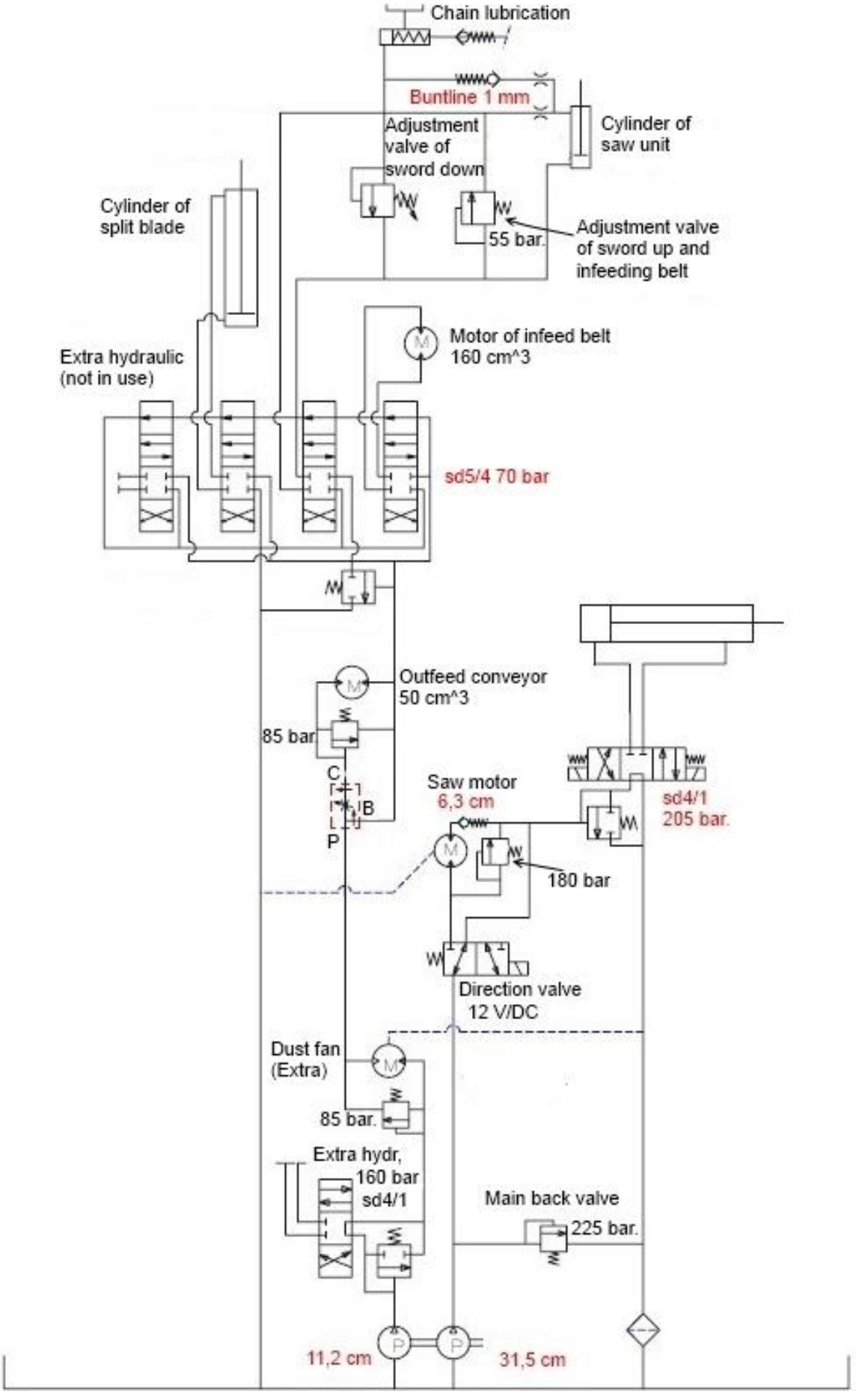
Target	Task	Daily	Interval 100 t	Interval 500 t	Interval 1,000 h	Substance / accessory item
Angle transmission oil	Check 1st change Following		X X	 X		SAE 80/90 N. 0.5 l
Hydraulic oil Normal conditions	Check 1st change Following		X X	 X		Amount approx. 55 l E.g. Teboil S 32
Oil filter	Always when changing oil					13921107005357
All levers	Lubrication		X			Lubrication oil
V-belts	Check (replace as necessary)		X			B36
Cutting blade	Sharpen as necessary					0,325” 67/1,5
Machine	Clean	X				
	Wash	In conjunction with storage				
Electric motor	Clean	X				
Electrical equipment	Clean	X				

12 Failures and remedial measures

Failure	Cause	Remedial measure
The splitting force is insufficient to split the wood.	The outer check valve of the acceleration valve is leaking (no. 3).	Clean or replace the outer check valve.
The belt of the input conveyor does not move.	1. The belt is too loose. 2. The input conveyor's relief valve is leaking (no. 4).	1. Tighten the belt according to the instructions in Section 5.4.1. 2. Clean the relief valve or replace it as necessary.
The output conveyor does not move.	1. The belt is too loose. 2. The output conveyor's relief valve is leaking (no. 1).	1. Tighten the belt according to the instructions in Section 5.4.2. 2. Clean the relief valve or replace it as necessary.
The cutting motion does not fully cut the log.	The path of the cutting flange is incorrectly adjusted.	Lower the path of cutting flange.
The blade chain does not properly sink into the wood.	1. The blade chain is dull. 2. The pressure of the flange's downward motion is too low. 3. The cutting flange is crooked.	1. Sharpen or replace the blade chain. 2. Increase the pressure with the pressure adjustment screw (Figure 9 of Section 3.2). 3. File the flange.
The machine starts but none of the functions work. The machine makes an abnormal noise.	The electric motor runs in the wrong direction.	See Section 3.2.2.
The electric motor does not start.	1. The machine makes a loud noise but does not start. 2. The input cable is faulty.	1. The fuse of the transmission has burnt. Replace it. 2. Replace the cable.
The motor tends to stop, and the thermal relay is easily triggered.	The thermal relay is broken or incorrectly adjusted.	Contact the retailer.
The splitter makes a whining sound during sawing or the splitting of a large log, and the rotation speed decreases at the same time.	The belts are loose or worn (the combi model)	Tighten or replace the belts.
The cutting blade does not move downwards.	The machine guard is open.	Close the guard.

13 Electrical and hydraulic diagrams




Chain lubrication
Buntline 1 mm
Adjustment valve of sword down
Cylinder of saw unit
Cylinder of split blade
55 bar.
Adjustment valve of sword up and infeeding belt
Motor of infeed belt 160 cm^3
Extra hydraulic (not in use)
sd5/4 70 bar
Outfeed conveyor 50 cm^3
85 bar
C
IB
P
Saw motor 6,3 cm
sd4/1 205 bar.
180 bar
Direction valve 12 V/DC
Dust fan (Extra)
85 bar.
Extra hydr, 160 bar sd4/1
Main back valve
225 bar.
11,2 cm
31,5 cm

14 Guarantee terms

“Guarantee terms come into force when you register your customership in the extranet service found on our website.”

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

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

The guarantee covers

- Parts damaged in normal use due to faults in material or manufacture.
- Reasonable expenses caused by repairing a fault in accordance with the agreement between the seller or buyer and manufacturer. Faulty parts will be replaced with new ones. A faulty part or parts replaced due to a material fault should be returned to the manufacturer through the retailer.

The guarantee does not cover

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

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

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

EU Declaration of Conformity for the machine

(Machinery Directive 2006/42/EC, Appendix II A)

Manufacturer: Maaselän Kone Oy
Address: Valimotie 1, FI-85800 Haapajärvi, Finland

Name and address of person who is authorised to compile the technical file:

Name: Tapio Aittokoski Address: Valimotie 1, FI-85800 Haapajärvi, Finland

The above person assures that

Hakki Pilke 38 Easy log splitter Serial number: ……

- is compliant with the applicable regulations of the Machinery Directive (2006/42/EC).

Place and time: Haapajärvi, 5.6.2014

Signature: 

Anssi Westerlund
Managing director