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OPERATING INSTRUCTIONS

LOGGING WINCH

EGV 35 A

CE

Please read operating instructions carefully before installing and using the logging winch.

1 GENERAL

Dear Customer,

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

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

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1.2 APPLICATION

Logging winch is intended for the agriculture use, especially for pulling the wood. The winch is constructed as a three point connecting piece of the suitable driving machinery (**not stronger than 40 kW**).

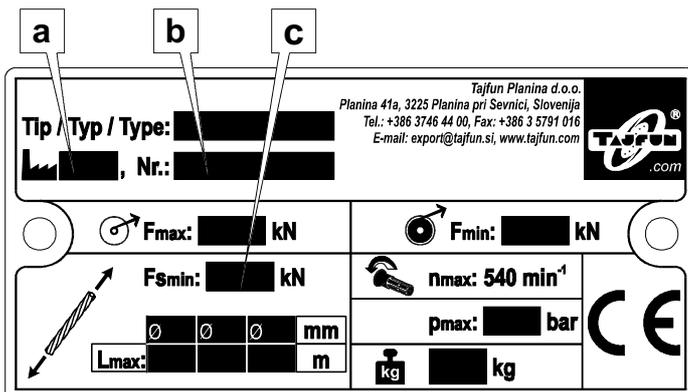
The winch may be used for pulling loads on the ground, only.

This operating instructions also describe proper use and maintenance of the winch. Any other application of the machine is considered as unintended use and the manufacturer Tajfun does not take any responsibility for eventual damages caused by such application.

1.3 TECHNICAL DATA

Nominal Pulling Power (max)	35 kN
Pulling Power at a Full Drum	18.7 kN
Brake Power	44 kN
Pulling Speed (at 540 rpm — PTO shaft)	(0.63 - 1.19) m/s
Gear Ratio	1 : 7.5
Required Drive Power	25 – 40 kW
Wire Rope Length - Drum Capacity	Ø9/76 m, Ø10/59 m, Ø12/39 m
Wire Rope Min. Brake Point (F_{Smin})	70 kN
Width	1,220 mm
Length	489 mm
Height without protective net	1,195 mm
Height with protective net	2,000 mm
Transport Height	1,266 mm
Max. Operating Noise	70 dB (A)
Weight	240 kg

1.4 TYPE PLATE



a	Year of Manufacture
b	Serial Number
c	Wire Rope Min. Break Point

2. SAFETY INSTRUCTIONS

Operating the winch is demanding and dangerous, therefore an absolute concentration and caution are essential. For effective and safe operation, please observe the following guidelines:

- **Take safety precautions! Observe all safety guidelines and carefully read the operating instructions.**
- **Winch operation and maintenance is allowed to qualified persons older than 18 years of age, only!**
- **Use personal protective equipment (helmet, gloves, forestry boots).**
- **Never work alone in the forest! If unavoidable, use radio communication device.**
- **Check the operation of the winch prior to any use, at least once every working day. Any deficiency should be eliminated immediately. The winch must be inspected by an expert at least once a year.**
- **Disconnect the winch drive, when performing repair or maintenance work. Besides disconnecting the tractor PTO-shaft, also shut down the tractor engine.**
- **All protective parts of the winch (safety nets, covers ...) must be in place during the operation. Any modification of these protective parts is not permitted!**
- **Use only appropriate winching devices and equipment, suitable to the winch pulling power (forestry chains, hooks, portable pulleys, belts...).**
- **Wire ropes must have sufficient strength and meet technical data requirements of the winch (See type plate). Minimal break point of the wire rope or other pulling means (chain...) must be at least twice as high as the maximum winch pulling power.**
- **Replace the damaged wire rope as soon as possible!**
- **Use wire ropes of appropriate length! The permitted wire rope length is set by fully coiling the wire rope onto the drum. The difference between upper layer of the coiling and the edge of the drum should not be lower than twice the diameter of the wire rope.**
- **Before the beginning of work, the operator has to make sure the work can be performed safely.**
- **Winch operator has to pay attention, that the wire rope does not uncoil completely under the load and that at least five coils of the rope remain on the drum (except in case of emergency).**
- **The wire rope must be coiled to the drum tightly (Chapter 4.4.1).**

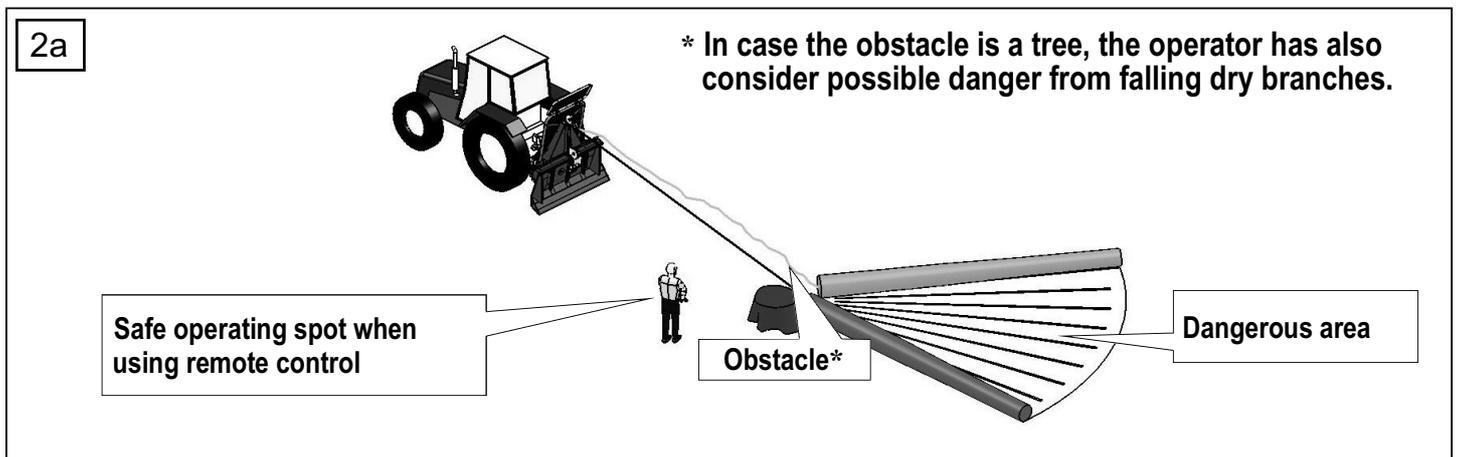
- **The operator should control the winch from the safe area (5 m away from the winch). The machine, load, wire rope or other objects which can get thrown towards the winch in case of breakage of wire rope or other pulling means can pose a danger to the operator. Tractor cabin is also considered as a safe operating spot, in case the safety net is installed properly between the driver's seat and the winch.**

Winch operation from a close distance (up to 5 m) and operation outside of the tractor cabin is permitted only if the area is secured with a dedicated protection.

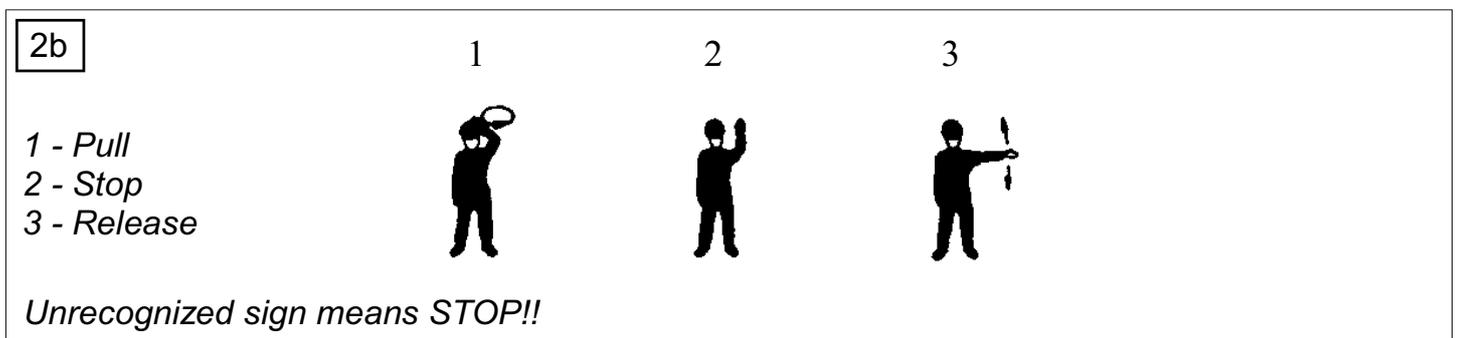
Suitable and safe area for winch operation should be in an appropriate distance from the tractor and the winch, for example behind the tree.

In case you operate the winch using the remote control and walk besides the log being pulled, you have to stay near the wire rope connecting point.

When pulling logs, the operator should follow the load parallel, near the wire rope connecting point. When pulling branches and tree tops, the operator may follow the load diagonally, behind the load (Figure 2a).

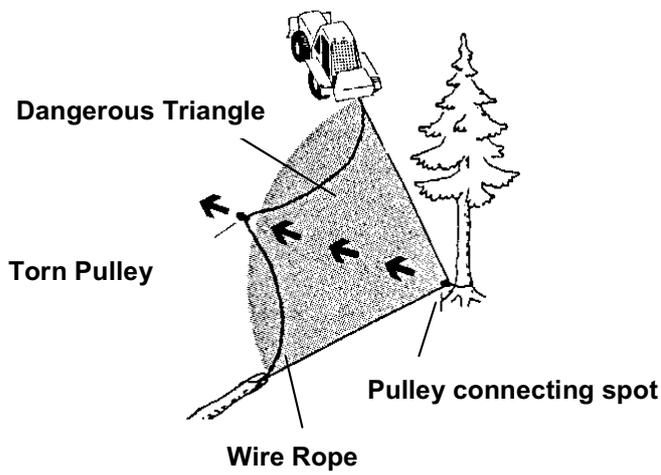


- **The winch operator must constantly observe the load being pulled. If the pulling distance is not visible from his position, an assistant in constant contact with the operator must observe the load. The winch operator and assistant communicate with previously agreed signs (Figure: 2b).**



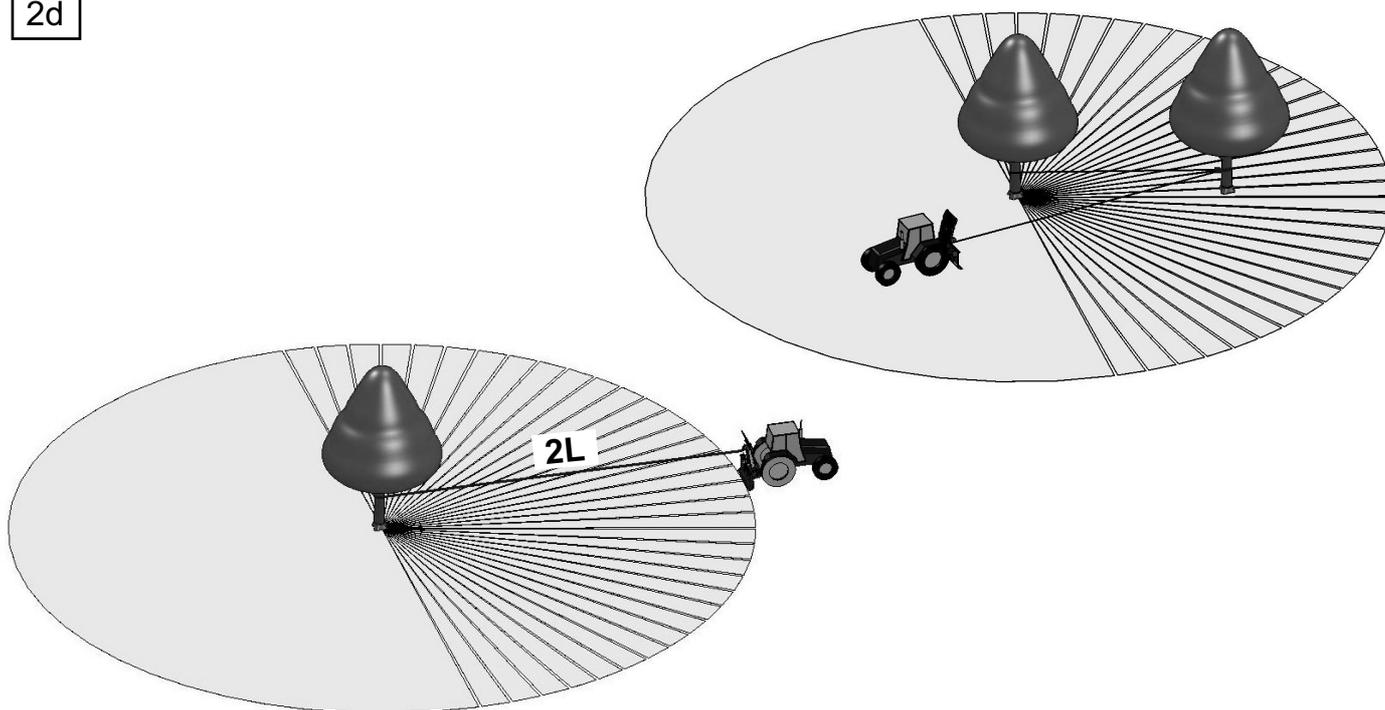
- **Special attention should be paid to proper and safe fastening of the load. The assistant should not start with the fastening procedure, until he or she notifies the tractor operator!**
- **When working with wire rope, do not stay in the area between the load and the winch and in the dangerous triangle between the winch, pulley and the load (Figure: 2c).**

2c



- **When pulling the logs on the steep slope, do not stay under the load, even if the load is standing still on the stretched wire rope.**
- **When pulling the tree which is still standing, tighten the wire rope before the beginning of felling. Position yourself and the winch outside the dangerous area in the distance twice the tree height. In case you use the pulley to alter the pulling direction, the dangerous area is within a radius of single tree height (Figure: 2d). When using the pulley, do not stay in the dangerous triangle!**

2d



- **Tractor which powers the winch should have sufficient tire tread depth: at least 40% left, otherwise installation of tire chains is necessary. Permanent use of tire chains is required when working in the snow or ice in winter conditions.**
- **Before beginning of the work, the tractor must be anchored well using the winch board. In case the soft ground does not give enough support, the tractor should be anchored using additional wire rope or chain to prevent possibility of slippage or even tractor turnover, especially when working on steeper slopes or when pulling heavier loads!**
- **The size of the load and pulling speed should be adjusted to the tractor strength and capability as well as to the inclination of the slope and ground composition to prevent possibility of turnover and to keep maneuverability and braking efficiency.**



- **Use the lower pulley on the winch to prevent any possible tractor turnover, especially when pulling heavier loads. Pay special attention that the wire rope is aligned properly in the pulley.**
- **When releasing the loads, do not approach the load until the wire rope is loose or the brake is released.**
- **When using the tractor with hydrodynamic drive, the operator must, before leaving the tractor cabin, make sure that:**
 - **supporting legs are lowered and the winch is lowered to the ground and anchored**
 - **tractor brake is activated**
 - **tractor transmission is in the neutral position**
- **When disconnecting the winch, it is necessary to place the winch on the hard and level surface. First, the supporting legs must be set in the supporting position and PTO shaft must be placed in the dedicated holder.**
- **Observe traffic regulations! In case you drive on public roads, also observe all current regulations for designation of tractor equipment which is connected to the back of the tractor.**
- **The connector on the winch is intended as an implement and should not be used on public roads.**

3. CONNECTING THE WINCH

Mount the winch to the three point linkage system of the tractor by using three coupling pins. The lower links of the tractor must be attached with screws to prevent the transverse movement of the winch.

- The winch is driven by a PTO shaft, which should correspond to necessary drive power of the winch —see Technical Data—chapter 1.3
- Prior to work, lift the supporting legs of the winch

When first mounting the winch, check the P.T.O. shaft length.

Check the P.T.O. shaft length, by lifting and lowering the winch to determine the shortest distance between the connecting shafts. In this position, the tubes of the mounted P.T.O shaft should be approx. 20 mm shorter.

In case P.T.O. shaft is too long, it must be shortened:

- Saw off steel and plastic tubes on both ends to the same length. Afterwards file down, clean and grease the edges

Always place the winch on the level surface. After disconnecting the winch from the tractor, PTO shaft may remain mounted to the winch and laid on the hook.

4. FUNCTION AND OPERATION OF THE WINCH

Observe all safety instructions (Chapter: 2.) !
Also follow important tips in the frames!

4.1. RELEASE THE WIRE ROPE (PERMANENT BRAKE RELEASE) (Figure 4)

- By pulling the **white** string **1**, pull the brake handle **3** until it locks in place. The brake band is released now and the drum turns freely. Now, the wire rope can be pulled off the drum. Make sure that the wire rope pulling power is set correctly (Chapter: 4.5.).

When pulling the wire rope, use constant force, without jerking which may cause the loosening of the wire rope on the drum and building loops.

When uncoiling the wire rope off the drum, be careful not to rip it off at the connecting point.

4.2. PULLING (COILING THE WIRE ROPE)

(Figure 4)

- By pulling the **black** string **2**, pull the clutch handle **4** and the winch begins to pull.
- Always pull the clutch handle to the far end of the groove **A**.

Proceed as described to prevent clutch plates from slipping to increase clutch life time.

- **The pulling is stopped** when you quickly release the clutch string **2** and clutch handle **4** returns to the right position.
- During the pulling, the brake handle **3** is blocked in the right position. If the “permanent brake release” (brake handle **3** was blocked in the left position) has been engaged, the brake handle **3** automatically switches to the right position, when you pull the clutch handle **4**. In this position the brake prevents the load from sliding backwards when the pulling is stopped.

WARNING:

If the brake handle **3** has been previously in the left “permanent brake release” position, the brake handle **3** may suddenly switch back to the right position, when you move the clutch han-

Although the power of the PTO shaft drive remains constant, the pulling power changes.

It is useful to know that at the constant drive power, the pulling power depends on the length of the wire rope coiled to the drum. The strongest pulling power is achieved at the first layer of coils. By multilayer coiling the pulling power decreases progressively. The pulling power changes in inverse proportion to the pulling speed, which is highest when the wire rope is fully coiled.

The nominal pulling is the highest power achieved by the winch with the first layer of coils on the drum. It is defined in the technical data section of this operating instructions and on the type plate of each winch. By increasing the number of coil layers on the drum, the pulling power decreases. With the full drum the pulling power comes to 50% to 60% of the nominal pulling power.

4.3. RELEASING THE WIRE ROPE UNDER LOAD

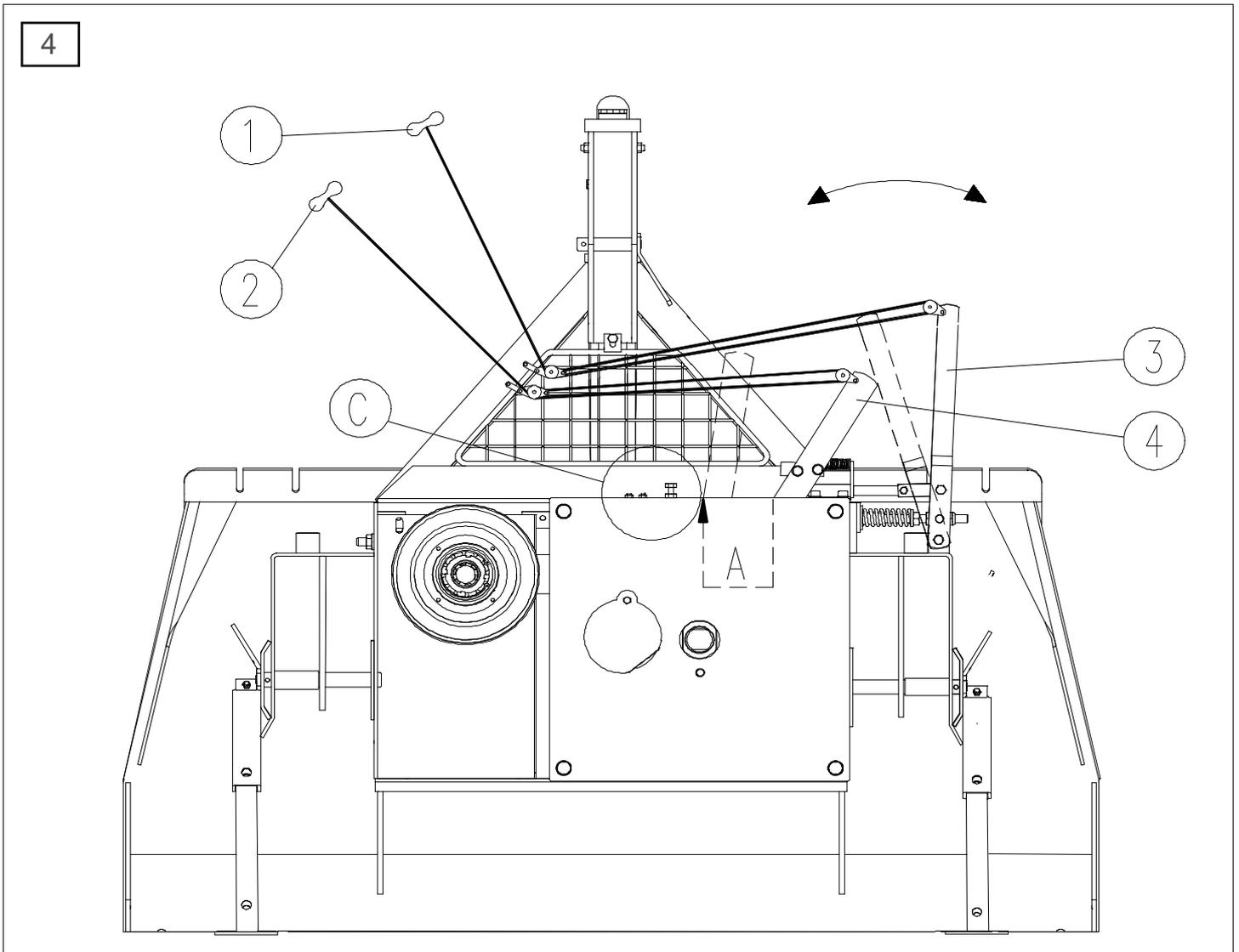
(Figure 4)

- The brake prevents tied load from sliding back, when you stop the pull.
- Release the stretched wire rope, by **quickly** pulling the white string **1** of the brake handle **3**.

WARNING:

- **When releasing the wire rope, pull the string lightly to prevent brake handle from blocking in the “permanent brake release” position, otherwise the drum may uncoil suddenly and the coiled wire rope may loosen.**

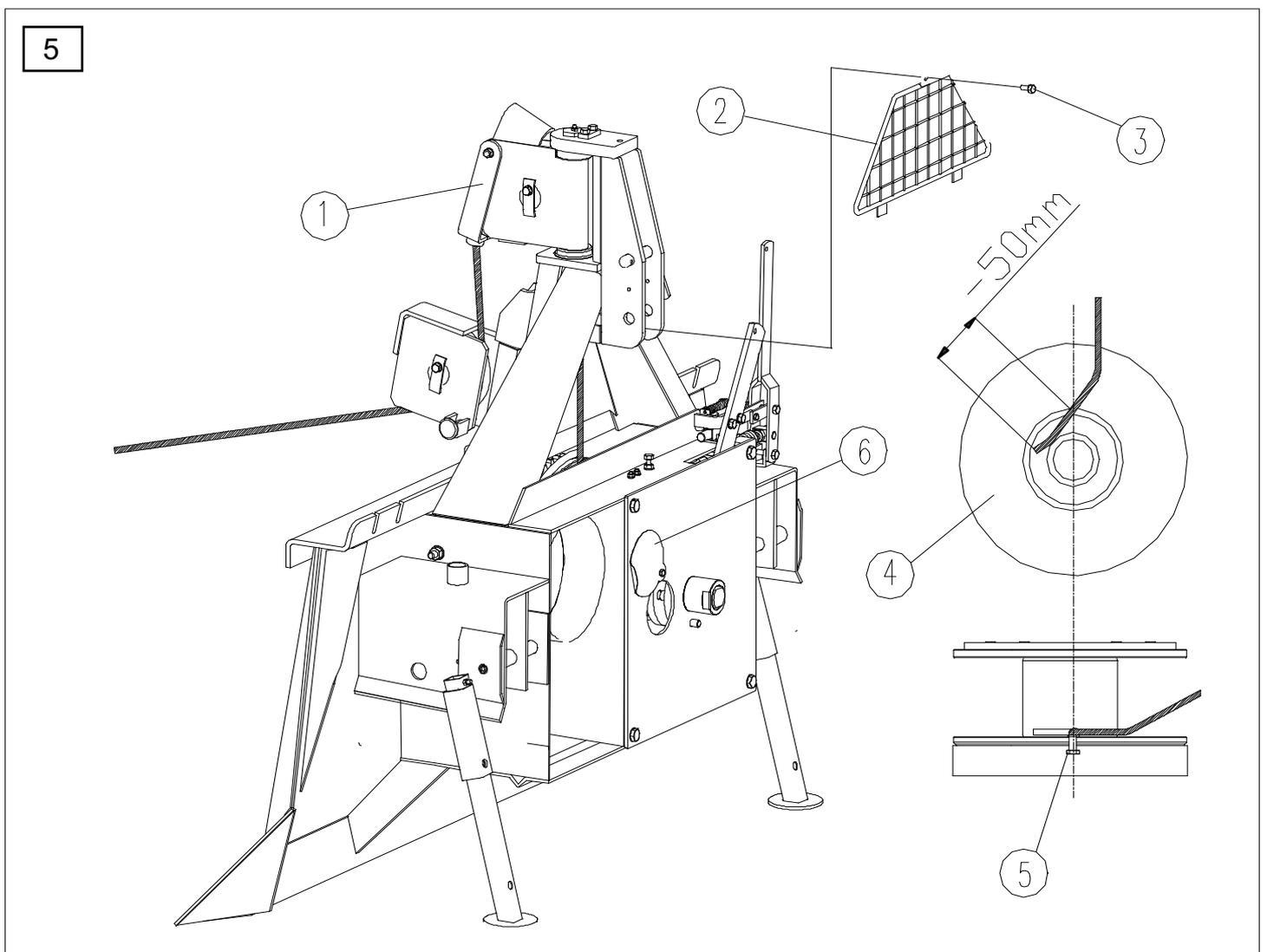
If the wire rope on the drum gets loose, the outer coils of the wire rope get under the inner coils at the repeated pulling, and the wire rope gets damaged quickly.



4.4. INSTALLING A NEW WIRE ROPE

(Figure 5)

- If the winch is mounted to a tractor, first disconnect the PTO shaft, and switch of the tractor engine
- Remove the triangular shield **2** by unscrewing the screw **3**
- Remove the cover **6**
- Turn the drum to the position which will enable you to reach screw **5** through the opening
- By using the ring spanner No 19 partly unscrew screw **5** and pull out the old wire rope
- Pass the wire rope through the upper pulley **1** into the winch to the outer sidewall of the drum. Slide the wire rope approximately 50 mm into the opening in the drum hub **4**
- Fasten the wire fixing screw **5**
- Reinstall the cover **6** to close the opening and install the triangular shield **2**
- **Coil up the wire rope onto the drum tightly** (Chapter: 4.4.1)



4.4.1. COILING THE WIRE ROPE TIGHTLY ONTO THE DRUM

First, uncoil the wire rope completely and check its quality. Afterwards pull the **black string 2** and coil up the wire rope onto the drum (Figure: 4).

Pay attention to coil the first five coils using minimum force and the rest of the wire rope using higher force.

You can achieve this in two ways:

- By pulling the load,
- By fastening the wire rope to a fixed object, so that the tractor is pulled towards this object. It is recommended to do this on a slight incline, so the tractor is pulled uphill, or by braking slightly.

WARNING: The wire rope must always be tightly coiled up onto the drum - before starting the work with a new winch it is necessary to uncoil the wire rope completely without any load, check its quality and tightly coil it back onto the drum: first five coils should be coiled by using minimum load and the rest of the wire rope using higher load!

When uncoiling the wire rope off the drum, be careful not to rip it off at the connecting point.

4.4.2 WIRE ROPE QUALITY

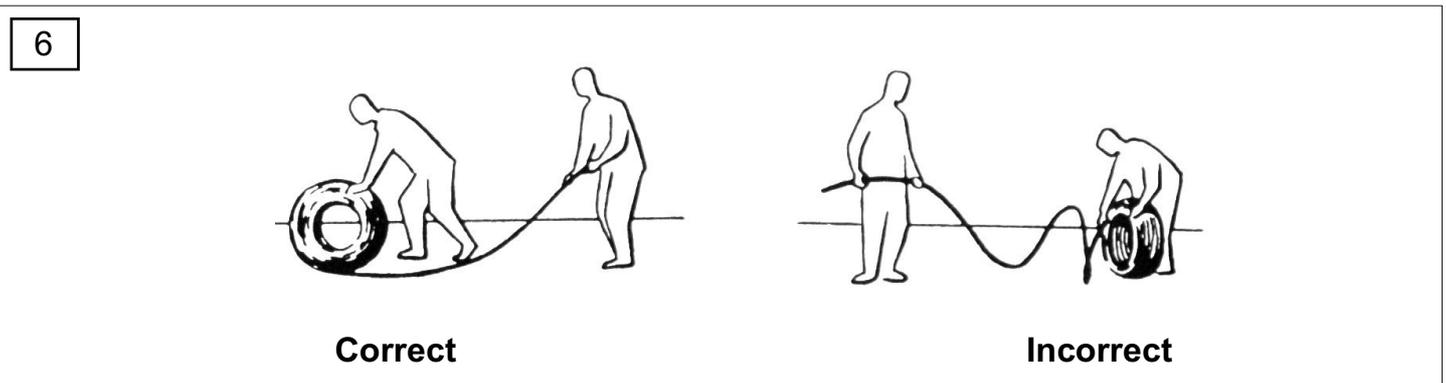
- Only unused wire rope can be reclaimed.
- Use only attested wire rope with a minimum brake point, specified in the technical data (Chapter: 1.3)
- The wire rope must not be longer than maximum length, specified in the technical data (Chapter: 1.3)

4.4.3 WIRE ROPE UNCOILING

(Figure: 6)

WARNING:

When handling the rope, pay attention that the wire rope does not make loops when coiling or uncoiling it.



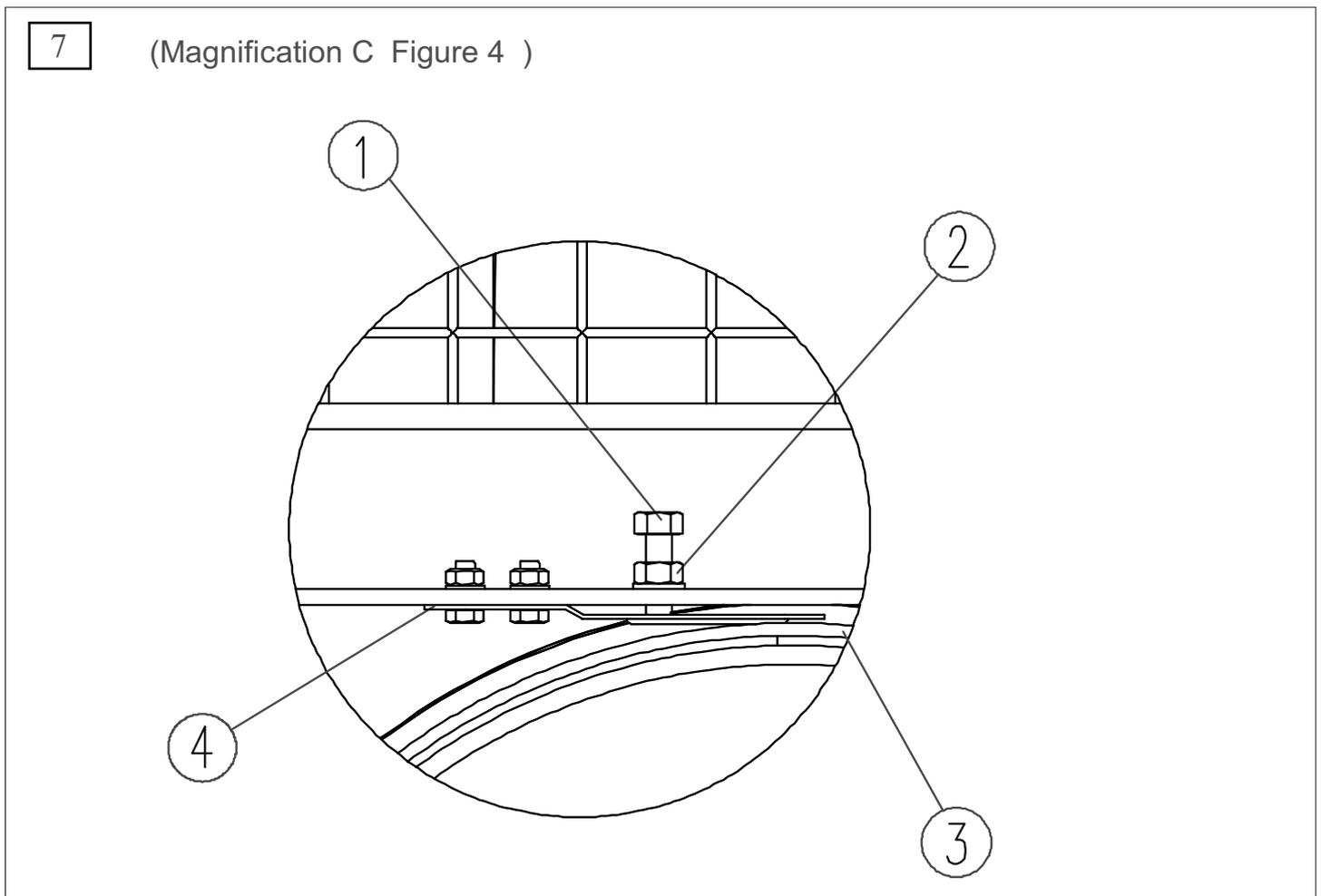
4.5. SETTING THE WIRE ROPE RELEASE POWER

(Figure: 7)

The wire rope release power must be set correctly, so the drum stops immediately after releasing the wire rope. This prevents the wire rope on the drum from releasing by itself.

Wire rope release power setting procedure:

- Release the safety nut **2**
- Screw or unscrew the screw **1** to influence the brake band **3** through the leaf spring **4**.
- By screwing or unscrewing the screw **1**, the wire rope release power increases or decreases
- Screw the counter nut **2**



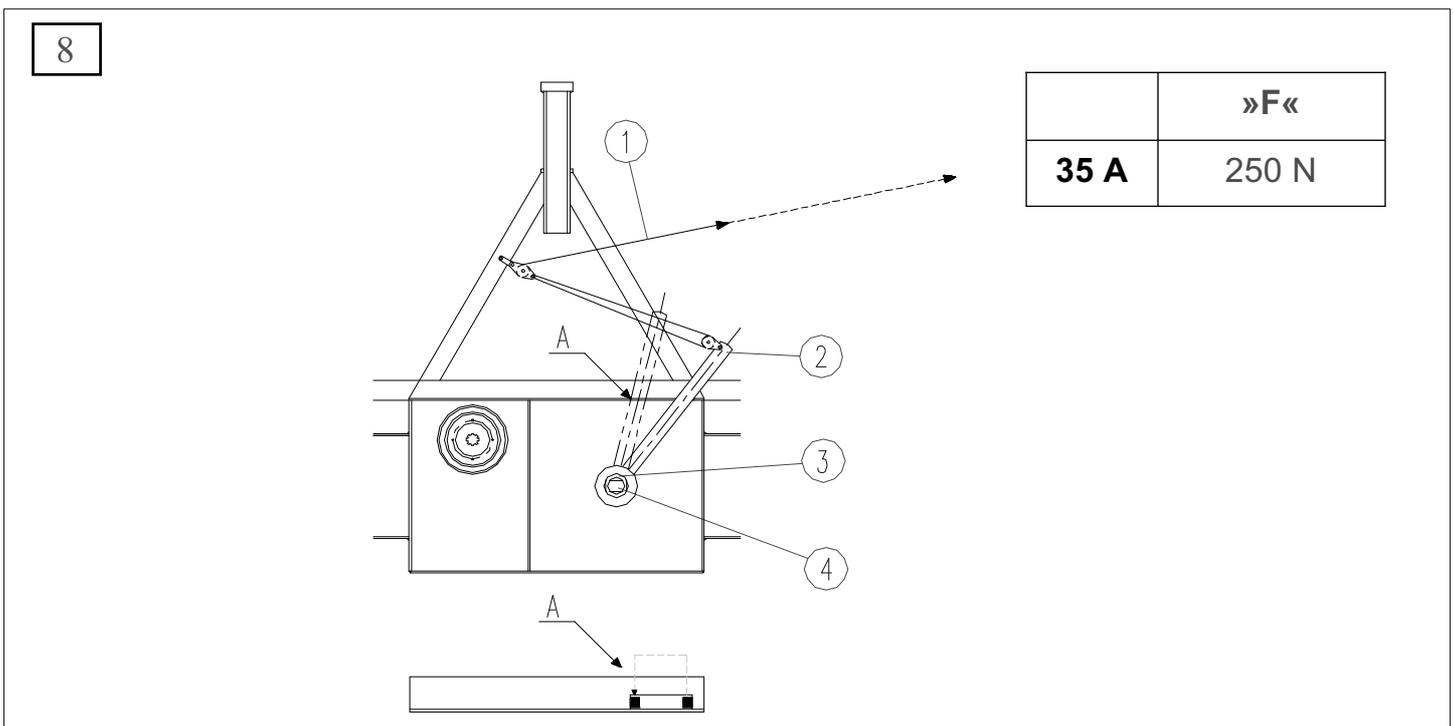
Each winch is factory set to its **maximum** pulling power which is also specified on the winch type plate. Increasing of the pulling power over this value is **not allowed**. After the pulling power of the winch decreases due to the wear of clutch linings, the clutch must be readjusted.

Pulling power setting procedure:

- Disconnect the PTO shaft and shut down the tractor.
- Use the spanner No 30 to release the safety plug **4** on the drum axis by turning it to the left.
- Use the spanner No 50 to turn the nut **3** M40 to the right so that you can pull the string **1**, by using force “F” to move the clutch handle **2** to the end of the groove **A**.
- Screw the safety plug **4** tightly to prevent the nut M40 from releasing.

It is important to tighten the nut M40 only so tight, that you can still pull the clutch handle 2 to the end of the groove A using the force “F” and reach the nominal pulling power (See Chapter: 4.2)!

- By proper adjustment of nut **M40**, set the nominal pulling power.
- If the nut **M40** is set too tightly, you cannot move the handle **2** to the end of the groove and pulling power decreases. If the nut **M40** is set too loose, it causes excessive deviation of the drum, which can cause falling of the clutch plates off it’s pins. If this happens, the whole drum must be dismantled.



4.7. SETTING THE WINCH BRAKE POWER

(Figure: 9)

The brake band is factory set to the brake power which is 25 % higher than the nominal pulling power of the winch. The brake power changes due to the wear of the brake band lining and has to be readjusted periodically. Properly adjusted brake band prevents the load from sliding backwards when the brake handle is in the **right** position and allows pulling the wire rope out of the winch, when the brake handle is in the **»permanent brake release«** position.

- Set the brake power by screwing or unscrewing the nut **8**. The brake power is adjusted properly when the spring length is **B**.
- By screwing the nut **8** from its starting position towards the pressure spring **9**, you increase the brake power and vice versa.

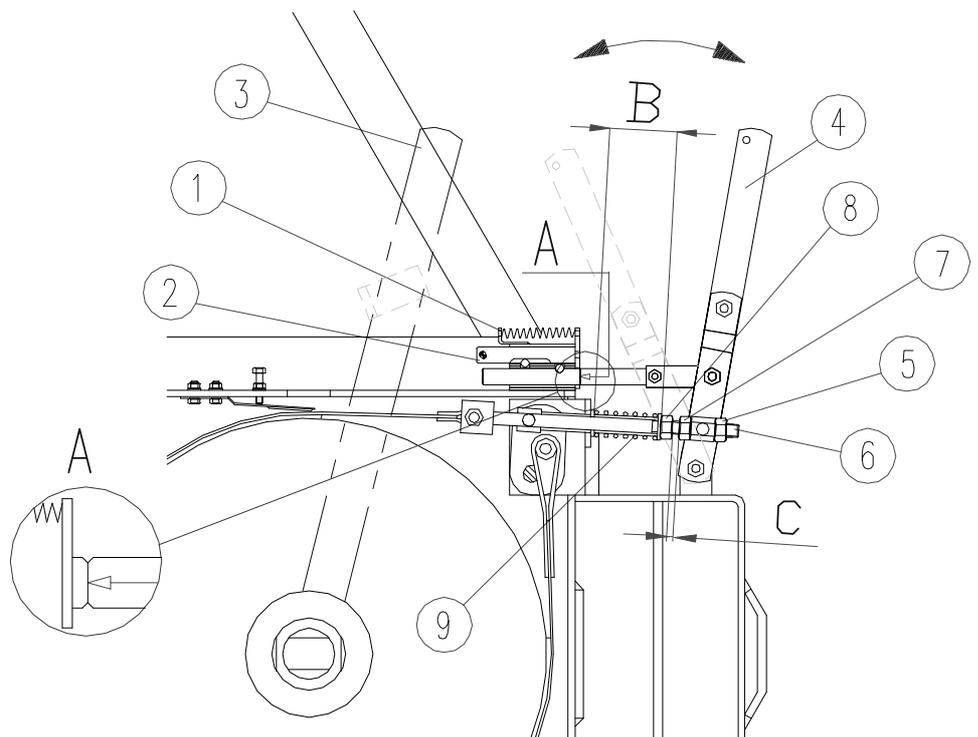
Checking the correct position of the handle **4**:

- Push the clutch handle **3** to the left, to move the upper bar **2** of the blocking mechanism **1** to the left and switch the brake handle **4** in the **»permanent brake release«** position.
- Check if the groove on the lower bar of the blocking mechanism **A** is aligned with the outer edge of upper stop plate **1**. If this is not the case, adjust the position of the groove by screwing or unscrewing the nuts **5** and **7**. Screw the nuts tightly afterwards—magnification **A**
- Release the clutch handle **3**. The distance between nuts **7** and **8** is **C**.

Warning: If the brake handle **3** has been previously in the left “permanent brake release” position, the brake handle **3** may suddenly switch back to the right position, when you move the clutch handle **4**.

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	EGV 35 A
B	65 mm
C	18 mm



4.8. CHECKING AND TIGHTENING THE DRIVE CHAIN

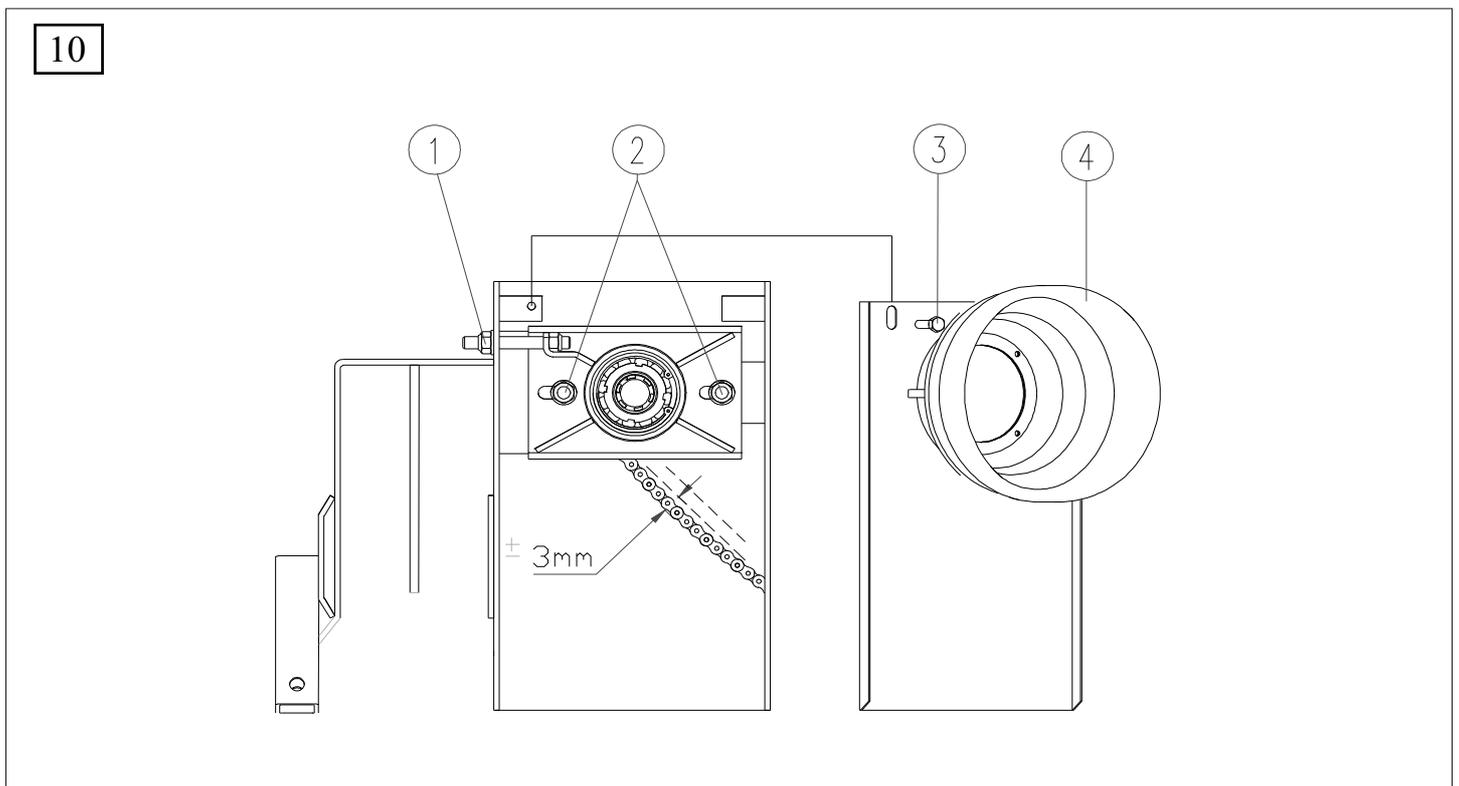
(Figure 10)

During the operation and under the load, the drive chain stretches, therefore the operator must check and readjust the chain periodically to prevent excessive wear of the whole chain drive. The chain must not be set to tight and chain slack should be set to ± 3 mm. Check the tightness of the chain by hand, pushing the chain between the chain wheels .

Lubricate the chain using special chain lubrication spray.

Procedure :

- If the winch is connected to the tractor, shut down the tractor and disconnect the PTO shaft
- Unscrew the screw **3** and remove the chain cover **4** by pushing it upwards.
- Loosen both nuts **2** by approximately one turn
- Tighten the drive chain, by screwing the nut on the tightening screw **1** until you reach the desired chain slack: ± 3 mm.
- Screw the nuts **2** tightly.
- Install the chain cover and fasten it using the screw **3**.



5. SERVICING AND MAINTAINING THE WINCH

Regular and proper maintenance is necessary for trouble free and long-life operation of the winch.

5.1. TROUBLESHOOTING

PROBLEM :	POSSIBLE CAUSES:	ACTION:
The winch pulling power is low	Too much wire rope on the drum	(Chapter:1.)
	Incorrectly adjusted clutch	Set the pulling power according to the instructions (Chapter: 4.6.)
	Greasy clutch plates (improper chain drive lubrication)	Clean the surface of the clutch plates or replace the clutch plates
	Worn out clutch plates	
	Fault in the switching mechanism	Check the operation of the switching mechanism (Chapter: 4.7.)
	Damaged driving component of the winch	Replace the damaged parts
The brake does not function	Incorrectly adjusted brake	Set the brake power (Chapter: 4.5)
	Brake band lining is greasy	Clean the brake band lining and the drum surface
	Damaged brake mechanism	Replace the damaged parts
	Worn out brake band	Replace the brake band
Wire rope is hard to pull out	Incorrectly set wire rope release power	Set the wire rope release power according to the instructions (Chapter: 4.5.)
	Damaged wire rope	Replace the wire rope (Chapter: 4.4.)
	Damaged brake band	Replace the brake band
<u>The winch is pulling when the clutch is disengaged</u>	Incorrectly adjusted clutch	Check the pulling power setting, according to the instructions (Chapter: 4.6.)
	Damaged drum	Replace the drum
	Damaged clutch plates	Replace the clutch plate

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

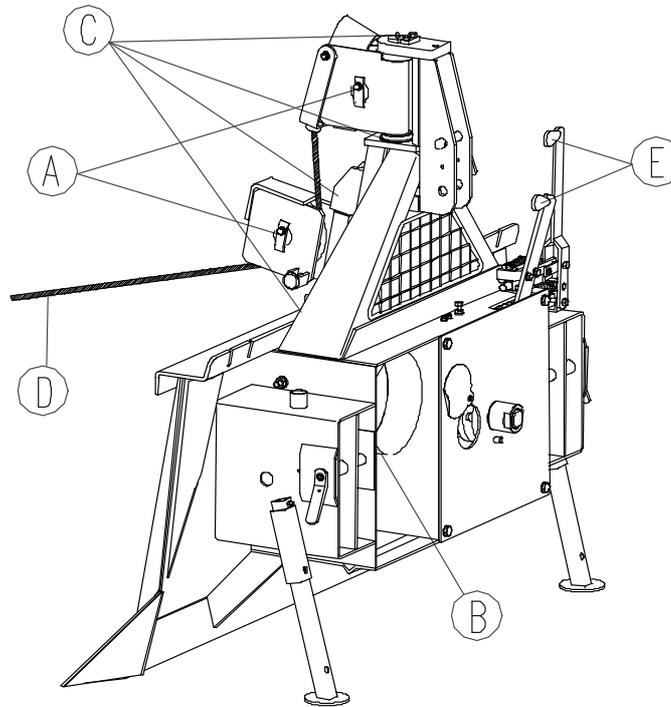
The machine is functionally and safety tested. In case of breakdown it is necessary to use only original spare parts to ensure flawless and safe operation. The customer loses all claims of warranty if non-original spare parts are used, if repairs are performed unprofessionally or by unqualified person.

5.2 MAINTENANCE PLAN

Before starting any operation, the winch must be checked visually and functionally:

- All nuts and screws must be screwed tightly
- There should be no mechanical damages
- All safety devices are installed on the connecting parts of the winch
- The PTO shaft is correctly connected and secured by the safety chain
- The bottom links of the tractor are correctly fixed and prevent the winch from moving horizontally
- The clutch is operating properly
- Brake band is operating properly
- The wire rope release power is set correctly
- Remove all faults and deficiencies before starting the operation

WHAT to do?		WHEN?	HOW?	
<ul style="list-style-type: none"> • Release the rope and coil it tightly onto the drum, • Check if the wire rope is undamaged, • Check if the wire rope is fixed properly 		<ul style="list-style-type: none"> • When using a new winch • When the wire rope is loose on the drum 	Visually Ch.:4.4.1	
<ul style="list-style-type: none"> • Checking and tightening of the chain 		Every 48 hours of operation	Ch.: 4.8.	
<ul style="list-style-type: none"> • Clutch plates replacement 		When necessary	⊗	
<ul style="list-style-type: none"> • Brake band replacement 		When necessary	⊗	
<ul style="list-style-type: none"> • Lubrication (Figure: 11) 	A	Right cable pulley bearing	At least every 8 hours of operation	Lithium grease
	B	Drive chain	Every 48 hours of operation	Chain Lubrication Spray
	C	The upper and lower pulley beds and other sliding elements.	At least once a month	Lithium grease oil
	D	Wire rope	Once a month	Lithium grease
	E	Small pulleys' bearings	Before setting the pulling power	Oil, Spray
<ul style="list-style-type: none"> • Cleaning the framework interior 		Every 100 hours of operation or more frequently in case of harsh operating conditions		



5.3. CONSEQUENCES OF MACHINE OVERLOAD AND MISUSE

- Burnt clutch plates
- Burnt brake band
- Damaged brake mechanism
- Torn chain
- Broken pulley or pulley bearing
- Damaged cardan shaft-s housing
- Damaged cardan shaf-s or chain sprockets
- Bent framework (couplings, safety elements, drive carrying elements, pulleys,...)
- Torn "new" wire rope or linking chain of appropriate strength
- Bent drum axle

5.4 SPARE PARTS ORDERING

When ordering spare parts it is necessary to provide the following information:
Winch type, serial number and year of manufacture;
catalogue number, name and quantity of the spare part; Exact customer's address.

The manufacturer warrants the availability of any spare parts and service for the period of 10 years following the purchase of the machine.

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Declaration of Conformity

Manufacturer:

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

declares with full responsibility that the product mentioned hereinafter:

LOGGING WINCH EGV 35 A

covered by this declaration complies with the requirements of:

**Order on Machine Safety – Official Gazette of RS, No. 25/06
(Directive 98/37/EC)**

Planina, 4. 08. 2008

Iztok Špan
General Manager

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

4

