THE WORKER IS KING

Sandmover

Manual_Sandmover_EN_2306

SM180 - 200 - 250

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 Sandmover

Type: SM180 - SM200 - SM250

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

- Directive 2006/42/EC Machinery Directive

At Barendrecht, 20/06/2023

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

hereby declares that the

GKB Sandmover

Type: SM180 - SM200 - SM250

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

- Machinery (Safety) Regulations 2008

At Barendrecht, 20/06/2023

T.J.W. Kraaijeveld

TABLE OF CONTENTS

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.

2. INTRODUCTION

The Sandmover is intended to apply various layers of material quickly and precisely when constructing sports fields. In addition, it is possible to accurately fill drainage slots by means of a conveyor belt. The conveyor belt can be hydraulically adjusted as desired. The frame is equipped with balloon tires to create minimal stress on the field.

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

Example:

Model ‘SM200’:

SM 200
- 200 — Working width of the machine
- SM — Machine type (Sandmover)

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

5.2. Safety instructions

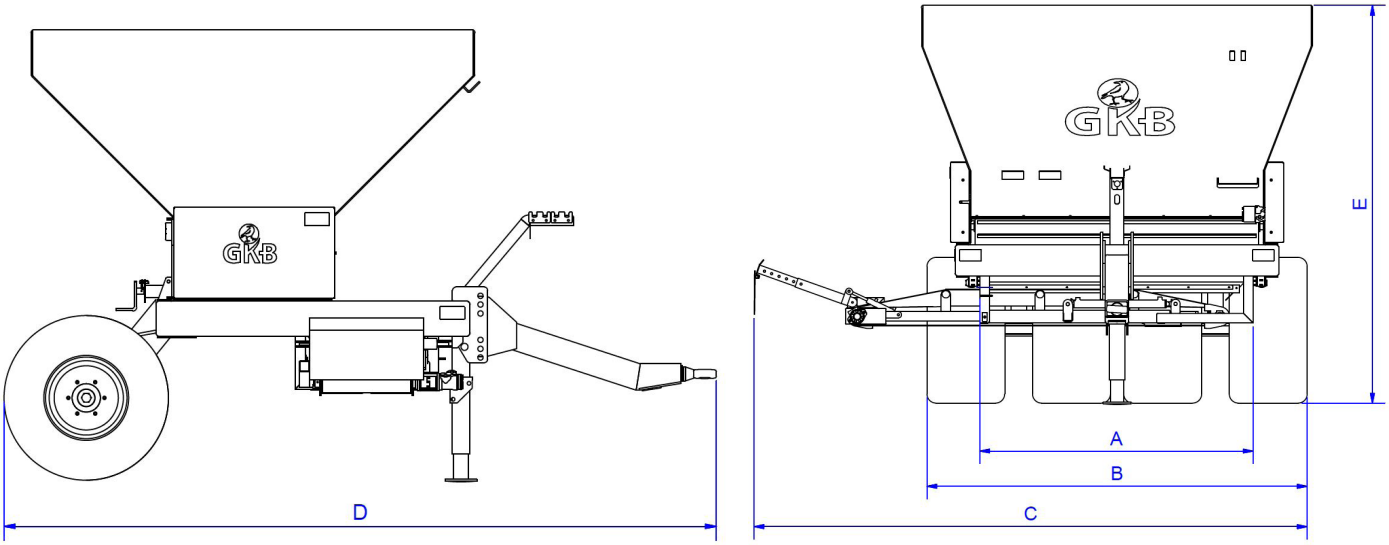
1. These operating instructions must be read and understand by everyone who works, checks or maintains the machine in order to avoid risks and to avert dangers.
2. Pass on all safety and operating instructions to all users.
3. The machine may only be used for the intended work.
4. For optimum performance, 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 tresholds 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 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. Product specifications Sandmover

		Unit	SM180	SM200	SM250
Dimensions					
Working width	A	*cm*	180	200	250
Width during transport	B	*cm*	250	260	275
Max. working width conveyor	C	*cm*	355	360	380
Length	D	*cm*	400	400	400
Height	E	*cm*	260	260	260
General specifications					
Empty weight		*kg*	2550	2700	2750
Bunker capacity		*m^3*	5	5,5	6
Max. noise*		*dB(A)*	80	80	80
Towing vehicle					
Power**		*hp*	85-100	85-100	85-100
Pump capacity oil		*l/min*	50	50	50
Max. hydraulic pressure		*bar*	150	150	150

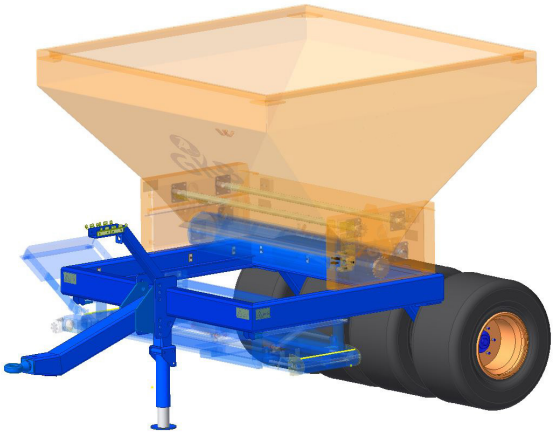
* *When using personal protective equipment, bear in mind that in many cases the sound of the Sandspreader is drowned out by the towing/powering vehicle.*

** *Low gear shift needed.*



6. CONSTRUCTION OF THE SANDMOVER

This chapter describes the various parts of the Sandmover and their functions.

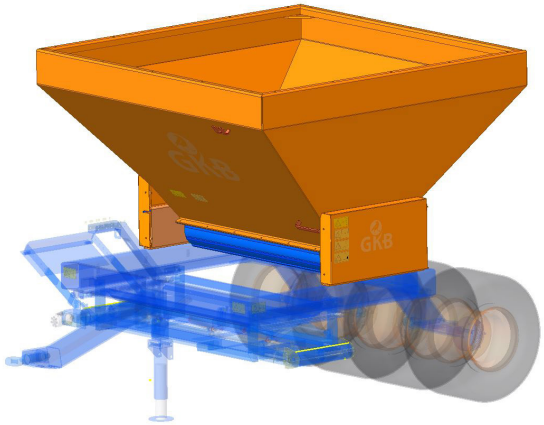


6.1. The frame

The frame of the Sandmover is the basis for the various components of the machine. The machine is connected to the towing vehicle by means of a drawbar eye. Four wheels are mounted at the rear. This creates a minimum load on the field.

6.2. The bunker

Depending on the chosen configuration, the material is applied by means of a dosing roller or conveyor belt. The layer thickness can be set between 2-10 cm. It is possible to apply various materials such as sand, lava, split or gravel.



6.3. The conveyor belt

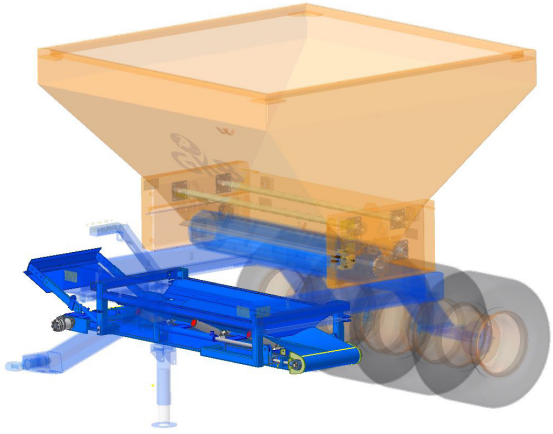
If the machine is equipped with a conveyor belt, the driver can choose to apply a layer of material directly on the field or by means of the conveyor belt. The conveyor belt can be set to any desired position by means of a hydraulic control. A flap is mounted at the rear to set the desired spreading distance.

6.4. The hydraulic components

The standard machine is equipped with a hydraulically adjustable dosing speed. Once a conveyor belt has been installed, it can be hydraulically changed in various positions:

- Longitudinal positioning of the machine;
- Extending and retracting in width direction;
- Adjusting metering valve conveyor belt;
- Conveyor belt speed.

When the machine is fully hydraulic, four functions must be controlled from the tractor.



6.5. The result

The result is a prepared field on which one or more layers of material have been applied. The field is optimally prepared for possible overseeding or other post-processing options.

7. OPERATION OF THE SANDMOVER

7.1. Connecting and disconnecting the Sandmover

Follow the steps below to connect the Sandmover:

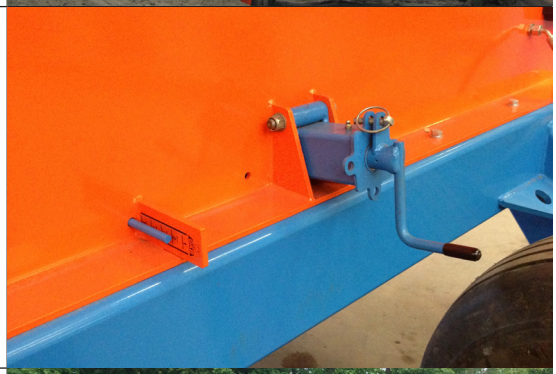
Connecting:

1	Check that the machine is safely positioned on the four support legs; 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 completely; *It is not allowed to connect the machine with a flexible tow hook.* *Only drive the machine when all tires are mounted.*	
2	Position the drawbar eye of the machine in the pin coupler of the tractor and insert the pin through the drawbar eye; Connect the hydraulic hoses. Make sure that the connection points are free of sand and contamination; In addition, connect the electricity plug of the lighting.	
3	Slide in the support leg and secure it with the locking pin.	
	See riskanalysis: 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; Detach the support leg and lower it. Secure the support leg at the desired height. Lower the machine until it rests on the support leg.	
	See riskanalysis: Machine environment	

7.2. Start filling

1	Check that the machine is correctly attached to the tractor and that all components are working properly; Fill the bunker with the desired material and drive to the intended location.	
2	Set the metering valve to the desired amount.	
3	*Standard machine:* Switch on the dosing roll at the desired speed and start spreading for a few metres. *Machine met transportband:* Position the conveyor belt on the frame using the hydraulic operating components. Turn the dosing brush on to the desired speed and start filling slots.	
4	Stop filling and turn off the machine. Check whether the correct layer thickness is being spread; *Attention: Never get under the machine!*	

See riskanalysis: Machine environment

7.3. 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

To maintain machine quality, adhere to the following diagram. The list of spare parts will show the correct parts to replace. See chapter 7.3 for safe exectution of the maintenance points.

Always ensure 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
General	Outside cleaning of the machine	x					
	Check if all safety stickers are on the machine	x					
	Check for oil stains/ traces	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			
Elektronics	Check the wiring for cracks or any other damages			x			
	Check the lightening plug for cracks/ damages	x					
	Check correct operation of the lightening and replace if necessary	x					
Others	Chains - Check tension on the chains ED200/240 (1-2cm tolerance)**			x			
	Conveyor belt - Check for cracks on the surface or at the edges			x			
	Conveyor belt - Check tension on the belt (3-10mm for 1 meter. Tension and check once per time)			x			
	Check locking pins	x					
	Check the tightening torque of the slip couplings (11Nm)		x				
	Tighten bolted connections of rotating parts		x				
	Tighten bolted connections of fixed parts			x			

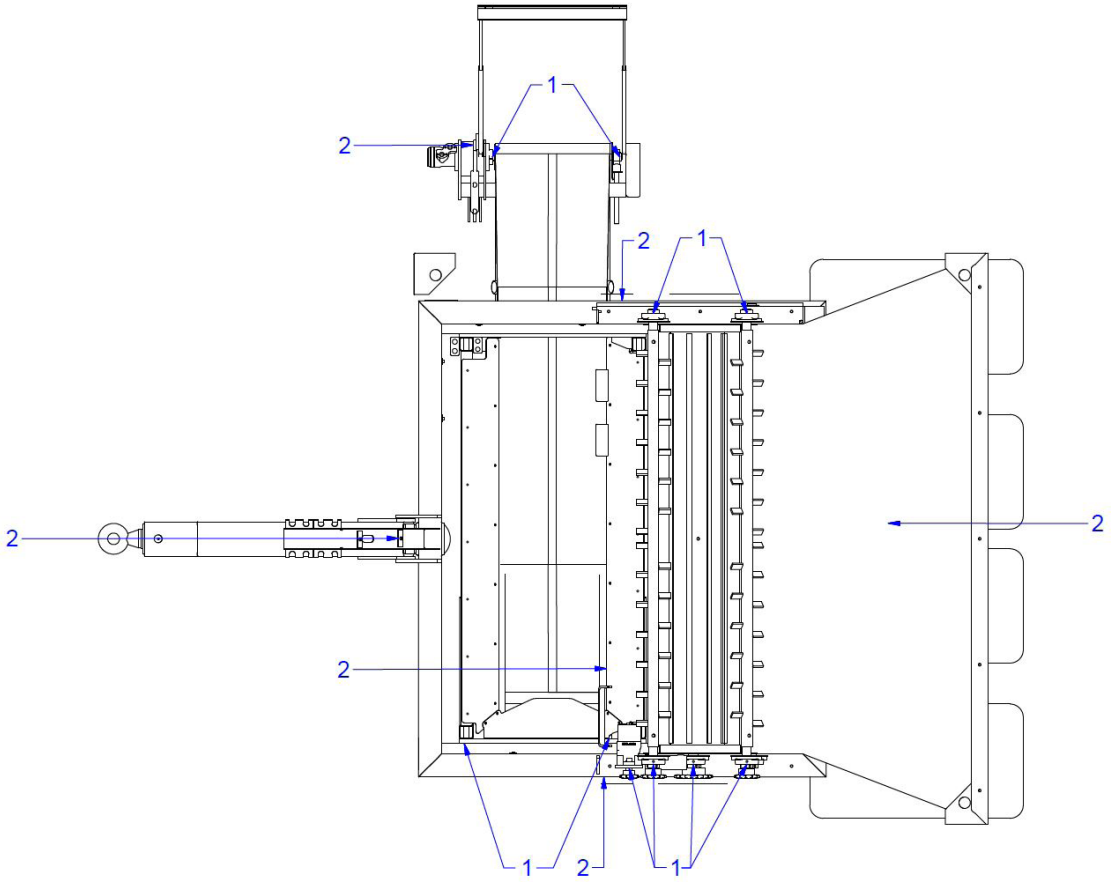
* Tire pressure and tire tightening torque: 15,0/55-17 BKT RIB-774 10 PLY 4,0 bar
500/50R17 Mitas service AR-03 149D TL 4,0 bar

** Always measure the tension on the chain at the point where the chain is tightest.

8.2. Lubrication scheme

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

		Operating hours					
		Before use	50 h	250 h	500 h	1000 h	Annually
EP2 grease	1 Lubricate bearings		x				
	2 Lubricate pivot points of cylinders		x				



8.3. Performing maintenance

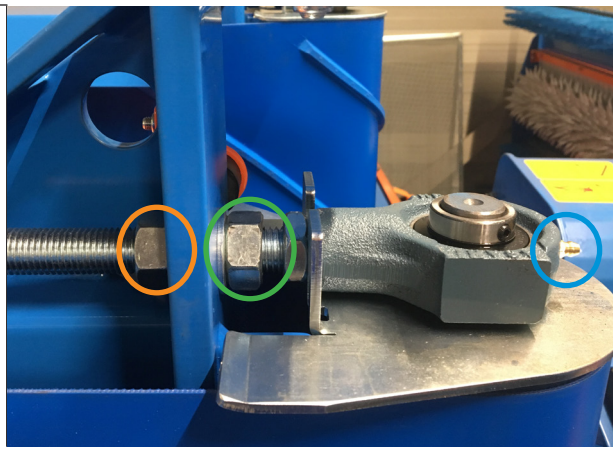
Always make sure that the machine is switched off, cannot move and has cooled down completely.

Tension the conveyorbelt:

- Loosen the bolt; (orange marked)
- The conveyorbelt can be tensioned by turning the bolt in or out; (green marked)
- The usual tension of the belt is between 3-10mm per meter belt;
- Tighten the bolt to lock the tensioner; (orange marked)

Pay attention! Always tension the belt on both sides at the same time!

- There is a grease nipple on every bearing to lubricate them. (blue marked)



9. FAILURES

If a malfunction is detected, please observe the points below before contacting your dealer.

Spread pattern		
Symptom	*Cause*	*Solution*
The spread pattern is insufficient	The workingspeed is too high	Lower the working speed
	The metering valve is incorrectly adjusted	Adjust the dosing amount
	The metering valve is clogged	Clean the metering valve
The spread pattern is uneven	The workingspeed is too high	Lower the working speed
	The metering valve is clogged	Clean the metering valve
	The stirrers are defective	Empty the bunker and inspect the operation of the stirrers
Conveyor belt		
Symptom	*Cause*	*Solution*
Conveyor belt skews during rotation	Contamination between the belt and the rollers	Check and clean the tire of soil residues, etc.
Lots of material loss during transport	Various	Retension conveyor belts, check for signs of wear and replace components if necessary
		Clean the soil trap hood and scrapers
Hydraulic components operate slowly	Incorrect oil flow	Check the amount of oil supply

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

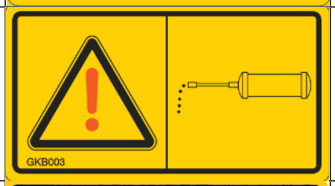
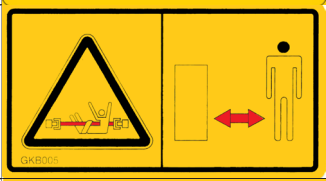
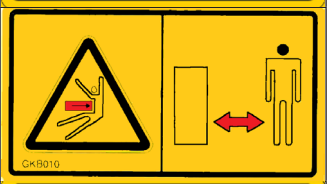
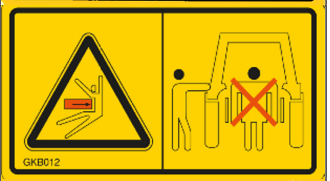
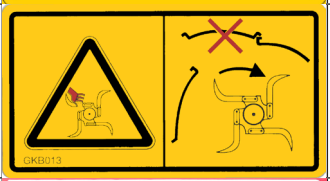
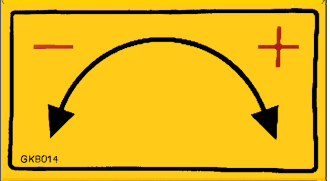
ANNEX II RISKANALYSIS

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 stickers placed Safety instructions in manual
conveyorbelt	Crushing injuries by rotating parts	If a bodypart or clothing comes in contact with the conveyor belt, guiding rollers or bearings	Fixed shieldings placed which can only be removed with tools Safety stickers placed Safety instructions in manual
	Crushing injuries by moving parts	If the conveyorbelt hits an object unintentionally	
Bunker	Crushing injuries in between the bunker and conveyor belt under it	If someone is under the bunker while the conveyorbelt starts moving unintentionally	Safety stickers placed Safety instructions in manual
	Crushing injuries by the stirrers in the bunker	If someone is in the bunker while the stirrers are rotating	
	Crushing injuries in between the bunker and transport roller	If someone is in the bunker while the transport rollers starts rotating	
Machine environment	Being run over by the machine and/or tractor, resulting in serious injury	If the person is between the machine and the tractor and 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 next to 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.	
Hydraulic system	Poisoning by hydraulic injection	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		
Electrical voltage	Electrostatic shocks causing a shock reaction.	Depending on the weather conditions, the tires are statically loaded. In some cases, when touched, the person may be shocked.	Safety instructions in manual

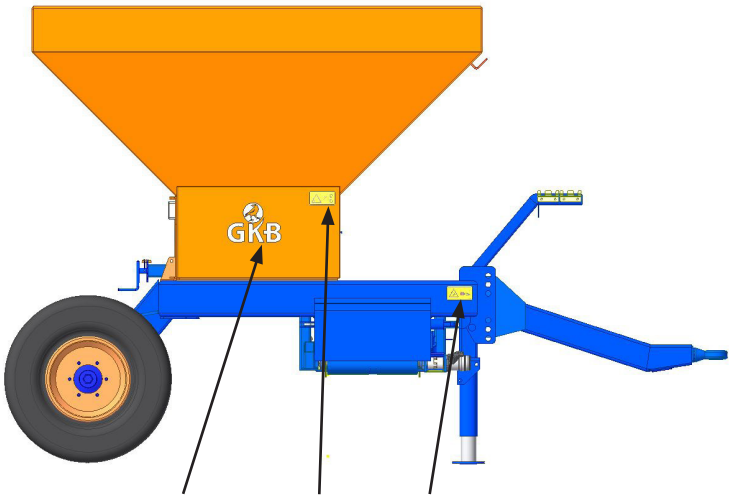
ANNEX III SAFETY STICKERS

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.

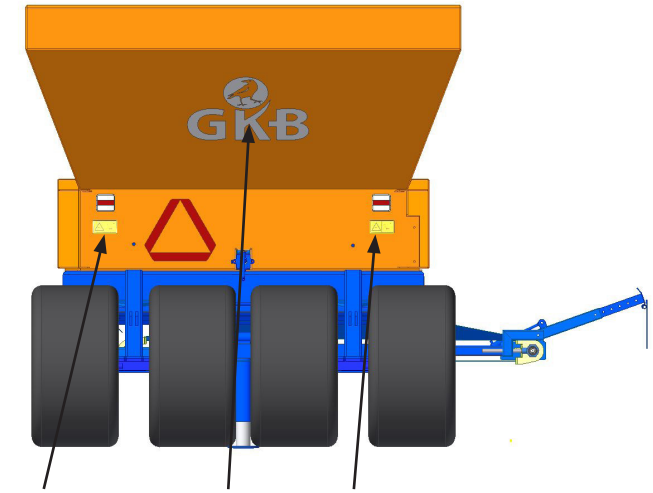
GKB001	*Comply with all maintenance instructions*		**GKB002**	*Refer to the owner's manual. It contains useful information about the use, safety and maintenance*	
GKB003	*Regular lubrication*		**GKB004**	*Switch off the power take-off before lifting the implement*	
GKB005	*Risk of retraction due to rotating 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:

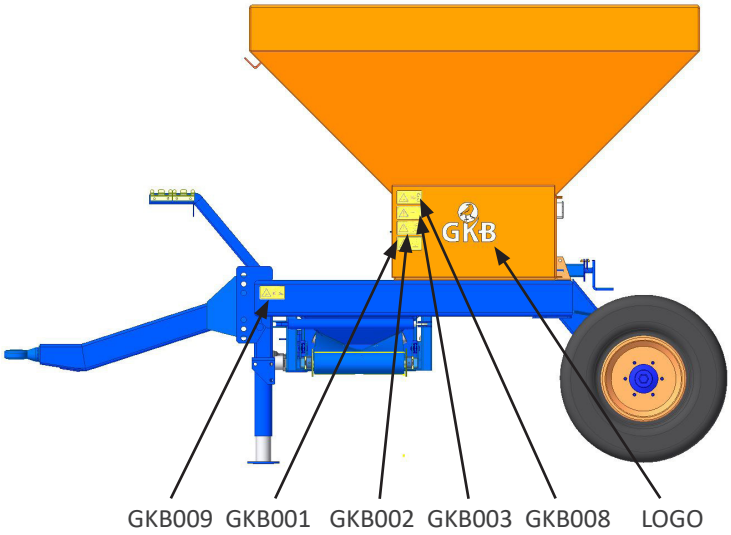
Left view:



Rear view:



Right view:



Front view: