



# GKB

THE WORKER IS KING



## Rotobrush

Manual\_Rotobrush\_EN\_2301

RB40-60-120

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 Rotobrush**

Type: RB40 - RB60 - RB120

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

- Directive 2006/42/EC Machinery Directive

At Barendrecht, 30/01/2023



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 Rotobrush**

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At Barendrecht, 30/01/2023



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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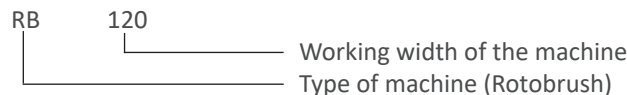
## 2. INTRODUCTION

The Rotobrush is designed to cleanse persistent pollution on artificial grass fields. With this machine edges with algae or badly visible lines are cleaned easily. Using a rotating brush pollution from the turf until approximately four centimeter deep is worked upwards, so that pollution rests on the fibers of the field. The brush is connected to an adjustable arm to allow precise operation near the edges. To create additional work space a model with two aligned running brushes is available.

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

Example:

Model 'RB120':



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

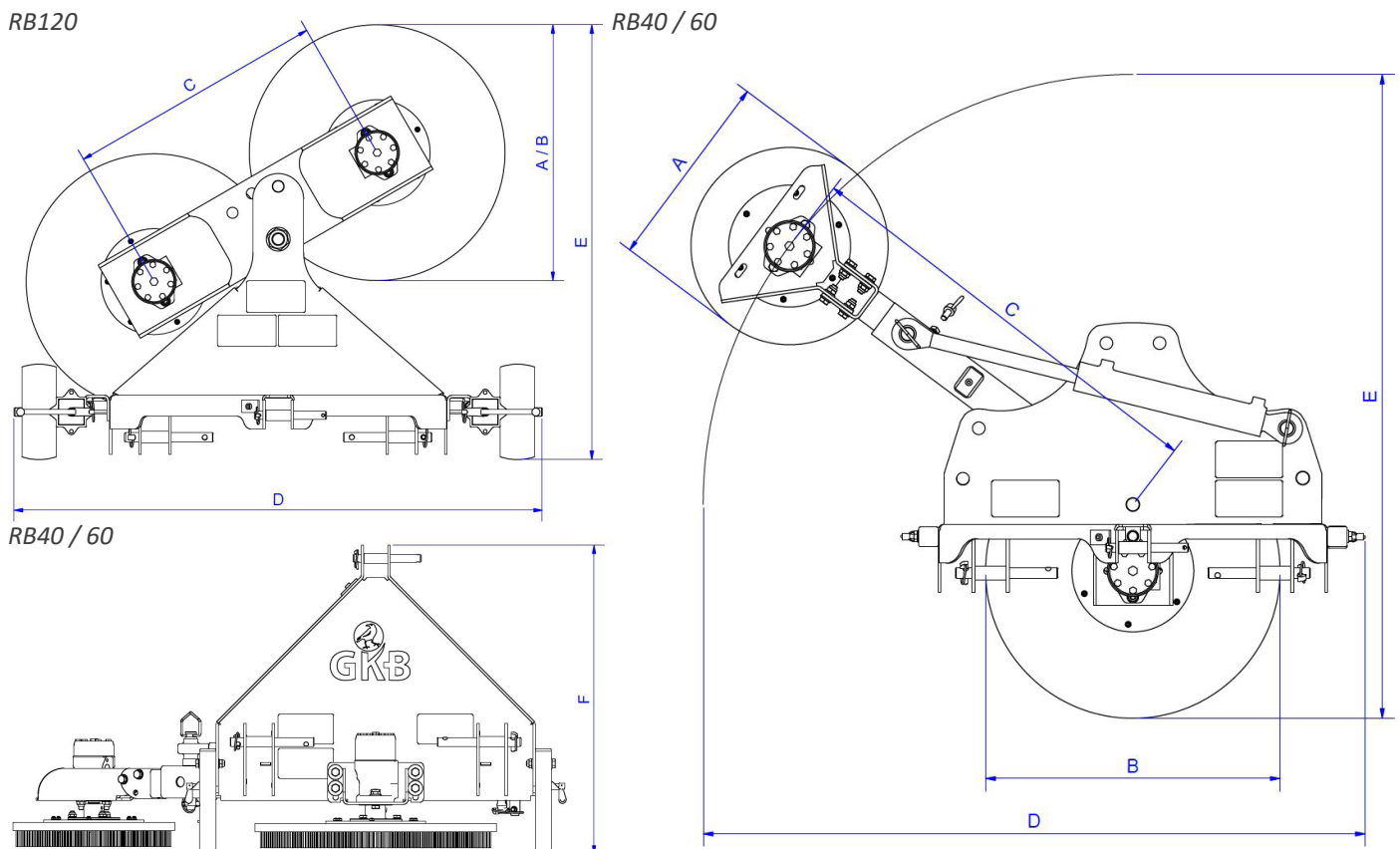
1. These operating instructions must be read and understood by everyone who works, checks or maintains the machine in order to avoid risks and to avert dangers.
2. Pass on all safety and operating instructions to all users.
3. The machine may only be used for the intended work.
4. For optimum performance,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

		Unit	RB40	RB60	RB120
<b>Dimensions</b>					
Working width brush 1	A	cm	40	60	60
Working width brush 2	B	cm	-	60	60
Length adjustable arm	C	cm	90-130	90-130	60
Max. width	D	cm	180	180	125
Max. length	E	cm	110	110	100
Height	F	cm	80	80	80
<b>General specifications</b>					
Empty weight		kg	65	65	85
Max. noise*		dB(A)	40	40	40
Outgoing shaft speed		tpm	540	540	540
<b>Specifications towing vehicle</b>					
Power**		pk	15-35	15-35	20-45

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

\*\* Low gear shift needed.





## 6. CONSTRUCTION OF THE ROTOBRUSH

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

### 6.1. The frame

The frame of the Rotobrush forms the basis for the different components of the machine. The three-point hitch connects the machine with the towing vehicle. In combination with the top bar of the towing vehicle the machine requires a horizontal setup. For the purpose of storage two fixed support legs are positioned on the front side.

Optionally, the frame on the bottom can be supplied with a rigid brush rotor of 60 centimeter.

### 6.2. The adjustable arm

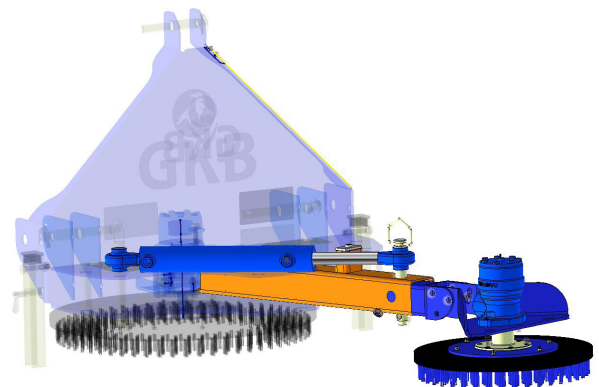
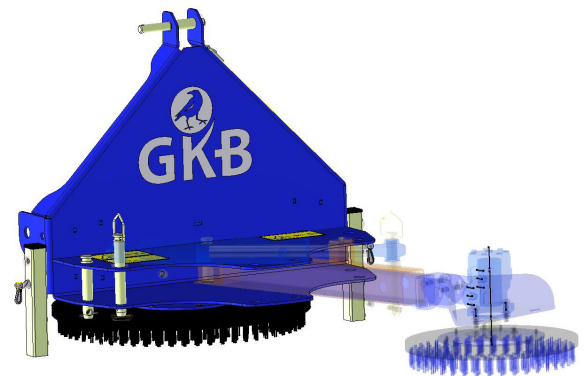
In the heart of the Rotobrush one can find an adjustable arm. This arm comprises a hydraulically driven brush rotor. At one's preference this arm can be adjusted both in length and height. Optionally, the arm is hydraulically driven. Furthermore, it is possible to place the brush rotor in an angle on the workable field.

### 6.3. The double rotobrush unit

When the Rotobrush is performed with a double brush unit a double production is created. The frame comprises two guide wheels which can be used to set the exact working depth. For the purpose of storage two fixed support legs are positioned on the front side.

### 6.4. The result

The result of the artificial grass field is a field where persistent pollution such as algae are milled, and field lines are clearly visible. Remove the loose material to prevent unwanted pollution in the long term.



## 7. OPERATION ROTOBUSH

### 7.1. Connecting and disconnecting the machine

The following steps describe how to connect and disconnect the Rotobrush.

#### Connecting:

1	Make sure that the tractor and machine are placed horizontal;
2	<p>Connect the machine to the three-point hitch of the tractor and secure the attachment points with the locking pins;</p> <p>Attach the top link in the round hole of the hitch to lift the machine;</p> <p>Connect the hydraulic hoses with the tractor.</p>
3	Lift the machine and check if the distance between the machine and ground is equal on the left and right side. If necessary, change the positions of the adjustable stabilizer arm;



Zie risicoanalyse: Zandstrooier/ omgeving machine

#### Disconnecting:

1	Make sure that the tractor and machine are placed horizontal;
2	<p>Connect the support legs to the frame of the machine;</p> <p>Lower the machine slowly until it completely rests on the ground;</p> <p>Remove infillmaterial before leaving the field.</p> <p>Disconnect the hydraulic hoses and three-point hitch and move the tractor away from the machine.</p>



Zie risicoanalyse: Zandstrooier/ omgeving machine

## 7.2. Start with fraising

- |   |  |
|---|--|
| 1 | <p><i>RB40 / RB60:</i></p> <p>Lower the machine until the desired height is reached;</p> <p>Position the swivel arm in the desired horizontal angular position;<br/>Extend the arm if desired;</p> <p>Place the brush rotor at the right vertical angular position;</p> <p><i>Always ensure that the machine can't move and is switched off. Never put hands or feet under the brush rotor!</i></p>  |
| 2 | <p><i>RB120:</i></p> <p>Lower the machine until the desired height is reached;</p> <p>Position the swivel arm in the desired horizontal angular position;</p> <p>Always make sure that the two brushes rotate to the outside. When the brushes rotate to the inside, there is a risk that the pitch is lifted.</p> <p><i>Always ensure that the machine can't move and is switched off. Never put hands or feet under the brush rotor!</i></p> |



 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:

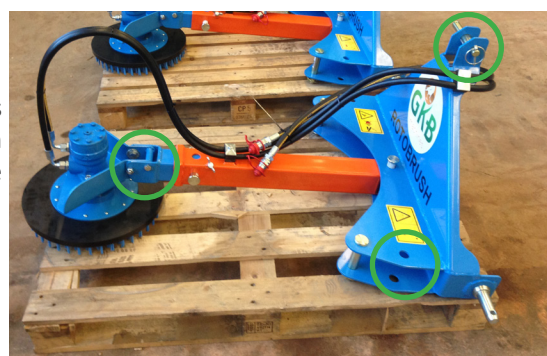
The following points must be taken care when storing the machine:

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. See chapter 7.3 for safe execution 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- Inspection of wearance of brushes/ tooth set	x					
	Check if all safety stickers are on the machine	x					
	Check for oil stains/ traces	x					
Others	Check locking pins	x					
	Tighten bolted connections of rotating parts		x				
	Tighten bolted connections of fixed parts			x			

### 8.2. Performing maintenance

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

#### *Brush replacement:*

- The brush is placed in a plastic plate which is connected to the frame;
- Disconnect the bolts, replace the brushplate and connect it again to the frame. Check the tightening torque with annex I.



## 9. FAILURES

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

Result		
<i>Symptom</i>	<i>Cause</i>	<i>Solution</i>
Too much polution is left behind in the field	The driving speed is too high	Decrease the driving speed
	De brushes rotates too slow	Increase the speed of the rotor (Until max. permitted speed)
	The hairs are worn out	Replace the brushes
	The machine is positioned wrong	Lower the machine

## 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	


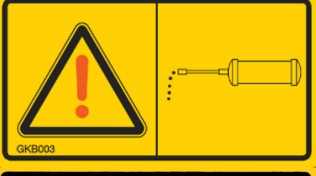










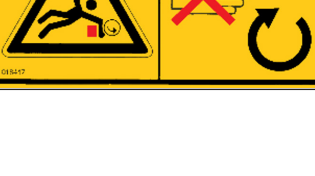
## ANNEX II RISK ANALYSIS

Based on risk analyses, measures were taken during the development of the machines to ensure the safety of users and bystanders. These results include, but are not limited to, the following measures:

Item	Risk	When	Risk reduction
Rotobrush	Crushing injuries by the transmission	If a bodypart or clothing comes in contact with the brushes of the rotobrush	Fixed shieldings placed Safety stickers placed Safety instructions in manual
		If a bodypart or clothing comes in contact in between the rotobrush and the transmission	
Adjustable arm	Crushing injuries in between different part of the arm	If a person changes the position of the arm	Safety stickers placed Safety instructions in manual
	Crushing injuries in between the moving arm and the machine	When the arm isn't blocked and moves unintentionally	Blocking pin placed Safety stickers placed Safety instructions in manual
Support wheels	Crushing injuries by moving parts	If a bodypart or clothing comes in contact with the support wheel and frame	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 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 around the machine during operation.		
Breathing difficulties	Danger of breathing difficulties due to dust generation during use of 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		
Electrostatic shocks	Getting a shock from static charging of the machine due to friction of the brushes on the artificial grass	When someone touches the machine	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.

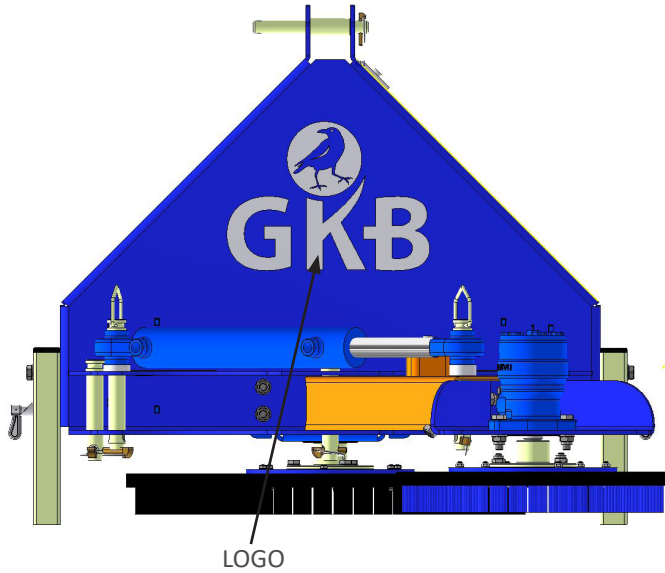
<b>GKB001</b>	Comply with all maintenance instructions		<b>GKB002</b>	Refer to the owner's manual. It contains useful information about the use, safety and maintenance	
<b>GKB003</b>	Regular lubrication		<b>GKB004</b>	Switch off the power take-off before lifting the implement	
<b>GKB005</b>	Risk of retraction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



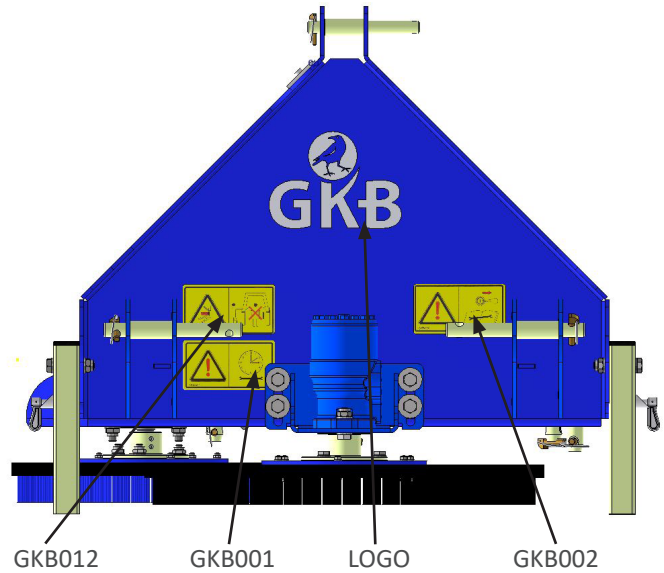
**Location safetystickers**

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

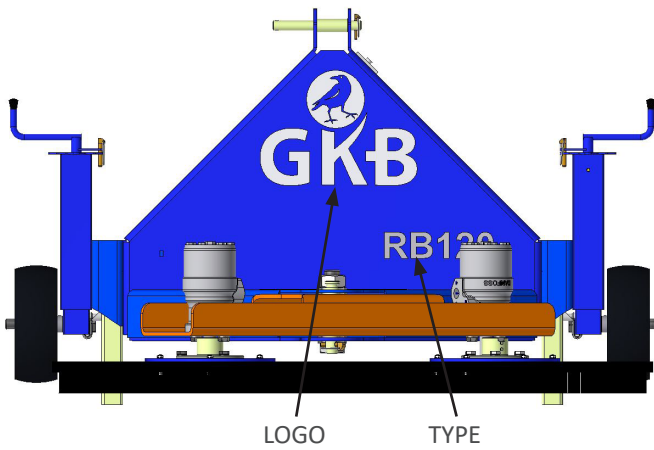
Front view:



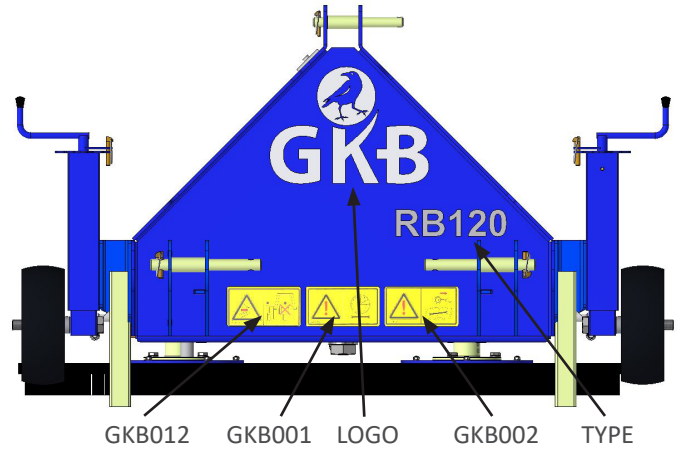
Rear view:



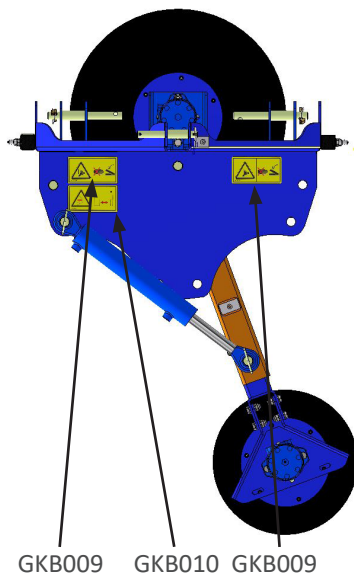
Front view:



Rear view:



Top view RB40/60:



Top view RB120:

