ORIGINAL USER'S MANUAL

Carefully read these instructions before starting to skid with your log winch!

- Setup & instal lation
- Use
- Maintenance
- Accessories

Logging winch

FSW 5.5 H Evolution (hydraulic version)

CE



TÜV International Certification
TÜV THÜRINGEN CERT
ISO 9001:2008
15 100 63645
TIC

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CONTENTS

1. GENERAL INFORMATION 4
1.1 About this manual 4
1.2 Delivery and transport claims 4

2. SAFETY PICTOGRAMS AND WARNING LABELS 6

3. SAFETY 7
3.1 Mandatory application field 8

4. PTO-POWERED OPERATION 10

5. OPERATION 10
5.1 Tractor requirements 10
5.2. Attaching the winch to your tractor 10
5.3 Positioning the drawbar to the PTO shaft 11
5.4 Wire rope installation 11
5.4.1 Unwinding the wire rope 12
5.4.2 Checking the wire rope quality 12
5.4.3 Winding up the wire rope 12
5.4.3 Adjusting the wire extension force 13
5.5 Skidding 13
5.6 Settings 13
5.6.1 Clutch 14
5.6.2 Prebrake regulation 14
5.6.3 Brake 14
5.6.4 Stretching of the drive chains 15
5.7 Lubrication 15
5.8 Checking the hydraulic oil level 16
5.9 Troubleshooting 17

6. REPAIRS And MAINTENANCE 18
6.1 Periodic maintenance 18
6.2 Effects of overload and misuse 19
6.3 About hydraulic oil 20
6.4 Consumables 20

7. DISPOSING OF AN OBSOLETE WINCH 21

8. HydrauliC DIAGRAM 22

9. TechniCAL SPECIFICATIONS 23

10. WIRING DIAGRAM 24

11. OTHER AREAS OF POSSIBLE DANGERS 25
11.1 Mechanical dangers 25
11.2 Electric danger 25

12. LEGAL WARRANTY 26

13. EXTENDED WARRANTY 26

14. FSW 5.5 H, ExploDED VIEW **27**
15. FSW 5.5 H, Spare PART LIST **28**
16. OPERATION TIPS **30**
FOR NEW WINCHES **30**
17. EC STATEMENT OF COMPLIANCE **31**

1. GENERAL INFORMATION

Dear customer,
Thank you very much for your trust and preference in choosing our equipment and joining the number of our best customers in the world. We are confident that our equipment will be up to all your expectations and assure you a long lasting quality and performance.

Our timber winches are available in different versions of different pull force.

FSW 5.5 pull force 5,5 tons Hydraulic operation system

All versions are designed and conceived for farming and logging applications. Any other use shall be considered non-compliant application.The manufacturer accepts no responsibility for damages caused by non-compliant application. In this case the operation of the machine is completely at user's risk.

1.1 About this manual

Please take time to read this manual and learn to how operate and maintain the loader safely. For your easier reading this manual is laid out in several sections. The sections are progressively numbered 1 through 18 and listed on the "content" page. The information, pictures and technical data in this document reflect current or planned product features, functions, and characteristics as of the publication date. Because of on-going product improvements and feature additions, information in this document is subject to change without notice. If you are experiencing a problem or functional trouble on your machine, please read the "trouble-shooting" section to identify possible causes and remedies. When you have checked all the possible causes listed and you are still experiencing the problem, ask your Authorized Service Centre for help. When you order parts maintenance or repair services, your Authorized Service Centre, your dealer or eventually the manufacturer need your machine serial number and engine serial number. These are the numbers that you have recorded on the *product identification label* of the manufacturer on the machine.

1.2 Delivery and transport claims

Upon delivery of the machine please check for visual machine damages such as damaged packing or scratched buckled parts. If so, make a remark on all copies of the delivery bill (including the one for your own use) and have the driver sign for acceptance before unloading.

Have the truck driver accept your claim by hand signing it.
Should your shipper or the truck driver refuse to accept your claim and countersign the delivery bill, fully reject delivery and make sure to inform us (the manufacturer) immediately. No claims shall be taken into account by the shipper or by the insurance company, if a reservation note is not made on the delivery bill.

All transport damages must be notified within latest 2 days from delivery. Therefore delivery must be collected and inspected within this term. Later claims shall be disregarded. In case of assumed but not visually clear transport damages make sure to mark the following sentence on the delivery bill : „Reserved delivery due to assumed transportation damages".Insurance and shipping companies act with extreme caution in case of transport damages and sometimes refuse to accept responsibility. Ple-ase make sure to provide clear and exhaustive evidence (photos) of the claimed damages.

Thank you in advance for your help and understanding in this matter.

2. SAFETY PICTOGRAMS AND WARNING LABELS

1 . Machine safety label

„Read, understand, and follow all instructions in this manual and on the machine before starting!



2. Safety pictogram

„Do not infringe the dangerous zone"

Avoid standing in the dangerous zone between the tractor and the log loader.



3. Machine safety label

" max 540 min"
This label shows the max admissible number of PTO shaft revolutions the direction of rotation of the driveline.



4. Danger sing

„No hoisting!"



5. Machine operation sign

"Disconnect the winch, read and comply with manufacturer's maintenance instructions." "



6. Identification label

„Product identification"

This label shows the company details of the manufacturer and the main machine technical data.



7. Identification label

„BGU-Maschinen" manufacturer's logo



8. Operator's safety label

„Wear steel-toe safety shoes"



3. SAFETY



Strictly perform installation, set-up, maintenance, cleaning and transportation of the winch with the power switched off and all moving parts motionless against accidental operation.

The user shall strictly comply with these operation, set-up, maintenance, repair and trouble-shooting instructions in order to assure safe operation and no damages to the equipment. Moreover, we recommend let the machine be run only and strictly by trained and skilled staff who must be familiar with the applicable occupational safety and health administration rules as well as applicable transportation rules. Incorrect use of the winch can cause serious injury or death.

No person under school leaving age should operate a logging winch. Those who have reached school leaving age but are below the age of 18 may operate a winch if supervised by a competent person of 18 years or over.

The machine shall be installed and kept in a suitable location selected by the customer for safest operation.

The working area around the machine must be kept as clear as possible from surrounding obstacles and slippery foundation floors should be duly treated (do not use saw dust or wood ash for this purpose). Make sure that the equipment stands on a safe stable foundation.

- Due and proper illumination of the working site must be provided at all times.
- Set up the winch on a firm surface and ensure that a wide but confined area is available around it assuring maximum working freedom.
- Mind all operation sings and warning labels on the winch and comply with the instruction given herein.
- Operators must wear steel toe safety shoes, working protective gloves, protective helmet and snug-fitting, tear-resistant work cloths.
- It very dangerous and strictly prohibited to sit/stand on the winch while transporting it.
- Never leave the winch unattended while at work.
- Before switching power on and putting the winch to work make sure that there are no bystanders in the dangerous area and that you have good and clear visibility on the work area.
- Provide due and correct mounting of the winch.
- Make sure to comply with driving speed requirements for the specific road conditions. Use caution when changing direction or tur ning while skidding uphill, downhill or across slopes.

- Do not stand in the dangerous area. Assure that nobody stands inbetween winch and tractor, unless the tractor is safely braked and blocks have been put underneath the wheels to avoid accidental moving.
- Do not remove nor start handling timber before the winch has come to a complete stop.
- Periodically check that all screws and fixations are tightly in place.
- Before putting the winch to work perform a visual checkup of the overall conditions and let a skilled technicial overhaul and service your winch at least once a year.
- It is strictly prohibited to use the winch for any other application than mentioned in this manual. CAUTION: do not use the winch for hoisting applications! (Figure 5)
- Make sure that power is fully disconnected from the winch and that the tractor has been switched off before performing any repair or work on the winch.
- Never operate the winch without its safeties and protections duly in place.
- Strictly use wire rope of adequate crush resistance, strength and quality. Provide for immediate wore rope replacement, if any fault or anomaly is detected.
- Be sure that your wire rope length provides for a free gap to the up per drum profile of least 1.5 the rope diameter when fully spooled. In other words, when the rope is fully spooled there should be space left on the drum for at least two more coils.
- Make sure that your helpers do not put any extra load on the winch without prior informing the tractor driver.
- Strictly operate the winch from a safe place, at safety distance from the load, the rope and such other dangers as unfelled trees. The driver seat accounts as a safe place only if a safety screen is provi ded to separate the winch from the tractor in such a way that it may not be removed or bypassed.

The work site and the area around the logging winch must be kept free from hinders and obstacles. Make sure that all access ways are properly maintained so that timber can be safely skid, loaded and shipped.

3.1 Mandatory application field

Our logging winches are designed and conceived for farming and timber skidding applications. Any other use shall be considered non-compliant application. The manufacturer accepts no responsibility for damages caused by non-compliant application. In this case the operation of the machine is completely at user's risk.

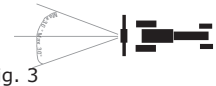
The user shall strictly comply with these operation , set-up, maintenance, repair and trouble-shooting instructions in order to assure safe operation and no damages to the equipment.

• CAUTION: it is very dangerous to stand in front of a tree to be felled and winched away. (Figure 1)

Fig. 1 

 Fig. 2

- Winching with a pulley originates a three-sides dangerous area where none is allowed to stand during winching operations. (Figure 2)
- Never exceed the max admissible pull angle of 30° (Figure 3).
- CAUTION: tip-over risk (Figure 4) when winching on rough terrain or exceeding the maximum admissible pull angle.


Fig. 3

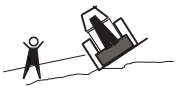

Fig. 4

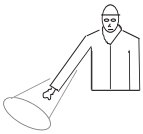

Fig. 5

Keep away from the dangerous area!

- You and your helper must establish clear and precise hand signals and review them so everyone clearly understands.

Pull 

Stop 

 Let the rope loose

- If your winch is equipped with lower snatch block, use it also for pulling operations.
- The operator should monitor the load throughout the entire pulling operation. Although winches are one-man equipment, you should never work alone and a second person should be ready to help in the event of lack of full visibility.
- Attach your winch to any tractor equipped with road transport tires to avoid infringement of road travel profiles. If this is not available, provide your towing vehicle with protection chains. Chains are mandatory on all types of tire for travel on icy or snowy foundations.
- Before disconnecting the winch from the tractor, park on a safe and flat surface. Drive the winch down on the special stabiliser foot and hang the driveshaft on the special mount provided on board of the winch.
- Pinched-hands and injuries danger in the three-point hitching area!

Read this basic guide carefully, familiarize yourself with the operation of your winch before having to maintain it and be constantly safety oriented!

4. PTO-POWERED OPERATION

Use only and strictly CE approved drivelines duly connected and secured in compliance with the manufacturer's instructions.

- Never use a PTO driveline without safety shield or with a damaged guard.
- Make sure that the shield is of the correct size and length for the drive shaft and is duly mounted on it.
- Use safety chains to secure the shield agaist dangerous rotation and distortion.
- Before operating the PTO driveshaft make sure the rpm-number and direction comply with the one shown by the arrow-sign on the winch. Take all due measures to avoid unauthorized thirds standing the the dangerous area of the winch!



Never run the PTO shaft when the tractor motor is switched off! After dismouting the PTO shaft use the special holder on the winch to safely store it away.

5. OPERATION

This logging winch is designed for skidding applications only. The winch comprises a welded frame, a main shaft, a chain wheel clutch, a drum with wire rope, a brake and a snatch-block.

The wire rope is slipped around the timber, the timber is pulled to the skid and the rope is hung up to the special grooves in the skid by means of fixation chains. Timber and long tree trunks are so winched to a parking area for loading on trucks and further delivery.

5.1 Tractor requirements

Do not PTO operate winch at any faster speeds than max. 540 RPM.

To mount your winch to the tractor use three-point hitch CAT I and Cat II only.

5.2. Attaching the winch to your tractor



Make sure that nobody stand in the dangerous area while connecting the winch to your tractor

Logging winches can be mounted on any tractor equipped with 3-point hitch of category I or II.

With a special arrangement it is also possible to mount the winch to a tractor with automatic hitch mechanism on the lower hitch points.

Make sure to strictly use approved IID types and that proper shielding with chain fixation is available.

Make sure to perform accurate connection of your PTO driveline both on winch and power input side.

In order to transfer torque from the tractor to the winch you must use a driveline with torque overload clutch coupler. Mount the winch to the tractor and then secure the stabilisers underneath the lower hitch points. Finally incline the winch by approximately 20° using the upper hitch bar.

5.3 Positioning the drawbar to the PTO shaft

The length and height of a tractor drawbar may need to be adjusted to match the implement to the manufacturer's specifications. It is important to make these adjustments to ensure that the PTO driveline does not compress or separate during operation.

To make this adjustment:
- Mount the winch to the tractor!
- Pull the two halves of your shaft apart and respectively mount them to the tractor and to the winch and perform a crosscheck as shown below (Fig. 6)
- For increased safety make sure that a minimum wrapping of 200mm (b) occurs when pulling the hitch bar all the way up and down. With the shaft parallel to the ground also make sure that the shaft doesn't hit the stand (wrapping (a) should be still at least 20mm).
- For shortening of the PTO shaft, first cut the telescope off and then the external one by the same length.
- Grind both shaft ends, clear chips and dust away and oil all slinding contact areas before fi nal assembly.

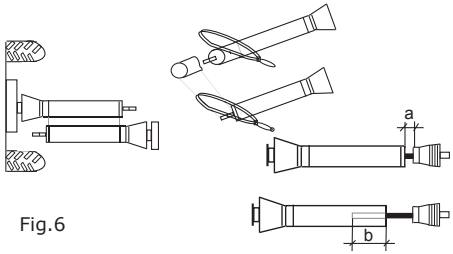
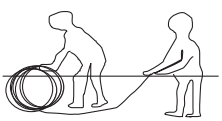
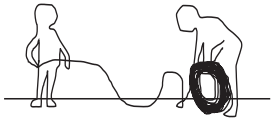


Fig.6

5.4 Wire rope installation



DO!



DON'T!

Remove the small protection grid and then take the cap off. Now turn the drum to the right position for releasing and removing the drum screw.

Insert the wire rope through the inlet fairlead (on top) and feed it to the drum by means of the upper block. (Fig. 9, Pos. 8).

Fit the rope into the special groove and tighten the screw (Pos. 9). Now start spooling as described under pulling procedures.

In order to avoid possible rope damages keep winding up for a while after complete spooling of the entire rope length, as described under section "Spooling of the wire rope".

5.4.1 Unwinding the wire rope

After you have correctly installed the winch, you can start unwinding the rope. However, it is important that you first switch the rear lights of your tractor on, so that the right voltage is available in your power connection.

- Disengage the brake by pressing the white push-button (2) [Fig. 7].
- Press the black push-button (1) [Fig. 7] to engage the brake and start unwinding the rope. If no unwinding is possible, you may have a pressure problem in your system (not enough operating pressure). In this case, start the driveline to activate the hydraulic pump.
- Press the white button again and start pulling the rope. If the remaining rope is not duly spooled, keep unwinding all of it up to the last 3-4 winds and then rewind to the required length.
- If your timber gets stuck against an obstacle (tree stumps or roots) during skidding, you may have to stop winching if the obstacle cannot be bypassed. In this case, a large amount of residual force may bild up in your wire rope causing jerky unwinding. If this happens, repeatedly press (2-3 times) the white push-button (1) at very short intervals in order to release the tension from the wire rope.

5.4.2 Checking the wire rope quality

- Stricly use brand new ropes.
- Make sure to use ropes of approved quality, suitable strength and compliant to the specifications identification label.
- Do not use longer ropes than instructed in the technical specifications of this manual.

5.4.3 Winding up the wire rope

Completely spool the rope making sure to wind it tightly and evenly onto the drum and avoiding both overwinding and underwinding.

Correct winding is accomplished by:

- Simply pulling of a load
- Firmly attaching one end of the cable to a stable anchor-point suitable to withstand the pull force while the rope starts spooling onto the drum pulling tractor and winch towards the anchored rope end.

It may be convenient to carry out this operation either on a slight gradient with the idled tractor facing uphill or alternatively with braked tractor.



Wind the rope tightly and evenly onto the drum. Before putting your winch to work spool the rope completely off and then rewind it again! Check the rope over for any signs of damage, flattening, broken wires, wear and corrosion.

5.4.3 Adjusting the wire extension force

The wire extension force must set accurately, so that the drum stops at once when pulling no longer occurs. This will avoid dangerous drooping and sagging of the wire rope.
To adjust the wire extension form:
- release the fixation nut
- release or tighten the screw acting on the brake band through the leaf spring
- tighten or release the screw to either increase or reduce the extension force
- tighten the fixation nut again

5.5 Skidding

Set the hydraulic cylinder of the tractor three-point hitch in its lowest position. Firmly settle the winch down on ground, engage the tractor manual brake and then start skidding your load. Press the black push-button on the control panel to start spooling the rope on the drum. The rope must stop winding up as you release pressure on the black push-button.
For safety reasons, windind of the rope is strictly possible by holding a consistent finger pressure on the black push-button.



Do not raise the winch during skidding operations! (DANGER: you may damage your driveline)

The nominal pull force is the maximum pull obtained with the first rope windings on the drum. This is the figure stated in the technical data and the manufacturer's identification plate on the machine. The pull force decreases as the rope winds up on the drum. The pulling speed is inversely proportional to the pull force and reaches the peak speed as the rope is fully spooled onto the drum. With the rope fully spooled on the drum, the pull force amounts 50-60% of the nominal figure.

5.6 Settings

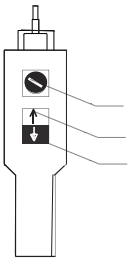


Fig. 7

5.6.1 Clutch

Before attempting any intervention, make sure to first switch the tractor engine off and remove the ignition key!

Proper clutch settings will ensure optimum pull force. The clutch is set by the manufacturer during final testing of the product before shipment. However, possible wear of the lining may require some extent of adjustment as the time passes. Clutch adjustment should be performed every time when your winch no longer reaches the required pull force.

To perform clutch adjustment:

- loosen the nut shown in Pos. 1
- slightly tighten the nut in Pos. 2
- on engaging of the clutch, switch the motor on and start the driveline
- if the rope winds up although you are not pressing the black push-button (1), then you probably tightened the nut (Pos. 7) excessively and there is no more clearance between the drum and the clutch. In this case, release the nut and repeat the setting procedure till the rope stops winding unless the black push-button is pressed.

5.6.2 Prebrake regulation

To facilitate winding of the wire rope, perform prebrake regulation with the screw (10) and respective wingnut (11) (Fig. 8). Exact prebrake regulation will also prevent the rope from unwinding excessively fast or accidentally slipping off the drum. Extreme fast unwinding and abrupt brake disengagement may cause severe damages to the wire rope. Exact prebrake regulation occurs when the rope can be effortless spooled off the drum. The prebrake arrangement must be disengaged for uphill winching operations in order to ensure easier pulling of the rope. A pre-braking function is also performed by the inlet fairlead Pos. 12, (Fig. 8) where the rope is inserted. Exact prebrake regulation will also prevent the rope from unwinding excessively fast or accidentally slipping off the drum. Extreme fast unwinding and abrupt brake disengagement may cause severe damages to the wire rope.

Exact prebrake regulation occurs when the rope can be effortless spooled off the drum.

The prebrake arrangement must be disengaged for uphill winching operations in order to ensure easier pulling of the rope.

5.6.3 Brake

On completed pulling, the differential brake automatically takes the load over (the drum should not be allowed to unspool and the rope must remain stretched).
The brake is preset by the manufacturer before shipment. However, it is possible that slight wear of the brake band lining occurs requesting some additional adjustment. Brake readjustment must be performed every time when the load cannot efficiently hold back any longer.

To perform readjustment:

- tighten the nut (Pos. 3) Fig.8 used to lock the spring
- adjust nuts (3) and (4) to obtain a 7 mm gap between nut (1) and (3) on the threaded spindle
- tighten nut (4) to complete the procedure

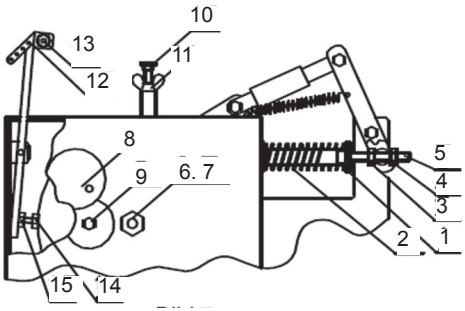


Fig. 8

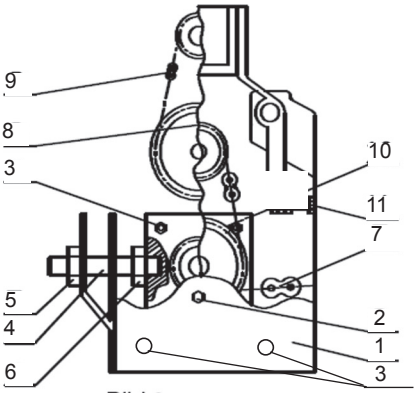


Fig. 9

5.6.4 Stretching of the drive chains

After the first operation hours you possibly experience some extent of release of the drive chain that will then need to be restretched. Therefore you need to check the chain after the first 10 operation hours for the first time and then regularly every 60 operation hours.

To accomplish stretching of the chain (refer to figure 9) and:

- remove the safety guard (1) on the chain, remove screw (2) and loosen (without removing) the 4 screws (3)
- loosen nut (6) of the adjustment screw (4) and then screw the adjustment screw tight on nut (5)
- keep tightening nut (5) until chain (7) is completely stretched
- adjust the chain so that you can still provoke some extent of deflection by applying one finger tip pressure in the middle.
- then make the PTO shaft (8) turn and check for troublefree and effortless turning.
- check the pump chain (9) to make sure that it is excessively stretched and if required adjust it by loosening the screw (10) and tightening the nut (11).

5.7 Lubrication

Make sure that the motor is switched off and the ignition key has been removed before performing any maintenance/repair work on the machine.

Your logging winch is equipped with 4 nipples for the lubrication of the upper pulley and lower snatchblocks as well as the rope fairlead. Additional lubrication is then required on nipple (13) of the prebraking arrangement (12) (Fig.8).

Perform lubrication every 15-20 operation hours.

improper lubrication may cause dangerous contamination of the clutch sliding parts for which the manufacturer will accept no liability!

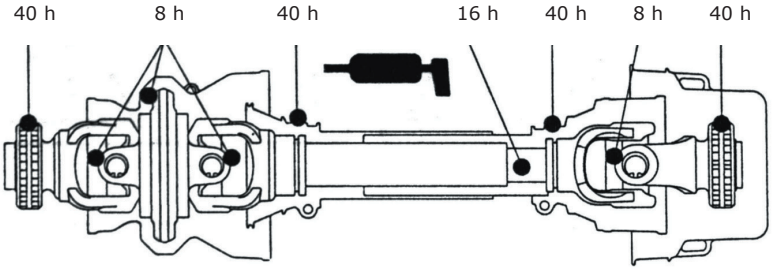
Lubricate the drive chain every 40 operation hours.

Use grease suitable for high temperature (it should not melt as common low-price lithium grease) in order to prevent grease contamination of the sliding clutch surfaces. Accurately clean the chain before greasing.

Make sure to avoid contamination of the clutch lining with grease as this may lead to a significat loss of the pull force and to early wear of the clutch plates that will then need to be replaced!

The winch is equipped with self-lubricating bearings that require no further lubrication or maintenance.

Provide PTO shaft lubrication in accordance with the instructions of the manufacturer (Fig. 10).



5.8 Checking the hydraulic oil level

Make sure to check the oil temperature every once in while during operation. Should the temperature exceed 70°C, stop working, disconnect power, search and fix the cause for overheating before continuing to work. DANGER: excess heat over a prolonged period of time may lead to even permanent damages of the hydraulic circuit

5.9 Troubleshooting

Trouble description	Possible origins	Remedies
No winch response when pressing the buttons or engaging the plug of the control panel or the radio control	• The winch drives are damaged • No power available • Control valve out of service	• Check the winch drives (the driveline must be duly connected for the pump to operate) and ensure that there is enough oil in the tank • Check the power connections (plug on the tractor, side lights ON) • Check the batteries of your radio control and make sure they‘re not rusty. If needed clean them. • If power is missing, remove cause of the blackout • if the control valve is temporarily out of use, try concurrent activation of the buttons on the control panel und the pressure pads located in the middle of the magnets front side. If the problem is just a temporary jamming, this will release the valve.
Winch is not pulling enough	• Too much rope on the drum • Oil on clutch discs due to bad lubrication of the drivechain • Clutch lining worn out • Winch drives are damaged • Insufficient oil pressure	 • Clean or change the clutch lining • Replace the clutch discs • Replace damaged parts
Oil pressure lower than 145 bar	• Not enough oil in the tank	• Check the oil level and touch-up if needed. Seal all leaking points.
Oil pressure insufficient	• The pump is damages • Wrong setting of the pressure switch or safety valve	• Ask for service • Ask for service
The operating pressure drops very rapidly although the winch is not in use	• Damaged non-return valve, pressure relief valve, control valve or pressure accumulator	• Ask for service
Brake is not holding	• Wrong brake regulation • Grease on the brake band lining • Damaged brake mechanismus • Worn-out brake band (collar)	• Adjust brake force • Clean the brake lining and the brake surface on the drum • Replace damaged parts • Replace brake collar

Trouble description	Possible origins	Remedies
Rope is hardly spooling off	• Wrong setting of the pull force • Damaged rope • Damaged brake band (collar)	• Seilauszugskraft nachstellen • Seil wechseln • Bremsband wechseln
The rope reels in even if the clutch is released	• Wrong setting of the clutch cylinder hub • Drum is damaged • Clutch discs are damaged • Driving chains excessively stretched	• Adjust cylinder hub • Replace drum • Change clutch

6. REPAIRS AND MAINTENANCE



Make sure that the machine is fully disconnected and all moving parts are secured before performing any maintenance/repair work on the machine.

6.1 Periodic maintenance

Before starting to work with your winch, make sure to perform the following visual inspections:

- Make sure that all screws and nut are tight
- Check for mechanical damages to the winch chassis
- Make sure that all locking pins and rings are in place
- Check for PTO shaft correct installation and connection and make sure that safety shield and chains are duly in place.
- Check the lower hitch points of the tractor and make sure they are firmly secured (no cross, horizontal movement).
- Check for clutch proper setting, check the brake and the rope pull out force
- Make sure to fix any anomaly or problem before starting to work.

Perform the following maintenance works when needed and carry out periodic checkup:

- Hydraulic oil level control: if leaks are detected check the tightness of the remaining system (hoses and fittings) before continuing
- Lubricate all moving parts as needed

What to do?	When to do?	How to do?
• Spool the rope out until 3-4 winds are left on the drum and strongly pull with load on • Check the rope fixation	• Only for new winches • Always when the rope is loose	visually
• Check the chain tension • Replace the clutch discs	every 48 operation hours if required or after 3000 operation hours	by customer service
• Replace the brake collar	Every time when adjsting the brake force is no longer possible and latest after 3000 operation hours	by customer service
• Lubricate the drive chain	all 48 operation hours	Lithium grease
• Lubricate the bearings of the upper and lower snatchblocks as well as all other sliding parts	at lease once a month	Lithium grease
• Clean casings inside	every 100 operation hours or more frequently in case of hard working conditions	Loosen all screws and remove cover making sure to avoide removing of the nuts



The winch functionality and safety are tested by the manufacturer. For any repair or intervention on the winch make sure to strictly use original spares only. Use of non-original parts and spares will void your warranty just as well as wrong repairs or changes.

6.2 Effects of overload and misuse

- burning of the clutch or brake collar lining
- damaged brake mechanism
- tearing of the chain
- broken rope reel or damaged reel bearing
- damaged power drive/PTO shaft housing
- damaged power drive, PTO shaft or chain wheels
- strain of winch frame parts
- overstrained, cracked, broken lines, rope or Choker-chain
- deformed drum axle.

6.3 About hydraulic oil

Periodically check the oil level inside the hydraulic oil tank. When doing so, accurately avoid contaminating the tank with dirt, wood chips, sow dust etc... Make sure that the winch never runs without oil or with a low oil level. When this happens, air is likely to reach inside the hydraulic loop. Failure to maintain due oil level may cause poor running and irregular operation (very rough, jerky motions) as well as major pump damages. Please schedule your first oil change after approximately 200 operation hours, the second one after each 600 operation hours and the following one after every 1000 operation hours or at least once a year.

Recommended hydraulic oils are:
Mobil DTE 16, Shell Tellus T 46, Castrol Hyspin AVH 46

Make sure to check the oil temperature every once in while during operation. Should the temperature exceed 70°C, stop working, disconnect power, search and fix the cause for overheating before continuing to work. DANGER: excess heat over a prolonged period of time may lead to even permanent damages of the hydraulic circuit.

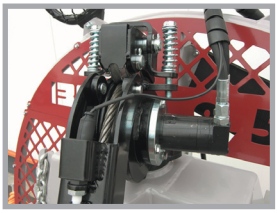
When changing the oil, never let used oil drop down on the ground, rather collect whole of it in a sealed container for due disposal. Oil disposal containers should be of at least 7 l capacity. If you are using smaller containers, make sure to drain the tank in more than one round to avoid spilling old oil out on the ground.

Used oil is very polluting and should be disposed in accordance with local provisions!

6.4 Consumables

- Brake collar (Code No. 901532)
- Sprocket assembly m. clutch (Code No. 901531)

6.5 Accessories



On the machine is a hydraulic rope ejector with inlet brake equipped in standard.

7. DISPOSING OF AN OBSOLETE WINCH

When the winch is fully obsolete and cannot be of any longer use, it should be duly dismounted ahead of discarding. Certain components need deactivation and dismantling in order to assure that no further use is made by other parties and that no worn out parts are recycled for other applications.

During dismantle be alert for possible recyclable materials and components that belong to differentiated waste collection procedures applicable in your country.

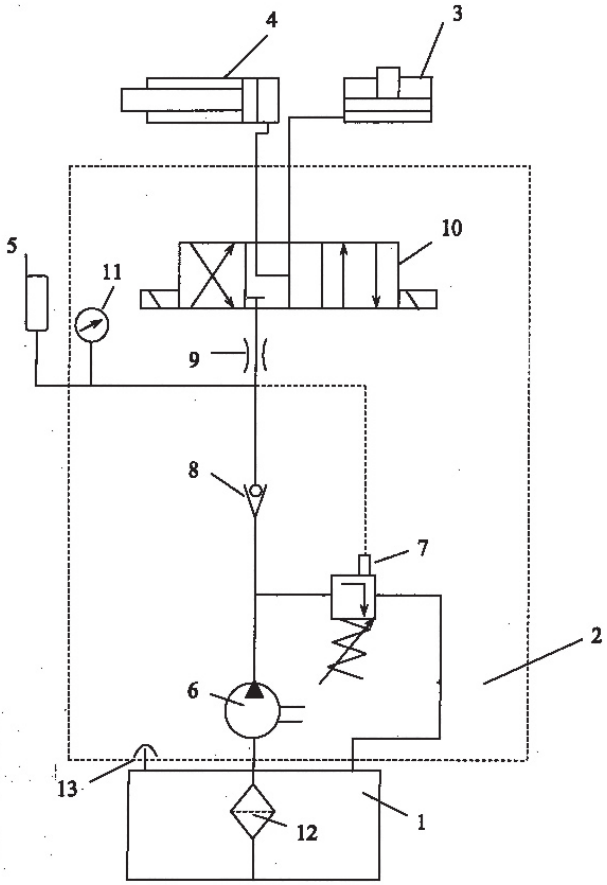
The manufacturer is not liable and undertakes no responsibility for personal injuries or damages that may result from the recycling of worn outmachine parts and eventual re-use in other applications different than originally stated in this manual.

Dismantling procedure:
Take good note please: each and every dismantling task must be performed by authorized service centres or trained skilled staff only!
- Pull the machine down into single components
- Lock and clamp all moving machine parts
- Deliver each single component only to authorized waste manage ment facilities
- Drain oil and fuel out of respective tanks and lines before disposal of the machine
- Remove rubber and plastic parts from the machine that must be separately disposed of.

Deactivated, clamped moving/driving parts and components are of no further risk and danger.

Electric components must be separately disposed to avoid substantial environmental threat. In the event of fire on the electric deployment system of the machine, use of an explosion-proof extinguish system is required (for example powder fire extinguishers).

8. HYDRAULIC DIAGRAM

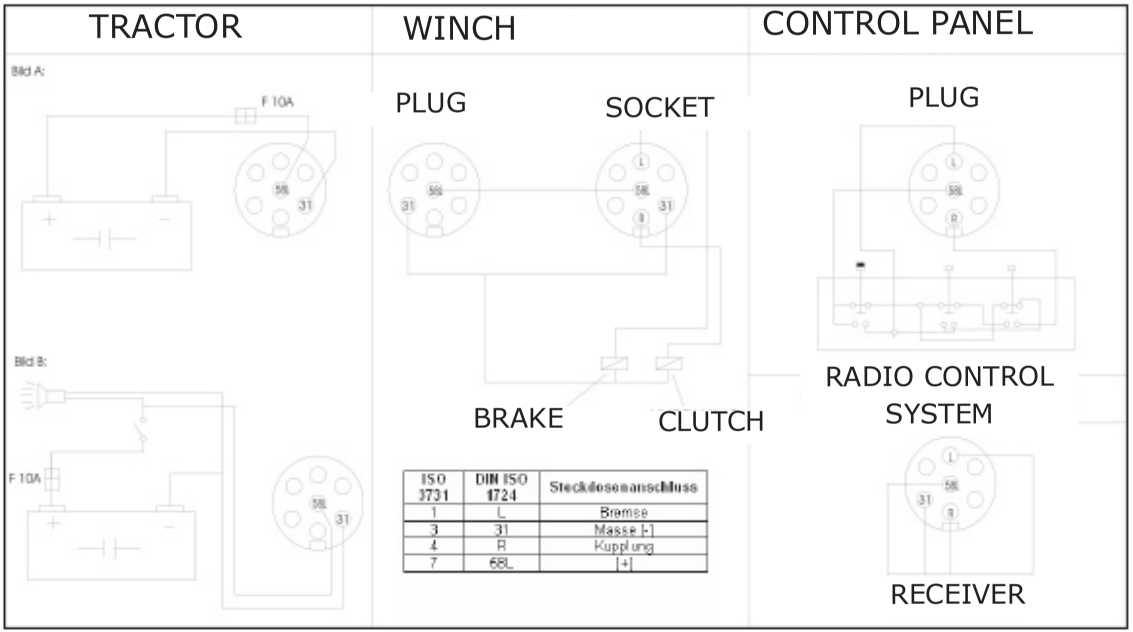


Pos.	Description	Pos.	Description
1	Oil tank	8	Non-return valve
2	Control valve	9	Throttle (2 mm)
3	Drum hydraulic cylinder	10	Directional control valve 4/3
4	Hydraulic brake cylinder	11	Pressuregauge
5	Hydraulic accumulator	12	Filter
6	Hydraulic pump	13	Vent
7	Pressure relief valve		

9. TECHNICAL SPECIFICATIONS

Technical data	Unit of measurement	FSW 5,5 H
Max. skidding capacity	t	5.5
Cable winch speed at 300 RPM of the PTO shaft	m/s	0,60
Rope length	m	70
(compacted) Rope diameter	mm	10
Rope tensile strength	kN	110
Max cable rewind length with compacted steel rope	m/mm	130/9 ; 105/10
Tractor power requirements	kW/PS	33/45
Width /Height /Depth	mm	1520/1540/490
Overall height w. safety shield	mm	2350
Weight (without rope)	kg	431(392)
Chainsaw holder, peaveys jacks or axes mount		standard
Drawbar		-
Lower snatch-block		standard
Radio control for hydraulic models, available as an accessory		4- Kanal as accessory available 8- Kanal as accessory (Motor on/off) available on request

The manufacturer reserves itself the right of product modifications without further notice as a result of product implementation and quality upgrade.



ISO 3731	DIN ISO 1724	Steckdosenanschluss
1	L	Bremse
3	31	Masse [-]
4	R	Kupplung
7	58L	[+]

11. OTHER AREAS OF POSSIBLE DANGERS

11.1 Mechanical dangers

Possible dangers related to machine moving parts are minimized by means of suitable safeties and protections that cannot be dismounted unless special tools and equipment is used.

WARNING: skidding without due safety devices might result into serious injures to the operator or the other person around the workplace.

11.2 Electric danger

All machine parts staying under voltage are duly insulated or sealed inside a fixed casing to avoid accidental contact. For safety reasons all fixed casings can be only removed using special tools and equipment.

WARNING: removing a fixed protection casing when the machine is running or without having priory cut thepower off, may result into major danger of electrical shock!

12. LEGAL WARRANTY

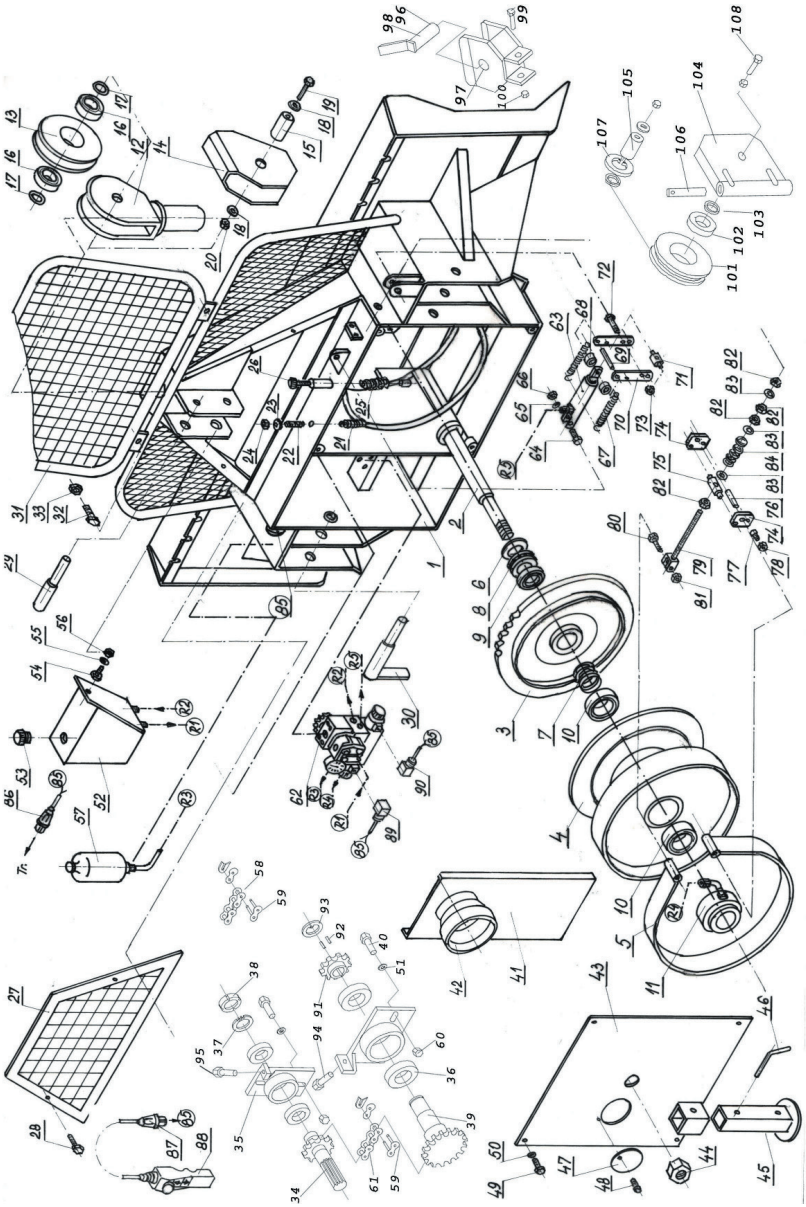
All BGU machines are covered with warranty terms in accordance with the law. Customers should promptly notify the manufacturer eventual material or production claims on their detection. While asking for warranty service, customer should show copy of their purchase invoice or receipt. The warranty does not cover for faults due to natural wear, temperature or weather agents as well as misuse, faulty installation or set-up, improper operations and lubrication or act of vandalism. No warranty will be given on parts damaged by improper handling, use and application. The manufacturer is further not responsible for warranty service on machines used for other applications as mentioned in this manual, altered or modified by the customer or other thirds, or overloaded.

No warranty applies to consumable parts (for instance: V-belts, blades, tools, and other implements) and to adjustment/calibration works.

13. EXTENDED WARRANTY

All SŰMA consumer products are covered with 24 or 12 months total warranty from the date of purchase for private/industrial users and rentals. This warranty extension does not substitute nor void the legal warranty. Customers should promptly notify eventual material, production or workmanship claims on their detection. While asking for warranty service, customers should show copy of their purchase invoice or receipt. Buyer's address and type/model of equipment must be clearly stated in the case of industrial users/contractors/dealers. All claims related to material or production failures during the total warranty time, shall be repaired notwithstanding eventual user's faulty/wrong operation or maintenance.

14. FSW 5.5 H, EXPLODED VIEW



15. FSW 5.5 H, SPARE PART LIST

Pos.	Description	Qty	Pos.	Description	Qty
1	WELDED STEEL CONSTRUCTION	1	27	SMALL SHIELD	1
2	MAIN AXLE	1	28	SCREW M8X16 TO DIN 933	1
3	SPROCKET ASSEMBLY w. CLUTCH	1	29	BOLT Ø25 W. COTTERS	1
4	ROPE DRUM	1	30	BOLT Ø28 W. COTTERS	2
5	BRAKE COLLAR	1	31	SAFETY SHIELD	2
6	SPACER SLEEVE	1	32	SCREW M12X30 TO DIN 933	2
7	PRESSURE SPRING	1	33	NUT M12 TO DIN 985 W. WASHER	2
8	AXIAL BALL BEARING	1	34	SHAFT W. SPROCKET	1
9	GROOVED BALL BEARING 6306 2RS	1	35	CASING	1
10	GROOVED BALL BEARING 6306 2RS	2	36	GROOVED BALL BEARING 6208 2RS	1
11	DRUM, HYDRAULIC CYLINDER	1	37	WASHER MB 08	1
12	PULLEY CASING	1	38	NUT KM 08	1
13	PULLEY	1	39	SHAFT W. SPROCKET	1
14	ROPE FAIRLEAD	1	40	SCREW M 12 X 95 TO DIN 931	1
15	SPACER SLEEVE	1	41	SHAFT PROTECTOR	1
16	GROOVED BALL BEARING 6306 2RS	2	42	SHAFT PROTECTOR OF PVC	1
17	SPACER SLEEVE	2	43	COVER	1
18	DISC Ø40/Ø13 D=5MM	2	44	NUT M 30 TO DIN 985	1
19	SCREW M20X60 DIN 931	1	45	STABILIZER FOOT	1
20	LOCKNUT M20 DIN 985	1	46	BOLT W. SAFETY PIN Ø3	1
21	TENSION SPRING	1	47	COVER	1
22	TENSION SCREW M8X60	1	48	SCREW M8X16 TO DIN 933	1
23	DISC Ø 8,5 DIN 125A	1	49	SCREW M12X20 TO DIN 933	1
24	LOCKNUT M8 DIN 985	1	50	WASHER M12 TO DIN 125A	4
25	PRESSURE SPRING	1	51	WASHER Ø13 TO DIN 125A	2
26	SCREW M10X45 PVC	1	52	OIL TANK	1

Pos.	Description	Qty	Pos.	Description	Qty
53	TANK PLUG	1	81	LOCKING GROOVE M10 DIN 985	1
54	SCREW M10X30 TO DIN 933	2	82	LOCKING GROOVE M12 DIN 985	4
55	WASHER Ø10,5 TO DIN 125A	2	83	WASHER Ø28/ Ø13	3
56	NUT M10 TO DIN 934	2	84	COMPRESSION SPRING	1
57	HYDRAULIC ACCUMULATOR	1	85	SOCKET	1
58	ROLLER CHAIN 1" 16B1	1	86	PLUG	1
59	ADAPTER 1" 16B1	2	87	PLUG	1
60	NUT M12 TO DIN 934	2	88	CONTROL PANEL	1
61	ROLLER CHAIN 1" 16B1	1	89	CONNECTOR, GRAY	1
62	CONTROL VALVE BLOCK	1	90	CONNECTOR, BLACK	1
63	HYDRAULIC CYLINDER	1	91	ROLLER CHAIN 1"	1
64	SCREW M12X60 TO DIN 931	1	92	WEDGE 10X32	2
65	WASHER Ø13 TO DIN 125A	1	93	SEEGER RING EXT. DIAM. Ø35	1
66	LOCKING GROOVE M12 TO DIN 985	1	94	SCREW M12X80 TO DIN 931	1
67	SPRING	2	95	SCREW M12X105 TO DIN 931	1
68	WASHER M12	2	96	COTTER PINS	1
69	BOLT	1	97	FITTING	1
70	PLATE	2	98	BOLT	1
71	BOLT	1	99	SCREW M16X100 TO DIN 931	1
72	SCREW M12X80 TO DIN 931	1	100	LOCKING GROOVE M16 DIN 985	1
73	LOCKING GROOVE M12 TO DIN 985	1	101	PULLEY	1
74	PLATE	2	102	AXIAL BALL BEARING 6306 2RS	21
75	BOLT	1	103	SPACER SLEEVE	1
76	BOLT	1	104	PULLEY CASING	1
77	SCREW	1	105	SPACER SLEEVE	1
78	NUT M12 TO DIN 934	8	106	BOLT	1
79	TENSION SCREW	1	107	SEEGER RING Ø72	1
80	SCREW M10X45 TO DIN 931	1	108	SCREW M12X70 TO DIN 931	1

16. OPERATION TIPS FOR NEW WINCHES

Before putting your new winch to work make sure to read the user's manual and get familiar with all operation and safety instructions contained in the manual.

- Spool the rope off making sure to leave 3 to 4 coils on the drum
- Check for possible eventual damages
- Apply approximately 1.5 - 2 t load when rewinding



Lack of compliance with this instruction may cause permanent rope damages!

MIND for rope twirling, changes of rope construction, strands nicking and wear! DANGER!

The warranty applies only to brand new, undamaged wire ropes.
No warranty claim shall be considered for worn-out , damaged or used ropes or parts!

17. EC STATEMENT OF COMPLIANCE

to the EC Machines Directive No. 2006/42, Annex II A and (Low Voltage) Directive 2004/108

We hereby declare that the equipment described in this manual responds in full to the actual version brought on the market. We, the manufacturer further declare that this equipment was duly designed and manufactured in accordance with the actual European Safety and Health Standards settled by the relevant EEC directives as well as the latest electromagnetic standards issued by the European Council and later enforced by all member states. This statement of compliance does not apply to customer modifications of the equipment without manufacturer's written approval.

Machine type:	**Logging winch**
Models:	**FSW 5,5 H Evolution**
Production No.:	see product identification label
Applicable European Standards:	EC Machine Directive 2006/42 and further modifications and additions
Other applicable Standards and technical specifications:	DIN EN ISO 12100-1, DIN EN ISO 12100-2, DIN EN ISO 14492-1, DIN EN ISO 4254-1
Authorised Representative:	Jörg Kernstock (Director)

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Nordhausen, Date 28.05.2011

Date

Official user language: English

Jörg Kernstock (Director)

(User's release)

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Subject to changes

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