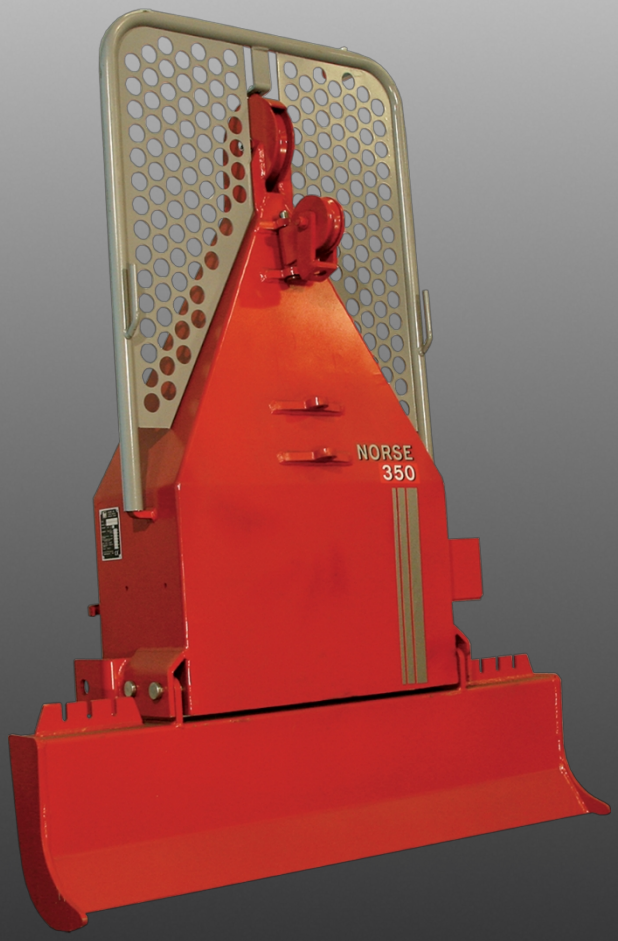
NORSE



Norse

250 350 450

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Product No.	Winches
Norse-250	Norse 250
Norse-350	Norse 350
Norse-450	Norse 450

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AI-translated from the original user manual

Product No.	Optional equipment
IG022150	Oil can holder
IG022151	Saw holder
IG090378	Oil distribution valve for tractors with oil capacity over 55 L/min
IG091442	Speed control for tractor, on/off (only available with radio control)
IG095229	Radio control, 1 function, incl. hydraulics (LH) (450)
IG095440	Radio control, 1 function, incl. hydraulics (LH) (350)

Safety instructions

Before Use

- Read the entire user manual for the winch and any applicable accessories before using the machine.
- Ensure that only qualified and trained personnel use the equipment.
- Familiarize yourself with the controls and functions of the winch.

Personal Safety

- Always wear appropriate safety equipment, such as gloves, safety glasses, and safety shoes.
- Keep children and unauthorized persons away from the work area.
- Maintain a safe distance from moving parts during operation.
- Exercise caution when working in extreme weather conditions, such as heavy rain, snow, or strong winds, as this may increase the risk of accidents.
- Avoid wearing scarves and other loose clothing that could get caught in the PTO shaft and other equipment.

Storage and Parking

- Store the winch in a dry and secure place.
- Prevent children from climbing and playing on the winch when it is parked.
- Park the winch on a firm and level surface when it is stored or not in use.

Emergency Preparedness

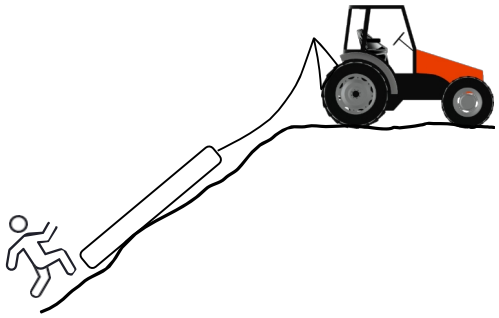
- Keep a first aid kit, fire extinguisher, and emergency numbers readily available in case of an accident or emergency.

Maintenance and Handling of Equipment

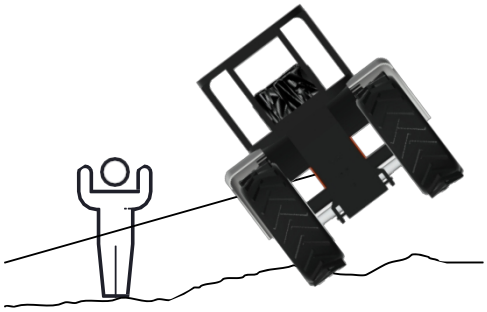
- Only use steel cables with sufficient strength. Low-quality steel cables can cause serious damage if they break.
- If there is visible damage, replace the steel cable immediately.
- Inspect the winch and its components regularly for signs of wear, damage, or loose parts and screws.
- Lubricate the winch regularly as recommended by the manufacturer.
- Keep a record of all maintenance and repairs performed on the winch.
- Replace worn or damaged parts with components approved by the manufacturer.

Safe Operation

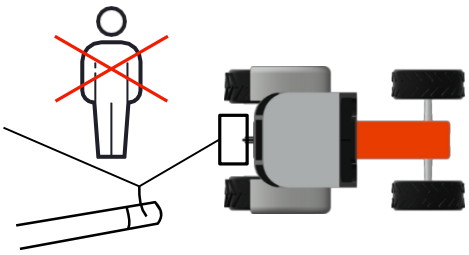
- Never use the winch for lifting or other tasks for which it is not designed. The winch should only be used for pulling timber.



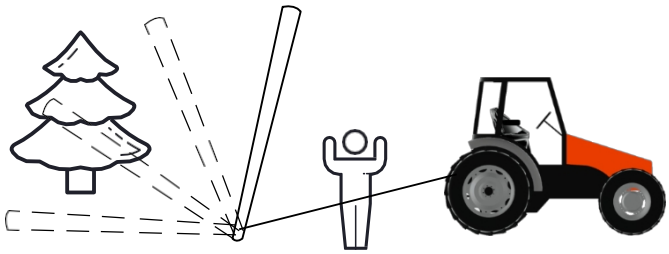
- Avoid standing below the timber and tractor when winching on sloping terrain.
- Always use the pawl brake when pulling uphill.
- Avoid sudden jerks and jolts when using the winch.



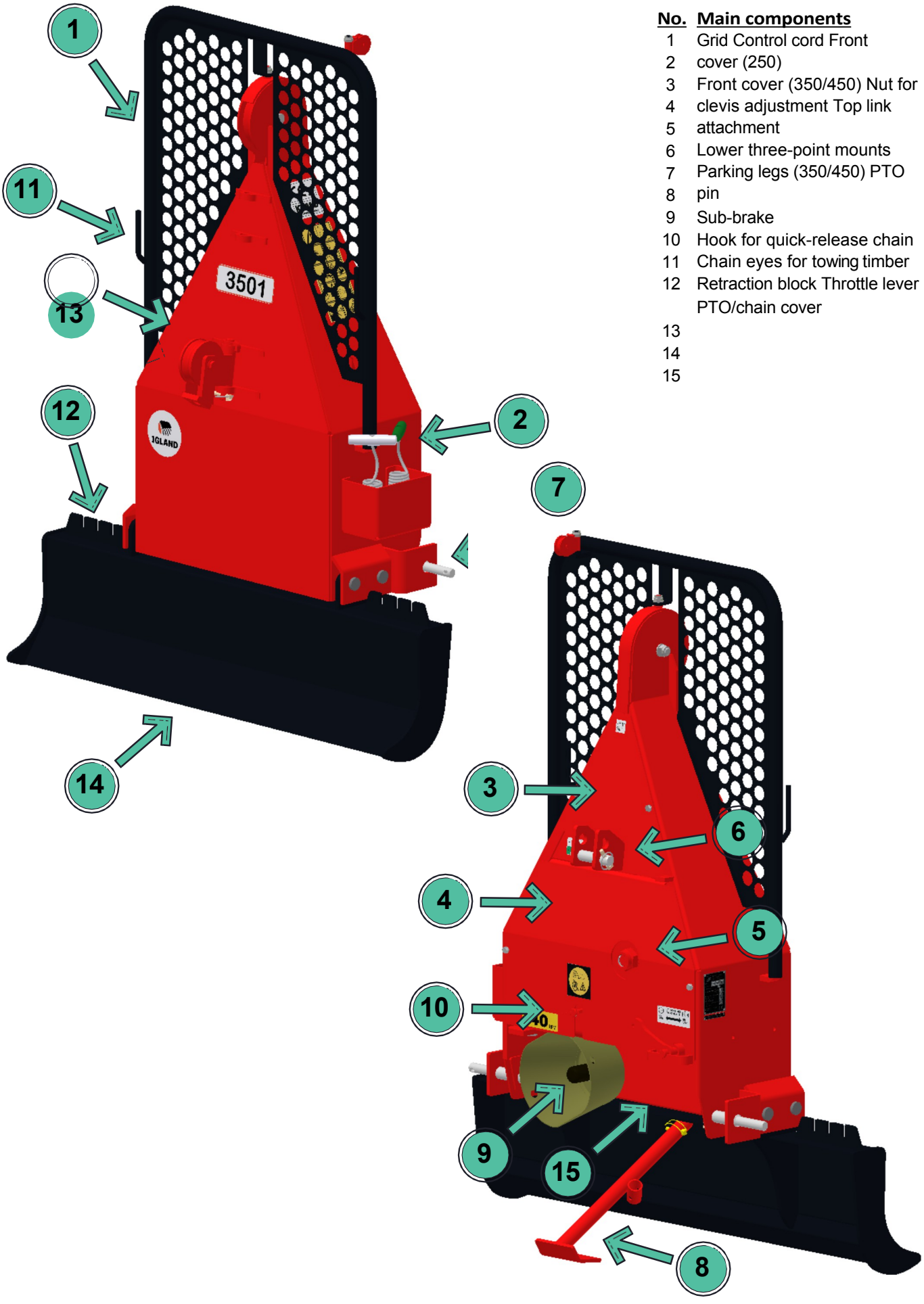
- Be careful when pulling heavy loads, as this can cause the tractor to shift or tip over.
- Do not pull at an angle greater than 30 degrees. Pulling at an angle increases the risk of tipping.
- Ensure that the tractor is in good condition and perform regular maintenance checks.



- Do not exceed the winch's rated capacity or the tractor's towing capacity.
- Never stand between the winch cable and the tractor when pulling.
- Ensure that all bystanders are at a safe distance from the tractor and winch during operation.
- Keep a safe distance from timber being pulled in. Stumps or other obstacles can cause the timber to tip up or sideways.



- Do not touch steel cables, pulleys, or other components that are moving or under tension.
- Keep away from the PTO shaft and other moving parts that pose a risk of crushing or entanglement.



No.	Main components
1	Grid Control cord Front
2	cover (250)
3	Front cover (350/450) Nut for
4	clevis adjustment Top link
5	attachment
6	Lower three-point mounts
7	Parking legs (350/450) PTO
8	pin
9	Sub-brake
10	Hook for quick-release chain
11	Chain eyes for towing timber
12	Retraction block Throttle lever
	PTO/chain cover
13	
14	
15	

Technical specifications

Common specifications

Drums	1
Exchange	1:5.18
Clutch	Replaceable blocks
Brake	Pal brake
Connection to tractor	3-point

Norse 250

Height / width / depth	129 / 92 / 47 cm
Weight (without steel cable)	127 kg
Height of PTO pin	30
Recommended tractor size	11–25 kW (15–35 hp)
Maximum pulling force (empty drum)	25 kN (2.5 tons)
Maximum pulling force (full drum)	11 kN (1.1 tons)
Theoretical steel cable capacity	62 m, 8 mm
Recommended steel cable	40 m, 8 mm
Recommended maximum load	1 m
Recommended maximum pull-in load	0.5 m3
Pull-in speed at 540 rpm	0.66–1.56 m/s

Norse 350

Height / width / depth	160 / 122 / 37 cm
Weight (without steel cable)	200 kg
Height of PTO pin	35 cm
Recommended tractor size	26–52 kW (35–70 hp)
Maximum pulling force (empty drum)	35 kN (3.5 tons)
Maximum pulling force (full drum)	11 kN (1.1 tons)
Theoretical steel cable capacity	71 m, 9 mm
Recommended steel cable	50 m, 9 mm
Recommended maximum load	2.5 m3
Recommended maximum pull-in load	1 m3
Pull-in speed at 540 rpm	0.61–1.67 m/s

Norse 450

Height / width / depth	190 / 150 / 61 cm
Weight (without steel cable)	260 kg
Height of PTO pin	50 cm
Recommended tractor size	26–52 kW (35–70 hp)
Maximum pulling force (empty drum)	45 kN (4.5 tons)
Maximum pulling force (full drum)	17.5 kN (1.75 tons)
Theoretical steel cable capacity	73 m, 10 mm
Recommended steel cable	50 m, 10 mm
Recommended maximum load	3.5 m
Recommended maximum retraction load Retraction speed at 540 rpm	1.5 m
	0.67–1.66 m/s

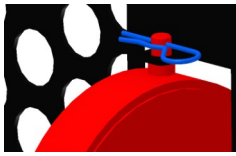
Before use

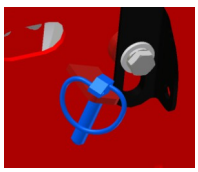
- **Good visibility**: Ensure that you have a good overview of the work area.
- **Guards and components**: Check that all guards and components are in good condition and correctly installed.
- **Damage inspection**: Check for cracks or other damage that could affect operation or safety, and repair immediately if found.
- **Hydraulic hoses and connections** (optional equipment): Inspect for leaks and ensure that they are secure.
- **Lubrication**: Lubricate the machine according to the schedule specified by the manufacturer.
- **Free clutch**: Confirm that the winch does not retract when the control cable is not tightened.
- **Remote control:** (optional equipment): Test for correct response and functionality.
- **Moving parts**: Ensure that moving parts are not obstructed by branches, wood chips, etc.

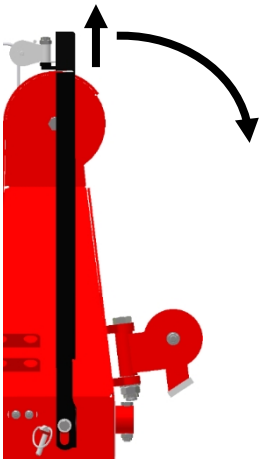
Assembly

250

Remove the locking pin at the top of the grate. Lift the grate, tilt it down and secure it with one locking pin on each side. Tilt and lower the winch until the grate touches the ground. Make sure that the winch is standing on a level and firm surface.

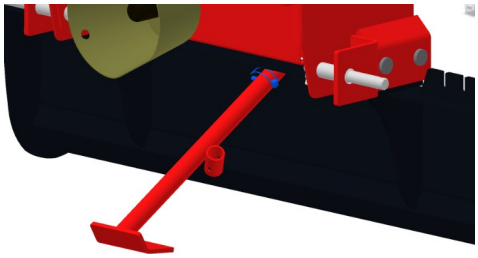






350/450

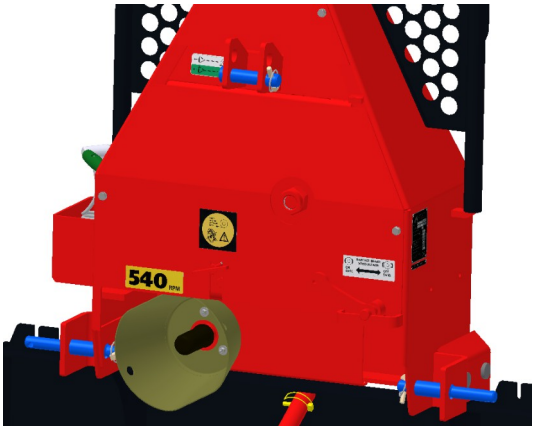
Attach the parking leg and secure it with the locking pin. Make sure that the winch is standing on a level and firm surface.



Mounting the winch on the tractor

Select suitable bolts for the coupling.

	250	350	45
Lower attachments	cat. 1	cat. 1/2	cat. 1/2
Top stays	cat. 1	cat. 2	cat. 2



Attach the tractor's drawbars to the lower attachments. Attach the top link to the top link attachment.

Adjust the length of the top link to tilt the winch 10-20 degrees backward into the working position. Make sure that the winch does not collide with the tractor cab when it is lifted!

The highest top link attachment gives the winch better support against the ground when retracting.

For the 250 model, fold up the grid.

For the 350 and 450 models, remove the parking stand. Attach the short tube to the holder.

Ensure that all connections are secure and properly fastened.

Cutting the PTO to the correct length

Measure the distance between the winch shaft and the tractor shaft horizontally, then subtract 20 mm to find the correct length of the power take-off shaft and guard.

Follow the manufacturer's instructions to cut the power transmission shaft and guard to the correct length.

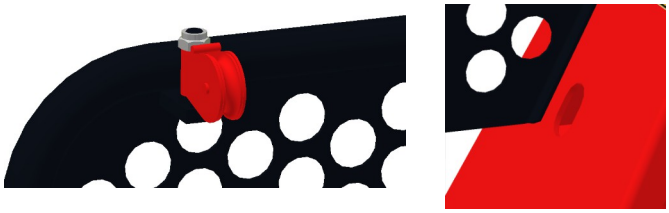
Attach rope for pawl brake

Thread the rope through the metal plate and down to the lever. Tie the end to the lever.

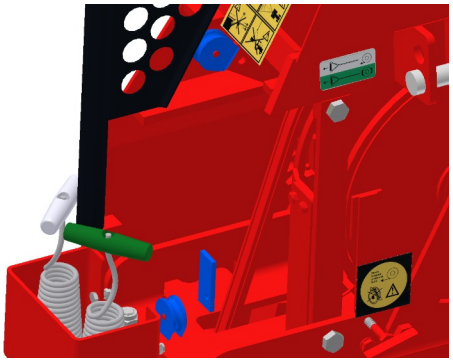
Attach the rope for the clutch

Thread the rope through the pulley at the top of the grid and through the hole in the side of the winch.

Remove the front cover of the winch.



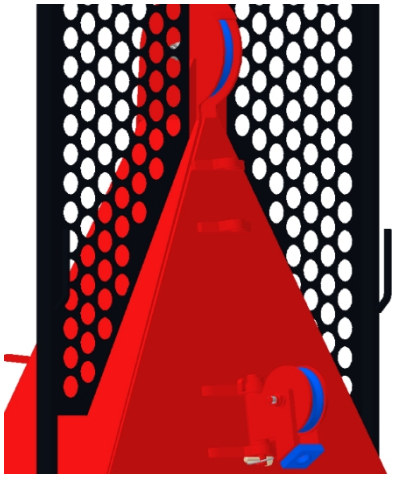
Inside the winch, thread the rope through the lower pulley and the lever pulley, and tie it to the hole in the metal plate.



Attach the steel rope

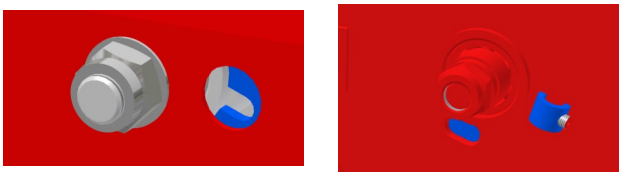
Thread the steel cable through both pulleys on the winch.

Remove the front cover of the winch to access the drum.



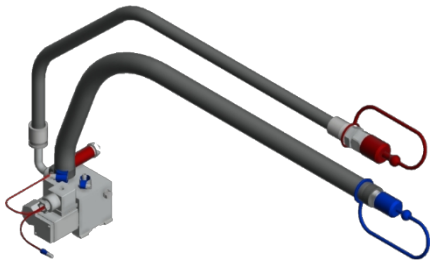
250: Thread the steel cable through the hole in the drum and secure it with a loose clamp.

350/450: Thread the steel cable through the hole in the drum and secure it in the welded clamp with the Allen screw.



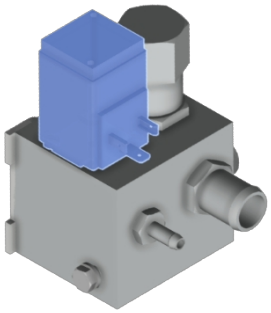
Keep the steel cable taut while winding it on.

Hydraulic connection (optional for 350/450) Connect the pressure hose (ISO connector/red cap) to one of the tractor's outlets. Connect the return hose (open connector/blue cap) to the oil tank or a return line on the tractor.



The return line must be free of resistance!

Radio connection (optional for 350/450) Connect the 7-pin connector to the tractor and the 3-pin connector to the solenoid valve.



See separate manual for more information about radio operation.

Maintenance

Disengage the power take-off and stop the engine before performing maintenance. Check the PTO manufacturer's instructions for maintenance.

Lubrication

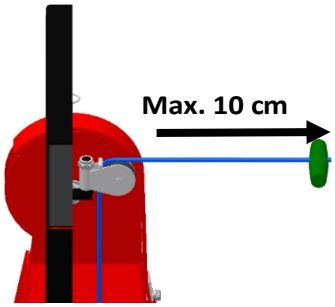
Do not spill oil on the clutch!

	Timer	Lubrication
Chain	20	Thick oil
Needle bearing	20	Thick oil

To access the chain and needle bearing, remove the front cover. The needle bearing is located behind the drum and chain wheel.

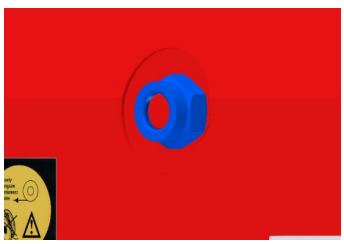
Inspection of the clutch

Pull out 10 m of the steel cable and check the play in the control lever until the winch starts to pull in. Normal play for the lever is a maximum of 10 cm, measured at the cable. Adjust the clutch if there is more play than this.



Adjusting the clutch

Adjust the clutch by turning the large nut. Confirm correct adjustment by performing a new clutch inspection.



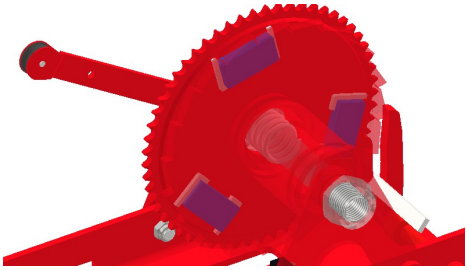
Chain

Check the tension in the drive chain. The chain tensioner can be accessed by removing the PTO cover. Move the spring to adjust the tension. If the chain is too long, remove one link and add half a link if necessary. Fit the chain lock with the closed end in the direction of travel.

Checking the friction blocks

Remove the front cover. The friction pads are located between the drum and the chain wheel. Measure the thickness of the pads.

If they are less than 2 mm, replace the blocks.

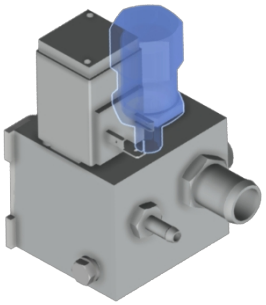


Replacing clutch pads

Loosen the nut to release the clutch. Remove the old blocks and insert new ones. Inspect and adjust the clutch according to the maintenance instructions.

Pressure adjustment (optional on 350 and 450) Adjust the pressure by loosening the nut and turning the pressure regulator.

The pressure must be 40 bar.



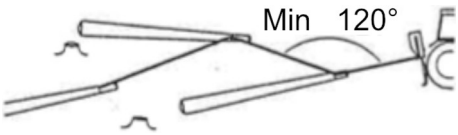
General use of the winch

Back the tractor as close to the logs as possible.

Do not pull in from the sides more than 30 degrees on each side of the tractor.

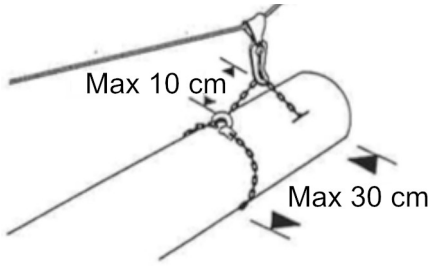
Smaller logs can be secured in a herringbone pattern.

Avoid sharp angles between the sticks.



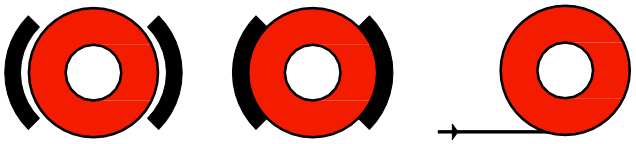
Avoid sudden movements, as the load may react with a delay.

Attach the poles up to 30 cm from the edges.



Maximum 10 cm chain between the slider and the hook.

Operation of the winch



Green rope **White rope**

Free brake **Brake** **Retraction**

Be aware of the winch's limitations.

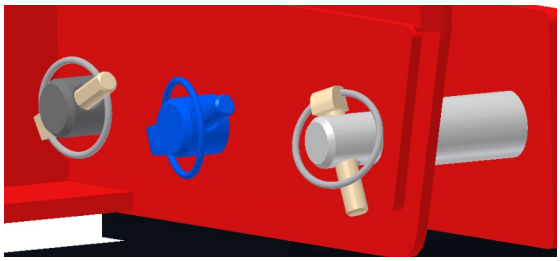
Tighten the sub-brake if the drum spins. Loosen if the steel cable is too heavy to pull out. Lower the load slowly to prevent kinks in the steel cable.

Lower the hay baler until it rests on the ground and use the brakes to park the tractor.

See the radio manual for further instructions.

Hinged timber plate

The timber plate can be hinged to make it easier to drive over obstacles. Remove the locking pin and bolt on both sides. The snow plow will then hang on the winch with a bolt on each side.



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