

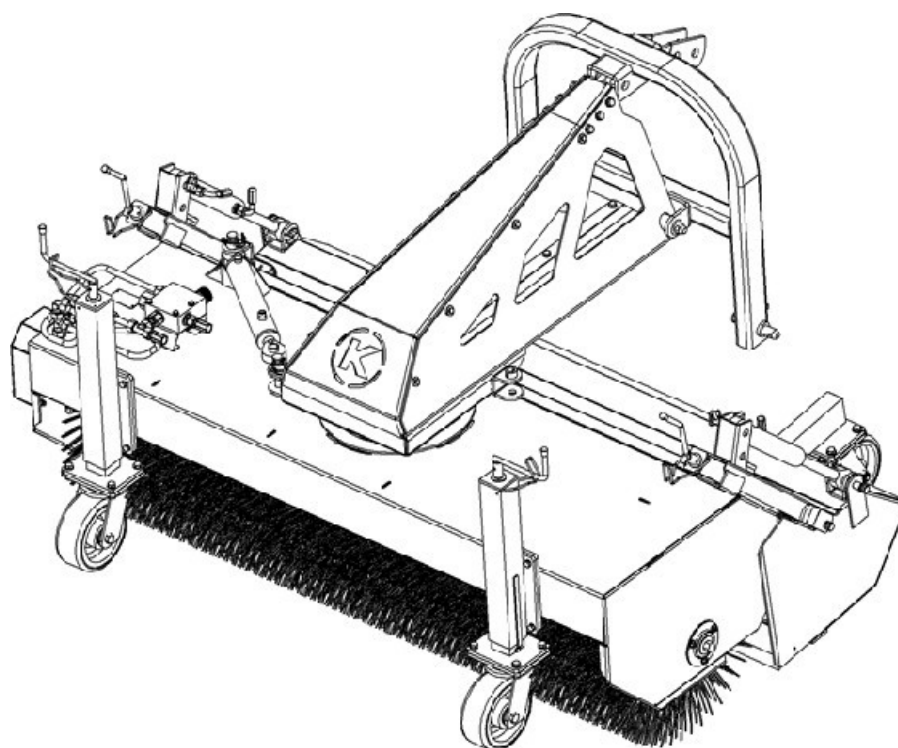


## Original operating instructions

# KM 60 series

**KM 19060 H;**  
**KM 25060 H;**

**KM 22560 H**  
**KM 27060 H**



Product Number: B00031 From machine- No:Rev.: R00

Stand: 11.07.2013



Manufactures by  
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## 1 Introduction

Dear Customer,

Thank you for choosing a quality product from Kersten.

This product has been manufactured according to the most up-to-date production methods and extensive quality assurance measures, because only when you are satisfied with your device, our goal is reached.

Before using this machine or implement for the first time, please read this manual thoroughly and thoroughly.

Keep this manual handy. If necessary, you can read important information and handling instructions.

Have fun with your Kersten device wishes you



Dip.-Ing.(FH) Robert Bosch

Management

## 2 About this manual

The machine or implement is subject to technical progress. All information, illustrations and technical data are up-to-date at the time of publication. Changes in the sense of technical progress are reserved to the manufacturer at any time.

### 2.1 Before commissioning

As self-propelled implements and implements are subject to considerable accident or danger sources if not used properly, the first time the Kersten implement is commissioned, it must be instructed by competent and authorized persons absolutely necessary. The best way to familiarize yourself with its basic functions and its handling is to choose a free and level terrain for your first trip.



- **You reduce the risk of accidents on your part or third parties!**

For further information and difficulties of any kind, please contact the dealer, importer or directly to the manufacturer.

- **Be sure to read the safety instructions on the following pages!**
- **Read the operating instructions before commissioning!**
- **Pass on all safety instructions to other users!**

### 2.2 Notes on this operating manual

Notes on this operating manual Enumerations are marked with eye-catching points.

Example:

- Text
- Text

Instructions are marked according to the order in which they are to be carried out.

Example:

1. Text
2. Text

### 3 Safety instructions for attachments

The most important safety instructions in this manual can not cover all possibilities. It goes without saying that common sense and caution are factors that are not built into a machine, but must be brought by the person who uses and maintains the machine.

**In order to keep the accident risk as low as possible, please observe the following subchapters.**

#### 3.1 Intended use



- The sweeper has been developed for sweeping on paved surfaces, sidewalks and facilities for the usual or common use in the area of area care.
- Any other use is considered improper use. The manufacturer is not liable for damage resulting from this, the risk being solely borne by the operator.
- Proper use also includes compliance with the operating, maintenance and service conditions specified by the manufacturer.
- The attachment may only be used, maintained and repaired by persons who are familiar with it and have been informed of the dangers.
- The relevant accident prevention regulations as well as the other generally recognized safety and occupational health rules must be observed.
- Unauthorized modifications to the machine lead to the exclusion of liability of the manufacturer for the resulting damage.

#### 3.2 General safety and accident prevention regulations

##### 3.2.1 Basic rules



- In addition to the instructions in this operating manual, observe the general valid safety and accident prevention regulations!
- The implement must not be operated by persons under the age of 16, not even under the supervision of an adult! Children and adolescents should be instructed, not to play with it.
- Only trained personnel or persons may use this machine!
- When using public traffic routes, observe the relevant regulations!
- The clothing of the user should be tight. Avoid loose-fitting clothing and wear sturdy shoes or safety shoes!
- Only work in good visibility and light conditions!
- The attached warning and information signs provide important information for safe operation; the attention serves your safety!
- Beware of oscillating brushes - keep safety distance!
- Be careful with trailing machine parts. Wait for work on these until they are completely stopped!
- There are crushing and shearing points on driven parts!
- Driving behavior, steering and, if applicable, braking capability and tilting behavior are influenced by mounted or attached implements and load. For this reason, only implements approved by the manufacturer may be used. The working speed must be adapted to the respective conditions.
- Unauthorized conversions that endanger the operational safety of the machine are prohibited!
- Check the machine for operational safety before each use!
- Never remove or change protective devices!
- Never go under the unsecured device for repair or inspection!

### 3.2.2 Occupational and danger area



- The user is responsible to third parties in the work area!
- Staying in the danger area of the machine is prohibited!
- Before switching on the implement and starting, check the near area. Pay special attention to children and animals. Ensure sufficient visibility!
- Before starting work, foreign bodies should be removed from the surface to be worked. Pay attention to other foreign objects during work and eliminate them in good time.
- When working in enclosed areas, the safety distance to the border must be maintained so as not to damage the machine or brushes.
- When working in the immediate vicinity of public roads and paths, they should not be approached longitudinally, but preferably as far as possible, because this minimizes the risk of injury to third parties by flying objects.
- When working on public roads and squares or in the immediate vicinity, warning and danger signs should be set up in order to attract the attention of third parties.

### 3.2.3 Before starting work



- Before starting work, please familiarize yourself with all equipment and actuators and their function and make sure that all safety devices are properly grown and in protective position. During the work assignment it is too late!

### 3.2.4 During operation



- Never leave the control room while driving!
- Do not leave the operating station until the brushes of the attachment come to a standstill!
- During operation do not make any adjustments to the attachment - risk of accident! The transportation of persons and objects is prohibited!
- If, for example, the attachment has caught a foreign object and blocked it, stop the engine and clean the attachment with a suitable tool! at
- Interventions or cleaning of the attachment always switch off the engine! You're welcome
- Observe the safety instructions of the self-propelled implement.
- If the self-propelled implement or attachment is damaged, stop the engine immediately and have the damage repaired.

### 3.2.5 Leaving the machine

- By using wheel chocks or, if necessary, by the parking brake, secure the machine from rolling away when leaving the vehicle.
- Secure the device against unauthorized use!
- Never leave the appliance unattended while it is still in operation!

### 3.2.6 Screw connections and tires



- When working on the wheels, make sure that the device is safely parked and secured against rolling away!
- Check nuts and bolts regularly for tightness and tighten if necessary.
- Repair work on the tires may only be carried out by qualified personnel and with a suitable assembly tool!
- If the tire pressure is too high there is a risk of explosion!
- Check the air pressure regularly.

### 3.2.7 Coupling and uncoupling attachments



- Only connect and disconnect implements with the engine switched off and the PTO switched off.
- When changing attachments and their parts, use suitable tools and wear gloves.
- When mounting and dismounting, bring the required support equipment into the respective position and ensure sufficient stability.
- Secure the self-propelled work machine and the attachment to prevent it from rolling (parking brake, wheel chocks).
- When attaching attachments, there is a risk of injury (crushing). Special care is necessary.
- Attach implements according to regulations and fix at the prescribed places.

### 3.2.8 Maintenance, cleaning and repair work



- Only carry out maintenance and cleaning work with the drive switched off and the motor stationary!
- If guards and working tools are subject to wear, these must be checked regularly and replaced if necessary.
- Only use original spare parts from the manufacturer, as these meet the technical requirements and thus the risk of accidents is minimized!
- Cleaning with the high-pressure cleaner should be carried out in such a way that the water jet is not directly in storage, turned parts, grease nipples, shaft seals, wheel hubs etc. is held.

After each cleaning with the high-pressure cleaner, the lubricating be greased. In the case of infringement, the right to guarantee expires!

- Check the moving parts for ease of movement and if necessary grease them!
- After maintenance and cleaning work, be sure to replace the guards and put them in the protective position!



- To avoid the risk of fire, keep the machine clean!
- Check nuts and bolts regularly for tightness and tighten if necessary.
- During maintenance, cleaning and repair work on the raised device always make sure that it is protected by suitable support elements!
- Before doing any repairs, make sure the hydraulic system is depressurized, because fluids under pressure can penetrate the skin and cause serious injury cause! Therefore, seek medical attention immediately - risk of infection!
- Repairs may only be carried out by qualified personnel.
- Check hydraulic hose lines for damage and aging at regular intervals and replace if necessary.
- When carrying out welding work on the tractor or on the mounted implement, disconnect the battery.
- Repair work such as welding, grinding, drilling, etc. must not be carried out on load-bearing and other safety-related parts such as frames, axles, etc.!



### 3.3 Used pictograms

Explanation of the pictograms used:



Before commissioning read and observe the operating instructions and safety instructions.



Never open or remove protective devices while the engine is running!



Follow the instructions in the technical manual.  
Smudge!



Touch machine parts only when they have come to a complete stop.



Danger from passing parts while the engine is running - keep safety distance!

## 4 Disposal

The equipment must be disposed of in accordance with local, state, or local regulations.

Depending on the material, you can dispose of the parts in the form of residual waste, special waste or recycling. The company Kersten Arealmaschinen GmbH assumes no disposal.

## 5 Warranty

The device is accompanied by a sales message, which among other things determines the time for the start of the warranty period. When selling the device, please complete the sales message completely and send it back to us within 14 days. If warranty claims are asserted without us having received a sales notice, no warranty service will be provided.

Warranty claims should be submitted promptly, but no later than six weeks after the occurrence of the damage, giving details of the purchase data, otherwise no warranty service will be provided. Complaints must be confirmed by the company Kersten Arealmaschinen GmbH. Wear parts are excluded from the warranty. Furthermore, the warranty expires due to improper operation, when performing no or incorrect maintenance work, when using inadmissible equipment and when using non-original spare parts.

## 6 Recommendations

### 6.1 Lubricants

For engine and gearbox, use the specified lubricants (see under "Technical data").

For "open" lubrication points or nipple points, we recommend using bio lubricant oil or bio lubricant grease. With the use of bio lubricant, you act ecologically correct, protect the environment and promote the health of people, animals and plants.

### 6.2 Fuels

The built-up B & S or Honda engine can be easily operated with commercial unleaded normal and premium gasoline and leaded premium gasoline.

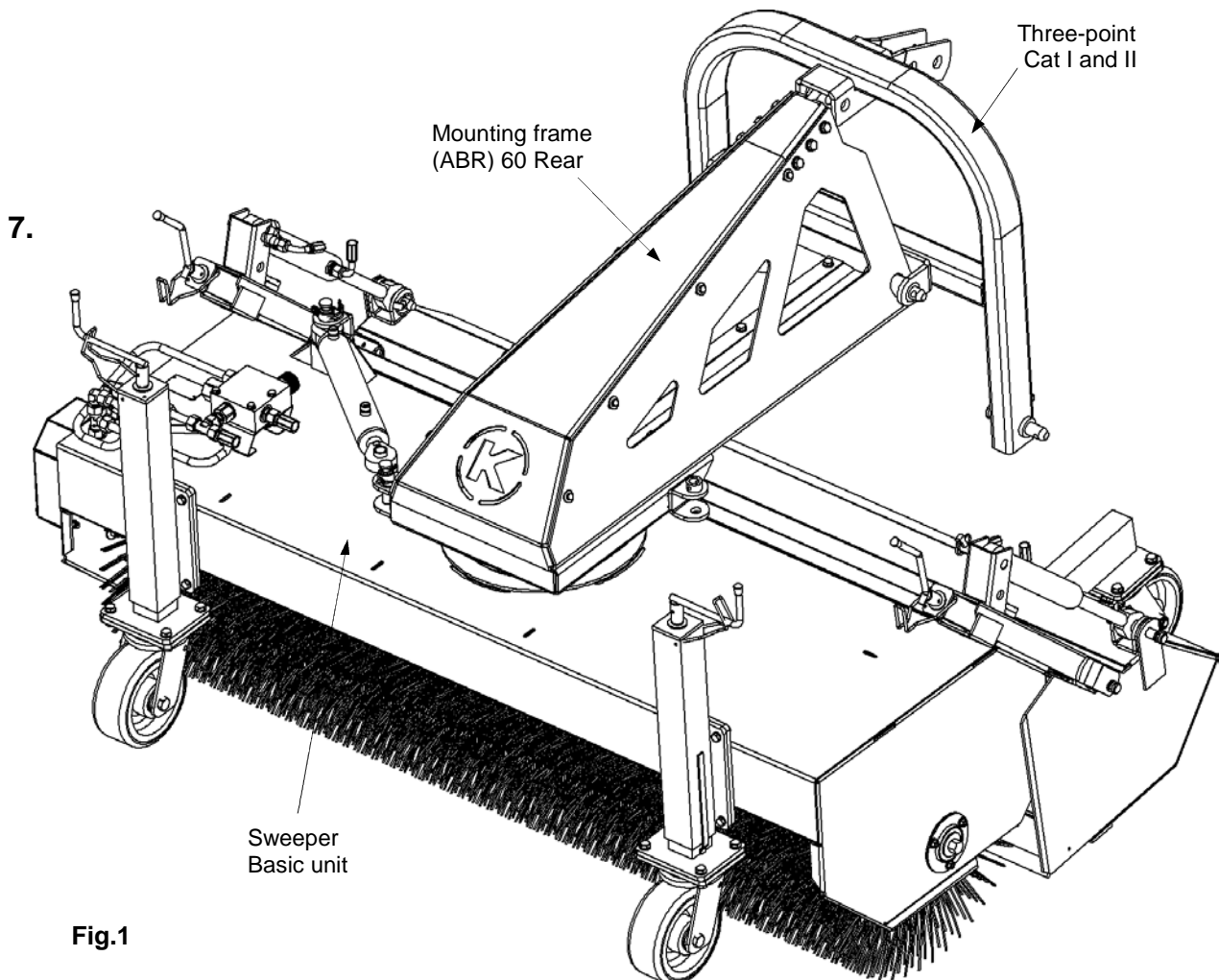
**Do not add oil to the gasoline.**

If unleaded petrol is used for the environment, engines that are to be decommissioned for more than 30 days should have their fuel drained completely to avoid resin residues in the carburetor, fuel filter and tank, or to add a fuel stabilizer to the fuel.

### 6.3 Maintenance and repair

Your dealer has trained mechanics who perform proper maintenance and repair. You should only carry out major maintenance work and repairs yourself if you have the appropriate tools and knowledge of machines and internal combustion engines.

## 7 Installation



### 7.1 Attachment of the sweeper

Severe injuries to the operator or third parties may occur.

Switch off the tractor and remove the ignition key before removing the ignition

Mount or dismantle the attachment sweeper.

The sweeper in the front or rear hydraulics or in the front loader of the tractor

Hook.

In doing so, set the horizontal width of the attachment frame according to the tractor type and with lock two screws right and left.

Adjust the top link until the roof of the sweeper is horizontal.

Now the two hydraulic hoses (supply and return) of the sweeping roller drive through the rings on the attachment frame lead to the tractor and insert it into the plug - in coupling so that the Sweeping roller rotation is correct.

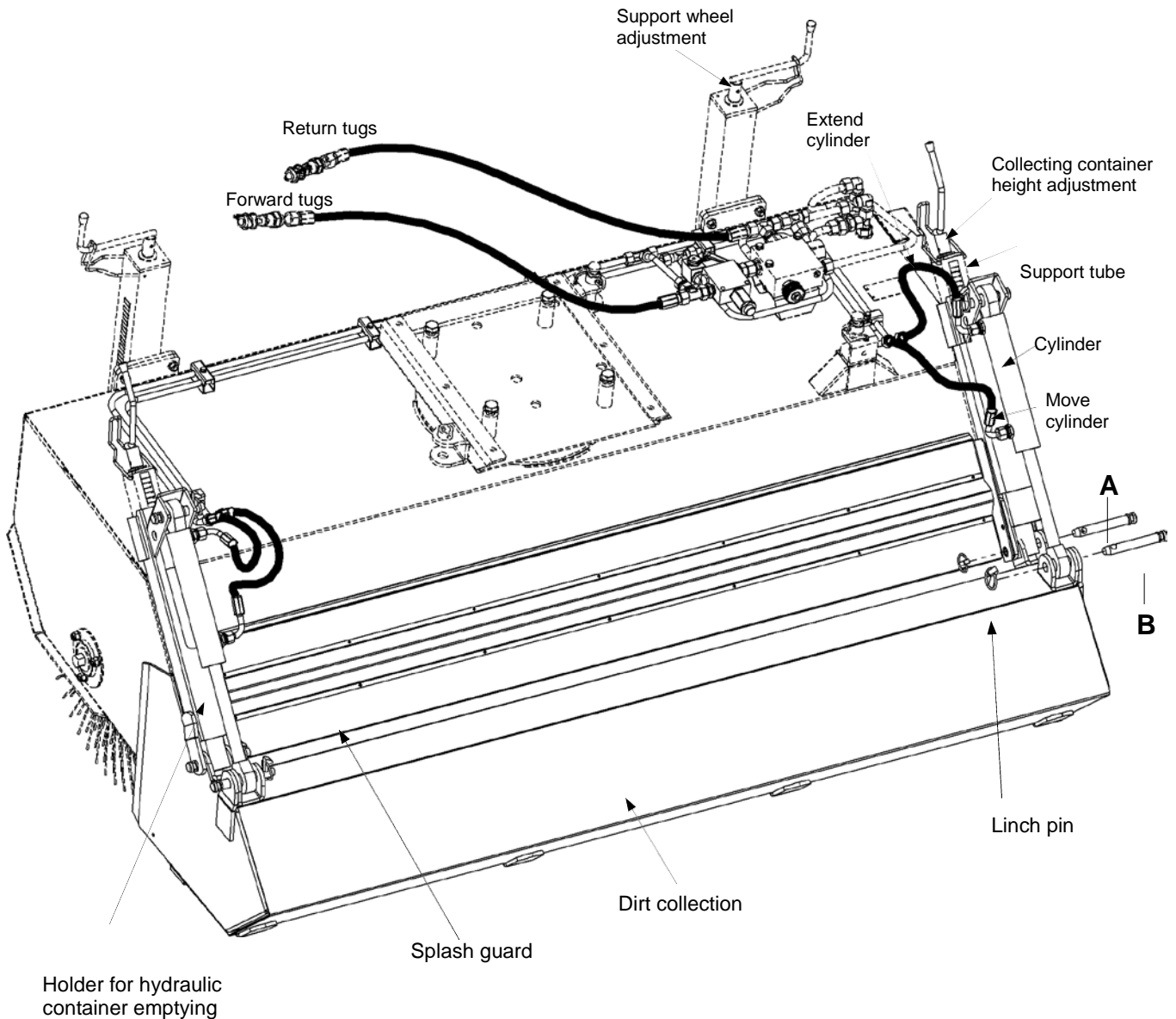
## 7.2 Installation of dirt collector and splash guard

First, place the holders for hydraulic tank emptying on the left and right of the sweeper's carrier pipes. Then insert the container and the splash guard on both sides through the bolts "A" and the container additionally through the bolt "B" as shown in Fig.2. The bolts are each secured by linch pin.

The splash guard falls by its own weight diagonally against the sweeper base housing and the two rubber straps top and bottom close the space between sweeper and dirt collector.

To empty the container, the hydraulic cylinders pull in, so the container folds up.

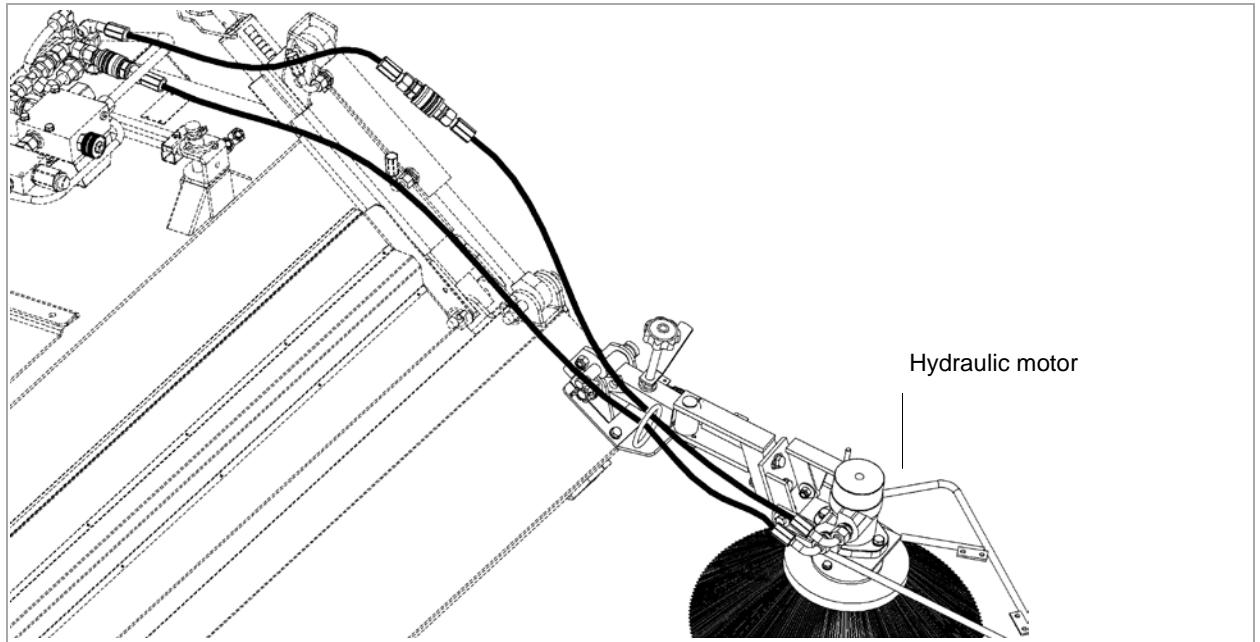
Notes: Tighten all hydraulic fittings before the test run.



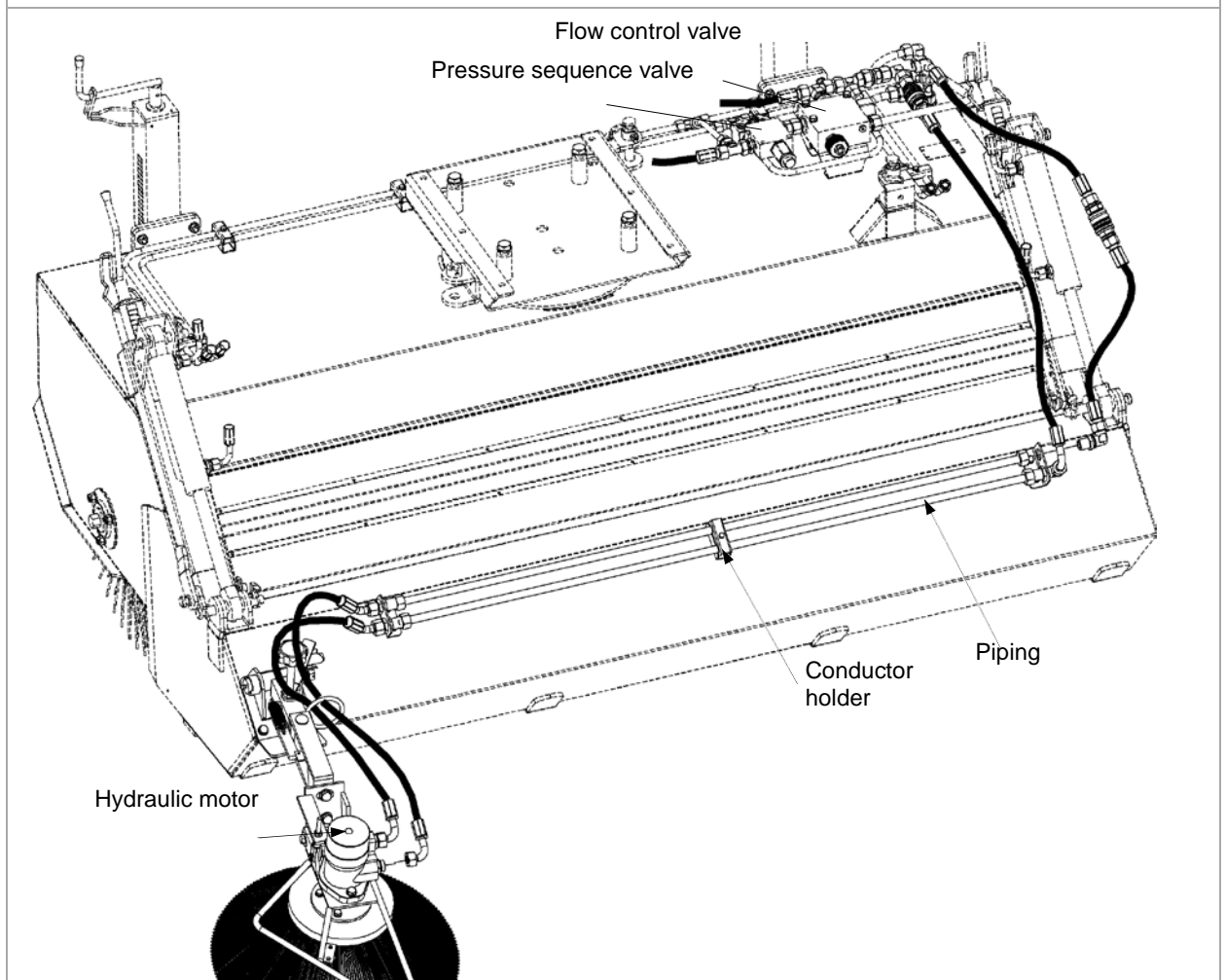
**Fig.2**

### 7.3 Montage side brush

The hydraulic hoses are mounted as shown in fig.3 and fig.4.  
For the left side brush, wire holders and piping are mounted in the holes provided on the sump.



**Fig.3** in the direction of travel left



**Fig.4** in the direction of travel right

## 8 Operation

### 8.1 Operating instructions - Sweeper

**Broom setting:**

Use the twist handles to adjust the two support wheels in such a way that the sweeping roller pushes off a 4 cm wide strip on the floor.

Pay attention to the same setting of the two support wheels!

**Note:**

A sweeping roller that is set too tight will not result in better sweeping results but will result in higher wear of the sweeping roller. Depending on the wear of the brush, it is important to adjust the height setting on the support wheels.

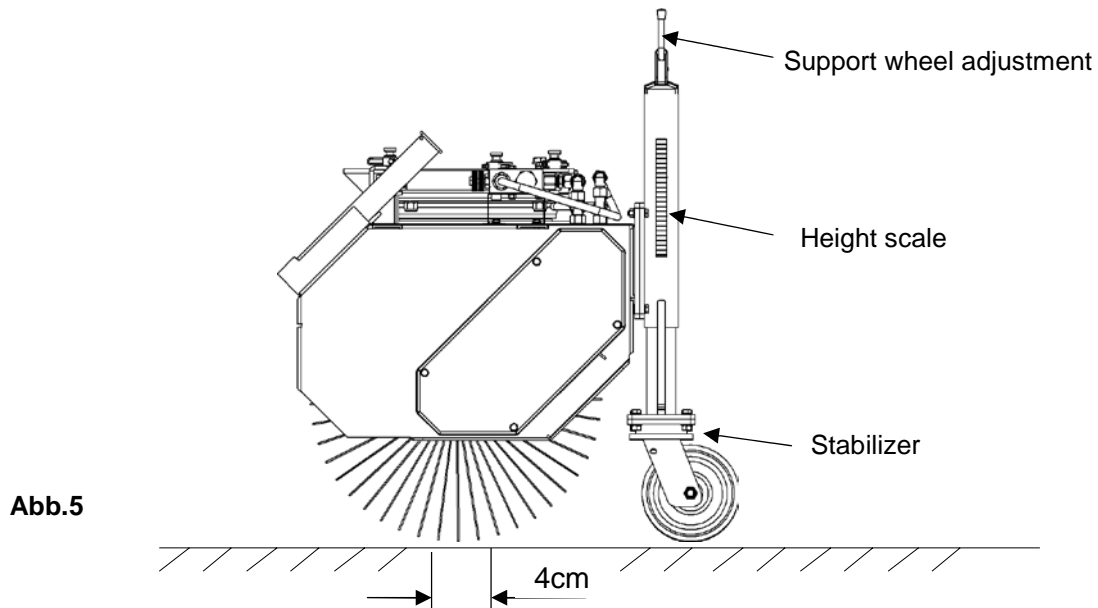


Abb.5

**Storage:**

**Never store the sweeper on the broom.**

Relieve the sweeping roller with the help of the two support wheels.

Put the dust caps over the hydraulic plugs!

**Pivoting the sweeper:**

According to the work involved, the sweeper can be swiveled straight or left or right over the turntable. Lock the handrail in the desired position.

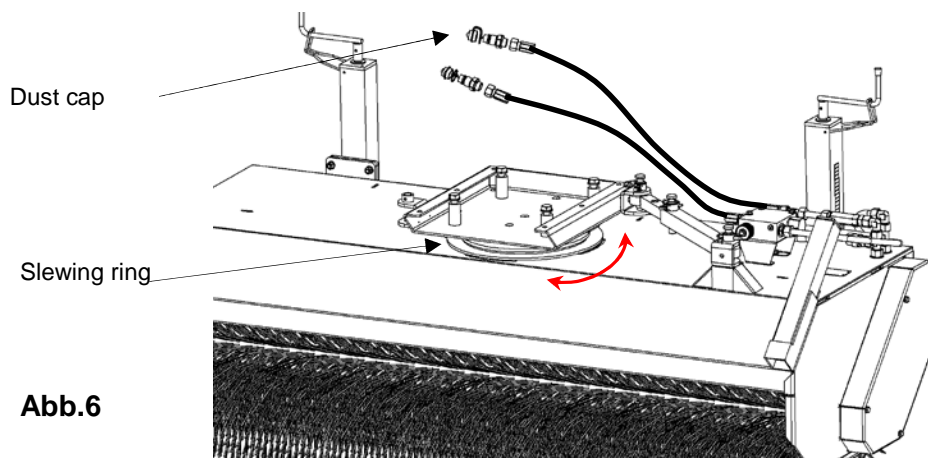
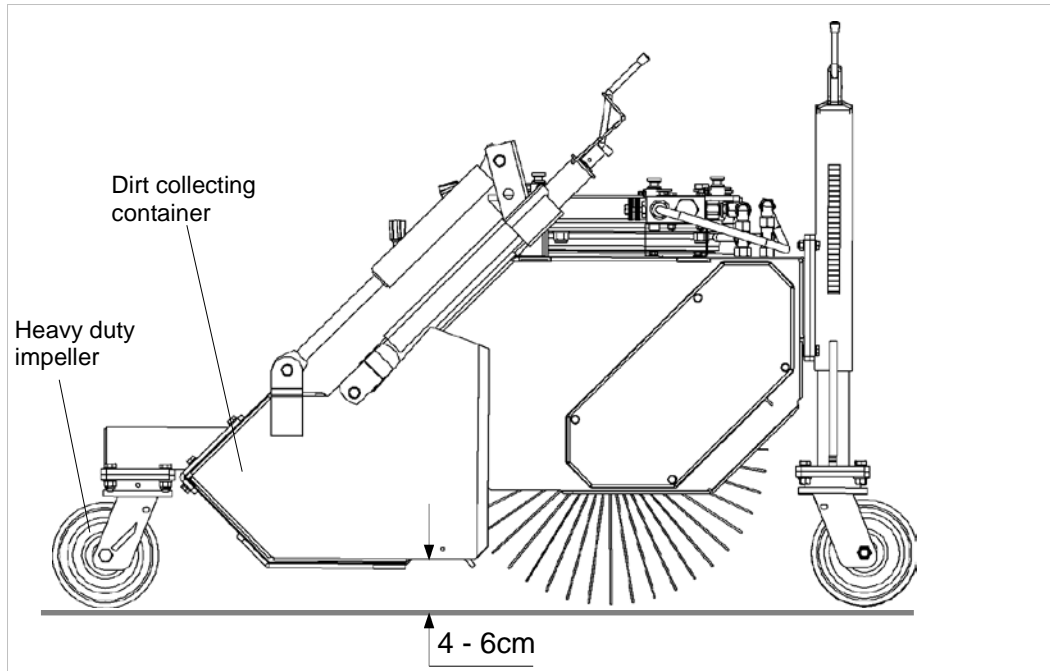


Abb.6

## 8.2 Dirt collecting container - setting

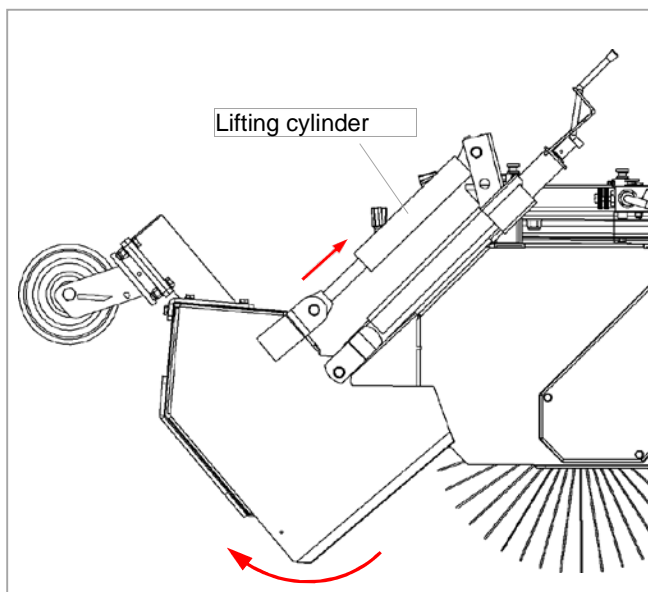
The ground clearance of the collecting tank should be 4 - 6 cm evenly and is adjusted via the two twist grips on the left and right support tube.

**Attention:** Please adjust carefully for very uneven ground conditions!



**Fig.7**

To empty the container, pull out the lifting cylinder, then the container folds up, see Fig.8.



**Fig.8**

### 8.3 Side brush - Setting

Please do not adjust the side broom until the main broom and the dirt collector are set.  
 The height is adjusted by operating the spindle on the connection plate, see Fig.9  
 The best sweeping performance with side brushes results in a sweeping slightly tilted to the middle of the road sweeper.  
 If the side broom is not in use, fold it up and secure it, this is also the storage position, see Fig.11.

When dismantling the side broom and operating the sweeper without a side brush, always insert the hydraulic hoses into circulation, Fig.10.

**Make sure the hydraulic connectors are clean!**

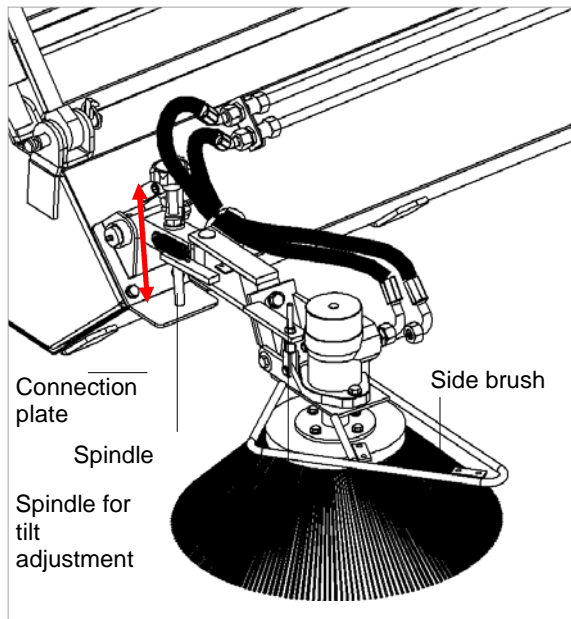


Fig.9

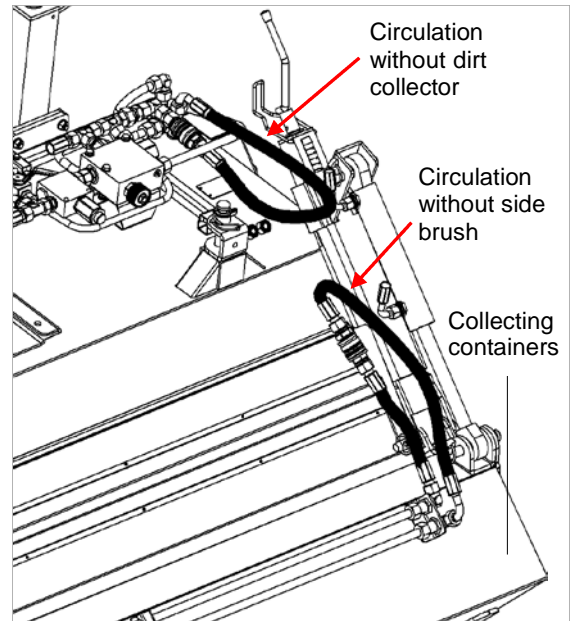


Fig.10

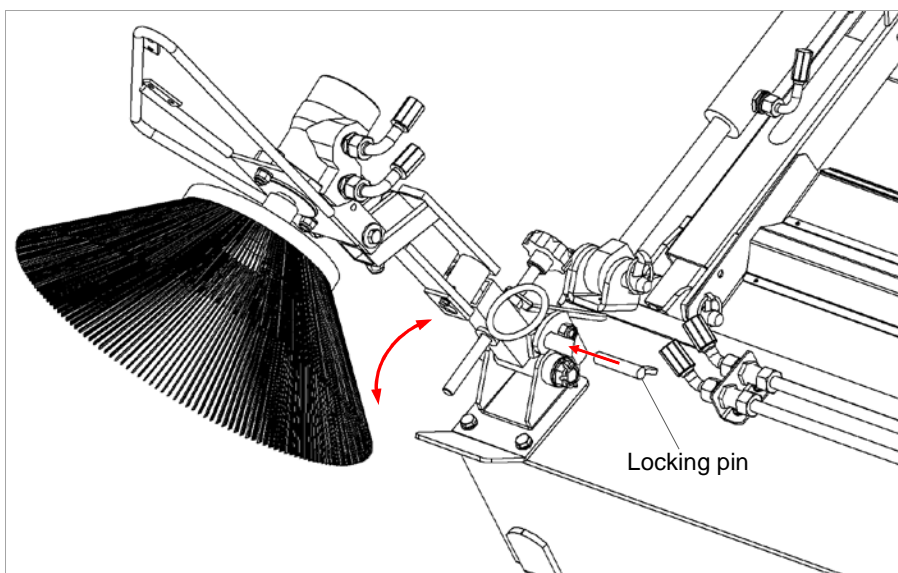


Fig.11



## 9 Maintenance

### 9.1 General maintenance instructions



- Non-compliance may result in personal injury or damage to the machine. Before each use of the machine check all safety-relevant parts.
- The machine must be regularly serviced.
- Repairs, maintenance and cleaning work as well as the elimination of malfunctions must only be carried out with the implement disconnected. To do this, also disconnect the hydraulic connection to the single axle.
- During all work, the machine must be secured against rolling or tipping by taking suitable measures.
- Regularly check nuts and bolts for tightness and retighten if necessary.
- Only use original spare parts from the manufacturer!
- Check all bolt and bolt connections after the first 5 hours of operation.
- Once all work has been completed, all disassembled protective devices must be properly replaced.
- Lubricate or lubricate all moving parts. \*

### 9.2 Daily exam

- Check the tools for tightness.
- Check the safety elements and moving parts for wear before each use.
- Perform a test run before each use.
- Clean the device after each use.

### 9.3 Maintenance after 20 operating hours or longer downtime

- At regular intervals and always at the beginning and end of the season, the moving parts of the unit must be greased or oiled.
- Lubricating nipples are located in the wheel receivers and in the bearing pin of the connection mount, these lubricate regularly.
- Lubricate the attachment of the attachment regularly.

### 9.4 Storage

If the machine is not used for a long time, the following measures are recommended:

1. Carry out cleaning
2. Check the function of all parts
3. Check all screws and bolts for tightness and retighten them if necessary.
4. Replace worn or damaged components, only use original Kersten spare parts!
5. Regressed lubrication points (=> grease nipple)
6. Subordinate machine
  - To prevent corrosion, protect the machine from weathering. Do not place the machine in damp rooms, stables or artificial fertilizer warehouses.
7. Cover the machine with a cloth or similar.

## 9.5 Faults and their rectification

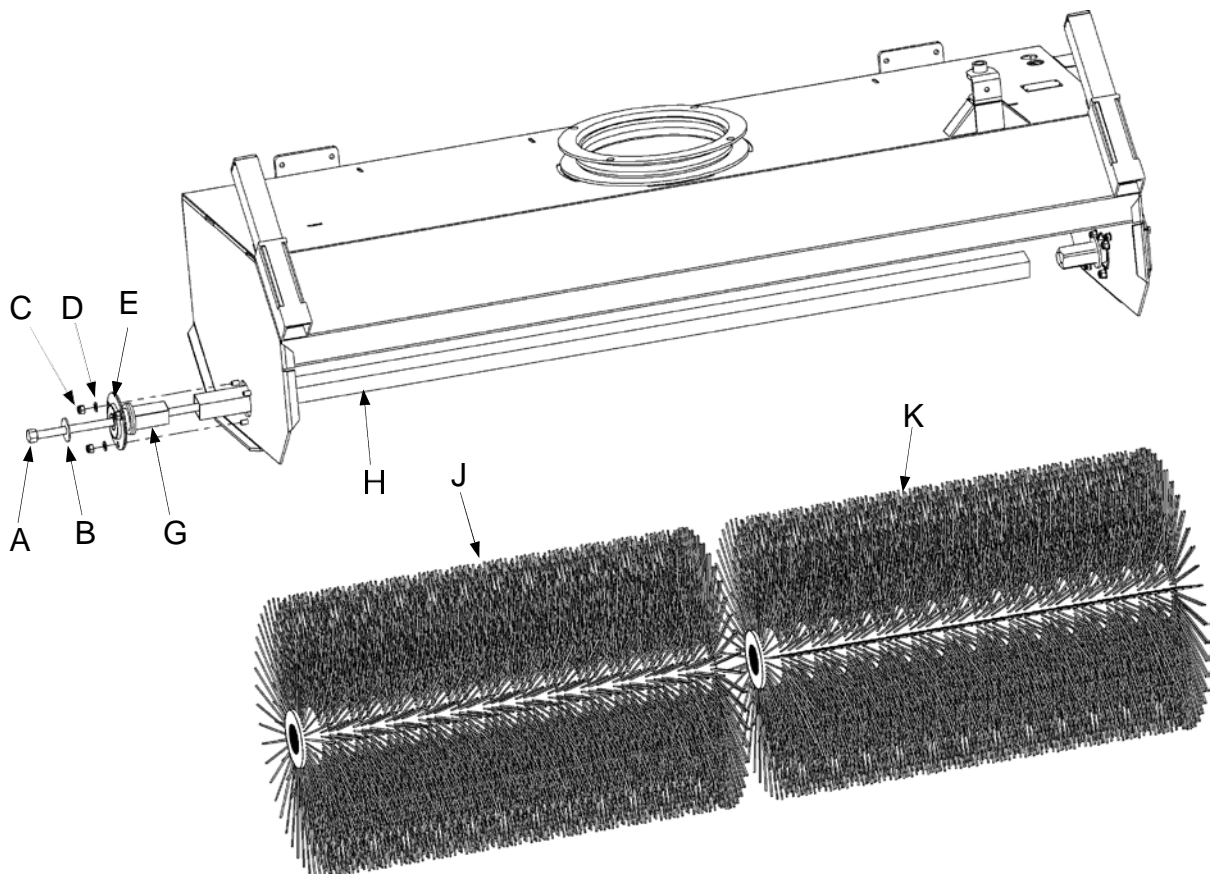


This chapter describes in more detail the most important faults that can occur during operation on the sweeper. Faults which require major intervention must always be rectified by your specialist workshop.

<b>Malfunction:</b>	<b>Possible cause:</b>	<b>Remedy:</b>
Hydraulic motor does not turn	Internal combustion engine is not running	Start combustion engine.
	Hydraulic power take-off not switched on.	Switch on hydraulic auxiliary drive.
	Hydraulic hoses not connected.	Connect hydraulic hoses.
	Hydraulic connector not engaged.	Check hydraulic connector, insert if necessary until it clicks into place.
	No hydraulic fluid in the hydraulic tank.	Add hydraulic fluid to the hydraulic tank.
Brushes do not come on tours	Speed set too low	Increase speed.
	Hydraulic fluid too low	Add hydraulic fluid to the hydraulic tank
	Leakage on the hydraulic house.	Replace hydraulic hoses.
	Leakage at the hydraulic connectors.	Release hydraulic connector and insert again until it clicks into place. Should leakage continue; Check hydraulic connector and replace if necessary.
	Leakage at the hydraulic screw connection.	Slightly loosen the hydraulic screw connection, move the hose slightly and tighten the hydraulic screw connection again.
	Contact pressure on the work surface too large.	Align the machine higher so that the brushes are relieved.
Height adjustment stiff	Threaded spindle dirty.	Release lever, unscrew jockey wheel. Clean spindle and jockey wheel and grease.
	Pickup dirty, adjusting screws screwed in too far.	Remove dirt from the receiving socket and the pick-up tube and then grease them fresh.
Debris remains lying / does not sweep clean	Driving speed too high	Reduce driving speed.
	Broom speed too high / too low	Reduce or increase broom speed
	Sweeping roller height set too high	Adjust sweeping roller height according to specifications
	Collecting container set too high	Set the collection container to the correct height
	Side brush set incorrectly	Adjust the side brush properl

## 10 Installing the sweeping roller

- In the direction of travel on the right, remove the tension rod (A) with washer (B) from the sweeper's main body.
- Loosen the three nuts (C) with the respective spring washer (D) and then pull out the bearing shells (E) with drive stub (G).
- To remove the drive tube (H) and the roller brush (J) and (K), the sweeper must be lifted.
- Now the first half of the sweeping roller (J), then the drive tube (G) and the second half of the sweeping roller (K) can be pulled out.
- Mount the two-piece sweeping roller and the drive tube in reverse order to the drivestub and the tension rod.



## 11 Technical data

### 11.1 Sweeper

Type	KM 19060 H	KM 22560 H	KM 25060 H	KM 27060 H
Working width a	190 cm	225 cm	250 cm	270 cm
Sweeping roller diameter	60 cm	60 cm	60 cm	60 cm
Drive	hydraulic	hydraulic	hydraulic	hydraulic
Mass	kg	kg	kg	kg
Hydraulic oil	Avia N 46	Avia N 46	Avia N 46	Avia N 46
Amount of oil	ca. 11.5 Liter	ca. 11.5 Liter	ca. 11.5 Liter	Ca. 11.5 Liter

### 11.2 Dimension sheet

Dimensions for working width a can be found in Table 10.1.

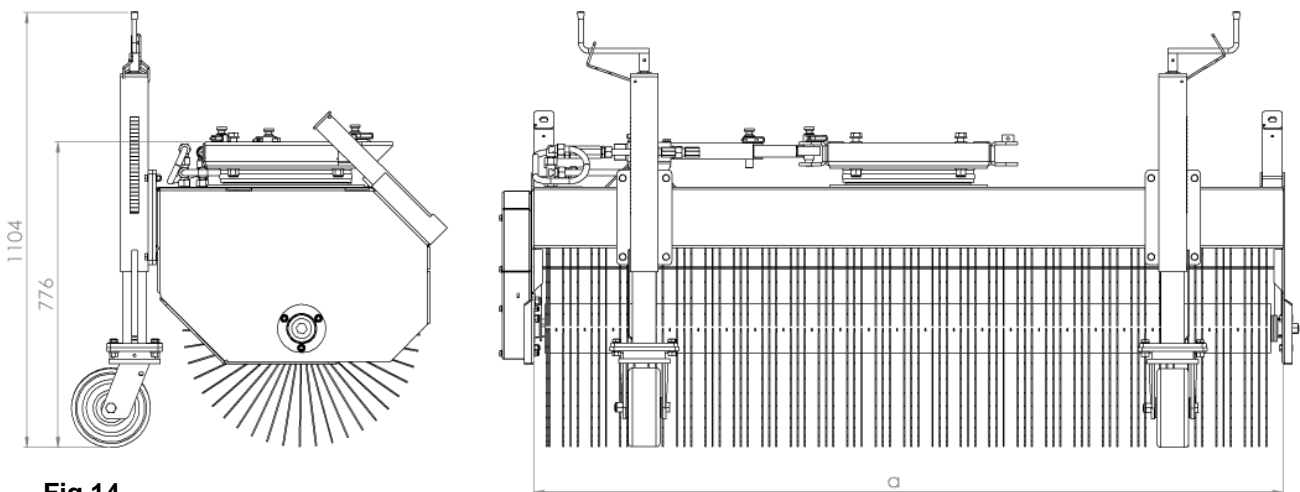


Fig.14

### 11.3 Scope of delivery as standard

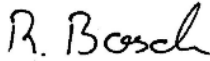
- Attachment frame (tractor-dependent)
- Combined rotary roller with poly-twist trim, five-row

### 11.4 Additional equipment

- Disc Broom
- Hydraulic swivel device right, left
- Dirt collecting container with hydraulic container emptying
- Heavy duty impeller
- Air-tired wheels 11 x 7.00-4
- Air-tired wheels 16 x 6.50-8-4
- On scratch bar
- Further sweeping rollers on request

## 12 EG – Konformitätserklärung

CE Déclaration de conformité  
EC Declaration Conformity  
EG conformiteitsverklaring

(D)	(F)	(GB)	(NL)
Wir	Nous	We	Wij
<b>Kersten Arealmaschinen GmbH</b> Empeler Straße 95 D- 46459 Rees			
erklären, dass das Produkt	déclarons que le produit	herewith declare that the product	verklaren dat het produkt
<b>Frontkehrmaschine</b>	<b>Balayeuse de front</b>	<b>Front sweeper machine</b>	<b>Frontveegmachine</b>
<b>KM 19060 H; KM 22560 H; KM 25060 H; KM 27060 H</b>			
mit allen einschlägigen Bestimmungen der EG-Maschinenrichtlinie 2006/42/EG in Übereinstimmung ist.	satisfait à l'ensemble de la directive machines 2006/42/CE.	fulfiles all relevant provisions of Directive 2006/42/EC.	voldoet aan alle toepasselijke bepalingen van EG-Machinerichtlijn 2006/42/EG.
Die Maschine ist auch in Übereinstimmung mit allen einschlägigen Bestimmungen der folgenden EG-Richtlinien:	Cette machine satisfait également à toutes les dispositions pertinentes des directives CE suivantes:	The machinery is also in compliance with all relevant provisions of the following EC directives:	De machine is ook in overeenstemming met alle toepasselijke bepalingen van de volgende EG- richtlijnen:
Weiterhin wurden folgende Normen angewendet:	En outre, les normes et spécifications techniques suivantes ont été utilisées:	The following harmonised standards apply:	Volgende geharmoniseerde normen werden gehanteerd:
<b>EN ISO:2010</b>			
Herr	Monsieur	Mr.	De heer
<b>Dipl. Ing. (FH) Robert Bosch</b> Empeler Straße 95 D- 46459 Rees			
ist bevollmächtigt die technischen Unterlagen zusammenzustellen.	est autorisé à constituer la documentation Technique conformément à l'annexe VII A.	is authorised to compile the technical file according to Annex VII A.	is gemachtigd het technische dossier samen te stellen.
Rees, 15.04.2014 			
Geschäftsführer	Directeur	Managing Director	Bedrijfsleider



# **Kersten**

**SITE MAINTENANCE EQUIPMENT**

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