Instructions for use and safe operation

for single – drum electro hydraulic forestry winches

KRPAN® 5-10 EH/EHP, 7 FEH/FEHP

Read these instructions thoroughly before installing or operating the forestry winch!

EN 11 / 2024

TABLE OF CONTENTS:

THE MOST IMPORTANT INSTRUCTIONS FOR THE USE OF THE FORESTRY WINCH:

1. BEFORE USING THE LOGGING WINCH, YOU MUST COMPLETELY UNWIND THE ROPE WITHOUT LOAD AND FIRMLY WIND IT BACK ONTO THE DRUM; IN ORDER TO PREVENT RIPPING THE IT FROM THE WIRE DRUM, PLEASE MAKE SURE THAT AT LEAST THREE COILS OF WIRE ROPE ARE LEFT ON THE WIND. PULL A LOAD AFTER WINDING THE WIRE ROPE TIGHTLY ONTO THE DRUM. PLEASE MAKE SURE THE WIRE ROPE DOES NOT MAKE LOOPS WHILE WINDING OR UNWINDING, AND NEVER GREASE THE ROPE.

2. THE GALL CHAIN MUST BE TIGHTENED AS IT STRETCHES UNDER LOADS AND DOES NOT REQUIRE PLAY. FOR PROFESSIONAL USERS, THE LUBRICATION OF DRIVE CHAIN IS RECOMMENDED AT LEAST WEEKLY OR EVERY 50 OPERATING HOURS. LUBRICATION MUST BE CARRIED OUT WITH A SPECIALLY ADAPTED CHAIN LUBRICANT SPRAY KRPAN, AS OIL OR OTHER SPRAYS MAY LEAK ONTO THE CLUTCH LININGS AND THUS RENDER THE WINCH NON-FUNCTIONAL. LUBRICATION MUST BE CARRIED OUT WITH THE DRIVE ENGAGED VIA LUBRICATION PLUGS ON THE WINCH.

3. THE PRE-BRAKE IS ADJUSTED WITH A SCREW AND WING NUT. IF ADJUSTED APPROPRIATELY, THE PRE-BRAKE ENSURES EVEN UNWINDING OF THE WIRE ROPE FROM THE DRUM. THE BRAKE IS APPROPRIATELY ADJUSTED WHEN UNWINDING OF WIRE ROPE IS POSSIBLE WITHOUT EFFORT.

4. THE BRAKE IS NOT INTENDED FOR PULLING LOADS AS THIS COULD DAMAGE THE WIRE ROPE. WHEN PULLING, LINK CHAINS SHOULD BE USED WHICH ARE ATTACHED TO THE WINCH HOUSING GROOVES. WHILE RELEASING THE LOAD, PLEASE RELEASE THE BRAKE SLOWLY AND GRADUALLY, WITHOUT SUDDEN SNATCHES, AS THESE COULD LEAD TO THE DRUM ROTATING TOO QUICKLY, AND EXCESSIVE LOADING AND CONSEQUENTLY DAMAGING THE WIRE ROPE.

1. INTRODUCTION

DEAR CUSTOMER!

We are delighted that you have decided to purchase our electro hydraulic forestry winch. Modern construction allows efficient and safe timber harvesting. Always considering the instructions for safe operation and use will result in ease of use of the machine, and will help you avoid performing unnecessary repairs. You are advised to read and follow these instructions meticulously.

INTENDED USE

The machine is indented exclusively for use in the forestry and agricultural sector. Every use outside of this framework is considered not intended. The manufacturer is not liable for damages resulting in uses which are not intended. In such cases, the operator is fully liable. The intended use also includes taking into account operating, feeding, and maintenance conditions recommended by the manufacturer. The machine may only be used, operated, or repaired by authorized persons which have been instructed on safe use of the machine. The appropriate accident and safety regulations, as well as all valid safety and technical, occupational safety, and road safety rules must always be considered. Unauthorized machine modification will result in excluding the manufacturer's liability for resulting damages or injuries.

DANGER! WARNING! CAUTION!

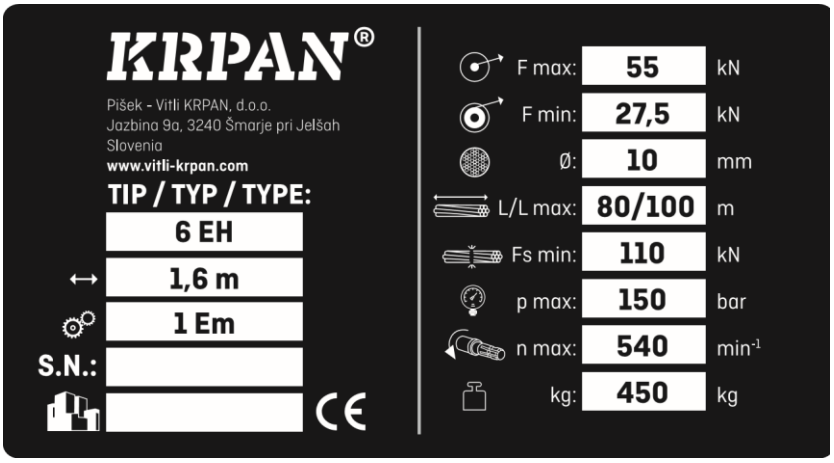
The information given in this notice should be taken into account with the utmost attention!

2. TECHNICAL DATA

	TYPE OF MACHINE						
TECHNICAL CHARACTERISTICS	5 EH/EHP	6 EH/EHP	7 EH/EHP	7 FEH/FEHP	8 EH/EHP	9 EH/EHP	10 EH/EHP
Pulling capacity	4,5 t 45 kN	5,5 t 55 kN	6,5 t 65 kN	6,5 t 65 kN	7,5 t 75 kN	8,5 t 85 kN	9,5 t 95 kN
Brake capacity	5,63 t 56,3 kN	6,88 t 68,8 kN	8,13 t 81,3 kN	8,13 t 81,3 kN	9,38 t 93,8 kN	10,63 t 106,3 kN	11,88 t 118,8 kN
Average Winching Speed	0,60 m/s	0,60 m/s	0,60 m/s	0,60 m/s	0,60 m/s	0,60 m/s	0,60 m/s
Number of Clutch Plates	3	3	5	5	5	5	5
Standard Wire Rope Length / Wire Rope Ø	Ø 9 mm 70 m	Ø 10 mm 80 m	Ø 11 mm 80 m	Ø 11 mm 80 m	Ø 12 mm 100 m	Ø 13 mm 100 m	Ø 14 mm 100 m
Maximum Wire Rope Length / Wire Rope Ø	Ø 9 mm 130 m	Ø 10 mm 100 m	Ø 11 mm 120 m	Ø 11 mm 120 m	Ø 12 mm 100 m	Ø 13 mm 110 m	Ø 14 mm 100 m
Recommended Tractor Power	24-50 kW 33-68 HP	33-55 kW 45-75 HP	44-70 kW 60-95 HP	44-70 kW 60-95 HP	52-99 kW 70-135 HP	>59 kW >80 HP	>66 kW >90 HP
Operation	Electro Hydraulic	Electro Hydraulic	Electro Hydraulic	Electro Hydraulic	Electro Hydraulic	Electro Hydraulic	Electro Hydraulic
Width	1418 mm	1618 mm	1718 mm	1718 mm	1818 mm	1818 mm	2018 mm
Option to extend the winch plate to	/	1818 mm	1918 mm	/	/	2018 mm	2218 mm
Depth	550 mm	550 mm	660 mm	660 mm	798 mm	700 mm	900 mm
Height with Wire Guard	2310 mm	2310 mm	2315 mm	2315 mm	2380 mm	2335 mm	2396 mm
Height without Wire Guard	1531 mm	1531 mm	1770 mm	1770 mm	1833 mm	1790 mm	1866 mm
Weight without Wire Rope	432 kg	450 kg	610 kg	660 kg	690 kg	680 kg	775 kg
Weight without Wire Rope in case of the winch plate extension	/	463 kg	630 kg	/	/	700 kg	800 kg
Mounting Category	I., II.	I., II.	II., III.	II., III.	II., III.	II., III.	II., III.
Proportional Brake	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Bottom Pulley	Standard	Standard	Standard	Standard	Standard	Standard	Standard
STOP Switch – Bottom Pulley	Optional	Optional	Optional	Optional	Optional	Optional	Optional
STOP Switch – Upper Pulley	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Hydraulic Pulley	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Radio Remote Control	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Radio Remote Control with Proportional Brake	Standard with EHP	Standard with EHP	Standard with EHP	Standard with FEHP	Standard with EHP	Standard with EHP	Standard with EHP
Folding Butt Plate	/	/	/	/	Standard	/	Standard
Rope Speed Valve	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Pressure Roller with audible signal for wire rope	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Canister Holder	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Additional Tool Box	Optional	Optional	Optional	Optional	/	Optional	Optional

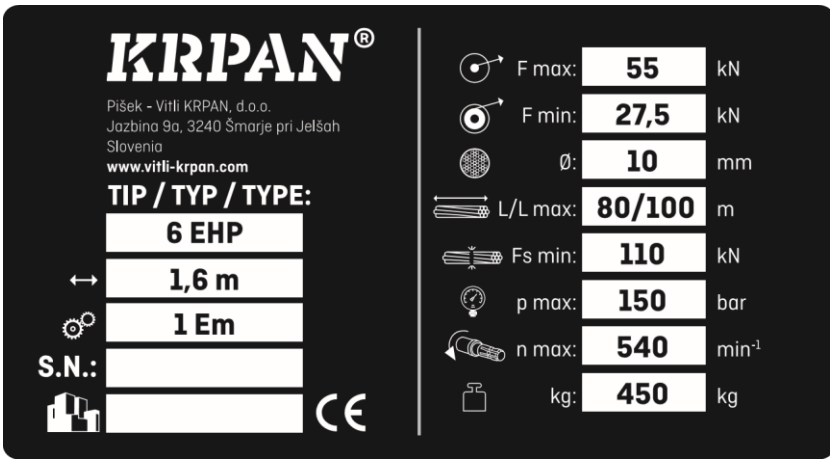
2.1 IDENTIFICATION PLATE:

Classical Brake:



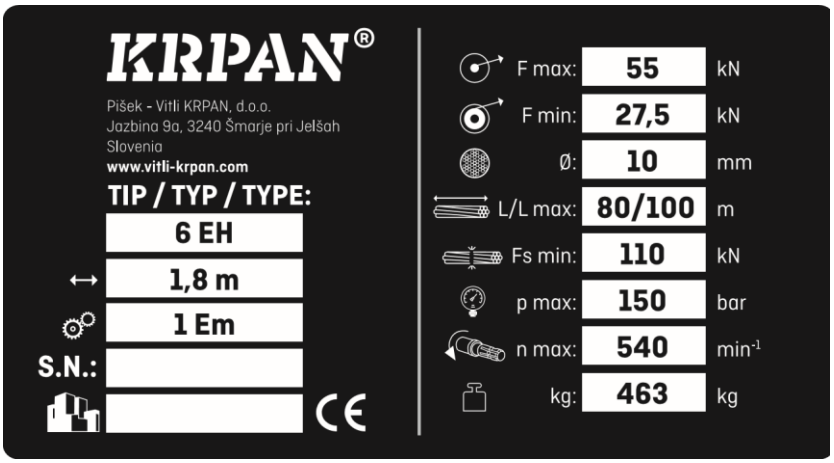
* The production year and serial number on the identification plate vary.
** All technical specifications are subject to continuous development; consequently, the delivered items may deviate from this data.

Proportional Brake:



* The production year and serial number on the identification plate vary.
** All technical specifications are subject to continuous development; consequently, the delivered items may deviate from this data.

Extended winch plate:



* The production year and serial number on the identification plate vary.
** All technical specifications are subject to continue development; consequently, the delivered items may deviate from this data.

Figure 1:

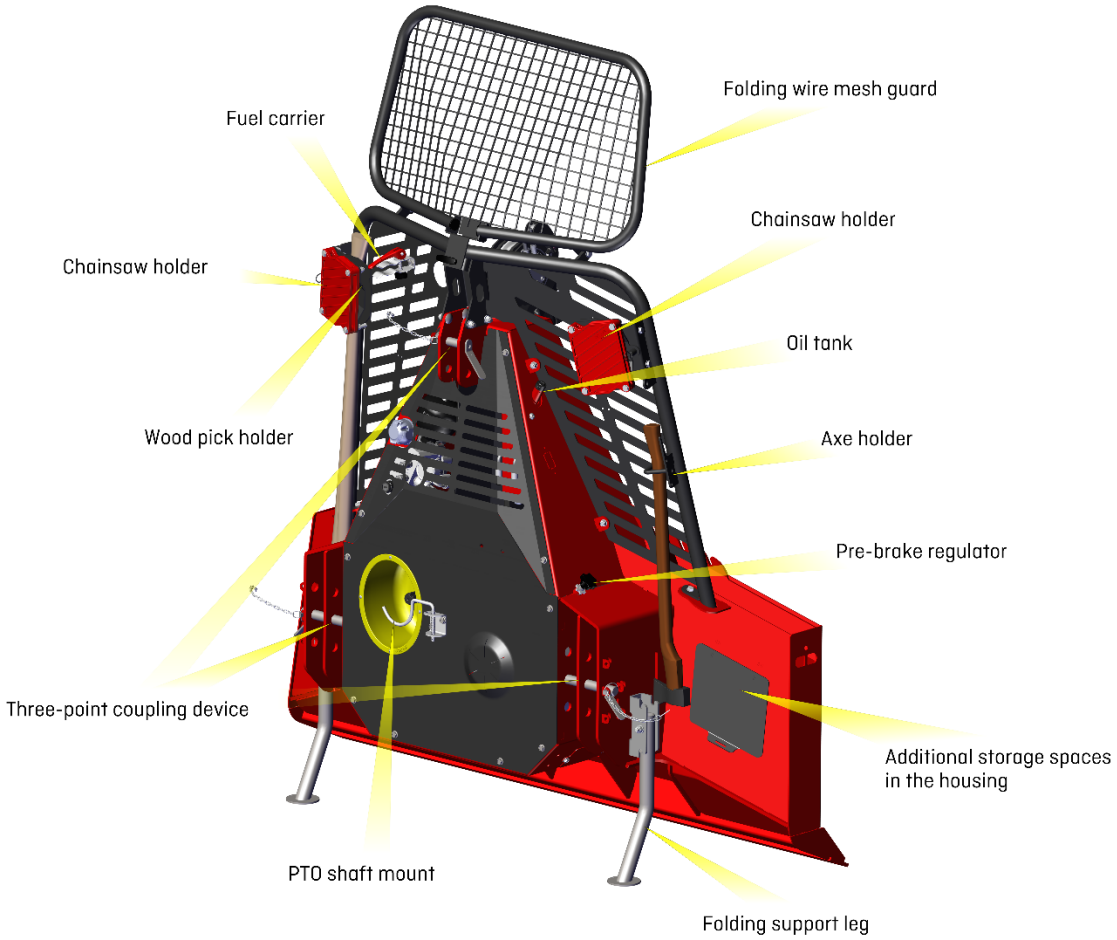
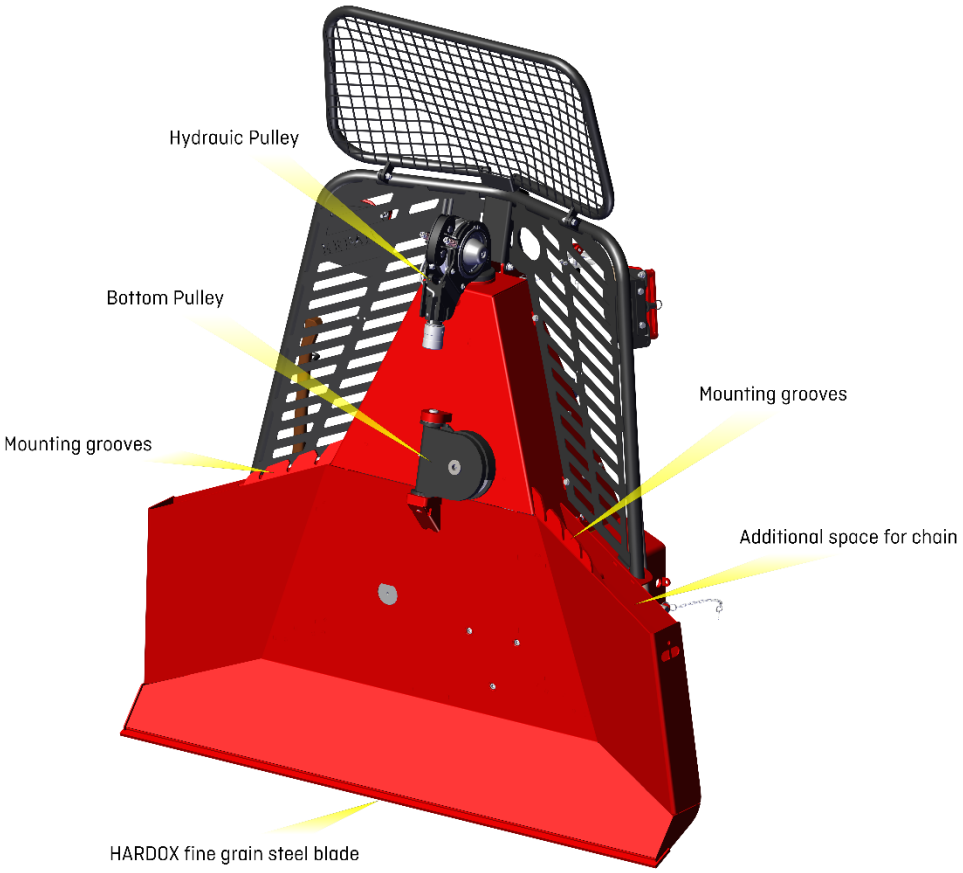


Figure 1.1:



3. WARNING AND SAFETY SIGNS

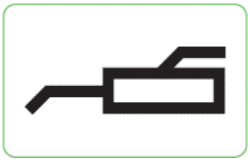
Disrespect of the warning and safety signs can lead to serious damage of the machine or injuries of the people!

1. Please examine and always consider the operation instructions!
2. Do not position yourself inside the machine's danger zone!
3. Mandatory use of protective equipment (googles, gloves, protective footwear, safety helmet)!
4. Before working on the winch, be sure to switch off the tractor and read the maintenance instructions!
5. Not intended for the lifting of loads!

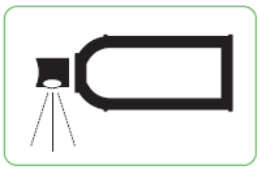
Sign »Direction of rotation and number of revolutions on the drive shaft«

Sign »Read the instructions for use before cleaning«

Sign »Lubrication spot«



Sign »Lubrication point for chains«

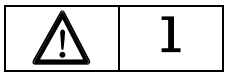


4. INSTRUCTIONS FOR SAFE OPERATION

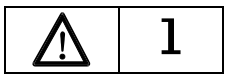
Please exercise maximum safety when operating the winch!

Please read and consider the instructions below in order to avoid accidents:

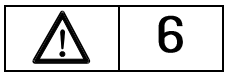
1. Along with the instructions in this manual, please always consider all valid safety regulations.



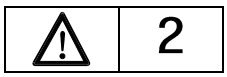
2. Operate the winch in a safe manner and always consider the occupational safety regulations.



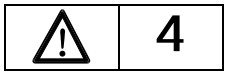
3. The winch may only be used by persons familiar with its operation, the dangers of working with the winch and these instructions for use!
4. The winch may only be operated by persons above the age of 18!
5. The warning and safety labels contain important instructions for safe operation. Please consider them for your own safety.
6. Please consider traffic signs and traffic regulations when driving on public roads.
7. Only the correct length of PTO shaft should be used for the job. If the wrong length is used, the warranty will not be honoured!
8. Personal protective equipment must be used during operation (helmet, gloves, suitable footwear, first-aid kit etc.).



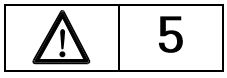
9. The operator must wear tight-fitting clothing. Never wear loose-fitting clothing.
10. Make sure nothing obstructs your way during before increasing throttle or driving on public roads (children). Ensure adequate visibility.
11. Stay clear of the winch while the tractor is moving.
12. The winch must be attached according to instructions.
13. Prepare the machine accordingly before driving on public roads.
14. Adjust the running speed according to the situation. Avoid making sharp turns during steep inclines or declines.



15. Nobody should be located between the tractor and winch if the tractor's hand brake has not been engaged or if wheel stops have not been placed.
16. Do not touch any of the winch elements until they are idle.
17. Check the tightness of screws regularly.
18. Check the winch visually before operation. The winch must be inspected by an authorized and qualified individual at least once every year.
19. The winch should not be used for unintended purposes, for example for lifting loads (Figure 6)!



20. The PTO shaft must be disengaged or the tractor shut down before handling the winch.
21. In case of possible welding on the forestry winch, the control console must be disconnected!



22. The safety equipment must not be removed from the winch.
23. A towing rope of appropriate hardness and quality must be used.
24. A damaged wire rope must be replaced immediately.
25. The wire rope should be of such length that, when fully spooled onto the drum, the distance between the spooled rope and the drum's outer circumference measures at least twice the thickness of the wire rope. **During unspooling, at least three spools of towing rope must remain on the drum.**

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26. An assistant should not load the winch without consulting the tractor operator beforehand.
27. The winch can only be operated from a safe location where loads, wire ropes, and rooted trees do not represent a risk. The tractor's operator seat is also considered a safe location. If the winch is, in accordance with these instructions, equipped with a wire guard, it should not be removed.

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28. It is especially dangerous to be situated in front of a log which is to be towed – Figure 2.
29. Please make sure not to be located inside the danger zone (danger triangle), namely the area where nobody should be positioned during towing, while using the guiding pulley (Figure 3).

Figure 2

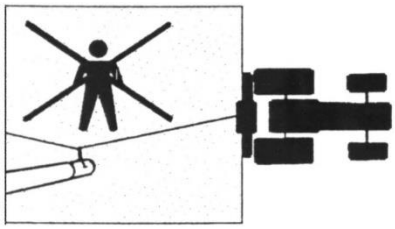

Figure 3

30. Please consider the maximum angle of 30 degrees during towing (Figure 4).
31. Danger of tilting exists in case of uneven terrain or failing to observe the maximum towing angle (Figure 5).

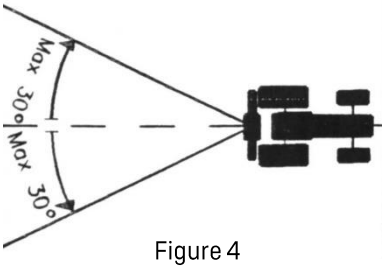

Figure 4

Figure 5

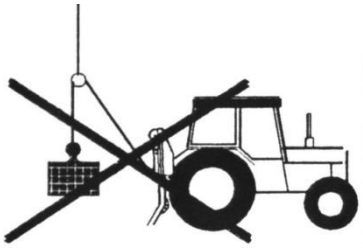

Figure 6

32. Never be positioned inside the danger zone (Figures 2, 3, 4, 5, 6)!

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33. As a rule, the winch must be operated by two persons (tractor operator and assistant) who communicate using hand signals.

Rope pulling

STOP

Loosening the rope

34. The winch operator must carefully monitor the load during towing. If unable to do so due to the terrain configuration, the operator should be assisted by the assistant.

35. The tyres of the tractor with the winch attached must have a tread which corresponds to traffic regulations. In case of insufficient tread, tyre chains must be mounted. Tyre chains must also be used in snowy or icy conditions.
36. Please disconnect the winch on a suitably hard and level surface. The winch is stabilised by means of support foot.
37. Danger of crushing inside the three-point coupling device area.
38. Please uncouple the winch from the tractor and carefully read the maintenance instructions before handling the winch.

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39. When working, always make sure that the forestry chain is correctly routed through the end piece (Figure 7)!

Figure 7

IF THE CHAIN AND END PIECE ARE USED INCORRECTLY, THE CHAIN OR END PIECE CAN DEFORM, WHICH CAN BE FATAL!

OPERATION WILL NOT BE SAFE AND SUCCESSFUL IF INSTRUCTIONS ARE NOT CONSIDERED!

4.1 OPERATING WITH THE PTO SHAFT

1. Only PTO shafts of the appropriate length specified by the manufacturer may be used.
2. Protective tubing, joint guards, and coupling guards in perfect condition must be installed on the PTO shaft.
3. Make sure all guards are installed on the PTO shaft during transport as well as during operation.
4. Only connect and disconnect the PTO shaft with the tractor and the PTO shaft are disengaged.
5. Always make sure to correctly install and protect the PTO shaft.
6. Prevent the PTO shaft from rotating by means of suspension chain.
7. Before engaging the PTO shaft make sure the selected rotation speed and direction of rotation correspond with the rotation speed and direction of rotation of the winch.
8. Make sure there are no people inside the danger zone before engaging and operating the PTO shaft
9. Never engage the PTO shaft while the engine is disengaged.

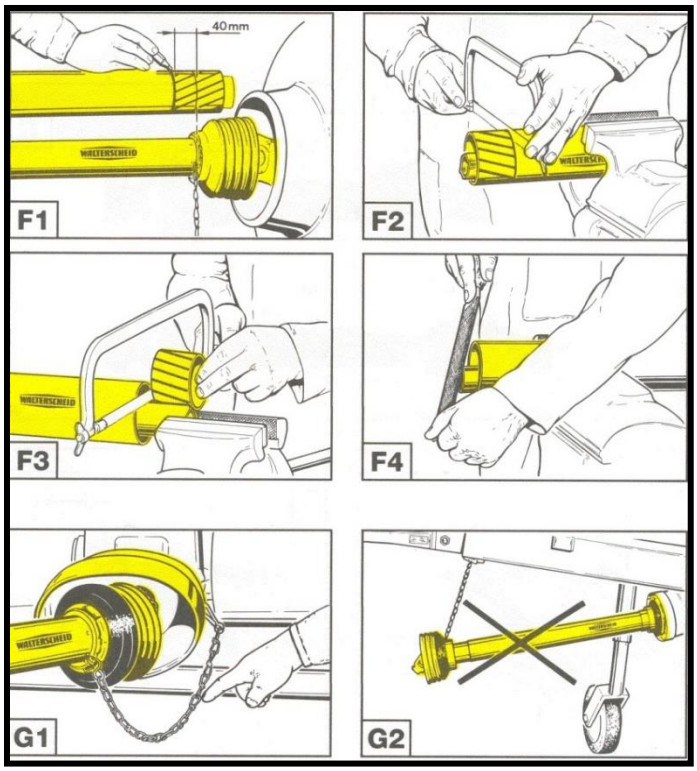
4.2 PTO SHAFT ADJUSTMENT

The PTO shaft length must be adjusted according to the tractor in use.

The appropriate length is established as follows:

- Connect the winch to the tractor.
- Separate the PTO shaft and attach one half to the tractor and the other to the machine. Then, compare the two halves.
- Check whether the PTO shafts overlap by at least 200 mm when the three-point coupling device is completely raised or lowered and make certain the PTO shaft does not become trapped in the horizontal position **(the protective tubing must overlap by further 40 mm)**. (F1)
- If the shafts are too long, shorten both the PTO shafts and the protective tubing by the same amount. (F2, F3)
- Grind down individual shafts, then remove the chipping and grease well the sliding locations. (F4)
- Attach the PTO shaft by means of suspension chain. (G1)
- When you stop using the machine, set the tractor throttle to minimum and switch off the PTO shaft, unhook the suspension chain, and remove the PTO from the tractor. Then secure the PTO shaft with a hanger on the machine or store it separately in another place (which you have for storing PTO shafts). (G2)

Figure 8:



Only the correct length of PTO shaft should be used for the job. If the wrong length is used, the warranty will not be honoured!

5. INSTRUCTIONS FOR USE

5.1 DESCRIPTION

The winch is intended for handling of timber. Its main components include a welded housing, main shaft, freewheel incl. clutch, drum with wire rope, brake (classical or proportional) and guiding pulley. The logs are pulled up to the collection point using a steel rope and secured in the grooves of the winch housing with connecting chains. The logs can then be transported to a point where other means of transport can approach. The winch is controlled by an electro-hydraulic system. The necessary pressure in the hydraulic system is provided by a hydraulic pump. The pump operation is provided by a cardan drive driven via a cardan shaft. The pressure reservoir provides the necessary pressure to operate the hydraulic system when the towing vehicle is switched off. The safety valve is set at the factory to the appropriate operating pressure. Setting to a higher value is not allowed!!!

On a butt plate that is shaped inward with bevelled sides and a bevelled bottom surface, the front parts of the logs do not get stuck when pulling and slide towards the middle. The edges of the boards are now rounded, so the wood is not damaged when piling or pushing.

THE STANDARD PROPORTIONAL BRAKING SYSTEM WITH ALL EHP HYDRAULIC MODELS WITH RADIO REMOTE CONTROL represents the highest safety standard in the forestry winch segment. It provides a precise control over the wire rope release speed, preventing jerking on the winch and tractor, as well as unnecessary loosening of the wire rope on the drum. In case the tractor is lifted up during winching, it can be lowered to the ground in a controlled manner.

With hydraulically controlled winches, hydraulic oil tank and hydraulic control block are protected from external factors and damage within the triangular-shaped upper part of the supporting structure. The pulleys are attached on the outside.

There are 7 models with designations: **5 EH/EHP**, **6 EH/EHP**, **7 EH/EHP**, **7 FEH/FEHP**, **8 EH/EHP**, **9 EH/EHP**, and **10 EH/EHP**.*

* The maximum pulling forces or maximum pulling masses of individual models are 5 kN or 0.5 tons smaller than the model markings themselves.

Except for model **7 FEH/FEHP**, all hydraulic winches are available with two different butt plate widths. Models **8 EH/EHP** and **10 EH/EHP** come with a foldable butt plate as standard.

5.2 REQUIRED TRACTOR EQUIPMENT

- The winch may only be powered by a tractor PTO shaft with the max. rotation speed of 540min^{-1}.
- II. or III. category three-point coupling device.
- 12 V DC (direct current) electrical installation with connection at the rear of the vehicle.

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5.3 CONNECTING TO A TRACTOR

Please make sure there are no people inside the danger zone while attaching the winch to the tractor!

The forestry winch can be connected to any tractor equipped with an II or III category three-point coupling device.

Due to the constructions, the winch can also be attached to a tractor equipped with an automatic coupling device.

Use the recommended PTO shaft and protect the shaft guard by means of a suspension chain. Please make sure the PTO shaft clicks into place on both ends.

In order to convert torque from the tractor to the winch, a PTO shaft which corresponds with the tractor's nominal power:

- **24-50 kW / 33-68 HP** for forestry winch **5 EH/EHP**,
- **33-55 kW / 45-75 HP** for forestry winch **6 EH/EHP**,
- **44-70 kW / 60-95 HP** for forestry winch **7 EH/EHP**,
- **44-70 kW / 60-95 HP** for forestry winch **7 FEH/FEHP**,
- **52-99 kW / 70-135 HP** for forestry winch **8 EH/EHP**,
- **> 59 kW / > 80 HP** for forestry winch **9 EH/EHP**,
- **> 66 kW / > 90 HP** for forestry winch **10 EH/EHP**.

After attaching the winch to the tractor, attach the stabilisers to the bottom coupling device. Tilt the winch back approx. 20 degrees by means of the upper coupling device. **The travel of the tractor arms must also be limited to prevent damage to the winch itself and the PTO shaft if the winch is raised too high!**

Three-point-linkage – is the mounting system to link the winch to the tractor with three points.

Mounting Category (I., II, III.) – refers to the diameter of the pin to link the machine (winch) to the tractor.

Category	Upper Pin Diameter	Lower Pin Diameter
I.	Ø 19 mm	Ø 22 mm
II.	Ø 25 mm	Ø 28 mm
III.	Ø 32 mm	Ø 36 mm

5.4 UNWINDING WIRE ROPE

Once the winch has been successfully connected to the towing vehicle, the wire rope can be unwound. As the EH winch is already equipped with a hydraulic pulley as standard, the unwinding of the wire rope is quite easy. The principle of operation is simple: when the "permanent brake release" ("short brake release") function is activated, the hydro motor starts working and automatically unwinds the wire rope from the drum. When the "permanent brake release" function is switched off ("short brake release"), the brake immediately stops the drum, at the same time interrupting the hydro motor and thus the unwinding of the wire rope from the drum. The speed of the wire rope unwinding can be adjusted by means of a flow regulator (Figure 9).

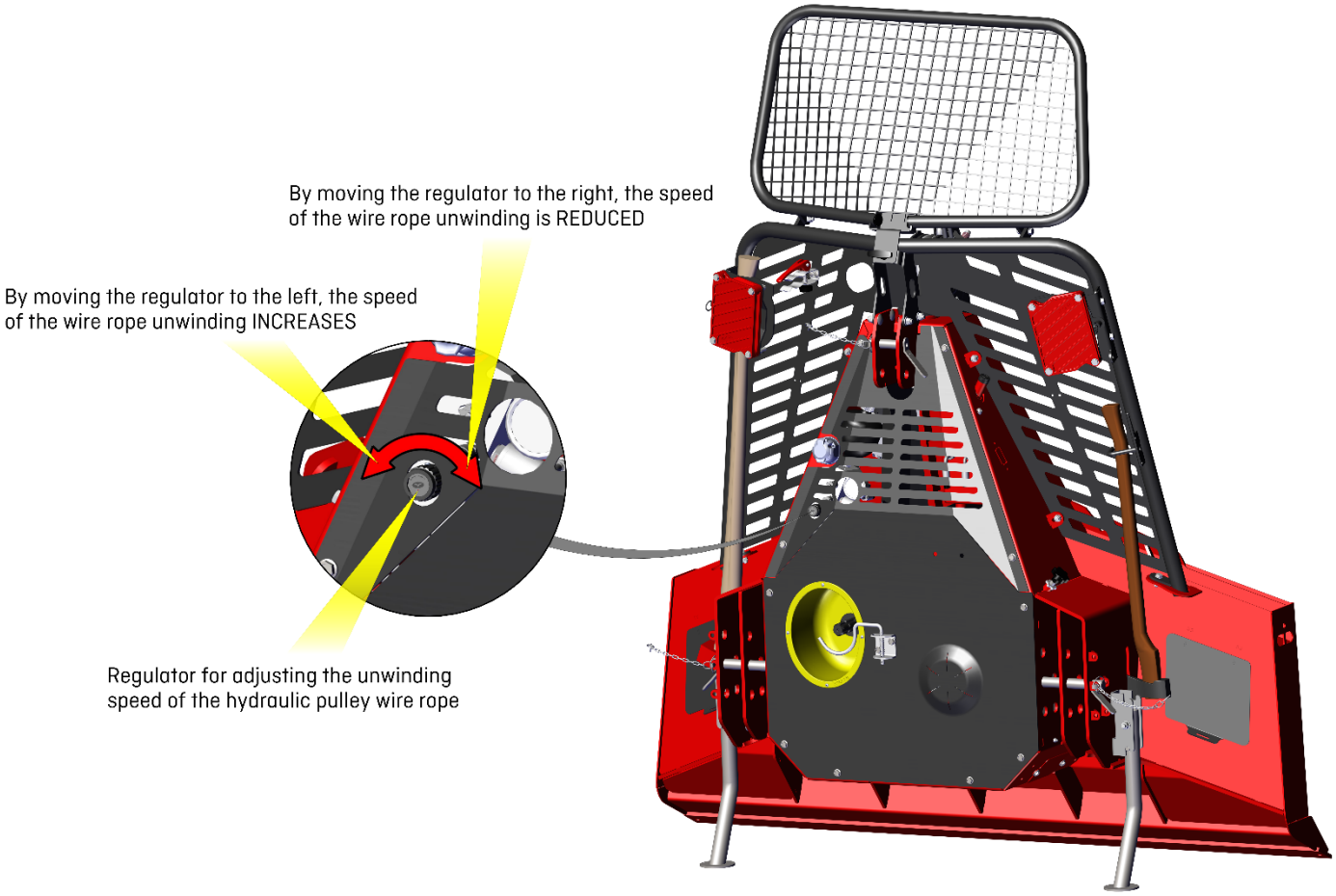
WARNING: When purchasing a new winch, it is possible that the wire rope may slip, as the wire rope is coated at the factory with a protective lubricant (grease). The problem will be rectified once the wire rope has been unwound (wound) on the drum of the winch a few times during the work.

WARNING: The pulling rope must always be firmly spooled onto the drum – before using the winch, completely unspool the rope and firmly spool it back onto the drum. During unspooling, at least three spools of rope must remain on the drum. Also, check whether the rope is damaged.

This can be done in two ways:

- by pulling a load,
- by attaching the pulling rope to a stable object and pulling the tractor towards it.

Figure 9:



5.5 PULLING

5.5.1 VERSION 1:

The tractor's hydraulic coupling device is put into the bottom position and the tractor's hand brake is engaged. This way, the ramp stabilises the winch. Under no circumstance is it allowed to commence pulling before the winch has been stabilised.

First, check if the emergency button is activated – if this is the case, switch it off. Then, switch on the control box by pushing green START button. If everything is connected well, the yellow lamp under the START button will be lit.

There are two toddle switches in the middle of the control box – Switch 1 and Switch 2.

Switch 1 is used to select between two functions:

- Upper position: CONTINUOUS ROPE UNWINDING (black field) and
- Lower position: ENABLE SWITCH 2 (yellow field)

If Switch 1 is not in the yellow field, you will not be able to control the functions of Switch 2.

Switch 2:

- Upper position: ROPE RELEASE;
- Lower position: ROPE WINDING = PULLING.

Figure 10:

In case of towing the load with the radio remote control you should have your tractor always in the visual field!!!

It is necessary to read all the instructions that come with the Terra remote control to operate it!

The lifting of hydraulic coupling device during towing is prohibited (may damage the PTO shaft)!

- If a radio remote control is used, there are user manuals to be fallowed.
- If a radio remote control is used, pay attention to higher level of risk and prevent it.
- In case of possible welding on the forestry winch, the control console must be disconnected!
- There is allowed only usage of radio remote controls specified from us, otherwise this will void warranty and all liability claims.

5.5.2 VERSION 2:

The tractor's hydraulic coupling device is put into the bottom position and the tractor's hand brake is engaged. This way, the ramp stabilises the winch. Under no circumstance is it allowed to commence pulling before the winch has been stabilised.

When the control console is connected via the 13-pole power cable, it is switched on and the status light is green. On the control console, first check if the STOP switch for emergency shutdown is activated - if it is, switch it off.

The control console can be attached to the forestry winch using the magnet on the back of the console.

When the status light is green, you can start operating the control console:

- Pressing the button activates the steel rope winding.

The switch on the control console has the following two functions:

- Moving the switch to the upper position activates the steel rope unwinding function;
- Moving the switch to the lower position activates the function for permanent unwinding of the steel rope.

Figure 10.1:

In case of towing the load with the radio remote control you should have your tractor always in the visual field!

It is necessary to read all the instructions that come with the remote control to operate it!

The lifting of hydraulic coupling device during towing is prohibited (may damage the PTO shaft)!

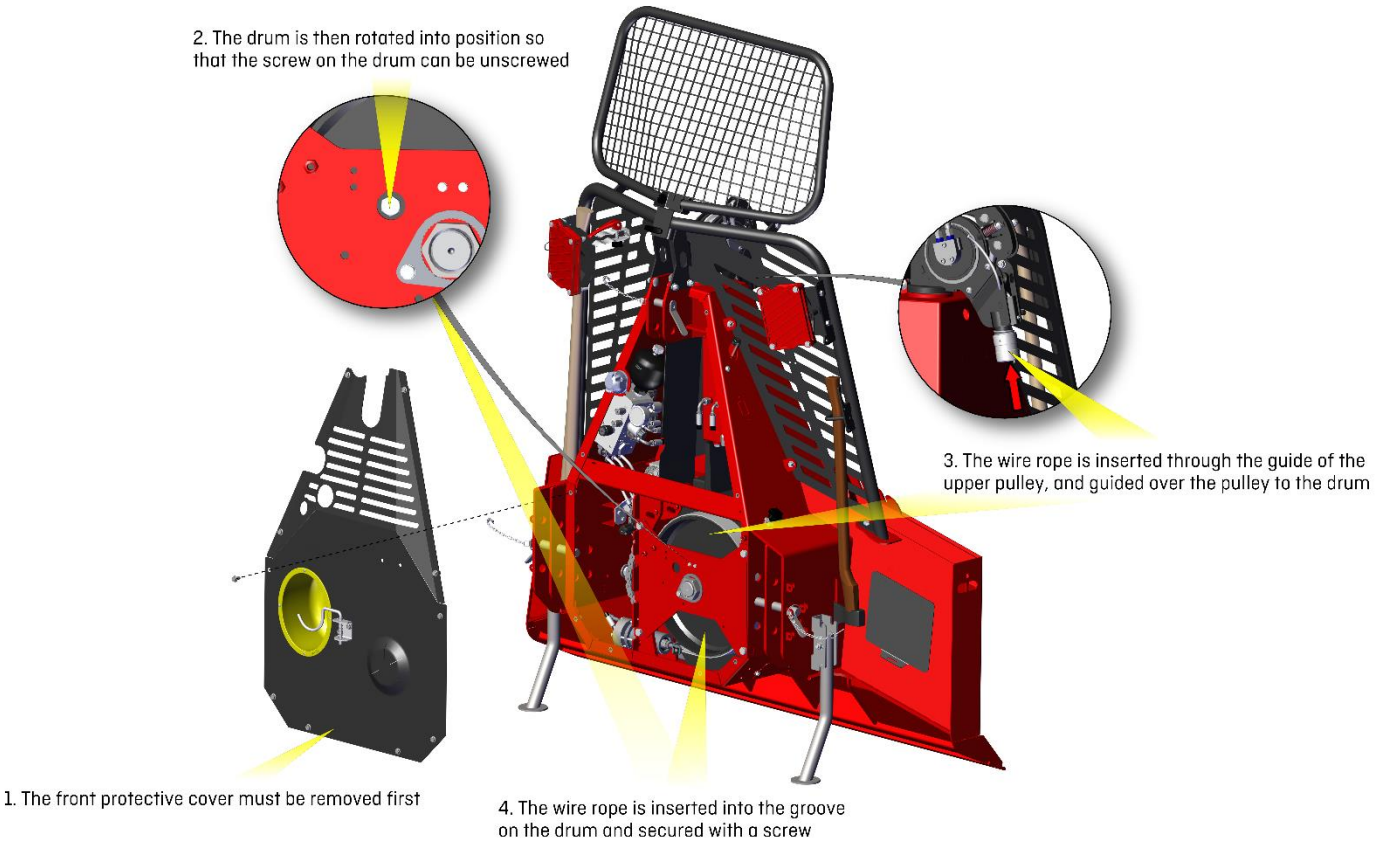
- If a radio remote control is used, there are user manuals to be fallowed.
- If a radio remote control is used, pay attention to higher level of risk and prevent it.
- In case of possible welding on the forestry winch, the control console must be disconnected!
- There is allowed only usage of radio remote controls specified from us, otherwise this will void warranty and all liability claims.

5.6 WIRE ROPE INSTALLATION

First, remove the guard. Then rotate the drum so the screw can be loosened. Insert the wire rope into the upper pulley's guide and lead it to the wire rope drum via the upper pulley. Insert the wire into the groove and tighten the screw. Begin coiling the rope using the traction process. When the entire length of the wire rope is spooled, unspool and correctly spool it onto the drum again according to the tight spooling procedure, as improper handling of the pulling rope shortens its working life. You must be especially careful not to create loops when spooling.

WARNING: Improper handling of the towing rope will shorten its service life. Special care must be taken to avoid loops when winding!

Figure 11:



5.7 FIRMLY SPOOLING THE ROPE ONTO THE DRUM

First, unspool the wire rope completely, then fully spool it onto the drum by pressing the black button.

Make sure the wire rope is tightly spooled onto the drum.

This can be done in two ways:

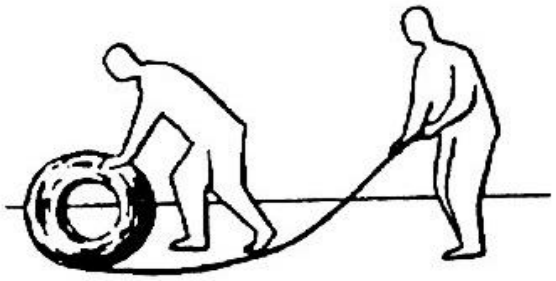
- by pulling a load,
- by attaching the pulling rope to a stable object and pulling the tractor towards it.

WARNING: The pulling rope must always be firmly spooled onto the drum – before using the winch, completely unspool the rope and firmly spool it back onto the drum. During unspooling, at least three spools of rope must remain on the drum. Also, check whether the rope is damaged.

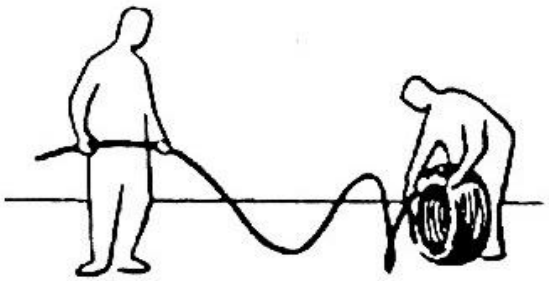
5.8 WIRE ROPE FULTLESNESS

- **Wire rope can only be replaced under warranty if it has not yet been used.**
- The pulling rope length should not exceed the maximum length indicated in the technical specifications.

Make sure the rope does not loop during spooling and unspooling!



CORRECT



INCORRECT

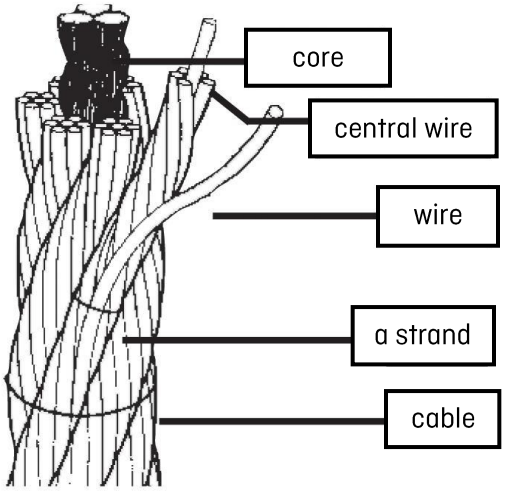
The pulling rope force must be correctly adjusted so the drum comes to a stop immediately after pulling out the rope. This ensures the rope remains tightly spooled onto the drum.

The pulling force of every new winch has been factory-set to the **maximum** value indicated on the winch's type plate. Increasing the pulling force above this value is not permitted. When the pulling force decreases due to clutch wear, the clutch must be readjusted.

The clutch can only be readjusted by an authorised service technician in accordance with the manufacturer's instructions, who will record the readjustment in the service book.

The manufacturer of the wire ropes, as well as Vitli KRPAN, must carry out regular quality control of the wire ropes. Wire rope replacement is not covered by the warranty!

5.9 PROFFESSIONAL INSTRUCTIONS ON STEEL CABLES

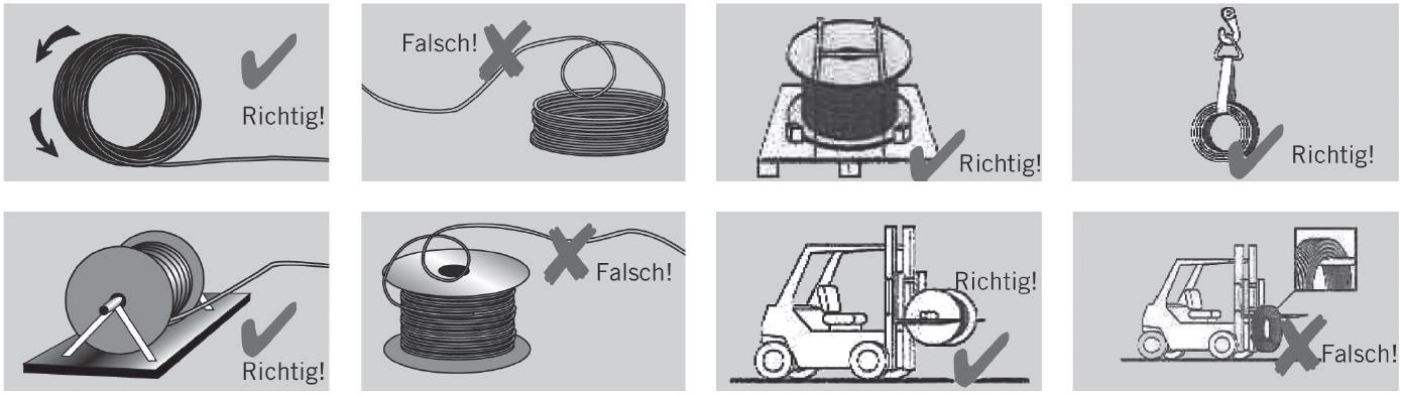


5.9.1 Steel Cable Structure

The standard steel cable is an inevitable element of a machine or a device.

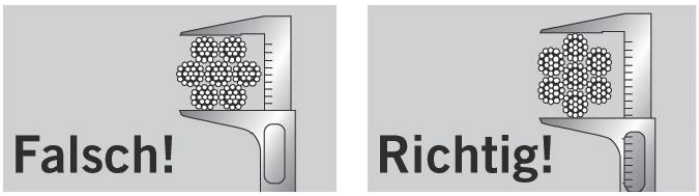
Wires can be twisted in one or several layers around the central wire to form a spiral cable or the strands are then twisted around the core in long bends to form the steel cable.

5.9.2 Unwinding, Storage and Transport of Steel Cables



Richtig = right; Falsch = wrong

5.9.3 Measuring the Steel Cable Diameter



Falsch = wrong; Richtig = right

5.9.4 Before First Use

- First, the winch steel cable needs to be fully extended, i.e. unwound, loaded and properly guided during the winding process by the winch.
- The winch reaches its maximum power during the first couple of windings, meaning that you have to fully unwind the cable and then use it with the winch. Otherwise, the steel cable will get pinched and damaged in the lower or inner windings.
- It is recommended to repeat this process daily to ensure a longer service life of the steel cable.

Before using the steel wire rope winch, unroll the rope up to the last three windings and wind the rope under load (e.g. gently pull on the handbrake, or pull the tractor uphill). Damaged ropes are not covered by our warranty.

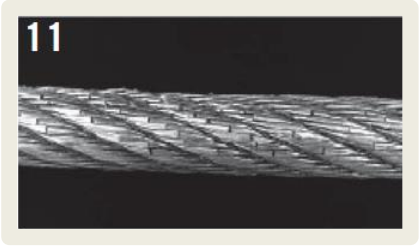
5.10 DAMAGE RESULTING FROM INCORRECT USAGE

5.10.1 Damage resulting from twisting (turning)

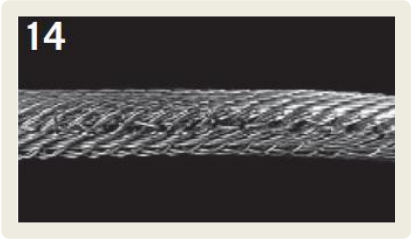
DAMAGE	CAUSE OF DAMAGE
	The steel core after "peeling" of the outer strands. The accumulation of the excess length is easily visible.
	Due to the twisting (turning) in the direction of the steel cable helix this "non-turning" steel cable has been shortened and the core extended.
	Steel cables with a double parallel strand winding do not respond well to twisting. Here, the inner strands were extended because they were pushed outwards.
	Frequent twisting only affects the inner (shortest) strand. It is the only extended strand along the steel cable.
	On this six-strand cable, the twisting loosened the outer layers of the wires on the outer strands.
	The steel ropes form a spiral, because the steel cable was rubbing against structural elements or because it was pulled through too narrow grooves.

DAMAGE	CAUSE OF DAMAGE
	The twisting of the cable along the pulley caused an excessive length of strands in the core. Such damage often occurs at the end of the cable stroke when it travels over pulleys or drums.
	This cable was twisted in the opening (unwinding) direction of the steel cable. When unloaded, it forms a loop in the cable turning direction. When the cable is loaded, the loop tightens and can cause permanent deformations of the cable.
	This cable was twisted in the turning direction of the cable. When unloaded, the cable forms a loop in the cable unwinding direction.

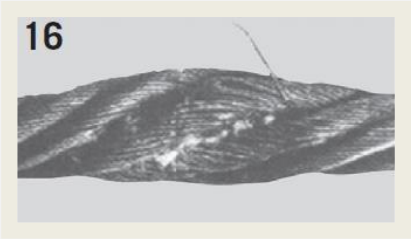
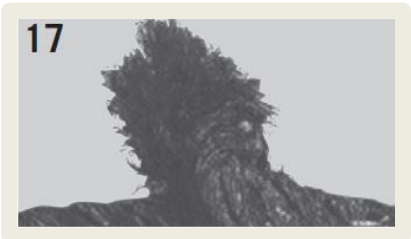
5.10.2 Injuries caused by lanyards

DAMAGE	CAUSE OF DAMAGE
	This steel cable was placed in a too narrow pulley.
	Another example of a cable placed in a too narrow pulley.
	A too wide pulley does not provide sufficient support to the steel cable. As a consequence, the wires tend to break prematurely on the running surface.

5.10.3 Injuries caused by bending

DAMAGE	CAUSE OF DAMAGE
	Wire breakages due to fatigue on steel cables with sealed strands.
	This “non-turning” steel cable was pulled over the edge of the pulley, which caused extensive damage.
	This cable was pulled over the edge of the pulley. Notice the trace of the damage.

5.10.4 Injuries caused by gross negligence

DAMAGE	CAUSE OF DAMAGE
	The flattening is the result of squeezing. The damage is permanent.
	Breakages at bending positions appear when loops are exposed to loading.
	Bending is the consequence of force (external influences).

5.10.5 Injuries in crane technology

DAMAGE	CAUSE OF DAMAGE
	Basket formation on a non-rotating steel cable. One is more than enough.
	Another basket formation on a non-rotating cable.
	This cable has completely fallen apart. The outer strands are too long for the steel cable. The pulley was pushing on the excessive length causing the strands to stand away from the cable.

5.10.6 External damages

DAMAGE	CAUSE OF DAMAGE
	If the steel cable is pulled over sharp edges, it tends to twist when not loaded.
	Crane stop cable with clamp. All the outer wires were exposed to external wear and broke in one place at the output nozzle along the weaving length. The damaged portion was then squeezed until the final movement point.

Correct usage of a steel cable can save your life!

6. SETTINGS

6.1 COUPLING

Correct coupling setting guarantees optimal traction. The coupling is factory set, so no further adjustments are needed.

IN THE EVENT OF CLUTCH SLIP, THE TOWING PROCESS MUST BE STOPPED IMMEDIATELY AND CHECKED IF THE LOAD IS TOO HEAVY.

The clutch can only be readjusted by an authorised service technician in accordance with the manufacturer's instructions, who will record the readjustment in the service book.

Oiled or burnt clutch plates are not covered by the warranty!

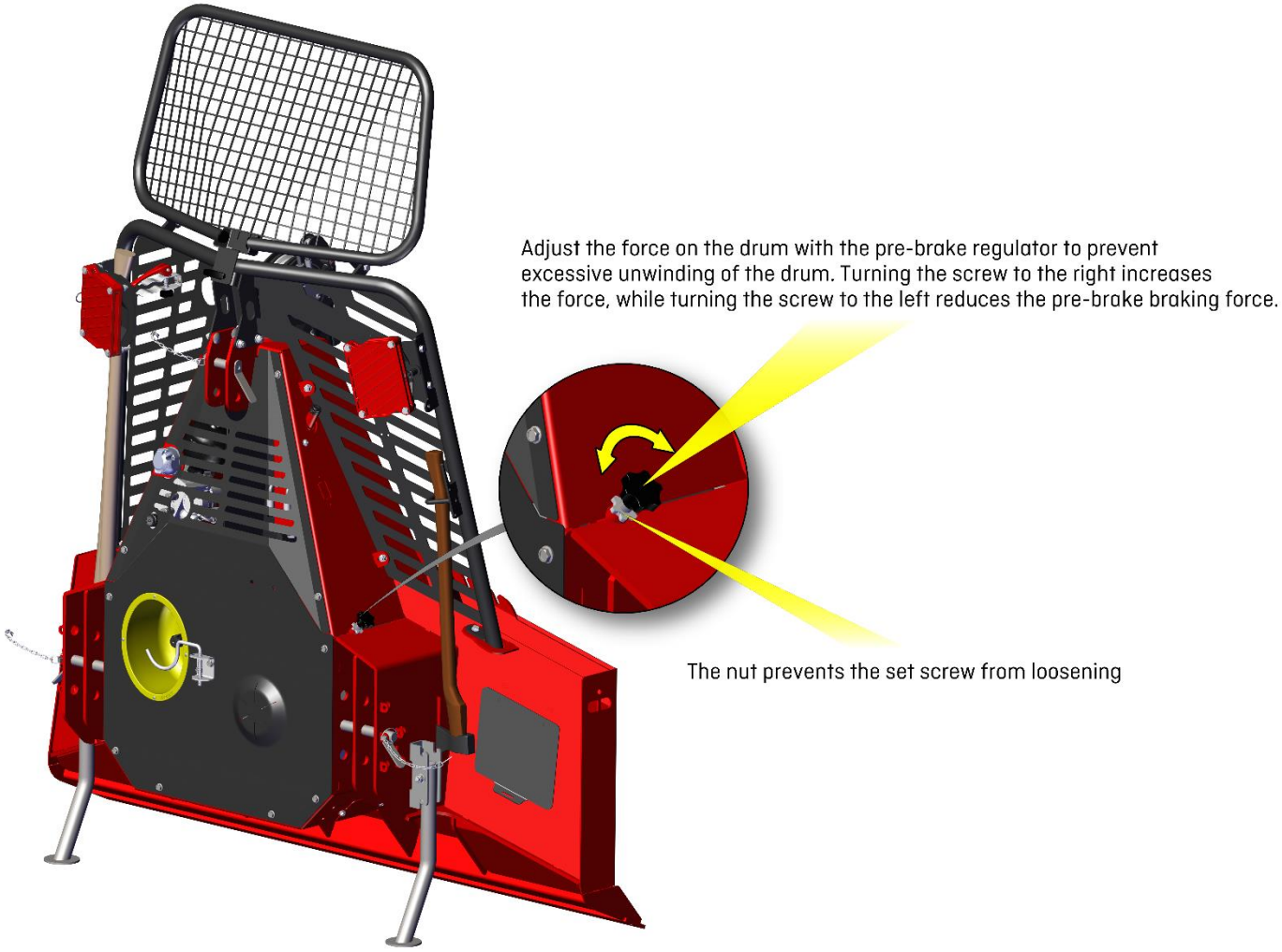
6.2 PRE-BRAKE

Use screw (figure 12) to adjust the force that prevents the winding drum from unwinding excessively. Tightening the nut prevents the bolt from unscrewing. Correct adjustment ensures that the wire rope does not unwind automatically or too easily from the drum. This would cause damage to the wire rope if the brake was released quickly during unwinding.

The pre-brake is usually adjusted correctly when unspooling the rope is still possible without excessive strain. If the rope is being spooled up a slope, the brake may be additionally released to ease the spooling.

The wire rope should be pulled evenly and without jerking, since jerking can cause the rope to loosen on the drum and cause knots to form.

Figure 12:



The pre-brake is factory-set; however, it allows the user to set their own pre-brake braking force.

6.3 BRAKE

When the towing process is finished, the automatic differential brake holds the load (the drum does not rotate backwards and the wire rope remains tight). Although the brake is factory-set, slippage can occur over time due to material settlement or wear and tear of the friction material. When you notice that the brake is not holding the towed load, the differential brake needs to be adjusted.

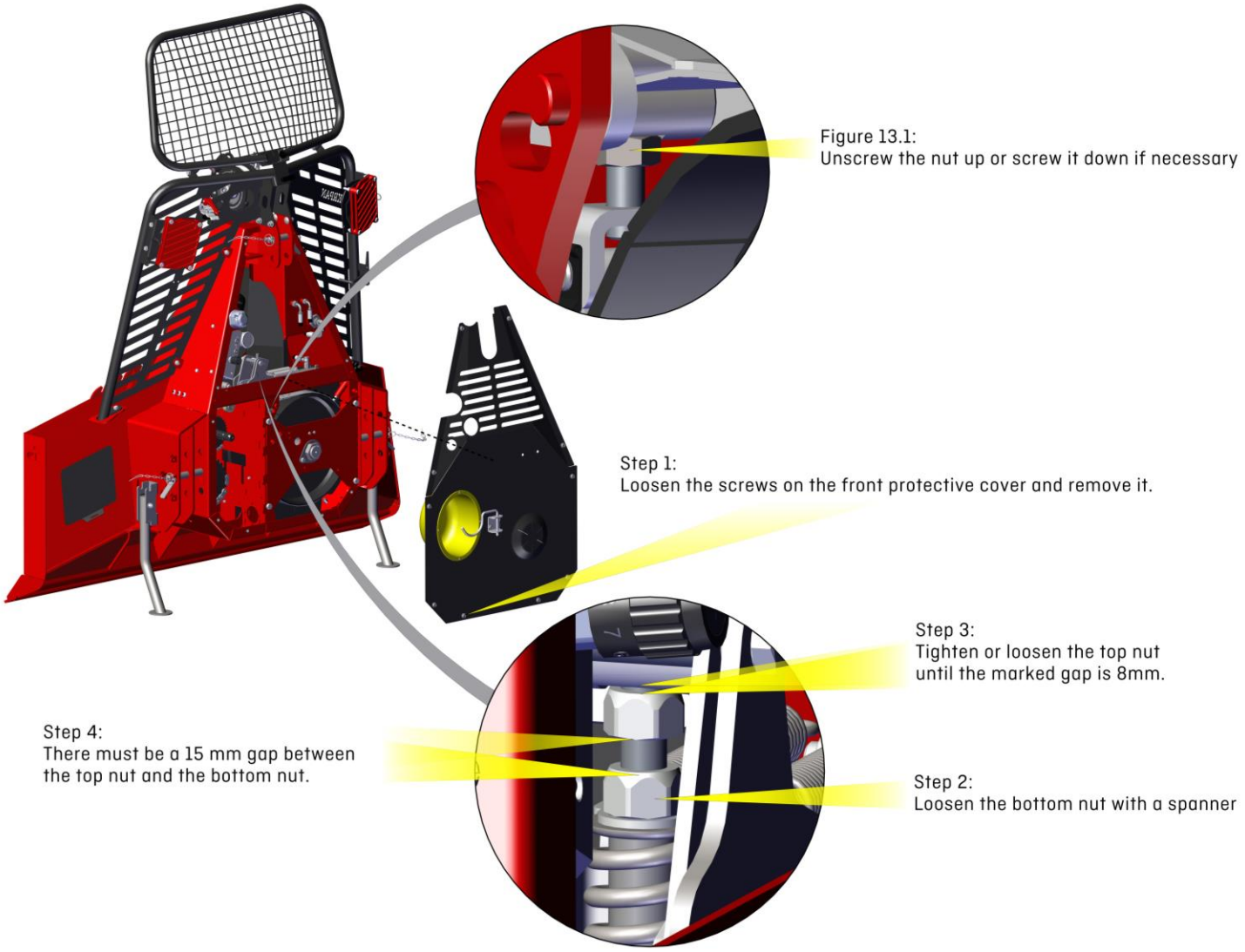
6.3.1 Classical brake (ON/OFF)

A classical brake (ON/OFF) is fitted as standard. The brake has only two states - working or not working.

If you want to reset the brake, follow the steps below:

1. Loosen the screws on the front protective cover and then remove it.
2. Loosen the bottom nut with a spanner.
3. Tighten or loosen the top nut until the marked gap is 8 mm.
4. Tighten or loosen the lower nut until it is 15 mm from the upper nut. If necessary, loosen or tighten the nut in Figure 13.1.
5. Once all the brake nuts are adjusted as required, fit and tighten back the front protective cover.

Figure 13:



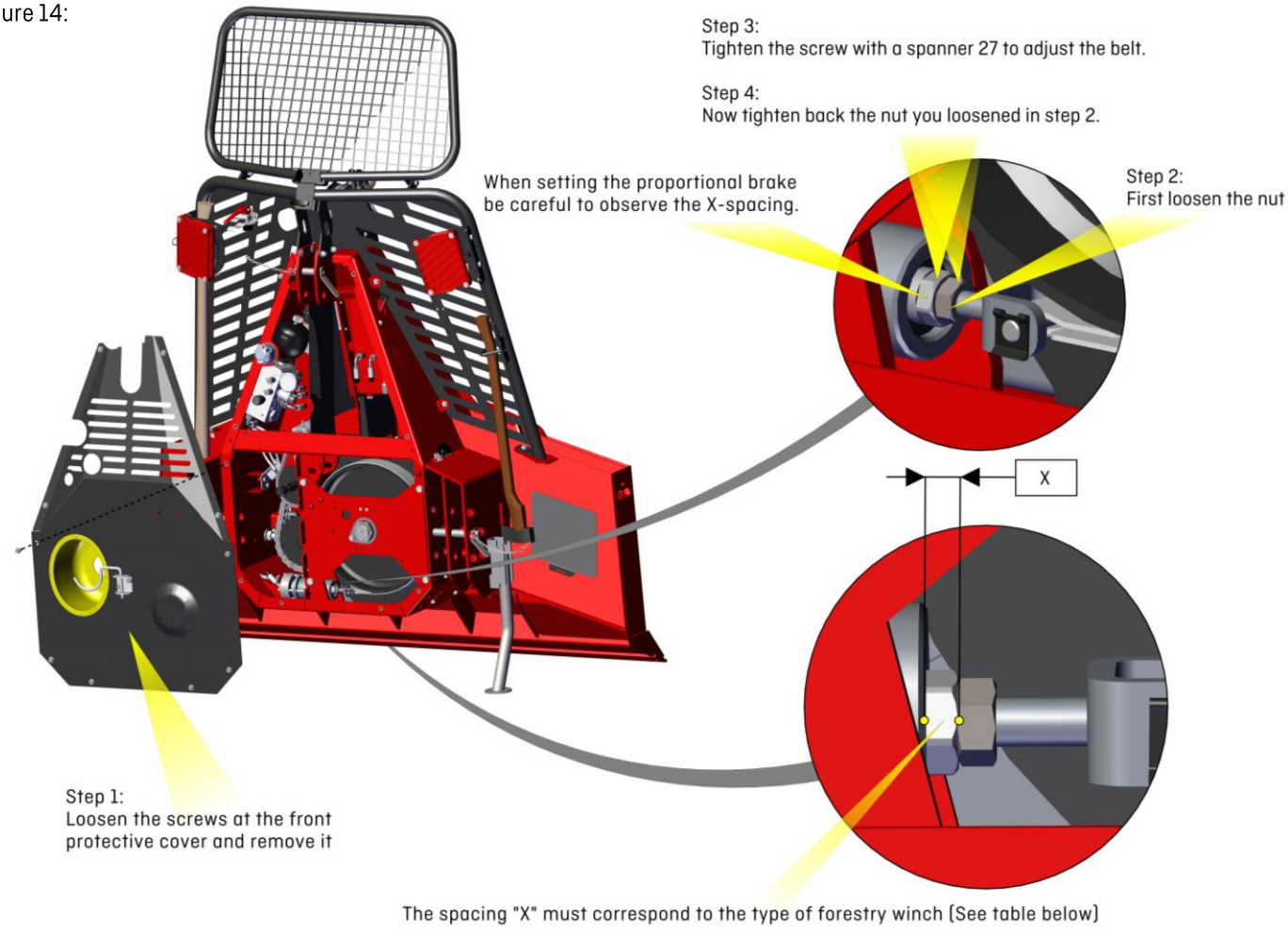
6.3.2 Proportional brake

Optionally, the winch may include a proportional brake. The advantage of this brake is that the load can be gradually released in a controlled manner, i.e. it does not have only two states (like a classical brake). In addition to the proportional brake, the winch can also contain a pressure roller on the drum, which additionally assists in winding the wire rope onto the drum, and a signal which audibly warns that the last wraps of wire rope are on the drum.

If you want to reset the brake, follow the steps below:

1. Loosen the screws on the front protective cover and remove it.
2. Loosen the nut with the spanner.
3. Tighten the bolt with spanner 27, bringing the belt closer to the drum, which holds the drum as the brake cylinder moves. Care must be taken not to over-tighten the screw (so that the belt does not grind or brake the drum when rotating freely). Also, when setting the proportional brake, care must be taken to observe the 'X' spacing according to the type of forestry winch.
4. The nut you loosened in step 2, now tighten it back to secure the set position.
5. Once you have set everything up as required, fit and screw back the front protective cover.

Figure 14:



TYPE OF FORESTRY WINCH	X
5 EHP	10,8 mm
6 EHP	11,8 mm
7 EHP - FEHP	13,5 mm
8 EHP	14,5 mm
9 EHP	16,5 mm
10 EHP	17,5 mm

6.3.2.1 Winch fault diagnostics - PROPORTIONAL BRAKE

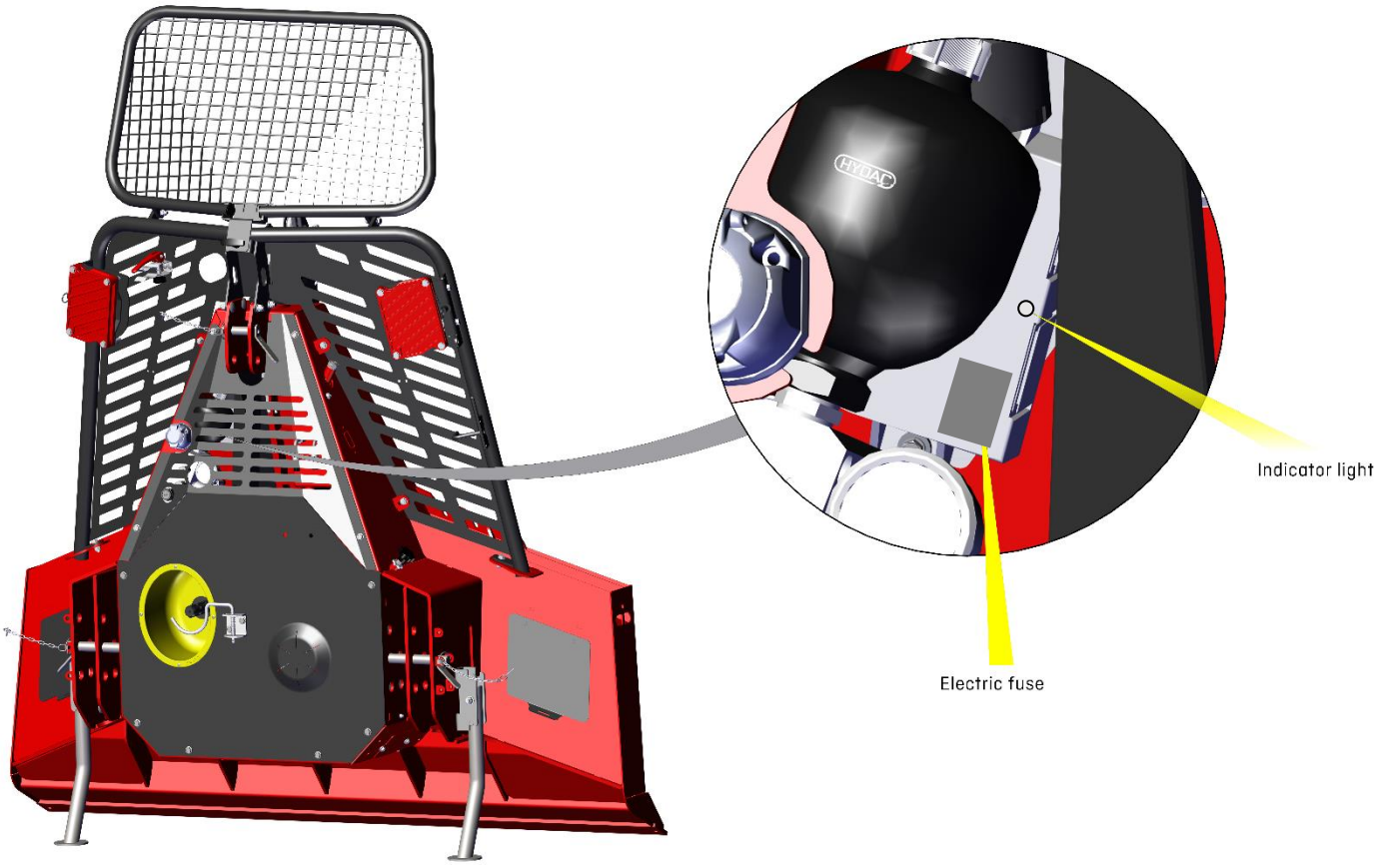
If you buy a forestry winch with proportional braking, there is an indicator light on the controller (Figure 15). To make it easier to check the condition, you can see the indicator light on the controller with the naked eye through the mesh on the front protective cover. In the event of a fault, it will flash. Different numbers of flashes of the indicator light indicate the type of fault that has occurred.

If the indicator light on the controller flashes rapidly (300 ms) in succession, it means that no fault has occurred and you can safely start or continue your work.

Type of fault, according to the number of flashes of the indicator light:

- **2x blink** - Electrical voltage value less than 9.5 V;
- **3x blink** - The control console for operating the forestry winch is switched off or no function on the remote control is activated or the STOP switch is activated;
- **4x blink** - You are outside the permissible PTO shaft speed in the winding function (Speed sensor on pump block min 170 rpm, max 540 rpm);
- **5x blink** - Improper drum rotation direction has occurred in the winding function (direction sensor on the drum);
- **6x blink** - The winding function has reached the limit switch of the upper pulley (cut-off sensor on the upper pulley);
- **7x blink** - In the winding function, the limit switch of the lower pulley has been reached (optional - in case you have a lower shut-off pulley on the forestry winch, the sensor is located on the lower shut-off pulley);
- **9x blink** - Improper direction of rotation of the drum has occurred in the winding function (direction sensor on the drum).

Figure 15:

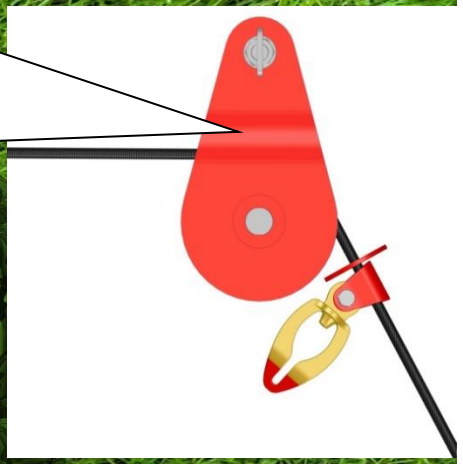


7. USE OF THE BOTTOM DIVERSION PULLEY

When pulling across the bottom pulley, the stop plate or the slider must never be pulled into the bottom pulley because it can damage the wire rope.

By using the diversion pulley, make sure that the disc diameter is suitable. When pulling, the stop plate or the slider must never be pulled into the pulley.

KEEP AWAY FROM THE DANGER ZONE!



When using the sliders be careful that wire rope is not pulled through the slider in a sharp bend.

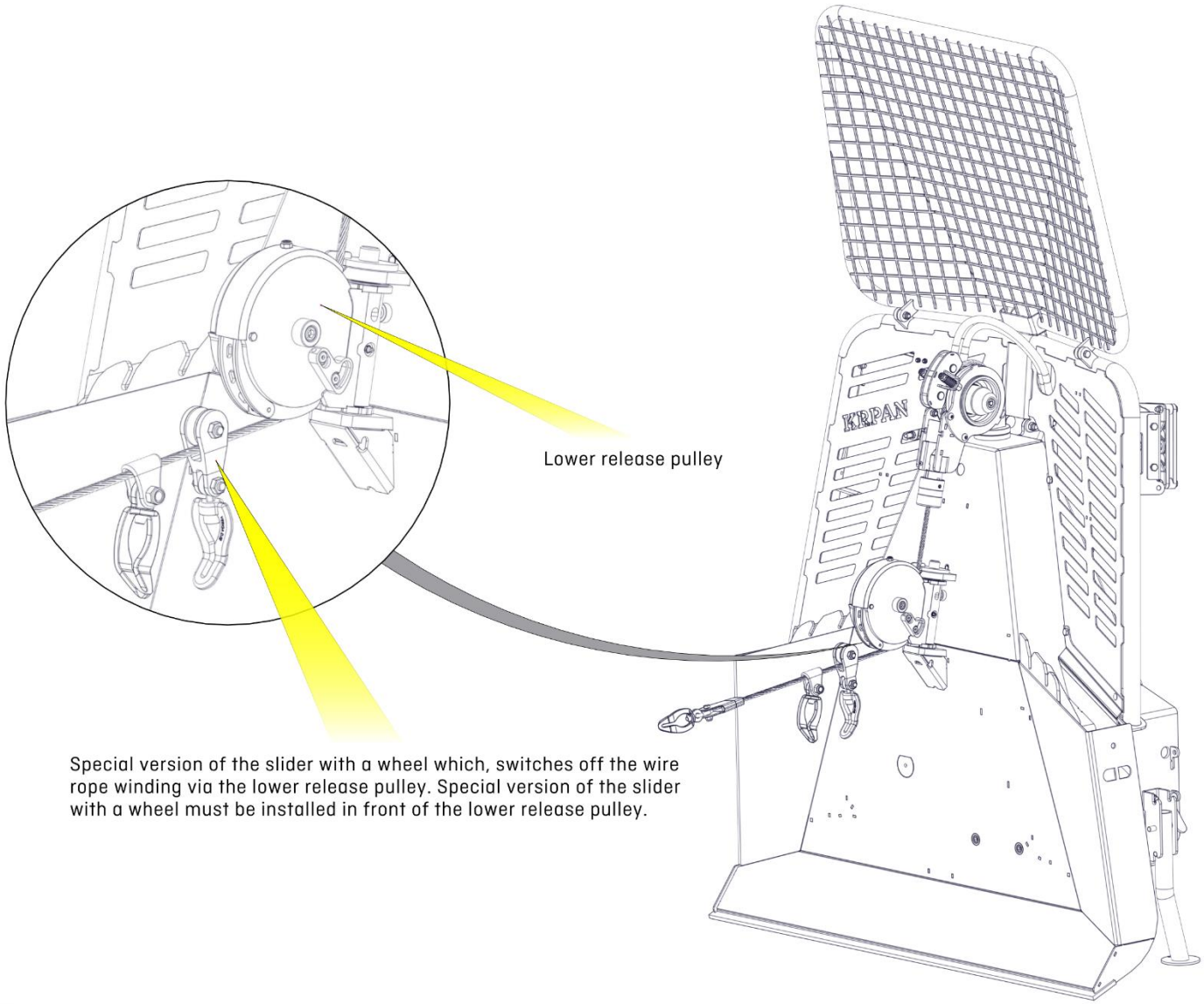
8. USING THE LOWER RELEASE PULLEY

The lower release pulley has the task of disconnecting the steel rope pull by means of a special design of the slider with a wheel.

In case the slider is not pre-mounted, it must be mounted before the release pulley as shown in Figure 16, otherwise (mounting the slider in the wrong place) the warranty will be nullified!

When using sliders, care must be taken not to pull the steel rope at an acute angle through the slider.

Figure 16:



The warranty will not apply if the incorrect slider is used!

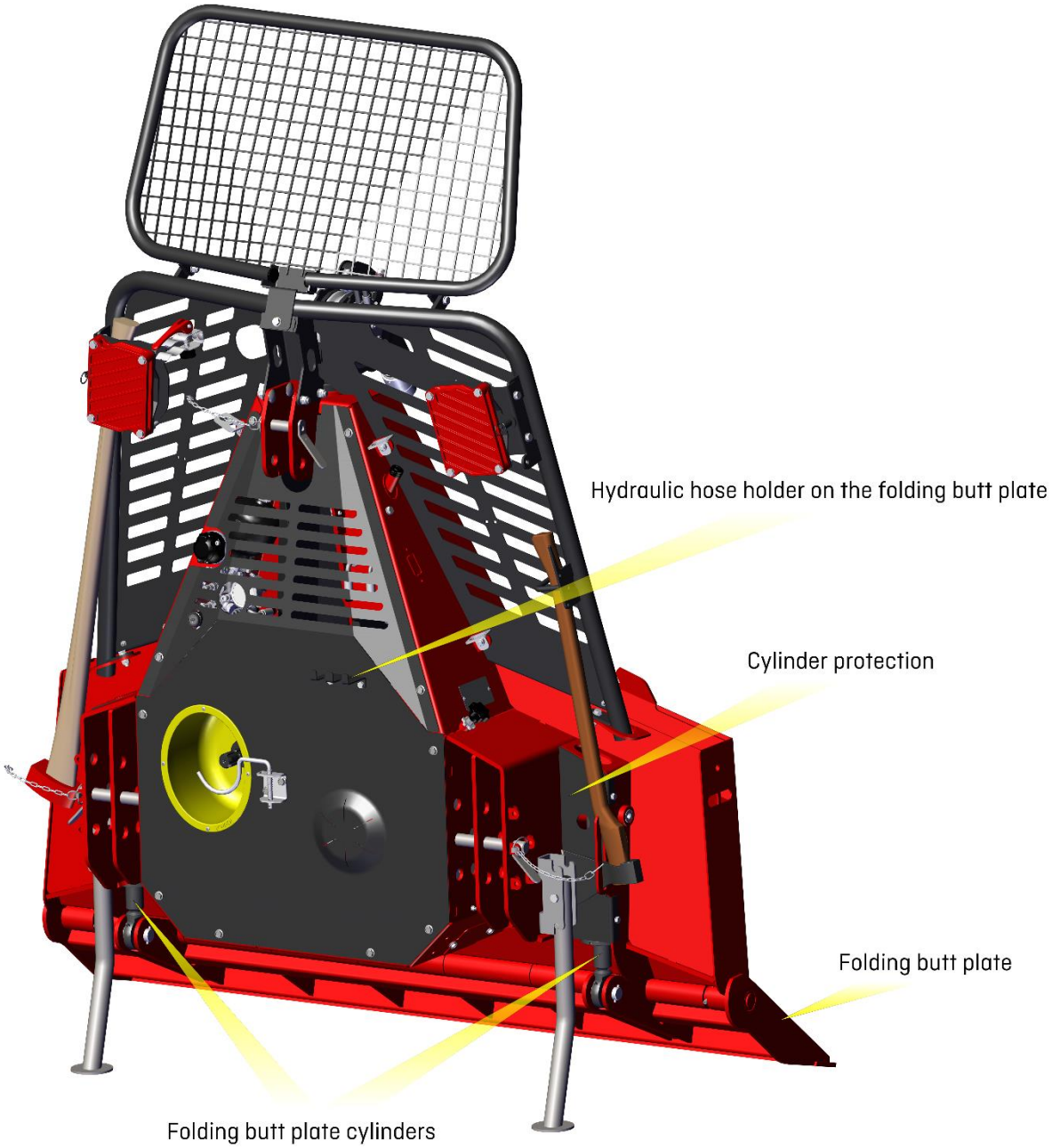
9. FOLDING BUTT PLATE

The folding butt plate is designed to facilitate the transport of logs, to make cornering easier, and to pass over higher obstacles, the latter being most pronounced on tractors with a lower lift of the lower hydraulic lift rods. The folding butt plate also helps with ramping, which is the main advantage of a winch with a folding butt plate.

To work with a folding butt plate, the tractor must be equipped with a two-way hydraulic valve. When the winch is connected, the hydraulic hoses must be connected too.

When transporting logs, the folding butt plate shall be raised to the upper position and the logs shall be leaned against it. When pulling the logs out of the forest, lower the butt plate to the lower position to secure the winch.

Figure 17:

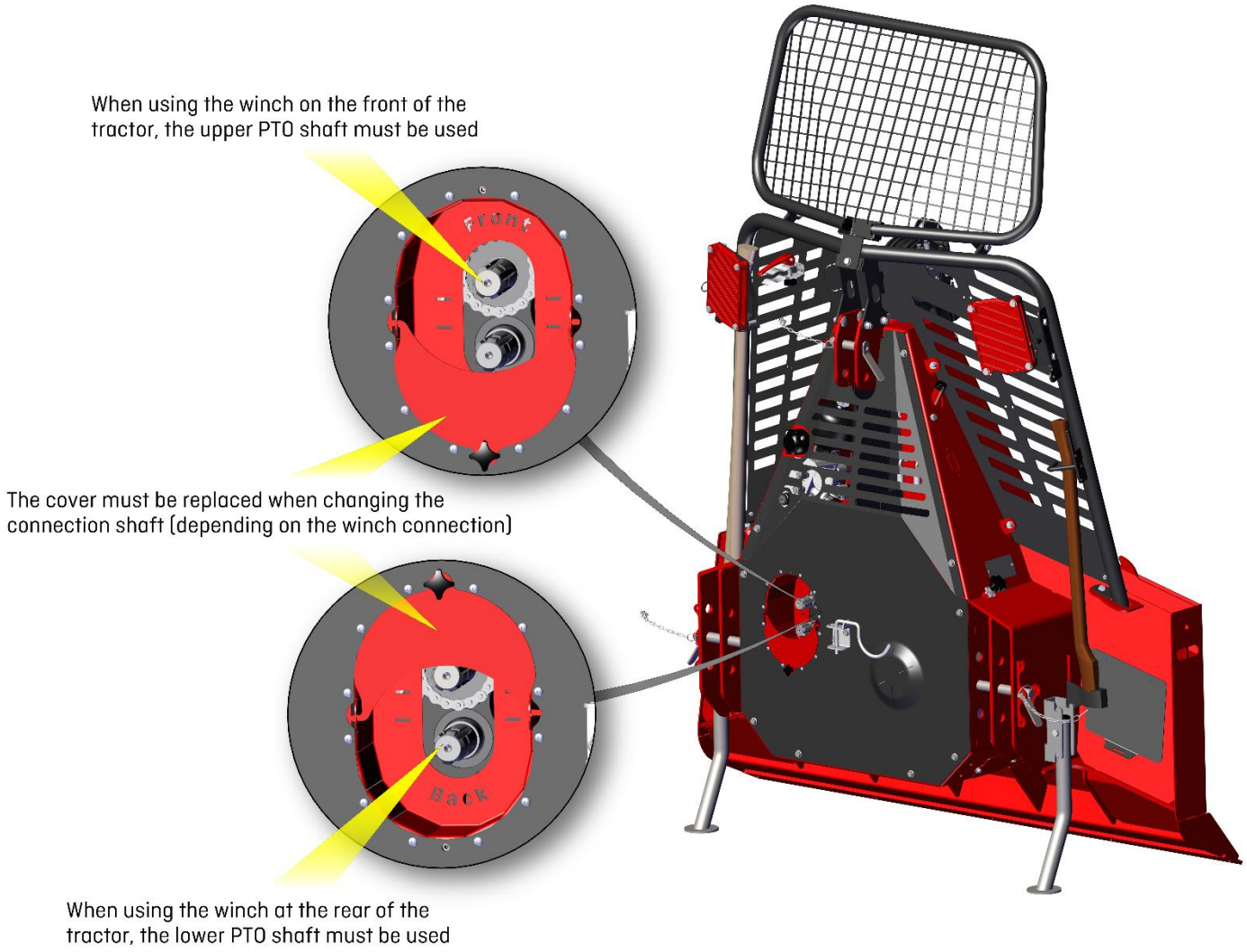


10. WINCH FEH/FEHP

The forestry winch **7 FEH/FEHP** is a combined winch for front or back hydraulic attachment, what enable better efficiency of the tractor. It is namely possible to connect back on the tractor the additional working connector, when the winch is connected in front. It is only important to use the correct PTO shaft on the reducer for the particular winch position (front or rear). When connecting the winch to the tractor at the front, use the upper PTO shaft where the standard speed is 1000 rpm and the direction of rotation of the PTO shaft is **RIGHT**. When mounting the winch on the tractor at the rear, the winch is connected to the lower PTO shaft, where the standard speed is 540 rpm and the direction of rotation of the PTO shaft is **LEFT**.

Recommended Tractor Power for forestry winch **FEH/FEHP** is **44-70 kW / 60-95 HP.**

Figure 18:



The right connecting shaft for the winch connection must be used!

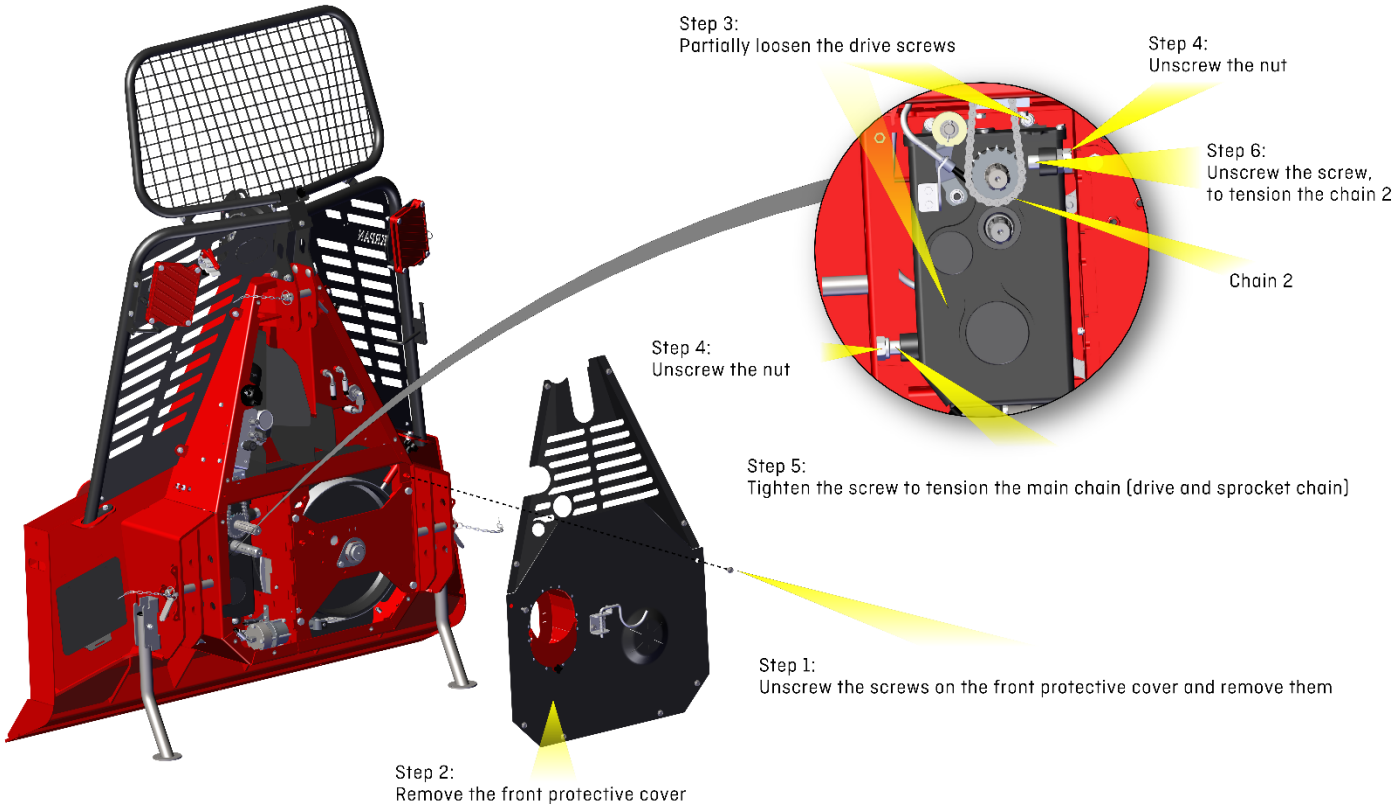
10.1 TENSIONING THE DRIVE CHAIN FEH/FEHP

When the forestry winch is operating under load, the drive chain is stretched slightly and needs to be checked and tensioned several times to prevent excessive wear on the entire chain drive. Ensure the correct tension of the chain – its slack must measure at least 1–3mm. Perform the first chain tensioning after approx. 2 working hours, then check the chain every 20 working hours thereafter.

Tension the chains as follows:

1. Unscrew the screws on the front protective cover.
2. Remove front protective cover.
3. Partially loosen the screws on the drive housing.
4. Unscrew the nut on the main chain tensioning bolt.
5. Start tensioning the main chain by tightening the screw while checking the chain tension. The chain is correctly tensioned when it allows minimum deflection. Tighten the lock nut back onto the bolt when you have finished tensioning.
6. Tension chain 2 with the bolt on the actuator. First unscrew the lock nut from the bolt, then unscrew the bolt to tension the chain. Once the chain is properly tensioned, tighten the lock nut back onto the bolt.
7. Once you have done the chain tensioning, tighten the bolts on the drive housing and then replace and tighten the front protective cover.

Figure 19:



Chains are consumables and are not covered by warranty!

10.2 CHECKING THE OIL IN THE GEARBOX – FEH/FEHP

The oil in the winch **7 FEH/FEHP** gearbox must be changed every 1,000 hours of operation or as needed (in case of oil leakage from the gearbox). It is recommended to change it in autumn. Waste oil must not pollute the environment, so collect it and take it to the nearest designated collection centre. There are 3 litres of oil in the gearbox. Gearbox oil is poured into the gearbox at the time of change **TYPE: ISO VG 320.**

Oil change procedure:

1. Loosen the screws on the front protective cover and then remove it to access the gearbox.
2. After removing the protective cover, partially loosen the drive screws.
3. Unscrew the lock nut on the screw, then loosen it to relieve the tension on the main chain to a minimum.
4. Unscrew the lock nut on the screw, tighten it to relieve the tension on chain 2 to the minimum, then remove the chain from the drive.
5. Unscrew the screw material of the gearbox completely so that it can then be removed from inside the winch.
6. Unscrew the oil filler plug on the top side and the drain plug on the bottom side of the gearbox to allow the oil to drain out of the gearbox.
7. Screw the drain plug back in then pour new oil into the gearbox.
8. The gearbox must contain 3 litres of oil. Gearbox oil must be used TYPE: ISO VG 320.
9. The oil level in the gearbox is checked via the oil fill plug with a window (lower notch for the minimum/higher notch for the maximum oil level).

Figure 20:

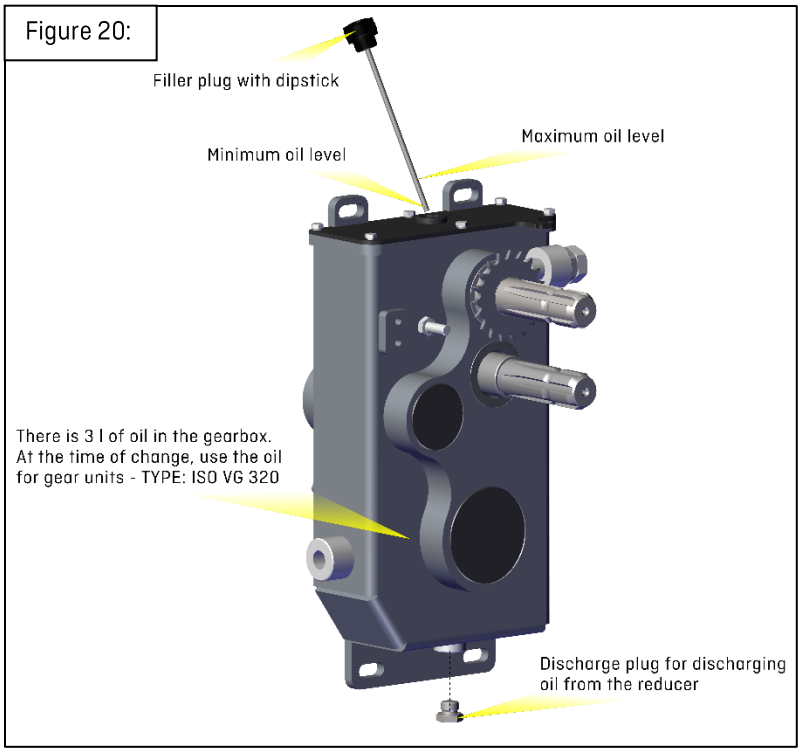
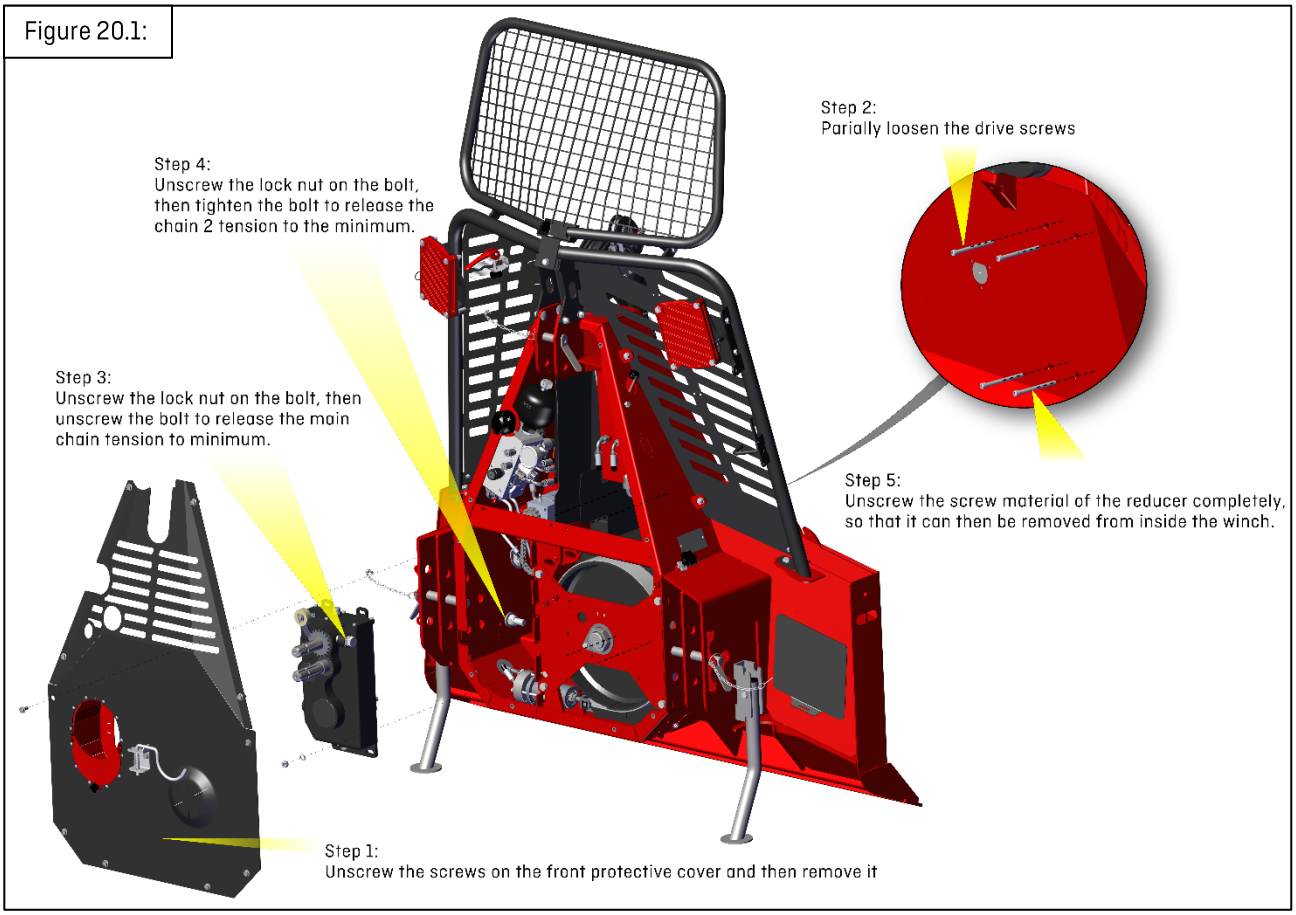


Figure 20.1:



11. MAINTENANCE

Before maintenance, turn off the tractor, remove the key from the ignition, and wait for the moving parts to become idle. IN CASE OF POSSIBLE WELDING ON THE FORESTRY WINCH, THE CONTROL CONSOLE MUST BE DISCONNECTED!

11.1 HYDRAULIC OIL INSPECTION (OIL TANK)

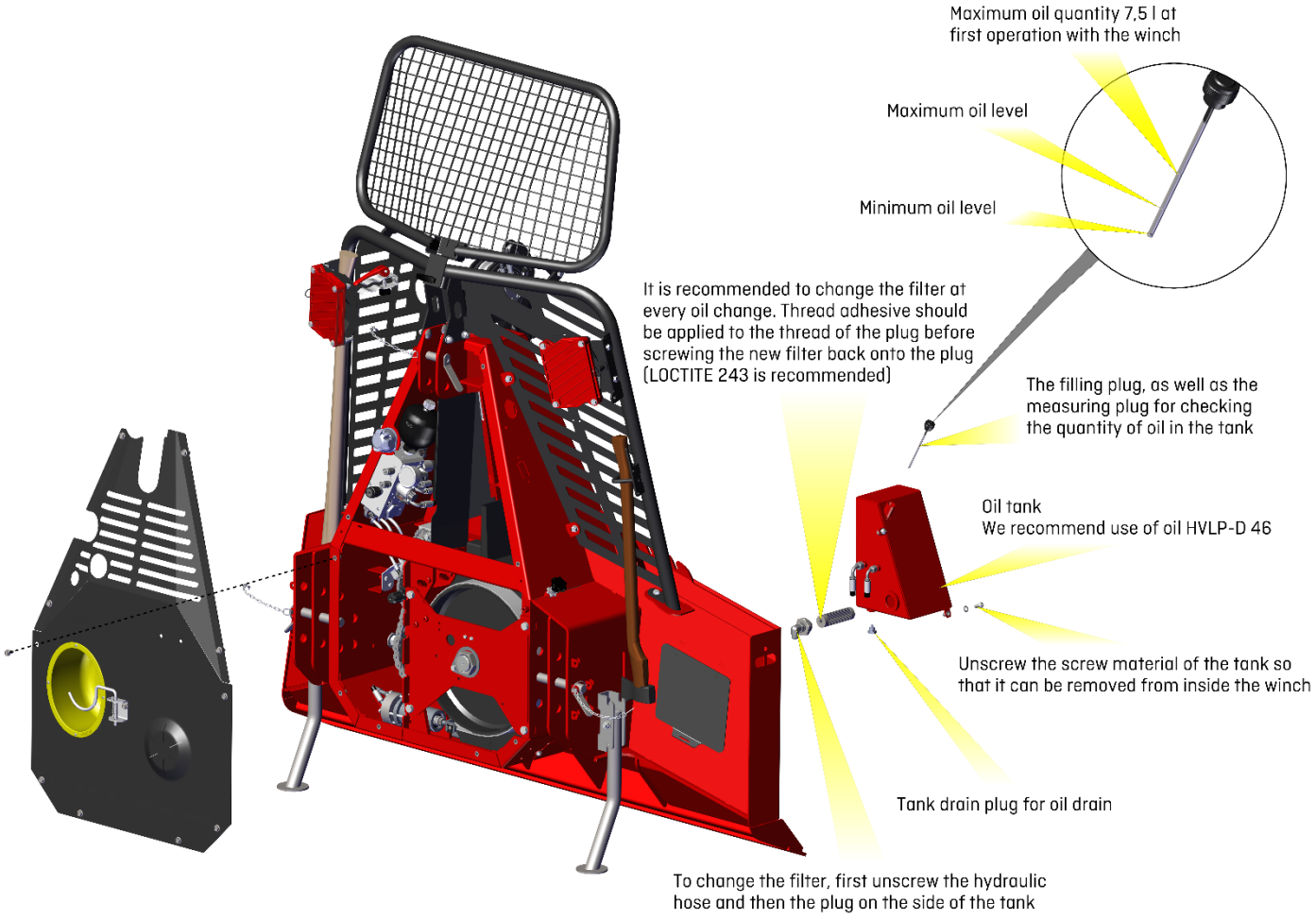
The level of oil in the tank must be controlled regularly – it must contain 7,5 litters of oil. We recommend you use of oil HVLP-D 46 or a similar product. The oil level is checked via the dipstick on the tank cover (figure 21).

You should replace the oil after the first 200 hours, then after 600 hours of operation; afterwards, the oil can be replaced every 1000 hours of operation or at least once a year - recommended in autumn (twice in case of professional use). When changing the oil, it is advisable to change or clean the oil filter. Thread adhesive must be applied to the thread of the plug (we recommend Loctite 243 or an adhesive with similar properties) before screwing the new filter onto the plug. Do not pollute the environment with waste oil, but collect it and take it to the nearest designated landfill.

Oil change procedure:

1. Unscrew the screws on the front protective cover and then remove it.
2. Unscrew the screw material of the tank so that it can be removed from inside the winch.
3. Once the tank is outside the winch, unscrew the drain plug at the bottom of the tank to drain the oil from the tank.
4. To change the filter, first unscrew the hydraulic hose and then the plug on the side of the tank.
5. Unscrew the filter from the plug and replace it (or clean it).
6. Apply the glue to the thread before fixing the filter to the drain cap. (Loctite 243 recommended).

Figure 21:



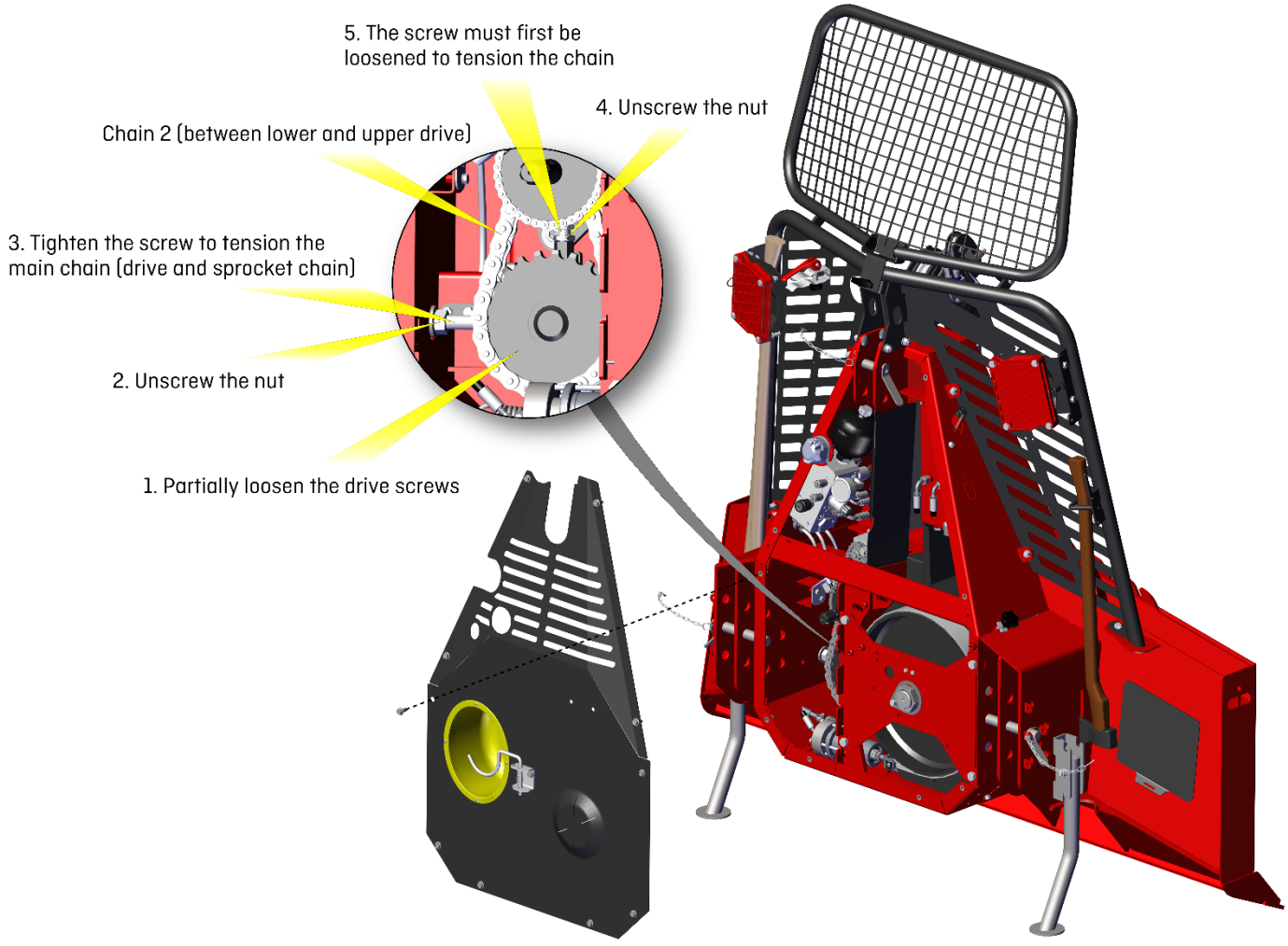
11.2 DRIVE CHAIN TENSIONING

The drive chain stretches during operation under loads – therefore, it needs to be controlled and readjusted regularly in order to prevent excessive wear of the flywheel. Ensure the correct tension of the chain – its slack must measure at least 1–3mm. For the first time, tension after approx. 2 operating hours, then control the chain's tension ever 20 operating hours.

Tensioning chains procedure:

1. First, loosen the screws on the front protective cover and then remove it.
2. Then partially loosen the screws on the drive housing.
3. Unscrew the nut.
4. Start by tensioning the main chain; start tightening the screw and checking the chain tension by hand. The chain must allow minimum oscillation.
5. After tensioning is complete, tighten the lock nut.
6. Chain 2 is tensioned with the screw on the drive. First unscrew the nut, then start unscrewing the screw to tension the chain.
7. Once the desired chain tension has been reached, tighten the nut on the tensioning bolt and the drive bolts.

Figure 22:

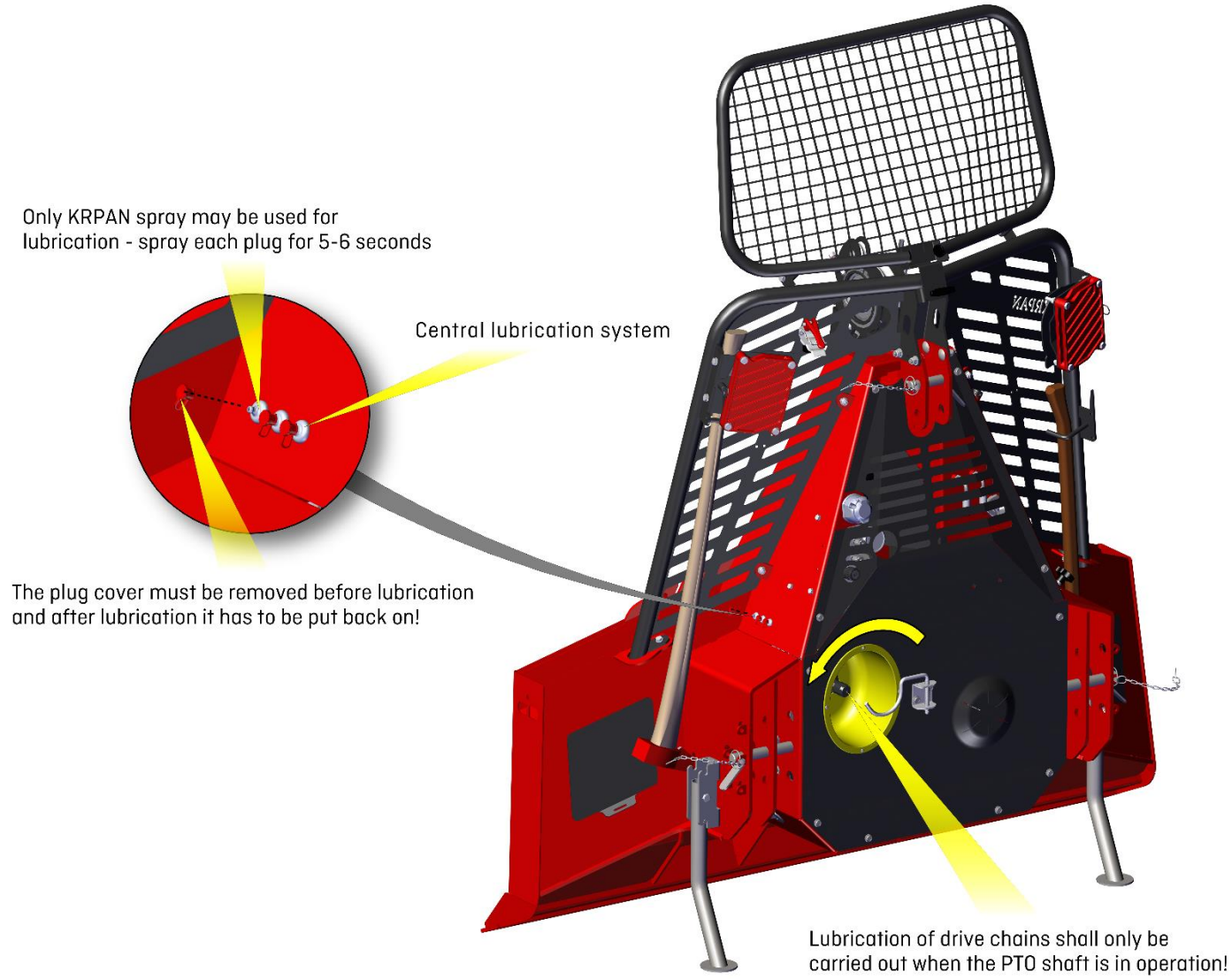


Drive chains are "wear and tear" material and are therefore not covered by our warranty.

11.3 DRIVE CHAIN MAINTENANCE

For heavy-duty users, it is recommended to lubricate the drive chains at least weekly or every 50 working hours. Lubrication shall be carried out with KRPAN chain lubricant spray via lubrication plugs. Before lubrication, the protective caps on the plugs must be removed. It is also advisable to check the tension of the chains. After lubrication, covers must be placed on the plugs to prevent dirt or foreign particles from entering the plugs.

Figure 23:



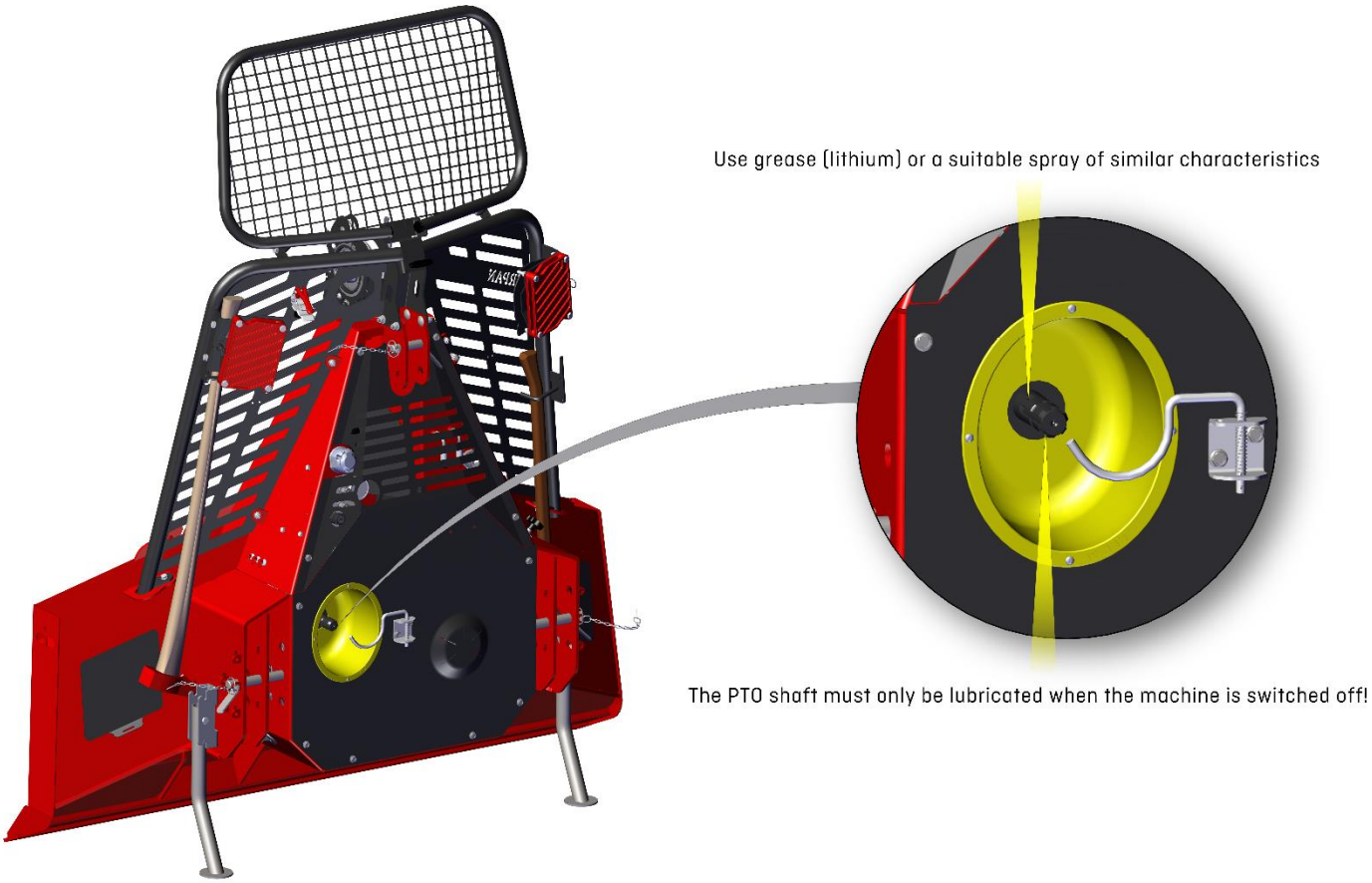
LUBRICATE DRIVE CHAIN ONLY WITH A KRPAN SPRAY AND WHEN THE PTO SHAFT IS IN OPERATION!

If you notice grease marks on the forestry winch, this may be due to excessive lubrication of the drive chains with spray!

11.4 LUBRICATING THE PTO SHAFT

If necessary, lubricate the PTO shaft, e.g. if there is a problem when coupling the PTO shaft to the machine (the PTO slides hard on the PTO shaft). Always lubricate when the machine is switched off, never lubricate the PTO shaft while the machine is running! We recommend using grease (lithium) or spray of similar characteristics for lubrication.

Figure 24:



Greasing the PTO shaft should only be done when the machine is switched off, under no circumstances grease the PTO shaft while the machine is in operation!

11.5 PTO SHAFT MAINTENANCE

A suitably powerful PTO shaft must be used to power the winch. We recommend the use of the WALTERSCHEID W2400E-SD25 catalogue number: 200000337, suitable for those kinds of winches or PTO shafts of other manufacturers with similar characteristics.

11.5.1 PTO Shaft Lubrication

- Grease type: lithium grease
- Consistency number: NLGI2
- Maximum amount of grease at the lubrication point: 15g = 5 strokes

Crosses (1) and protective bearings (2):

- Push the protective bearing backwards and lubricate the cross as well as the protective bearing. Return it to the initial position.

Hoses (3):

- Extend the PTO shaft. Remove the guard from the half with the inner hose and lubricate the inner hose.

Figure 25:

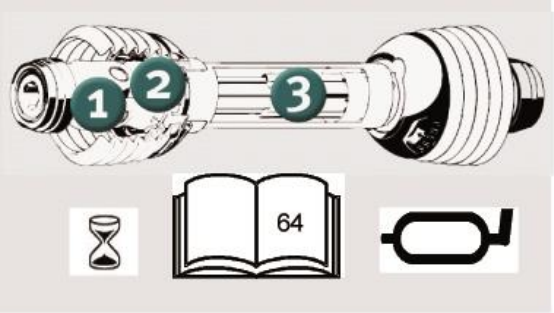
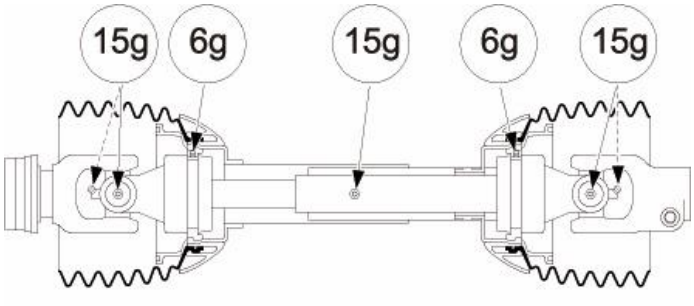


Figure 26:

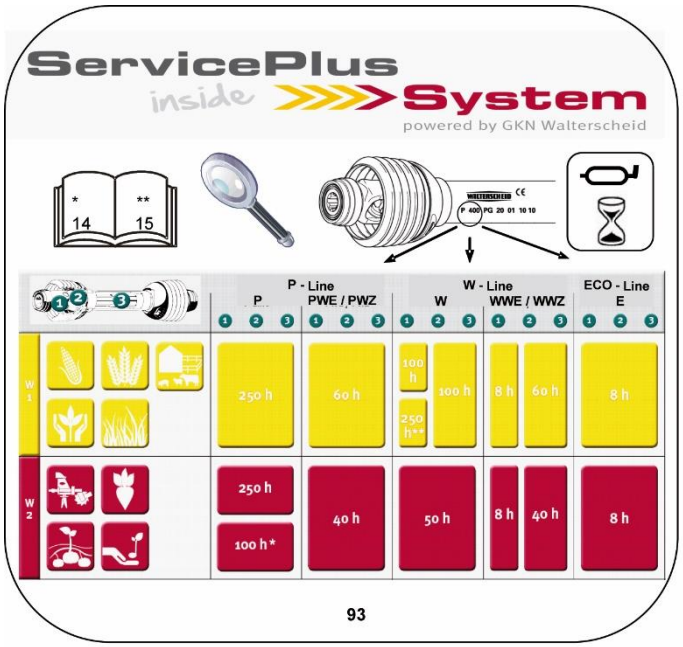


11.5.2 Lubrication Interval

- With consistent care and maintenance, the reliability and service life of the PTO shaft are improved.
- Do not use the PTO shaft without the guard or with a damaged guard, or with an improperly installed torque chain (if applicable).
- Before commencing work, make sure that all protective elements are installed and functioning properly.
- Damaged or missing parts can only be replaced with original parts.
- Do not alter the PTO shaft. Only modifications described in the manual are acceptable.
- Please make certain the cross and PTO shafts are greased regularly; incorrect greasing can damage them and, consequently, damage the winch drive. The protective pipes and funnels must also function without fault.

The PTO shaft is greased according to the manufacturer's instructions (Figure 27).

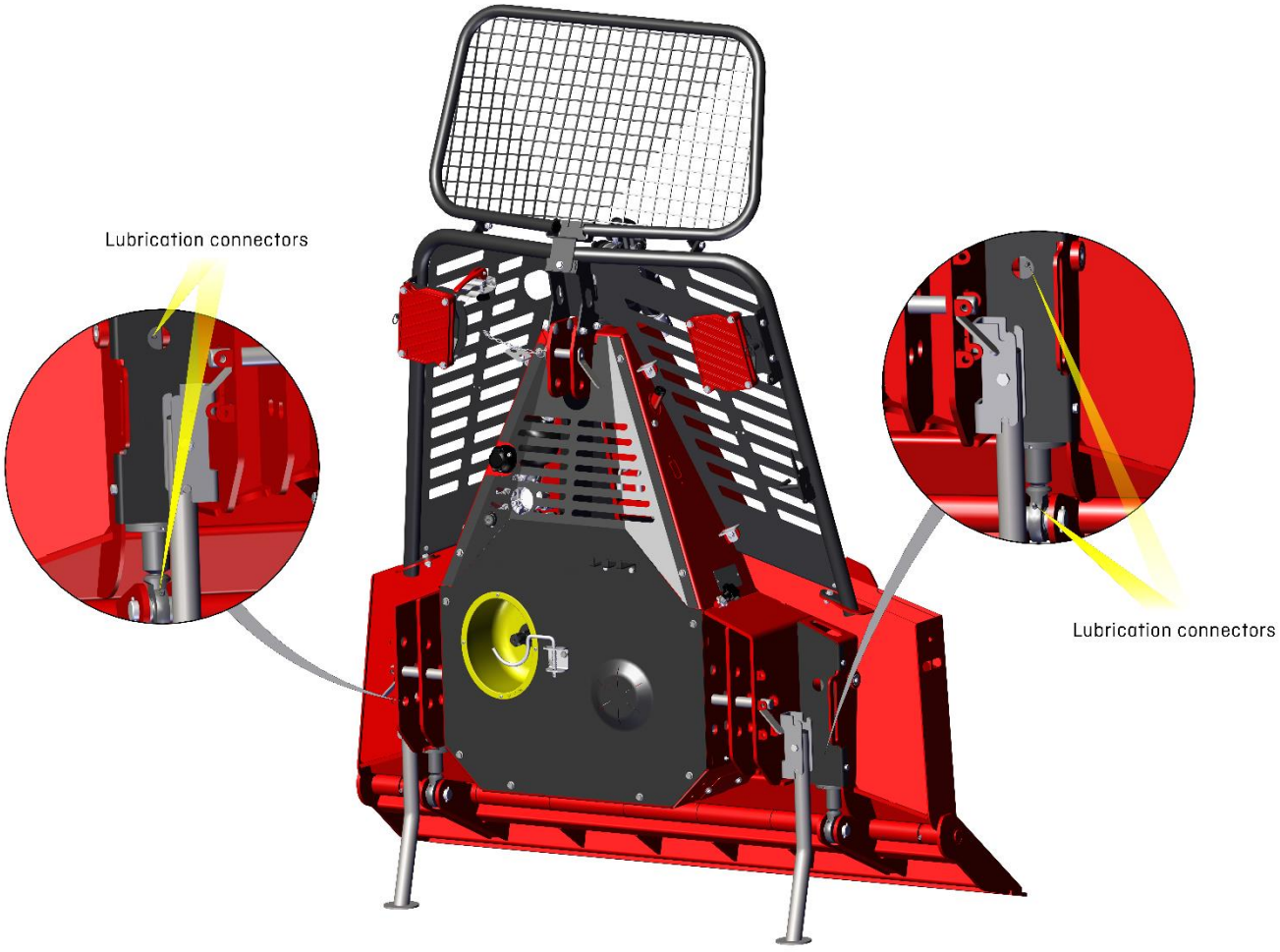
Figure 27:



11.6 LUBRICATING THE FOLDING BUTT PLATE CYLINDER

In a folding butt plate winch, a cylinder is used to move the board. The moving parts must be lubricated once a week via the lubrication connector (4x).

Figure 28:



11.7 MAINTENANCE PLAN

A visual check and operation test of the winch must be performed before commencing the work.
This way, you check:

- whether all nuts and bolts are tightened,
- the winch for mechanical damage,
- if all winch connection pin guards are installed,
- if the PTO shaft is properly mounted and the PTO shaft guard chain is attached,
- if the bottom tractor levers are fixed properly in order to prevent horizontal movement of the winch,
- proper clutch operation,
- the correct adjustment of the rope pulling force.

All irregularities must be remedied before commencing work!

WHAT TO DO?		WHEN?	HOW? USING WHAT?
Unspool the rope to the last 3 windings and firmly spool it under load onto the drum		With a new winch or when the rope is loose.	Visually
Check the rope for damages and proper attachment.			
Chain control and tensioning		Tension drive chains after first 2 hours of operation, then every 20 operating hours.	See chapter »Drive Chain Tensioning«
Clutch replacement		If necessary	🛠
Band brake replacement		When the brake force cannot be set anymore	🛠
Lubrication	**Drive chain**	Every 20 hours of operation	Grease (lithium)
	Upper and bottom pulley bearing	At least once a week	
	Seat of the upper pulley on top of the winch		
	Folding butt plate cylinders		

🛠 **Complicated winch repairs must be performed by an expert (authorized service).**

REGULAR AND METICULOUS MAINTENANCE IS OF KEY IMPORTANCE FOR THE FLAWLESS OPERATION AND A LONG SERVICE LIFE!

12. CONSEQUENCES OF IMPROPER FORESTRY WINCH USE

Following damage could occur:

- damaged clutch,
- damaged band brake,
- damaged braking mechanism,
- torn link chain,
- broken pulley or pulley pivot,
- damaged PTO shaft housing,
- damaged freewheel,
- damaged housing or disorted frame,
- torn wire rope,
- disorted drum axis etc.

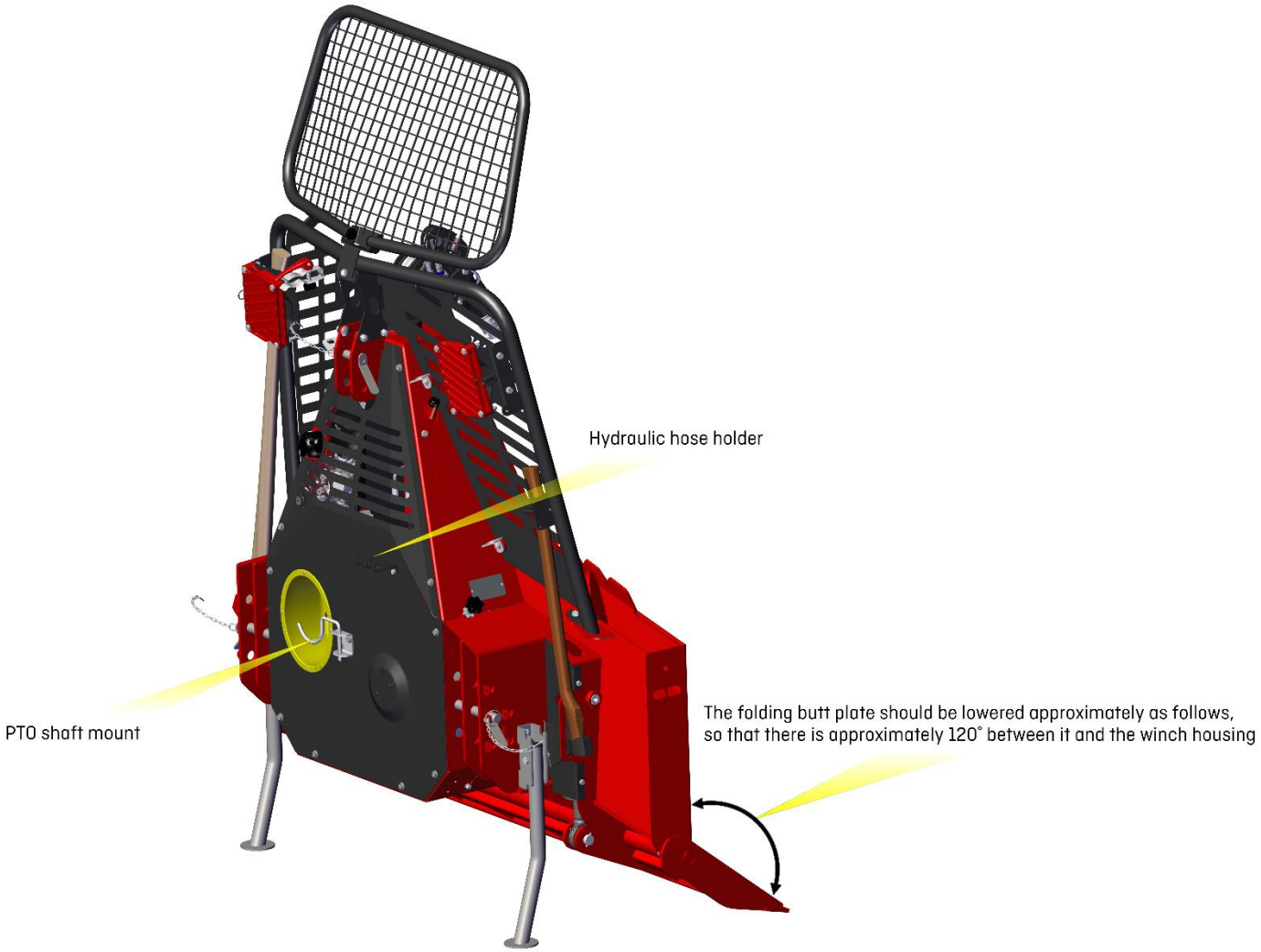
13. UNCOUPLING FROM THE TRACTOR

The winch must be properly disconnected and stored when the work is finished. Before disconnecting it, the winch must be cleaned and prepared for use again.

Proceed in the reverse order of attachment (Section 5.3). First, unscrew the lower connecting rods, then tilt the winch forward again by 20 degrees. Unfold the support legs of the winch and disconnect it from the three-point coupling. The PTO shaft also needs to be disconnected and secured with a shackle or stored at a separate place (for storing PTO shafts).

In the case of a winch with a folding butt plate, the butt plate must first be placed in the correct position before unhooking, so that there is about 90° between it and the housing (depending on the ground on which you place the winch), so that the winch is stable and in balance when unhooked. You can then proceed to disconnecting the winch (Figure 29). Finally, manually check the stability of the winch.

Figure 29:



When unhooking the winch, lower the butt plate to keep the winch stable and in balance! Remember to disconnect the hydraulic hoses on the folding butt plate!

14. ELIMINATING MACHINE JAMS

When working on the machine (chain change, chain tensioning, regular cleaning of the machine, etc.), always follow the following steps:

- **SWITCH OFF THE MACHINE!**
- disconnect the PTO from the tractor,
- wait for the machine to cool down to avoid burning yourself on hot parts of the machine,
- once you are sure that the machine has cooled down sufficiently, you can start working,
- when the task is finished, assemble the machine into its original and safe working condition,
- you can then switch the machine back on and continue working,
- if you have any problems, please contact our customer service.

Before any kind of work the machine must be switched off and the (PTO) drive disconnected.

Any tampering with the machine during operation is not permitted!!!

In case of possible welding on the forestry winch, the control console must be disconnected!

15. WHAT IF ...

PROBLEM	LIKELY CAUSES	MEASURES
Winch remains unresponsive when the switch is turned on or a button is pressed on the control box (or on the radio remote control). 🛠	Insufficient oil pressure in hydraulic system.	Check whether winch drive is on (PTO shaft must be activated or pump will not engage), check quantity of oil in tank.
	No power in the system.	Check whether electric connector on the tractor is connected, whether parking lights on the tractor are on (check the battery); check and clean any oxidised contacts if necessary; use contact cleaner.
	No function in control valve.	If there is no electricity, previously described faults must be eliminated. If control valve is only temporarily blocked, it can be unblocked by simultaneously pressing push button controls and magnet push plugs located in the middle of the front panels of the solenoids.
	Drive chain torn (short or long)	Replace torn drive chain. **
	Pump drive chain off or torn.	Reassemble or replace drive chain (check sprocket for consistency); check PTO shaft for clearance **
	End switch on wire rope is guide damaged.	Repair or replace end switch (spray pin at the end with contact cleaner).
Winch pulls insufficiently. 🛠	Too much wire rope on the drum.	Check maximum length of rope on the drum.
	Greasy clutch plates (inappropriate drive chain lubrication).	Replace clutches. ** 🛠
	Worn clutch plates.	
	Winch drive damaged.	Replace damaged parts.
	Pressure in the system too low.	Consult after-sales service.
	Clutch set incorrectly.	Set clutch according to producer's instruction.
	Clutch lining damaged.	Replace clutch linings. ** 🛠
	Clutch lining burnt.	
	Clutch cylinder leaking.	Replace flange or complete cylinder.
Oil pressure under minimum level. 🛠	Oil shortage in tank.	Check oil level in tank, check for possible leaking and seal.
Oil pressure too low.	Pump malfunction.	Consult after-sales service; replace pump.
	Pressure relief valve set incorrectly.	Reset pressure relief valve.

** Consumables

🛠 **Complicated winch repairs must be performed by an expert (authorized service).**

PROBLEM	LIKELY CAUSES	MEASURES
Rapid decrease in pressure when winch is not operating.	Non-return valve malfunction.	Consult after-sales service; replace damaged parts.
	Control valve malfunction.	
	Pressure accumulator damaged.	
Inadequate braking force. 🛠	Brake set incorrectly.	Reset braking force.
	Brake lining greasy.	Replace brake band. **
	Brake mechanism damaged.	Replace damaged parts.
	Brake worn out.	Replace brake band. **
Wire rope difficult to pull out.	Rope release force incorrectly set.	Reset rope release force.
	Wire rope damaged.	Replace wire rope. **
	Brake band damaged.	Replace brake band. **🛠
	Dirt within winch frame.	Unwind wire rope and clean the winch.
Winch pulling despite disengaged clutch. 🛠	Clutch cylinder stroke set incorrectly.	Reset clutch cylinder stroke.
	Drum damaged.	Replace drum.
	Clutch plates damaged.	Replace clutch plates. **🛠
No function of hydraulic pulley.	Pressure level in hydraulic system too low.	Consult after-sales service.
	No force in hydraulic motor.	Replace hydraulic motor.
	Brake set incorrectly.	Reset brake.
	Pushing discs worn out.	Replace pushing discs.
	Wire rope unwinding speed valve malfunction.	Check valve for not being completely closed; replace damaged valve.

** Consumables

🛠 Complicated winch repairs must be performed by an expert (authorized service).

An operation and safety test have been performed on the winch. To guarantee faultless and safe operation, only original spare parts must be used in case of malfunction.

All warranty claims are made invalid if non-original spare parts are used or if repairs are carried out by unqualified or unauthorized personnel.

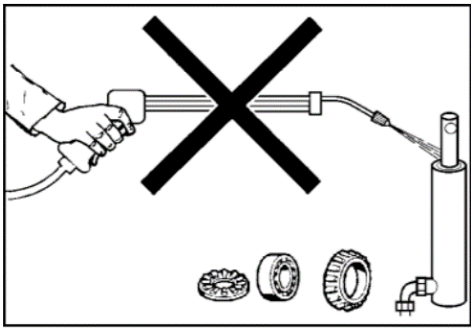
16. CLEANING

SWITCH OFF THE MACHINE FIRST!!!

Before any cleaning, disconnect the machine from electric supply or tractor drive. Do not use any aggressive cleaners that could damage the seals or the paint. If you use high pressure or steam, be careful about the pressure setting and the cleaning distance to prevent paint damage and consequently corrosion.

Never use high pressure or steam to clean bearings and hydraulic parts!

Figure 30: **Incorrect cleaning**



Check the machine after each cleaning!

After each cleaning it is easier to spot any damage, scratches or similar. If you spot any damages, fix them immediately to prevent more damages of the machine or operator injuries. After each cleaning, lubricate the machine where necessary and remove the water remains.

If there is a paint damage, fix it and protect the surface against corrosion.

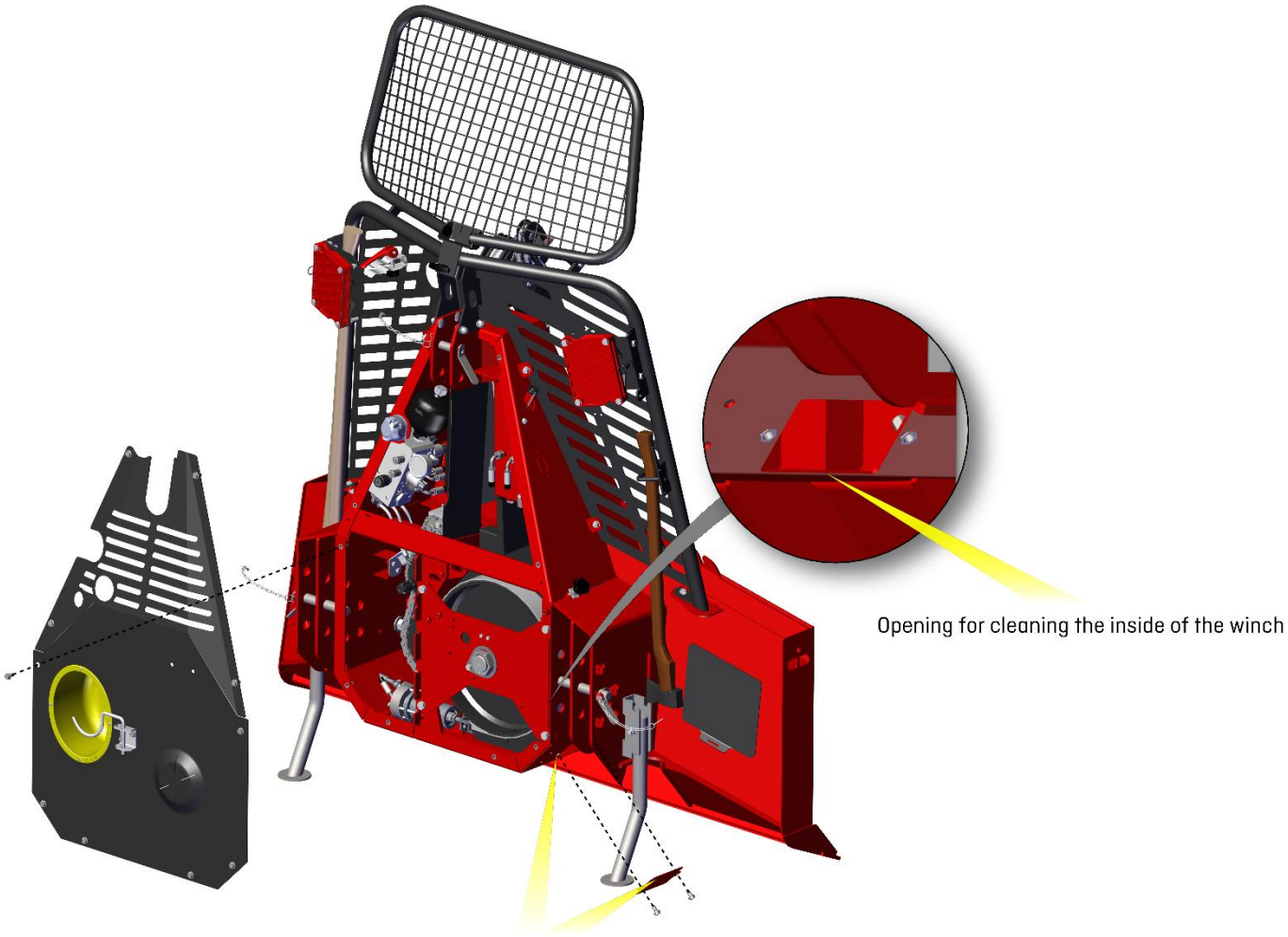
It is not allowed to clean the machine when the machine is connected to the power source! Before conducting work in close proximity of the machine, the machine must be switched off!

Only regular maintenance or cleaning is a condition for claiming the warranty!

16.1 CLEANING THE INSIDE OF THE WINCH

To clean the inside of the winch (woodchips, mud), the machine must first be stopped and allowed to cool down to avoid burns or other damage. First, remove the front protective cover, then the box cover. Use the rake to remove foreign particles from inside the winch itself. After cleaning, the crate lid and the front protective cover must be replaced to prevent damage to the winch.

Figure 31:



To clean foreign particles from the winch, first remove the lid on the bottom of the box

17. TRANSPORT OF THE MACHINE

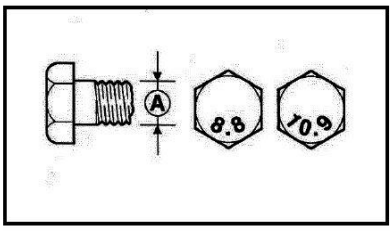
The winch can be transported at the lifting point by crane or forklift, by using the authorised lifting equipment.

Figure 32:

The machine must only be transported when the winch is in the transport position and the bolt is secured with a pin!

18. MAXIMUM TIGHTENING TORQUE OF BOLTS AND NUTS ACCORDING TO STRENGTH CLASS

A = thread size



Dimension x thread size A (Ø)	Tightening Torque of Bolts Ma (Nm)				
	4.6	5.6	8.8	10.9	12.9
M4 x 0,7	1,02	1,37	3,0	4,4	5,1
M5 x 0,8	2,0	2,7	5,9	8,7	10
M6 x 1,0	3,5	4,6	10	15	18
M8 x 1,0	/	/	27	40	47
M8 x 1,25	8,4	11	25	36	43
M10 x 1,25	/	/	54	79	93
M10 x 1,5	17	22	49	72	84
M12 x 1,25	/	/	96	140	165
M12 x 1,5	/	/	92	140	165
M12 x 1,75	29	39	85	125	145
M14 x 1,5	/	/	150	220	260
M14 x 2,0	46	62	135	200	235
M16 x 1,5	/	/	230	340	390
M16 x 2,0	71	95	210	310	365
M18 x 1,5	/	/	350	490	580
M18 x 2,5	97	130	300	430	500
M20 x 1,5	/	/	480	690	800
M20 x 2,5	138	184	425	610	710
M22 x 1,5	/	/	640	920	1070
M22 x 2,5	186	250	580	830	970
M24 x 2	/	/	810	1160	1350
M24 x 3,0	235	315	730	1050	1220
M27 x 2	/	/	1190	1700	2000
M27 x 3,0	350	470	1100	1550	1800
M30 x 2	/	/	1610	2300	2690
M30 x 3,5	475	635	1450	2100	2450
M33 x 3,5	645	865	2000	2800	3400
M36 x 4,0	1080	1440	2600	3700	4300
M39 x 4,0	1330	1780	3400	4800	5600

19. WARRANTY

The warranty is valid only in case when all regular service and maintenance work has been executed on the machine by the authorized KRPAN service, in foreseen period and after foreseen hours of operation, in compliance with the instruction's manual. The list of our authorized dealers can be found on our website https://www.vitli-krpan.com/en

The warranty is valid for 36 months from the sale date or date of the delivery of the goods to the consumer, with the exceptions stated below.

Exceptions to 36 months warranty period that are covered within 24-month period:

- hydraulic parts: hydraulic motors, pumps, tubes and hoses, seals, control valves, oil cooler, hydraulic drive, rotator, low-pressure and mechanical controls,
- electric components: sensors, relays, electric cables, fans, switches, joystick, lights, radio remote controls, controllers,
- bearings,
- rubber belts,

In case the machine has been lent out, the warranty period is limited to 24 months.

The claims will be rejected for the damage caused by:

- negligence,
- any foreign object inside or on the machine
- non-observing of service intervals or repairs by unauthorized service personnel,
- overheating or freezing.

The warranty does not cover deficiencies, damages or defects caused by unprofessional or false handling, and upgrades, modifications, and interventions to the machine that have not been carried out and recorded by PIŠEK - Vitli KRPAN or an authorised repairer. Such interventions will void the warranty on the machine.

In addition, the warranty is not valid for consumable parts and materials, such as: clutch, brake linings, oil, lubricators, filters, chains, sawbar, belts, sawblades, other blades.

CE-DECLARATION OF CONFORMITY

(type)

In accordance with the provisions of Directive 2006/42/EG

Manufacturer

PIŠEK-Vitli KRPAN® d. o. o.
Manufacturing of agricultural and forestry machinery
Jazbina 9/a
SI-3240 Šmarje pri Jelšah

we declare with full responsibility, that we are responsible for the compiling the technical file (made according to the Item A, Annex VII of the Machinery Directive) and that

SINGLE-DRUM ELECTRO HYDRAULIC FORESTRY WINCH

machine designation

KRPAN® 5 EH/EHP, KRPAN® 6 EH/EHP, KRPAN® 7 EH/EHP, KRPAN® 7 FEH/FEHP, KRPAN® 8 EH/EHP, KRPAN® 9 EH/EHP, KRPAN® 10 EH/EHP

type
(the serial number, production year and other technical data are imprinted on the plate)

it is made in accordance with the requirements of the following regulations:

Directives	Standards
Machinery Directive 2006/42/EC	SIST EN ISO 12100:2011 SIST EN 609-1:2017 SIST EN 60204-1:2018 SIST EN ISO 13857:2020 SIST EN ISO 4413:2011

The person responsible for drawing up the technical documentation and the Declaration of conformity is the undersigned director Franc Pišek.

Date: 11.11.2024

Manufacturer:

PIŠEK-Vitli **KRPAN®** d. o. o.
Manufacturing of agricultural and forestry machinery
Jazbina 9a. SI-3240 Šmarje pri Jelšah

Stamp and signature of the authorized person:
Director Franc Pišek

KRPAN®
PIŠEK - Vitli KRPAN d. o. o.
Jazbina 9a, 3240 Šmarje pri Jelšah

WARRANTY CARD

PIŠEK – Vitli KRPAN® d. o. o.
Manufacturing of agricultural and forestry machinery

Jazbina 9/a, SI 3240 Šmarje pri Jelšah
tel.:00386(0)3819-00-90 fax. : 00386(0) 819-00-92
www.vitli-krpan.com

SINGLE-DRUM ELECTRO HYDRAULIC FORESTRY WINCH

Name and surname of the customer:	Serial number:
Place:	Year of production:
Postcode and post:	Sale date:
Name and surname of the seller (capital letters):	Stamp of the seller:
Signature of the seller:	

WARRANTY PERIOD = 36 MONTHS*

* See Chapter Warranty for exceptions.

WARRANTY STATEMENT

- The warranty period is valid for 36 months from the sale date or date of the delivery of the goods to the consumer.
- The purchase date is the date on the invoice issued on the receipt of the machine by the vendor or the manufacturer.
- The manufacturer guarantees the properties or the flawless operation within the warranty period which starts upon the delivery of the goods to the consumer. It is compulsory to work in compliance with the enclosed instructions for use.
- The warranty includes the repair or complimentary replacement of factory defective parts during the warranty period.
- After the warranty period expires, we provide servicing, replacement of spare parts and transportation for another seven (7) years. The producer is the authorized service provider at the same time.
- The warranty does not exclude consumer rights arising from the liability of the retailer for faults on goods.
- The machine's expected life time is 7 years from the date of the expiry of the warranty period. Within this period, we guarantee to provide servicing and spare parts.
- We guarantee that any faults or defects in the goods will be remedied within 45 days from the day of the claim for remedying the fault. Otherwise, we will replace the goods with a new one at the customer's request. We undertake to extend the warranty period for the time taken for servicing.
- **Warranty card is valid only with the invoice!**

WARRANTY TERMS AND CONDITIONS

- If the damage to the machine or the material used cannot be clearly attributed to a factory fault, the manufacturer has to inspect the product in order to determine the validity of the warranty.
- If the damage to the machine or the material used cannot be clearly attributed to a factory fault, the manufacturer has to inspect the product in order to determine the validity of the warranty.
- The machine or faulty part transport costs are covered by the customer.
- The warranty does not cover damage caused by unauthorized persons or objects due to unprofessional handling, negligence, carelessness or non–observation of the operating manual provided by the supplier.
- The warranty does not cover damage incurred during the transport or damage resulting from abnormal operation or usage of the machine.
- Parts that are damaged due to excessive wear are not covered by the warranty.
- The warranty becomes void if the machine is repaired or damaged by unauthorized service personnel.
- After the completion of the loss event the replacement of the machine or an extension of the warranty period is excluded.
- If a repair is necessary, submit the warranty card and the original copy of the invoice to the authorized personnel. If the machine or its parts are sent for repair, enclose the aforementioned documents.
- **Without the written approval of the manufacturer no one is authorized to alter the data on the warranty card or give any oral or written approvals. No direct or indirect compensation for persons or objects will be given for damage resulting from the machine being out of operation.**

NOTES: