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HakkiPilke 37

Expert/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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Table of contents

1. General information.....	4
1.1. Introduction.....	4
1.2. The machine's purpose of use.....	4
1.3. Machine model and basic information	4
1.4. Operating conditions.....	5
1.5. Safety instructions.....	5
1.6. Noise and vibration	5
1.7. Warning symbols.....	6
2.0 Reception and assembly.....	8
2.1 Reception inspection.....	8
2.2 Lifting and moving the machine.....	9
2.3 Main components of the machine	10
2.4 Preparing the machine for operation.....	11
3.0 Control functions and preparation	15
3.1 Arranging the machine for operation and transport	15
3.2 Placing the input conveyor in the operating or transport position	16
4.0 Control devices.....	20
4.1 Tractor drive.....	21
4.2 Electrical drive.....	22
4.3 Adjusting the log length and the height of the splitting blade	24
4.4 Operating and adjusting the output conveyor	25
4.5 Using the blade chain's oil adjuster	27
4.6 Operating and adjusting the input conveyor.....	28
4.7 Using the input conveyor guard and wood press	30
5.0 Operating the machine	32
5.1 Test running the machine	32
5.2 Placing wood on a log holder	32
5.3 Feeding and sawing wood	33
5.4 Jamming the cutting blade.....	34
5.5 Sawing the last log.....	34
5.6 Splitting wood.....	35
5.7 Jamming wood on the splitting blade	36
5.8 Re-splitting or splitting without cutting	36

5.9	Adjusting the length of the splitting motion	36
5.10	Operation of the valve/splitting levers	38
5.11	Automatic acceleration valve	39
5.12	After use	40
6	Maintaining the machine	40
6.1	Cutting blade and drive end	40
6.2	Replacing, tightening and sharpening the blade chain	41
6.3	Replacing the cutting flange	43
6.4	Replacing and tightening the V-belts	44
6.5	Replacing and tightening the blade chain belt	44
6.6	Replacing and tightening the belts of the angle transmission	45
6.7	Changing the oil of the angle transmission	46
6.8	Changing the hydraulic oil	47
7.0	Conveyor maintenance	48
7.1	Replacing and tightening the belt of the input conveyor	48
7.2	Adjusting the pressure of the input conveyor's motor	48
7.3	Replacing and tightening the belt of the output conveyor	50
7.4	Replacing the plates of the output conveyor	50
7.5	Adjusting the pressure of the output conveyor's motor	50
8.0	Lubricating moving parts	51
9.0	Washing and cleaning	52
10.0	Storage	53
11.0	Maintenance table	53
12.0	Failures and remedial measures	54
13.0	Electrical diagrams	55
14.0	Guarantee terms and declaration of conformity	56
15.0	EU Declaration of Conformity for the machine	57

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 with consideration to safety. Every person 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 operation.

Additional information on Maaselän Kone Oy's products is available on our website at www.maaselankone.fi.

Store the manual in the immediate vicinity of the machine.

1.2. The machine's purpose of use

The Hakki Pilke 1X37 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.

The maximum diameter for wood to be split is 37 cm. This limit may 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 or burrs, make the actual diameter larger, and may prevent wood from being fed into 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 model and basic information

Model	Normal Tr.	Normal Combi	Easy Tr.	Easy Combi
Drive	Tractor's cardan shaft	Tractor's cardan shaft/electricity	Tractor's cardan shaft	Tractor's cardan shaft/electricity
Weight	750 kg	810 kg	830 kg	890 kg
TR/Electrical drive	min 20 hp/480 rpm	20 hp/7.5 kW (min 20 A fuse)	min 25 hp/480 rpm	25 hp/10 kW (min 25 A fuse)
Height/width/length in the transport position	2630/1150/2480 (mm)	2630/1150/2480 (mm)	2,630/1,280/2,480 (mm)	2,630/1,280/2,480 (mm)
Input/output conveyor	2200/4,000 (mm)	2200/4,000 (mm)	2200/4,000 (mm)	2200/4000 (mm)
Blade flange Blade chain	16" groove 1.5 mm 66 loops, pitch 0.325"	16" groove 1.5 mm 66 loops/ 0.325"	16" groove 1.5 mm 66 loops/ 0.325"	16" groove 1.5 mm 66 loops/ 0.325"
Max wood diameter	37 cm	37 cm	37 cm	37 cm
Max wood length	max 60 cm; min 20 cm	60 cm/20 cm	60 cm/20 cm	60 cm/20 cm

The machine's serial number, manufacturing date, weight, operating voltage (electrically-operated machine) and model are indicated on the type plate located on the left-hand side of the machine from the operator's perspective.

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 must not be used indoors.

1.5. Safety instructions








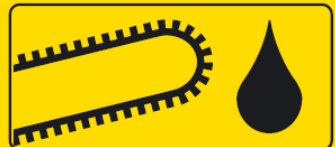



- This machine is intended to be used by one operator. The danger zone around the machine is 10 m.
- Persons under 18 years of age may not operate the machine.
- The operator must ensure that using the machine does not cause danger to others and that no extra or unauthorised persons are within the danger zone.
- Do not operate the splitter while under the influence of alcohol or drugs, or if you are tired.
- Do not use the machine if you have not familiarised yourself with this instruction manual.
- The machine has been designed solely for making firewood.
- The splitter 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 itself 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

 <p>VAARA-ALUE</p>	 <p>VARO TERÄKETJUA</p>	 <p>VAIN YKSI HENKIÖ TYÖALUEELLA</p>
 <p>SAMMUTA KONE ENNEN HUOLTOA</p>	 <p>VARO KONEEN LIIKKUVIA OSIA</p>	 <p>NIVELAKSELIIN KIETOUTUMISVAARA</p>
 <p>PURISTUMISVAARA</p>	 <p>ÄLÄ MIENE KULJETTIMEN ALLE KULJETTIMEN MAX. KALLISTUSKULMA</p>	 <p>VARO HALKAISEVAA TERÄÄ</p>
<p>DANGER ZONE</p>	<p>BEWARE OF THE CHAIN</p>	<p>ONLY ONE PERSON AT A TIME IN THE WORK AREA</p>
<p>SHUT DOWN BEFORE MAINTENANCE</p>	<p>BEWARE OF MOVING PARTS</p>	<p>RISK OF ENTANGLEMENT WITH THE CARDAN SHAFT TR/combi models only</p>
<p>RISK OF CRUSHING</p>	<p>DO NOT GO UNDER THE CONVEYOR MAX CONVEYOR TILT ANGLE</p>	<p>BEWARE OF THE SPLITTING BLADE</p>

 <p>LUE OHJEKIRJA ENNEN KÄYTTÖÄ</p> <p>READ THE MANUAL BEFORE USE</p>	 <p>KÄYTÄ SUOJAVARUSTEITA</p> <p>USE PROTECTIVE EQUIPMENT</p>	 <p>KÄYTÄ SUOJAVARUSTEITA</p> <p>USE PROTECTIVE EQUIPMENT</p>
 <p>TARTU PUUTA AINA KYLJISTÄ</p> <p>ALWAYS GRAB A LOG BY THE SIDES</p>	<p>MAX 480 RPM</p> <p>MAX RPM</p>	 <p>SCALE</p>
 <p>HYDRAULIÖLJY</p> <p>HYDRAULIC OIL</p>	 <p>PYÖRIMISSUUNTA VASEMMALLE</p> <p>LEFT ROTATION</p>	 <p>TERÄKETJUÖLJY</p> <p>CHAIN OIL</p>
 <p>NOSTOKOHTA TRUKILLE</p> <p>LIFTING POINT FOR FORKLIFT</p>	 <p>NOSTOKOHTA KOUKULLE</p> <p>LIFTING POINT FOR HOOK</p>	 <p>HÄTÄPYSÄYTYS</p> <p>EMERGENCY STOP</p>

2.0 Reception and assembly

2.1 Reception inspection

Dispose of the packaging in an environmentally friendly manner, and check that the machine has not been damaged during transit. Use the following list to ensure that you have received all parts included in the delivery. If you encounter defects or damage, contact the retailer immediately.

The splitter should include the following machine-specific components:

Component name and number	1X37 Tr.	1X37 Combi	1X37 Tr. Easy	1X37 Combi Easy	These parts are also included if the machine has a pivoting conveyor
1. Lifting pins	X	X	X	X	
2. Input conveyor support	X	X	X	X	
3. Sawdust guide	X	X	X	X	
4. Valve guard plate			X	X	
5. Pedal guard			X	X	
6. Cardan shaft guard	X		X		
7. Adjustment lever for the splitting blade	X	X			
8. Winch crank	X	X	X	X	
9. Conveyor belt guard	X	X	X	X	
10. Cable ties			X	X	
11. Winch support and winch					X
12. Conveyor turning lever					X

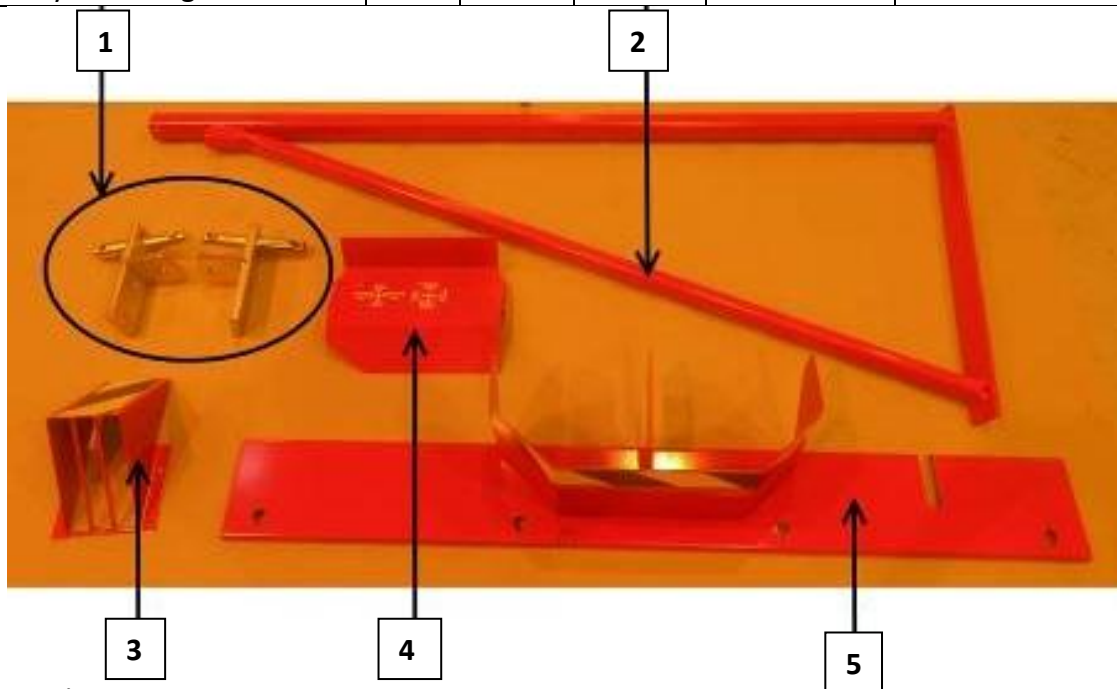


Figure 1

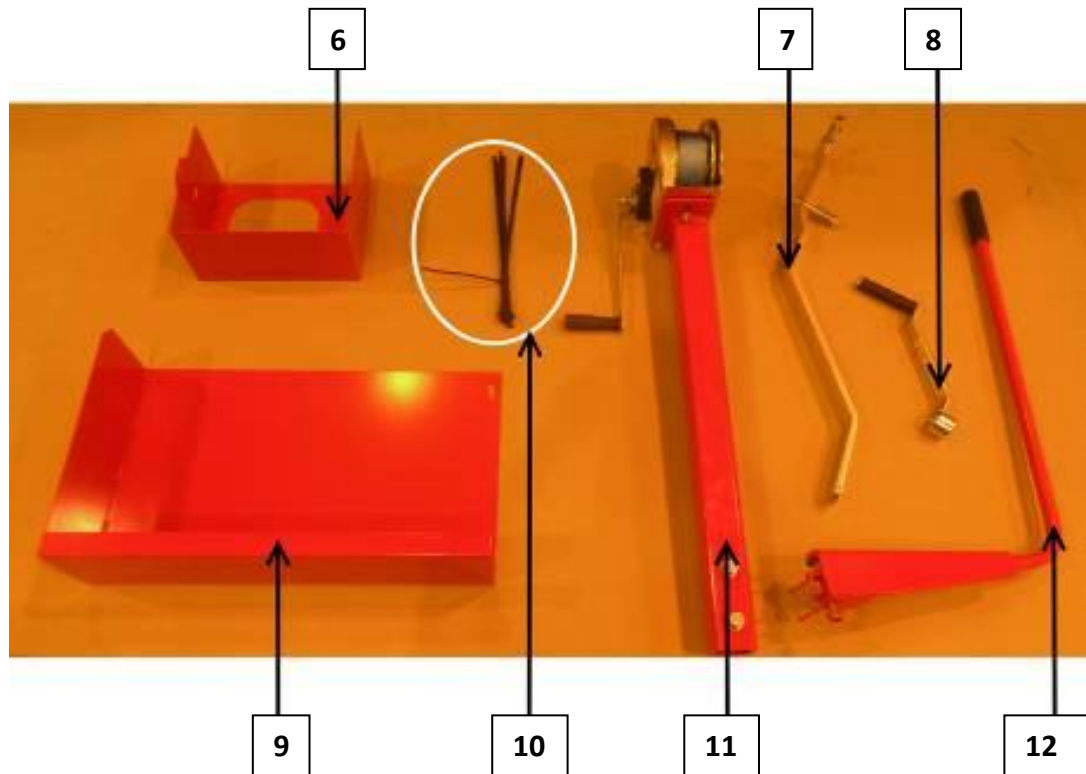


Figure 2

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 a tractor.



Figure 3. Lifting points for a forklift.



Figure 4. Lifting points for a chain or strap.

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Version 1-2011

When connecting the machine to a 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 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 ensure that they remain secure.

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. 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 main components of the Hakki Pilke 1X37 log splitter are presented in Figure 5.

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

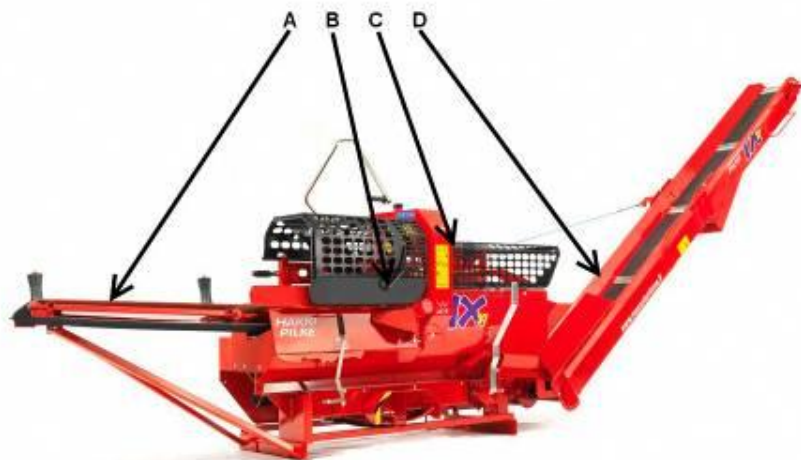


Figure 5. Main components of the machine.

2.4 Preparing the machine for operation

Install the components supplied with the machine as follows:

Attach the lugs (2 pcs), which have pins for the tractor drawbars (no. 1 in Figure 1), to the frame of the machine with three bolts. Tighten

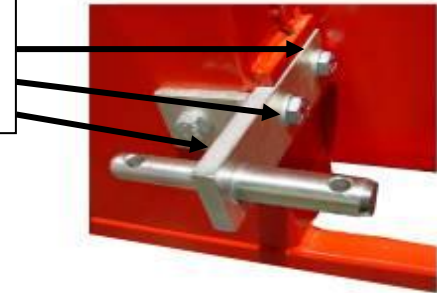


Figure 6.

Note! Each lug has pins for drawbars with small and large eyelets.

Install the pins that will connect the splitter to the tractor in the outermost position.

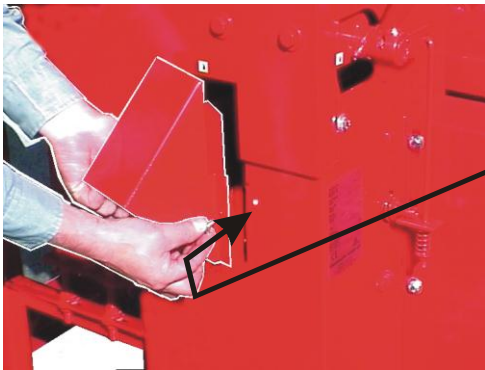


Figure 7.

Attach the blade chain's sawdust guide (no. 3 in Figure 1) to the machine frame with two bolts.

Use four bolts to fasten the cardan shaft guard (no. 6 in Figure 2) to the frame on the front side of the angle transmission. Tighten the bolts with a spanner. **Note! Does not apply to Combi models.**

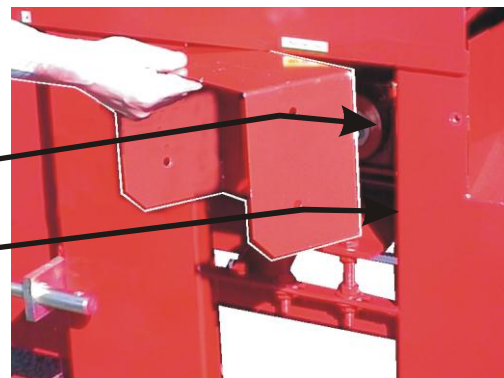


Figure 8.

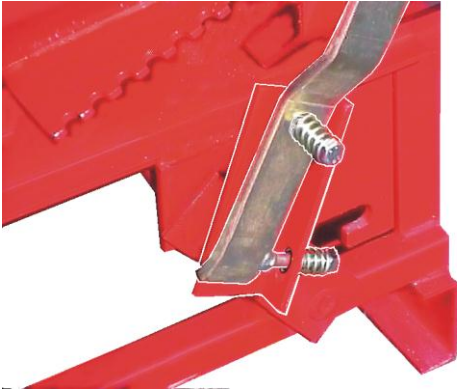


Figure 9.

Attach the height adjustment lever for the splitting blade (no. 7 in Figure 2) as shown in the figure. Install the spring that holds the lever in its slot on the outside of the lever, under the head of the bolt. Place the spring that enables the blade's movement under the nut. Tighten the nut so that it applies slight pressure on the spring. Ensure that the spring has enough play. **Note! Does not apply to Easy models.**



Figure 10.

Install the crank for the conveyor winch (no. 8 in Figure 2) by screwing it into place, and lock it with a nut. **Note! Do not fully tighten the nut. Leave a 3 mm clearance between the crank and the nut!**

Release a sufficient length of the winch strap by rotating the crank clockwise, and attach the winch hook to the conveyor. **Ensure that the hook locks into place!**



Figure 11.

Install the guard for the output conveyor V-belt (no. 5 in Figure 1) with three bolts as shown in the Figure. **Does not apply to pivoting conveyors!**



Figure 12.

Attach the input conveyor's support (no. 2 Figure 1) to the input conveyor with a bolt.

Additional parts to be installed in Easy models:



Install the pedal guard (no. 5 in Figure 1) with four bolts as shown in the figure.

Figure 13.



Lift the control panel into place, and fasten it with four bolts.

Figure 14.



Attach the valve guard to the control panel with two bolts as shown in the figure.

Figure 15.

Parts to be installed in machines with a pivoting output conveyor:

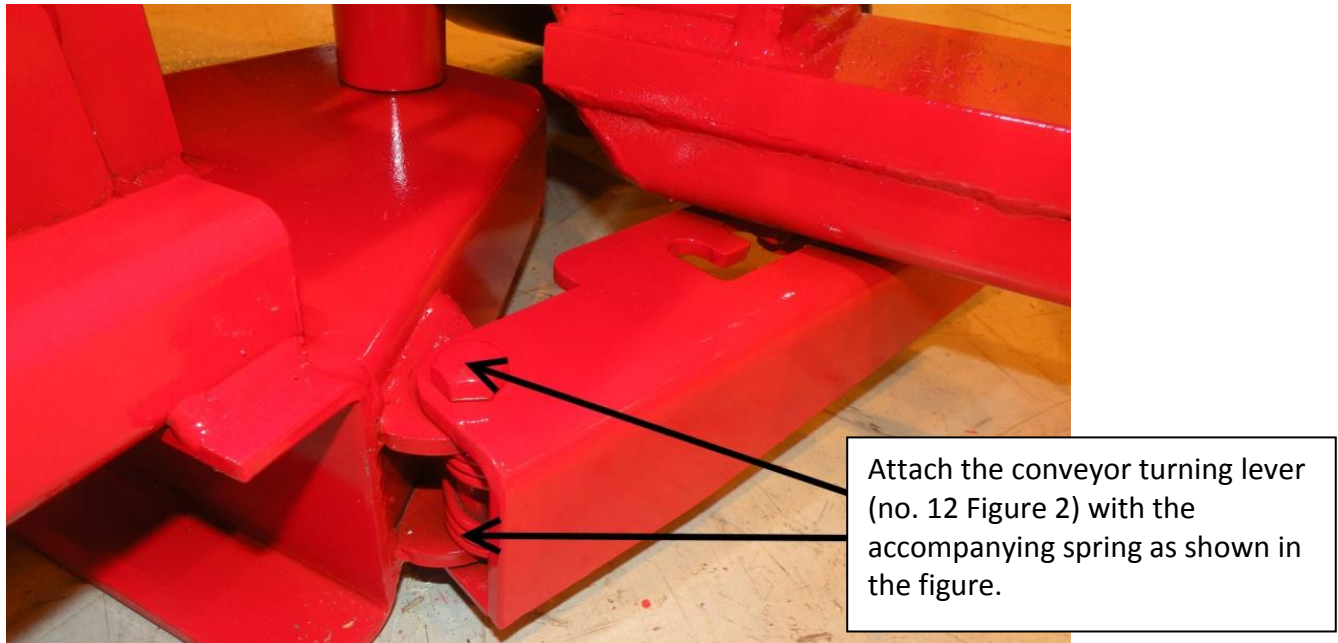


Figure 16.



Figure 17.

Install the winch support, place the winch (no. 11 in Figure 2) in its slot and tighten the bolts (2 pcs).

Release a sufficient length of the winch strap by rotating the crank clockwise, and attach the winch hook to the conveyor.
Ensure that the hook



Figure 18.

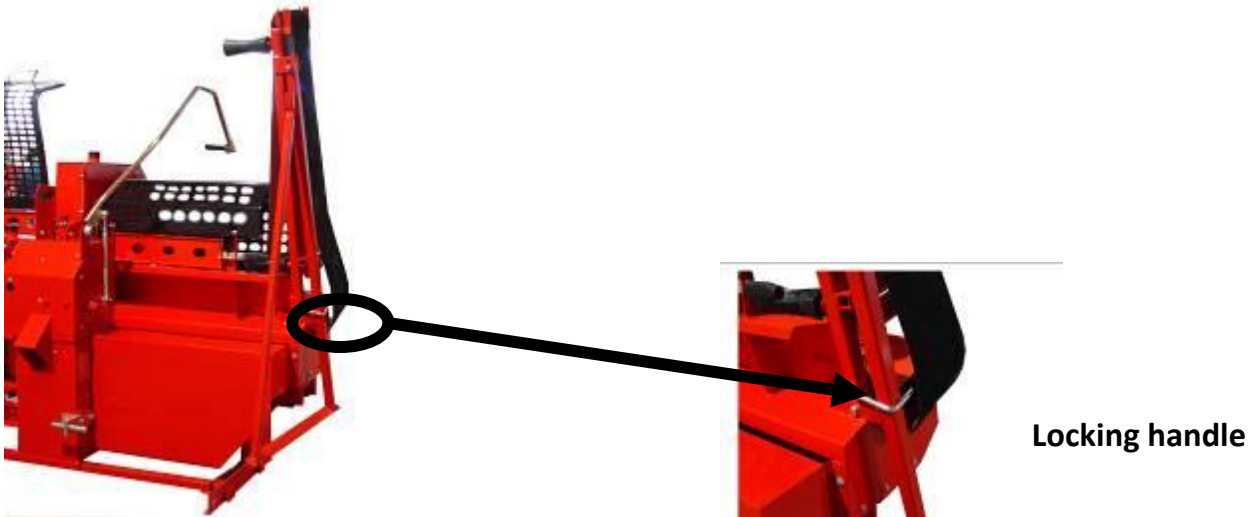
3.0 Control functions and preparation

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 consider the safety instructions in Section 1.5.

Note! Inspect and clean the machine according to Sections 2.1 and 9.0 before arranging it for transport.

3.2 Placing the input conveyor in the operating or transport position



1. Remove the split pin from the locking handle.



2. Remove the locking handle from the support.

Retain the split pin of the locking handle and the locking handle of the support.



3. Lower the conveyor to a horizontal position, and insert the conveyor support in the slots in the lower section of the machine's frame.



TO PLACE THE CONVEYOR IN THE TRANSPORT POSITION, REVERSE THE ORDER OF THE MEASURES COMPLETED TO PLACE THE MACHINE IN THE OPERATING POSITION!

REMEMBER THAT THE LOCKING HANDLE LOCKS THE SUPPORT IN PLACE!

3.3 Placing the output conveyor in the operating position



1. Use the winch to loosen the strap.



2. Push the conveyor towards the splitter, and release the conveyor lock by lifting the locking handle.



3. Pull the conveyor until the winch strap tightens.



4. Use the winch to lower the conveyor.



5. Lift the conveyor extension by the handle.



6. Extend the conveyor to its full length.



7. Use the winch to adjust the conveyor to the desired inclination, and lock the extension with the lock at the bottom of the conveyor and with a ring pin.

8. Turn the belt support to the side of the conveyor.



CHECK THE CONDITION OF THE CONVEYOR WINCH AND ITS COMPONENTS ON A DAILY BASIS. IF YOU DISCOVER A FAULT, NO MATTER HOW SMALL, REPLACE THEM.



NOTE!
DO NOT PASS UNDER THE CONVEYOR!

3.4 Placing the output conveyor in the transport position

Arrange the conveyor for transport by reversing the order of the steps in Section 3.3.



1X37 log splitter in the transport position



Always ensure that the transport position is locked!

Do not transport the machine if it cannot be locked!

Repair or replace faulty parts!

4.0 Control devices

The control devices of the Hakki Pilke 1X37 log splitter (basic model) are presented in Figure 19. The names and functions of the control devices are as follows:

- A. Operating lever for the cutting flange, which also controls the feed motion of the input conveyor
- B. Wood press handle
- C. Operating lever for the splitting mechanism (manual control)
- D. Control valve for an auxiliary device (accessory)
- E. Reverse pedal for the input conveyor
- F. Running speed adjuster for the output conveyor (in machines with a pivoting output conveyor)
- G. Startup pedal for the splitting mechanism (manual control)
- H. Height adjustment lever for the splitting blade

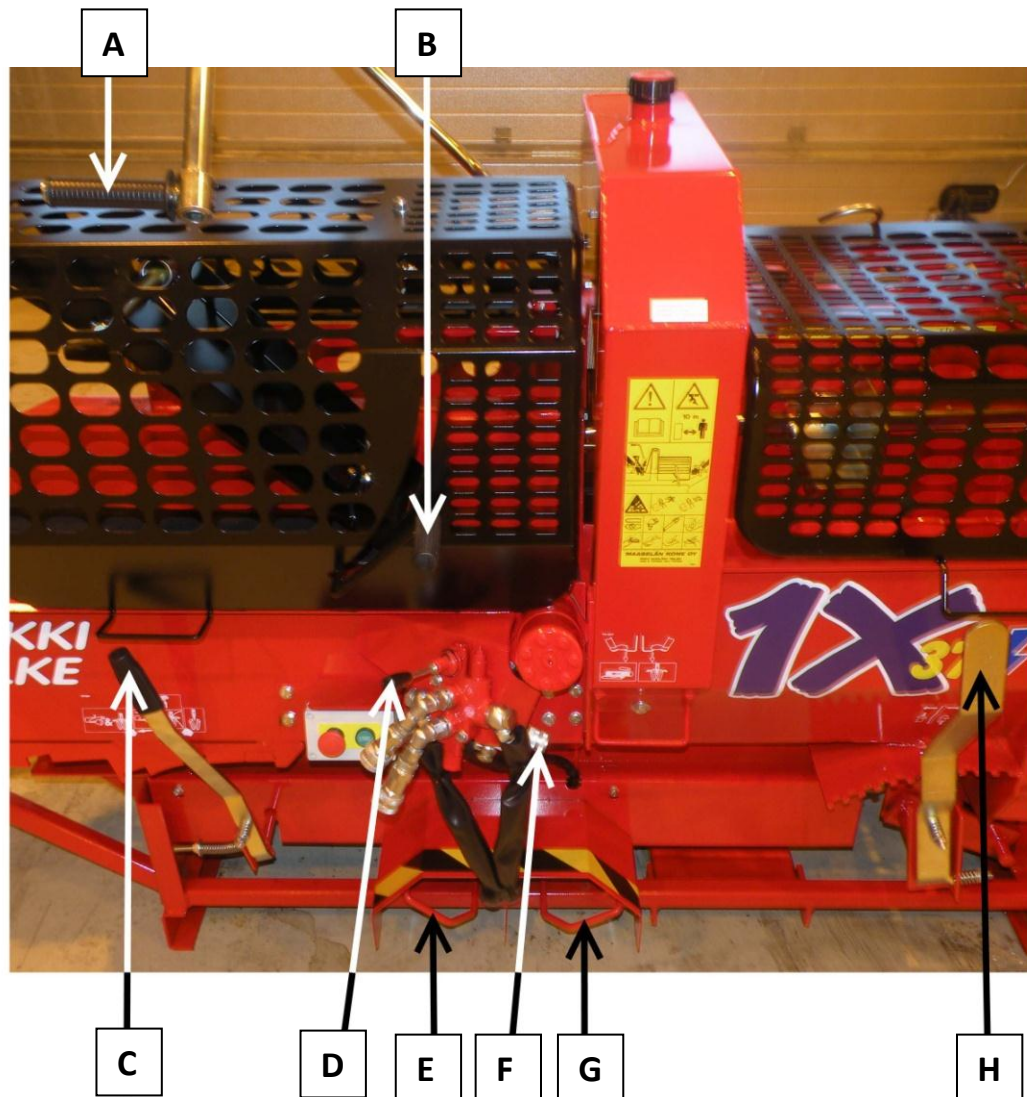


Figure 19. The control devices of the machine (basic model)

In the Hakki Pilke 1X37 Easy model, the controls A, E and H have been replaced with the control levers A and B in Figure 20.

- A. Height adjustment of the splitting blade and control of an auxiliary device
- B. Conveyor belt forward/back and cutting flange up/down

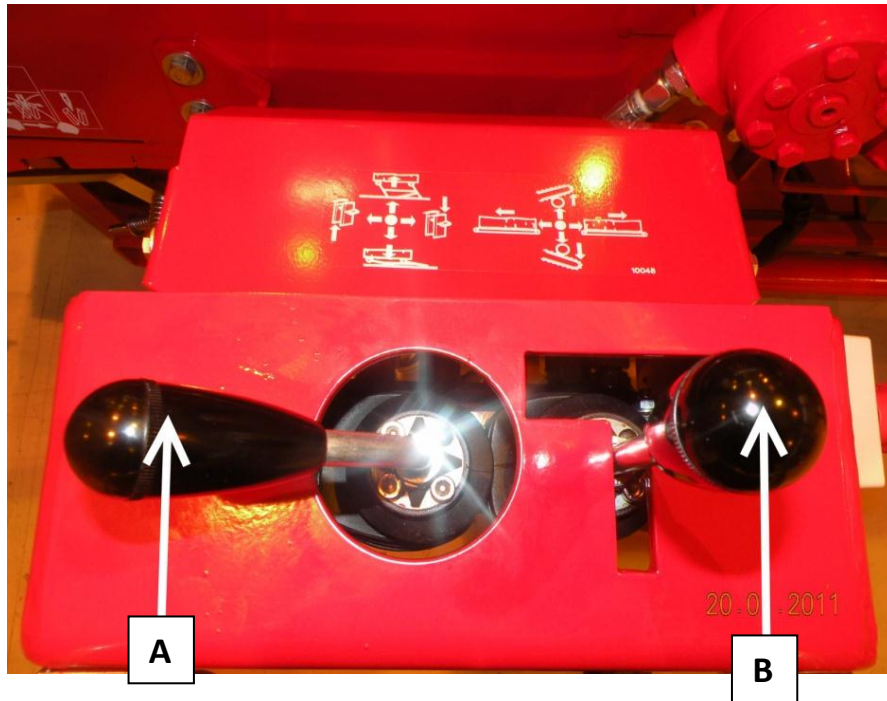


Figure 20. The control devices of an Easy model

4.1 Tractor drive

A tractor-powered splitter is connected to the tractor's cardan shaft. To connect the machine to the cardan shaft, you need to move the protective cover A (Combi model) of the electrical connector and angle transmission into a position where it covers the electrical connector.

A single person must connect the cardan shaft to the splined shaft B of the angle transmission. 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 log splitter before connecting them. Never use faulty equipment.

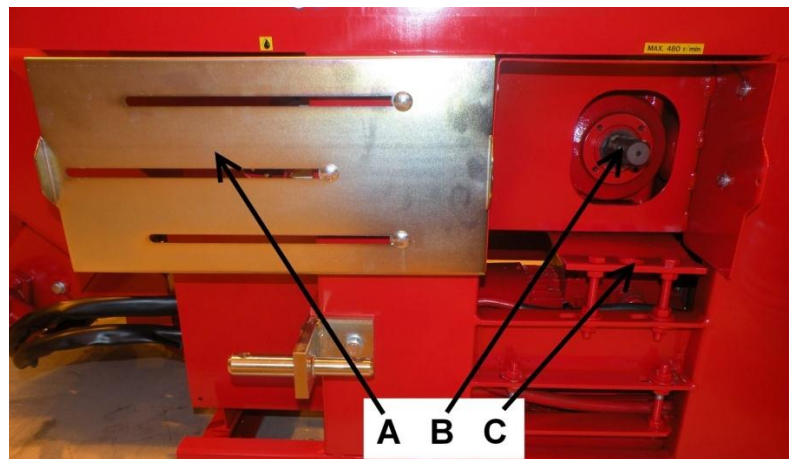


Figure 21. Powering the machine with a tractor

When utilising the cardan shaft, observe any instructions provided by the shaft's manufacturer. The splitter requires at least 7.5 kW of power (10 kW for the Easy model), which must be taken into account with regard to the capacity of the cardan shaft. A suitable shaft would be, for example, B1080CEACOA60. Check that the shaft is properly locked to the splined shaft of the angle transmission! The chain that prevents the guard from rotating must be attached to point C of the angle transmission's base. Never use a damaged or unprotected cardan shaft.

Note! Tractor-powered splitters must be attached to the tractor's lifting equipment.

4.2 Electrical drive

An electrically-powered splitter requires 7.5 kW of power for the basic model and 10 kW for the Easy model. The fuse must be at least 20 A in the basic model and 25 A in the Easy model. The electrical cable must be at least 5 x 2.5 mm² (7.5 kW) or 5 x 4 mm² (10 kW). In order to connect the cable, move the protective cover B of the electrical connector A and angle transmission into a position where it covers the angle transmission.

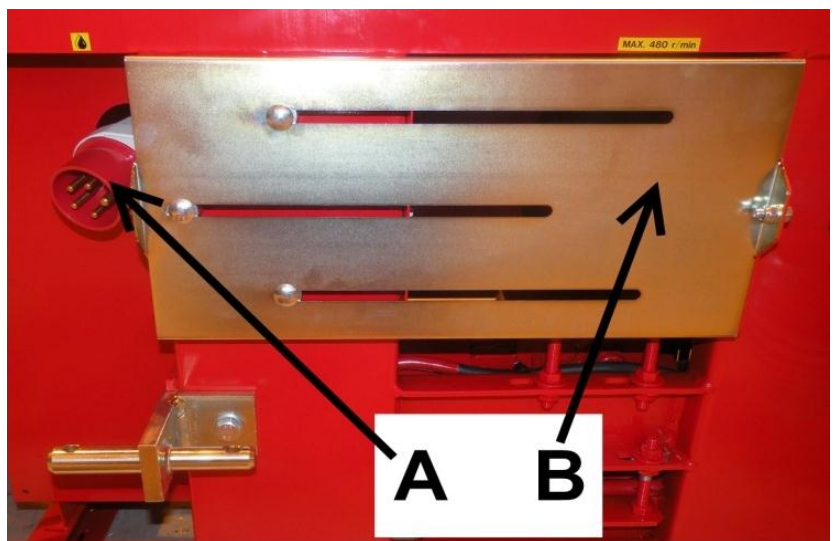


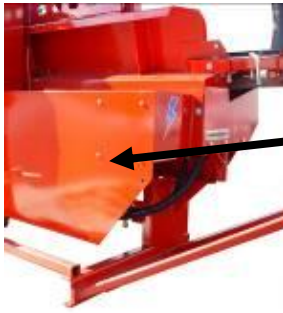
Figure 22. Powering the machine with electricity

To start the splitter, use the starter located on the front side of the machine where the operator stands (Note! In the Easy model, the starter is on the right side of the control panel). 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.



Figure 23. Starter

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.



The actual starter box is located behind the splitter, under a protective cover.

You can open the cover by removing the locking bolt.



Figure 24.



The splitter will not start with the green switch unless the stop switch at the front of the machine is disengaged.

Use the red button to stop the splitter.

Figure 25.

4.3 Adjusting the log length and the height of the splitting blade

The Hakki Pilke 1X37 is equipped with a mechanical log measurement device with an incremented adjustment range of 20–60 cm.

1. To adjust the length of the wood to be cut, set the operating lever C (Figure 19) to the Stop position, which enables you to open the guard of the splitting blade.
2. When the wood limiter is in splitting position, set it to the desired length by removing the cotter pin in the limiter's locking pin and by pulling out the locking pin. Lock the plate in the desired position. Re-insert the locking pin and cotter pin.
3. Lower the splitter guard and turn the operating lever C back to the Run position.



NOTE! When the wood diameter exceeds 30 cm, turn the limiter!

4. Check that the splitting beam is in the initial position and not extended towards the splitting blade.



5. Set the splitting blade to the desired height according to log size by using the adjustment lever.



Note! The splitting blade can also be removed.

1. Lower the blade with the adjustment lever.
2. Lift the blade out.
3. Re-install the blade in the reverse order.



4.4 Operating and adjusting the output conveyor

The belt of the Hakki Pilke 1X37 log splitter's output conveyor is driven by a V-belt, **which means that the conveyor belt will begin running immediately when the splitter is activated.** The V-belt transmits the power from the splined shaft of the angle transmission to the output conveyor's belt pulley, where an automatic tightening mechanism maintains the V-belt at an optimal tension. Note! The V-belt retaining bolt can be detached when replacing the V-belt. This makes it easier to install a new belt.

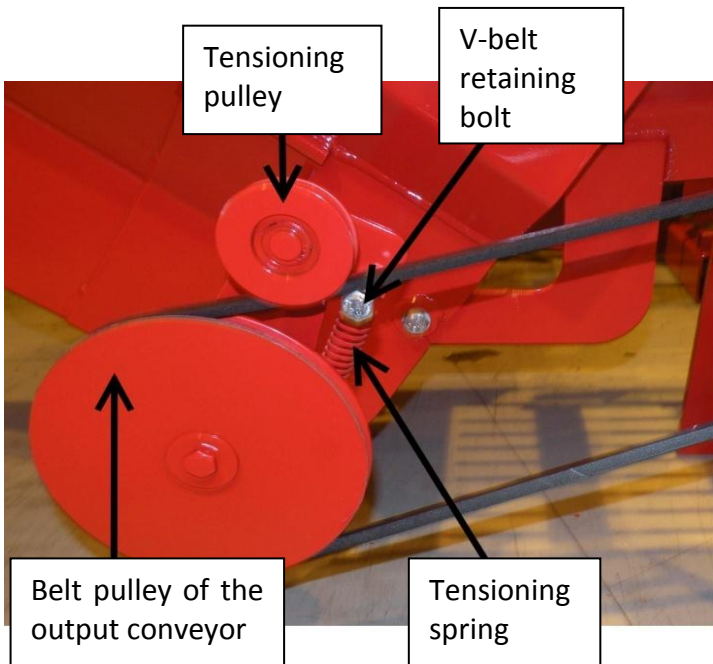


Figure 26.

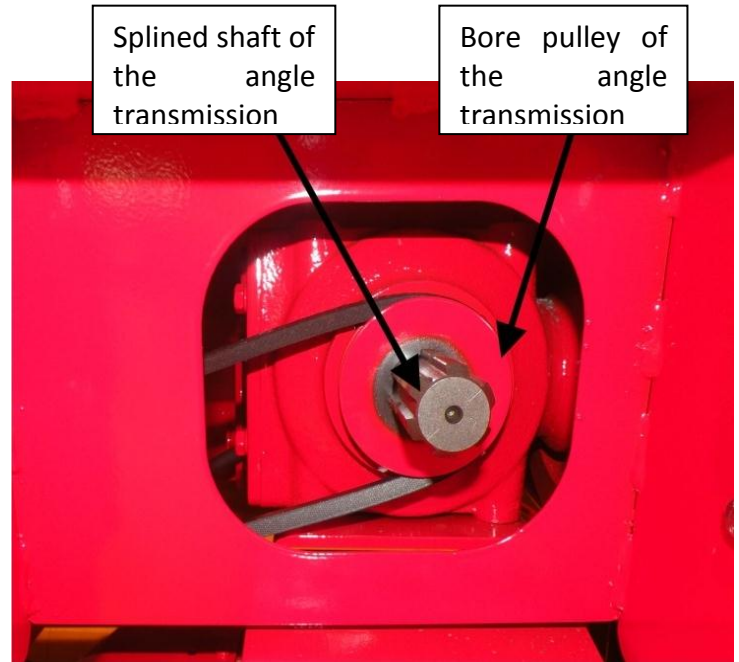


Figure 27.



Figure 28.

The tension of the output conveyor's belt can be adjusted with the adjustment nuts in the figure (2 pcs/conveyor). These nuts also adjust the alignment of the conveyor belt.

If the Hakki Pilke 1X37 log splitter is equipped with a pivoting output conveyor, the belt of the output conveyor is driven by a hydraulic motor. To change the speed of the belt, use the adjuster **F** shown in **Figure 19**. The following describes how the conveyor can be turned laterally by using the turning lever A and handle B:

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.

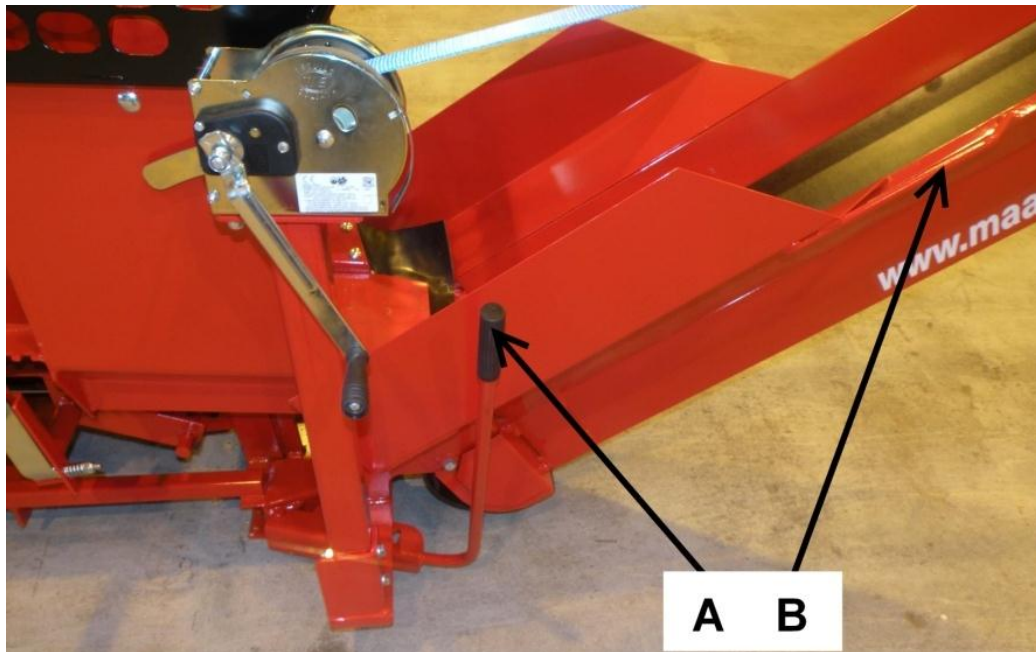


Figure 29.

So-called self-cleaning output conveyors are equipped with separate debris removal devices, which separate smaller debris and sawdust from the processed firewood. Due to its lower kinetic energy and smaller size, this waste material does not fly over the separation plate with the split wood. Instead, it falls to the bottom of the separation plate A, after which it is conveyed to the middle section of the conveyor and expelled through the discharge opening D. In a self-cleaning output conveyor, belt tension is adjusted with the adjustment nuts C.



Separation plate A

Separation plate adjustment screw B (2 pcs/conveyor)

Belt tightness adjustment screw C (2 pcs/conveyor)



Debris discharge opening D

Figure 30.

Figure 31.

The following things 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 A 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 A and the upper roller. The distance of the separation plate A is optimised (with the adjustment screw B) at the factory in conjunction with the machine's testing. However, the adjustment can be changed, if necessary. The optimal running speed for the belt can be determined by trying different settings. The split wood should only just pass over the plate. The adjustment plate can be adjusted with the separation plate screws B.

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.

4.5 Using the blade chain's oil adjuster

The amount of oil that is fed to the blade chain can be adjusted with the valve in Figure 32. Closing the valve (clockwise) reduces the oil flow and opening it (anti-clockwise) increases the flow. In the summer, the correct adjustment is 1,25 rotations while, in the winter, the adjustment should be 1,5-2 rotations. Monitor the oil flow to the blade chain when there are changes in the weather. In warmer weather, the oil is more viscous and flows considerably smoother than in cold conditions.

NOTE! The blade chain lubrication opens or closes automatically when the splitter is activated or shut down. The adjustment valve only changes the rate of the flow.

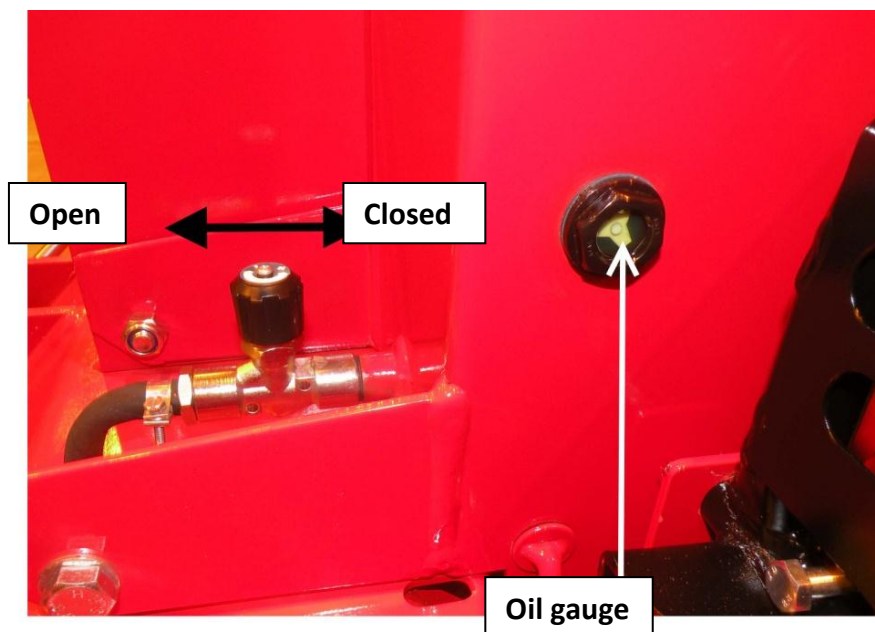


Figure 32.

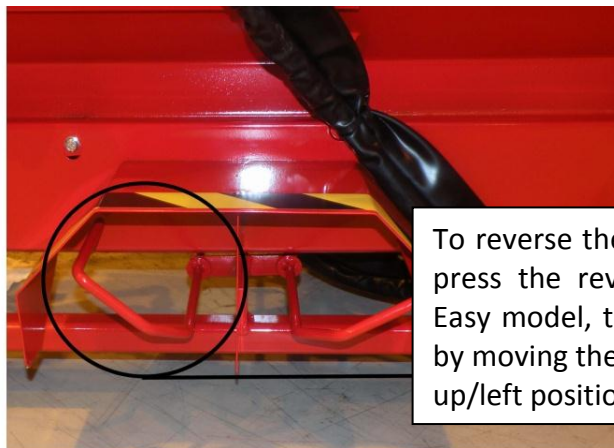
The oil gauge in Figure 32 indicates when blade chain oil must be added. When the gauge is an oily brown, the oil level is sufficient, but when the gauge is clear, oil must be added immediately.

4.6 Operating and adjusting the input conveyor



The input conveyor is activated when the cutting lever is moved up from its initial position. Note! In the Easy model, the conveyor can be activated with the control lever B (in Figure 20) by pushing the lever to the up/right position.

The conveyor stops when the cutting lever is lowered to the initial position or when wood is cut by pushing the lever downwards. In the Easy model, the conveyor stops when the control lever B is restored to the centre position or when the lever is pulled backwards.

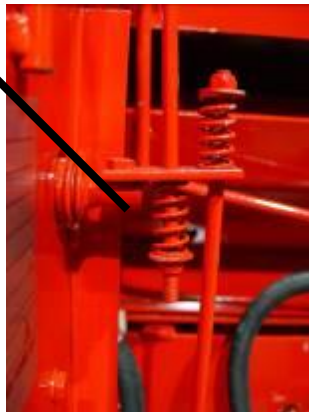
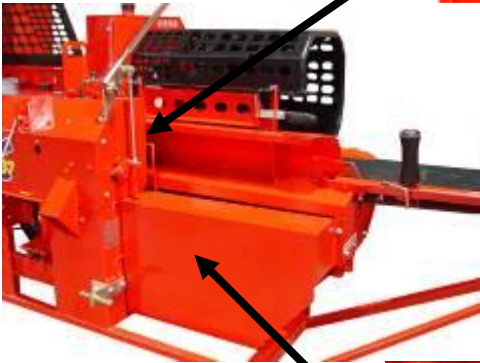


To reverse the input conveyor belt, press the reverse pedal E. In the Easy model, the same can be done by moving the control lever B to the up/left position.

The lever handle can be changed to suit left or right handed users, and the handle can be lifted to the desired height.



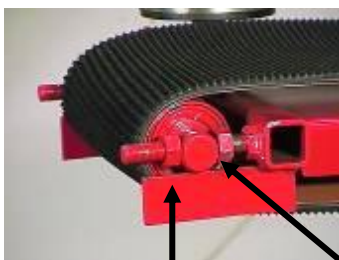
The sensitivity of the input conveyor's movement can be adjusted with the lever mechanism of the valve controlling the conveyor.



The adjustments for lever movement are located behind the valve cover.

Belt adjustment:

Open the locking nuts and use the adjustment nuts to adjust the belt tension to a suitable level. Finish by tightening the locking nuts.



Locking nuts

Adjustment nuts



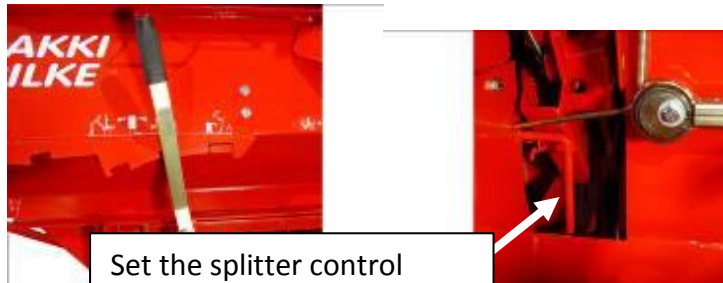
If the belt veers to the side, adjust the belt with the adjustment nut on that side. This will guide the belt to the middle of the frame.

4.7 Using the input conveyor guard and wood press



The wood press keeps the logs in place when they are being sawed. Do not put your hand between the wood press roller and the input conveyor belt!

When opening the input conveyor guard:



Set the splitter control lever to STOP.

Hold the lever that lifts and lowers the input conveyor guard!

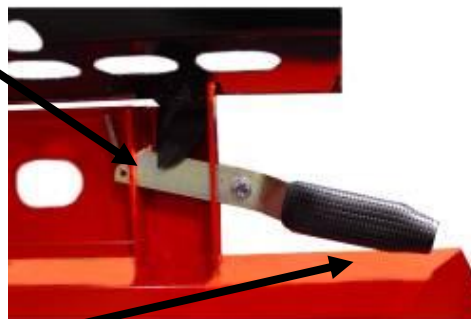




Ensure that the feed conveyor guard is properly locked in the raised position!



When opening the input conveyor guard, ensure that the locking handle locks the guard in the raised position!



To close the input conveyor guard, push the guard backwards and release the lock. Lower the guard.
DO NOT DROP IT!

DO NOT REMOVE THE GUARDS!

5.0 Operating the machine

5.1 Test running the machine

The machine must not be used before carrying out a test run and testing all the functions. Both the test run and testing can only be performed by a person who has studied the machine's manual.

Before the test run, all the 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 must not be used until the faulty or worn component is replaced and safe use can be ensured.

1. Ensure that the guards of the input conveyor and the splitting section are lowered and that the splitter's operating lever is in the Run position.
2. Check that the input and output conveyors are in the operating position.
3. Ensure that the splitting groove is empty.
4. Activation
 - a. Tractor-powered: Start the tractor and connect the output, starting with slow speeds and increasing the speed to a maximum of 480 rpm.
 - b. Electrically-powered: Connect a cable to the log splitter's electrical connector, start the splitter by pressing the start button and wait a moment. This activates the electric motor at full speed.
5. Ensure that the blade chain's oil valve is sufficiently open. If necessary, see Section 3.2.5.
6. Use the splitter's controls to perform a cutting motion, and ensure that the motion is normal as the cutting flange returns up.
7. In extremely cold weather, repeat the cutting motion with the activation pedal G (in Figure 19) to warm up the oil until the motion is performed at normal speed.
8. Activate the cutting motion with the pedal and stop it by turning the splitter's operating lever C (in Figure 19) to the Stop position. Note! The cutting flange must be in the raised position.
9. Ensure that the splitting beam returns to the initial position by turning the operating lever C to the right, which reverses the splitting beam.
10. Test run the input conveyor's input motion with the operating lever A and the return motion with the reverse pedal E (in Figure 19). In the Easy model, use the control lever B shown in Figure 20.
11. Ensure that the path of the wood press is normal by using the wood press handle B as seen in Figure 19.
12. Make sure that the input conveyor runs normally and does not chafe against the walls. If your splitter is equipped with a pivoting output conveyor, test run the output conveyor's speed adjustment valve F (in Figure 19).

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

5.2 Placing wood on a log holder

We recommend auxiliary devices, such as a Woodran 421/Woodran 422 log holder or the Woodlift 371 hydraulic log hoist. If a log holder is not attached to the splitter, the maximum allowed log length is 4.0 m. Always lift and place wood on the input table in a safe manner that does not endanger the operator.

Note! Placing logs directly on the input table with a loader is strictly prohibited.

5.3 Feeding and sawing wood

The input conveyor feeds the wood that is to be processed into the splitter. To drive a log into the machine, use the lever A in Figure 19 of Section 4.0. To reverse the feed, use the reverse pedal E.

In the Easy model, wood can be fed with the control lever B (in Figure 20) by pushing the lever to the up/right position. To reverse the feed, move the lever to the up/left position.

When feeding wood, ensure that the log does not present a risk of getting caught between the log and the machine, for example due to the shape of the wood. Do not use your hand to guide the log into the cutting section. Adjust the mechanical measurement device to the desired measurement (and start the output conveyor if the splitter is equipped with a pivoting conveyor).

1. Choose the log to process. Note that the maximum log diameter is 37 cm. The knottiness and shape of the wood increase the diameter.
2. Close the splitter guards and place the log, butt end first, on the input conveyor under the wood press.
3. Lift the lever A to start feeding the log into the machine. Continue until the log hits the measurement plate, at which point the input motion must be stopped.

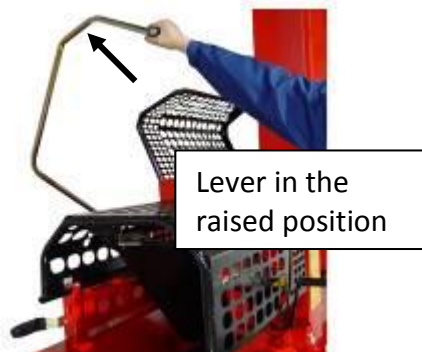


Figure 33.



Figure 34.

4. Cut the log by lightly pressing down the lever A (do not strike the lever down). Once the log has been cut and the cut wood has fallen into the splitting groove, hold the cutting lever down and check the position of the fallen wood in the groove. If the piece is straight, lift the cutting lever to the middle position, which automatically activates the splitting process.

When using the Easy model, perform steps 3 and 4 with the control lever B in Figure 20.

Note! If the wood piece is not straight in the splitting groove and it is likely that it will jam the splitting blade, do the following:

Raise the cutting blade. Move the splitter's operating lever C to the Stop position before the splitting beam pushes the wood against the splitting blade. Return the splitting beam to the initial position by moving the splitter's operating lever C to position Split return (far right).

When the splitter's operating lever is in the Stop position, lift the guard of the splitting groove and straighten the misaligned wood piece.

Lower the guard, place the splitter's operating lever to the Run position and re-activate the splitting process with the activation pedal G (in Figure 19).

5.4 Jamming the cutting blade

If the cutting blade is jammed in the wood, stop sawing and try again in another position. 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 always drags to the duller side, which makes cutting a thicker log impossible. Moreover, sawing with an evenly dull chain is inefficient, and the chain must be sharpened or replaced (see Section 6.2).

With the Easy model, also ensure that the lowering speed/pressure of the cutting flange is not excessive in proportion to the log size! The pressure of the cutting flange's downward motion can be adjusted by using the pressure adjustment cartridge in the figure.



The pressure adjustment cartridge for the cutting flange's downward motion. To increase the pressure, tighten the hex socket screw. To reduce the pressure, loosen the screw. There is no separate design value for the cartridge. The operator should adjust the pressure as necessary.

Figure 35.

5.5 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. In this way, the wood will stay firmly under the wood press. The sawing will be steady and safe when you help the wood press by pressing it against the wood with the handle B (in Figure 19). Drive the last wood piece directly into the splitting section, and start the splitting process with the pedal.

5.6 Splitting wood

Perform the splitting motion as follows:

1. Move the splitter's operating lever C to the RUN position. (The splitter's guards must be closed).



2. Press the lever A to the lower position and then let it return to the initial position.



3. Ensure that the splitting beam moves close to the splitting blade and returns to the initial position – i.e. the splitting motion works.



You can also start the splitting motion with the pedal G (in Figure 19) by briefly depressing the pedal. Do not keep the pedal pressed for long – about one second is enough. The foot pedal is primarily intended for splitting the last piece of wood. By using the pedal, the operator has no need to unnecessarily lower the cutting flange. Instead, the splitting can be activated more quickly and easily with the pedal.

If there is a problem with splitting and the splitting beam must be prematurely returned to the initial position, do the following:

Move the splitter's operating lever C to the right to reverse the splitting beam back to the initial position.



IMPORTANT! Using the machine is strictly prohibited if the splitter's operating lever is in the RUN position and the guard of the splitting section can be opened! The faulty locking mechanism must be repaired immediately. It should only be possible to open the guard of the splitting section



NEVER PUT YOUR HAND IN THE CUTTING OPENING IF THE SPLITTER IS RUNNING. STOP THE MACHINE FOR MAINTENANCE!

5.7 Jamming wood on the splitting blade

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

1. Return the splitting beam to the initial position by turning the operating lever C to the far right position.
2. Lift the splitting blade to the highest possible position with the operating lever H (in Figure 19). In the Easy model, use the control lever A (in Figure 20).
3. Cut a sufficiently thick piece of wood (approx. 20–25 cm) into the splitting groove, and activate the splitting process with the pedal G (in Figure 19). The new piece will then push the jammed piece past the blade.
4. Lower the blade by approx. 10 cm and repeat step 3. Repeat step 4 until the jammed wood has passed the blade piece by piece.

5.8 Re-splitting or splitting without cutting

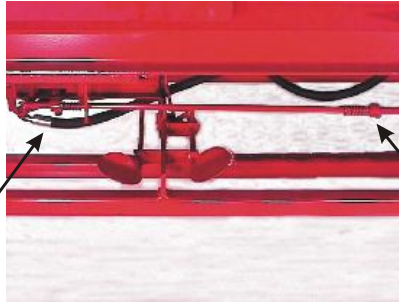
1. Turn the operating lever C to the STOP position and lift the splitting groove guard to the raised position.
2. Place the log you want to split in the splitting groove.
3. Close the guard of the cutting and splitting section, and turn the operating lever C to the splitting position.
4. Start the splitting process with the pedal (pedal G in Figure 19).

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

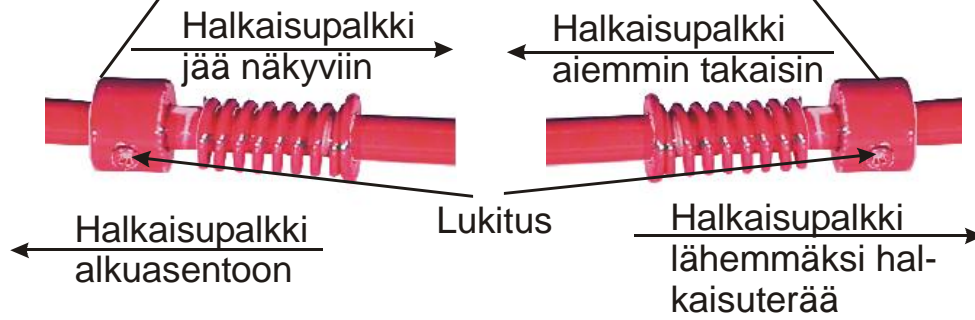
5.9 Adjusting the length of the splitting motion

In the Hakki Pilke 1X37 log splitter, the length of the splitting motion can be freely adjusted. Even though the splitting adjustments are optimised in conjunction with the final testing, the adjustments can change as a result of numerous splitting motions. Therefore, the adjustments should be regularly checked to ensure that the motion of the splitting cylinder is not excessively long.

The starting position of the splitting beam can be adjusted by moving the left-hand stopper.

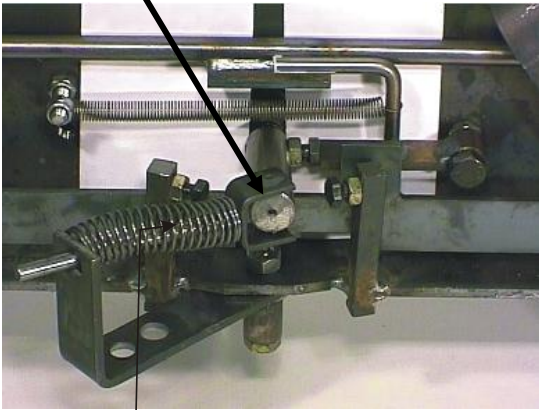


Moving the right-hand stopper adjusts the return motion of the splitting beam, i.e. how close to the splitting blade the splitting beam is brought.

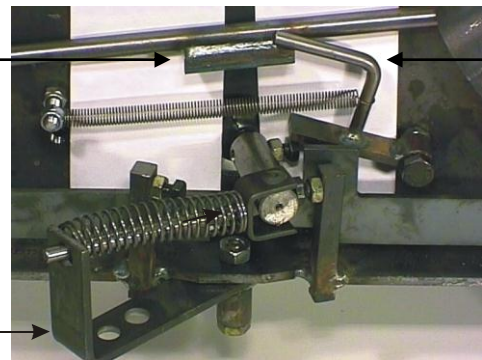


5.10 Operation of the valve/splitting levers

1. In the initial position, the jointed lever is in the middle position.



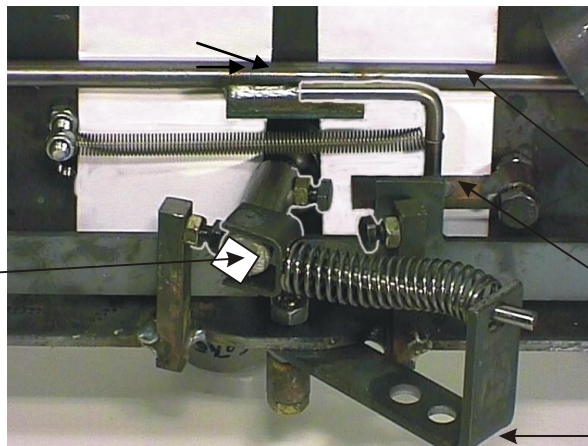
3. After cutting the wood, when the cutting lever is lifted up, the trigger lever is also raised lifting up the trigger rod. When the trigger rod is up, the spring presses the jointed lever to the right enabling the splitting motion to begin.



Venttiilivipu

2. The spring presses the jointed lever to the right.

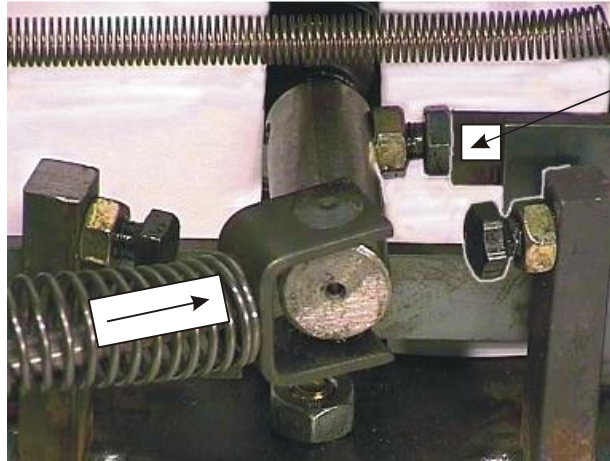
4. When the splitting beam is near the splitting blade, the valve lever turns to the right forcing the spring to press the jointed lever to the left. This returns the splitting beam to the starting position.



5. When the jointed lever is on the left, the trigger lever and trigger rod are lowered to the initial position.

Valve lever

6. When the splitting beam returns to the initial position, the valve lever forcing the spring turns to the left and forces the spring to press the jointed lever to the right.



7. The depressed trigger rod stops the jointed lever in the middle position halting the splitting system.

5.11 Automatic acceleration valve

Operation of the automatic acceleration: The acceleration is always engaged. The motion slows down and the splitting force increases as the splitting resistance rises to over 120 bar (factory setting). The limit value for slowing down the splitting motion can be changed as follows:



1. Remove the locking bolt of the valve unit's cover.



2. Open the valve unit's cover.



3. Open the locking nut of the acceleration valve's adjustment bolt.

**1 rotation
= approx.
10 bar**

4. Use the adjustment bolt to set the pressure to the desired level.

Adjustment directions:

Closed – the motion slows down at higher resistance

Open – the motion slows down at lower

The acceleration valve accelerates the splitting motion by 33%.

NOTE! Speeding up the splitting motion reduces the splitting force.

Warning! Never leave the acceleration valve's adjustment bolt fully closed! Open the bolt at least one rotation from the closed position.

5.12 After use

1. After you have finished making firewood, 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 away from the processed firewood.
4. Use your tractor's hydraulics to hoist the log splitter and move it to a location where you can place the input and output conveyors into their transport and storage positions.
5. Place the conveyors into the transport and storage position.
6. Clean and maintain the machine.

6 Maintaining the machine

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 need to be removed for maintenance, they must always be reattached before activating the machine. The splitter must be test run according to the instructions in Section 4.1 after maintenance and adjustment measures.

6.1 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.

6.2 Replacing, tightening and sharpening the blade chain

Sharpening and replacing the blade chain:

WEAR GLOVES WHEN HANDLING THE BLADE CHAIN!

Always shut down the splitter when preparing for blade sharpening.



1. Set the splitter's operating lever to Stop.



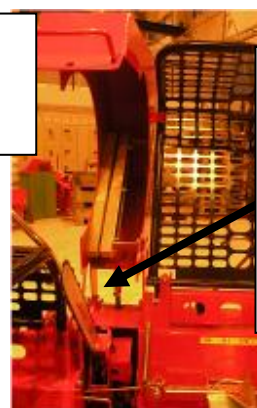
2. Open the splitting groove



3. Lift the input conveyor guard, and ensure that the guard is locked in the raised position.



4. Open the cover of the blade housing



5. Turn the cover of the blade opening to the back position. Ensure that the cover support locks into place!

Beware the cutting blade! Use protective gloves!

ALWAYS ENSURE THAT THE LOCKING PIN OF THE BLADE GUARD LOCKS THE

GUARD IN THE RAISED POSITION!

6. Loosen the two fastening bolts of the blade flange and the chain tensioning screw in order to remove the chain.

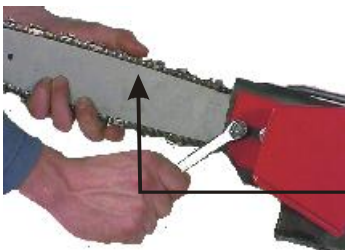


7. Replace the dull blade by reversing the above steps or sharpen the blade by filing it in a vice or sharpening device.

Tightening the blade chain

1. Loosen the two fastening bolts of the blade flange, and use the chain adjustment screw to adjust the chain tension.

2. Use the adjustment screw to adjust the blade chain. The chain is at the correct tension when pulling the chain fully displays one of the lower teeth.



3. Lift the flange and tighten the fastening bolts. Then, lower the guards and lock them in place.

Do not use the machine if the cutting blade is visible through the cutting opening and the blade is not completely raised inside the guard!



If the blade is not completely raised, tighten the spring pulling the blade by turning its adjustment nut. If the adjustment is not enough, replace the spring.

6.3 Replacing the cutting flange

Replace the blade flange as follows:

1. Remove the blade chain according to steps 1–6 of Section 6.2.
2. Remove the flange bolts A, and detach the fastening plate B on the other side of the flange.
3. Remove the flange from the groove.
4. Place the new flange against the gear wheel C, twist it into the groove and loosely attach the flange bolts A and the fastening plate B.
5. Install and tighten the blade chain according to steps 8–10 of Section 6.2.

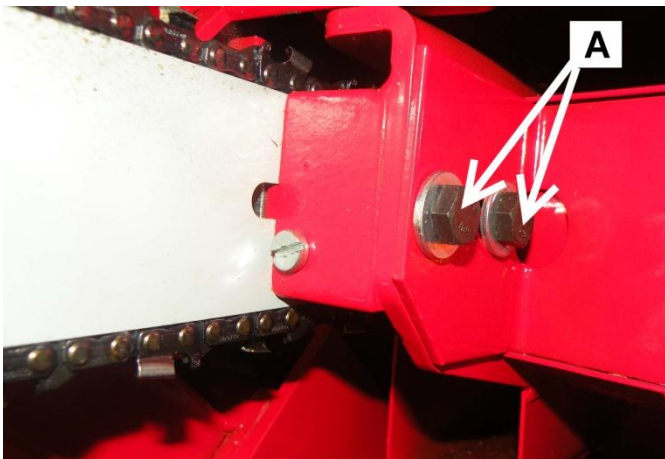


Figure 36.

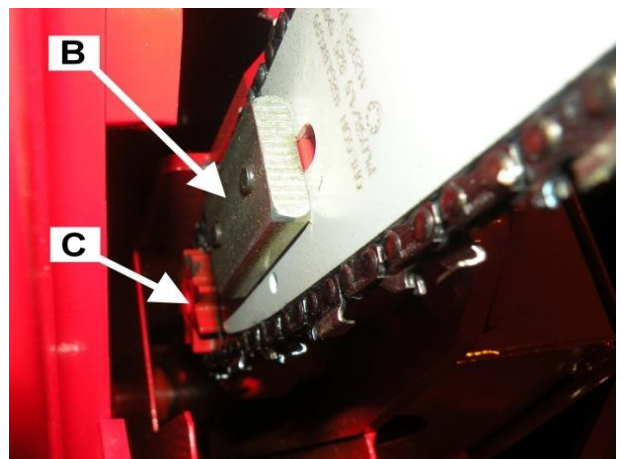


Figure 37.

6.4 Replacing and tightening the V-belts

Replacing and tightening the belts of the electric motor

1. Shut down the splitter and disconnect it from its power sources.
2. If necessary, slide the cover of the electrical connector and angle transmission into a position where the angle transmission is visible.
3. Use the adjustment screws B (4 pcs) to lift the motor bed high enough to enable you to remove the V-belts (3 pcs, A 36).
4. Place the new belts in the grooves of the belt pulley one by one.
5. Lower the motor bed back down by turning the adjustment screws B. This tightens the belts to the correct tension.

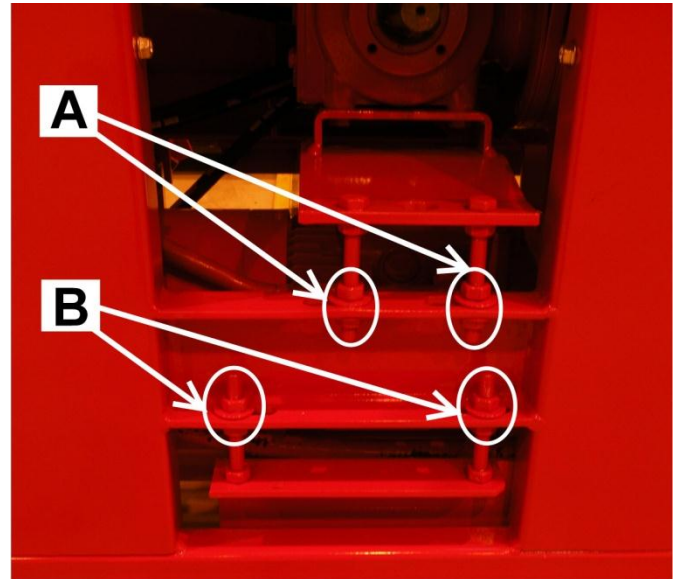


Figure 38.

6.5 Replacing and tightening the blade chain belt

1. Perform steps 1–2 of Section 6.4.
2. Raise the guard according to steps 1–5 of Section 6.2.
3. Loosen the fastening bolts of the cutting flange, and pull off the cover of the blade chain belt, as shown in Figure 39.
4. Loosen the fastening bolts A of the drive end. Then, loosen the belt sufficiently to remove it from the belt pulley.
5. Install a new belt.
6. Use the adjustment bolt B to tighten the belt to the correct tension, and tighten the fastening bolt A.
7. Re-install the belt cover as shown in Figure 39, and tighten the fastening bolts of the cutting flange.

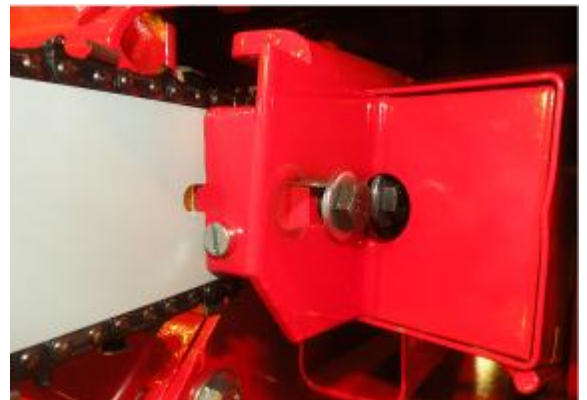


Figure 39.

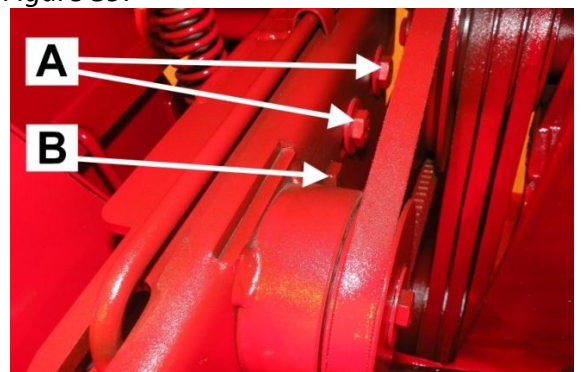


Figure 40.

6.6 Replacing and tightening the belts of the angle transmission

1. Perform steps 1–2 of Section 6.4.
2. Use the adjustment screws A (in Figure 42, 4 pcs) to lift the transmission bed high enough to enable you to slip the V-belts (3 pcs A38) off the angle transmission's belt pulley.
3. Remove the blade chain belt according to steps 3–4 of Section 6.2.
4. Remove the belt pulley bolt A in Figure 41, and slip the belts (3 pcs, A 38) off the upper belt pulley.
5. Install the new belts, and re-attach the fastening bolt A in Figure 41.
6. Put the blade chain belt in place according to steps 5–8 of Section 6.2.
7. Tighten the V-belts to the correct tension by lowering the transmission bed with the adjustment nuts A (in Figure 42).

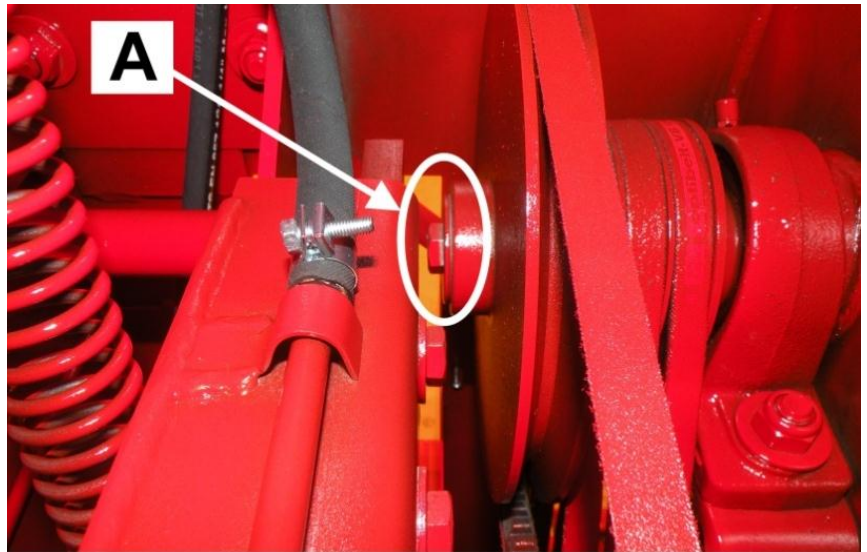


Figure 41.

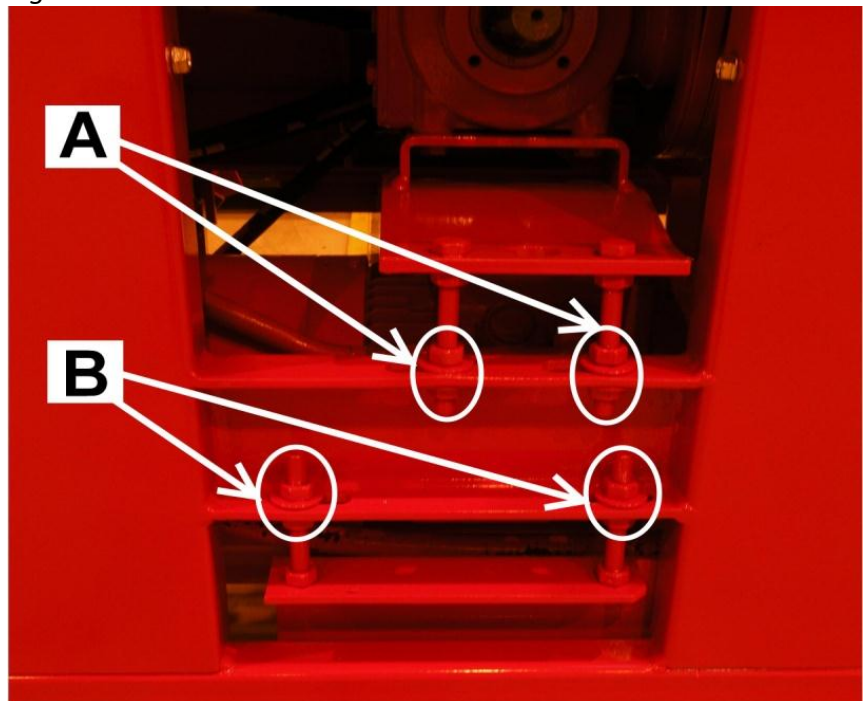


Figure 42.

Note! The V-belts are at the correct tension when they give approximately 20 mm when the belt is pressed down at a moderate force.

6.7 Changing the oil of the angle transmission

Change the oil of the angle transmission as follows:

1. Loosen the fastening bolts (4 pcs, in Figure 43).
2. Remove the belts from the belt pulley (3 or 6 pcs, depending on the model).
3. Turn the angle transmission so that it can be removed, and pull it out.
4. Open the drain opening in Figure 44, and drain the oil from the angle transmission into a suitable container. Also open the filler opening A to drain the oil faster. Finish off by closing the drain opening C.
5. Open the oil check opening B, and add oil through the filler opening until the oil level reaches the oil check opening B. Close both openings.
6. Re-install the angle transmission, and remember to properly align the V-belts.
7. Fasten and tighten the V-belts according to the instructions in Section 6.6.

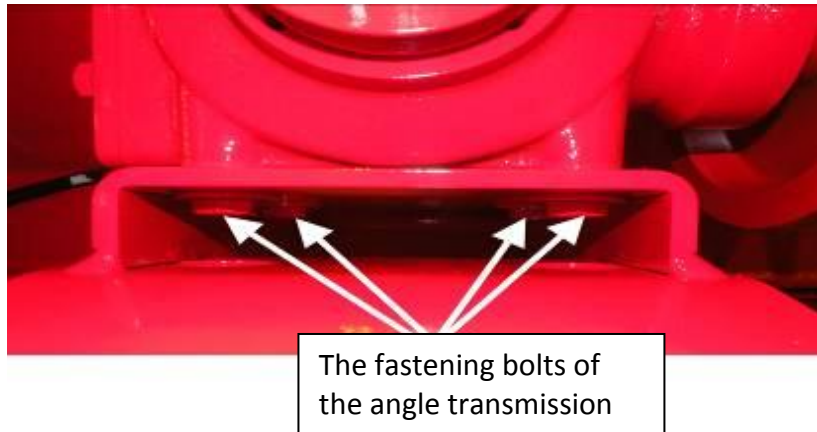


Figure 43.

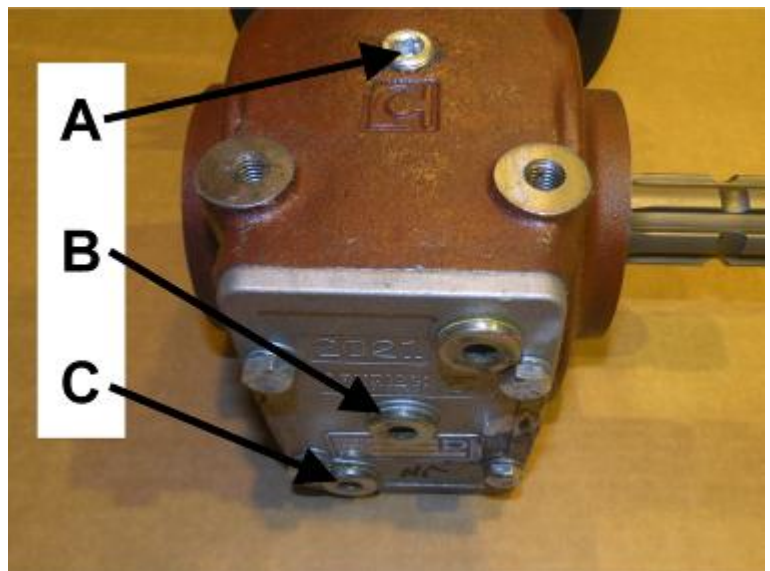
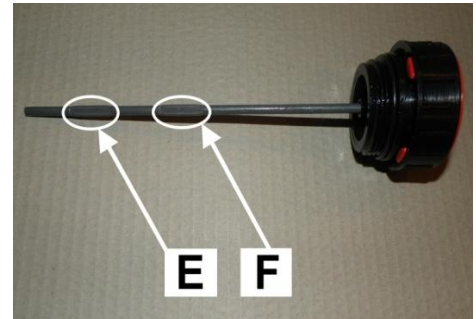
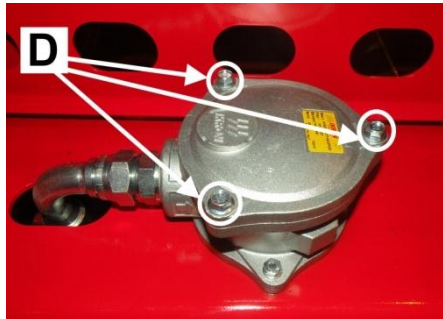
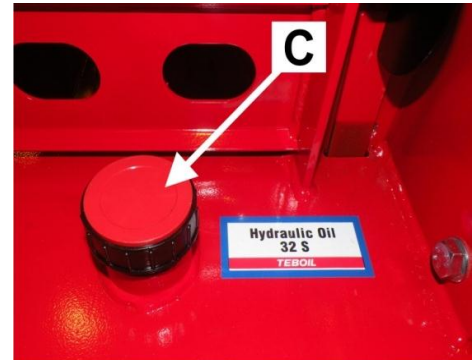
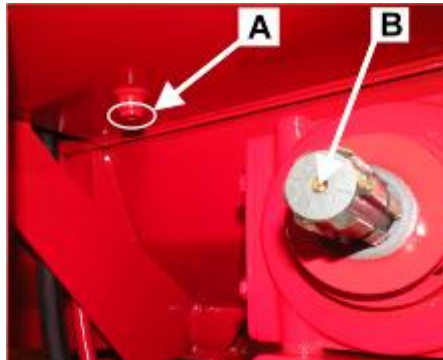


Figure 44.

6.8 Changing the hydraulic oil

1. Shut down the splitter and disconnect it from its power sources.
2. Open the filler cap C. This will allow the oil to drain more easily. The filler cap is located on the oil tank in the middle section of the splitter.
3. Next, open the drain plug A located next to the angle transmission B, and drain the oil into a suitable container.
4. Unscrew the bolts D to open the filter cover, and replace the old filter with a new one (CR-50).
5. Close the drain plug A, and fill the tank with fresh oil (approx. 42 litres).
6. Finally, ensure that the oil level settles between the minimum and maximum limits, E and F.



7.0 Conveyor maintenance

7.1 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 3.2).
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.
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.



Figure 45.

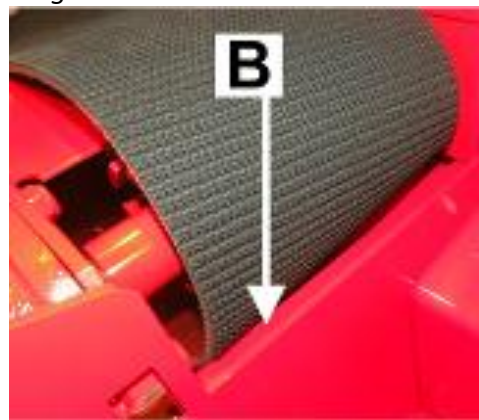


Figure 46.



Figure 47.

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.

7.2 Adjusting the pressure of the input conveyor's motor

The Easy models include an adjustable check valve, which can be used to adjust the pressure of the input conveyor's hydraulic motor. The adjustable check valve is located in the same space as the splitting valve, for example, and it also affects the force of the **lifting motion** performed by the lifting flange cylinder. The need for hydraulic pressure increases particularly when a separate wood holder (for example, Woodran 422) is connected to the splitter. If this is the case, more than one hydraulic motor is covered by

a single hydraulic circuit. If necessary, the pressure can be adjusted as follows: loosen the locking nut A and turn the hex socket screw B clockwise/anti-clockwise. The pressure increases when turning the screw clockwise and vice versa. **Note! The design value is 40 bars. This limit must not be exceeded!**

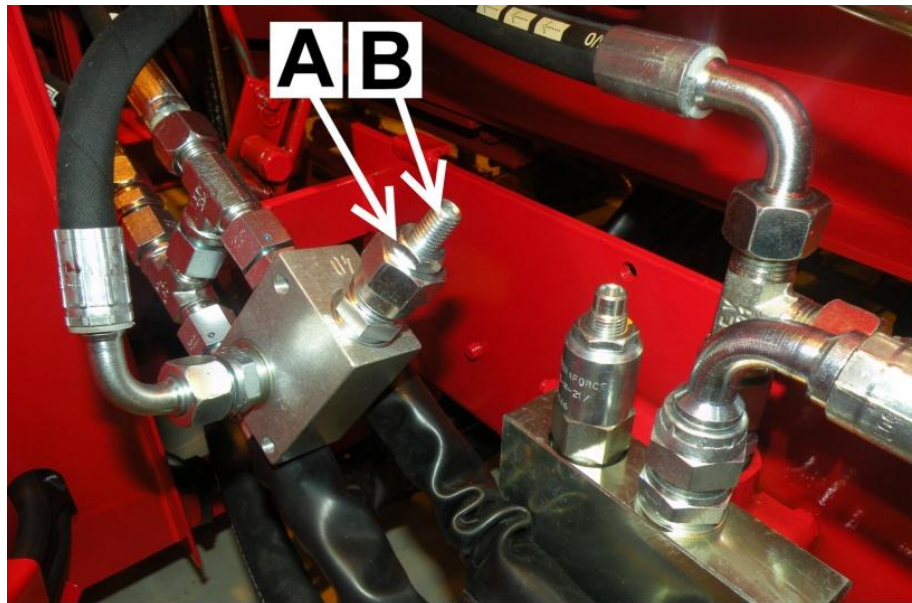
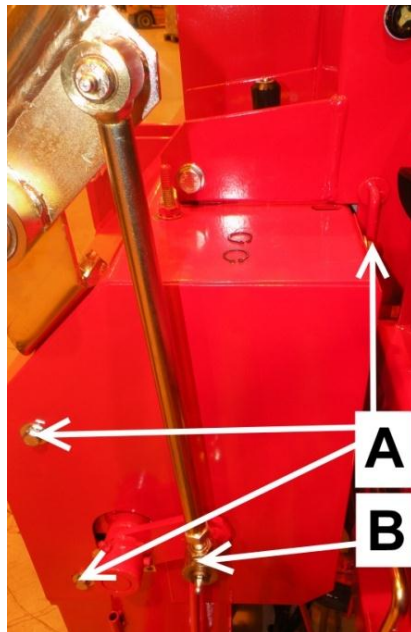


Figure 48.

In the so-called basic model, the pressure of the input conveyor's motor can be adjusted directly with the valve that controls the motor. The design value is 180 bar. This limit must not be exceeded. Adjust the pressure as follows:

1. Remove the adjustment rod B by detaching the locking rings (2 pcs).
2. Unscrew the three bolts A fastening the cover, and remove the cover.
3. Use the hex socket screw C to adjust the control valve pressure.



7.3 Replacing and tightening the belt of the output conveyor

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. 20 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.

7.4 Replacing the plates of the output conveyor

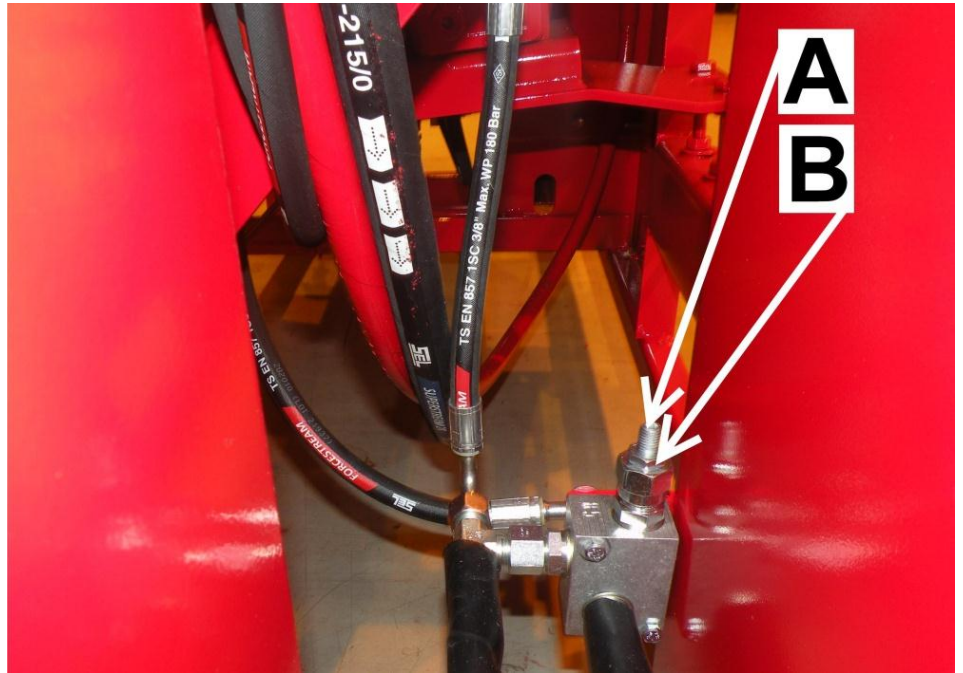
The plates of the output conveyor can be replaced by disconnecting the bolt joints (3 x M8) fastening the plates and replacing the plates with new ones. It is recommended to move the belt into a position that puts the plate to be replaced above the conveyor. Shut down the machine and disconnect it from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

7.5 Adjusting the pressure of the output conveyor's motor

If the splitter is equipped with a pivoting output conveyor, the belt of the conveyor is driven by a hydraulic motor.

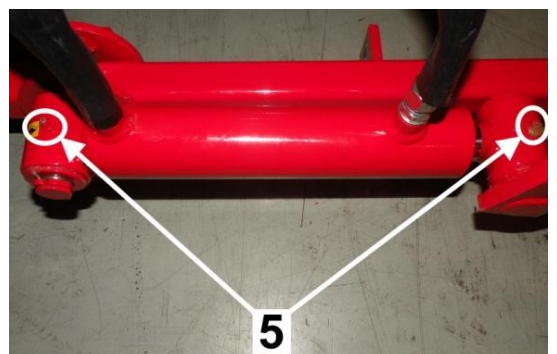
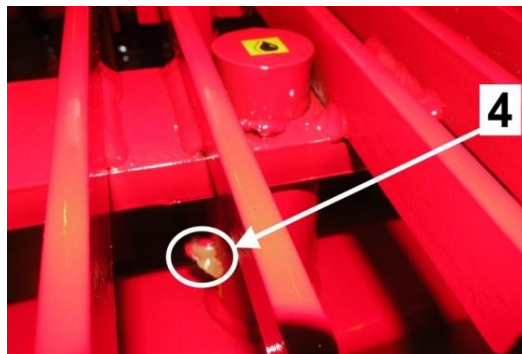
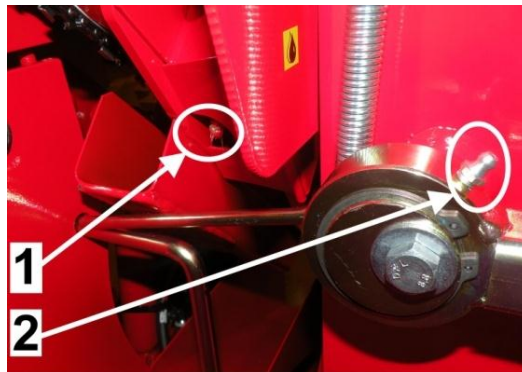
The pressure can be adjusted with a separate adjustment valve (located at the same end of the machine as the output conveyor) as follows:

1. Shut down the splitter and disconnect it from its power sources.
2. Loosen the locking nut B and adjust the motor pressure with the adjustment screw A. (The pressure increases when turning the screw clockwise and vice versa.)
3. Note! The maximum pressure for the motor is 85 bars. This limit must not be exceeded!

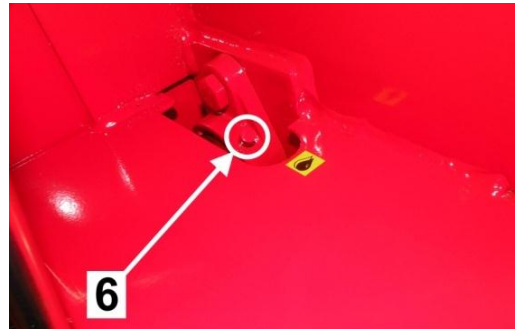


8.0 Lubricating moving parts

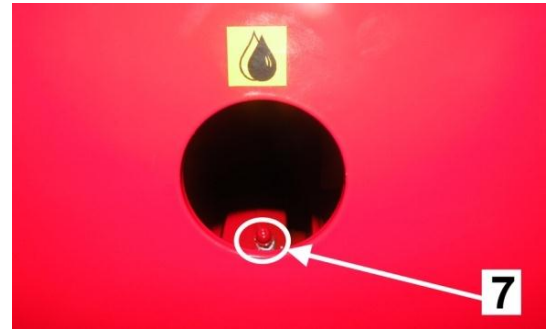
1. Grease nipple for the blade's drive shaft
2. Grease nipple for the wood measuring mechanism
3. Grease nipple for the main shaft bearing (pump side)
4. Grease nipple for the output conveyor's turning device (only in machines with a pivoting conveyor)
5. Grease nipples for the splitting blade's lifting cylinders (only in the Easy model)



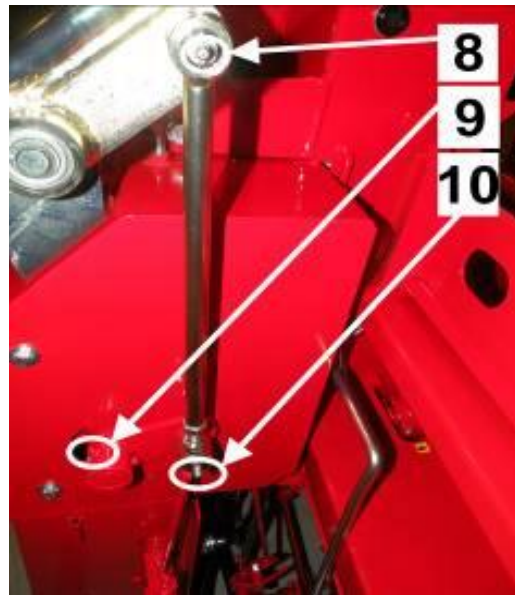
6. Grease nipple for the input conveyor's drive roller



7. Grease nipple for the main shaft bearing (saw side)

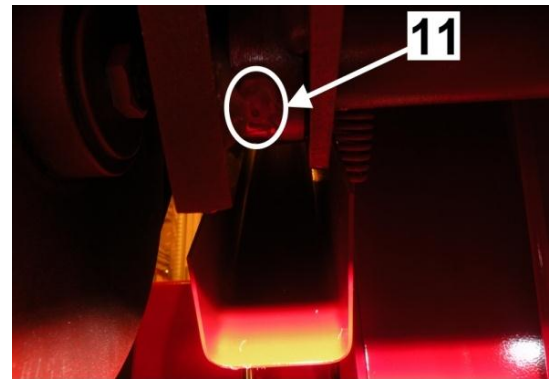


8. Upper nipple for the cutting lever's adjustment rod



9. Outer nipple for the drive end shaft

10. Lower nipple for the cutting lever's adjustment rod

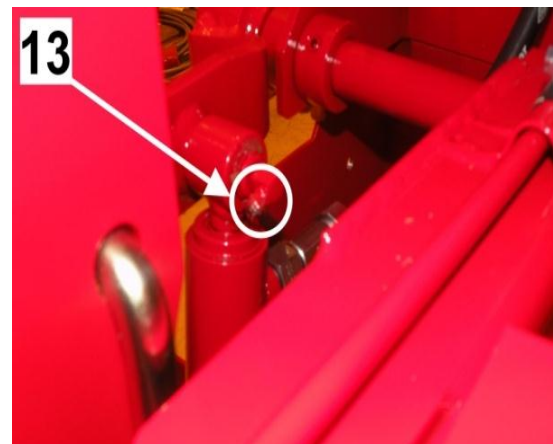


11. Inner nipple for the drive end shaft

12. Lower nipple for the cutting flange cylinder (only in the Easy model)



13. Upper nipple for the cutting flange cylinder (only in the Easy model)



In other words, there is a maximum of 14 lubrication points (Easy model with a pivoting output conveyor). All of the points must be lubricated with vaseline roughly every 10 hours.

9.0 Washing and cleaning

During operation, some sawdust and loose debris always accumulates in the splitting groove and under the machine. Therefore, it is necessary to regularly clean the machine, and the splitting mechanism in particular, in order to ensure uninterrupted operation. Cleaning is especially important in the winter, because dirt and debris can freeze on the splitter and cause malfunctions. 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. Wash the machine as necessary but always in conjunction with prolonged storage. After washing, the splitter must be lubricated according to the instructions in Section 8.0.

10.0 Storage

Although the splitter is intended for outdoor use, it should be stored covered in a sheltered location or indoors. Before prolonged storage, the machine must first be cleaned, then washed according to Section 9.0 and lubricated according to Section 8.0.

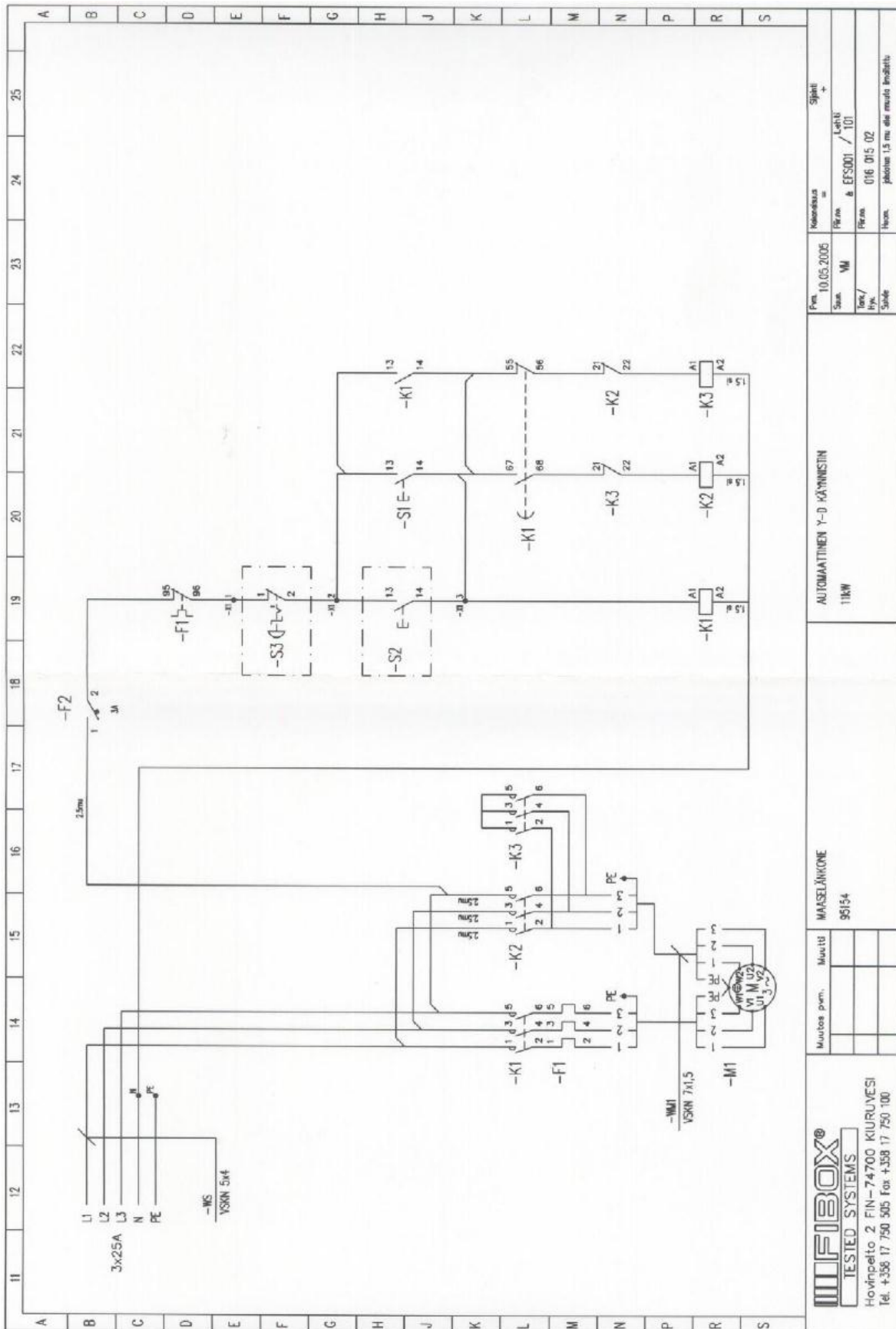
11.0 Maintenance table

Target	Task	Daily	Interval 100 h	Interval 500 h	Interval 1,000 h	Substance/accessory item
Angle transmission oil	Check 1st change 2nd change		X X	X		SAE 80
Hydraulic oil Normal conditions	Check 1st change 2nd change		X	X	X	Amount 42 l E.g. Teboil S 32 Neste Hydraul 32
Oil filter	Always when changing oil					CR-50
Valve mechanism	Lubrication		X			Lubrication oil, spray
All levers	Lubrication		X			Lubrication oil
V-belts Angle transmission	Check and replace as necessary					A-38, A36, A98, XPA850 2021
Cutting blade	Sharpen as necessary					Chain:66 loops, pitch 0.325” Flange: 16”, 1.6 mm groove
Machine	Clean Wash	X				
		In conjunction with storage				
Electric motor	Clean	X				
Electrical equipment	Clean	X				

12.0 Failures and remedial measures

Failure	Cause	Remedial measure
The splitting force is insufficient to split the wood.	<ol style="list-style-type: none"> 1. The V-belts are loose or too worn. 2. The acceleration valve's outer or inner check valve is leaking. 	<ol style="list-style-type: none"> 1. Tighten or replace the V-belts. 2. Clean or replace the check valve(s).
The belt of the input conveyor does not move.	<ol style="list-style-type: none"> 1. The belt is too loose. 2. The input conveyor's relief valve is leaking. 	<ol style="list-style-type: none"> 1. Tighten the belt. 2. Clean the relief valve. Adjust or replace it as necessary. (See Section 7.2).
The output conveyor does not move.	<ol style="list-style-type: none"> 1. The belt is too loose. 2. The output conveyor's relief valve is leaking. (Only in machines with a pivoting conveyor) 	<ol style="list-style-type: none"> 1. Tighten the belt according to the instructions. 2. Clean the relief valve. Adjust or replace it as necessary. (See Section 7.5)
The cutting motion does not fully cut the log.	<ol style="list-style-type: none"> 1. The path of the cutting flange is incorrectly adjusted. 	<ol style="list-style-type: none"> 1. Lower the path of cutting flange.
The blade chain does not properly sink into the wood.	<ol style="list-style-type: none"> 1. The blade chain is dull. 2. The pressure of the flange's downward motion is too low (Easy model). 3. The cutting flange is crooked. 	<ol style="list-style-type: none"> 1. Sharpen or replace the blade chain. 2. Increase the pressure with the pressure adjustment screw (Easy model). See Section 5.4. 3. File the flange.
The machine performs an extra splitting motion when the splitting mechanism is operated.	<ol style="list-style-type: none"> 1. There is debris or dirt in the splitter's control mechanism. 2. The adjustments of the splitter's control mechanism are incorrect. 	<ol style="list-style-type: none"> 1. Clean the mechanism with pressurised air and lubricate as necessary. 2. Adjust the mechanism according to Section 5.10.
The machine starts but the hydraulic functions are inoperable. The machine makes an abnormal noise.	<ol style="list-style-type: none"> 1. The hydraulic pump rotates in the wrong direction. 	<ol style="list-style-type: none"> 1. Switch the rotation direction of the electric motor from the electrical cable's connector (assign to an electrician).
The electric motor does not start.	<ol style="list-style-type: none"> 1. The emergency stop button is engaged. 2. The machine makes a loud noise but does not start. 3. The input cable is faulty. 	<ol style="list-style-type: none"> 1. Release the emergency stop button. 2. The fuse has burnt. Replace it. 3. Replace the cable.
The motor tends to stop, and the thermal relay is easily triggered.	<ol style="list-style-type: none"> 1. The blade is dull. 2. The thermal relay is incorrectly installed. 	<ol style="list-style-type: none"> 1. Sharpen the blade. 2. Contact the retailer of the electric motor.
The splitter makes a whining sound during sawing or the splitting of a large log, and the rotation speed decreases at the same time (Combi models).	<ol style="list-style-type: none"> 1. The belts are loose or worn. 	<ol style="list-style-type: none"> 1. Tighten or replace the belts.
The cutting blade does not move downwards.	<ol style="list-style-type: none"> 1. The splitter control lever is in the Stop position. 	<ol style="list-style-type: none"> 1. Close the splitting groove guard and turn the lever to the Run position.

13.0 Electrical diagrams



14.0 Guarantee terms and declaration of conformity

We grant a guarantee for our machines with the following conditions:

1. This guarantee covers such defects that are caused by manufacturing or material failures, except for those that are the components classified as parts that sustain wear.
2. The guarantee is valid for the original buyer starting from the day of purchase for one (1) year, but for no more than 1,000 operating hours.
3. The guarantee becomes void if
 - a. the instruction manual is not observed when using the machine
 - b. the machine is used for a purpose other than that defined by the manufacturer
 - c. modifications are made to the machine's operation
 - d. parts that are not original spare parts are used in the machine
 - e. the maintenance procedures defined in the instructions are neglected.
4. A guarantee demand has to be issued **immediately** upon the discovery of a defect to the seller or manufacturer. Repair under guarantee requires that the customer can reliably prove that the guarantee is valid.
5. The guarantee does not include standard adjustments, user guidance, care, maintenance or cleaning procedures.
6. Repair under guarantee requires that no attempts have been made to fix the machine or a part of it before a written notification of the defect has been issued to the seller, manufacturer or importer.
7. Only a serviceman authorised by **the manufacturer or importer** is allowed to carry out repairs under guarantee. The guarantee does not cover washing, cleaning, or oil or fuel changes done while carrying out the above-mentioned repair work.
8. The repair work hours are compensated according to the standard rates as defined by the manufacturer.
9. The manufacturer of the machine is not liable to compensate for any possible travelling costs resulting from the repair work.
10. A spare part will be delivered free of charge when delivered by the usual means for the part in question and to a normal schedule.
11. The receiver is liable for costs occurring from special deliveries, such as express mail.

15.0 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: Juha Autio

Address: Valimotie 1, FI-85800 Haapajärvi, Finland

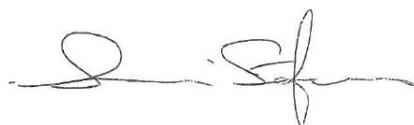
The above person assures that

HakkiPilke 37 Easy/Expert

Serial number:

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

Place and time: Haapajärvi 1.2.2012



Signature:

Jari Löfroos
Managing Director