

### User Instructions: CLY 750 2-2000 2000kg Underground Cable Winch

#### Description and Instructions for use and maintenance



# CLYDESDALE

## Powering the Future

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Thank you for purchasing a SAHLINS product.

We want you to be satisfied with your Underground Cable Winch, and this manual has been written to help you to handle and take care of the machine, enabling you to bring the machine into operation so that you become well acquainted with the safety measures you need to adopt before you use it.

#### **GENERAL**

Great care has been put into the design and manufacture of this equipment to ensure there will be no health or safety risks.

There are risks in all work connected with cables and ropes, and to eliminate these risks it is important that:

- you study and follow the instructions
- all personnel continuously receive training in maintenance and safety
- functional equipment and tools are made available
- the owner and the supervisory team are responsible for making sure effective safety programmes and instructions are drawn up and followed by all personnel.

Our instructions contain important information which all users should know and understand before they use the equipment. For your safety and the safety of other people, you should pay special attention to the items/sections that have the following headings:

**WARNING** Gives important information to warn of the risks of serious personal injury or danger if the instructions are not followed.

**CAUTION** Gives important information that describes how you should prevent damage to the machine and equipment, or how you should avoid a situation that could cause personal injury.

**REMARKS** Gives advisory information concerning operation, care and maintenance of the machine and equipment.

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#### Safety regulations

##### GENERAL SAFETY MEASURES

##### Safety for personnel

1. Read and familiarise yourself with all warnings, precautionary measures, and instructions in the operating and care manual, and read and learn the significance of all signs which attached to and located around the equipment. If there is any doubt, ensure that all questions are answered before work begins.
2. Do not work with machines or equipment if you are under the influence of alcohol, strong medicines, tranquilisers or other drugs which may make you less alert, or which could affect your judgement.
3. Observe safety measures to avoid hair or loose articles of clothing becoming trapped in moving parts or control equipment.
4. If possible, protective gloves should be worn at all times to protect hands and fingers against cuts an abrasions, burns and solvents.
5. Always use eye protection if there is a risk of flying particles, splinters, dust or other objects which may injure the eyes, and where the safety instruction require it. Take care of your eyes.
6. Always use a safety helmet and protective footwear when the work requires it.
7. Use hearing protection at all times in working areas with high noise levels.
8. Do not carry out any unnecessary lifting which may cause back injury, use lifting equipment instead. Use your legs not your back when you are forced to lift by yourself.

##### Safety at work

1. Keep the working area clean and free from accumulations of material.
2. Do not permit unauthorized personnel to remain in or around the working area.
3. Surfaces which are touched by hands or feet must be kept clean, dry and free from oil or grease.
4. Store parts and tools in the intended place when they are not in use.
5. Carry out an inspection of warning equipment in the work area, and ensure that each individual unit functions satisfactory before starting the equipment.
6. Do not stand under, or permit anyone else to stand under, the equipment when it is raised or suspended.
7. Find out the weight limits of ropes and lifting equipment, and the free movement which these require.
8. Pay attention to conditions which may obstruct visibility in and around the working area.

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#### Safety of the equipment

1. Warning, prohibitor and information signs must not be concealed, changed, damaged or removed.
2. Never climb onto the equipment during operation, or when it is moving or being lifted. Do not permit anyone else to do this.
3. Check the components in the equipment before each operation period, to ensure that no parts are damaged or are suspected of being damaged. Repair or replace damaged components, or any which are suspected of damage. Repair or replace damaged parts before starting and operating the equipment. Use only genuine SAHLINS parts.
4. Before starting and operating the equipment, it is essential to ensure that no persons, animals, tools, components or other foreign objects are in, on, under or around it. Check that all protective and safety equipment is correctly installed and in satisfactory condition.
5. Ensure before starting the machine that all staff and visitors in the work area have been informed that the equipment is about to be started. Use suitable warning equipment to warn them.
6. Do not permit untrained personnel to start or run any equipment without the supervision of a trained operator.
7. Never leave the equipment unattended during operation.
8. Watch out when starting an operating the equipment for any defective measuring instruments, visible defects, smells or unusual sounds which may give a warning of a fault. Stop the equipment immediately if a fault is suspected.
9. Carry out all inspections, maintenance, lubrication and adjustments with great care, and in accordance with the manufacturer's recommendations. The machine must always be containers. these must be clearly marked in accordance with current regulations. Safety regarding flammable and environmentally-hazardous substances.
10. Store flammable, combustible and dangerous substances in a safe place and in the appropriate containers. There must be clearly marked in accordance with current regulations.
11. Do not permit smoking or open flames in the vicinity of fuel and oil tanks or other flammable regulations.
12. Shut down all engines when filling with oil and fuel. Follow the instructions and recommendations which apply to the handling of these substances.
13. Never start a diesel or petrol engine in a confined space unless it is properly ventilated. Dangerous gases can kill.
14. Do not use flammable and/or combustible substances, such as petrol, paraffin or diesel oil to clean components. Always use non-flammable solvents which are intended for cleaning.

#### UNDERGROUND CABLE WINCH 3200

The Underground Cable Winch 3200 is a hydraulically-operated 2-tonne winch with variable pulling speed and force. The winch is equipped with double bull wheels and an auto layering system on the collecting drum. By having double bull wheels, this winch differs from a drum winch as follows:

- always the same uniform pulling force and speed no matter how much cable/rope there is on the collecting drum.
- fixed input point, that is, no lateral wander of the cable/rope.
- no problems with winding up the cable.
- The winch features infinite control of speed and pulling force, both forwards and backwards.

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#### TECHNICAL DATA

Pull force:	Max. 2000 kp
Speed:	Max. 40 m/min.
Pull cable:	Steel cable, 500 m 8mm
Operation:	Hydraulic
Engine:	Petrol engine 18 Hp
Chassis:	Push brake, spring suspended wheel axle, adjustable support legs and wheels.
Dimensions:	Length 2370 mm, width 1520 mm, height 1050 mm
Weight:	650 kg

#### HANDLING

Setting up: Screw the support wheel up as far it will go (1). Then lower the support legs down and pin them at a suitable height. Screw the support down until the machine is standing firmly on the support legs (2). When necessary, anchor the machine also in the special anchor point (when pulling thicker ropes/cables).



(1)



(2)

Anchor point

You should observe the following in order to achieve the longest service life of the cables/rope.  
-When using a new cable/rope, you should not use a pull force higher than about 500 kp for the first 2-4 pulls.

- Make sure the cable rollers which are used do not have too small a diameter or that they are defective in any way.
- Make sure the cable/rope is not pulled over any sharp edges such as on stones, corners or suchlike.

#### WARNING!

A swivel journaled in a ball bearing must not be used when pulling as this could cause the cable/rope to untwist and thus become badly damaged. As there are requirements relating to the swivel, only a friction swivel of type SAHLINS 7200-1200 may be used.



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#### BEFORE STARTING

Check the oil-level: (make sure the winch is horizontal).

The engine: Top up with oil if necessary, up to the "Full" mark on the dipstick. Pour slowly and carefully.

Push the dipsticks down properly until the cover is flush with the tube when checking.

The oil dipsticks must always be fully inserted into the tube when the engine is running.

Hydraulic tank: the oil level should be between the "min" and "max" marks on the level glass.

Check to make sure that all hydraulic hoses and pipes are not damaged in any way. Connect the electric pole connectors after transport.



#### STARTING AND STOPPING THE ENGINE

Fill up with fuel, 95 octan unleaded petrol. Put the winch control into the "zero" position (straight up). Open the petrol shut-off. Pull out the choke. Apply some throttle (about half throttle). Start the engine by turning the ignition key to the "ON" position. Run the engine for about 5-10 minutes before pulling the cable/rope. Always run at full throttle when pulling a cable/rope. When stopping the engine, turn the ignition key to the "OFF" position and close the petrol shut off before transport. See also separate instruction book for Briggs & Stratton 18hp-motor.

#### OPERATION

The hydraulic control lever located by the hydraulic tank is used to control the speed, pull force, and the forward/backward movement. You perform this control by moving the lever to the right or to the left from the "zero point" (straight up). Move the lever along the transverse grooves in which there are recesses. When subjected to a load, the lever will try to return to the "zero point". The recesses make it easier to maintain a constant speed. In order to increase the pulling force when the engine is already under maximum load, you must reduce the winding-in speed by stationary position, the lever travel is increased until sufficient force is achieved. When pulling the cable/rope out, the control lever is blocked in the "OUT" position. You can then pull the cable/rope out with a light pull or tug.



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#### PULL FORCE LIMITATION

The winch is fitted with a manometer from which you can read off the pulling force. The short-circuiting contact from the manometer on the winch is connected to the fuel system. When the pre-set maximum pull force is reached, the engine will cut out. To start the engine again it is necessary to reset the pulling force. You do this by pressing the reset button. You can set the maximum pull force on the manometer by turning the red indicator by means of the key which is attached. You press the key down whilst turning it.



#### HYDRAULIC SYSTEM

Hydraulic oil should be analysed or changed at least once a year. The tank should be cleaned if the oil deposits a layer of dirt. Hydraulic oil: OK Delta Oil 32, Shell Tellus T32 or equivalent. Tank capacity: approx. 50 litres Hydraulic oil filter: Replace the filter after about 200 hours of operation, but at least every 6 months.

In addition, you should replace the oil filter when changing the oil or whenever you make any major adjustment or repair to the hydraulic system. The filter cartridges must on no condition be washed, as reusing washed cartridges could cause serious damage to the system. Always change to a new cartridge. Check the control and all hydraulic connections for signs of any leakage. If there is leakage, tighten the connections. Filter cartridge: Sahlin 9671-003



#### WINCH HOUSING

Grease the bearing next to the wheels. Tighten the drive chain when necessary by placing shims between the bearing bracket and the support. Check to make sure the protective casing for the wheels not damaged in any way but actually covers the wheels fully.

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#### Planetary gear:

Oil change: You should change the oil the first time after between 50 and 100 hours of operation. The recommended oil change interval after that is every 12 months. The oil should be changed when it is warm to prevent sludge from forming.

Amount of oil: 1 litre Oil level: The level should be up to the level plug at the centre line on the gear. You should check this at least once a year. Type of oil: gearbox oil SAE 90.

Collecting drum and auto laying head. Check, lubricate and tighten the chain for the auto layering head when necessary. Grease the bearing brackets and auto layering head screw and lubricate the bearings on the guide rollers.

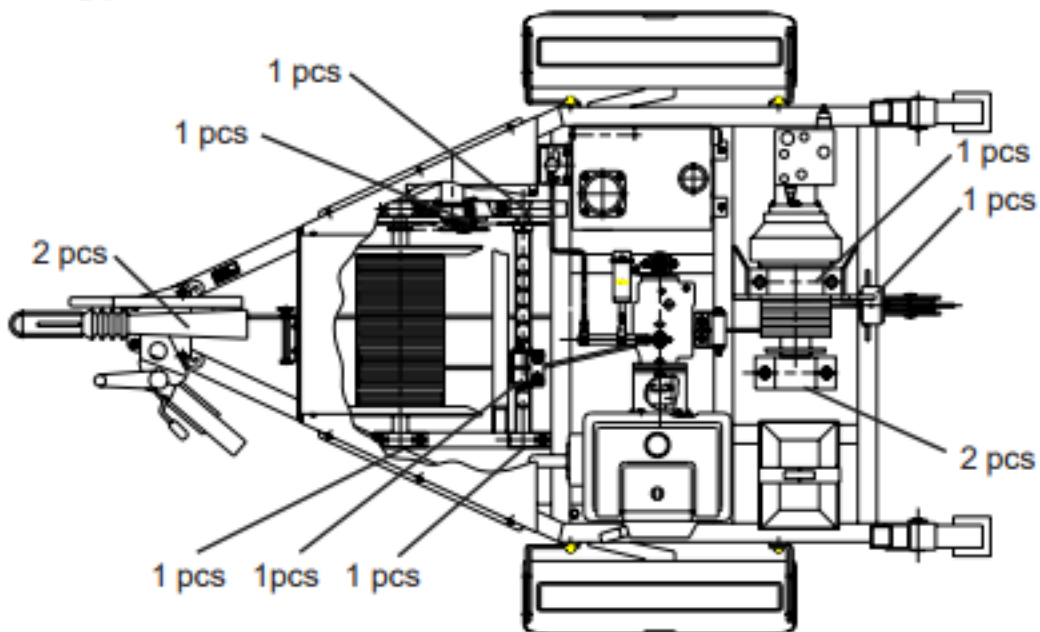


Chain tighten

#### Chassis:

Check the front support wheel and tyres at regular intervals (tyre pressure 275 kPa / Psi).

#### Lubricating points





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#### Guide assembly:

Clean and lubricate all roller with oil to enable them to run easily and smoothly.

#### Pull Cable/rope:

Check at regular intervals to ensure there is no damage.

Fitting the cable/rope bull wheels:

- Make five loops.
- Fit the outgoing cable/rope of the final loop into input roller on the winch.
- Fit the cable/rope around all grooves of the bull wheels. through the guide assembly.
- Move the auto layering head to the end position where the fixing point of the cable/rope on the drum is located.
- Move the auto layering head until it has precisely passed the end position and starts to move towards at he centre of the drum and remains there.
- Fit the cable/rope through the auto layering head and fit cable/rope to drum.
- Fit the protective casing over the bull wheels ensuring correct alignment of rope.



**NOTE:** that you must be extremely careful when fitting the casing. Always check to make sure that the steel cable is in the correct position in the groves.

#### General:

Lift the winch by the front lifting eye and in the upper holes on the support legs using an approved lifting device.

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### EG-declaration of conformity

(Directive 98/37/EG Annex II, Sub A)

**Manufacturer:** Sahlins Maskin AB  
Hedbovägen 42  
511 02 Skene

**Declare under our sole responsibility that the product**  
Underground Cable Winch 3200

to which this declaration relates is in  
conformity with the following standard  
DIRECTIVE 98/37/EG

and that the following harmonized standards  
have been applied  
EMC Directive 89/336/EEG, 92/31/EEG  
& Low Voltage Directive 73/23/EEG

Skene 20021028  
Sahlins Maskin AB

A handwritten signature in black ink, appearing to read "Gunnar Sahlin", written over a horizontal line.

Gunnar Sahlin  
Managing Director