



OPERATING INSTRUCTIONS

FIREWOOD PROCESSOR

TITAN43/20J



THE MANUFACTURER:

Uniforest d.o.o.
Latkova vas 81d
3312 PREBOLD

Valid from serial number:

TITAN 43/20 JCD	10
TITAN 43/20 JE	10
TITAN 43/20 JCD+E	10

INDEX

1	GENERAL	5
	1.1. RESERVATIONS	5
	1.2. INTENDED USE	5
	1.3. TECHNICAL DATA	6
	1.4. TYPE PLATE	7
2	SAFETY INSTRUCTIONS	8
	2.1. EXPLANATION OF SYMBOLS	8
	2.2. GENERAL SAFETY INSTRUCTIONS	9
	2.3. NOISE LEVEL	9
	2.4. RESIDUAL RISKS	10
	2.5. INTENDED USE	10
	2.6. IMPROPER USE	10
	2.7. STAYING IN THE OPERATIONAL AREA OF THE MACHINE	11
3	MACHINE OVERVIEW	12
	3.1. APPLICABILITY	12
	3.1.1. Machine types	12
	3.1.2. Optional equipment	12
	3.1.3. Additional equipment	12
	3.2. MACHINE DESCRIPTION	12
	3.3. MACHINE COMPONENTS	13
	3.4. EXPLANATION OF THE WARNING AND FUNCTION SIGNS	14
	3.4.1. Warning signs	14
	3.4.2. Funkcijske oznake	15
4	POSITIONING	16
	4.1. MACHINE POSITION	16
	4.2. FEEDING DECK POSITIONING	16
	4.3. CONVEYOR BELT POSITIONING	17
5	STARTING THE MACHINE	18
	5.1. TRACTOR DRIVE	18
	5.1.1. Universal joint shortening	19
	5.2. ELECTRIC MOTOR DRIVE	19
	5.2.1. Main switch	19
	5.2.2. Control box	20
6	MACHINE CONTROL	21
	6.1. CONTROLLING THE WORK FUNCTIONS OF THE MACHINE	21
	6.2. CONVEYOR BELT OPERATION	21
	6.3. INSTRUCTIONS FOR SPLITTING	22
	6.4. STOP FUNCTION	23
	6.5. ADJUSTING THE FIREWOOD LENGTH	23
7	TURNING OFF THE MACHINE	23
	7.1. TRACTOR DRIVE WITH THE UNIVERSAL JOINT	23
	7.2. ELECTRIC MOTOR DRIVE	24
8	TRANSPORT	24
	8.1. FEEDING DECK POSITIONING	24
	8.2. CONVEYOR BELT POSITIONING	24
	8.3. TRANSPORT ON THE THREE-POINT HITCH	25
	8.4. LIFTING WITH A CRANE	26

9	INSPECTIONS	26
9.1.	PROTECTIVE DEVICES	26
9.2.	THREADED JOINTS	26
9.3.	HYDRAULIC LINES	26
9.4.	CHAINSAW BAR AND CHAIN	27
9.5.	OIL LEVEL	27
9.5.1.	<i>Hydraulic oil level</i>	27
10	MAINTENANCE	27
10.1.	SAW CHAIN LUBRICATION ADJUSTMENT	29
10.2.	REPLACEMENT AND TENSIONING OF THE SAW CHAIN	29
10.3.	CONVEYOR BELT TENSIONING	30
10.4.	FEEDING CONVEYOR TENSIONING	31
10.5.	LUBRICATION	31
10.6.	HYDRAULIC OIL CHANGE	32
10.7.	INTERNAL LAYOUT OF THE ELECTRICAL CABINET	33
11	OPTIONAL EQUIPMENT	34
11.1.	OIL HEATER	34
11.2.	OIL COOLER	34
11.3.	SEPARATOR	35
12	ADDITIONAL EQUIPMENT	36
12.1.	SPLITTING AXES	36
12.2.	LIFT TABLE LT 650	36
12.2.1.	<i>Intended use</i>	36
12.2.2.	<i>Technical data</i>	37
12.2.3.	<i>Staying in the operational area of the machine</i>	37
12.2.4.	<i>Connection and positioning of the machine</i>	38
12.2.5.	<i>Loading logs</i>	39
12.2.6.	<i>Adjusting the lifting arm speed</i>	39
12.3.	LOG DECK	40
12.4.	EXTRACTION DEVICES	40
12.4.1.	<i>Connection and starting</i>	41
13	TROUBLESHOOTING	42
14	SERVICING	43
	EC DECLARATION OF CONFORMITY	5

1 GENERAL

Dear customer!

We are pleased that you decided to purchase of our machine. The firewood processor is designed for easier production of firewood. Work in the woods can only be safe if you observe the instruction for safe use. If you follow all the instructions, the machine will work perfectly and you can avoid any unnecessary expenses.

We recommend you to carefully read the user manual. In case of doubt do not hesitate to contact us. S skeniranjem QR kode dostopajte do video navodila za uporabo.



We wish you safe work with the machine.

1.1. Reservations

Technical specifications, dimensions, pictures of the machines and general safety standards are constantly developing and are not always binding at the time of delivery. We reserve the right to typographical errors.

1.2. Intended use

The machine is designed exclusively for normal work in the timber industry. Any other use is considered improper. The manufacturer is not liable for any damage resulting from improper use. In this case, the user takes all responsibility. Intended use also includes observing operational, handling and maintenance

conditions specified by the manufacturer. The machine can only be operated by a person who is qualified and informed about the dangers and consequences of inappropriate use. Relevant safety regulations as well as general regulations on technical safety of devices, health regulations and road rules must be observed. The manufacturer shall not be liable for any damages that may arise from users making unauthorized changes and modifications to the machine.

1.3. Technical data

Component	Unit	TITAN 43/20J STANDARD		
		CD	E	CD+E
Model		CD	E	CD+E
Design number		911.00.00.0	911.45.00.0	911.55.00.0
Required tractor power capacity	kW/KM	30/40	/	30/40
Required tractor transport capacity	kW/KM	60/80	60/80	60/80
Engine power	kW	/	15	15
Maximum log diameter	mm	430	430	430
Splitting force	kN/t	200/20	200/20	200/20
Length of log	cm	25, 33, 40, 50	25, 33, 40, 50	25, 33, 40, 50
Conveyor belt offset	(L/D-15°)	hydraulic	hydraulic	hydraulic
Control		joystick	joystick	joystick
Height adjustment of the splitting knife		hydraulic	hydraulic	hydraulic
Log stabilizer		hydraulic	hydraulic	hydraulic
Transport		cat. II three-point hitch		
Log feeding deck	mm	Height: 965 / Length: 2000		
Conveyor belt – telescopic	mm	5000	5000	5000
Chainsaw bar	mm	Harvester 590		
Chain		XL Harv chain 2,0 mm 1480DL-REE		
Weight	kg	1220	1270	1285
Width x depth x height	mm	2500/1280/2430	2500/1280/2430	2500/1280/2430
Oil volume	l	100	100	100

1.4. Type plate

Model designation	UNIFOREST ® d.o.o. Dobriša vas 14/a, SI-3301 Petrovče Tel.: +386 (0)3 777 14 10 / Fax: +386 (0)3 777 14 18, www.uniforest.com CE	Typ: <input type="text"/>	Length of splitting <input type="text"/> cm Diameter of splitting <input type="text"/> cm Max. shaft speed <input type="text"/> min ⁻¹
Year of manufacture		<input type="text"/>	
Serial no.		<input type="text"/>	
Splitting force		Nr: <input type="text"/>	
Machine weight		F _{max} : <input type="text"/> kN	
	<input type="text"/> kg	<input type="text"/> cm	<input type="text"/> min ⁻¹

Model designation	UNIFOREST ® d.o.o. Latkova vas 81/d, SI-3312 Prebold Tel.: +386 (0)3 777 14 10 / Fax: +386 (0)3 777 14 18, www.uniforest.com CE	Typ: <input type="text"/>	Machine weight <input type="text"/> kg Length of splitting <input type="text"/> cm Diameter of splitting <input type="text"/> cm Max. shaft speed <input type="text"/> min ⁻¹
Year of manufacture		<input type="text"/>	
Serial no.		<input type="text"/>	
Splitting force		Nr: <input type="text"/>	
		F _{max} : <input type="text"/> kN	
	<input type="text"/> kg	<input type="text"/> cm	<input type="text"/> min ⁻¹
	<input type="text"/> kw	<input type="text"/> V	<input type="text"/> Hz
	Electric motor power	Voltage	Frequency

2 SAFETY INSTRUCTIONS

2.1. Explanation of symbols

The following symbols and warning signs in this manual indicate the risk of personal injury or material damage and provide helpful tips for work.

	Dangerous areas Failure to observe warnings for work safety may jeopardize the health and life of people. Always observe these warnings and be extremely careful and cautious.
	Danger of crushing Danger of injuries from entanglement of upper extremities.
	Danger of cutting Danger of injuries from cuts to upper extremities.
	Eye protection This symbol indicates an area where fine dust may be generated during work which can cause eye irritation. Failure to observe this indication may cause vision problems or eye damage.
	Ear protection This symbol indicates an area where the noise level exceeds 85 dB (A). Failure to observe this indication may cause hearing impairment or damage.
	Feet protection This symbol indicates an area where appropriate safety footwear must be worn. Failure to observe this indication may cause injuries to the feet.
	Body protection This symbol indicates an area where appropriate work clothes must be worn. Failure to observe this indication may cause injuries to arms and legs.
	Head protection This symbol indicates an area where suitable safety equipment for head protection must be worn. Failure to observe this indication may lead to head injuries.
	Face protection This symbol indicates an area where suitable safety equipment for face protection must be worn. Failure to observe this indication may lead to facial injuries.
	Lubrication required It is necessary to observe all warning indicating that lubrication is required prior to operation or according to the hourly interval.
	PTO shaft operation The machine is driven by the PTO shaft with the min. speed of 420 rpm and max. speed of 460 rpm. Pay attention to the direction of rotation.
	Forklift lifting point The point for lifting the machine with a forklift.
	Motor rotation direction The label indicating the motor rotation direction. If the rotation direction is incorrect, follow the instructions.

2.2. General safety instructions



- The machine can only be operated by persons who are familiar with its functions, dangers and operating instructions.
- Persons under the influence of alcohol, drugs or medicine that interfere with mental and physical abilities are not allowed to operate the machine or perform maintenance.
- The machine may not be used by persons under 18 or by persons with reduced physical, cognitive or mental abilities.
- The machine may only be used in technically perfect condition.
- The machine should only be switched-on when it is positioned on a stable ground.
- The machine should always be operated by ONE person.
- Take several breaks to remain vigilant during work.
- Make sure that the workplace is well lit as poor illumination significantly increases the risk of injuries!
- Never operate the machines without protective devices in place.
- Any repairs, installations, maintenance work and cleaning should only be performed when the drive is disengaged and the machine is at rest.
- Never let the machine run without supervision.
- Always turn off the machine before changing its position.
- Comply with applicable legal regulations when transporting the machine on public roads. Install safety lamps and the warning triangle on the back of the machine.
- Only use original UNIFOREST spare parts.
- After the first hour of operation of the machine check and tighten all screws and nuts.
- Do not change or modify the machine in any way.
- Work on the electrical equipment may only be carried out by qualified personnel.
- Never use damaged connections.
- Do not use electrically powered machines in the rain, otherwise this could cause a malfunction of the switch or the electrical motor.
- Do not hold logs with your hand while sawing.
- When the machine is on, it is forbidden to remove wood chips or other parts of workpieces from the cutting area.
- Never place your hands near the chainsaw bar when the machine is in operation.
- It is recommended to use the machine outdoors.
- If you intend to use the machine indoors, it is necessary to provide a local dust extraction system (collection at the source).
- The machine must be maintained in a good working order and it should not contain any debris, e.g.. splinters and pieces of wood.
- Always use safety gloves and tight-fitting clothing during work.
- Wear safety goggles or a face mask during work.
- Use a respiratory protective mask to reduce the risk of inhalation of harmful dust.
- Only use original chainsaw bars and chains.
- Never use damaged or deformed chainsaw bars and chains.
- When the machine is turned off, always make sure that all the tools have stopped moving.
- The maximum pressure in the hydraulic device must not exceed 240 bar.

2.3. Noise level



The A-weighted sound pressure level in the workplace:

- The measured sound power level is $L_{wa} = 107.1 \text{ dB(A)}$
- Measurement uncertainty $K = 2.5 \text{ dB(A)}$.
- The guaranteed sound power level is $L_{wa} = 110 \text{ dB(A)}$.

For machines with a PTO drive shaft the noise level depends on the tractor and it is therefore recommended to wear hearing protection.

The values specified above are emission values and as such do not necessarily represent safe values for the working environment. The correlation between emission and immission levels cannot reliably provide for a conclusion as to whether additional cautionary measures are necessary or not. Factors that could affect the current immission level present at the workplace involve the characteristics of the work area and other noise sources, such as the number of machines and other work operations in the vicinity. The permissible workplace levels vary from country to country. The aforementioned information does, however, allow the user to better assess dangers and risks.

2.4. Residual risks

Some risks may remain even when all safety rules are followed and the machine is used properly:

- Touching rotating parts or tools.
- Injuries due to ejection of workpieces or parts of workpieces.
- Danger of fire due to inadequate engine ventilation.
- Hearing impairment caused by working without wearing earmuffs.
- Inappropriate human behaviour (eg. excessive physical strain, mental stress etc.).

Every machine poses residual risks, which is why you should always pay extra attention during operation. The operators are responsible for ensuring work safety!

2.5. Intended use

The TITAN 43/20 J machine is used for sawing and splitting firewood with a maximum diameter of 5–43 cm.

It splits logs into 2, 4, 6, 8 or 12 pieces with a force of 20 t and the splitting length is adjustable from 25 cm to 50 cm.

The machine can only be used to cut and split logs!

2.6. Improper use

Any other use, different to that described in chapter 2.5 Intended use is expressly prohibited!

2.7. Staying in the operational area of the machine

- It is forbidden to stay in the danger zone. (Figure 1)
- Keep away from the danger zone to avoid injuries.
- Never put your hands inside the funnel or on the conveyor belt when the machine is in operation.
- Turn off the machine before removing any stuck pieces of wood.
- The machine can only be used outdoors.
- Always use safety gloves and tight-fitting clothing during work.

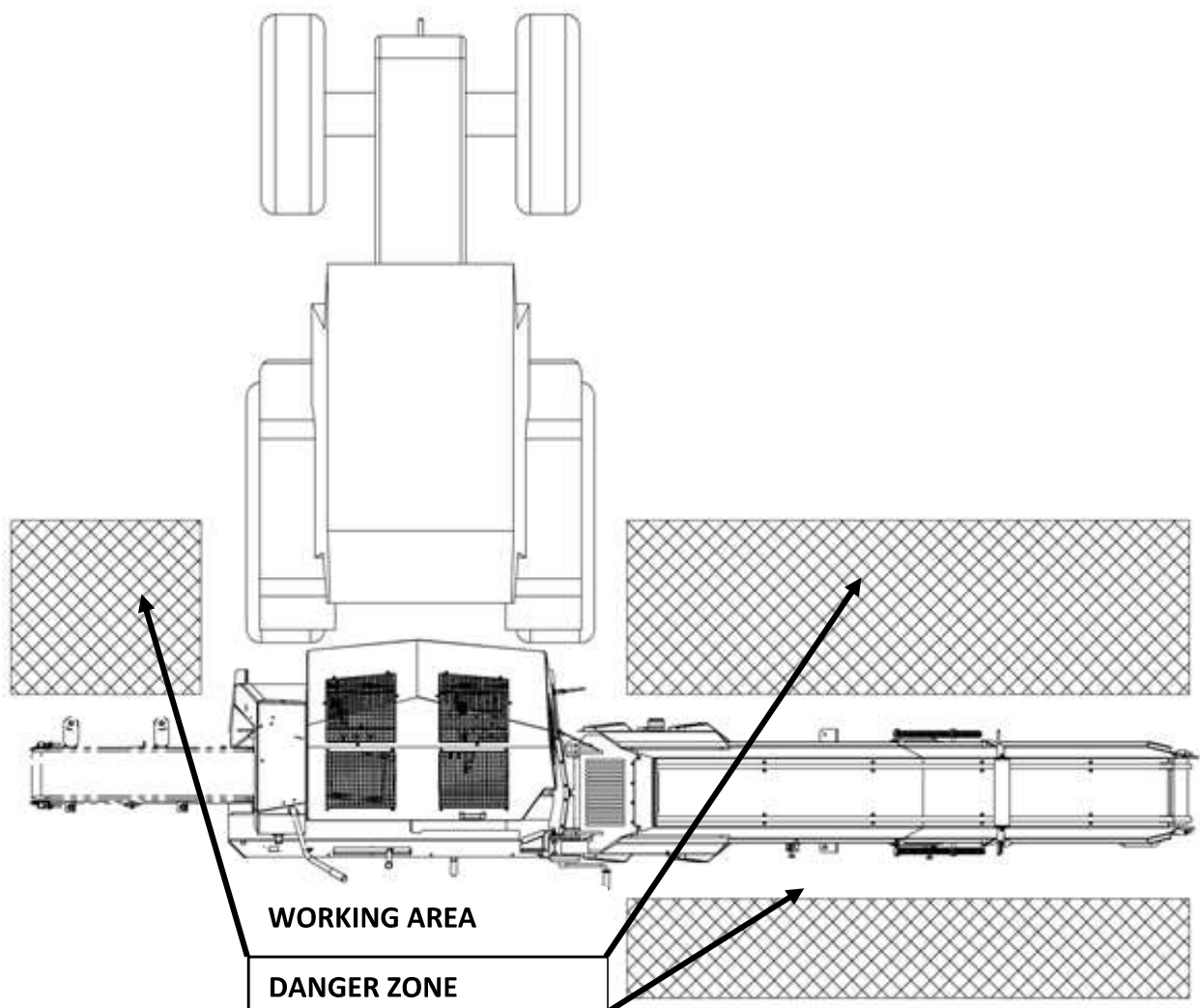


Figure 1

3 MACHINE OVERVIEW

3.1. Applicability

These operating instructions apply to the following machines:

3.1.1. Machine types

Product no.	Model	Drive
910.00.00.0	TITAN 43/20 CD	PTO drive shaft
910.45.00.0	TITAN 43/20 E	Electric motor
910.55.00.0	TITAN 40/20 CD+E	PTO drive shaft/electric motor

3.1.2. Optional equipment

Oil heater	230 V
Oil cooler	12 V or 220 V
Separator	Mechanical, at the end of the conveyor belt

3.1.3. Additional equipment

Splitting knife	2-4, 2-6, 2-8, 2-12
Lift table	LT 650
Log deck	DM 2000/2, DM 4000/2, DM 4000/3
Extraction devices	OE 1.1 Pro, OH pro
Cardan shaft	WALTERSHEID W2300, MAGDALENA 1005/800

3.2. Machine description

Titan 43/20 J is a work machine. It is driven by the tractor's PTO shaft or electric engine. Both types of drives can also be optionally combined in the same machine. The combination of the two drives cannot be used simultaneously.

A tractor can be used to transport the machine. The machine is adapted to be mounted on a tractor using a category 2 three-point hitch. It has a dedicated loading point designed for transport with a forklift.

The main advantages of this machine are the following structural solutions: robust and compact frame with integrated elements of the feeding mechanism, the cutting bar and the splitting section, representing a major part. The processed firewood is removed by the conveyor belt with a lateral tilting mechanism to ensure easier loading on a trailer. The operator's working area is positioned ergonomically to make operation as effortless as possible.

3.3. Machine components

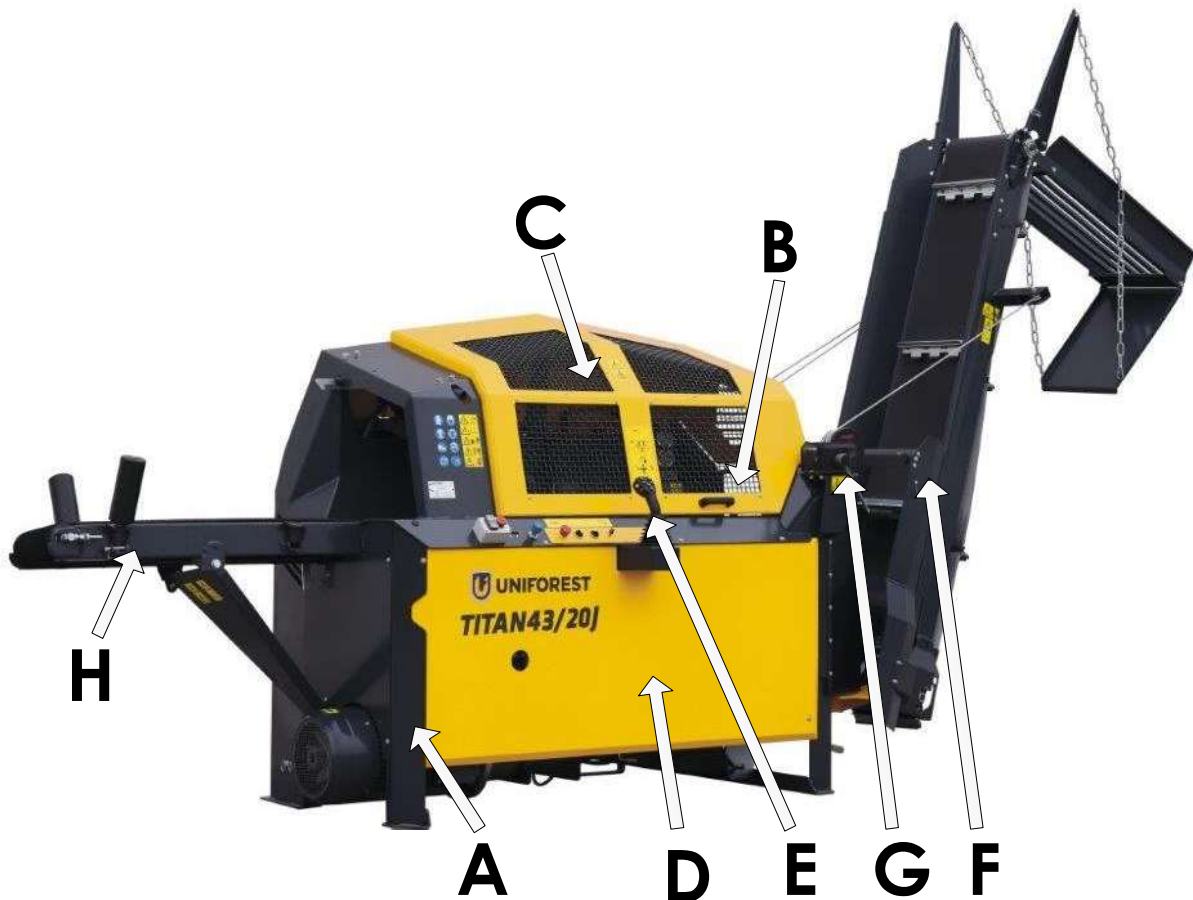


Figure 2

- | | |
|---|---|
| A | Frame |
| B | Splitting chute with a cylinder and a knife |
| C | Chainsaw bar with a chain and drive |
| D | Protective cover |
| E | Control lever |
| F | Conveyor belt |
| G | Conveyor belt winch |
| H | Feeding conveyor |

3.4. Explanation of the warning and function signs

3.4.1. Warning signs

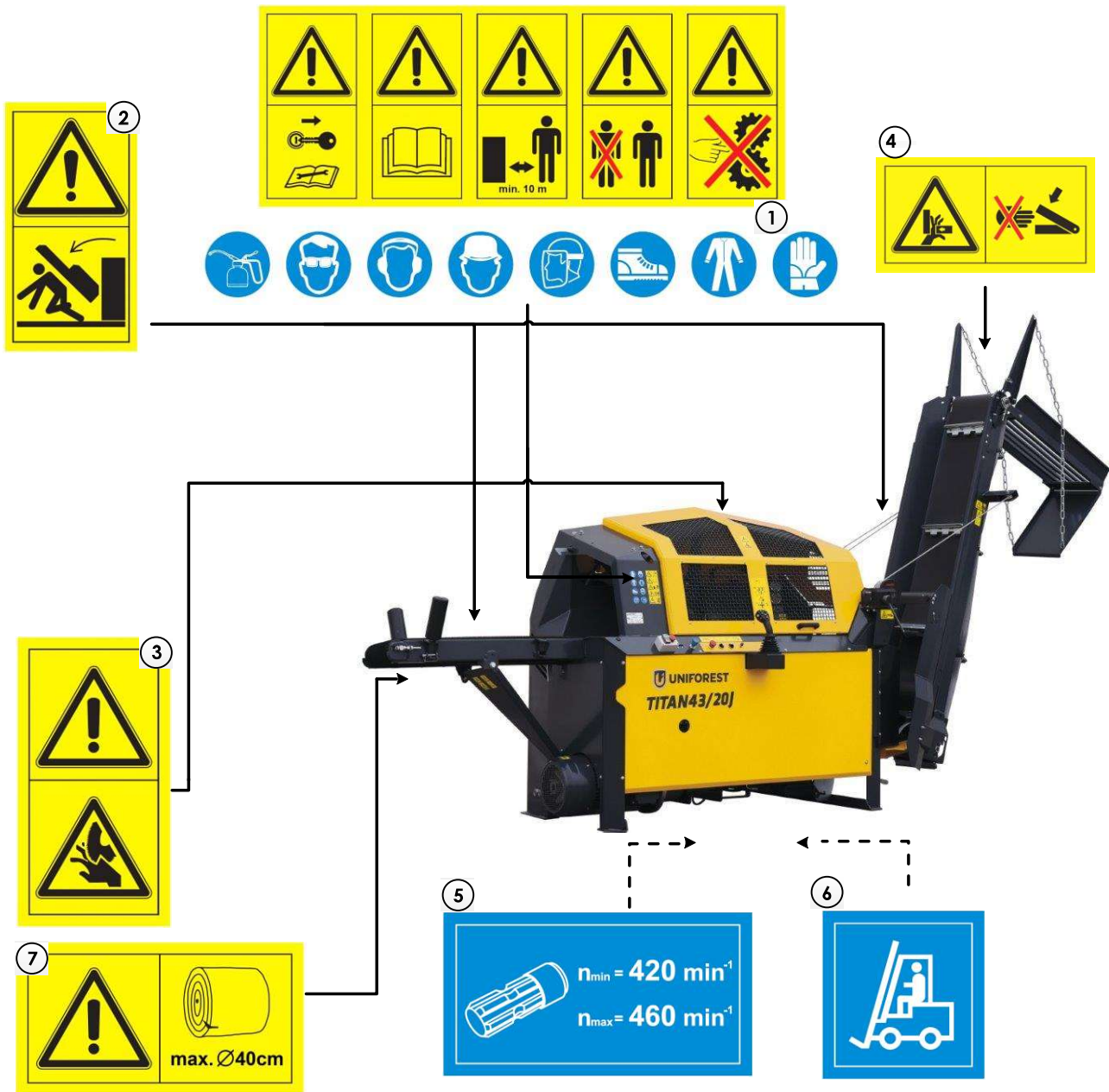


Figure 3

- 1 Warning and safety symbols
- 2 Falling objects warning sign
- 3 Operating range of the circular saw warning sign
- 4 Danger of crushing
- 5 PTO shaft operating speed
- 6 Forklift lifting point
- 7 Maximum working diameter of logs

3.4.2. Funkcijske oznake



Figure 4

1 Control panel	STOP button
	Activation/deactivation of the automatic plate
	Activation of the belt unfolding function, reverse movement
2 Control lever	Adjustment of the cylinder stroke
3 Control lever - buttons	Upward movement of the splitting knife
	Downward movement of the splitting knife
	Upward movement of the lift table (optional)
	Downward movement of the lift table (optional)
	Conveyor belt offset to the left
	Conveyor belt offset to the right
4 Control lever - movement	Knife shake
	Interruption of the splitting cycle - the splitting cylinder returns
	Forwards: activation of splitting
	Backwards: cutting
	To the right: the log (the feeding deck) moves forwards To the left: the log (the feeding deck) moves backwards
5 Pressure gauge – splitting pressure	
6 Pressure gauge – system pressure	

4 POSITIONING

- Only turn on the machine after it is positioned on a stable ground.
- Position the machine on a horizontal and solid surface free from obstacles.
- The machine must be positioned directly on the ground. Make sure there are no boards, iron bands etc. lying on the ground under the machine.

4.1. Machine position



Figure 5

Place the machine on a flat and solid ground surface. If the machine is positioned on an uneven and soft terrain it can be damaged or even overturned. Incorrect positioning is also extremely dangerous for the machine operator.

4.2. Feeding deck positioning

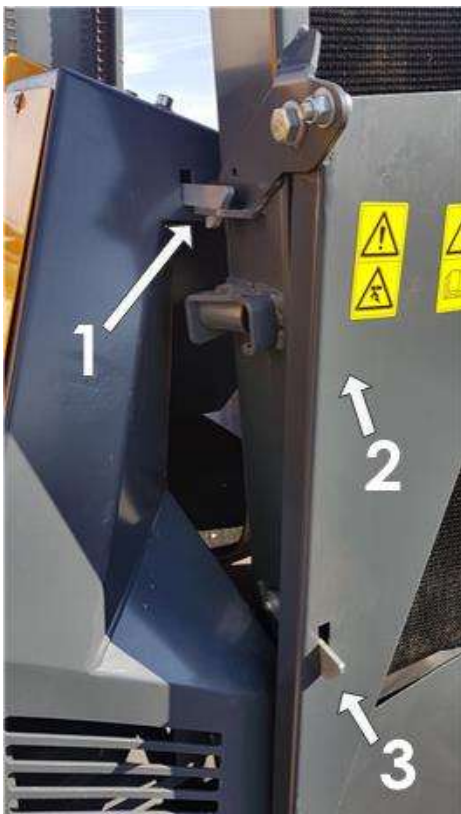


Figure 6

Follow the procedure below to put the feeding deck in the working position (Figure 6):

- push the feeding deck against the machine to release the interlock (1);
- open the safety guard of the deck (1);
- lower the deck and open the safety pin (3) of the support leg (2);
- fasten the support leg to the dedicated opening on the machine's frame;
- lower the log deck;
- the deck is correctly positioned when it is placed horizontally;
- from now on it is only operated with the control lever.

4.3. Conveyor belt positioning

See the chapter 6.2 Conveyor belt operation to learn how to manipulate the conveyor belt. Follow the procedure below to put the conveyor belt in the working position:

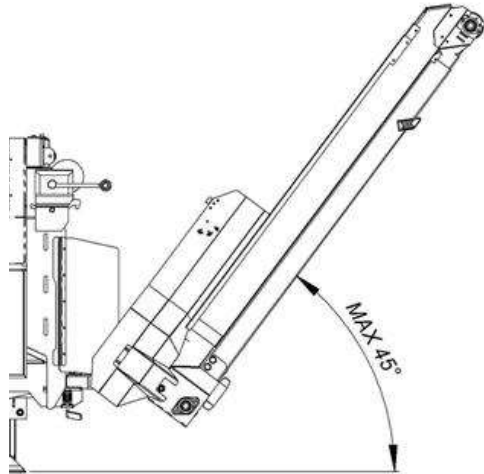


Figure 6



Figure 7

- Lower the conveyor belt to the angle of 45°(Figure 6). You can use the indicator (2) on the inclination scale (Figure 7).



Figure 8



Figure 9

- Turn the lever (3) on the opposite side of the conveyor belt anticlockwise (Figure 8).
- When the machine is on, turn the switch (4) clockwise until it is locked in position. Press and hold the button (5) until the conveyor belt telescopically extends to its final position (Figure 9).

5 STARTING THE MACHINE



The machine must always be operated by **ONE** person.
Make sure there are no other people in the working area of the machine.



Before use, check the operation of protective and safety devices, flexible hydraulic hoses and oil level.
Before each use check if the chainsaw bar is securely attached.
If the machine is equipped with an electrical and PTO drive system, never use both drives at the same time.

5.1. Tractor drive



Before connecting the machine to the tractor, read and follow the instructions provided by the tractor manufacturer and the universal joint manufacturer.

- Attach the machine to the three-point linkage on the tractor.



Before you begin operating the machine, check the length of the universal joint in all operating conditions to prevent collapsing or insufficient coverage of the profile. This is done by determining the position with the shortest distance between the PTO shafts while raising and lowering the machine. When you reach this position, the tubes of the mounted universal joint should be shorter by approx. 40 mm. If the universal joint is too long, it must be shortened. Refer to the chapter 5.1.1 Universal joint shortening.

- Attach the universal joint and secure it with a safety chain.
- The tractor PTO shaft rotates in the clockwise direction.
- Slowly engage the tractor PTO shaft until the machine starts running.
- Adjust the speed of the universal joint to the prescribed number of revolutions.



- Maximum number of universal joint revolutions: 540 rpm
- Minimum number of universal joint revolutions: 300 rpm
- Recommended number of universal joint revolutions: 400 rpm



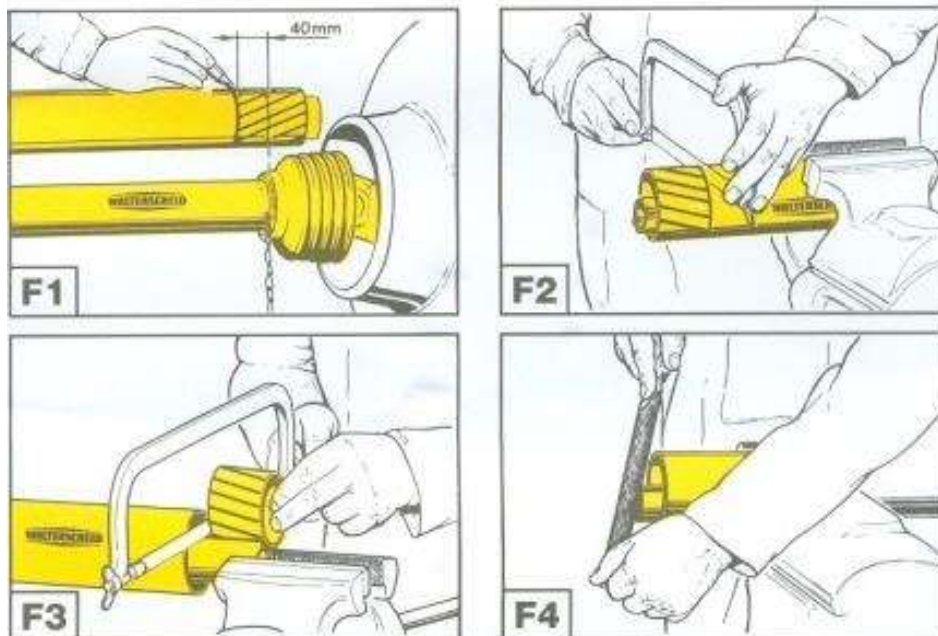
Make sure not to exceed the maximum number of universal joint revolutions to avoid increasing the oil temperature. This will cause a premature wear and leakage from the pump, cylinders and hydraulic system.

- Before disconnecting the machine, position it on a level and solid surface.

5.1.1. Universal joint shortening



The universal joint may only be shortened by a qualified person.



- Separate the two halves of the universal joint and hold them together in the shortest operating distance between the tractor and the machine (Figure F1).
- Shorten the external and internal plastic safety tubes (Figure F2).
- Shorten the external and internal sliding profiles to the same distance as the plastic safety tubes (Figure F3).
- Trim the end of the tube, remove the shavings and apply a generous amount of grease to the sliding areas (Figure F4).

5.2. Electric motor drive

Connect the machine to the power supply:

- supply voltage 400 V (50Hz),
- fuse before the motor 32 A (tripping characteristic C),
- use a supply cable with a minimum cross-section of 6 mm².

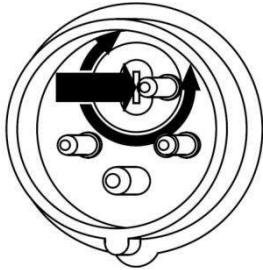
5.2.1. Main switch





Pay attention to the direction of rotation of the electric motor (arrow on the motor).

If the rotation direction is incorrect, follow the instructions below:

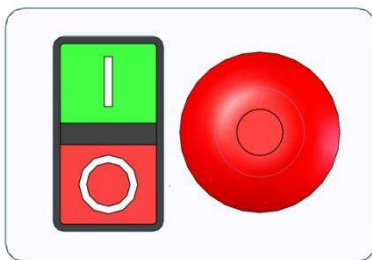


There is a phase inverter in the plug that allows you to change the rotation direction of the motor (use a screwdriver to push the plate on the plug inwards and turn it by 180°).

The plug is tightly connected to the socket and the switch may be damaged when the CEE plug is pulled out of the socket. Special plugs or a silicon spray may be used for this purpose.

These types of damages are not covered by the warranty.

5.2.2. Control box



There are two emergency stop buttons on the control box:

- The green button is used to start the device (I).
- The green button is used to stop the device (O).
- The emergency stop will stop the electric motor.
- To restart the motor you must release the emergency stop mechanism (turn to the right).



After each start by pressing the green button, the machine should be left running idle for at least 30 seconds to reach the required number of revolutions. Make sure that ALL the functions are deactivated when you start the motor. All functions can also be deactivated by opening the cover of the splitting section (1 minute).

6 MACHINE CONTROL

6.1. Controlling the work functions of the machine



Figure 10

See the chapter 3.4.2 Functional signs on the machine.

6.2. Conveyor belt operation

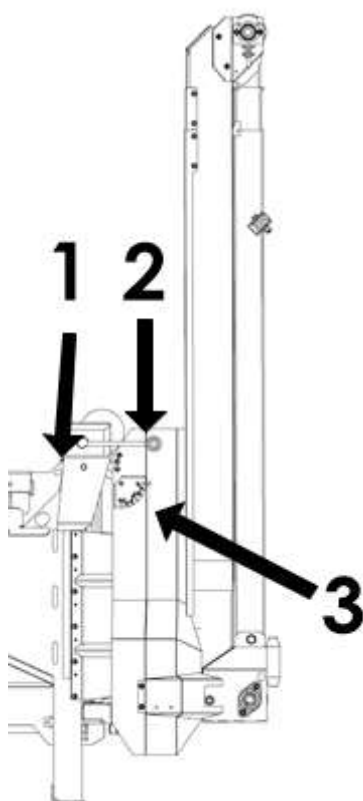


Figure 11

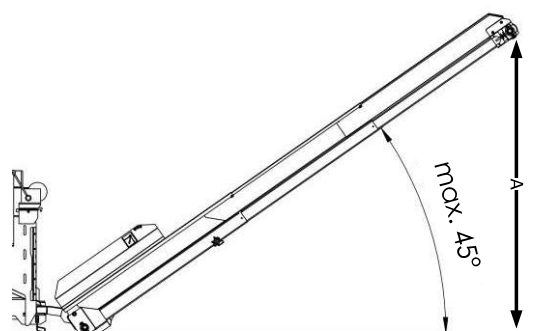


Figure 12

Firewood length	Inclination angle
25 cm	do 45°
33 cm	do 42°
40 cm	do 40°
50 cm	do 35°
Inclination angle 5 m belt	Belt height A
do 45°	3600 mm
do 30°	2600 mm

- Unblock the interlock (1) to release the belt (Figure 11);
- rotate the lever (2) of the manual winch to lower the conveyor belt;
- make sure the angle of the conveyor belt does not exceed 45°(Figure 12), otherwise the conveyor belt could be irreparably damaged during splitting;
- see the table (Figure 12) to determine the correct angle of the conveyor belt;

- before operation check the angle of the conveyor belt using the dedicated scale (3) on the conveyor belt (Figure 11).

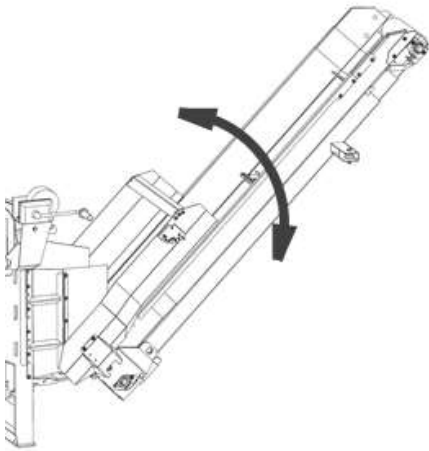


Figure 13

Firewood length	Rotation angle
25 cm	do 15°
33 cm	do 15°
40 cm	do 7,5°
50 cm	0°

- When adjusting the offset of the conveyor belt, use an appropriate offset angle according to the length of firewood (Figure 13).

6.3. Instructions for splitting

- Only use logs with a diameter of 5-43 cm.
- When the control lever is moved to the right, which activates the feeding conveyor, the log is moved until it pushes against the limiter. The sensor will automatically stop the movement.
- When you move the control lever towards you, the chain will start rotating and the cutting cycle will begin.
- The retaining plate automatically holds the log (it can also be turned off).
- When the log is cut and it falls into the splitting chute, the control lever should be pushed forwards.
- This activates the splitting cycle.
- The cycle must be repeated!
- If the logs to be split are shorter than 50 cm, you can limit the length of the splitting cycle using the potentiometer.
- The cylinder will stop before its final position and the log is split when the next log pushes against it. This speeds up the splitting cycles.
- The height of the knife is adjusted during operation according to the size of the log.
- **Only** adjust the knife height when the knife is at standstill (no sawing or splitting).
- Remove the stuck pieces of wood with a hammer or a hydraulic jack.

6.4. Stop function

- If the protective cover is opened during work, it stops the splitting cylinder and the chain rotation.
- Only open the protective cover when the chainsaw bar is in the upper position!
- When the protective cover is closed, the stop process is interrupted and the cylinder returns to initial position.
- The splitting cycle is interrupted by pushing the side button on the control lever (see chapter 3.4.2 Functional signs on the machine).
- The splitting cycle is repeated when the control lever is moved forwards again.

6.5. Adjusting the firewood length

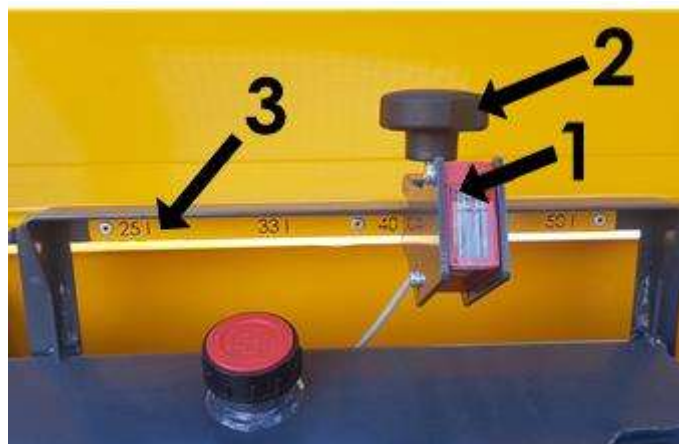


Figure 14

The length of firewood is adjusted by moving the sensor (1, Figure 14).

- Loosen the screw (2),
- move the tab (1) to the desired firewood length,
- use the scale (3),
- tighten the screw (2).

7 TURNING OFF THE MACHINE



Before the machine is turned off, all pressurized hydraulic functions must be deactivated.

This is achieved by moving all control levers to neutral position.

7.1. Tractor drive with the universal joint

- Detach the universal joint from the tractor.
- Before you detach the universal joint, adjust the tractor's throttle to a minimum and disengage the PTO drive shaft.

7.2. Electric motor drive

See the chapter 5.2.2 Control box.

- Press the red button on the control console.
- Turn the main switch to OFF position.

8 TRANSPORT

8.1. Feeding deck positioning

Position the feeding deck in the reverse order of positioning into the working position. See the chapter 4.2 Feeding deck positioning.

8.2. Conveyor belt positioning

Turn off the conveyor belt. See the chapter 3.4.2 Functional signs on the machine.



Figure 15

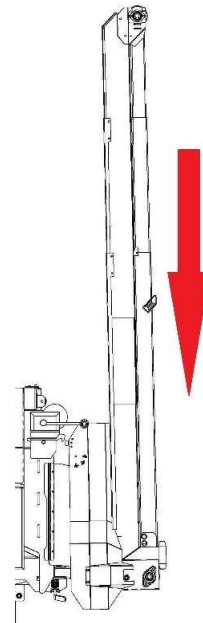


Figure 16

- Move the valve handle (1) anticlockwise (Figure 15).
- Move the belt in the vertical position (Figure 16).
- Telescopic folding of the conveyor belt will be completed automatically.

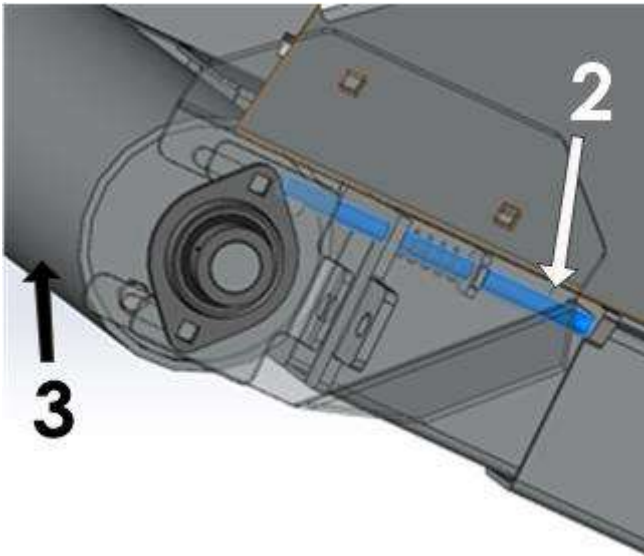


Figure 17

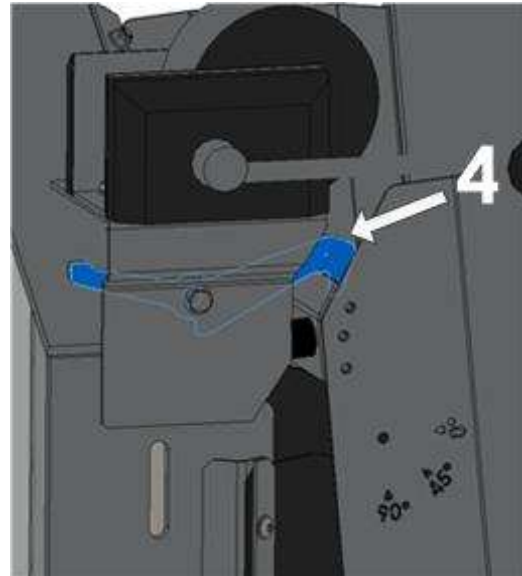


Figure 18

- When the conveyor belt is folded, check if the bolt (2) has stopped the cylinder rotation (3, Figure 17). This prevents the rubber band from detaching from the conveyor belt.
- Pull the rubber band over the cylinder (3) and into the space between the conveyor belt and the splitting section.
- Check if the interlock (4) is latched in the transverse support.

8.3. Transport on the three-point hitch

Before the machine is transported, the universal joint must be disengaged and detached from the drive shaft.

- Attach the machine to the three-point linkage and lift it with the tractor's hydraulics.
- If the rear lamps on the tractor are blocked, a warning lamp must be placed at the back of the machine (e.g. magnetic holder, socket lamp etc.).
- Comply with road traffic regulations when transporting on public roads.
- Maximum transport speed: 40 km/h.
- When the machine is lowered from the tractor, it must be placed on a flat and solid surface.
- Always use warning signs for slow-moving vehicles – check the local legislation concerning road traffic regulations (Rules on the parts and equipment of vehicles).



Always comply with road traffic regulations when transporting on public roads.
Maximum transport speed: (10 or 25 km/h) – comply with the laws in your country!
 When the machine is lowered from the tractor, it must be placed on a flat and solid ground surface.

8.4. Lifting with a crane

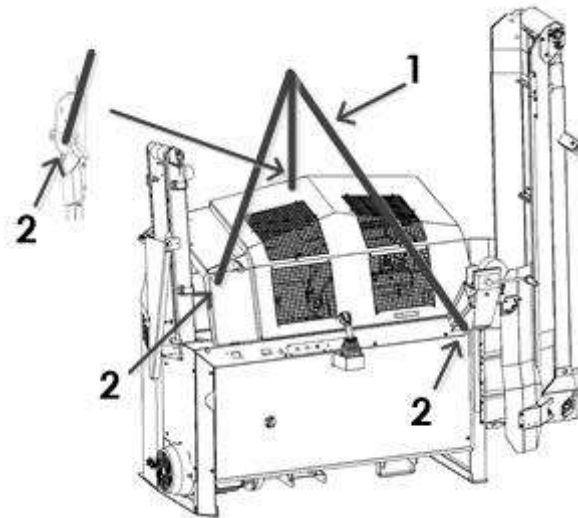


Figure 19

- 1 Lifting device
- 2 Attachment points for lifting

The machine can only be lifted with a lifting device using the attachment points provided for this purpose (2, Figure 19).



Only use lifting devices and lifting equipment with suitable load bearing capacity.

9 INSPECTIONS



Before you begin any inspection, always turn off the machine.
Disconnect the machine from power supply or disengage the universal joint shaft!

9.1. Protective devices

Make sure that all protective devices (covers, safety screens etc.) are installed.

9.2. Threaded joints

Tighten all screws and nuts after the first hour of operation.
Re-tighten all screws and nuts after each 100 hours of operation.

- Replace any missing screws and nuts.

9.3. Hydraulic lines

After the first hour of operation check the tightness and attachment of all hydraulic lines.
Check the tightness and attachment of hydraulic lines after every 100 hours of operation.

- Immediately replace any damaged hydraulic lines!

9.4. Chainsaw bar and chain

Before each use, check if the chainsaw bar is securely attached.

Before each use, check the chain for wear and tear and sharpen or replace the chain if necessary. See the chapter 10.2 Tightening and replacement of the saw chain

Before each use and during operation, check if the chainsaw bar is suitably greased.

9.5. Oil level

To check the oil level the machine must be placed on a horizontal ground surface.

The oil level is monitored through the inspection window.

See the chapter on chain greasing!

9.5.1. Hydraulic oil level

The maximum level is achieved when oil is filled to the upper half of the inspection window. If the oil level only reaches the bottom section of the inspection window, the oil level is low.

In this case, immediately add more hydraulic oil.

See the chapter 10.6 on hydraulic oil change.

The oil filter only needs to be checked during oil change.

10 MAINTENANCE




Always turn off the machine before undertaking any maintenance!

Disconnect the machine from power supply or disengage the universal joint shaft!

Work on the electrical equipment may only be carried out by qualified personnel!

Never operate the machines without protective devices in place.

Only use original UNIFOREST spare parts.

 **Oily and greasy parts and used oil must be disposed of in accordance with regulations.**

Maintenance table

WHAT?	WHEN?	How?
Check the tension of the saw chain.	Before each use.	See chapter 10.2.
Tighten any loose screws and nuts, as well as hydraulic connections.	After the first hour of operation.	Using suitable tools.
Check the oil level in the hydraulic system.	Before each use.	Visually.
Check the oil temperature in the hydraulic system.	During operation.	Visually.
Replace the oil in the hydraulic system.	After 5000 hours or every 5 years.	See chapter 10.6.
Replace the oil filter insert and the hydraulic system filter.	First change after 300 hours or during oil change. Next exchange every 1000 hours or during oil change.	Using suitable tools.
Check the plastic sliders on the splitting cylinder.	After each 400 hours of operation.	Visually.
Check the motor rotation direction (electric version).	During the first start or when the electrical connection is changed.	Visually.
Inspect the electrical installation.	Every six months or when the electrical connection is changed.	Visually.
Check hydraulic hoses and connections.	After each 200 hours of operation or if hydraulic oil leakage is detected.	Visually.
Check the tracking of the feeding conveyor.	If necessary or if you detect that the conveyor belt is tracking off-center.	Visually.
Check the tracking of the firewood conveyor belt.	If necessary or if you detect that the conveyor belt is tracking off-center.	Visually.

10.1. Saw chain lubrication adjustment

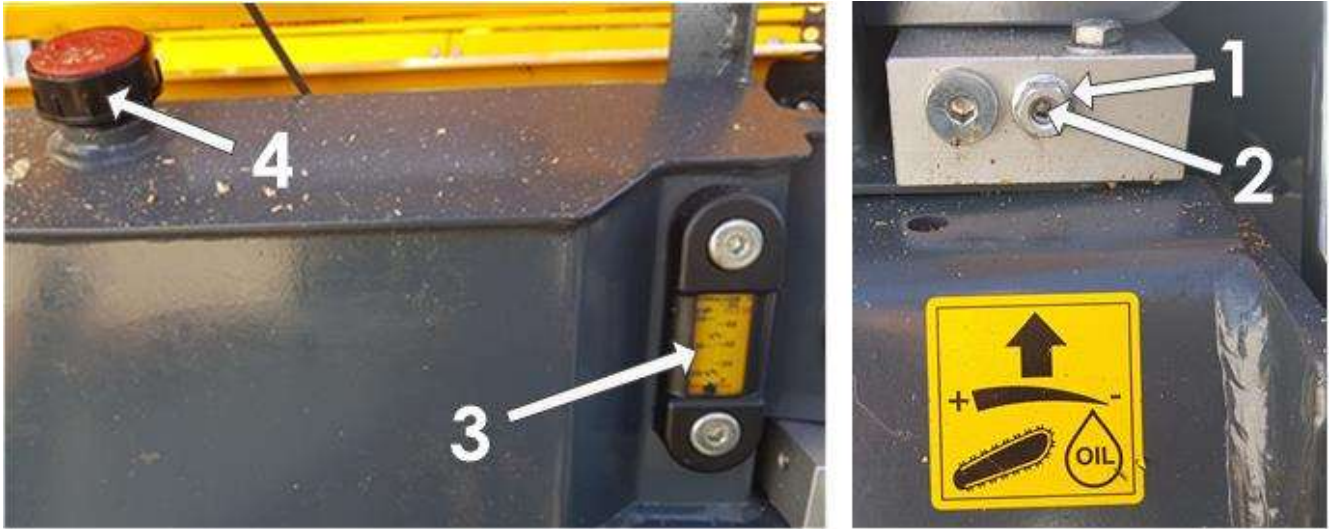


Figure 20

- Check the oil level through the inspection window (3, Figure 19).
- When the oil level drops below the minimum level (the oil is no longer visible through the inspection window), add oil through the filler cap (4).
- The oil is applied once per cutting cycle.
- The oil volume is regulated with the screw (2).
- Loosen the safety nut (1), tighten or loosen the screw (2) and tighten the safety nut (1), if necessary.

Grease the chain with a special grease for chains.

10.2. Replacement and tensioning of the saw chain

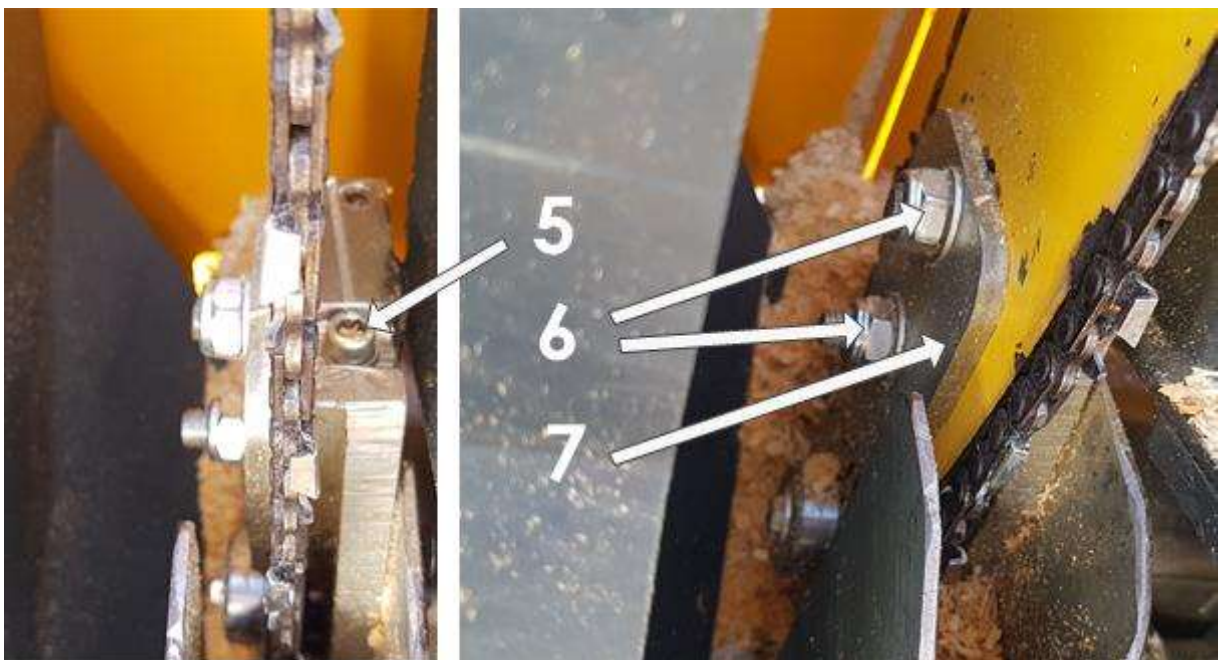


Figure 21

- To replace the chain, loosen the tensioning screw (5, Figure 21), unscrew the two nuts (6) and, if necessary, remove the plate (2) and the bar.
- Replace the chain.
- Insert the plate (7) and the two nuts (6).
- Tighten the chain using the tensioning screw (5).
- Fully tighten the nuts (6).

If you only wish to tighten the chain, unscrew the two nuts (6) and tighten the chain with the tensioning screw (5). Finally, re-tighten the two nuts (6).

10.3. Conveyor belt tensioning

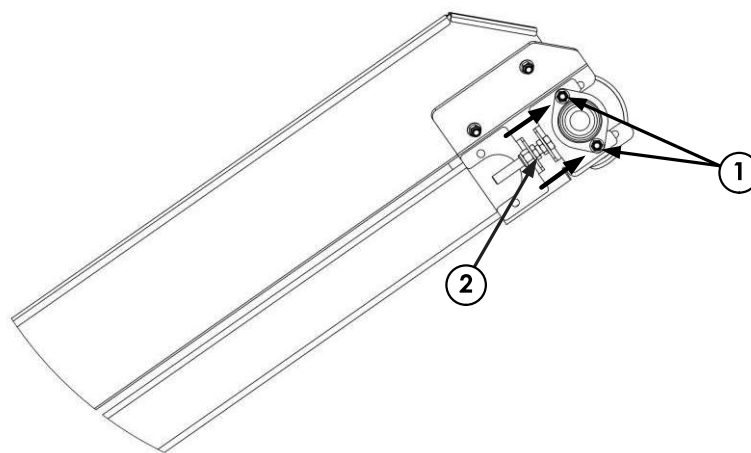


Figure 222

Over time, the conveyor belt may become loose due to operation under load. In this case, the belt must be re-tightened (Figure 22).

- Put the conveyor belt in the working position.
- Slightly loosen the fastening screws (1) on both sides of the conveyor mechanism.
- Loosen the counter-nuts on both tensioning screws (2).
- Tighten the upper part of the conveyor mechanism by evenly turning both tensioning screws.
- When the correct tension of the conveyor mechanism is achieved, re-tighten the two tensioning screws (2) through the counter-nuts.
- Tighten the fastening screws on both sides (1).

It is important to make sure that the belt is running along the center of the roller and not just to one side. If the belt is running to one side, the upper roller must be correctly adjusted to make sure the two rollers are in parallel.

10.4. Feeding conveyor tensioning

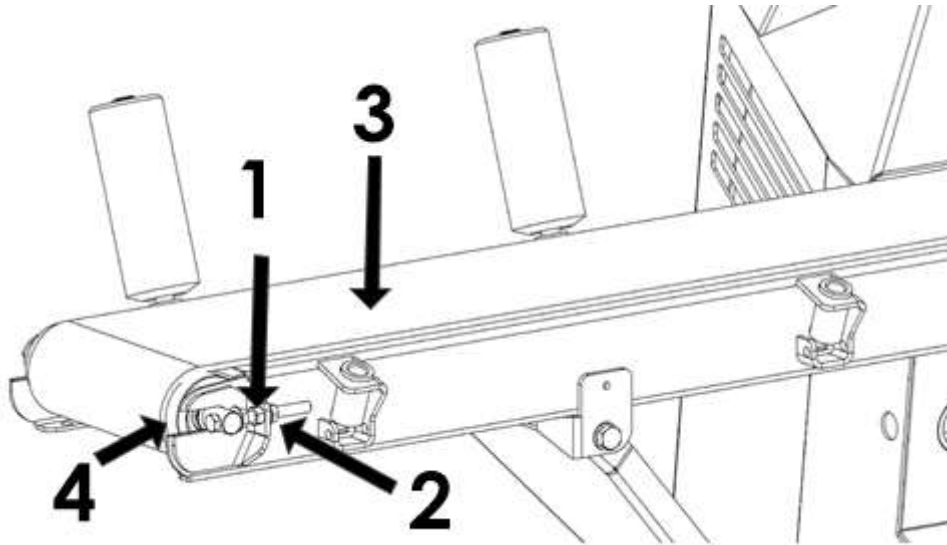


Figure 233

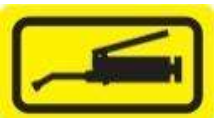
Over time, the loads may cause the feeding conveyor to become loose. In this case, the belt must be re-tightened (Figure 23).

- Put the feeding conveyor in the working position.
- Loosen the nut (1) on both tensioning screws.
- Evenly rotate the nut (2) on the tensioning screws on both sides to move the roller (4).
- When the rubber belt is correctly tightened, tighten the nut (1) to prevent the loosening of the tensioning screw.

It is important to make sure that the belt is running along the center of the roller and not just to one side. If the belt is running to one side, the roller (4) must be correctly adjusted to make sure the two rollers are in parallel.

10.5. Lubrication

The machine is made from quality materials and all its vital components are made from high-alloy materials. The bearings are integrated to ensure maximum protection against moisture and dust. In most cases, the integrated bearings are sealed and require no additional lubrication.




All parts marked with the lubrication symbol must be lubricated.

10.6. Hydraulic oil change

The first oil change must be performed after 5.000 hours of operation or every five years. It is not necessary to change oil before that because the final factory inspection includes a parallel flow filtration where all dirt particles are removed.

- Oil purity control according to ISO 4406
- Our hydraulic system is filled with a quality oil **Shell Tellus S2 VX 32**.
- This oil features an extremely high viscosity index, good ageing and foaming prevention characteristics, excellent viscosity at low temperatures and provides a reliable protection against wear and corrosion.
- Viscosity grade 32.

 We recommend using quality oil for oil change.

Mixing products of the same quality does not cause any problems.

Oil change procedure:

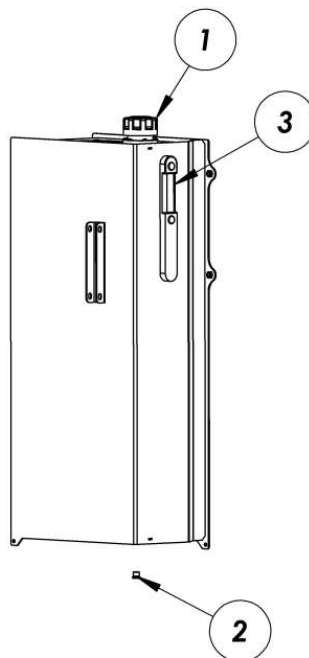


Figure 4

- Before the oil is changed, all elements must be in neutral position.
- Unscrew the bleed screw (1, Figure 24).
- Unscrew the oil drain screw (2).
- The oil drain screw is located under the oil reservoir (2).
- Drain the old hydraulic oil in a collection container.
- Screw the oil drain screw back onto the reservoir and pour in the new hydraulic oil (2).
- Turn on the machine and let it run for a few moments.
- Check the oil level and add more hydraulic oil (3), if necessary.

Hydraulic system capacity: 100 liters

10.7. Internal layout of the electrical cabinet



Always disconnect the power cable before attempting any work on the machine.



During the operational check, check the fuse (F1), which is installed inside the electrical cabinet.



Then examine the circuit breaker and make sure it is set to 30A. The circuit breaker switch must be on.

11 OPTIONAL EQUIPMENT

11.1. Oil heater

The oil heater is designed to pre-heat oil when the machine is stationary for easier starting. It can only be fitted on machines driven by electric motor. There is no need to install an oil heater on machines driven by a PTO shaft.

- Connect the machine to the power supply.
- Switch on the main switch on the electrical cabinet.
- Switch on the oil heater switch.
- When the oil is heated, turn off the heater and start the machine.

The oil is heated with a speed of approx. 10° in 30 minutes. The heating speed depends on the ambient temperature.

11.2. Oil cooler

The oil cooler is designed for users that use the machine continuously over long periods of time. It prevents the hydraulic oil from overheating.



With electrically driven machines the cooler for the electric motor is connected to the electrical cabinet, which is installed on the firewood processor.



With tractor driven machines the 7-pin plug must be inserted into the socket on the tractor. The oil cooler turns on when the plug is inserted and the socket is powered.

11.3. Separator

The separator is a device installed at the end of the conveyor belt which separates small particles generated during the cutting and splitting process.

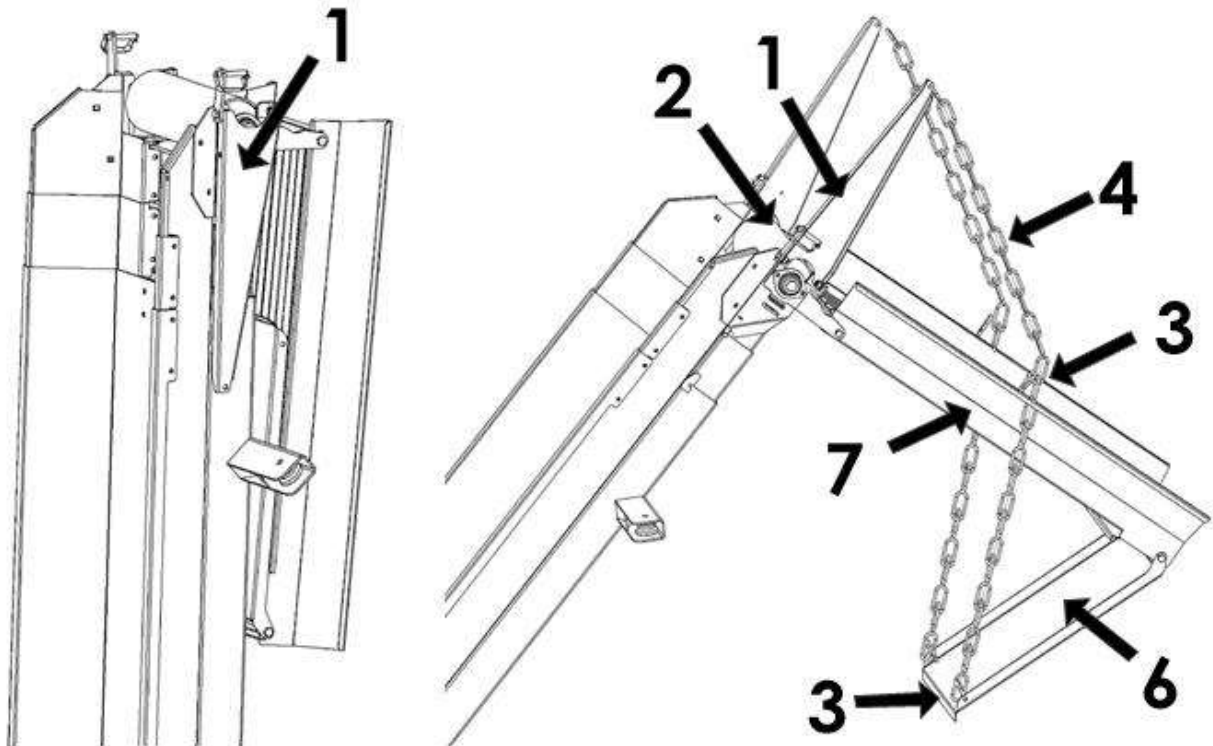
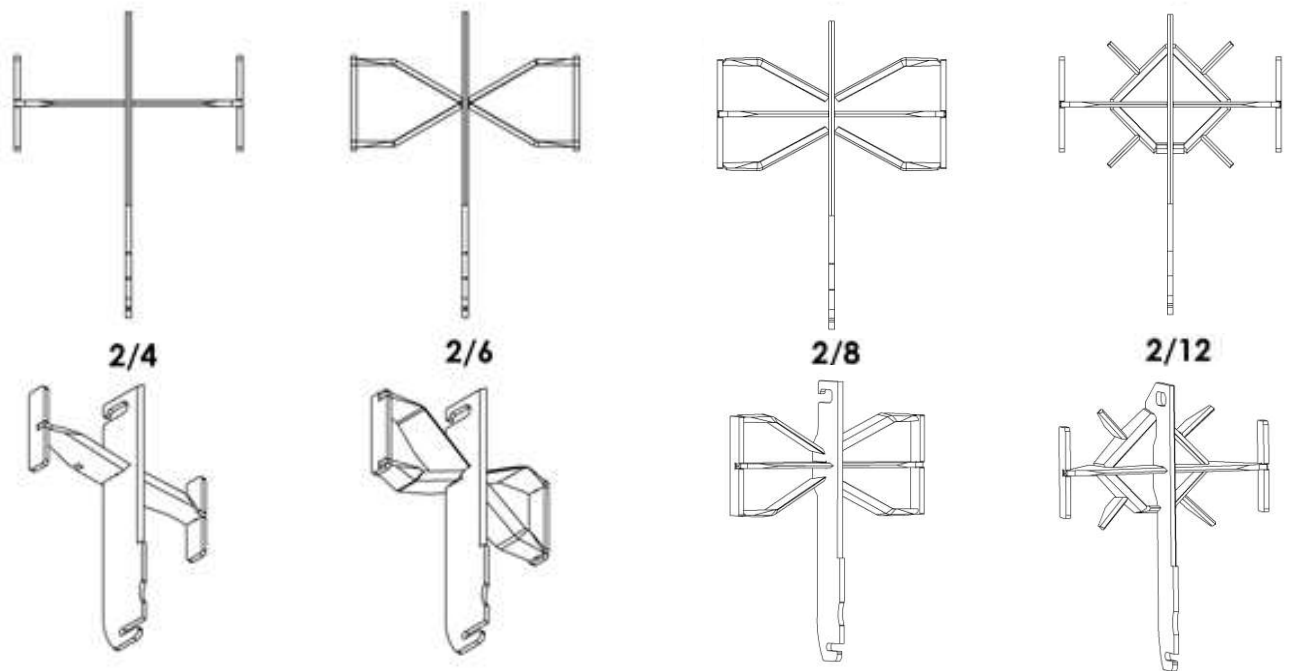


Figure 25

- Put the chain holder (1, Figure 25) in the working position and secure it in place using a safety bolt (2).
- Adjust the angle of the grille (7) and the separator plate (6) with the lock (3) and the chain (4).
- To put the separator in the transport position repeat the procedure in reverse order.

12 ADDITIONAL EQUIPMENT

12.1. Splitting axes



12.2. Lift table LT 650



12.2.1. Intended use

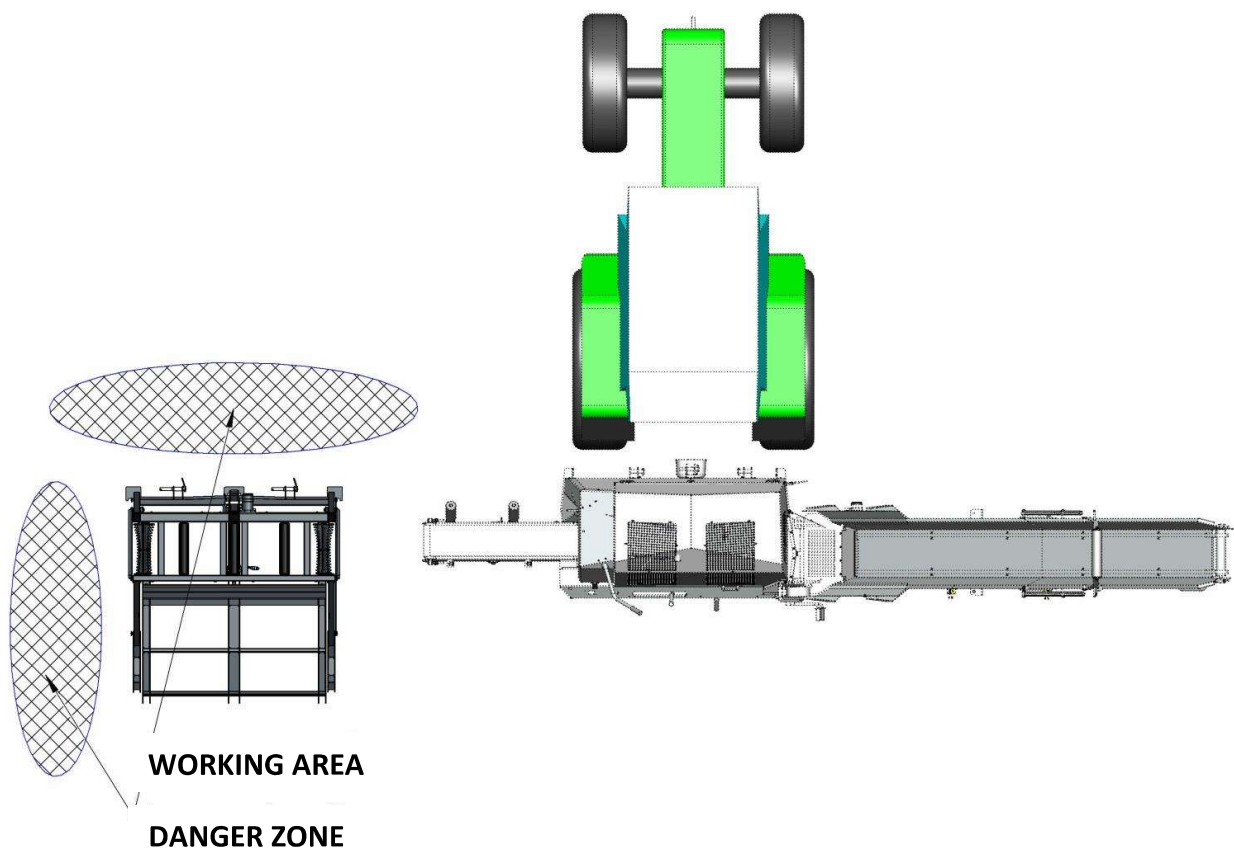
The lift table LT 650 is designed to handle logs with a maximum diameter of 43 cm and weight of up to 600 kg.

Bigger and heavier logs must be cut into smaller pieces.

12.2.2. Technical data

Component	Unit	LT 650
Design number		910.31.00.0
Drive		Hydraulic, through the firewood processor
Control		Through the firewood processor
Transport		cat. II three-point hitch
Log length	mm	5000
Driven transport rollers	pc	2
Wood feeding		hydraulic feeder
Lifting force	N/kg	6000/600
Width x depth x height	mm	1700 x 1650 x 1250
Weight	kg	195

12.2.3. Staying in the operational area of the machine



12.2.4. Connection and positioning of the machine



Attach the hydraulic hoses to the dedicated connection points on the firewood processor according to the markings A, B, C and D.

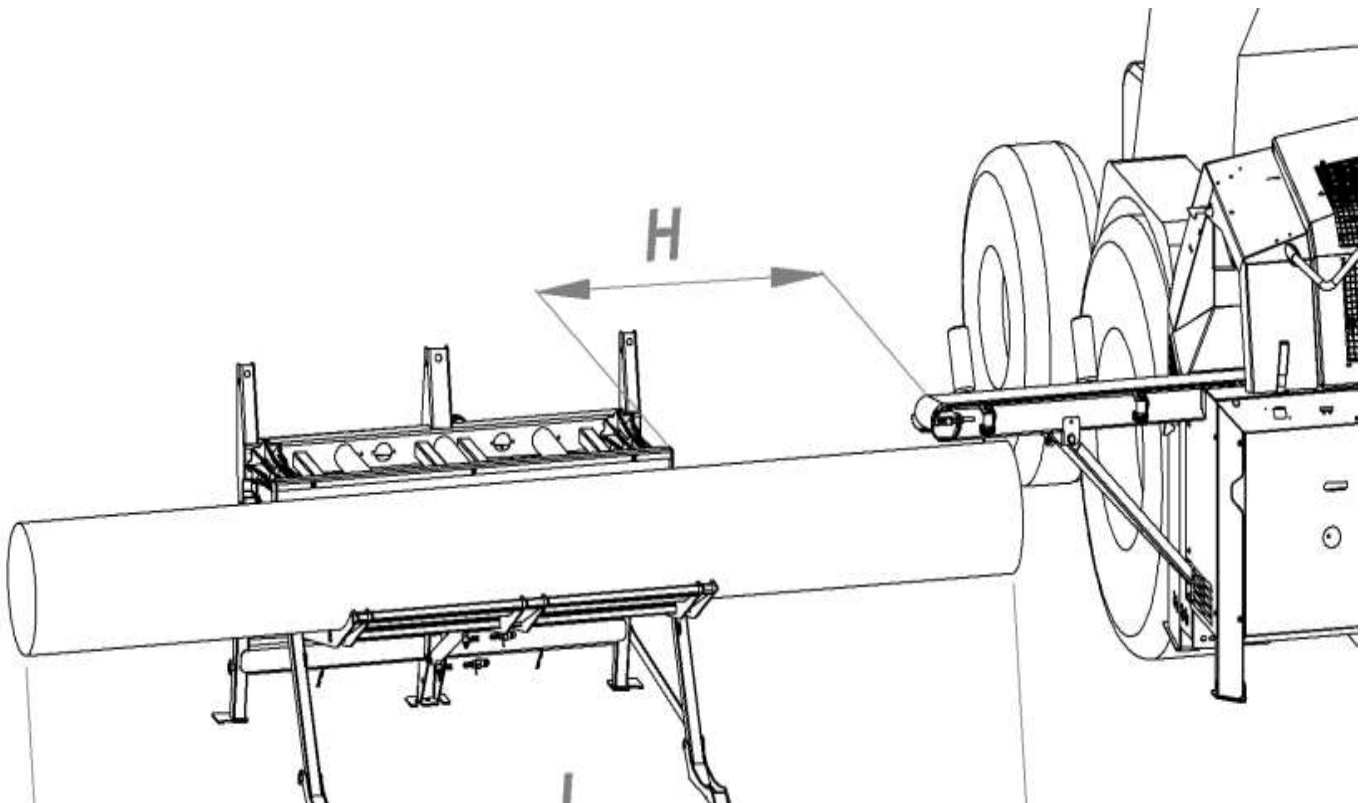


Figure 26

Place the lift table on a flat and solid ground surface.

Position the table on a suitable distance from the firewood processor (Figure 26).

$$H = <1/3 \times L$$

$$H_{\max} = 1.5\text{m}$$

12.2.5. Loading logs

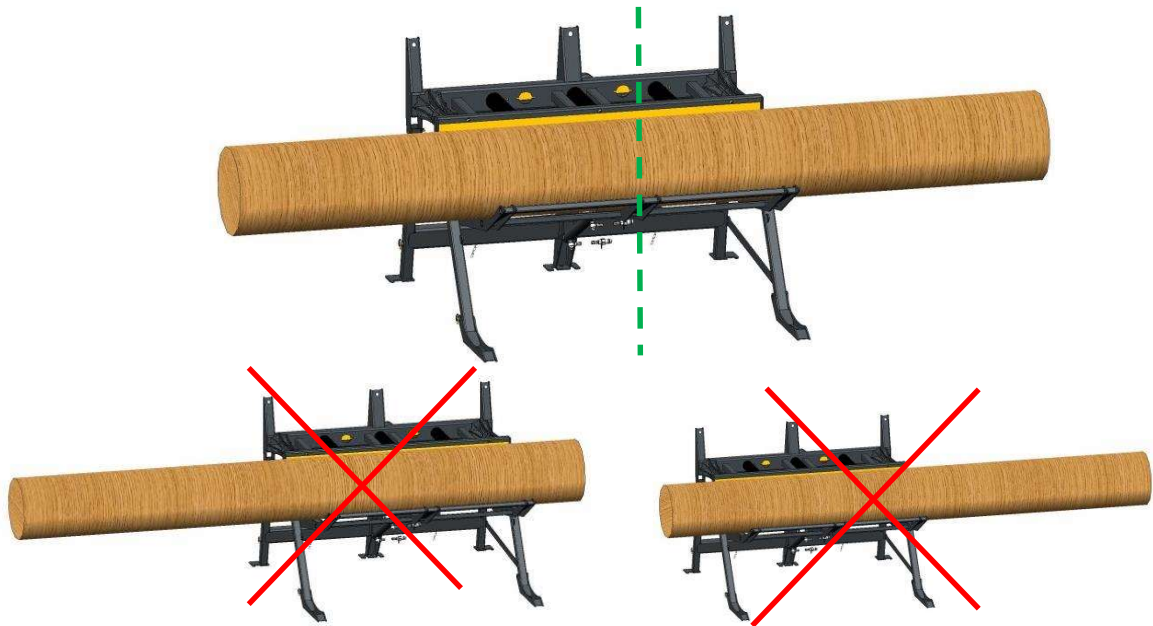


Figure 27

Position the log along the middle of the lift table (Figure 27).



Incorrect positioning of logs may cause a deformation of the lifting arm, which is NOT covered by warranty. Such lifting is dangerous because the log may fall down. Danger of falling load.

12.2.6. Adjusting the lifting arm speed

The lifting and lowering speed of the lift table can be adjusted with the flow control valve on the cylinder. The lifting speed of the lift table can be adjusted on the bottom section of the cylinder and the lowering speed can be adjusted on the upper section (Figure 28).

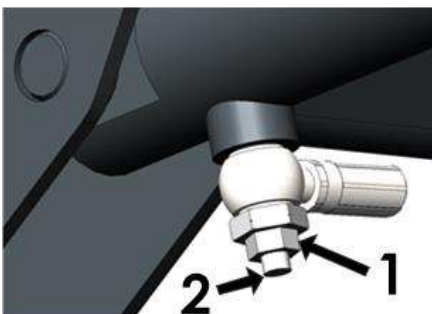


Figure 28

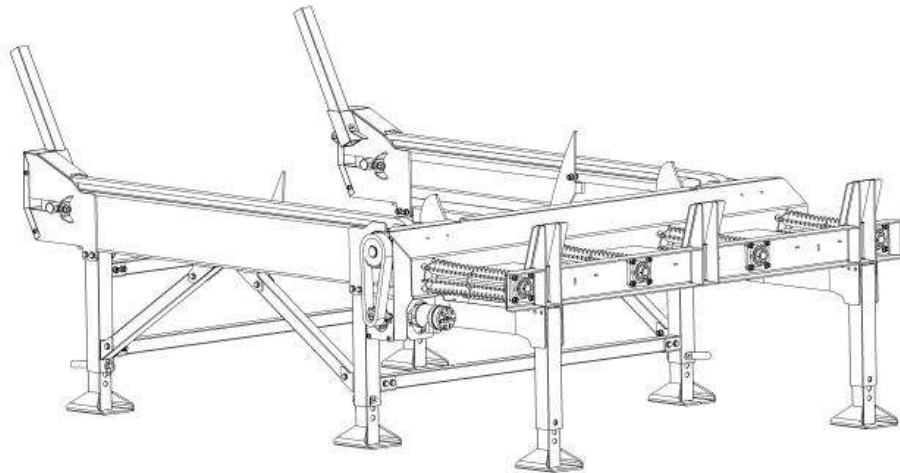
- To reduce the speed, unscrew the safety nut (1).
- Tighten the flow control screw (2).
- To increase the speed, unscrew the flow control screw (2).
- When the desired speed is achieved, tighten the safety nut (1).

If the speed is too high, the log may suddenly roll onto the table and cause damage.



Loading logs on the table without the lift table or using other lifting devices (loading grabs, forklift etc.) is forbidden.

12.3. Log deck



For information on the use and connection of the log deck see the provided operating instructions.

12.4. Extraction devices



The extraction device is used for extracting sawdust and waste particles produced by the firewood processor. It must be connected to the dedicated connection point on the firewood processor.



Never put your hands in the vicinity of moving parts.
It is forbidden to start the machine when the hoses are not connected.

12.4.1. Connection and starting



Figure 29

- Place extraction device on a flat and solid ground surface.
- Cut the provided tube into two parts. The length of each part depends on your requirements:
 - one part of the tube will be used for extraction (from the firewood processor to the extraction device)
 - and the other will be used to transport sawdust away from the extraction device.
- Connect the first part of the tube (1, Figure 29) to the extraction tube connection on the firewood processor (2) and connection (4).
- Then connect the other part of the tube (1) to the connection for removing sawdust (3).
- Fasten all parts of the connected tubes with the provided tube clamps.
- Connect the extraction device cable to the power supply socket (5) on the extraction device.
- Start the device by pressing the green button on the switch (6).
- Stop the device by pressing the red button (6).

13 TROUBLESHOOTING



Before attempting to resolve problems with the machine, always disengage the drive system and wait until it has completely stopped.

If the machine is connected to power supply, it must be disconnected.

Work on the electrical equipment may only be carried out by qualified personnel.

Faults (failures) detected	Cause	How to resolve it Faults (failures)
The pressure gauge does not show the pressure when the function is turned on.	Pressure gauge failure.	Replace the pressure gauge.
	Impurity in the pressure valve.	Unscrew the valve, clean and screw back.
	One of the hoses is bent.	Replace the hose.
	Low oil level in the reservoir.	Add more oil to the reservoir.
	Pump malfunction.	Replace the pump.
The function does not respond to the movement of the control lever.	No control signal.	Check the electronics.
	No pressure when the function is on.	See: <i>The pressure gauge does not show the pressure.</i>
	Check the machine cover.	Close the machine cover.
		Check the position of the sensor on the cover.
The control lever is damaged.	Repair or replace the control lever.	
The function does not respond when the button is pressed.	No control signal.	Check the electrical system.
	No pressure when the function is on.	See: <i>The pressure gauge does not show the pressure.</i>
	Check the machine cover.	Close the machine cover.
		Check the position of the sensor on the cover.
The control lever is damaged.	Repair or replace the control lever.	
The saw chain does not rotate when the control lever is moved.	No control signal.	Check the electrical system.
	No pressure when the function is on.	See: <i>The pressure gauge does not show the pressure.</i>
	Check the machine cover.	Close the machine cover.
		Check the position of the sensor on the cover.
	The control lever is damaged.	Repair or replace the control lever.
	Hydraulic motor failure.	Replace the hydraulic motor.
The valve is not activated by the mechanism.	The mechanism is damaged, the valve is not working.	
The hydraulic oil temperature is too high.	Low oil level in the system.	Check the oil level.
	The oil quality is reduced.	Check the oil quality, replace the oil.
	High ambient temperature.	Install a cooler.
	The valve is jammed.	Check the valve.
Excessive power	The saw chain is blunt.	Sharpen or replace the chain.

consumption during sawing.	Missed or inadequate lubrication.	Check the lubricating oil level.
The machine is noisy.	The rpm is too high.	Maintain the optimum rpm.
	The valve is jammed.	Check the position of the valve.
	The universal joint is incorrectly positioned or lubricated.	Check the position of the universal joint or lubricate the joint.
The conveyor belt is not running smoothly or fails to run.	Low oil level in the system.	Check the oil and top-up if necessary.
	Inadequate tension of the conveyor belt.	Tighten the conveyor belt.
	The conveyor belt is not running.	Check the operation of the hydraulic motor.
	Firewood is stuck.	Stop the belt and dislodge the obstacle.
Leakage from the hydraulic cylinder.	The sealing collar is worn out.	Replace the sealing collar.
	The piston rod is damaged.	Replace the cylinder.
The fuse or the circuit breaker trips when the electric motor is started.	The voltage of the power supply is too low.	Install fuses with a minimum rating of 32 A.
	Unsuitable length and cross-section of the supply cable.	Shorten the supply cable or increase cross-section of wires.
	The hydraulic oil temperature is too low.	Turn on the heater.
The lift table does not move up and down.	It is connected to wrong connections.	Change the connections.
	No pressure in the system.	Check the pressure in the firewood processor.
The lift table does not move up and down correctly.	It is connected to wrong connections.	Change the connections.
The lift table moves up and down too fast or too slow.	The flow control valve on the lifting cylinder is too closed or too open.	Adjust the flow control valve.
The drive rollers do not rotate.	It is connected to wrong connections.	Change the connections.
	No pressure in the system.	Check the pressure in the cutting machine.
The rotation direction of the drive rollers is incorrect.	It is connected to wrong connections.	Change the connections.
Only one drive roller rotates.	The drive chain is broken.	Replace the chain.

Complex tasks and repairs can only be carried out by a qualified service center.

14 SERVICING

The machine can only be serviced by service technicians authorised by UNIFOREST.

EC DECLARATION OF CONFORMITY

In accordance with Article 7 and point A of Annex II to the Rules on Machinery Safety
(Official Gazette of the Republic of Slovenia No. 75/2008, 66/2010, 74/2011)

The manufacturer

UNIFOREST d.o.o.

Latkova vas 81d, 3312 Prebold, Slovenia

(Company name and full address of the manufacturer and, if relevant, its authorized representative)

Person responsible for compiling technical documentation:

Marko Polak, UNIFOREST d.o.o., Latkova vas 81d, 3312 PREBOLD

(Name and address of the person authorized for compiling the technical documentation with a registered seat in the European Union)

Machine description:

FIREWOOD PROCESSOR

(Description, general designation, function and trade name)

910.00.00.0

(Documentation no.)

TITAN 43/20 J

(Type)

(Valid for serial numbers from - to)

(Year of manufacture)

We hereby declare with full responsibility that the FIREWOOD PROCESSORS comply with the following essential requirements of the Rules on Machinery Safety:

The Rules on Machinery Safety

Official Gazette of the Republic of Slovenia no. 75/08 (Machinery Directive ES 2006/42/EC)

Rules on Electromagnetic compatibility (EMC)

Official Gazette of the Republic of Slovenia no. 132/06 (EMC Directive 89/336/EEC)

Harmonized and other standards:	SIST EN ISO 12100:2011, SIST EN ISO 4254-1:2013/AC:2011, SIST EN ISO 13857:2008, SIST EN ISO 4413:2011, SIST EN ISO 14982:2009, EN 349:1993+A1:2008, EN 60204-1, EN 1870-6, EN 847-1, EN 609-1, EN 620
Company: UNIFOREST d.o.o. Address: Latkova vas 81d, 3312 Prebold Stamp	Date: 23/ 8/ 2018 Person responsible: Marko Polak Signature:   Dobriša vas 14a, SI-3301 Petrovče / Z