



Topdrop

Manual_Topdrop_EN_2302

TD114-214-220

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 Topdrop

Type: TD114 - TD214 - TD220

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

- Directive 2006/42/EC Machinery Directive

At Barendrecht, 01/02/2023



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
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United Kingdom

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GKB Topdrop

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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.

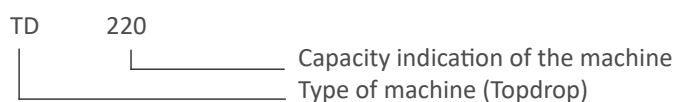
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2. INTRODUCTION

The Topdrop is designed to spread clean sand across natural grass and hybrid fields. Moreover, the machine can be used to apply infill material such as cork and rubber onto artificial grass fields. Different types distinguish themselves in buffer capacity of the spreadable material.

Example:

Model 'TD220':



Additionally, the manufacturer will not be held liable for damages from the use of contaminated materials or for unintentional use.

Only machines with a European type approval are permitted for the operation on public roads – both the standard and its variants. Approved machines come equipped with an approval plate as well as a brake system and lighting.

3. CONTACT

Manufacturer:

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

Your personal Dealer:

Your GKB dealer:

Productnumber Manual: See footer/ front page

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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 topline 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. Driving on public roads

A European type approval is required before either the standard sand spreader or any of its variants can be used on a public road. Approved machines come equipped with an approval plate as well as a brake system and lighting. This approval is for any country within the E.U. If you operate outside the E.U., you will be subject to local regulations of the country in which you operate. Importers are responsible for covering all local requirements.

A tractor/Sandspreader combination may travel at a maximum speed of 40 km/h.

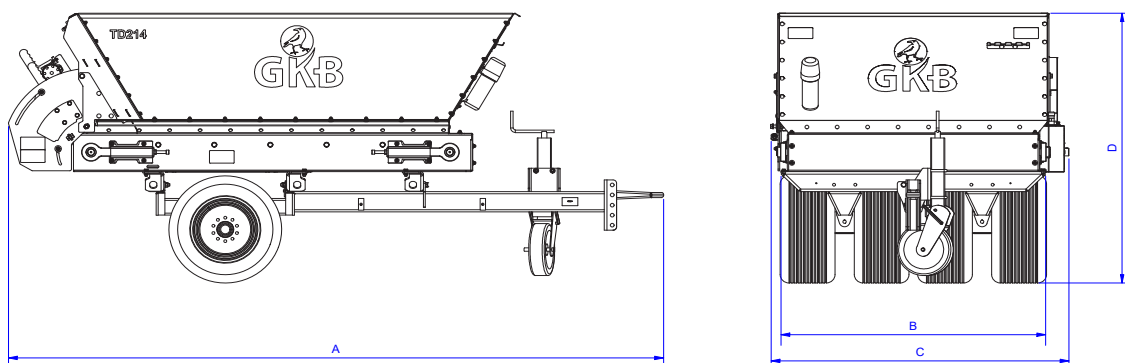
Before taking the machine on public roads, perform a system check to ensure all lights are working and that you have fastened the breakaway cable. Switch off all hydraulic components, fold them down, and secure them if necessary. It is the driver's responsibility to comply with local traffic regulations while operating the tractor/ Sandspreader combo.

If European approval has not been obtained, the Sandspreader must be transported. Ensure the machine is properly secured to the transport so that it will not roll off or tip over. For security, hire a specialized transport company to complete the journey.

5.4. Product specifications Topdrop

	Unit	TD114	TD214	TD220
Dimensions				
Length A	cm	290	400	300
Working width B	cm	140	140	200
Width C	cm	170	170	230
Height D	cm	160	160	160
General specifications				
Empty weight	kg	775	850	900
Permitted max. mass	kg	2300	7300	7300
Noise*	dB(A)	80	80	80
Bunker content	m ³	1,3	2,3	2,3
Towing vehicle				
Power	hp	20-40	30-50	30-50
Pump capacity oil	l/min	25	25	25
Max. hydraulic pressure	bar	150	150	150
Tires:				
Type of tire:		BKT 26x12.00-12	BKT 26x12.00-12	BKT 26x12.00-12
Nominal pressure:	bar	2,0	2,0	2,0
Min. pressure	bar	2,0 - 1090 kg/tire	2,0 - 1090 kg/tire	2,0 - 1090 kg/tire
Max. pressure	bar	-	-	-

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



6. TOPDROP CONSTRUCTION

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

6.1. The frame

The frame carries the sand bunker and spreader unit. Underneath the frame are two oscillating wheel sets, each consisting of two wheels. Machines which are designed for driving on public roads are provided with a frame including inertia break, bumper, lights and type approval plate.



6.2. The bunker

On the frame a bunker has been mounted for creating a buffer capacity during operation of the machine. On the rear side an adjustable valve has been mounted. The spread rate can be adjusted manually.

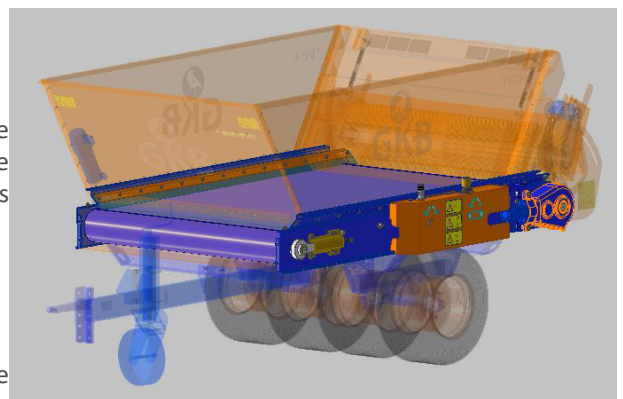


6.3. The conveyorbelt

The conveyor belt transports the material from the bunker to the brushrotor. The conveyor belt of the Topdrop is driven by one hydraulic motor with gearbox.

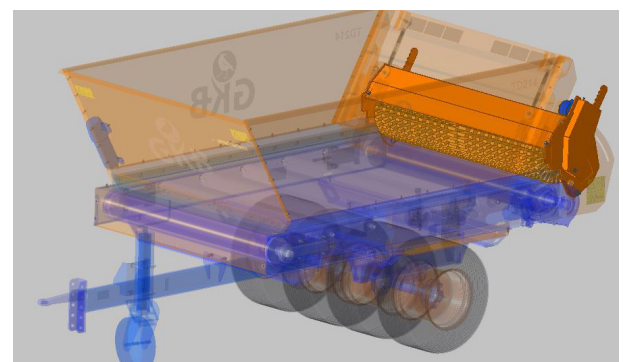
6.4. De borstelrotor

The brush rotor takes care of spreading the material across the field. The brush speed can be adjusted by turning the knob on the front side of the machine. By adjusting the brush speed, the speed of the conveyor belt is adjusted as well.



6.5. Hydraulic components

The motors are driven by the hydraulics in the towing vehicle. Both the conveyor belt and brush rotor are provided with a hydromotor. One double working hydraulic valve is required to ensure this performance.



7. TOPDROP OPERATION

7.1. Connecting and disconnecting the Topdrop

The following steps describe how to connect and disconnect the Topdrop. The sandbox must never be filled while the machine is disconnected.

Connecting:

- | | |
|---|---|
| 1 | Drive the rear of the tractor as close as possible to the tow bar of the Topdrop. Turn the tractor off and apply the handbrake. Ensure both the tractor and machine are in a level, horizontal position. |
| 2 | Remove the brake from the Topdrop (if applicable);

Position the tow bar in the jaw of the tractor and place the pin through the tow bar; |
| 3 | Turn the support wheel all the way in and fold it up. Ensure no tension is in the spring;

Make sure the connection points are free of sand and other contaminants. Then connect the hydraulic oil hoses.

Connect the 7-pole plug of the lighting (if applicable). |



See risk analysis: Machine environment/ hydraulics/ electrical

Disconnecting:

- | | |
|---|--|
| 1 | Set up the combination horizontally, turn off the tractor, and apply the handbrake; Remove infillmaterial before leaving the field and make sure the bunker is empty before disconnecting the Topdrop. |
| 2 | Remove the oil hoses and hang them in the fixing points at the Topdrop. If necessary, disassemble the lighting plug. |
| 3 | Turn the support wheel all the way out so the machine will rest on the supportwheel;

Apply the brake, if applicable, or place blocks in front of the tires;

Remove the pin out of the towing eye. The tractor can be moved away. |



See risk analysis: Machine environment/ hydraulics/ electrical

7.2. Adjusting the layer thickness

The thickness of the bedding can be adjusted in different ways. For the right optimization it is recommended to maintain a fixed driving speed.

1. Take the safety restrictions into consideration;
2. Turn the machine off and put it on handbrake;
3. Set the dosingvalve on the back side manually by turning the spindles;
4. Set the preferred speed for the brush rotor/ conveyor belt. To do so, turn the knob on the side of the machine;
5. Start driving at the preferred speed. Turn on the conveyor belt and brush rotor while driving;
6. Check whether the preferred result is achieved after a few meters.



Zie risicoanalyse: Zandstrooier/ omgeving machine

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:

There are fastening eyes provided at the machine for safe lifting. It's recommended to hoist the machine with lifting straps. Use at least two straps in all cases. The lifting points are indicated in the figure. Before lifting, make sure that the machine is free from loose materials like seeds or infill materials etc.

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.

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

		Operating hours					
		Before use	50 u	250 u	500 u	1000 u	Annually
General	Outside cleaning of the machine	x					
	Check for oil stains/ traces	x					
	Check if all safety stickers are on the machine	x					
	Check manual adjustment of the dosing valve of the bunker	x					
	Check handbrake operation*	x					
	Check state of wearing parts for broken pieces or deformation	x					
Hydraulics	Check hoses and quick couplings for dehydration / hairline cracks and replace if necessary			x			
	Check hydraulic components (operation/ damage/ leakage)	x					
	Clean tractor connections	x					
Electronics*	Check if the lighting operates correctly and replace if necessary	x					
	7-pin plug check	x					
	Check the wiring of the lighting			x			
Rotating parts	Tires - Check profile and replace when a smooth surface is reached		x				
	Tires - Check pressure**		x				
	Conveyor belt - Check for cracks on belt surface or edges and replace if necessary			x			
	Conveyor belt - Check attachment of steering belt and guide rollers and replace if necessary			x			
	Conveyor belt - Inspect tension on the belt an tension it when necessary with 3-10mm on 1 meter			x			
	Check locking pins	x					
	Tighten bolted connections of rotating parts (wheels etc.)		x				
	Tighten bolted connections of fixed parts			x			

* Applicable only to Topdrop machines with European approval

** Tire pressure and tightening torque per type of tire:

26x12.00-12 BKT LG-306 8 PLY TL 2,8 bar

26,5X14.00-12 BKT LG-408 6 PLY TL 2,0 bar

400/60-15.5 BKT AW-708 18 PLY

500/50R17 Mitas Serv. AR-03 149D TL

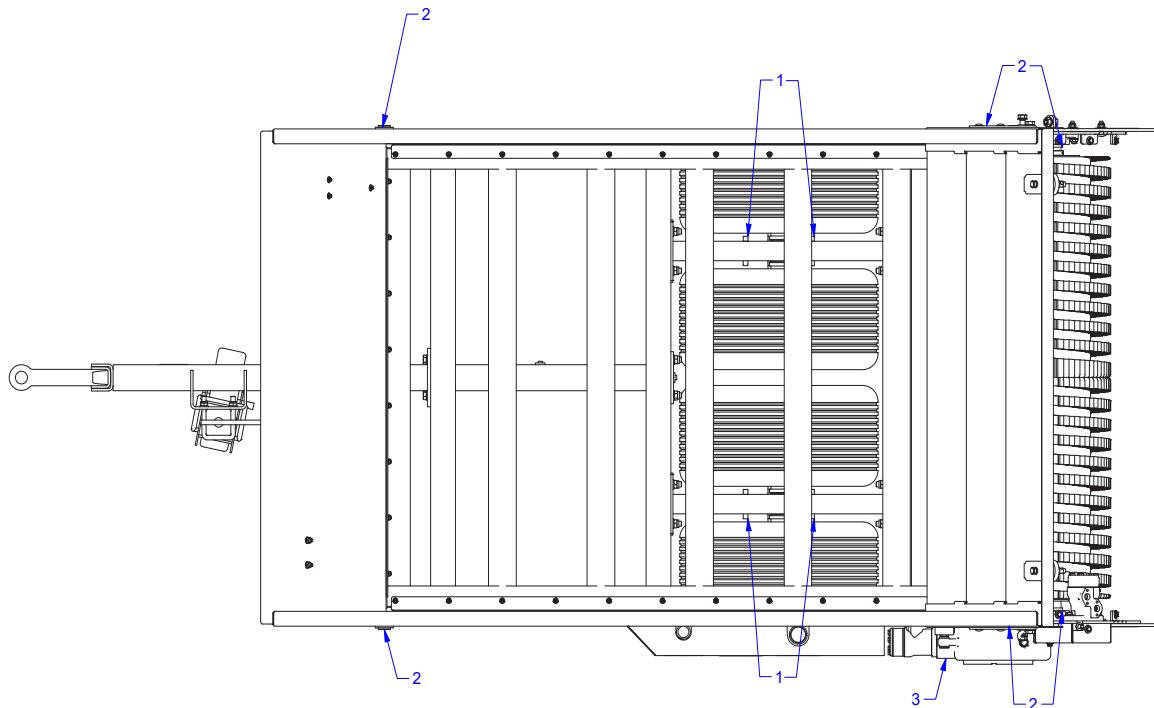
4,4 bar

4,0 bar

8.2. Lubrication schedule

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

		Operating hours					
		Before use	50 u	250 u	500 u	1000 u	Annually
EP2 grease	1 Lubricate pendulum bearings wheel set			x			
	2 Lubricate bearing conveyor belt/ rotorbrush		x				
SAE90 oil	3 Check oil level	x					
	3 Replace oil gearbox		x ^{1ste}		x		x



9. FAILURES

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

General		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
Components don't work at the set speed	Insufficient oil supply from the tractor	Check the specifications/ user manual of the tractor
	Oil quality of the tractor	Check the manual of the tractor for the right quality of the oil and how to replace the oil
	Leakage in the system	Inspect hydraulic hoses and fittings for possible leaks
Wrong spreading pattern	Many causes possible	See chapter 6 of this manual
Minimal outcome of the sand	Dosing unit is set too close	Change the height of the opening valve
	Conveyor belt is slipping	Tension the belt
Conveyor belt wrings	Pollution at the inside of the conveyor belt	Inspect and clean the whole conveyor belt including drive and guide rollers
The tyres are making traces in the grass	The tyres don't have the right pressure	See chapter 7
	De brakes are blocking	Check the braking unit
Braking system		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
Weak braking power	Broken brakes	Inspect the quality of the braking pads. Check the expansion of the braking system
	Broken cables	Inspect the cables and connection points for damages
	Pulling eye is broken	Inspect the in- and outcoming of the pulling eye
Electrical system		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
The lighting system is not working properly	Broken lightbulb	Replace broken lightbulbs
	Light connection points are broken or oxidized	Inspect the lighting unit
	Broken cables or connection points	Inspect the cables from the towing vehicle until the lighting unit
	Cable plug isn't connected right	Check the cable plug

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
Conveyor belts	Cutting or crushing injury by rotating parts	If any part of the body or clothing contacts the conveyor belt.	Fixed guards that can only be removed with tools Safety stickers placed Safety instructions in manual
	Injury by impact or crushing by moving parts	If a person is in the immediate vicinity when the conveyor belt is unfolded/maneuvered.	
Bunker	Bruising / pinching injury by moving parts	If a person is in the bunker during operation, the rotating conveyor belt pulls the person towards the small opening valve.	Safety stickers placed Safety instructions in manual
Rotorbrush	Bruising / pinching / cutting / crushing by rotating parts	If the person with a body part or clothing encounters the rotor.	Safety stickers placed Safety instructions in manual
Machine environment	Being run over by the machine and/or tractor, resulting in serious injury	If the person is between the Topdrop and the tractor and the combination is moving (unintentionally).	Safety stickers placed Safety instructions in manual Type approval (brake system and lighting) when the machine is on public roads
		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.			
Hydraulic system	Injuries to the body caused by the ejection of material	If the person is behind the machine during operation.	Hydraulic circuits equipped with components that comply with "EN 875". Inspection of hydraulic components
	Poisoning by hydraulic injection	If, in general or during maintenance, the person is in the immediate area of the hazard.	
Electrical voltage	Serious general injuries to unprotected parts of the body from exploding or escaping hoses	Depending on the weather conditions, the tires are statically loaded. In some cases, when touched, the person may be shocked.	Safety instructions

ANNEX III SAFETY STICKERS

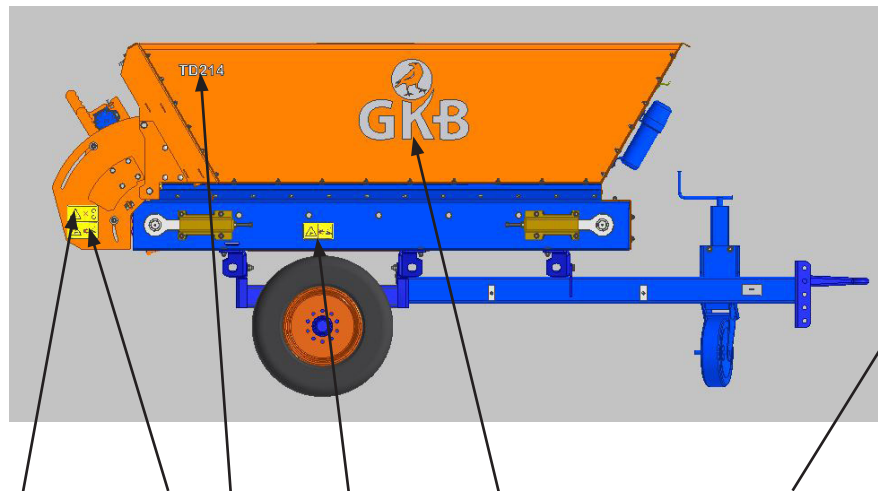
To promote safe practices and proper handling reminders, safety stickers are adhered to all machines. If a sticker cannot be read or found, it should be replaced immediately. The following page shows an overview of all the stickers and their positions.

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

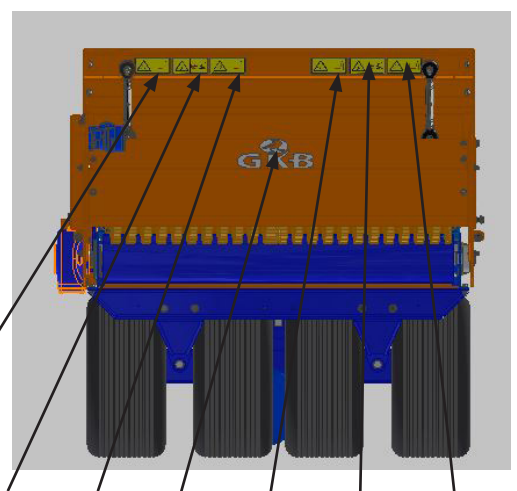
The illustrations below show all the safety stickers and their positions:

Left view:



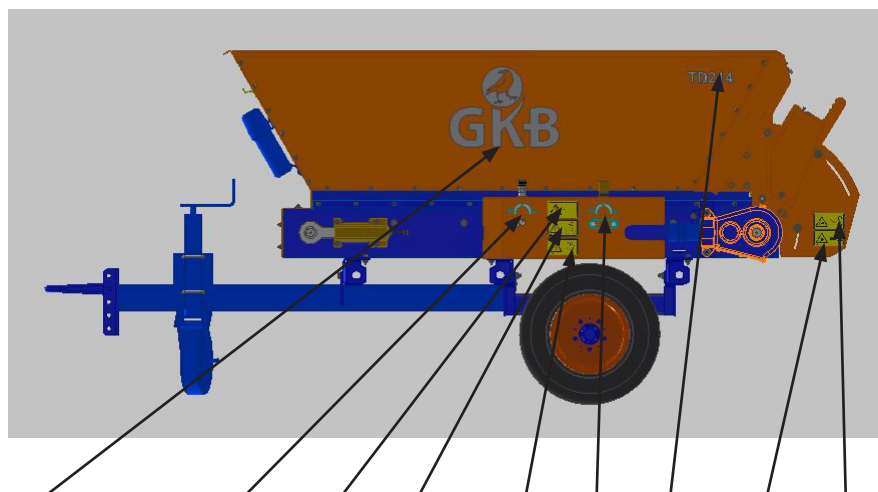
GKB008 MODEL GKB009 LOGO GKB008

Rear view:



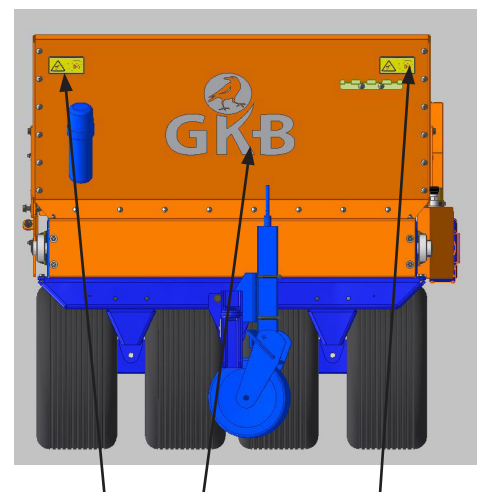
GKB010 GKB009 GKB011 LOGO GKB011 GKB009 GKB010

Right view:



GKB008 LOGO GKB009 TYPE GKB008

Front view:



GKB012 LOGO GKB012