

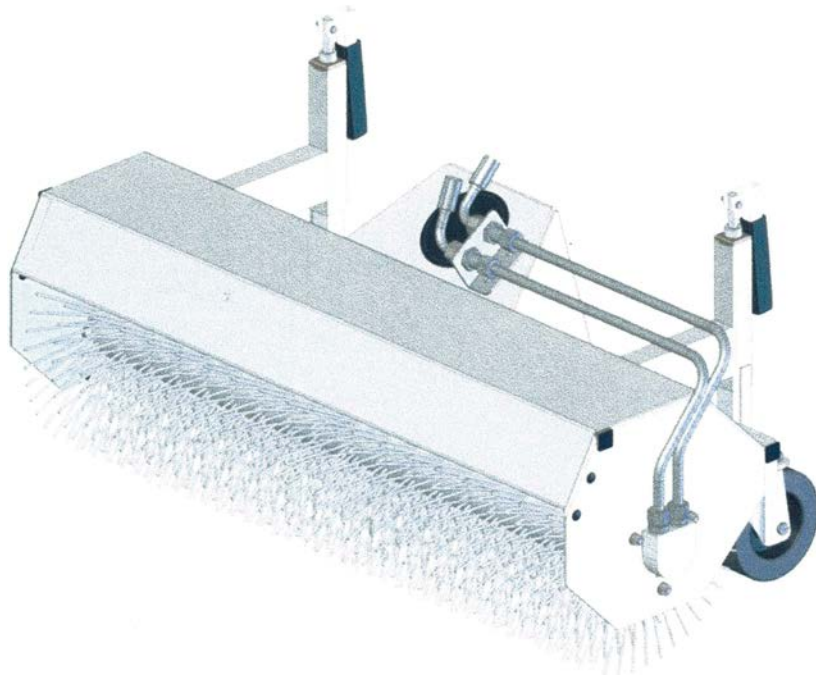


Original Operating Manual

Front Sweeper

EFKM 07532 H-K 35;
EFKM 08232 H-K 35;
EFKM 09032 H-K 35;
EFKM 10032 H-K 35;

EFKM 07532 H-KU 70
EFKM 08232 H-KU 70
EFKM 09032 H-KU 70
KM 09032 H-FKDR



Order number: B00029 From machine No.: Rev.: R01 Stand: 21.05.2012



Manufactured by Kersten
Arealmaschinen GmbH
Empeler Straße 95
D - 46459 Rees
www.kersten-maschinen.de



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Kersten (UK) Ltd Tel. 0118 986 9253
Progress House
39 Boulton Road Reading, RG2 0NH
www.kerstenuk.com - info@kerstenuk.com

TABLE OF CONTENTS

1 INTRODUCTION	4
2 OVER THIS INSTRUCTION MANUAL	5
2.1 Before commissioning	5
2.2 Notes on this operating manual	5
3 SAFETY INSTRUCTIONS FOR ATTACHMENTS	6
3.1 Intended use	6
3.2 General safety and accident regulations	6
3.3 Pictograms used	9
4 DISPOSAL	10
5 WARRANTY	10
6 RECOMMENDATIONS	10
6.1 Lubricants	10
6.2 Maintenance and repair	10
7 MOUNTING	11
7.1 Assembly Attachment	11
7.2 Mounting Dirt Collection Box	12
7.3 Mounting side brush	13
7.4 Mounting of water blasting device	14
8 OPERATION	15
8.1 Operating instructions for the sweeper	15
8.2 Retainer setting	15
8.3 Side brush setting	16
9 MAINTENANCE	17
9.1 General maintenance instructions	17
9.2 Daily inspection	17
9.3 Maintenance after 20 hours of operation or longer downtime	17
9.4 Storage	17
9.5 Disruptions and their rectification	18
9.6 Installing the sweeping roller	19
10 TECHNICAL COUNTRIES	20
10.1 Sweeper	20
10.2 Leaflet	20
10.3 Scope of delivery in series	20
10.4 Additional equipment.....	20
11 EC DECLARATION OF CONFORMITY.....	20

1 Introduction

Dear Customer,

Thank you for choosing a quality product from Kersten.

This product has been manufactured according to the latest manufacturing methods and extensive quality assurance.

Only when you are satisfied with your device is our goal reached.
Before using this machine or attachment for the first time, please read these operating instructions complete and conscientious.

If you have any information from this safety data sheet or the product specific assembly or Manual, please contact your salesperson or directly the Machine manufacturer.

Keep this manual handy. You can then provide important information as needed and read instructions.

Have fun with your Kersten - Device wishes you

Dipl.- Ing. (FH) Robert Bosch



Managing Director

2 About this manual

The machine or attachment is subject to technical progress. Information, Illustrations and technical data are up-to-date at the time of Publication. Changes in the sense of technical progress are the manufacturer reserved at any time.

Therefore, no claims can be derived from the information and illustrations of this bed become.

2.1 Before start-up



As of self-propelled tools and attachments at not appropriate Application Considerable sources of accident or danger are at initial start-up Kersten work equipment is a briefing by specialized and authorized persons absolutely necessary. They do best with its basic functions and its Handling trusts by choosing a free and level terrain for your first ride.

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

- Enumerations are marked with eye-catching points. Example:
 - Text
 - Text
- Instructions are marked according to the order in which they are to be executed.

Example:

1. Text
2. Text

3 Safety instructions for attachment rates

The most important safety instructions in this manual may not be all possible cover. It goes without saying that common sense and caution Factors are that are not built into a machine, but by the one who has the Machine must be used and maintained, must be brought.

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

3.1 Intended Appropriate use



- The sweeper is for the respective normal or normal use in the field Area the area care developed for sweeping on paved areas, sidewalks and facilities
- Any use beyond this is considered improper use. For resulting from it The manufacturer is not liable for any damage, the risk is borne solely by the operator.
- To comply with regulations, compliance with the manufacturer's instructions also applies Operating, maintenance and maintenance conditions.
- The sweeper may only be used, maintained and repaired by persons who familiar and informed about the dangers.
- The relevant accident prevention regulations as well as the other generally recognized Safety and occupational health rules must be observed.
- Individual changes to the machine lead to the disclaimer 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 towing vehicle may not be operated by persons under the age of 16, not even under supervision.
- Children and adolescents should be instructed not to play with the device.
- Only trained personnel or persons may use this machine!
- When using public traffic routes, observe the relevant regulations!
- The towing vehicle is not approved for public transport.
- 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!
- For transport on motor vehicles or trailers outside the area to be machined, the motor must be switched off!
- Be careful with rotating tools - safety distance!
- Be careful with trailing tools. Wait for work on these until they stop completely!
- There are crushing and shearing points on driven parts!
- The transport of persons and objects is prohibited!
- Driving behaviour, steering and possibly braking capability as well as tilting behavior are influenced by mounted or attached devices and load. For this reason, only implements approved by the manufacturer may be used. The working speed must be adapted to the respective conditions.

- Do not make any changes to the engine's upper idle speed. Too high a speed increases the risk of accidents.
- Unauthorized conversions that endanger the operational safety of the machine are prohibited!
- Check the machine for operational safety before each use!

3.2.2 Work and danger area



- The user is responsible to third parties in the workarea!
- Staying in the danger area of the machine is prohibited!
- Check the near range before starting up. Pay special attention to children and animals. Ensure sufficient visibility!
- Before starting work, remove foreign objects 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 tool.
- When working in the immediate vicinity of public roads and paths, these should not be approached if possible, as there is a risk of injury to third parties due to 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 the devices and actuators as well as their function and make sure that all safety devices are properly installed and in the protective position! It is too late during the work assignment!
- Above all, learn how to stop the engine quickly and safely in an emergency.

3.2.4 Starting the machine



- Never leave the control room while driving!
- Do not leave the operating station until the sweeping roller comes to a stop arrived!
- Do not make adjustments to the sweeper during operation - Risk of accident!
- The transport of persons and objects is prohibited!
- If, for example, the attachment sweeper has detected a foreign object and block the engine and turn off the attached sweeper with a suitable Clean-up tool! Always switch off the engine and remove the spark plug connector during surgery or cleaning of the attachment! Please note the Safety instructions from the self-propelled work tool.
- If the self-propelled implement is damaged, stop the engine immediately and disconnect the engine Have it repaired.

3.2.5 Leaving the machine



- By using wheel chocks, the machine will be stopped when leaving Rolling away secured.
- Secure the device against unauthorized use!
- Never leave the appliance unattended while it is still in operation!

3.2.6 Screw connections and riding



- When working on the wheels, make sure that the unit is safely parked and secured against rolling away!
- Regularly check nuts and screws for tightness and retighten if necessary.
- Repair work on the tires may only be carried out by qualified technicians and with suitable assembly tools be performed!
- If the tire pressure is too high there is a risk of explosion!
- Check the air pressure regularly.

3.2.7 Coupling and uncoupling of attachments



- Attachment only with the engine switched off and the PTO deactivated Disconnect.
- When changing attachments and their parts, use suitable tools and Wear gloves.
- When attaching and detaching the required stoppers to the respective position and provide adequate stability.
- Secure the self-propelled work machine and attachment against rolling away (Chocks).
- There is a risk of injury (crushing) when coupling attachments. Special Caution is necessary.
- Connect the attachments in accordance with the regulations and fix in 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 engine stopped!
- If guards and tools are subject to wear, they are regularly check and replace if necessary.
- Only use original spare parts from the manufacturer as these meet the technical requirements correspond and thus the risk of accidents is minimized!
- Cleaning with the high-pressure cleaner should be done in such a way that the Water jet not directly in stock, turned parts, grease nipples, shaft seals, wheel hubs etc. is held.
After each cleaning with the high-pressure cleaner, the lubrication points must be greased. In the case of infringement, the right to guarantee expires!
- Check the moving parts for ease of operation and if necessary grease them!
- Be sure to reinstall the guards after maintenance and cleaning and put in protective position!
- To avoid the risk of fire, keep the machine clean!
- Check nuts and screws regularly for tightness and retighten if necessary.
- Always have one on the lifted unit during maintenance, cleaning and repair work Secure by suitable support elements!
- Before carrying out any repairs, make sure that the hydraulic system is depressurised, because fluids under pressure can penetrate the skin and cause serious injury cause! Therefore, seek medical advice immediately - risk of infection!
- Repairs may only be carried out by qualified personnel.
- Check the hydraulic hose lines for damage and aging at regular intervals and replace if necessary.
- When welding the tractor or mounted equipment, disconnect the battery.
- Repair work such as welding, grinding, drilling, etc. Do not carry out on supporting and other safety-related parts such as frames, axles, etc.!

3.3 Pictograms used

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!



Machine parts only if they are complete have come to a standstill.



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

4 Disposal

The equipment must be in accordance with the applicable regulations of the municipality, the city or the Land will be disposed of.

Depending on the material you feed the parts to the residual garbage, the special garbage or the recycling.

The company Kersten Arealmaschinen GmbH does not undertake any disposal.

5 Warranty

Each device is accompanied by a sales message, which, among other things, contains the date of the beginning of the warranty period. When selling the device, please fill in the sales message completely and send them back to us within 14 days.

Should a warranty claim be asserted, without a sales message present, no warranty processing is possible.

Warranty claims should be made promptly, but no later than six weeks after the damage occurred will be submitted under the purchase details, otherwise no warranty processing is possible.

Complaints must be confirmed by the company Kersten Arealmaschinen GmbH. Wear parts are excluded from the warranty. Furthermore, the warranty expires in case of improper use, in case of execution of non-authorized maintenance work, when using inadmissible equipment and when not using Original spare parts.

6 Recommendation

6.1 Lubricants

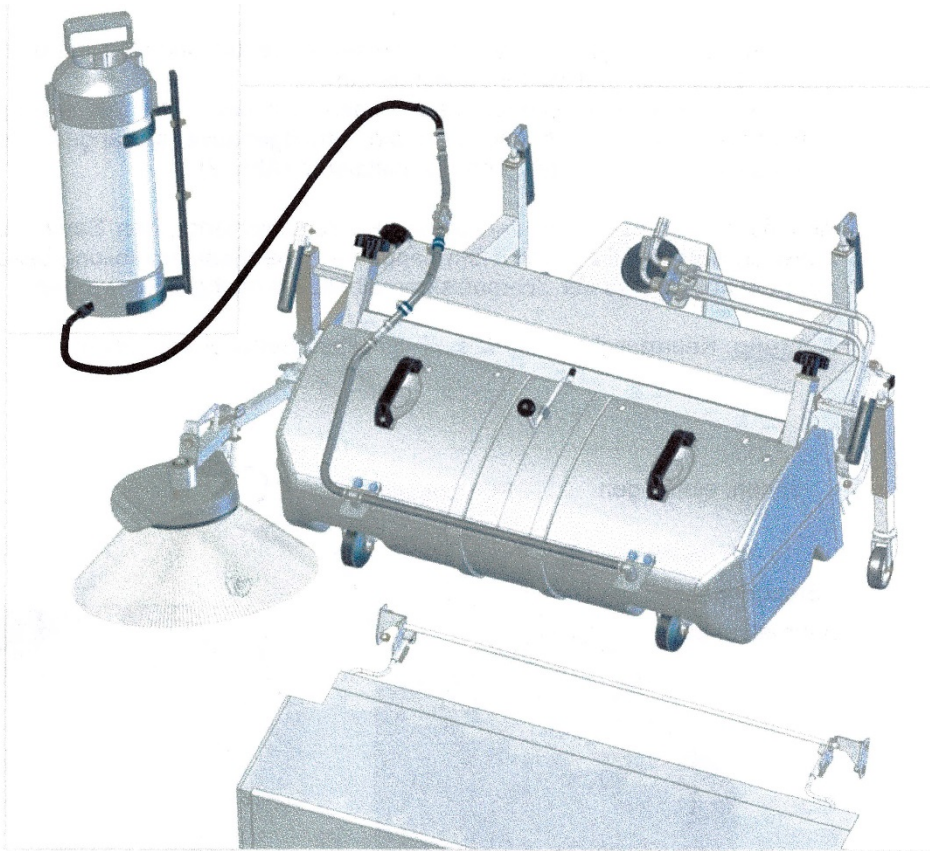
For "open" lubrication points or nipple points we recommend bio lubricant or bio lubricant grease to use.

With the use of bio lubricants you act ecologically correct, protect the Environment, demand the health of people, animals and plants.

6.2 Maintenance and repair

A handler has top trained mechanics who require proper maintenance and service to carry out the restoration. Major maintenance and repairs should only be done then make it yourself if you prefer the appropriate

7 Assembly



7.1 Mounting Attachment

Before you assemble or disassemble the attachment, turn off the prime mover and remove the ignition plug.

The receiving socket and the receiving tube must be clean and freshly greased.

- Pull up the locking pin.
- Slide the pick-up tube into the receiving socket of the basic unit.
- Then lock the locking pin.
- Now insert the two hydraulic hoses.
- For dismantling, follow the steps in reverse order.

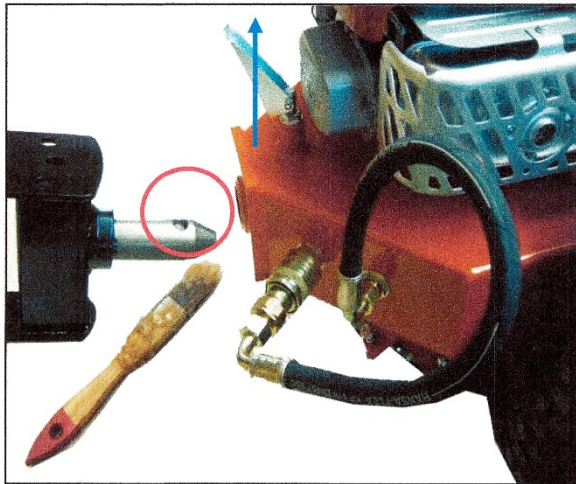


Fig.

When dismantling the attachment, put the hydraulic plugs in circulation, to protect the hydraulic shroud from contamination (see Fig. 1).

7.2 Mounting dirt collection container

At the front of the sweeper, fasten the two guide rails with two screws and nuts on each side, right and left.

Flip the container lock lever up. The locking rod in the two Attach guide rails on the right and left sides of the basic housing.

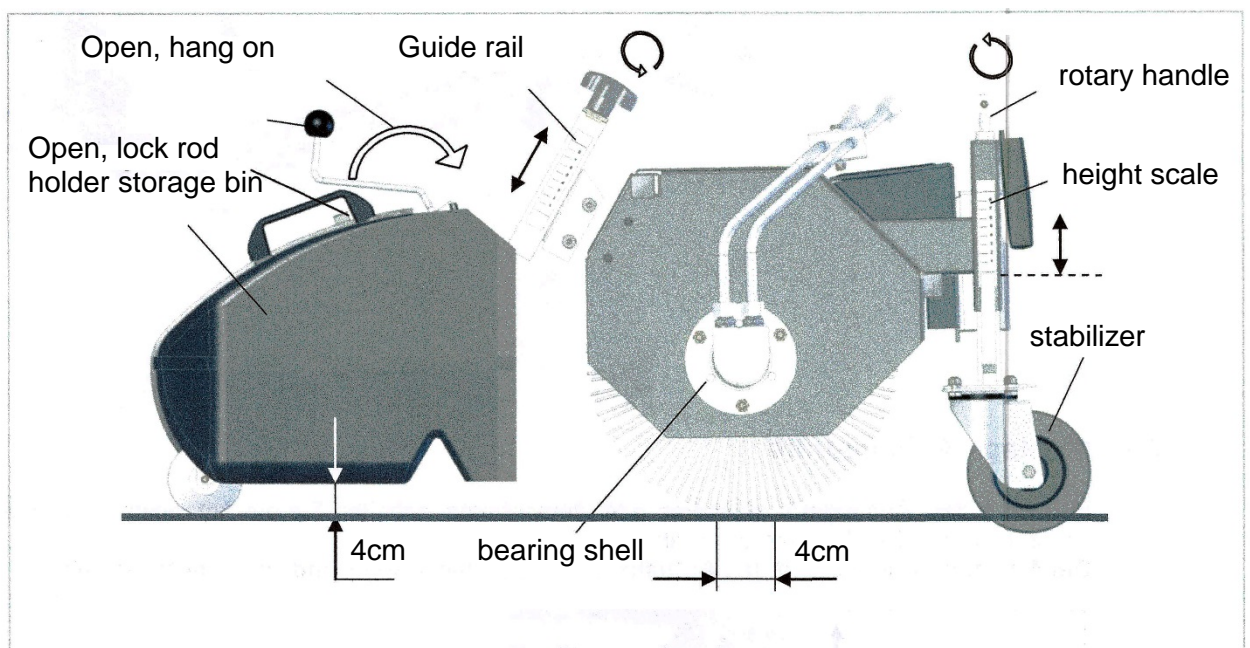
Move the locking lever downwards and place it in the pole holder (Fig. 2).

Using the rotary handles on the two guide rails, the collection container to a uniformly

Bring ground clearance of 4 cm - pay attention to scale graduation!

Depending on the wear the sweeping roller, the dirt collecting container must be readjusted.

Attention: Never lift sweeper with filled container!



View in direction of travel left

Fig. 2

7.3 Mounting side brush

When first mounting, first pull out the tie rod on the right side of the sweeper and instead slide on the enclosed spring washer and pulley on the K pulley. All together bring in the sweeper. Now the mounting plate with four screws, spring washers + nuts screw to the right-side panel (see 4 x A). On the boom of the mounting plate the front mount side brush arm at "B" with M10 x 50 screw, washer and stop nut. Place the V-belt around the pulley inside the mounting plate. It is essential make sure that at "C" = "white V-belt pulley" the V-belt backside on the pulley present!

Tighten the V-belt by turning handle E until it is about 5 mm apart between the handle and the tube.

Note:

The sheet metal above the side broom serves as collision protection with the torsion spring.

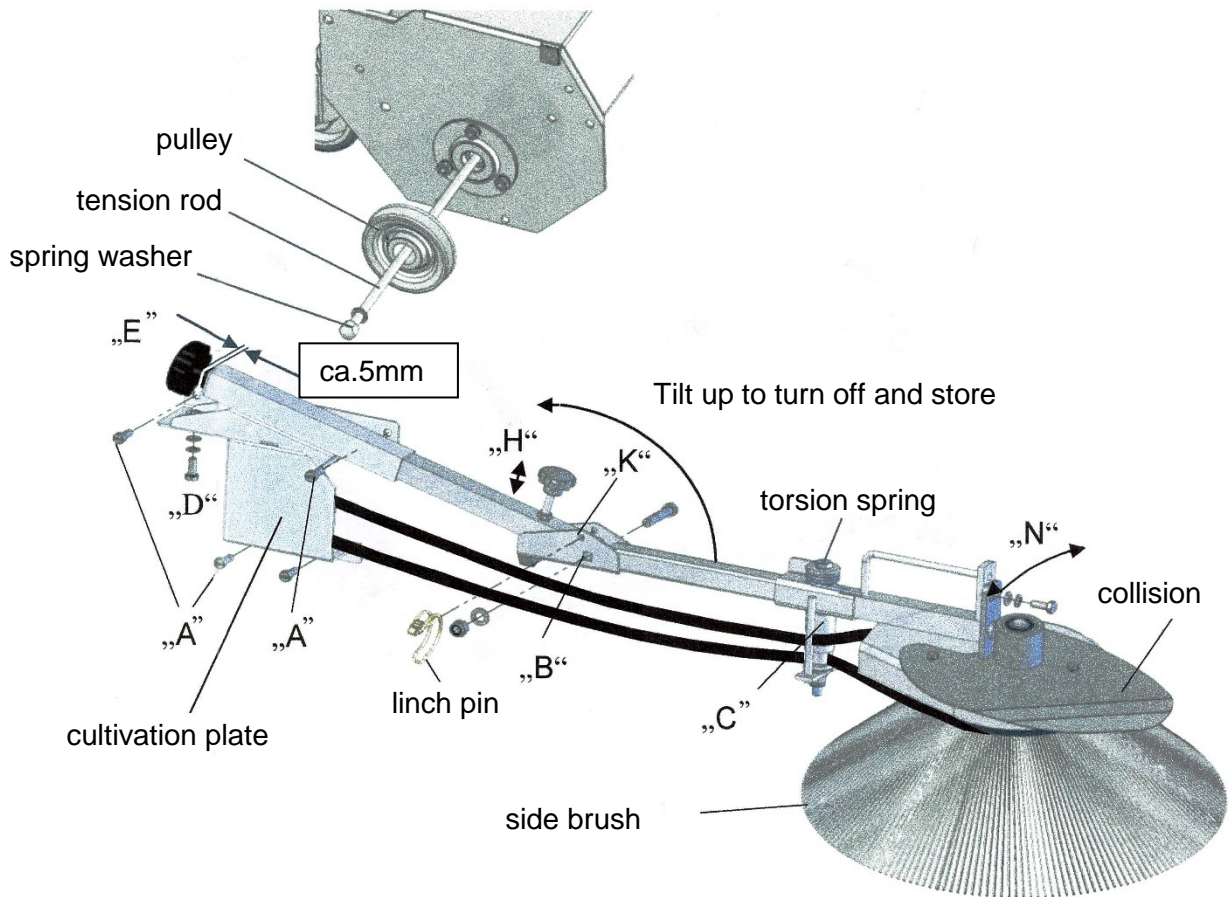


Fig. 3

7.4 Mounting water sprinkler

In the case of the EFKM 09032 and 10032 H-K 35 / H-KU 70, two water nozzles are arranged at a distance of about 500 mm from each other on the dirt collecting container housing, ie. mounted at a distance of 250 mm to the centre of the collecting container (see Fig.4).

For the EFKM 07532H-K 35 / H-KU 70 and EFKM 08232 H-K 35 / H-KU 70, only one water nozzle is mounted in the middle of the dirt collector.

For each water drainage plate must be made two holes each with a diameter of 8.5 mm and at a distance of 30 mm to each other on the collecting container.

In this case, the kink of the retaining plates should rest flush against the bottom edge of the edge. Each retaining plate is fitted with 2 M8 x 16 mm screws, spring washers and nuts (see Fig.4).

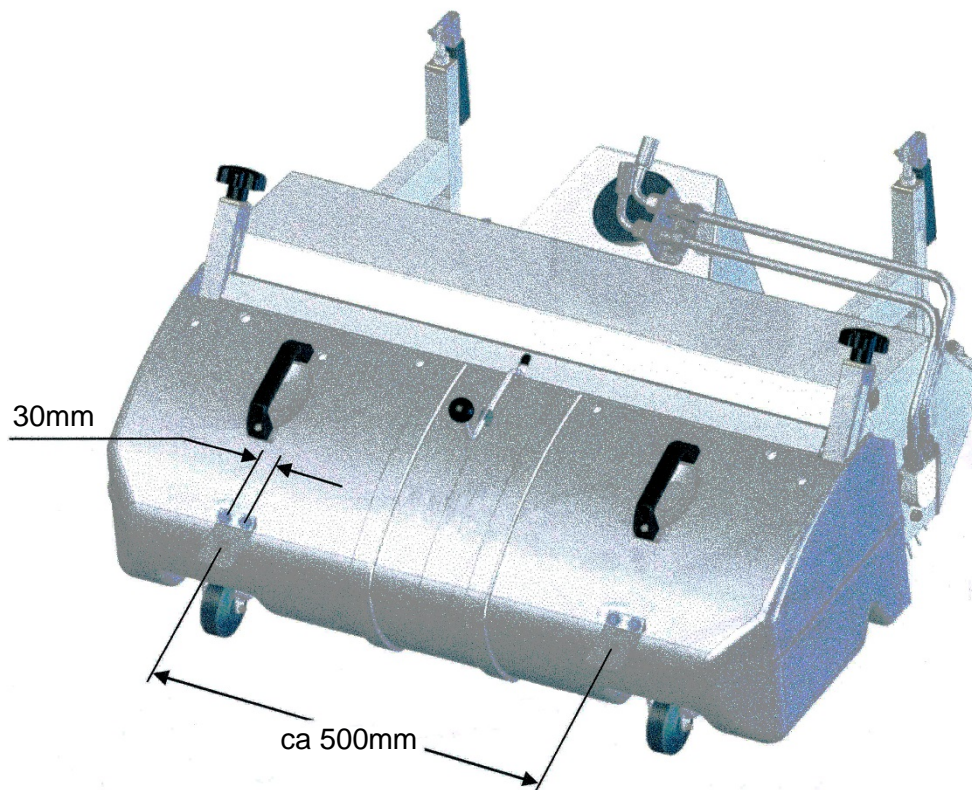


Fig. 4

8 Operation

8.1 Operating instructions for the sweeper

Using the rotary handles, adjust the two stub wheels so that the sweeping roller has an ea. 4 cm imprinted wide stripes on the ground. It is on the same attitude of the two sides to pay attention to the marking on the scale graduation! (see Fig.5)

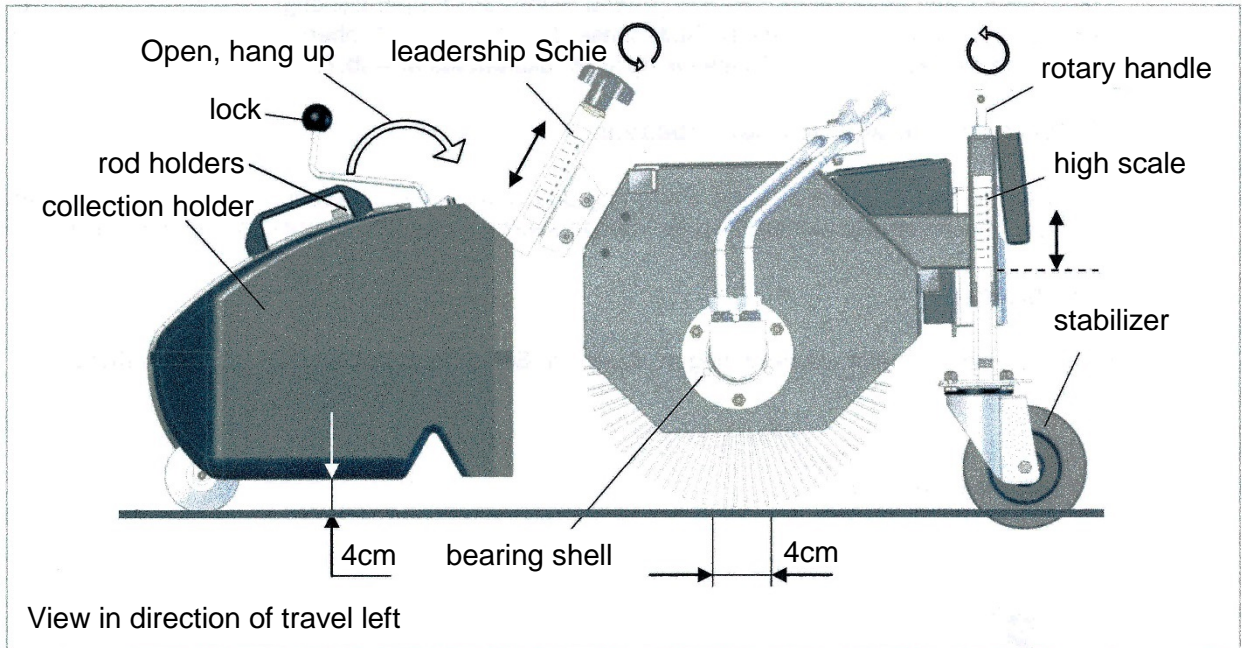
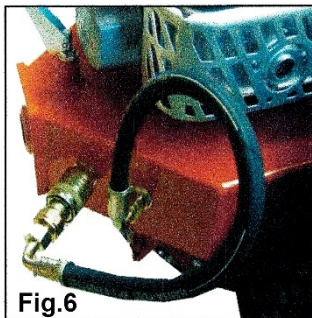


Fig. 5



After uncoupling the sweeper
Do the hydraulic hoses
be put on circulation.

8.2 Container setting

After uncoupling the sweeper do the hydraulic hoses be put on circulation.
On the basis of the twist grips on the two guide rails, the collection holder is attached to one bring even ground clearance of 4 cm - pay attention to scale graduation!
(see Fig.5)

Danger:

Never sweep sweeper with filled container!

8.3 Side brush setting

Adjustment possibilities for the side brush

"H" = height adjustment of the side broom by turning the star handle with threaded rod

"N" = inclination angle of the side brush can be changed by screw on the slot, e.g. gate sweeping in strands, etc.

"K" = the side brush is temporarily not needed for sweeping, the linch pin at "K" remove and tilt the front side brush arm up until the linch pin is in place below the tube this rest position can be secured in 2K "(fig.7)

Easy disassembly of the side broom

To remove, unscrew the screw, spring washer and washer and the side brush arm push completely forward. Drive the V-belt off the side of the pulley.

For assembly

Replace the V-belt first, then screw the side brush arm to "D".

Sketch without stick!

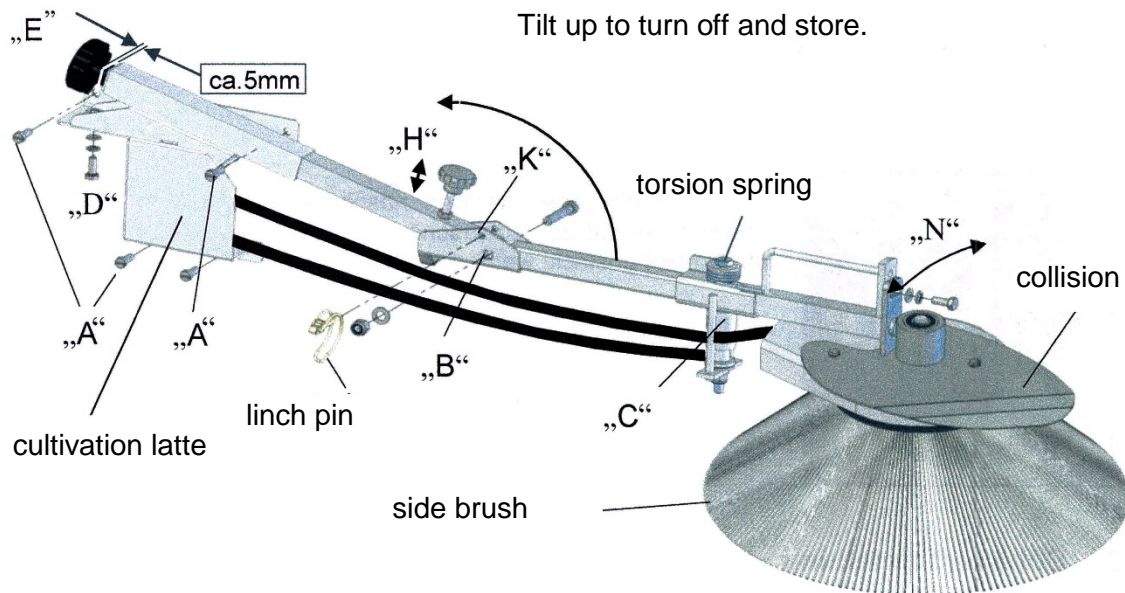


Fig.7

9 Maintenance

9.1 General maintenance instructions



- Failure to do so may result in personal injury or damage to the machine. Check all safety-relevant parts before each use of the machine.
- The machine must be subjected to regular maintenance.
- Always carry out repair, maintenance and cleaning work as well as the elimination of malfunctions only when the implement has been disconnected. To do this, also disconnect the hydraulic connection to the single axle.
- For all work, the machine must be secured against rolling or overturning by suitable measures.
- Check nuts and screws regularly 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 returned.
- Grease or lubricate all moving parts. *

9.2 Daily Exam

- Check the tools for tightness.
- Before every use, check the safety elements and moving parts for wear and tear.
- Carry out 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 appliance must be greased or lubricated.
- Lubricating nipples are located in the wheel receivers and in the bearing pin of the connection connection, which are regularly lubricated.
- Regularly grease the intake of the attachment.

9.4 Store

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

1. Carry out cleaning
2. Carry function of all parts
3. Check all screws and bolts for tightness and tighten 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 Disruptions and their rectification



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

Disorder	Possible cause:	Remedy
Hydraulic motor does not turn	Internal combustion engine does not run. Hydraulic power take-off not switched on. Hydraulic hoses not connected. Hydraulic connector not engaged. No hydraulic fluid in the hydraulic tank.	Start combustion engine. Hydraulic power take off on the single axle. Connect the hydraulic hoses. Check hydraulic connector if necessary plug in until it clicks into place. Refill hydraulic fluid in the hydraulic tank of the monobloc.
Brushes do not come on tours	Speed on the single-axle set too low. Hydraulic fluid level too low. Leakage on the hydraulic hoses. Leakage at the hydraulic connectors. Leakage at the hydraulic screw connection. Contact pressure on the work surface zu groß.	Increase the speed of the single axle. Refill hydraulic fluid in the hydraulic tank of the single-axle vehicle. Replace hydraulic hoses. Insert the hydraulic connector and insert it again until it clicks into place. Should leakage continue; Check hydraulic connector and replace if necessary. Lightly unscrew the hydraulic fitting, move the hose slightly and tighten the hydraulic screw connection again. Align the machine so that the bristles are relieved.
Height adjustment stiff	Threaded spindle dirty. Pickup dirty, adjusting screws screwed in too far.	Loosen the lever, unscrew the sprocket. Clean spindle and StatRad and grease. 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 Broom speed too high / too low	Set the sweeping roller height again

9.6 Installation of the sweeping roller

This chapter describes in more detail the most important disturbances that can occur during operation on the sweeper. Remove the tension rod from the sweeper's basic housing in the direction of travel on the right. Remove the three screws of the bearing cup Ibsen and the bearing.

Remove the drive tube, insert the sweeper broom (two-piece) into the machine so that the 145 mm round hole on the right side faces the hydraulic motor (see Fig. 7).

Then reassemble the drive tube in reverse order with the bearing and the tie rod.

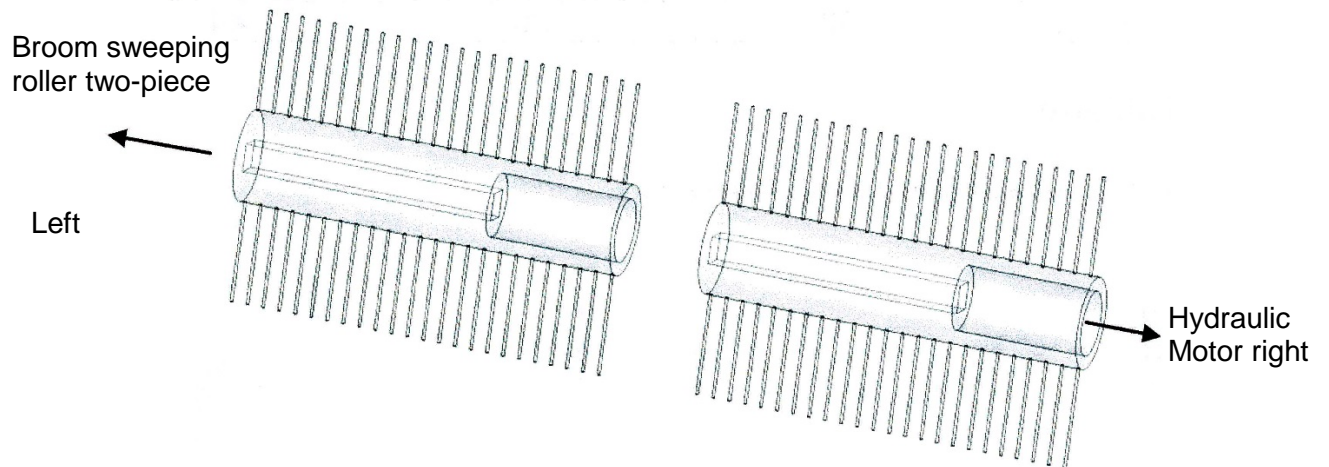


Fig.7

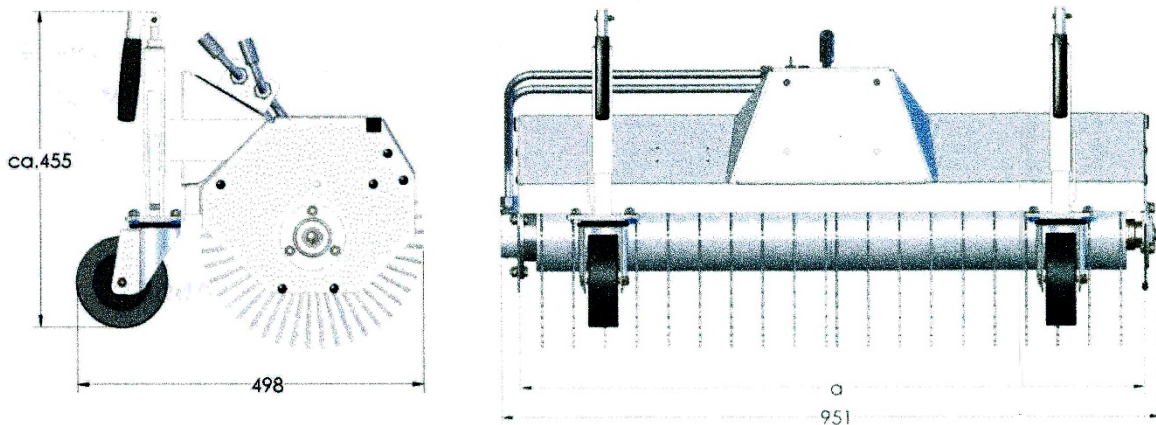
10 Technical data

10.1 Sweeper

Type	EFKM 07532 H-K 35/KU 70	EFKM 08232 H-K 35/KU 70	EFKM 09032 H-K 35/KU 70	EFKM 10032 H-K 35
Working width a	75 cm	82 cm	90 cm	100 cm
Sweeping roll diameter	32 cm	32 cm	32 cm	32 cm
Drive	hydraulic	hydraulic	hydraulic	hydraulic
Weight /kg	32	38	44	50

10.2 Dimension sheet

Dimension sheet for working width a see table



10.3 Scope of delivery as standard

- hydraulically driven
- ink!. Combination broom
- can be swivelled mechanically left and right
- suspended swinging
- 2 height-adjustable wheels 135 x 40 mm
- hydraulic quick coupling

10.4 Additional equipment

- Rubber splash flap
- Dirt collection holder
- Surface-mounted side brush 40 cm Ø, mechanically driven
- Water sprinkler with 5 litre containers
- further sweeping rollers on request

- Reserve technical changes! -

11 EG – Konformitätserklärung

**CE Déclaration de conformité
EC Declaration Conformity
EG conformiteitsverklaring**

D

Wir

F

Nous

GB

We

NL

Wij

**Kersten Arealmaschinen
GmbH Empeler Straße 95
D-46459 Rees**

erklären, dass das
Produkt

déclarons que le
produit

herewith declare
That the product

verklaren dat het
produkt

**Anbau-
Wildkrautentferner**

**Annexe - le dissolvant
d'herbe sauvage**

**Cultivation -
with herb remover**

**Cultuur – Wild kraut
entferner**

EFKM 07532;08232;09032,10032 H-K 35,H-KU 70

mit allen einschlägigen
Bestimmungen der
EG-Maschinenricht- linie
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.

voltoet aan alle
toepasselijke be-
palingen van EG-
Machinerichtlijn
2006/42/EG.

Die Maschine ist auch
in Übereinstimmung
mit allen einschlägigen
Bestimmungen der fol-
genden 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 vol-
gende EG-richtlijnen:

EN ISO 12100 :2010

Herr

Monsieur

Mr.

De heer

**Dipl. Ing. (FH) Robert Bosch
Empeler Straße 95
D-46459 Rees**

ist bevollmächtigt
die technischen Unter-
lagen zusammenzu-
stellen.

est autorisé à constituer
la documentation Techniqu
conformément à l'annexe V
A.

is authorised to
compile the technical file
according to Annex
VII A.

is gemachtigd het
technische dossier
samen te stellen.

Rees, 14.04.2014

R. Bosch

Geschäftsführer

Directeur

Managing Director

Bedrijfsleider

Kersten

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Progress House
39 Boulton Road Reading, RG2 0NH
www.kerstenuk.com - info@kerstenuk.com