



GKB

THE WORKER IS KING



Leafreducer

Manual_Leafreducer_EN_2302

LR150

EC DECLARATION OF CONFORMITY CONCERNING MACHINES
According to Directive 2006/42/EG, annex 2, point 1, A

GKB Machines B.V.
Middelweg 1
2992 SP Barendrecht
Nederland

hereby declares that the

GKB Leafreducer(Bladverkleiner)

Type: LR150

to which this declaration relates are in conformity with the provisions of:

- Directive 2006/42/EC Machinery Directive

At Barendrecht, 10/02/2023



T.J.W. Kraaijeveld

UKCA DECLARATION OF CONFORMITY CONCERNING MACHINES
According to Machinery (Safety) Regulations 2008

Manufacturer:
GKB Machines B.V.
Middelweg 1
2992 SP Barendrecht
Nederland

UKCA Delegate
GKB Machines Ltd.
Warwick House, Ermine Buseniss Park, Spitfire Close
Huntingdon PE29 6XY
United Kingdom

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GKB Leafreducer(Bladverkleiner)

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At Barendrecht, 10/02/2023



T.J.W. Kraaijeveld

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1. FOREWORD

The information contained within these operating instructions covers the necessary use, safety, operation, and maintenance of the machines mentioned in the CE declaration. Before operating anyone of the machinery has to read this operating manual in its entirety. The manufacturer will not be held liable for an injury or damage which occurs from improper use.

It is the goal of the manufacturer to create excellent products, therefore we hold the right to make changes at any time and will not be held under obligation to previously delivered machines. Certain aspects, such as weight and dimensions, may change at any time without notice. Images are also not bound to interim changes.

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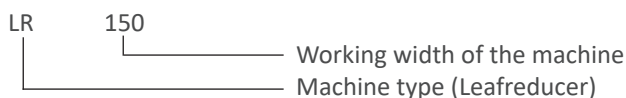
2. INTRODUCTION

The Leafreducer is intended to pick up leaves that fall from the trees, suck them in, grind them and then scatter the ground leaves again. In this way, the leaf is converted into compost more quickly. The machine is adjustable in height to achieve an optimal result. An optimal result is achieved when the grass is reasonably short and the leaves are slightly damp.

Every machine is marked with a code, as seen in the image below.

Example:

Model 'LR150':



The manufacturer shall not be held liable for any damage resulting from unintentional use.

3. CONTACT

Manufacturer:

GKB Machines B.V.
Middelweg 1
2992 SP Barendrecht
NETHERLANDS
info@gkbmachines.com
www.gkbmachines.com

Productnumber Manual: See footer/ front page

Your personal dealer:

Your GKB dealer:

4. WARRANTY

The statutory warranty period of two years from the invoice date applies to the machines. Warranty repairs or product replacements do not extend the warranty period of the machine or parts. The guarantee does not apply to items arising from normal wear and tear or ageing.

A warranty procedure starts with an investigation to determine whether the problem is covered by the warranty. Your cooperation is required to verify that the warranty conditions have been met. To this end, keep a record of the maintenance and repairs carried out in a maintenance logbook.

If the manufacturer receives a warranty notification, it will be determined whether the defect is covered by the warranty. If this is the case, a suitable solution will be found in consultation with the customer. In all cases, consult with the dealer before you try to solve the problem yourself. Warranty can only be given if the machine is in its original condition.

The manufacturer's written permission is required to ensure that the machine does not deviate in any way from the aforementioned purpose of use. Use other than as described will lead to the loss of product liability and warranty.

Product liability obliges the manufacturer and the dealer, when selling machines, to provide a manual and to instruct the user on the operating, safety and maintenance instructions.

The manufacturer is not responsible for any (unintended) damages to grass or sport fields.

Caution! The operating instructions must also be supplied if the machine is subsequently exchanged or resold by the user. Also inform the new user of the regulations.

5. SAFETY

5.1. General

The safest operation requires these machines are operated exactly according to these instructions. In addition, there are also safety warnings on the machines to warn of potential dangers and instructions on how to handle them. The only way to 100% guarantee no property damage or personal injury occurs is to follow these instructions. While using this machine, keep this handbook nearby and always ensure that safety markings on the machines are visible.

Any local safety regulations, including road traffic regulations, must be observed at all times.

The warranty, CE marking, and product liability automatically expire upon changes being made to the machine without consultation of the manufacturer.

The machine is equipped with several safety stickers, to instruct the user how to handle the machine with care. An example of a safety sticker is shown next.

Annex III describes every type of safety sticker. Read them carefully before using the machine.



5.2. Safety instructions

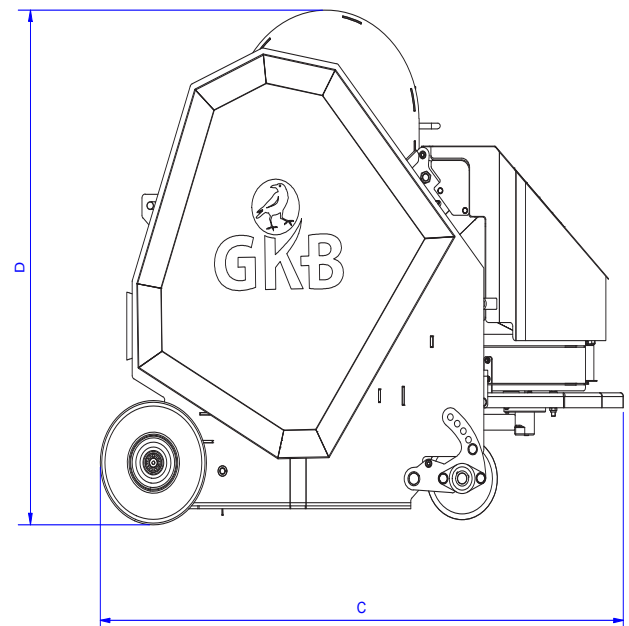
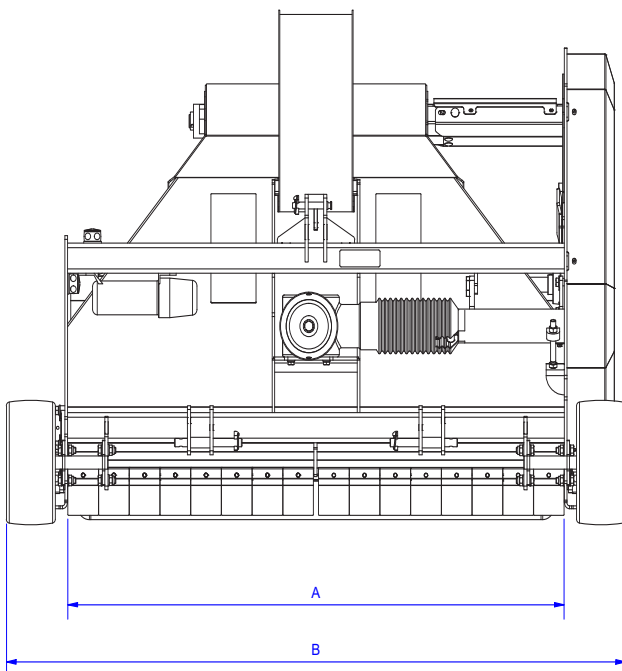
1. These operating instructions must be read and understood by everyone who works, checks or maintains the machine in order to avoid risks and to avert dangers.
2. Pass on all safety and operating instructions to all users.
3. The machine may only be used for the intended work.
4. For optimum performance, the surface to be worked on must be flat and free of obstacles.
5. Only use parts and accessories specified by GKB. The installation and/or use of non-original parts and accessories may change or impair the specific characteristics of the machine. GKB is excluded from any liability for damage resulting from the use of non-original parts and accessories.
6. Before working with the machine, it is necessary to become familiar with all control components, their functions, safety aspects and risks. The machine may therefore only be operated and maintained by qualified personnel.
7. Maintenance must be carried out in accordance with the instructions in the manual. The maintenance carried out must be recorded. Never come under the machine in any situation!
8. Before commissioning, the safety of operation and transport must be checked. The inspection includes, but is not limited to, the correct functioning of the mechanical, hydraulic and electrical components.
9. If leaks are suspected, stop the entire hydraulic system and allow it to cool down before carrying out maintenance.
10. Before use, check that there are no persons and/or obstacles within the working area of the tractor and the machine.
11. There are several warning labels on the machine. These stickers contain important instructions for safe use and must always be clean and visible.
12. All safety devices must be attached to the machinery and be in good working order. Timely replacement of worn and damaged protective equipment is required. This also applies to the warning labels. Fixed guards must always be present during operation.
13. The operator's clothing must be close-fitting. If necessary, wear head and hearing protection.
14. Driving on the machine during work and transport is not permitted.
15. When using the machine on public roads, the (local) traffic regulations of the respective country apply. Observe the markings, lighting and safety devices applied. Only drive if all required permits and approvals have been obtained.
16. Maintain an adjusted speed when the machine is hanging behind the tractor. Especially when driving over thresholds or poor road conditions. Always place the toplink in the round hole!
17. The driver is responsible for ensuring that the tractor and the machine are on public roads in accordance with the regulations. Permitted axle loads and weights must be considered.
18. If the driver is unable to oversee the carriageway immediately behind him, he must be instructed when reversing. Instructors must be within the driver's field of vision only and never between the tractor and the machine.
19. Connect the machine with the tractor according to prescribed tools.
20. When connecting and disconnecting, parking or storing the machine, it must be prevented that the machine moves unintentionally. Depending on the machine, this can be prevented by applying the brakes, using the parking position or locking the wheels by placing wedges.
21. During use, transport or storage on a sloping slope or during maintenance, one should be aware of the risk of tipping over.
22. Prevent burns by careful use of hot components such as oil lines and engines. When carrying out maintenance work, allow the system to cool down completely.
23. It is not allowed to drive or maintain the machine under the influence of medication, drugs or alcohol.
24. Using headphones or hearing protection with music or radio is not permitted.
25. Smoking and open fire is prohibited in and around the machine.

5.3. Productspecifications Leafreducer

	Unit	LR150
Afmetingen		
Werking width A	cm	150
Total width B	cm	195
Length C	cm	165
Height D	cm	140
General specifications		
Empty weight	kg	880
Max. noise*	dB(A)	100
Outgoing engine shaft speed	min ⁻¹	540
Towing vehicle		
Power**	hp	60-75
Pump capacity oil	l/min	20
Max. hydraulic pressure	bar	150

* When using personal protective equipment, bear in mind that in many cases the sound of the Sandspreader is drowned out by the towing/powering vehicle.

** Low gear shift needed.



6. CONSTRUCTION OF THE LEAFREDUCER

A Leafreducer has many different components and parts. This chapter will describe each of them.

6.1. The frame

The frame of the Leafreducer forms the basis of the different components of the machine. The three-point hitch connects the machine to the towing vehicle.

6.2. The rotor

Aan de voorzijde van de machine is een rotor gemonteerd. De rotor is uitgerust met klepels. De klepels lepelen het blad naar binnen, de machine in. Vervolgens gaat het blad dan naar de ventilator.

6.3. The fan

The fan is placed above the rotor. The fan sucks the blade picked up by the rotor further into the machine. Because the fan is running, the blade is already reduced a bit, after which it continues to the hammer mill.

6.4. The hammer mill

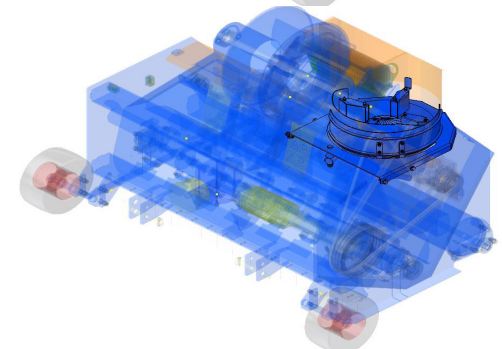
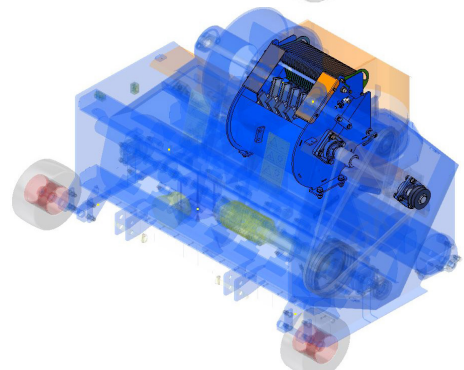
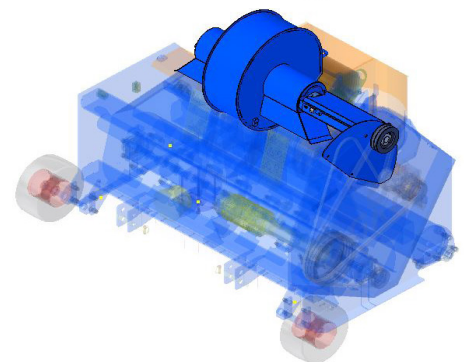
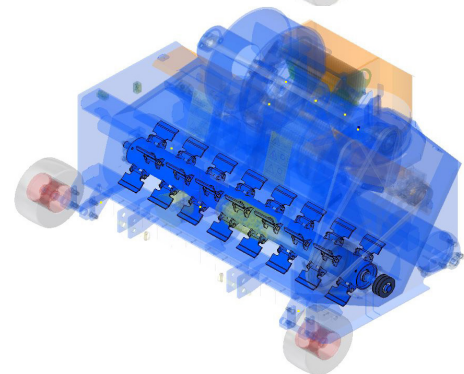
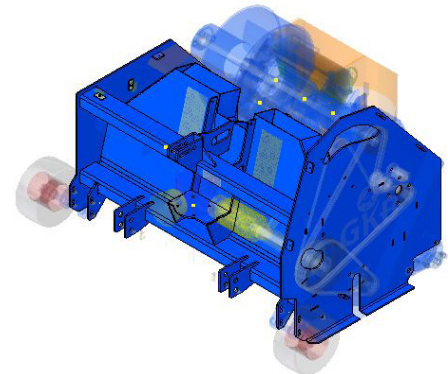
Behind the fan is the hammer mill. This reduces the leaf to small chips. When the leaf is ground small enough, it goes on to the spreading unit

6.5. The distribution unit

The spreading discs scatters the pulverized leaf back over the grass. The outflow can be controlled so that the outflow goes in the right direction.

6.6. The hydraulic components

The hydraulic components on the machine consist of an orbit motor to drive the spreading unit dish, and from a cylinder to control the outflow.



7. LEAFREDUCER OPERATION

7.1. Connecting and disconnecting the Leafreducer

Follow the steps below to connect the Leafreducer:

Connecting:

- 1 Place the tractor in front of the machine and make sure that the tractor and machine combination are both horizontal and in line;

Turn off the tractor;



- 2 Connect the machine to the three-point linkage of the tractor and secure the attachment points with the locking pins;

Make the PTO shaft to the correct length according to the PTO manual and connect the hydraulic hoses and PTO shaft.

Connect the plug for operating the hydraulics in the cabin of the tractor.

Raise the machine



 See risk analysis: Transmission/machine environment

Disconnecting:

- 1 Place the combination tractor and machine on a flat, firm and horizontal surface. Make sure that the combination cannot drive away unintentionally and that the Leafreducer hangs completely free from the ground;



- 2 Lower the machine until it rests on the wheels and the carrier roller;
Remove the hydraulic hoses and PTO shaft from the tractor;
Remove the plug before operation;
Remove the three-point linkage and drive the tractor away.

 See risk analysis: Transmission/machine environment

7.2. Start with working

- 1 Check that the machine is correctly attached to the tractor and hangs clear of the ground;

Adjust the wheels and the roller to the desired height (just above the grass) using the holes in the photo (Barrel with the visible bolt at the back, Wheels with 2 bolts on the inside at the front);

Pay attention: Any branches or stones must be removed before turning. These are NOT allowed through the machine!



- 2 Switch on the PTO shaft slowly (540 rpm); The rotor will turn;

Turn on the hydraulic power and, using the control box, turn on the poppet and adjust the direction of the outflow;

Start driving slowly, lower the Leafreducer and turn a few meters;




- 3 Stop running, raise the machine and turn off the machine.

Check that all leaves are picked up and mulched and that the entire surface is worked evenly. If necessary, adjust the height of the machine using the adjustment or adjust the driving speed;

Check whether the leaves are reduced well enough. Adjust the driving speed if necessary.

Attention: Never measure under the machine!



 See riskanalysis: Rotor shaft/ machine environment

7.3. Adjust spreading disc

The distribution unit can be set in different ways. To adjust the dish, the following actions must be performed:

1. Choose the direction of rotation of the dish with the leftmost joystick. This can be used to send the pulverized leaf to both sides of the machine.
2. Set the desired rotational speed of the dish with the rotary knob.
 - 0 is off.
 - 1 is slow, then the blade is thrown less far.
 - 10 is fast, then the blade is flung far away.



7.4. Adjust rotary valve

The distribution unit can be set in different ways. To adjust the rotary valve, the following action must be performed:

Use the rightmost joystick to set the position of the swing flap. When the joystick is held upwards, the cover rotates so that there is only an opening on the left side. When the joystick is held down, there is only an opening on the right. The flap can also be adjusted in such a way that the opening is as large as possible and can therefore be spread over the maximum width.



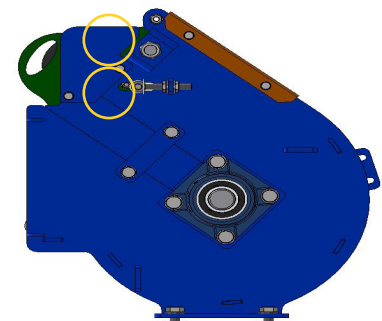
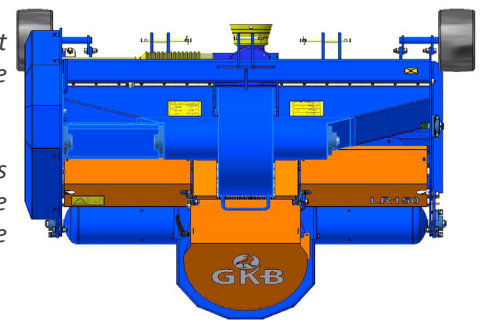
Zie risicoanalyse: Zandstrooier/ omgeving machine

7.5. Adjust hammer mill

For optimum results, the chopper must be properly adjusted. To do this, the fan must be folded away, this can be done by removing the locking bolt and tilting the fan. The protective cover must also be opened.

The chopper is adjusted with the eye bolt on the side, with which the size of the chips can be adjusted. The position of the counter blade in relation to the blade can be adjusted with the large bolt at the top, the blade must be centered between the counter blades.

Note: If there is not enough material in the chopper, it may clang. This is because there is no material between the knives and counter knives.



7.6. Transport and storage

Transport:

When transporting the machine, a suitable means of transport must be selected. Make sure that the machine is secured against rolling away and tipping over. If you don't have sufficient knowledge for a transport, carry it out by a specialised transport company. Provide at least four attachment points on the transporting vehicle.

Storage:

The following points must be taken care when storing the machine:

1. Before storage, clean the machine in such a way that no sand or other impurities are left behind;
2. Store the machine at a dry place;
3. Check if the machine is positioned right with the support legs or place wheel chocks in front and behind the wheels;
4. Never put the machine away on the brake (if applicable);
5. Empty the tanks of the machine if they are filled with water;
6. To prevent corrosion of uncoated parts, apply a protective oil layer;

If the machine is to be used again after storage, all maintenance points must be gone through. Before use, make sure that all components are working properly.

Lifting:

The machine may only be lifted at the designated attachment points. It is important that all existing attachment eyes are used to lift the machine safely. Attaching lifting equipment to other parts of the machine can cause serious damage to the machine and the environment. Make sure the machine is free of materials such as infill and seeds.

8. MAINTENANCE

8.1. Maintenance schedule

In order to maintain the quality of the machine and to be able to claim any warranty, the following schedule must be adhered to as a minimum. Refer to the parts list to replace the correct components.

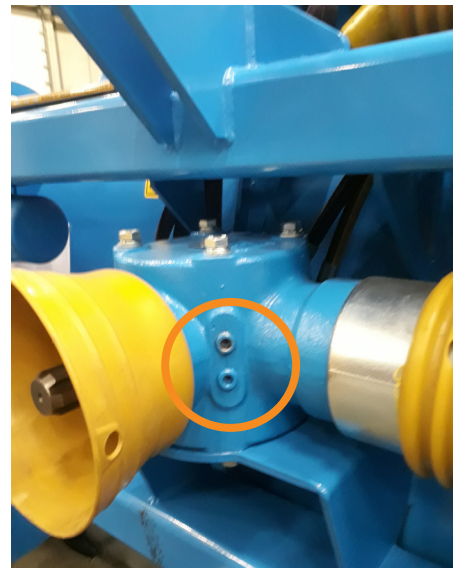
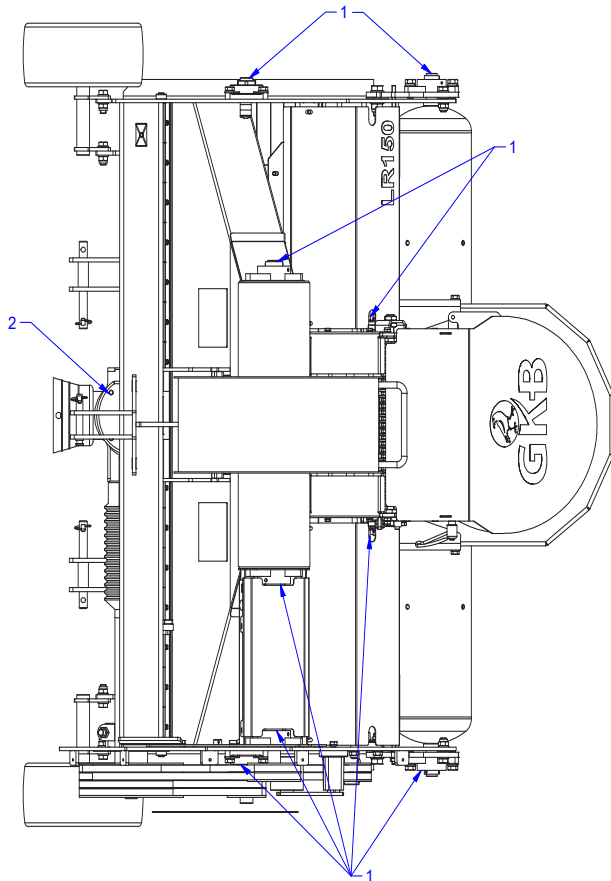
Always make sure that the machine is switched off, cannot move and has cooled down completely.

		Operating hours					
		Before use	50 h	250 h	500 h	1000 h	Annually
Alg General eemeen	Clean the outside of the machine + wearing parts	x					
	Check if all safety stickers are on the machine	x					
	Check for oil stains/ traces	x					
	Check freewheeling of the rotor	x					
	Check state of wearing parts for broken pieces or deformation	x					
Hydraulics	Clean the hydraulic main connections of the towing vehicle	x					
	Check the operation of hydraulic components	x					
	Check hydraulic components for damages/ leakages. Replace when needed	x					
	Check hoses and fittings for dehydrations/ cracks			x			
Others	V-belt - Check tension on the belt (800 Nm)		x				
	V-belt - Check for dehydrations/ cracks and replace when needed			x			
	Check locking pins	x					
	Tighten bolted connections of rotating parts	x	x				
	Tighten bolted connections of fixed parts		x				

8.2. Lubrication scheme

For optimum machine performance, please refer to the plan below for lubrication of the maintenance points.

		Operating hours					
		Voor gebruik	50 u	250 u	500 u	1000 u	Jaarlijks
EP2 vet	1 Lubricate bearings (1 pump)		x				
SAE90 olie	2 Check oil level of gearbox (oranje cirkel)	x					
	3 Change oil in gearbox		x(1 ^{ste})		x		x

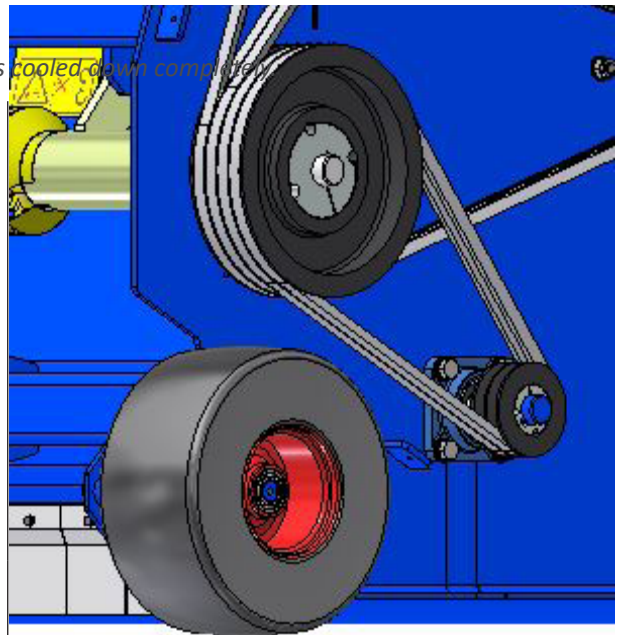


8.3. Performing maintenance

Always make sure that the machine is switched off, cannot move and has cooled down completely.

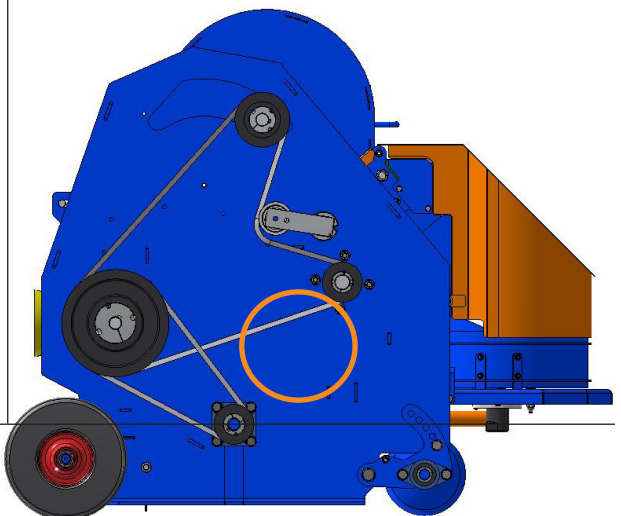
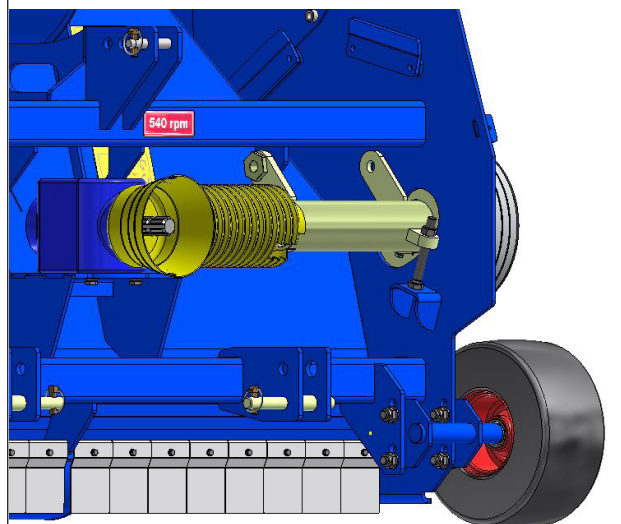
Tension V-belt (short):

- Remove the drive cover;
- Loosen the two clamping bolts one turn;
- The V-belts can now be tensioned by unscrewing the tap bolt;
- Tension the V-belts until a static tension of 800 N is reached; The string will still be able to twist quite easily. Excessive tension leads to increased wear;
- Set the two pulleys directly opposite each other using the eccentric bolt;
- Tighten the bolts;
- Tighten the nut on the underside of the capscrew;
- Refit the drive cover;



Tension V-belt (long):

- Remove the drive cover;
- Loosen the tensioner bolt (orange circle) one turn;
- Turn the square piece with the water pump pliers so that there is more tension in the strings;
- Tension the strings until a static tension of 800 Nm is reached;
- Retighten the tensioner bolt;
- Refit the drive cover;



9. FAILURES

If a failure is detected, please go through the following points before contacting your dealer.

Rotor		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
Image left behind is frayed	The driving speed is too high	Reduce driving speed
	The blades rotate too slowly	Increase the speed of the flails (up to the maximum permissible indicated speed)
	The structure of the field is detrimental	Work the field perpendicular to the previous working direction
Unpulverized leaves remain on the grass	The driving speed is too high	Reduce driving speed
	Hammer mill is not properly adjusted	Adjust hammer mill
	The field is too wet	Wait for the field to dry
Transmission		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
V-belts slip	Not enough tension on the V-belts	Re-tighten V-belts
Fan		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
Fan no longer vacuums	Clogged with leaf	Clean the fan (with motor off)
Distribution unit		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
The output is uneven	The field is too wet	Wait for the field to dry
		Drive slower
	Leaf accumulation in the hammer mill	Clean the hammer mill
Other		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
The hydraulic system is not working	Broken component	Replace component
	Leakage in/on component	Repair or replace component
Electrical system not working	Wire breakage	Replace cable
Tracks are driven in the field	Curves turned on the field	Drive straight ahead only
	The field is too wet	Wait for the field to dry

10. END OF LIFE

To dispose of a machine, follow all local regulations. Practice appropriate safety measures.

Follow these steps:

1. Decommission the machine and shut it down hydraulically;
2. Drain and recycle all consumables;
3. Dispose of the machine in accordance with the local regulations.

ANNEX I TIGHTENING TORQUE

When tightening bolts, observe the following maximum torques (ISO898/1).

The following types of bolts are used in the machine:

- Bolts for wear parts (chisels, etc.): 10.9
- Other bolts: 8.8

Tightening torque [Nm]

		Bold strength:	8.8	10.9
Metric	M5	6	8,5	
	M6	10,3	14,7	
	M8	25,5	35,3	
	M10	50	70,6	
	M12	87,3	122,6	
	M14	138,3	194,2	
	M16	210,8	299,1	
	M20	411,9	578,6	
	M24	711	1000	


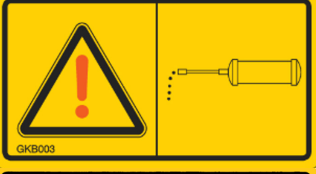

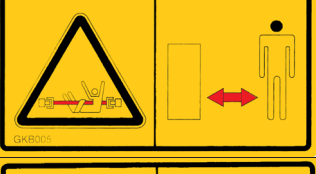



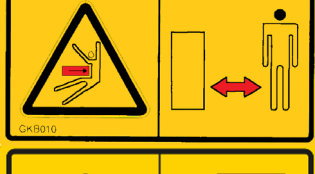






ANNEX II RISK ANALYSIS

Based on risk analysis, the machine has been designed with the safety of users and bystanders in mind. Below is a list of the measures that have been taken to ensure proper safety and prevent injury:

Item	Risk	When	Risk reduction
Transmission	Crushing injuries by the transmission	If a bodypart or clothing comes in contact with one of the parts of the transmission	Fixed shieldings placed Safety chains used Safety stickers placed Safety instructions in manual
V-belt transmission	Cutting/crushing injury from moving parts	If any part of the body or item of clothing comes into contact with the V-belt chain transmission and one of the pulleys	Fixed guards installed which can only be removed with tools Safety decals installed Safety instructions included
Rotor	Crushing injury resulting in permanent injury due to rotation of the rotor	If a person's body part or clothing comes into contact with the rotor	Fixed shieldings placed which can only be removed with tools Safety stickers placed Safety instructions in manual
		If a toe or a feet comes under the machine during use	
Towing eye	Crushing injuries by the towing eye	If a person comes under the machine due to unintentional use of the towing eye	Towing eye strengthened Safety stickers placed Safety instructions in manual
Fan	Cutting/crushing injury from moving parts	If any part of the body or item of clothing comes into contact with the fan	Fixed guards installed which can only be removed with tools Safety decals installed Safety instructions included
Hammer mill	Cutting/crushing injury from moving parts	If any part of the body or item of clothing comes into contact with the hammer mill	Fixed guards installed which can only be removed with tools Safety decals installed Safety instructions included
Machine environment	Being run over by the machine and/or tractor, resulting in serious injury	If the person is in between the machine and the tractor while the combination is moving (unintentionally).	Safety stickers placed Safety instructions in manual
		During transport on public roads.	
	Tilt risk of instability resulting in bruising/pinching injury	If the person is next to or under the machine during maintenance.	Safety stickers placed Safety instructions in manual
		If the person is on a slope next to the machine.	
	Injuries to the body caused by the ejection of material	If the person is behind the machine during operation.	
	Breathing difficulties	Danger of breathing difficulties due to dust generation during use of the machine	
Hearing loss	Danger of hearing damage if someone is near the machine.		
Hydraulisch system	Safety instructions in manual	If, in general or during maintenance, the person is in the immediate area of the hazard.	Hydraulic circuits equipped with components that comply with "EN 875". Inspection of hydraulic components
	Serious general injuries to unprotected parts of the body from exploding or escaping hoses		
Elektrisch system	Electrostatic shock to the affected body part. The shock causes a startle reaction. The shocks are not harmful. The startle reaction can lead to the risks mentioned above.	When a cable of the electric control is broken and is touched	Safety instructions in manual
Elektrische voltage	Electrostatic shock to the affected body part. The shock causes a startle reaction. The shocks are not harmful. The startle reaction can lead to the risks mentioned above.	When a plastic sweeping brush is used instead of the standard brush rotor.	Safety instructions in manual

ANNEX III SAFETY STICKERS

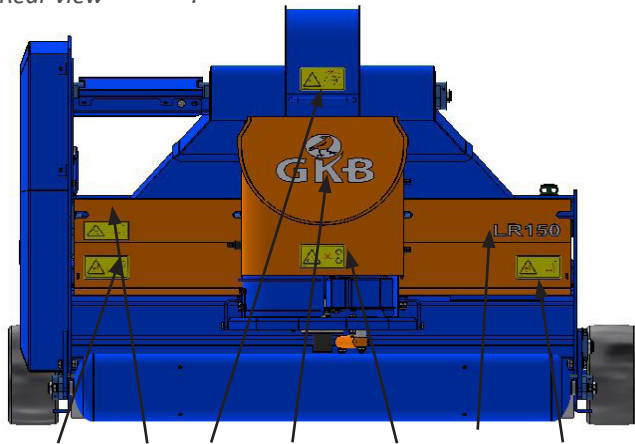
To promote safe practices and proper handling reminders, safety stickers are adhered to all machines. If a sticker cannot be read or found, it should be replaced immediately. The following page shows an overview of all the stickers and their positions.

GKB001	Comply with all maintenance instructions		GKB002	Refer to the owner's manual. It contains useful information about the use, safety and maintenance	
GKB003	Regular lubrication		GKB004	Switch off the power take-off before lifting the implement	
GKB005	Risk of retraction due to rotating parts		GKB006	Risk of finger cutting due to rotating parts	
GKB007	Danger of rotating parts		GKB008	Risk of retraction due to rotating parts	
GKB009	Risk of crushing		GKB010	Keeps distance when the machine is in operation due to swinging parts	
GKB011	Keep a distance when the machine is in operation due to flying parts.		GKB012	Risk of crushing between tractor and implement	
GKB013	Danger of retraction when opening the cover when the rotor is switched on		GKB014	Choice in minimum to maximum adjustment	
GKB015	Danger of retraction due to rotating parts		GKB	Place a safety piece before entering the danger zone	
HOT	Keep a safe distance from hot surfaces		018417	Required speed	

Location safetystickers

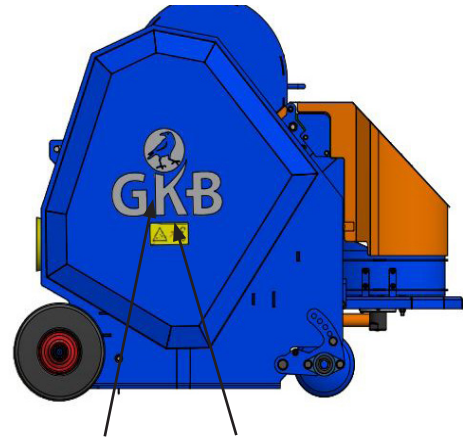
The illustrations below show all the safety stickers and their positions:

Rear view :



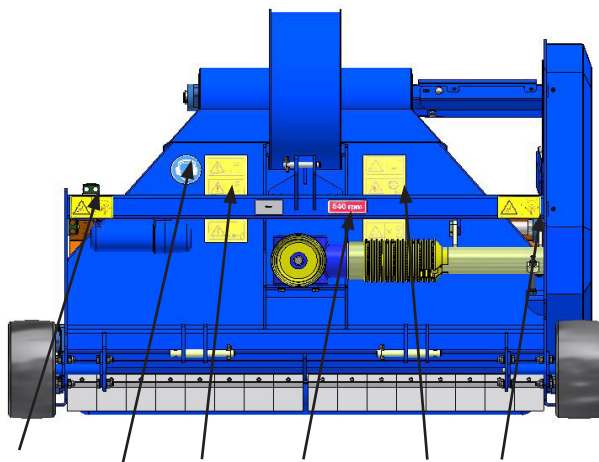
GKB010 GKB011 GKB013 LOGO GKB008 TYPE GKB010

Left view:



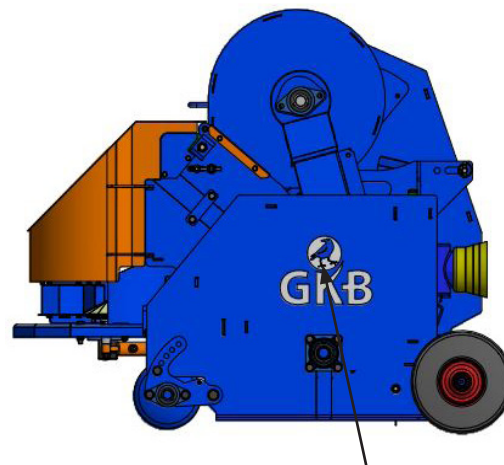
LOGO GKB008

Front view:



GKB012 Hearing-GKB100 GKB015 GKB500 GKB012 protection

Right view:



LOGO