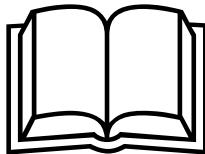


User manual

AT 500 R

Revision D



The user manual should be read before using the machine!

This user guide applies to:

Type	From CE.nr
AT 500 R	8523001→

For chain mulchers owner's manual, scan QR code on the machine plate (located under the hydraulic motor on the pan)



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DECLARATION OF CONFORMITY

DECLARATION OF CONFIRMITY

Refer to the Declaration of Conformity in the Owner's Manual for the chain mulcher.

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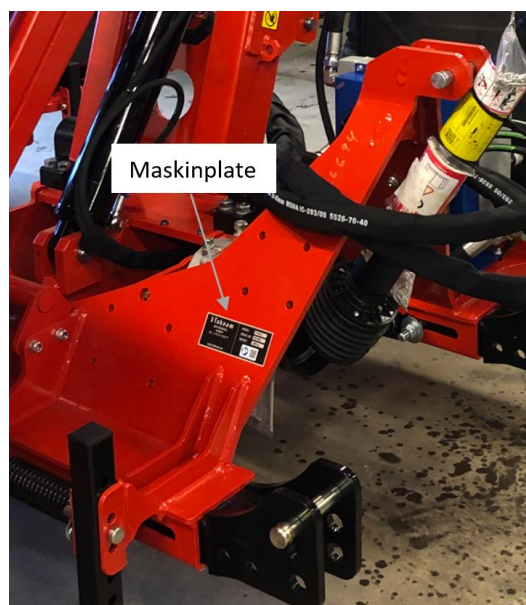
2 Technical data

2.1 Table 1 Technical data

Machine	AT 500 R (Crane arm with H 160 HD)	AT 500 R (Crane arm with H 130 HD)
Max Range Horizontal	512 cm	482 cm
Maximum Vertical Reach	Min. 600 cm (depending on tractor)	Min. 580 cm (depending on tractor)
Transport width incl. 160cm mulcher	246 cm	246 cm
Parking height	263 cm	263 cm
Length of the crane base	136 cm	136 cm
Weight incl. mulcher	1900 kg	1750 kg
Center of Gravity Distance from Pull Arm Bolt	85 cm	83 cm
Maximum RPM PTO	760 rpm	760 rpm
PTO	1-3/8" Z6	1-3/8" Z6
Innfesting	3-point	3-point
Min. power of carrier	130 hp	130 hp
Max. pressure internally in the hydraulic unit	350 bar	350 bar
Min. carrier weight	6 tons	6 tons
Hydraulic connections for crane functions	3 Double Acting Outlets	3 Double Acting Outlets
Min. pressure for crane functions	180 bar	180 bar
Power connection for oil cooler	12V D-plug	12V D-plug


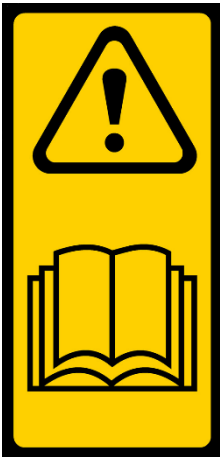
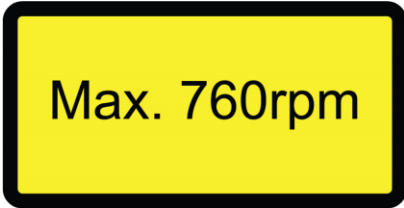
2.2 Machine plate/CE marking

The machine plate is located on the right side of the machine on the mounting frame:



3 Warnings on the machine – meaning of the symbols

We ask that you review and learn the warning symbols.

	<p>Risk of crushing Keep your distance</p>
	<p>Warning – Refer to Operating Instructions for information</p>
	<p>PTO Max. 760rpm</p>

The user manual must be read carefully before using the machine!

Read the manual carefully before starting and before performing preventive maintenance. Familiarize yourself with the equipment and all instructions and keep the user manual so that it is accessible when using the machine. NOTE! This user guide is designed to apply to all markets. Please note that optional extras may vary. We therefore ask you to disregard the equipment that is not on your machine.

We continuously improve our products and reserve the right to make improvements and changes we deem appropriate. Improvements and changes are not implemented on products (machines or optional equipment) that have already been delivered or put into service. We reserve the right to change data and specifications on new machines without prior notice, the same applies to regulations for maintenance and other service measures.

4 Security



It is the operator's responsibility to ensure that the machine is not used or handled improperly.

Make sure that the attachment is correctly sized for your carrier. Particularly important are power requirements, weight and working width. Any discrepancy may result in a reduction of warranty. Pay special attention to the weight of the chain mulcher and the length of the crane arm. There is a risk that the carrier may tip over

- Always keep children away from the machine.
- Do not start the carrier until all persons are at a safe distance from the carrier.
- Make sure that no one is in the vicinity of the machine under any circumstances when it is in operation.
- Never allow anyone to stay between the machine and the carrier when the machine is attached. An unintentional action can result in the person being trapped.
- Pay special attention to splashes of, for example, stones and the like from the machine during operation

Modifications, alterations and alterations that have not been approved by the manufacturer may result in the warranty being limited or voided. This also applies to the use of spare parts or accessories that are not supplied by or approved by the manufacturer. Tokvam AS also does not compensate for any damage to people or objects that may have occurred as a result of the above.

When ordering spare parts or additional equipment, please provide the machine type and serial number. It is forbidden to use anything other than original spare parts for the chain mulcher.

5 Product Description

The machine is designed to be used at the rear of a tractor with a standard 3-point hitch.

It has PTO-driven hydraulic power unit for operating the brush crusher pan.

The arm's cylinders for movement are controlled by the carrier's hydraulic outlet and associated controls.

5.1 Available Extras

Equipment	Quick description	Article number
Counterweight 100 kg	It is recommended to balance the counterweight with weights at the front of the tractor	27043
Counterweight 200 kg	It is recommended to balance the counterweight with weights at the front of the tractor	27045
Counterweight 300 kg	It is recommended to balance the counterweight with the weight at the front of the tractor. 300 kg is recommended for the AT 500 R with 160 cm cutting head.	27046
Toolbox	Storage for e.g. extra chain and tools for changing the chain	27044
Stabilizer for 3-point hitch	Ensures that the tractor pull arms are not subjected to excessive loads when the pan is far out to the side. At the same time, tractor and machine will also be perceived as more interconnected. Recommended for the AT 500 R with a 160 cm cutting head on a tractor under 8 tonnes. Note that connecting and unplugging on the tractor will take approx. 10-20 minutes extra.	27018



6 Preparation before use

6.1 Mounting on a carrier



There should never be unauthorized persons between the machine and the carrier when attaching/dismounting.



Due to the risk of crashing, no one should be between the machine and the carrier while another person is in the driver's seat.

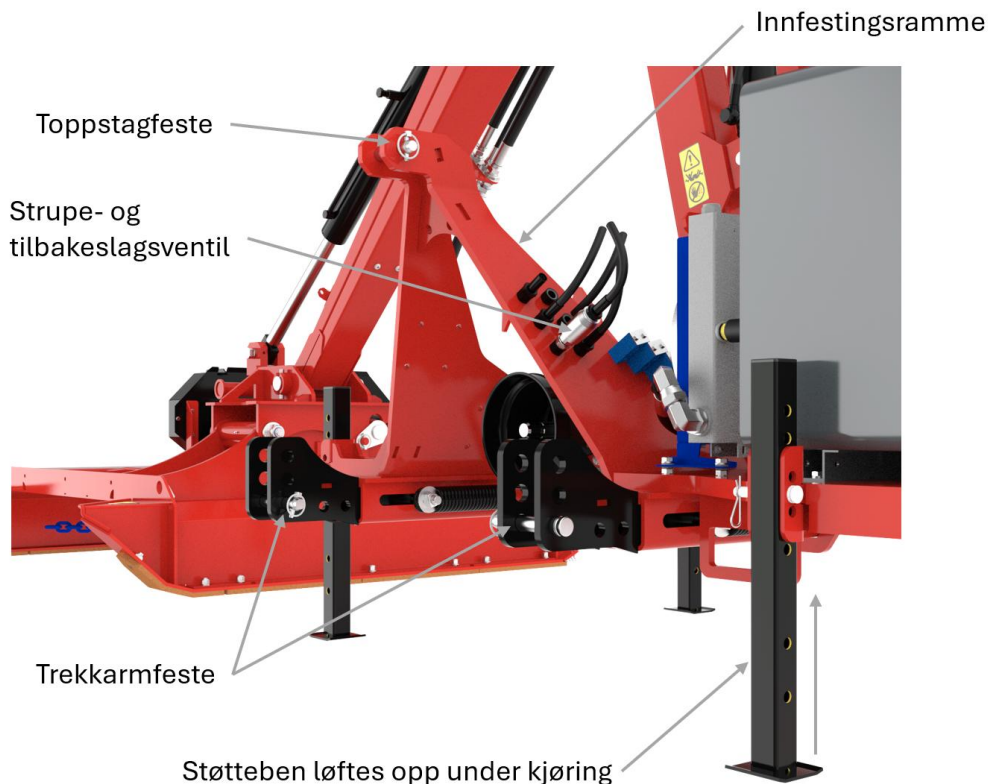


Never put your hands or feet into the machine when it is connected to a carrier.



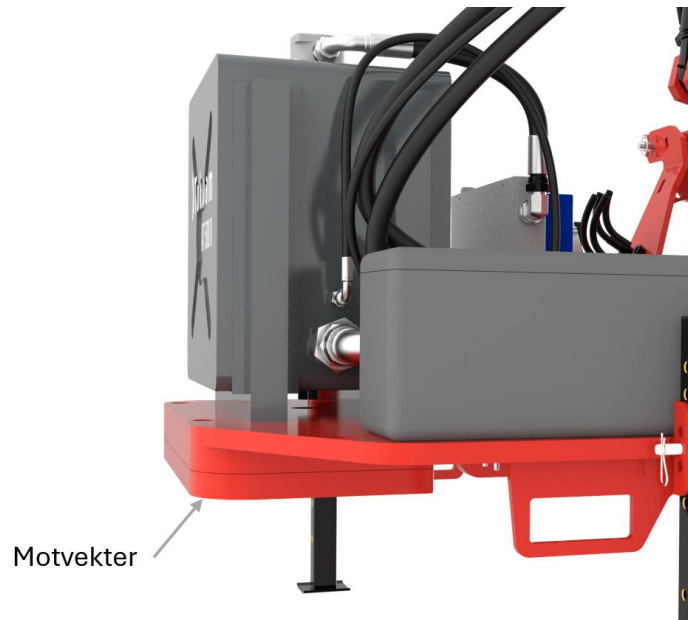
High-pressure hydraulic jets can penetrate the skin and cause serious injury. Seek medical attention immediately if hydraulic oil penetrates the skin or comes into contact with the eyes. Hydraulic oil can also cause allergic reactions. Wash immediately if you have hydraulic oil on your skin.

The machine attaches to the tractor's three-point hitch at the rear of the tractor. Adjust the levelling bar on the pull arms so that the attachment frame is level when the brush crusher arm is 2/3 extended to full reach.



After the brush crusher arm has been lifted up, the four support legs are placed in the upper position.

For increased stability, the machine can be equipped with optional counterweights to improve lateral stability. These are mounted under the hydraulic tank on the left side of the machine. Increasing the tire pressure on the right side may also prove necessary, but here you must consult with the supplier of tires and tractor for what the permissible limits are. For good steering, a front weight may also be necessary. Here you have to try and find out what is best suited for the type of use you have, but 700-1100kg is a starting point.

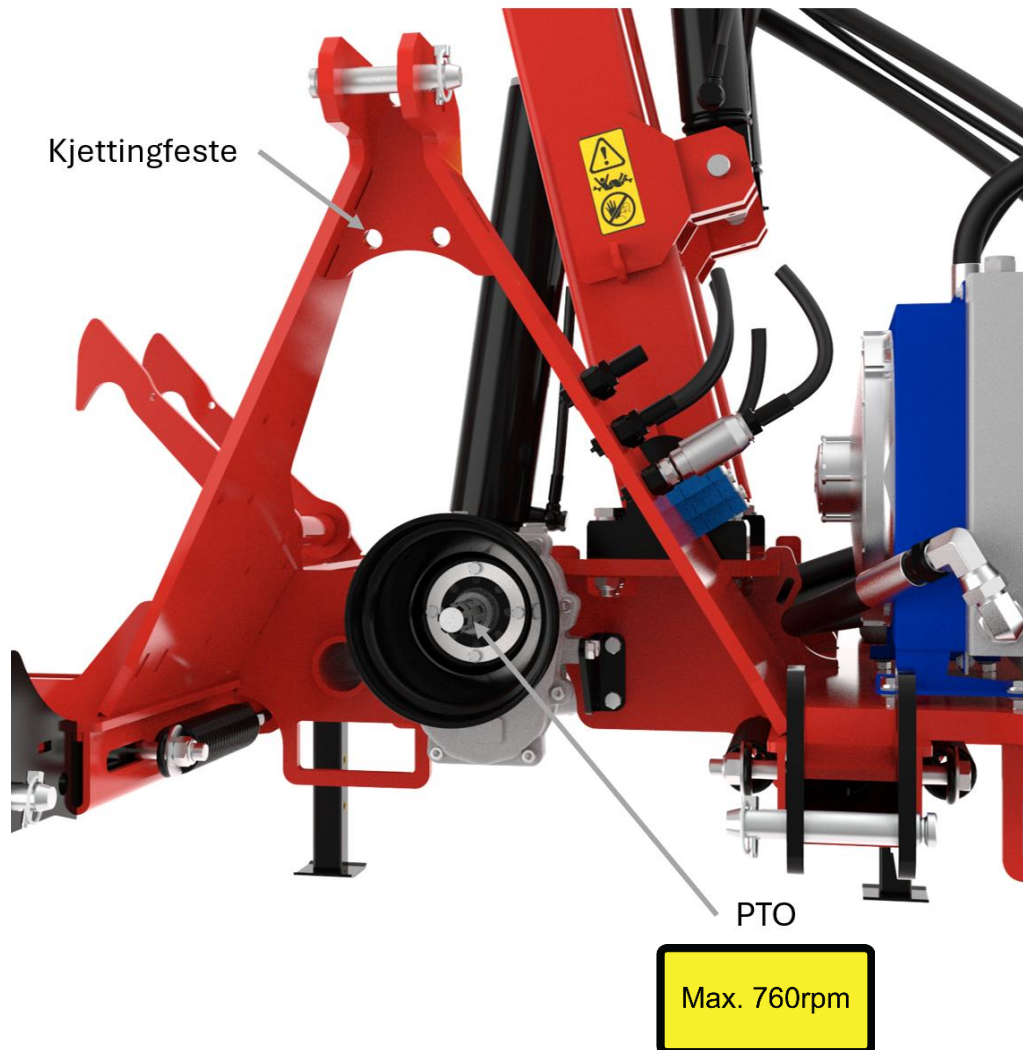


Connect the hoses for the three cylinders that move the crane arm to each of their double-acting hydraulic outlets from the carrier. Always check that the quick connectors are clean. Reduce the amount of oil to these three outlets so that you get a controlled movement in the cylinders. On the first cylinder of the arm, a throttle and non-return valve is mounted on the piston side of the cylinder (+ side). This must be adjusted to adapt to the carrier and the driver's wishes. If it is not possible to reduce the amount of oil for the outlets on the carrier, adjustable reduction valves must be installed on each outlet.

6.2 Connecting the PTO

The PTO shaft is connected to the PTO pin on the gear of the brush crusher arm. Remember to attach the chain to the guard on the PTO shaft.

The PTO shaft is then connected to the PTO pin on the carrier. Remember to attach the chain to the guard on the PTO shaft. NB: The length of the PTO shaft must be adapted to the carrier. Refer to the PTO shaft owner's manual.

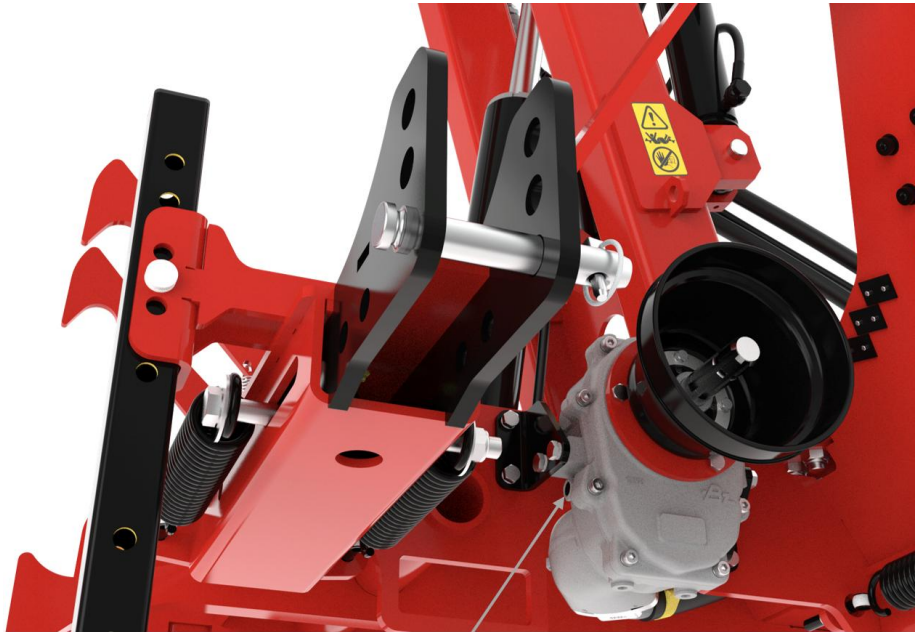


The PTO outlet on the tractor runs at **a maximum of 760rpm**. When driving on grass, the revs should be reduced to prevent uncut grass from blowing away from the chain.

Efforts should always be made to drive at the lowest possible rpm to achieve the desired result, as this will reduce wear on the chains, as well as improve fuel economy.

6.3 Check the oil level on gears

Check that there is sufficient oil on the gear box. There should be oil in the middle of the level glass



Nivåglass på gir

From the factory, the gear is filled with 1.0 liters of oil API GL-5 75w-140

6.4 Check oil level on oil tank

There should be oil 1-2cm up on the dipstick that sits on the oil tank



Peilepinne på tank

If there is too little oil, top up with hydraulic oil ISO VG 32

7 Transport

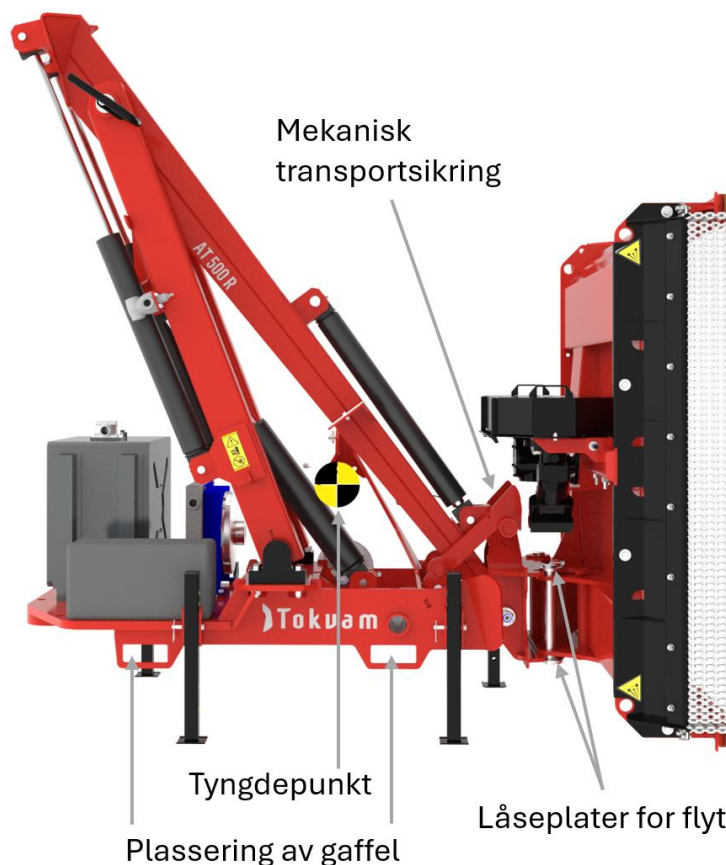
The machine must always be placed on a level and stable surface that can withstand the load of the machine. For weight, please refer to the technical data of your machine.

7.1 Lifting/moving

Always make sure that the lifting attachment used is sized to lift the total weight of the machine.


The machine is lifted with a forklift or other tool with a pallet fork. Use the machine's designated fork pockets for safe lifting and to avoid damage to the machine's components.

7.1.1 Transporting the machine:

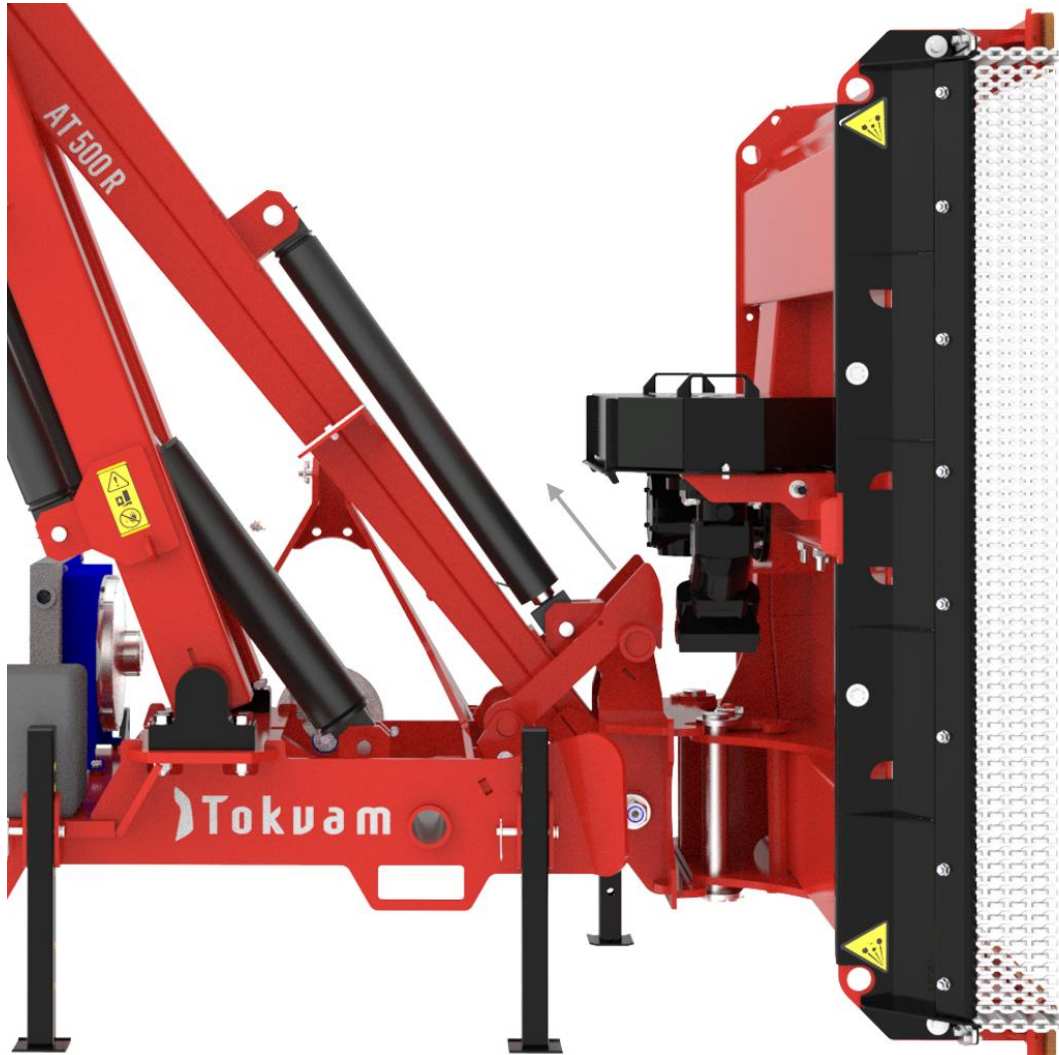


1. The boom is set to the transport position as shown in the picture above.
2. The boom is secured with the mechanical transport protection. (Normally locks automatically, but it must be checked that it is locked).
3. Chain mulcher is secured with the locking plates for the flow movement
4. Place the forks in the prepared pockets as shown in the photo above.
5. Secure the brush crusher arm on the car/trailer during transport

8 Using the machine

 It is the operator's responsibility not to endanger himself or others when using the machine.

The arm's transport lock is released by pulling on the rope:

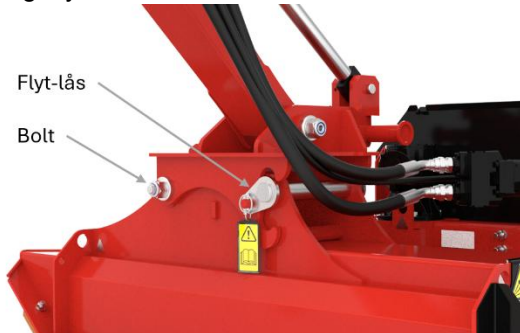


The machine should run without load and at low speed for approx. 5 minutes to pre-heat the oil pump, gear and motor. This will reduce wear and increase the life of the hydraulic system.

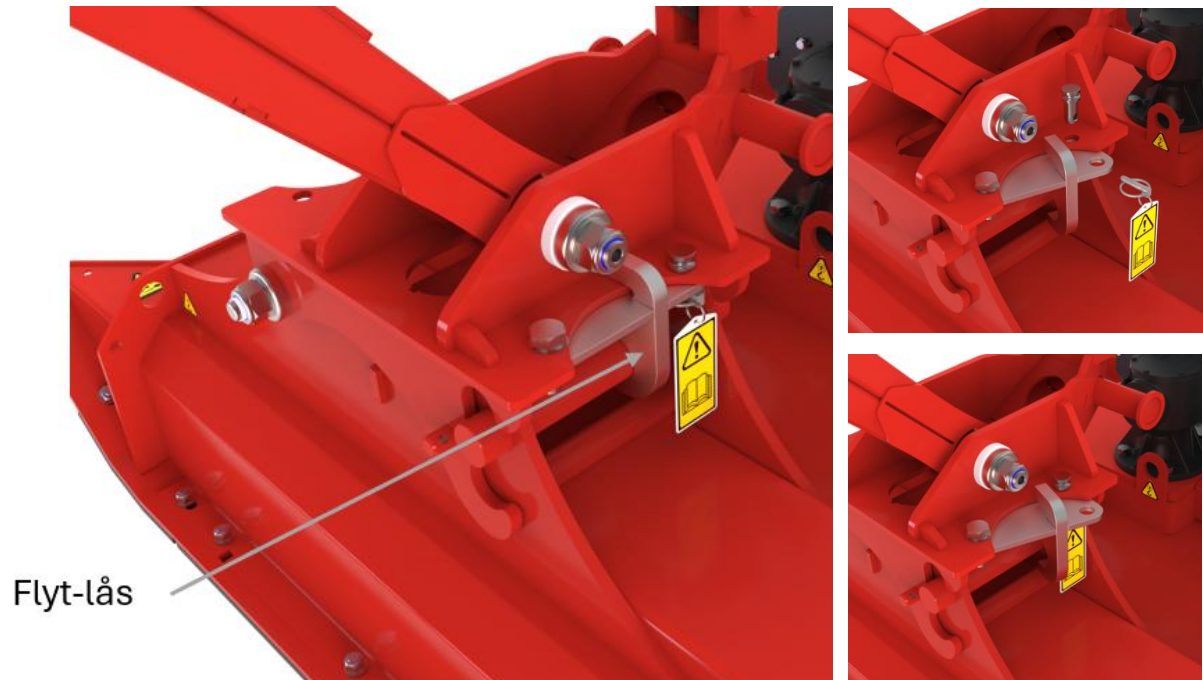
The mulcher should be driven as close to the ground as possible to avoid splashing out of the machine. The crushing result is also better as the material remains inside the machine for as long as possible so that it is crushed into as few pieces as possible.

Drive in a position so that the rear part of the mulcher is slightly lower towards the ground than the front part. This is most easily done by releasing the mulcher's float lock by dismantling two locking plates (older machines) or turning the float lock into the open position (newer machines). Then the pan will be able to follow the surface in an easy way.

Legacy flow lock:

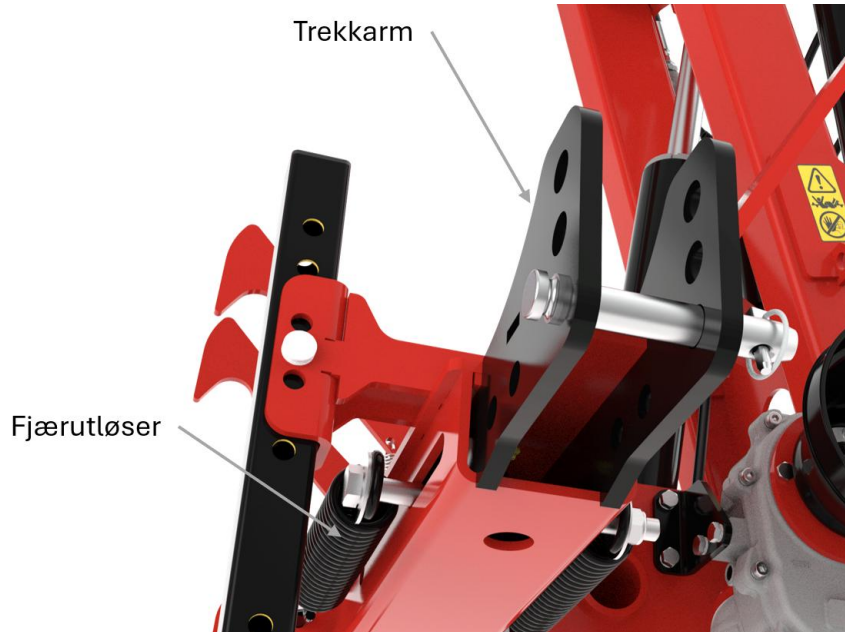


New float lock:
















When driving in rough terrain with a lot of foreign objects such as rocks and stumps, it is recommended to drive with the float lock on, as this gives better control of the mulcher. This avoids unnecessary wear and damage to the chains and mulcher. The same applies when limbing trees as the mulcher is often vertical. When transporting, the locks must always be on.

Do not force the mulcher through too coarse vegetation. The progress speed of the carrier is adjusted according to how much vegetation is to be crushed. The crane arm is equipped with collision protection in the form of a spring release in both pull arm mounts. This means that the machine is protected even when reversing. In any case, great care must be taken as the spring release has a limited stroke.



8.1 Safety during use – IMPORTANT!

-  NB! Risk of splashing. Unauthorised persons must not be within reach of the brush crusher. Safe distance from the machine is a minimum of 50m
-  When driving on rough terrain, great caution must be exercised. Reduce the speed of progress
-  When driving in a densely populated area, the public must be alerted
-  The chain mulcher must not be used if the splash guard or belt covers are damaged/removed
-  The operator's seat must never be left until the carrier's engine has stopped
-  The moving parts of the chain mulcher must not be touched by any body parts until the carrier's engine has stopped
-  When driving in dry areas, there is a risk of fire
-  Due to the risk of crushing, the chain mulcher should never be set down on the ground/ground if people or animals are in the immediate vicinity.
-  Be aware that rear visibility may be limited by the mulcher.
-  Never walk/crawl under the chain mulcher/carrying arm when it is hanging from the carrier.
-  During work in the dark, the work area must be illuminated
-  If vibrations occur in the mulcher, it must be stopped immediately for inspection and possible repairs
-  Use only original spare parts

8.2 Disconnecting

After use, disconnect the machine as follows:

1. Put all four legs down on the brush crusher arm
2. Place the machine on a level and stable surface.
3. Place the crane arm in the locked transport position, alternatively place the mulcher flat on the ground next to the attachment frame.
4. Set all hydraulic outlets in floating position
5. Disconnect all hydraulic hoses from the carrier.
6. Disconnect PTO shaft from the carrier
7. Disconnect the crane arm from the carrier.
8. The machine is now disconnected and can be abandoned.


Machine parked in transport position:



Machine parked with pan next to it:



9 Service and maintenance

 Place the crane arm into position as shown in 8.2 with mulcher on the ground. The parking brake on the carrier is activated, the engine is stopped and the ignition key must be removed before service and maintenance is performed.

For servicing the mulcher, scan QR code on the mulcher's machine plate (located under the hydraulic motor on the pan) for the mulcher's owner's manual.

The three main bearings of the arm are equipped with **maintenance-free bearings**:



These bearings should not require maintenance during the machine's lifetime. They are inserted with a Teflon-based lubricant that is destroyed if exposed to lubricants such as oil and grease. This must therefore be kept dry.

Tighten all screws after the first 10 hours

9.1 Inspection and maintenance interval

9.1.1 Daily inspection

- Check hoses and connections for leaks
- Check that there are no loose screws and nuts
- Check the crane arm and attachment for cracks
- Check the oil level in the gearbox
- Check the oil level in the hydraulic oil tank

9.1.2 Maintenance every 40 hours

- Lubricate the crane arm cylinder ends (8 lubrication points total)



9.1.3 Maintenance every 100 hours

- Change oil on gear – 1 liter API GL-5 75w-140
- Lubricate spring releases. Grease nipple in holes on the underside

9.1.4 Annual maintenance (every 1000 hours)

- Replace the return filter on the oil tank article number: 26860 and any hydraulic oil if needed – 120-130 litres ISO VG 32

Maintenance schedule

	After the first 10 hours	Daily inspection	Every 40 hours	Every 100 hours	Annual maintenance (every 1000 hours)
General check	X	X			
Tighten all screws	X				
Check all hydraulics for leaks		X			
Check that there are no loose screws and nuts		X			
Check for cracks in structure		X			
Check the oil level in the gearbox		X			
Check oil level in hydraulic oil tank		X			
Lubricate all hydraulic cylinder ends			X		
Change the oil on gears				X	
Lubricating spring triggers				X	
Replace the return filter on the oil tank and any hydraulic oil if necessary					X

10 By season / in case of long-term storage

Annual inspection of the machine must be carried out by the employer in accordance with regulations (FOR 1998-06-26 no. 608).

The product should be thoroughly cleaned and lubricated before being put away for storage.

11 Destruction

At the end of the machine's useful life, the machine must be destroyed in accordance with the applicable laws and regulations in the user country.

If there are oil products in the machine, these must be removed and destroyed in accordance with the applicable laws and regulations of the user country.

12 Complaints and warranties

Tokvam AS guarantees that the product is delivered from the factory without defects or defects. Warranty is provided in accordance with applicable law.

The customer must, within a reasonable time, after discovering or should have discovered the defect, notify the seller that he/she wishes to invoke it.

The warranty does not cover defects or defects resulting from the product being subjected to overload or otherwise used carelessly (cf. this user manual).

The warranty does not cover defects or defects due to lack of maintenance (cf. this user manual).

Normal wear and tear of the product and components are not covered by the warranty