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Kilworth Machinery Ltd.

TAJFUN

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OPERATING INSTRUCTIONS

FIREWOOD PROCESSOR

RCA 400 joy

CE

Ver.: 2.5 07/2010-ENG

Please read operating instructions carefully before installing and using the machine!

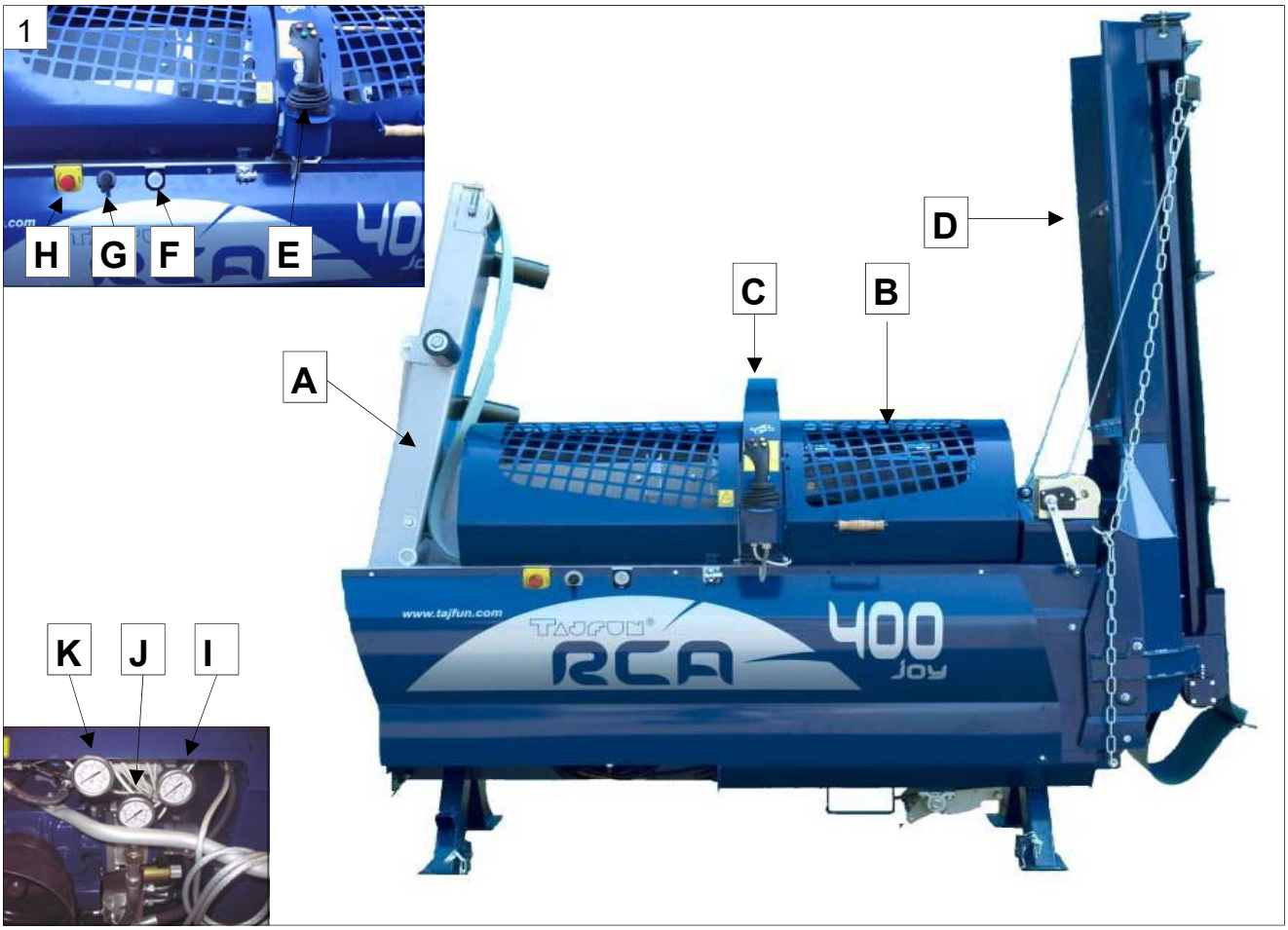
TABLE OF CONTENTS

1 GENERAL

Dear Customer,

By purchasing our firewood processor you obtained the equipment which will provide you with great help in your work. To make operating the machine as safe and pleasant as possible, please carefully read this operating instructions and follow the safety and maintenance directives.

We would like to thank you for your trust and wish you great satisfaction in your work.



A	In – feed Conveyor	H	Safety STOP Switch
B	Machine Cover with Safety Switch	I	Low pressure Gauge
C	Chainsaw cover	J	High pressure Gauge - Splitting
D	Telescopic discharge Conveyor	K	Sawbar movement Gauge
E	Control Handle		
F	Discharge Conveyor's speed Regulator		
G	Log Loader Control Handle		

1.1 MANUFACTURER'S ADDRESS

Tajfun Planina, d.o.o., Planina 41a, 3225 Planina pri Sevnici, Slovenia
Tel.: **+386 (0)3 746 44 00**, Fax.: **+386 (0)3 579 10 16**, E-mail: **export@tajfun.com**, **www.tajfun.com**

1.2 APPLICATION

Firewood processor (RCA 400 joy) is a machine used for preparation of firewood. For open air use only! The processor can handle logs from 10 to 40 cm (4" - 15,7") in diameter, which can be cut to 20 – 50 cm (7,9" - 20") length and thereafter split.
The work process is as follows:

1. Lifting and transportation of the log on the conveyor belt using the log loader (optional).
2. Transportation of the log with the conveyor belt to the limiter which sets the length of cut log. (Ch. 4.3).
3. Sawing with the chainsaw (Chapter 4.4).
4. Splitting (Chapter 4.5).
5. Transportation off the exit conveyor belt (Chapter 4.6).

1.3 SCOPE OF DELIVERY

- RCA 400 joy
- Discharge conveyor
- Operating instructions
- Log Loader Control Valve – integrated in the machine control panel
- Chain 3/8" Oregon MULTI-CUT ; Number of driving teeth = 64, b=0.058" (1.5 mm)
- Discharge Conveyor's speed regulator – integrated in Discharge Conveyor
- Manual Winch Operating Instructions
- Sawbar: Oregon 178SLHD009 or compatible

Chain lubrication oil is not included in the scope of delivery.

1.4 OPTIONAL EQUIPMENT

- LOG LOADER DM 1511 - Tajfun (Figure 2)
- LOG LOADER DM 2000 - Tajfun (Figure 2)
- ELECTRIC POWER UNIT EP 11 with built-in 12V power supply - Tajfun

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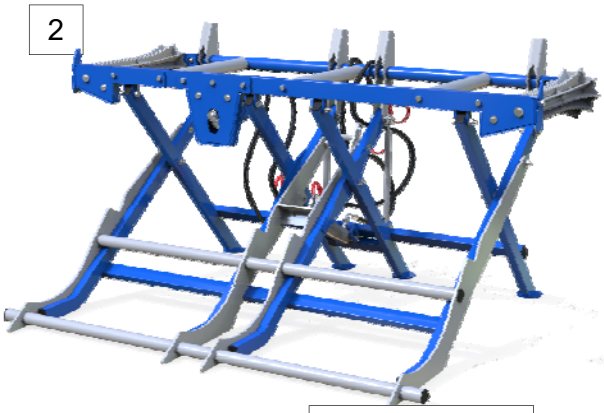


DM 1511

DM 2000

LOG LOADER DM 1511 - Tajfun
Retractable, with drive cylinders
Log loader length: 1840 mm
Lifting power: 4500 N
Weight: 160 kg

LOG LOADER DM 2000 - Tajfun
Retractable, with drive cylinders
Log loader length: 1650 mm
Lifting power: 7000 N
Weight: 330 kg

ELECTRIC POWER UNIT EP 11 - Tajfun

Motor Power: 11 kW

Weight: 197 kg

LIVE LOG DECK RN 3000 - Tajfun

Dimensions: 5550 x 2010 x 1495 mm

Weight: 700 kg

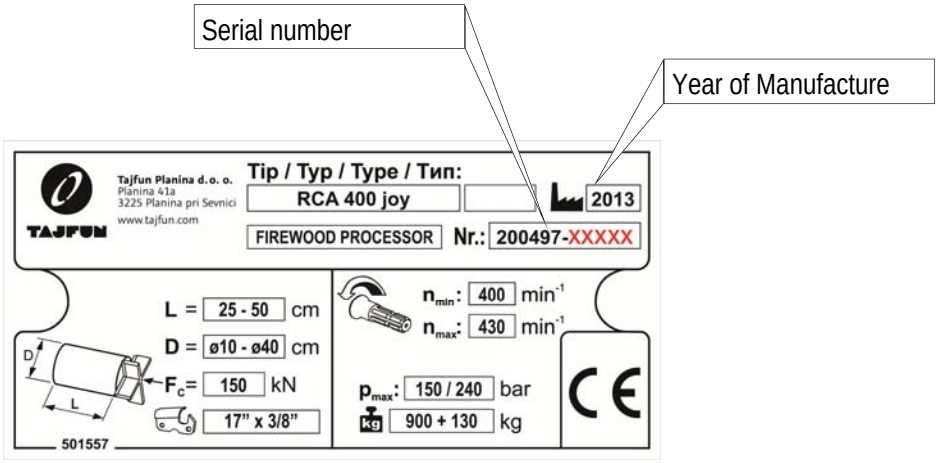
Log Length: up to 6 m

Stock Capacity : 3t or up to 4 m^3

1.5 TECHNICAL DATA

Length of Cut Log	*20 – 50 cm (7,9"- 20")*
Diameter of Log	*10 – 40 cm (4 – 15.7")*
Sawbar	*17", b=0.058" (1.5 mm)*
Chain	*3/8", 64 pogonskih zob, b=0.058" (1.5 mm)*
Splitting Power	*150 kN (≈15T)*
Machine Width	*1290 mm (50.8")*
Machine Length (transport position)	*2350 mm (92.5")*
Machine height (transport position)	*2360 mm (92.9")*
Required Tractor Power	*30 kW (40 KS)*
Required Tractor Outlet Voltage	*12V*
Minimal control fuses' rating	*16A*
Tractor P.T.O. Shaft Speed	*[400 – 430] min^{-1} (RPM)*
Maximum splitting pressure	*240 bar (3481 psi)*
Oil Reservoir Volume	*100 l (25 gal)*
Chain Lubrication Oil Reservoir Volume	*8 l (2 gal)*
Operating Noise (Max.)	*92 dB (A)*
Weight	*1080 kg (2381 lbs)*
Discharge Conveyor	
Conveyor Length	*4000 mm (13')*
Conveyor Belt Width	*430 mm (17.5")*
Maximum Speed	*60 cm/s (24")*
Weight	*130 kg (286 ls)*

1.5.1 SPECIFICATION PLATE



2 SAFETY INSTRUCTIONS

- ***The machine must be operated by one operator only. All other persons must stay away from the danger zone (within the radius of 3 m) Please ensure that there is nobody else in the near vicinity of the machine working area!***
- ***Machine operation and maintenance is allowed to qualified persons older than 18 years of age, only!***
- ***Before starting the work place the machine in a stable position, according to machine installation instructions!***
- ***Use only P.T.O. shafts of appropriate strength (min. 25 kW), with undamaged outer plastic protective cover!***
- ***Never use damaged, cracked or deformed cutting chains, chain sprockets and sawbars!***
- ***All protective parts of the machine (safety nets, saw shield, covers ...) must be in place during the machine operation. Any modification of these protective parts is not permitted!***
- ***Always wear personal protective equipment (safety glasses, hearing protectors, gloves and forestry boots)!***
- ***When troubleshooting, replacing the chain, cleaning or any other service procedure, always disengage the P.T.O. shaft and shut down the tractor or unplug the power cord from the electrical outlet (EP 11)!***
- ***Do not wear loose clothes!***
- ***Keep the working environment clean and tidy!***
- ***Always use caution when operating the machine! Moving parts can cause serious injuries in case of improper use of the machine!***
- ***Never leave the machine running without supervision!***
- ***Do not reach into the working area while the machine is in operation!***
- ***Before removing a wedged piece of wood, shut down the machine drive or turn off the machine.***
- ***When transporting the machine on public roads install lights on the read end of the machine!***
- ***For your own safety use only original spare parts and manufacturer approved accessories!***
- ***Damaged power cord or plug must be replaced immediately.***

3 MACHINE SETUP AND OPERATION

- Mount the firewood processor to the three-point tractor system using bolts. Lower tractor connecting handles must be fixed with tensioning screws, so the machine can move transversely. When transporting the machine, consider the weight of the whole machine (Chapter 1.5).
- Connect the P.T.O. shaft to the cardan shaft and secure it using the safety chain.
- Plug the machine control cable to the 12V outlet on the tractor.

Before the first installation also check the P.T.O. shaft length.
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Check the P.T.O. shaft length by raising and lowering the machine to determine the position with the shortest distance among connecting shafts. Tubes should be in this position, when the P.T.O. shaft is connected, app. 20 mm shorter.

In case the P.T.O. shaft is too long, it must be shortened:
- Saw of steel and plastic tubes on both ends to the same length. Afterwards file down, clean and grease the edges.
- Do not use P.T.O. shaft with a clutch.

When using our machines, we recommend Tajfun PTO Shafts:

Model	Dimensions	Compatibility
PTO Shaft C Line-T 6BR + KK560	1 3/8'' Z6 – 1 3/8'' Z6; L_{KK} = 560	EP 12 (RCA 380, RCA 400 JOY, RCA 480 JOY)
PTO Shaft C Line-T4 DZ BR + KK510	1 3/8'' Z6 – 2X; L_{KK} = 510	RCA 380, RCA 400 JOY, RCA 480 JOY

Tractor exit shaft and machine input shaft should be positioned as parallel as possible! P.T.O. shaft geometry may otherwise cause uneven rotation transfer and subsequent vibrations. If this cannot be achieved you may need to use P.T.O. shaft with wide angle linkages on both sides which is the only type of shaft that ensures constant rotation with different angles (Figure: 3).

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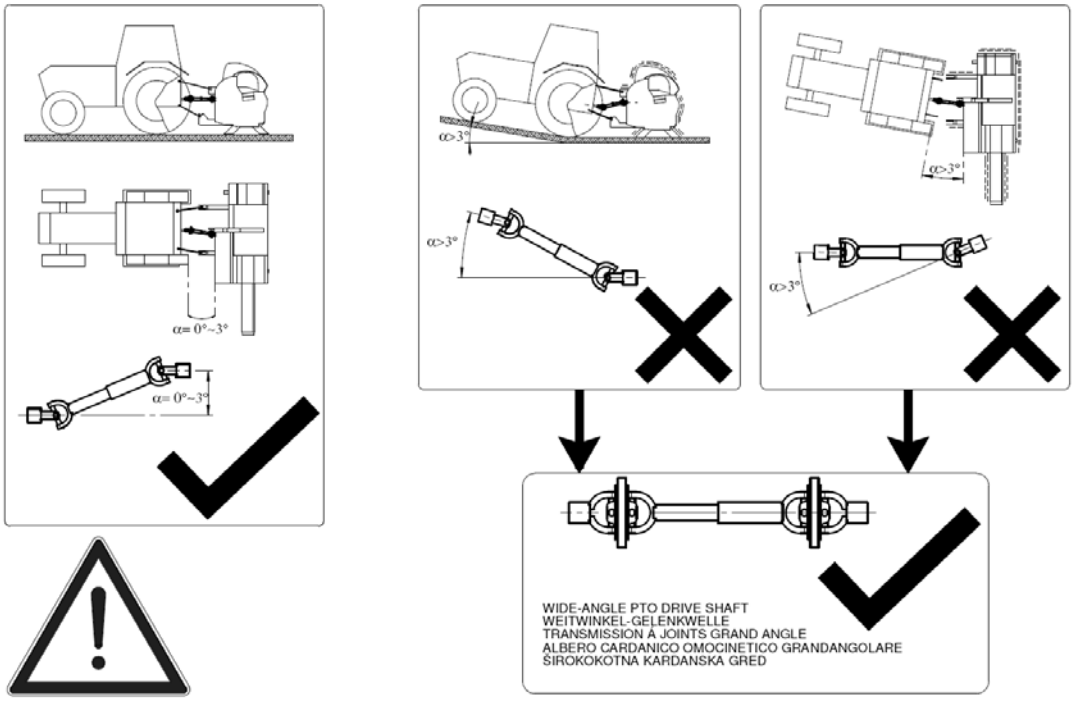

3.1 DISCHARGE CONVEYOR ASSEMBLY (in case of separate delivery)

Hydraulically driven discharge conveyor is also a component part of the firewood processor.

- Place the discharge conveyor on the ground and move it closer to the connecting spot
- Slide the discharge conveyor on the supporting forks and secure it with two screws (1– Figure:4)
- Fasten the lifting package by fixing rope pulleys to their position (2-Figure: 5).
- Use the hand winch (3-Figure:4) to lift the discharge conveyor slightly above the desired height and attach the carrying chain (4-Figure:4).
- Loosen the wire rope, so that the weight of discharge conveyor is distributed between the wire rope and carrying chain (4-Figure:4)
- Connect the hydraulic connectors::
  - a - hydroengine return line
  - b - hydroendine pressure line
  - c - hydroengine discharge line

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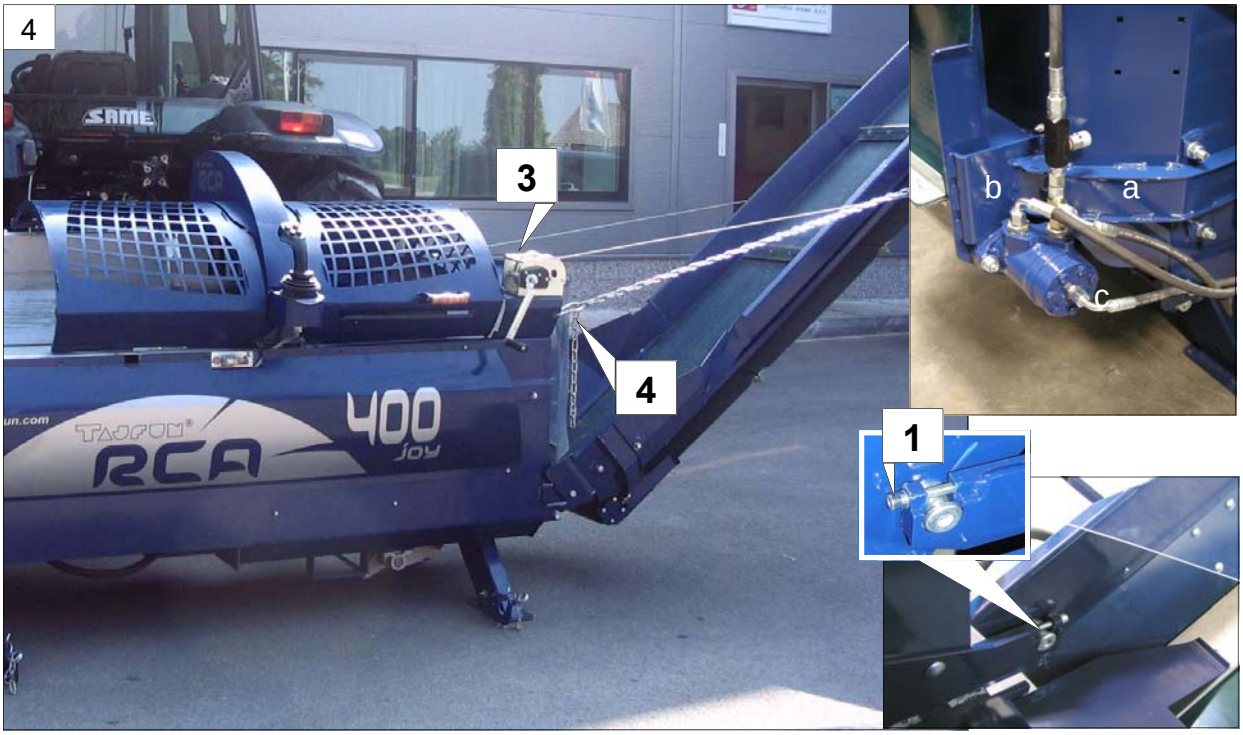


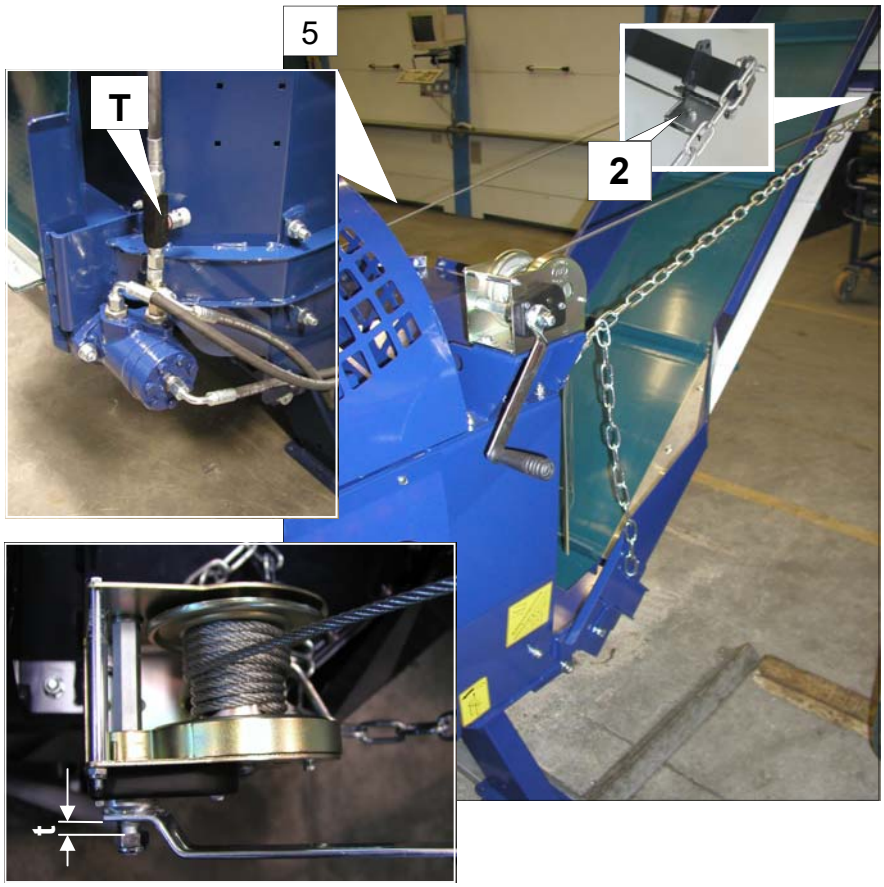
3.1.1 RETRACTION OF THE DISCHARGE CONVEYOR

Discharge conveyor is usually telescopically retracted in the machine transport position. By activating the machine, telescopic cylinder of the discharge conveyor automatically activates and fully extends the machine, so the belt is tensioned.

Before starting the machine, make sure to loosen the conveyor belt, by moving the Discharge Conveyor from vertical to horizontal position using the hand winch (3-Figure:4). Otherwise damages to the belt can occur during the extension procedure!

To optimally tension the belt, move the control handle of the lifting table (G-Figure:1) to the lowering position, which increases the system pressure. To position the Discharge Conveyor into the working – extended position, the discharge conveyor valve (T-Figure:5) must be closed – fully tightened..

After you disconnect the machine drive, you can retract the discharge conveyor. Open the discharge conveyor valve (T-Figure:5) and lift the machine cover (B-Figure:1) and leave the discharge conveyor to retract by its own weight. Therefore put the machine in more upright position.
When the discharge conveyor is retracted, close the discharge conveyor valve (T-Figure:5). The valve should remain closed during the operation.

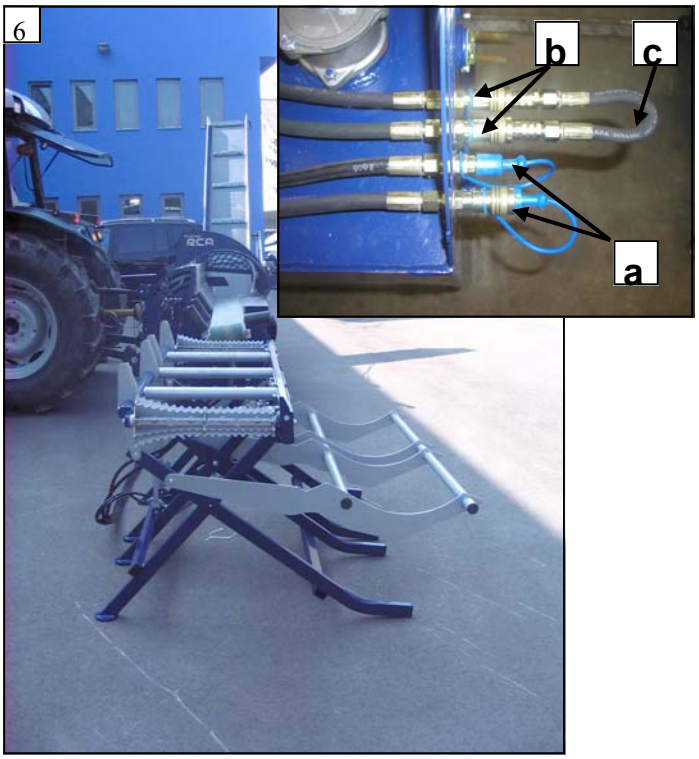


Ensure the clearance “t” between the nut and the hand winch handle axis.

3.2 TRACTOR P.T.O. SHAFT DRIVE

- P.T.O. shaft (grooved shaft 13/8!" Z6 – DIN 9611A) must comply with the required driving power of the machine (technical specifications).
- The tractor P.T.O. shaft must rotate in a clockwise direction. In case you use EP11, the shaft must also rotate in a clockwise direction.
- **Recommended rotating speed of the P.T.O. shaft: 420 min^{-1};** max.: 430 min^{-1}, min.: 400 min^{-1}
- When the machine is not coupled to its power source, place the PTO shaft into the rest hook.

3.3 CONNECTING THE LOG LOADER (OPTIONAL)



Position the log loader in line with the machine, as shown in the picture. The log loader can be turned 180°, depending on the position of the logs. Connect the hydraulic pipes for forks' operation to connectors **a** and pipes for cylinder rotation to connectors **b**. You can reverse the pipes on the connectors **b** to reverse the rotating direction.
To retract the log loader in working position use the fork lifting cylinder but first unscrew the nut on the safety pin. Protect the extended log loader using the safety supports.

In case you will not use the log loader install the connecting pipe **c**. Otherwise the machine will not operate properly!

3.4 STARTING UP

Before each machine startup, it is necessary to check the chain tension and readjust it if necessary!
A too loose chain can induce vibrations, which unfavorably affect the drive belt's operation. Increased vibrations can also cause damages to the drive belt.

Remove all wood remains and other particles from the splitting chute, before starting the machine!

Check the oil levels of the hydraulic system and cutting chain lubrication system, before starting the machine!

Before starting the machine, make sure to loosen the conveyor belt, by moving the Discharge Conveyor from vertical to horizontal position using the hand winch (3-Figure:4). Otherwise damages to the belt can occur during the extension procedure!

Before you start to work, check all functions and safety features of the machine as described herebelow.

RCA 400 joy :

- Examine the machine and equipment for faults and check the chain lubrication
- Place the tractor manual throttle handle in lowest position
- Lift the machine cover (B-Figure: 1) to activate the safety switch and disengage all major machine functions
- Engage the P.T.O. shaft drive and start the machine.
- It may be necessary to turn on the headlights on some tractors to activate the 12V outlet
- Set the required rotating speed of P.T.O. shaft (420 min^{-1}) by manually adding the throttle
- Lower the machine cover
- Push the RESET button (green) on the control panel to start the operation
- Check the function of the emergency STOP switch.

3.5 TRANSPORT POSITION OF THE MACHINE

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The maximum allowable speed of the tractor when transporting the machine on the rut or off-road is 10 km/h (12 mph) and 40 km/h (25 mph), when the tractor is driven on the asphalt roads.

Warning!!
Driving at unsuitable speeds for the road conditions can cause damages to the machine or the tractor.

4 OPERATING THE FIREWOOD PROCESSOR

The machine must be operated by a single person. Please ensure that there is nobody else in the near vicinity of the machine working area!

4.1 BASIC FUNCTIONS

- Control handle (joystick) has the following functions (Figure: 8):
- Left-Right —> direction of the in-feed conveyor belt
- Down —> sawing (2 phases, first fastening of the log and starting the operation of the cutting chain, then moving the chainsaw)
- Up —> splitting (push the handle in the upward direction briefly; do not hold it this position)

- Control handle buttons:
- Yellow Buttons—> moving the splitting wedge up/down
- Red Button —> returning the splitting cylinder from any position
- Green Button —>RESET function, opening of trapdoors manually. After each machine shut down (lifting of the cover, pushing the STOP switch) it is necessary to push the RESET button to restore control functions.

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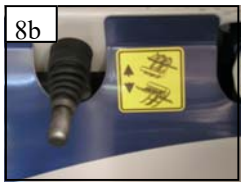
Additional functions:
- Figure 8a—> safety STOP switch
- Figure 8b —> log loader - lifting, lowering
- Figure 8c—>conveyor belt speed regulator

8a

8b



8c

4.2 NOISE

Machine operator is exposed to the following noise levels, during the machine operation (measured near the machine operator's ear):

	RCA 400 joy
Idling:	85 dB (A)
Operation:	92 dB (A)

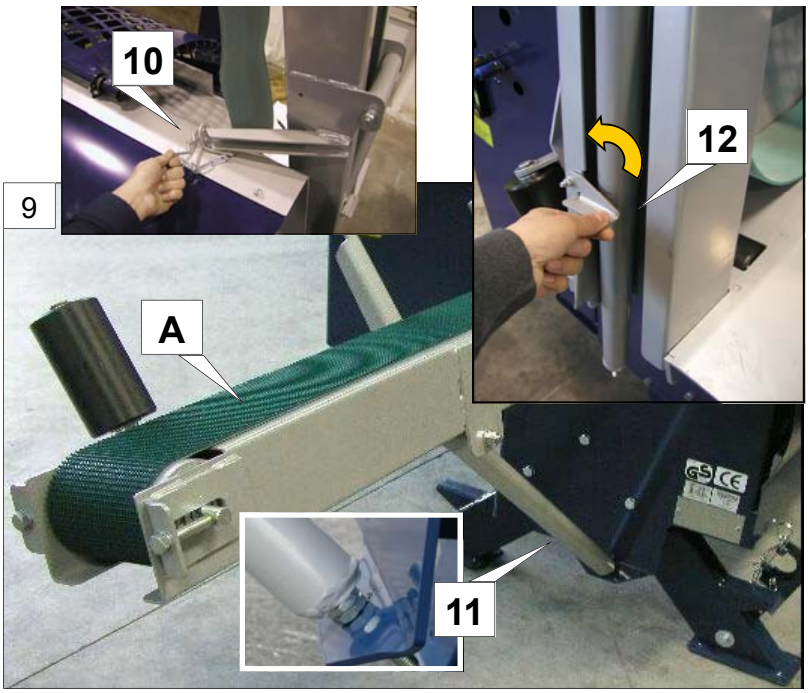
Therefore it is mandatory to wear hearing protectors while operating the machine.

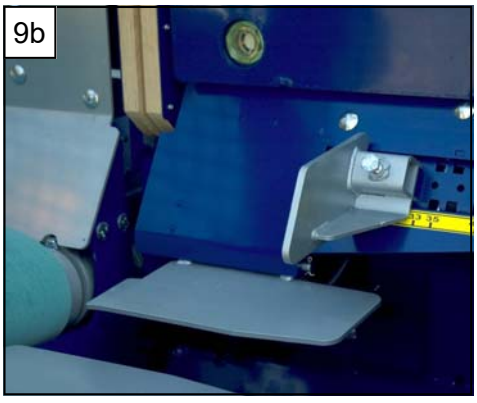
4.3 LOG FEEDING

The in-feed conveyor must be placed in a horizontal working position before operation:

- Pull out the safety pin (10-Figure:9)
- Remove the support limiter (12-Figure:9)
- Lower the in-feed conveyor (A-Figure:9) in horizontal position and support it using the supporting leg (11-Figure:9)
- Set the supporting leg so that the upper rod on the conveyor belt in the middle of the feed conveyor is slightly elevated above the table (already factory set).

Activate the feeding by pushing the control handle (Figure:9a) right. You can stop it at any time (when the log reaches length limiter), by returning the handle to the neutral position. If you push the handle left, the conveyor belt will run in the opposite direction.
Warning! Stop the feeding after the log reaches the length limiter, otherwise you can damage the in-feed conveyor belt!
During in-feeding both trapdoors lift and stay in the position (Figure: 9b) until the end of the sawing phase or until the operator pushes the green RESET button.
In the in-feeding phase the cut length limiter moves in the correct position.

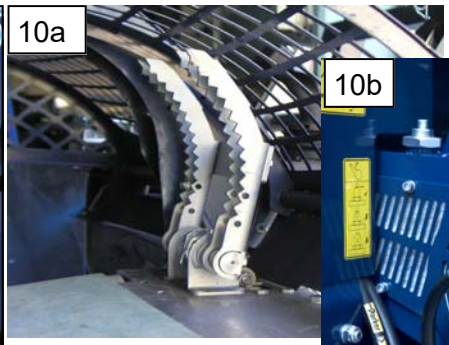


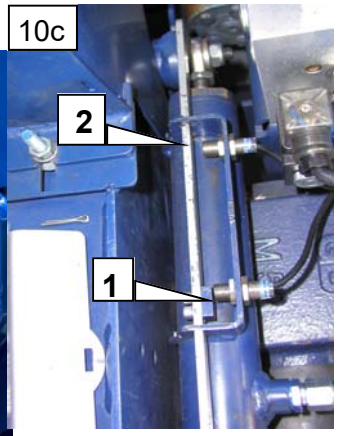


4.4 SAWING

The chainsaw operates only during the sawing cycle.

Sawing operation begins with the movement of the control handle (Figure: 10) in the backward direction and includes 2 phases. In the first phase, log holder (Figure: 10a) fastens the log and cutting chain activation clutch is engaged (Figure: 10b). In the second phase, the saw bar movement begins. During the cutting operation the operator must hold the handle in this position, otherwise the saw will return to the primary position.
Sawbar moving cylinder (Figure: 10c) has 2 adjustable switches. Switch **1** (cylinder retracted) prevents operation of the conveyor belt when the sawbar is in the outside position; and switch **2** opens movable trapdoors and returns the sawbar to the primary position.
Sawbar pushing force is factory adjusted and may not be altered. Sawbar moving speed is also set to a fixed value. Sawing speed varies according to the sharpness of the cutting chain and type and width of the wood.
Before sawing always check sharpness and tension of the chain and the level of the chain lubrication oil.
The wood should not move during sawing operation. Be especially careful when cutting the last piece – both clamps should hold the wood still. Otherwise damages to the sawbar and cutting chain can occur!
Movable trapdoors ensure better entry of the cut pieces to the splitting chute and remain in horizontal position during sawing. Trapdoors open when the sawbar reaches the lower position (switch **2**). Trapdoors can also be opened manually at any time, by using the green button on the control handle. This is especially useful when cutting warped wood which leans on the trapdoors and pushes the sawbar laterally and subsequently interferes with sawing.

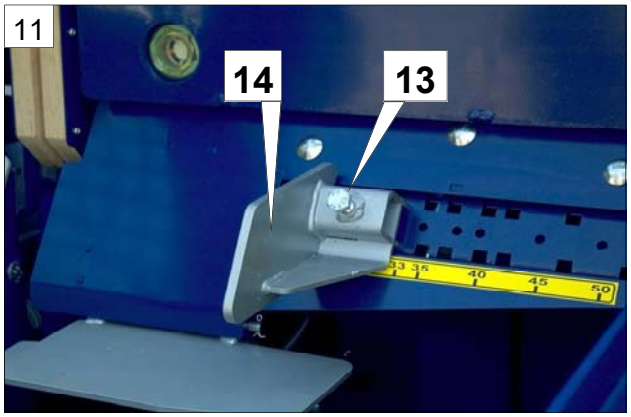




Regularly clean the filter on the chainsaw drive and replace it, if necessary. A clogged filter prevents the air from entering the machine and decreases cooling efficiency of the clutch elements and belt and lowers life span of these elements.

4.4.1 ADJUSTING THE WOOD LENGTH

The length of the firewood is set by adjusting the position of the length limiter (14-Figure:11) and fixing it in the required position using the fixing pin (13-Figure:11).



4.5 SPLITTING

Splitting is performed by a splitting cylinder which pushes the log towards the splitting wedge. The splitting speed depends on the wood resistance and changes during splitting. Since the splitting speed is inversely proportional with the splitting force, the splitting cylinder enables greater splitting force at a lower speed and a smaller splitting force at a greater splitting speed. The splitting cylinder automatically selects the necessary speed or splitting force, which results in greater energy efficiency.

The activation of splitting cylinders is performed by pushing the control handle forward. Do not hold the handle in this position! Cylinder will automatically move forward and backward. The return of the cylinder is activated by adjustable switch located under the machine cover.

Before each splitting, make sure the log is positioned properly in the splitting chute!

You can return splitting cylinder at any time by pushing the red button on the control handle, by lifting the safety cover or by pushing the safety STOP switch.

The wood may fall into the splitting chute diagonally. In this case it is necessary to open the cover and reposition the wood, before splitting. Problems may be also caused by wood pieces which were sawed sideways (especially the last piece) which can get lifted during splitting and damage the machine.

4.5.1 ADJUSTING THE HEIGHT OF THE SPLITTING WEDGE

Splitting wedge can be gradually lifted or lowered depending on the diameter of the logs - so you split logs in center using the yellow buttons on the control handle (Figure:10).

Splitting wedge can be simply adjusted when the splitting chute is empty or at the point when the splitting cylinder starts to move.

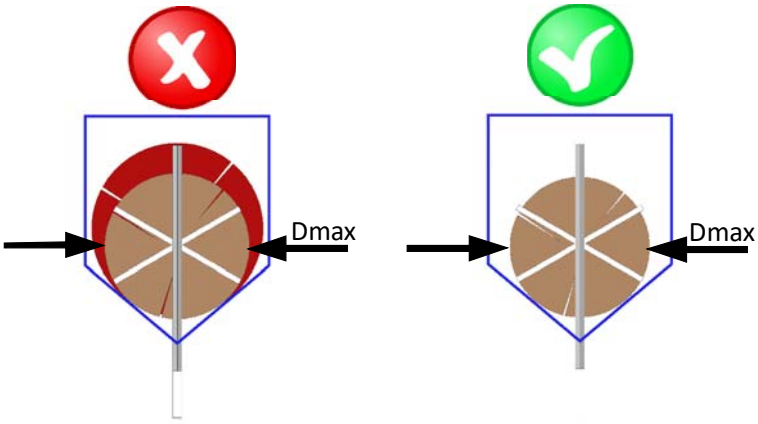
Lifting mechanism of the splitting wedge also allows partial height movements of the splitting wedge during the splitting phase. In case the wood gets stuck under the splitting wedge it must be removed to prevent damage to the lifting mechanism of the splitting wedge.

To replace the splitting wedge, lower the mechanism in the lowest position, pull the splitting wedge out and replace it. Afterwards lift the mechanism a little to fasten the splitting wedge in the operating position.

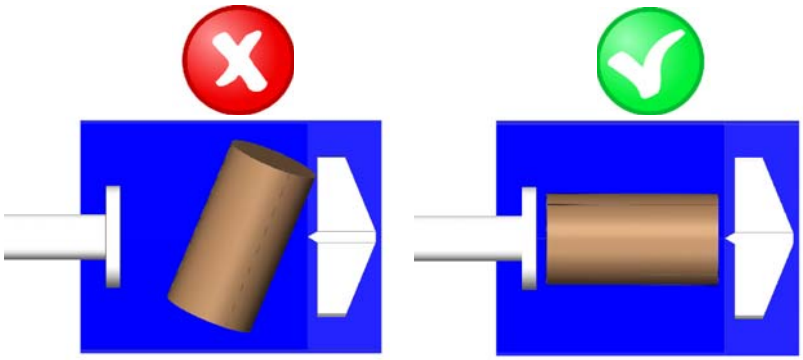
4.5.2 PROPER USE OF SPLITTING WEDGE

To ensure the durability of your splitting wedge, follow these instructions:

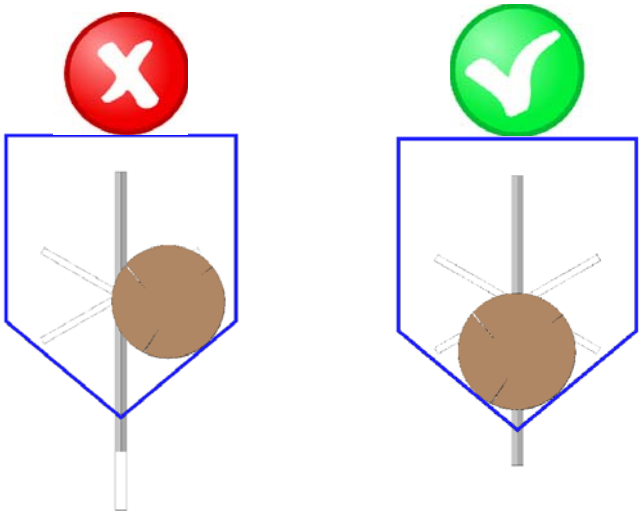
1. The splitting wedge is designed exclusively for wood splitting up to the max. diameter specified on your RCA machine.



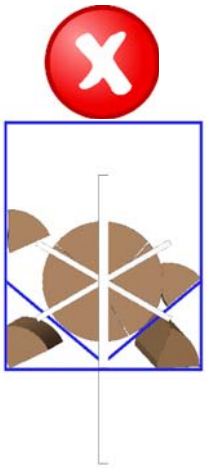
2. The log in the splitting chute must always be longitudinally directed towards the splitting wedge. This prevents unnecessary overloads and downtime.



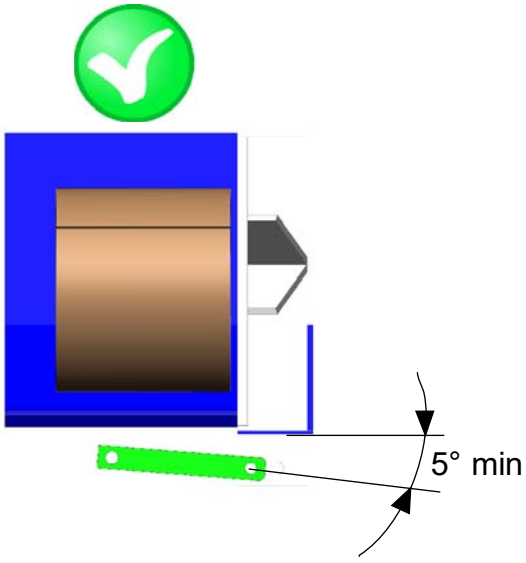
3. The log in the splitting chute must always be centred on the vertical blade of the splitting wedge. This prevents overloading of the side blades of the splitting wedge.



4. Ensure that the splitting chute and splitting wedge are never obstructed. Always remove any wedged pieces of wood.



5. Adjust the height of the splitting wedge to be slightly less than the mechanism permits. This allows the splitting wedge to still “breathe” during the splitting so as not to burden the mechanism and the lower blades of the wedge.

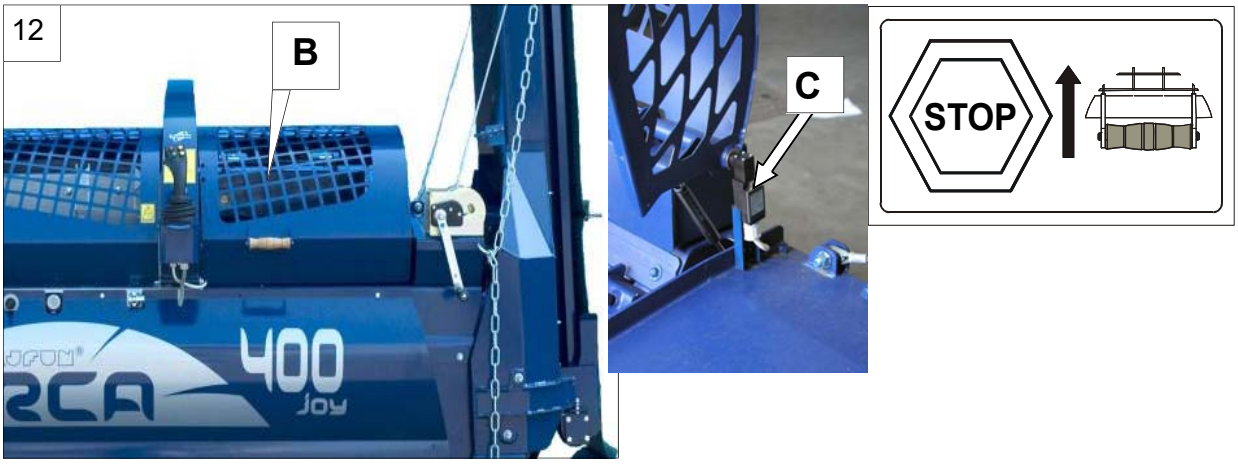


Failure to observe the instructions may result in mechanical damage to the wedge and the machine that is not subject to reclamation.

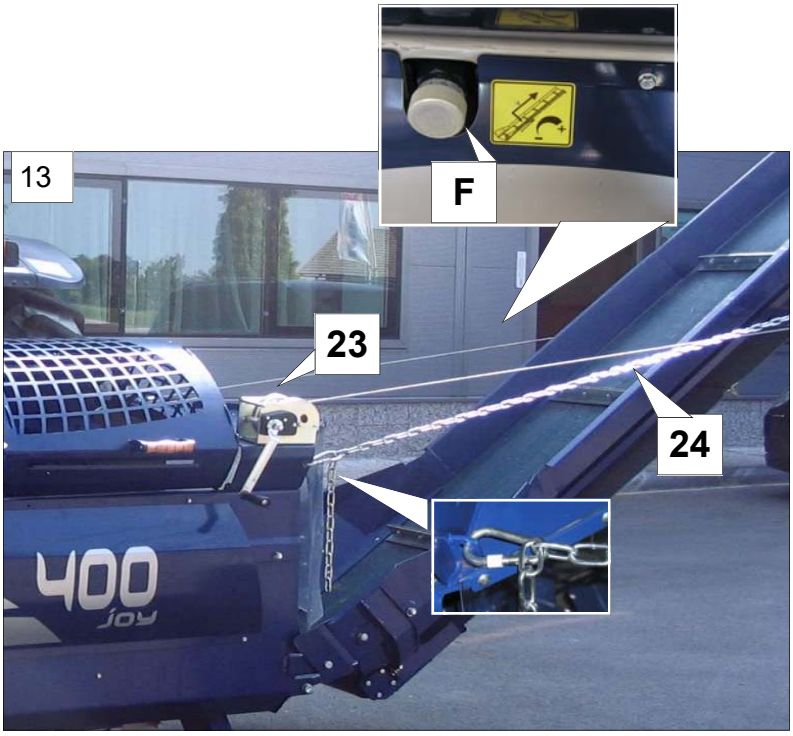
4.5.3 MACHINE COVER WITH SAFETY SWITCH

In case of eventual problems during the splitting phase, or in case the log is wrongly positioned in the splitting chute, the splitting process must be stopped immediately. In this case it may be also necessary to switch the cylinder, so the splitting cylinder which pushes towards the splitting wedge, moves back.

Machine cover (B-Figure:12) is linked to the safety switch, which disengages all major machine functions when the machine cover is lifted: in-feed and discharge conveyors stop, splitting cylinder stop and sawbar is withdrawn into the saw shield. Lifting the machine cover therefore acts also as a main safety switch.
The log can be reached by hand only when the machine cover is opened and machine is stopped. Sawing and splitting cannot continue until the machine cover is closed and safety switch disengaged. To restore all machine functions it is necessary to push the green RESET button (Figure: 8).



4.6 DISCHARGE CONVEYOR



Lifting and lowering of the discharge conveyor is performed with the hand winch (23-Figure:13). When the desired position is reached, secure it with the chain, so that the weight of discharge conveyor is distributed between the wire rope and the carrying chain.
(24 – Figure:13).

When using and maintaining the hand winch, follow the **enclosed** manufacturer's instructions.

The speed of the discharge conveyor can be adjusted using the discharge conveyor's speed regulator
(F-Figure:13).

4.7 CLEANING DURING THE OPERATION

Sawdust and wood remains begin to pile in certain areas during the operation. It is necessary to regularly clean this areas:

- **a** - wood remains under the machine. Wood remains can fill the areas behind the splitting cylinder and prevent the cylinder from returning to the primary position. This can cause increased pressure when idling and overheating.
- **b** - wood remains under the discharge conveyor drive cylinder can damage the conveyor belt.
- **c** - sawdust produced by the chainsaw must be removed regularly, so the sawdust doesn't fill the drain channel.

5 MAINTENANCE AND REPAIR

Regular machine maintenance ensures reliable operation and long lifetime of the machine.

Any work on the electric equipment may only be performed by a qualified electrician.

5.1 MAINTENANCE PLAN

Turn off the machine and disconnected the P.T.I shaft while performing any service or maintenance work.

WHAT?	WHEN?	HOW?
Check the tension of the cutting chain	Before each use	5.2.
Check the tension of the cutting chain belt	Every 50 hours of operation	5.11.1
Tighten any loose bolts and nuts and hydraulic connections	• **After first hour of operation** • After every 100 hours of operation	Using appropriate tools
Check the oil level	Before each use	visually
Hydraulic system oil change	After 5000 hours of operation or once every two years.	5.5.
Replacing the oil filter insert	When changing the oil, or in case the gauge indicator is in the red zone	Replace the filter insert.
Multiplication gear oil change	• After the first 50 hours of operation • Later, after every 1000 hours of operation	Drain the oil in the appropriate vessel from the lowest plug and replace the plug. Fill the oil through the upper plug.
Cleaning and replacing the air filter on the saw drive	• Cleaning the filter - daily • Replacing the filter - every 6 months	5.11.2

Regularly remove peaces of wood and sawdust from the splitting chute, under the conveyor belt, under the splitting wedge lifting mechanism and under the machine control handle!

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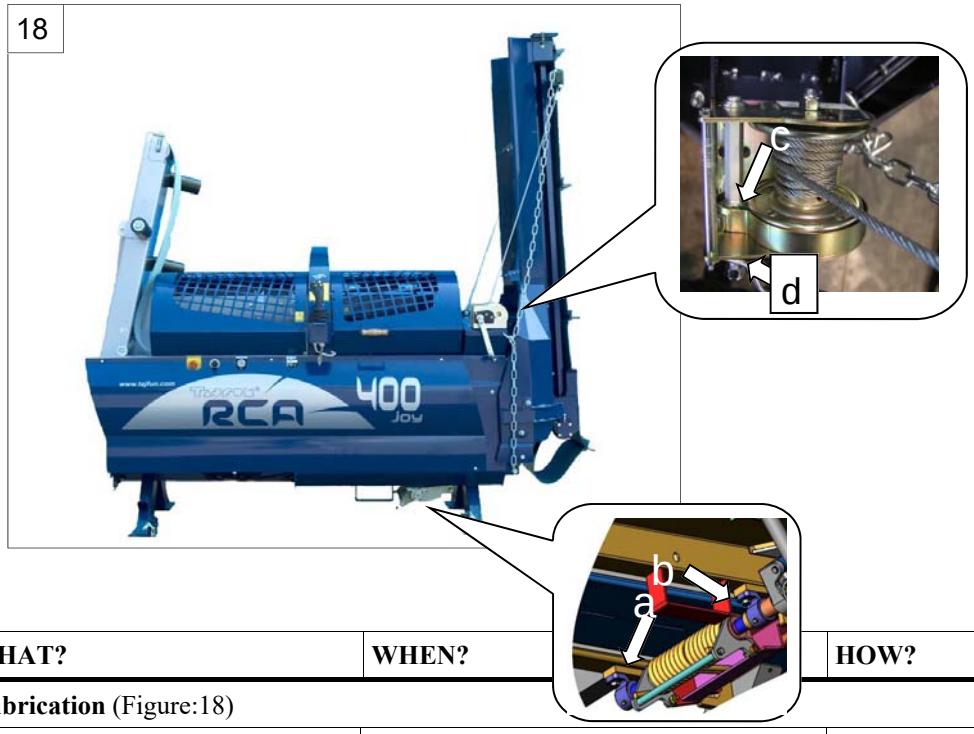


WHAT?	WHEN?	HOW?
Lubrication (Figure:18)		
Lubrication spot: **a, b, c,**	At least after every 80 hours of operation	Lithium grease
Lubrication spot: **d**	At least after every 80 hours of operation	Lubrication spray

5.2 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SOLUTION
The machine does not react to control handle commands.	Electrical cable is not connected.	Connect the cable to the tractor outlet.
	Electric cable connected, no voltage in the socket or wrong polarity.	Switch the tractor lights on, check the fuses (in the machine el. box and on the tractor), check the polarity.
	RESET button wasn't pushed.	Before every startup or after opening the safety cover it is necessary to push the green RESET button (4.1) to restore all machine functions.
Machine vibrates excessively	Improper tractor and machine postion is causing vibrations of the P.T.O. shaft.	Reconnect the tractor and the machine according to the instructions (Chapter 3).
	Worn-out P.T.O. shaft.	Check and replace P.T.O. shaft if necessary.
Machine is overheating.	Not enough oil in the reservoir.	Add suitable quality oil (5.5).
	Worn-out oil.	Check the oil quality and replace the oil, if necessary.
	Clogged oil filter, the filter gauge is in the red zone when the oil is warm.	Replace the oil filter insert.
	Excessive P.T.O. shaft rotating speed is causing increased oil flow, higher losses and heating of the oil.	Check the P.T.O./shaft rotating speed; it should be 400 to 430 rpm.
	Splitting cylinder cannot return in the primary position as too much sawdust and wood particles have accumulated behind the cylinder. This is also indicated by higher pressure when idling.	Lift the splitting cylinder cover and clean the wood remains. Afterwards clean the area under the machine regularly (4.6).
	Overheating and the loss of splitting force can be caused by internal splitting cylinder leakage.	Servicing may be required due to possible loosening of the piston in the cylinder.
No hydraulic component is operational and the control indicators on the valves do not light when you move the control handle.	Interrupted connection between angle multiplication gear and hydraulic pump.	Replace the sprocket which connects multiplication gear and hydraulic pump (servicing).
The machine became loud.	Excessive P.T.O. shaft rotating speed.	Check the P.T.O./shaft rotating speed, which should be 400 to 430 rpm.
	Not enough oil in the multiplication gear.	Check the oil level and replace it, if necessary (5.7)
	P.T.O. shaft with built-in clutch is causing the noise.	We do not recommend using P.T.O. shafts with clutches. Use the regular P.T.O. shaft or P.T.O. shaft with wide angle linkages on both sides which ensure constant transfer of rotating speed.
	Improper tractor and machine positioning; vibrations are also present.	Reconnect the tractor and the machine according to the instructions (Chapter 3).
	P.T.O. shaft is not lubricated.	Lubricate the shaft according to P.T.O. shaft instructions.
Discharge conveyor is not operating.	Before staring up you didn't push the RESET button.	Before every startup or after opening the safety cover, it is necessary to push the green RESET button (4.1) to restore all machine functions.
	Conveyor belt speed regulator is set in the lowest position.	Set higher speed using the regulator (Figure 8c).
	Conveyor belt is not moving although driving roller is spinning. Conveyor belt is not tensioned enough.	Discharge conveyor valve (T-Figure 5) must be turned down totally to prevent oil from exiting the cylinder which tensions the belt.
	Piece of the wood is blocking the rotation.	Remove the foreign piece and regularly clean the area under the driving roller.
Feed conveyor belt is not operating or is slipping and the gauge shows the pressure (90-100bar / 1305-1450 psi)	Hydraulic pipes for driving the log loader cylinders are connected improperly and the oil flow is interrupted.	Check the pipe connectors and push the couplings (3.3) deep enough.
	Log loader is not connected and quick couplings under the table are loose.	Connect both couplings with the connecting pipe (3.3).
	The roller is slipping, the belt isn't tensioned enough.	Tension the belt.
	Log is too heavy and getting stuck.	Saw the log in shorter pieces.
The conveyor belt is pulling in one direction. Applicable to both feed and discharge conveyors.	Bad positioning of the driven rollers.	Set the driven roller so the conveyor belt will run in the middle.
Hydraulic cylinder is leaking.	Damaged seal.	Seal replacement (servicing).
	Damaged piston rod.	Cylinder replacement (servicing).

PROBLEM	POSSIBLE CAUSES	SOLUTION
Splitting cylinder starts to split but returns to soon or returns when you start another function.	Splitting valve doesn't remain in open position due to too low electric power.	Check tractor power output. If you power the control mechanism using other power supply to convert 220V to 12V, check its power output. Electric current can rise to 15A. DC current from such power supply has to be as "even" as possible, without oscillation. Only transformer does not suffice and has to include large condenser. Do not use the cable with small diameter wires or excessively long cable, due to high voltage drops in DC current.
Cylinder performs forward movement, but doesn't return automatically. You can return splitting cylinder using the red button on the control handle.	Final position inductive switch didn't send the signal to return the splitting cylinder.	It is necessary to set the position of the switch so it may detect the final position of the cylinder. The switch is located under the machine cover near the splitting cylinder. .
Splitting cylinder is losing power, transfers from high to low speed may take longer, machine cannot reach maximum pressure. Machine sometimes works normally and sometimes doesn't.	Possible internal leakage on the splitting cylinder due to a loosen piston.	Cylinder repair is necessary.
Increased pressure (over 50bar / 725 psi) on the splitting gauge (J-Figure: 1) when idling. Faster heating of the hydraulic oil.	Splitting cylinder cannot return in the primary position as too much sawdust and wood particles have accumulated behind the cylinder. This is also indicated by higher pressure when idling.	Lift the splitting cylinder cover and clean the wood remains. Afterwards clean the area under the machine regularly (4.6).
Cannot set the height of the splitting wedge.	Splitting wedge probably came out from the lifting mechanism.	Reinstall splitting wedge to the lifting mechanisim.
Torn driving belt	Too low speed of P.T.O. shaft and dull and loose chain.	Replace the belt, use proper settings when working.
	Belt is not tensioned enough.	Replace the belt.
	The chainsaw was blocked during sawing since the wood was not fastened enough.	Replace the belt.
	Stuck drive bearing.	Replacement of damaged bearings (servicing).
The sawbar does not move, log holder and chainsaw operate.	The foreign piece got stuck in the restrictor between hydraulic cylinder and hydraulic block and blocks the oil inflow	Remove the foreign piece by unscrewing the coupling which holds the saw gauge (K-Figure). In this area the restrictor is located in a small block. The foreign piece is probably located there.
Slower sawing	The chain became dull.	Install a sharpened chain. The sawbar pushing force is always the same, cutting speed depends on chainsaw quality and resistance of the wood.
Sawbar overheating	Not enough lubrication causes increased friction and subsequent overheating.	Use dedicated chainsaw lubrication oil, increase lubrication pump flow (5.8), check oil quantity in the lubrication reservoir, ensure uninterrupted oil flow to the groove on the sawbar.
Sawbar pulls in one direction, cuts sideways, overheating is possible.	Bent sawbar, probably cause by movement of the wood during sawing.	Replace the sawbar.
	A few cutting teeth on the chain are damaged.	Sharpen or replace the chain.
	The chaisaw damaged the surface of the chainsaw holder. Chainsaw created the edge on the surface of the holder and the sawbar rests on this edge. The sawbar is therefore placed sideways relative to the sawing direction.	Grind off the edge.
Chainsaw clutch is slipping	Worn clutch plates.	Replace the clutch plates.
	Leaking of the oil on the slide surfaces.	Determine the source of the oil, clean the slide surfaces.

More demanding procedures must be performed by a qualified technical service, only.

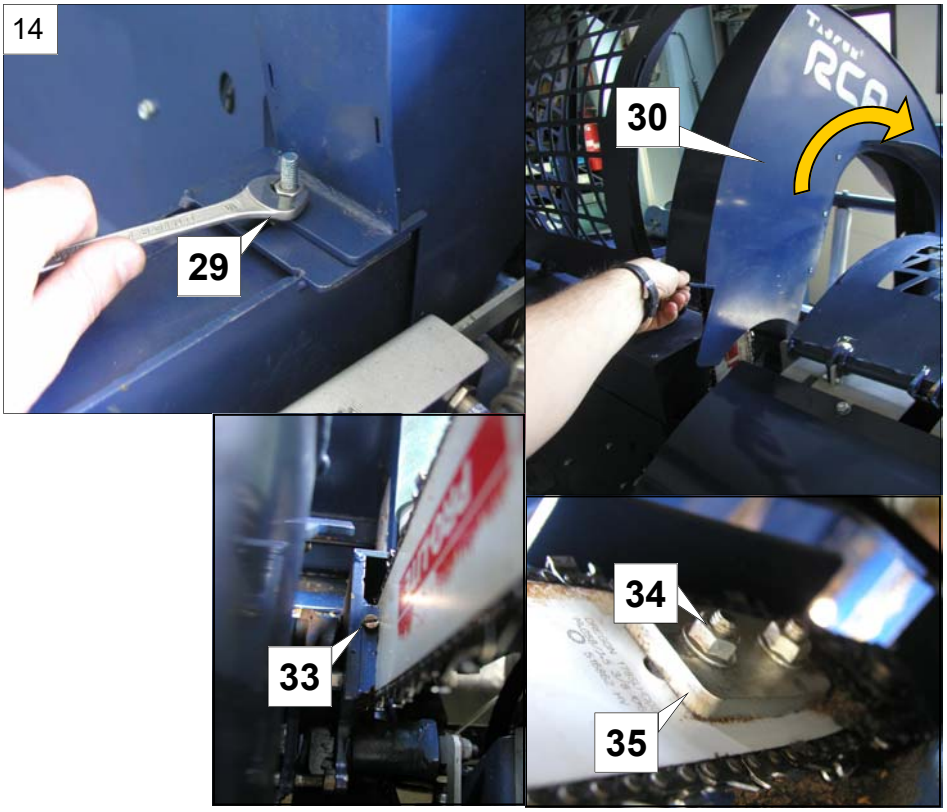
5.3 CHAIN REPLACEMENT

Before replacing the chain, you must disconnect the machine drive!

- Disconnect the P.T.O. shaft.
- Unscrew the screw (29-Figure:14) and move the saw shield (30- Figure:14) in the forward position.
- Loosen the cutting chain tensioning screw (33-Figure:14)
- Unscrew both nuts (34- Figure:14) on the fixing plate (35- Figure:14) until you can move the sawbar away from the tensioner.
- Remove the worn cutting chain and replace it with new well-sharpened chain.
- Make sure the cutting teeth are turned in the right direction – the cutting edge on the top of the sawbar must face the machine controls.
- Replace the cutting chain in a reverse order and don't forget to tension the chain afterwards.
- Remove sawdust and woodchips from sawbar holder, lubrication grove and sawbar.

New cutting chain must be run-in; 2 to 3 minutes. Afterwards recheck the cutting chain tension (see 5.2).

Do not install a new cutting chain on a worn out sprocket. Replace the sprocket after second replacement of the worn out chain at the latest.



5.4 CUTTING CHAIN TENSIONING

- Loosen both nuts (34-Figure:14) on the fixing plate (35-Figure:14)
- Tighten the tensioning screw (33-Figure:14) until the chain is tensioned correctly*
- Tighten both nuts (34-Figure:14) on the fixing plate (35-Figure:14)

*The cutting chain is tensioned correctly when it clings to the lower side of the sawbar when cold and can be still lifted on the upper side of the sawbar (approximately in the middle), three or four times the height of the driving teeth.

Always wear gloves when checking the chain tension to avoid cutting your fingers on the sharp chain!

5.5 CUTTING CHAIN SHARPENING ANGLE

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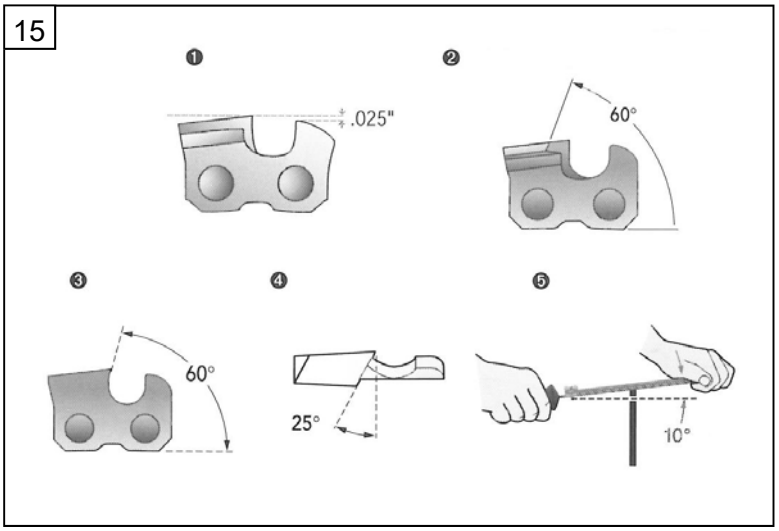

Figure **15** shows MULTICUT 3/8″ chain-saw sharpening angles, which are used on firewood processors.

1. Sawdust thickness (0.025″ = 0.65mm)- difference between the height of the blade and deep teeth.
2. Prong angle
3. Side angle
4. Sharpening angle
5. File inclination

5.6 CHANGING THE SPLITTING WEDGE

- Remove all firewood and wood remains from the **splitting wedge area** (splitting chute and under the machine)
- Using the yellow button on the control handle move the splitting wedge in the lowest position.
- Remove the splitting wedge (39-Figure:16) from its mount and replace it with a new wedge
- Close the machine cover and push the RESET button
- Set the desired splitting wedge height
- If the surface is uneven and the area under the splitting wedge is lower, the splitting wedge may fall deeper and the splitting mechanism may not reach the groove. In this case lift or underlay the splitting wedge as necessary.

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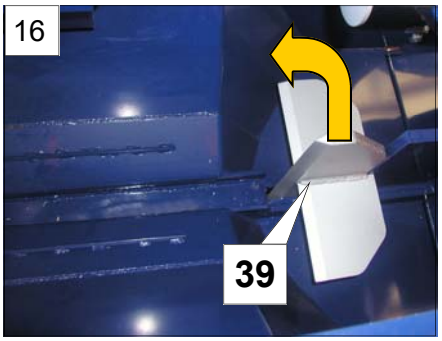

5.7 HYDRAULIC SYSTEM OIL CHANGE

Important:
To prevent environmental pollution, dispose of used oil properly!

- **Replace the oil after 5000 hours of operation or every 2 years.**
- The oil drain plug is located on the lower side of the tank.
- Hydraulic system oil quantity: 100 l.

Suitable hydraulic oil (viscosity: **46 mm^2/s at 40^{o}C**).
The machine is factory filled with **Hydrolubric VGS 46** (OLMA d.d.) oil.

Hydraulic oil quality must correspond to the following standards:

Standard:	**Designation:**
DIN	DIN 51 524/3 HVLP
ISO	ISO 6 743/4 HV
Denison	HF-2, HF-0
Vickers	I-286-S, M-2950-S
Cincinnati Milacron	P-68, P-69, P-70

5.8 CHANGE OF FILTER INSERT

- First change the filter insert after 200 working hours, then every 1000 working hours
- The filter insert is not washable
- Bad filter permeability is seen on the filter gauge – if the gauge indicator is in the red zone when oil is heated to operating temperature (if gauge indicator reaches the red zone only occasionally, filter replacement is NOT needed).

5.9 LUBRICATION OF THE ANGLE MULTIPLICATION GEAR

- The machine is factory filled with 1.2 l of oil - SAE 75 (Renolin CLP 100 DIN 51 517/13).
- Replace the oil when changing the reduction gear bearings.

5.10 CUTTING CHAIN LUBRICATION

Never operate the machine without lubricating the chain first!

Chain lubrication oil quantity: 8 L
Approximate oil consumption: (0.6-1.0) L/h
Quality chain lubrication oils with viscosity grade of 95 mm^2/s at 40ºC are recommended.

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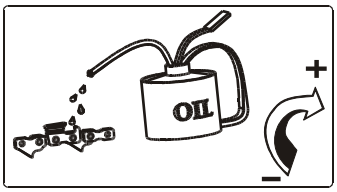
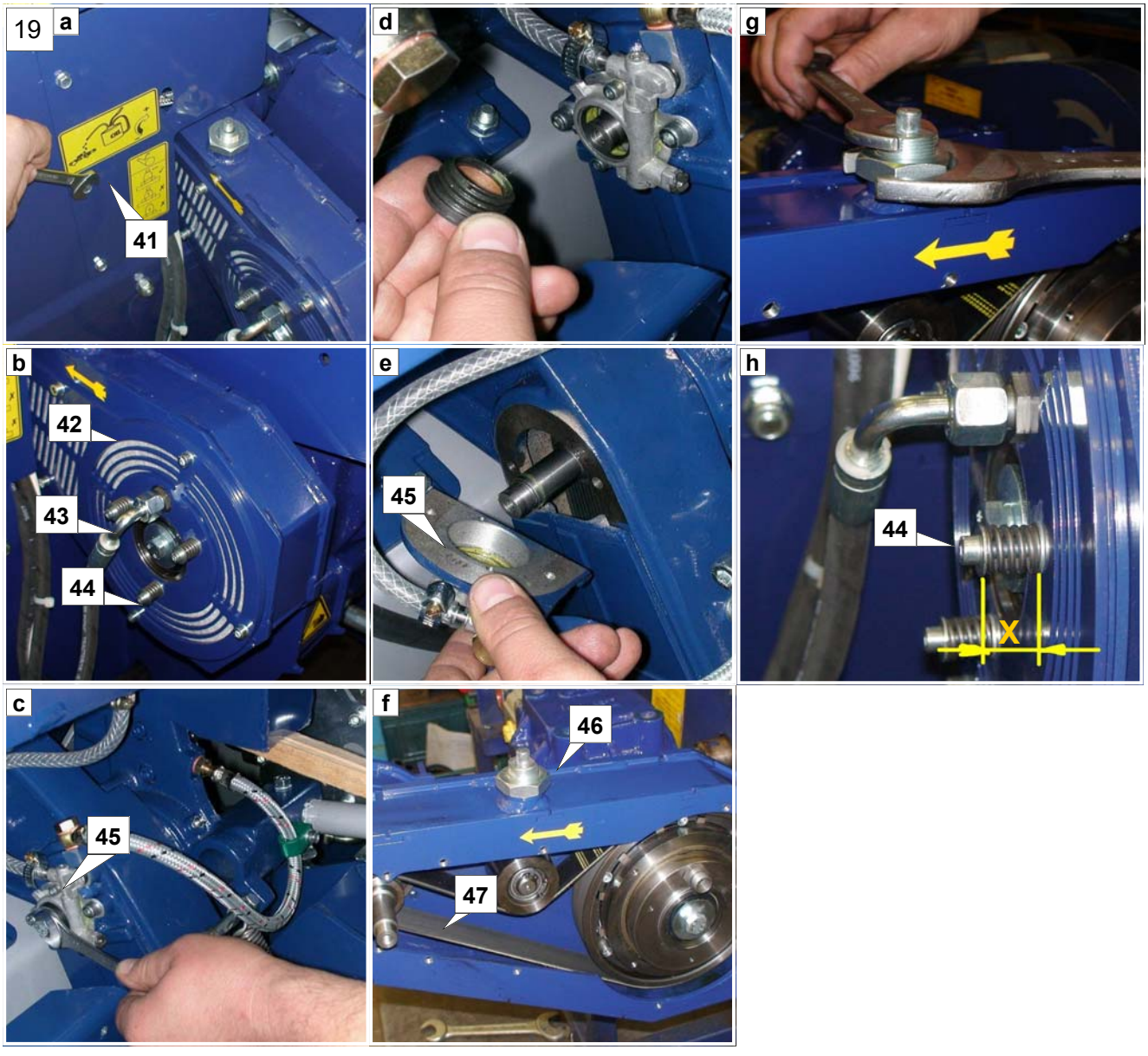


The use of used oils is not permitted!

The flow of the cutting chain lubrication oil can be regulated depending on the oil quality, by using a regulation screw (Figure:18). It is factory set to **maximum**!

5.11 CUTTING CHAIN BELT REPLACEMENT

- Disconnect the machine from the drive.
- Remove: drive protection (41-Figure:19a), drive cover (42-Figure:19b), hydraulic pipe (43-Figure:19b), 3 spring screws (44-Figure:19b)
- Unscrew the lubrication pump (45-Figure:19c)
- Loosen the belt tensioner (46-Figure:19f)
- Remove the belt (47-Figure:19f) from the driven pulley
- Remove the old belt and clean the drive assembly
- Insert new belt
- Install the belt on pulleys
- Tension the belt (Figure: 19g) and attach the removed elements: lubricating pump (45-Figure:19e), drive covers with filter (42-Figure:19b)
- Apply LOCTIE 222 (or similar) and screw the spring screws (44-Figure: 19h). Pay attention to the distance **X** which should be 17 mm. **Attention!** Do not compress the spring completely, otherwise the clutch won't work.
- Fasten the hydraulic pipe
- After one hour of testing operation recheck the belt tension (disconnect the machine from the driver first). Afterwards recheck the belt tension every 50 work hours.



5.11.1 BELT TENSIONING

The machine must be stopped, during the operation!
Set the correct tension of the belt using the notch on the tension indicator. The notch must be aligned with the edge of the spring guide. Set the tension of the belt as follows:

- Loosen the safety nut (47-Figure: 20)
- Screw or unscrew the spring guide, as appropriate (48-Figure:20) and correctly align the notch
- Tighten the safety nut (47-Figure: 20)

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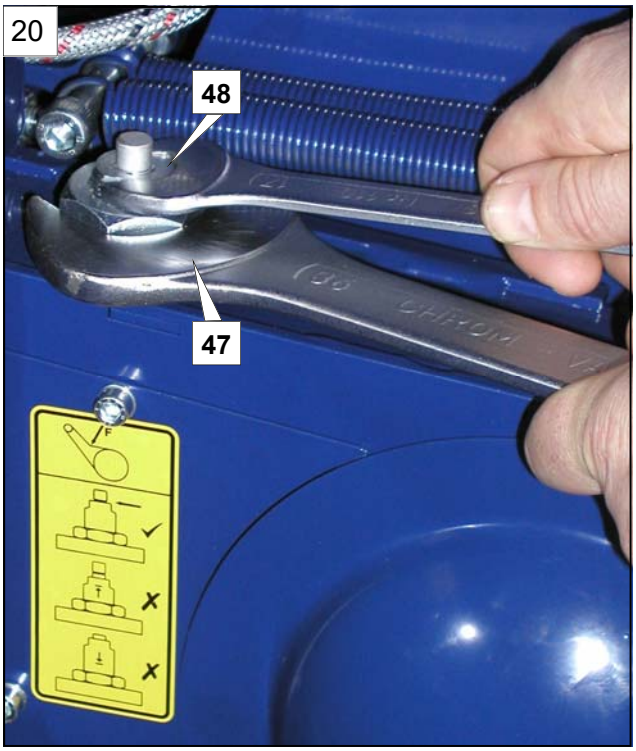


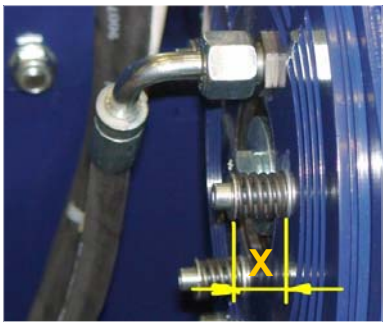
5.11.2 CLEANING AND REPLACING THE AIR FILTER

FILTER REPLACEMENT

- Disconnect the machine from the drive.
- Remove the drive protection.

- Remove the drive cover, the hydraulic tube, and the spring screws.

- Replace the filter with a new one, clean the interior, and reattach the drive cover.
- Tighten the spring screws and secure them with the adhesive LOCTITE 222 (or similar). Pay attention to distance X, which should be between 16 and 17 mm. The distance for all three screws must be THE SAME LENGTH. Attention! If the spring is completely compressed, the clutch will not work.



- Tighten the hydraulic tube and, finally, secure the drive protection.

CLEANING THE FILTER

Remove sawdust and waste from the top of the filter (the cover) to allow free air flow to the inside of the saw drive.

Regularly clean and change the filter on the saw drive. An unclean filter impedes the cooling air flow to the drive assembly, which may result in overheating or damage to the drive assembly (bearings, belt, shaft...).

5.12 INDICATIONS OF IMPROPER USE

Certain damages which occur before the end of the lifespan of exposed machine components may indicate overloading or inappropriate handling of the machine. Manufacturer's warranty does not cover damages of this kind:

- Torn or damaged in-feed or discharge conveyor belts
- Torn cutting chain
- Damaged chain guide (sawbar)
- Damaged or bent framework, wedge or cylinder protection
- Damaged or bent length limiter or trapdoor
- Torn cutting chain drive belt
- Damages to the operating handles
- Damages to the framework due to unsuitable transport
- Damaged hand winch on the conveyor
- Damaged carrying chain carabiner
- Damaged wedge holder
- Damaged or broken splitting wedge
- Clogged or damaged air filter

Important:
The machine is functionally and safety tested. To ensure flawless and safe operation it is necessary to use only original spare parts in case of breakdown. The customer looses all claims of warranty if non-original spare parts are used, if repairs are performed unprofessionally or by unqualified person or in case of any modifications to the machine.

5.13 SUPPLIES

The machine incorporates following parts, which have to be replaced by the customer as necessary. These parts are not covered by the warranty period, which is defined in the warranty statement:

- Cutting chain
- Drive chainwheel
- Cutting chain guide (sawbar)
- Cutting chain drive belt
- Clutch plates
- Conveyor wire rope
- In-feed conveyor belt
- Discharge conveyor belt
- Splitting wedge
- Oil
- Air filter

5.14 SPARE PARTS ORDERING

When ordering spare parts it is necessary to provide the following information:
Model and serial number of the machine; catalogue number, name and **quantity of the spare part; Exact address of the customer**

The manufacturer warrants spare parts availability and service 10 years after the purchase of the machine.

Tajfun Planina d. o. o.
Planina 41a
SI-3225 Planina pri Sevnici
Slovenia
www.tajfun.com

EC Declaration of Conformity

Manufacturer:

TAJFUN Planina, proizvodnja strojev d.o.o., Planina 41a, 3225 Planina pri Sevnici

declares with full responsibility that the product mentioned hereinafter:

FIREWOOD PROCESSOR
RCA 400 joy

covered by this declaration complies with the requirements of:

Directive 2006/42/EC

and is in compliance with harmonized standards:

EN ISO 4254-1:2009; EN ISO 12100:2010; EN ISO 13857:2008; EN 349:1993+A1:2008;
EN 609-1999+A2:2009; ISO 4413:2010

Authorized person for technical documentation:
Iztok Špan, Planina 41a, SI-3225 Planina pri Sevnici

Planina, 14. 9. 2017

Iztok Špan
General Manager

TAJFUN
Tajfun Planina,
proizvodnja strojev d. o. o.
Planina pri Sevnici

WARRANTY SHEET

We guaranty:

- that the product will operate fault free, if operated according to enclosed operating instructions;
- that we will repair any fault or defectiveness during the warranty period, within 45 days. In case the product is not repaired within the mentioned term, we will replace it with a new product on customer's request.

The product is warranted 12 MONTHS from the day of purchase, which must be proved by the customer with the certified warranty sheet (stamp of the shop, date of purchase and salesman's signature, serial number and year of manufacture).

Guarantee sheet is valid only if shown together with original invoice!

The warranty covers parts against defects in material and workmanship. In case of repairs performed by unqualified person, or if non-original spare parts were used, the customer looses all claims of warranty! Our guaranty is void also in case of:

- Damages caused by not following these operating instructions;
- Damages which are customer's fault;
- Damages resulting from improper use or overload and operation in unsuitable conditions.

Type :	Serial Number:	Year of Manufacture:
DEALER:	Date:	Signature:

TAJFUN