

Instruction and Parts Manual

K 820

Front sweeping machine



Part no E00002-1 Pre Machine Number 50144 Copyright Kersten (UK) Ltd © 2008 Compiled 19/01/09

UK

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1 About this manual

Dear Customer,

We thank you for the purchase of this machine or attachment and having confidence in our equipment.

Before using this machine please read this instruction manual carefully. Keep this manual to hand as it contains important information and instructions.

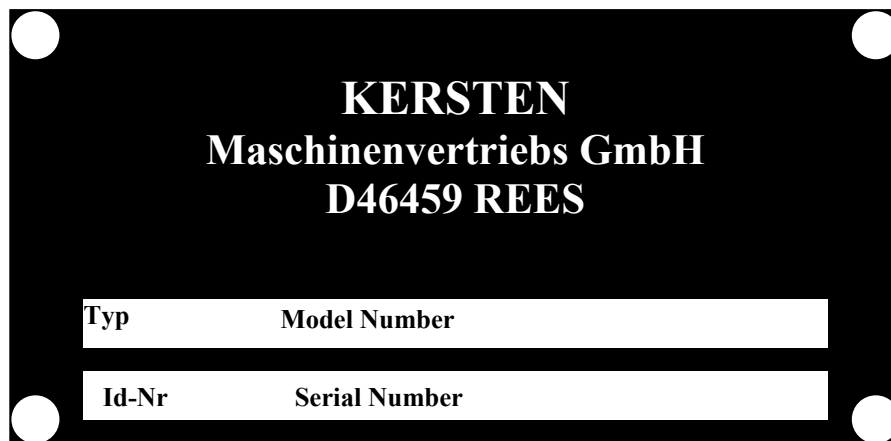
The machine or the attachment is subject technical progress.

All Information, illustrations and technical data corresponds to the newest model at the time of the publication.

Changes due to technical progress are reserved by the manufacturer at any time.

1.1 Product Identification

Always quote model number and serial number when ordering spare parts. The identification plate may be found on the main chassis of all machines.



1.2 Before start up

We are not liable for any substantial accident and/or damage.

Before you drive this machine or start the engine of the Kersten machine that you are handling, we ask that you urgently to make yourself familiar with this manual and the operation of the machine.



- **This symbol indicates important safety information!**
- **Read all safety references on the following pages!**
- **Read the operating instructions before start-up!**
- **Use this manual in conjunction with the power unit manual!**
- **Pass all safety instructions onto other users!**

1.3 Intended use



- The machine is a hydraulically propelled 2 wheel tractor exclusively intended for professional employment in the management of land, forestry, amenity and landscape conservation and for sole use with Kersten attachments. (Also see individual attachment instructions.)
- Use going beyond that described is not considered as intended. Therefore the manufacturer is not responsible for any resulting damage or harm and the operator alone is responsible for the risk.
- Compliance with and adherence to the operating, maintenance and repair as prescribed by the manufacturer in this manual must be considered essential elements of intended use.
- The machine may only be operated repaired and serviced by persons familiar with the machine, this manual and all relevant safety features and dangers.
- The relevant rules for the prevention of accidents as well as other safety-relevant rules according to the health and safety at work act must be considered as part of the operating procedure.
- The manufacturer is not liable for any accidents or damage resulting from modifications or alterations carried out on the machine without the express written permission of the manufacturer.

2 Safety Precautions

It is important to note that not all possibilities can be covered within this manual.

The manual assumes that the operator has a general awareness for Health and Safety to be appointed an operator in the first place.

This Kersten machine has been designed, so far as is reasonably practical,

So that it will not endanger the safety of the operator or anyone else if the machine is used and maintained according to the instructions stated in this manual which have been compiled following research and experience of the manufacturers.

2.1 General safety and accident prevention instructions:



- Consider all additional valid general operating instructions and health and safety regulations
- This machine should not be operated by any person under the age of 16.
- This machine may be subject to regulations when used on the public highway
- Before starting operating this machine you should be familiar with all controls and their functions. Familiarization should not be carried out during operation.



- The user is responsible for operating the unit in the work area.
- Standing in the danger area of the machine is forbidden!
- Look out for any children or animals in the work area.
- Operators are advised to wear clothing that is close fitting with stout footwear. Loose fitted clothes or casual footwear increase risk of accident
- All controls, engine and functions must be cleaned regularly.
- Do not leave the engine running in an enclosed area.
- Whenever handling fuel there is an increased risk of fire. Never refill near a naked flame or sparks, do not smoke whilst refilling the fuel tank.
- Before refuelling, turn the engine off, allow to cool down and take ignition keys out (if available).



- Keep machine clean to reduce the risk of fire
- When starting the engine all drives must be switched off
- Never leave the operator console while driving
- Never adjust the handlebar while engine is running
- Never leave the machine whilst engine is running.
- Close the fuel valve when machine is not in use.
- Apply parking brake (where fitted), when leaving, and minimize unauthorized use!
- Never leave the equipment unsupervised, when the engine is running.

2.2 Transporting

When transporting this unit ensure all possible power is isolated disengaged and disabled.

Apply parking brake where fitted.

Secure the machine by use of bindings any transporting vehicle.

Only transport on vehicles designed for the use of transporting this type of equipment.

Safety

Attention! This machine is equipped with warning symbols (safety decals). Be aware of your safety at all times when operating a machine. Real security means that you are familiar with all safety decals.

These decals indicate types and areas of endangerment and in particular the safety measure which should be taken.

Always remain alert and conscious of the dangers the decals indicate on the machine, you are operating, presents to you and others.

The decals must be maintained in good condition, they are important safety devices

The following decals are present on this machine:



Read the safety manual carefully before start up.



Before repair, maintenance and cleaning

Turn off engine and pull out keys



Consider references in the technical manual.

Lubrication fitting



The risk by away-hurling parts with running engine.

Respect a safety margin from the machine

3 Basic Rules

- Always use the machine across the slope in preference to going up and down
- Use extreme caution when changing direction on a slope
- Do not operate this machine on slopes of more than 20 degrees



- Humidity and rain increases the danger of slippage. Certain conditions may not permit safe handling of the machine
- Wear firm footwear with sufficient profile.
- Operate only in conditions where sufficient lighting exists
- Check terrain for hidden hazards prior to commencement of operation
- In the event of accidental impact with a foreign object, immediately stop the machine, including engine, and inspect for damage before continuing
- Never run whilst operating the machine
- Disengage drive to the attachment when transporting machine to and from area to be worked
- Never put hands or feet near or under rotating parts
- Prior to any maintenance or repair work ensure that all drives are in the neutral position, all switches are in the off position and for extra safety the spark plug lead should be removed

3.1 Before starting



- When starting the engine all drives must be disengaged – i.e. all drive leavers should be in the neutral rest position
- Never leave the operating position whilst machine is running
- Do not adjust handle bars when operating
- Do not operate the machine without all guards and safety devices being intact
- Keep hands and feet always from all rotating parts
- In the event of malfunction stop immediately

3.2 Repair work

- Repair work such as a welding, cutting or drilling must not be carried out on any safety relevant parts
- Damaged parts should be replaced with new before further use of the machine

3.3 Maintenance



- Examine the machine before start-up to ensure it is in a safe operating condition, paying particular notice to the security of all screw fittings
- Worn/damaged parts should be replaced as a safety precaution
- Cleaning should be carried out regularly to aid visual inspection of all working parts on the machine, including all safety devices, and to prevent fire hazards
- Cleaning, e.g. with a high pressure cleaner, should be accomplished in such a way that the water jet is not focused directly on rotating parts, lubrication points and electrical fittings.
- The machine should be maintained according to the instructions contained within the manual.
- Failure to comply with maintenance and operating instructions will cause the guarantee to be considered null and void

4 Disposal

This device must be disposed of according to the regulation of the municipality or the country. All possible parts should be recycled and the remainder disposed of in a satisfactory manner.

The company Kersten Maschinenvertriebs GmbH or Kersten (UK) Ltd does not take responsibility of disposal.

5 Warranty

Details of Warranty are included on the warranty registration form.

All conditions must be satisfied.

IMPORTANT! Please complete the warranty registration form enclosed and send it to:

Kersten (UK) Ltd
Progress House, 39 Boulton Road
Reading, Berkshire RG2 0NH

Phone: 0118 986 9253
Email: info@cnect2.com

6 Specification

Type	K-LINE 820 SWEEPER
Engine	Honda 5.5 hp
Fuel Tank	.91 litres
Electrical Start	n/a
Forward Driving Speed	3km/h
Backwards Driving Speed	n/a
Hydraulic Oil Tank	7 litres
Hydraulic Oil	Avia syntofluid N68 (68 grade biodegradable oil)
Tyre	4.00 x 8
Tyre Pressure	Normal running pressure 15psi + or - 2
Parking Brake	n/a
Wheel Weights	optional
Weights	
Dimensions	Length
Noise Level	Less than 84 db at operators ear
Vibration	
additional equipment	Wheel weights
Attachments available	Front Brush Guard, Collector Box, Sifting Collector, Gulley Brush, Snow Plough

7. Assembly

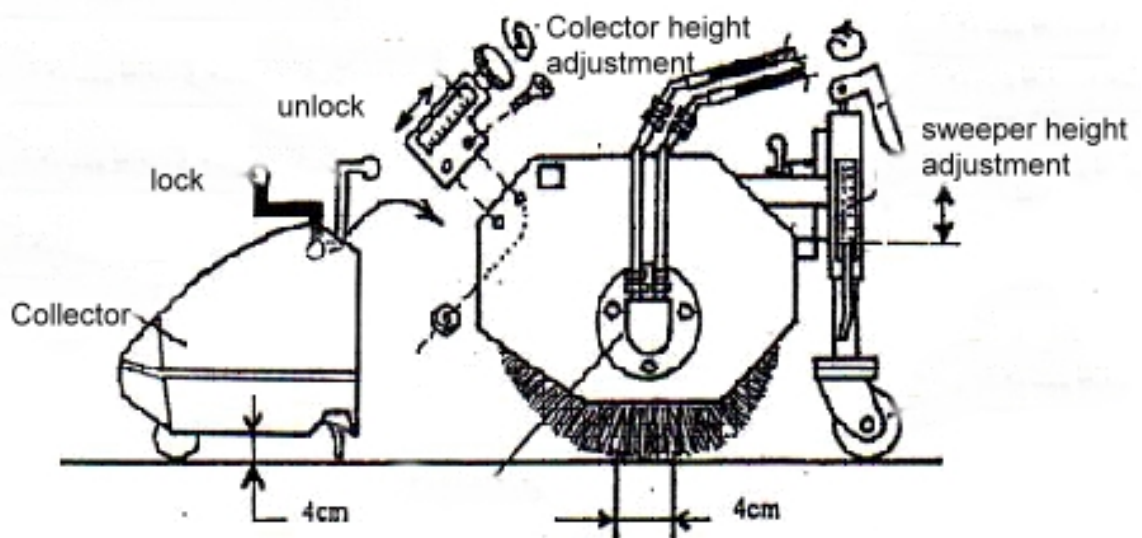
7.1 Assembly Dirt collector

Attach left and right hand collector height adjustment brackets to the front of the sweeper housing using counter sunk screws and lock nuts. Attach the collector to the sweeper by folding the catch lever up. Slide the container down on to the two adjustable hooks and fold the catch lever down to lock in to place. (see diagram 1)

7.2 Container - Adjustment:

The height of the container may be altered by means of the black handles on the height adjustment brackets. There is a graduated indicative scale. The collector should be set evenly and level with the front edge 4cm from the surface. The adjustment is affected by the sweeping brush height and so should be monitored. As the brush wears adjustments will need to be made.

Attention : Never allow the collector to rub the ground!!!



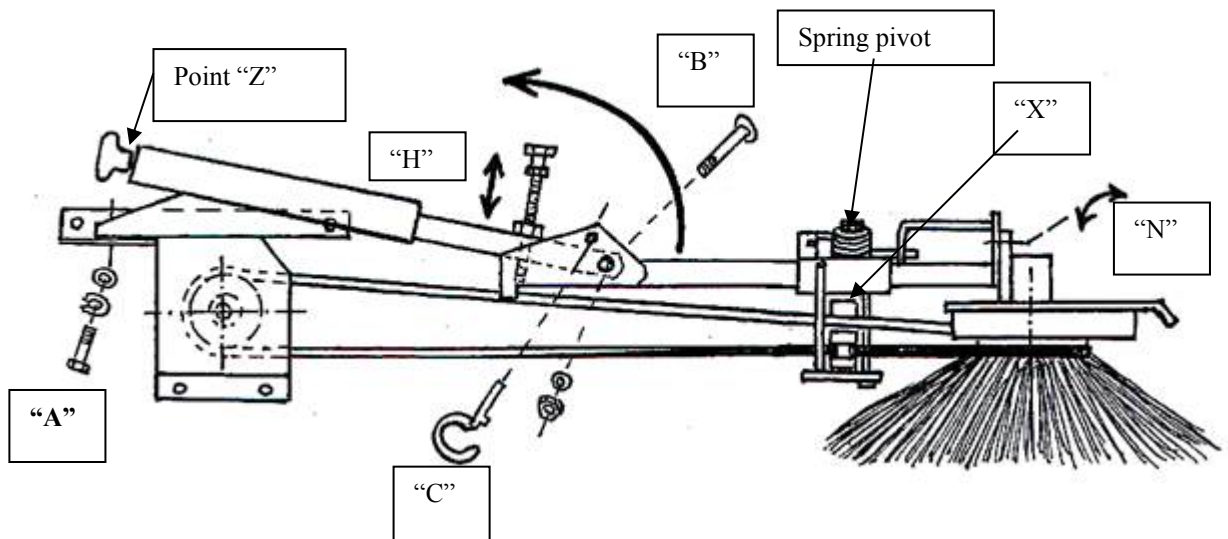
7.3 Assembly - side broom

When attaching the side brush to the sweeper housing for the first time the drive pulley and support casing needs to be fitted to the right hand of the sweeper housing as viewed from the operating position. Remove the 17mm clamping bolt, discard the flat washer. Refit the clamping bolt including the spring washer and drive pulley. Now mount the support casing using four screws, lock washers and nuts. The screws should be outside and the nuts inside. The side brush may now be slid on to the support casing and secured with the M8 screw and spring washer. "A". Insert coach bolt "B" and assemble sweeper head assy. Using 17mm lock nut and flat washer. Do not over tighten to allow free movement of sweeper arm. Secure sweeper arm in the upright position with spring clip "C"

Position the drive belt around the drive pulley within the mounting plate. The top belt should lay with its back against the white roller at point "X" and be at the top of the drive pulley.

The belt is tensioned in to the work position by removing spring clip "C" and folding side brush arm down. Replace spring clip for safe storage. Correct tension is achieved when a distance of 5mm is measured between the tension grasp and tube (Point "Z").

The spring pivot of the gulley brush arm assembly allows lateral movement in case of obstacles.



7.4 Adjustment possibilities with the side broom

"H" = height adjustment of the side broom is made by turning grasp "H".
Anti-clockwise lowers the brush for more contact with the ground.
Clockwise raises the brush for less contact with the ground.

Please note that adjusting the height of the main brush will affect the height setting of the gulley brush!!

"N" = Angle adjustment for gulley brush head. This may be set by loosening 13mm screw, adjusting and retightening.

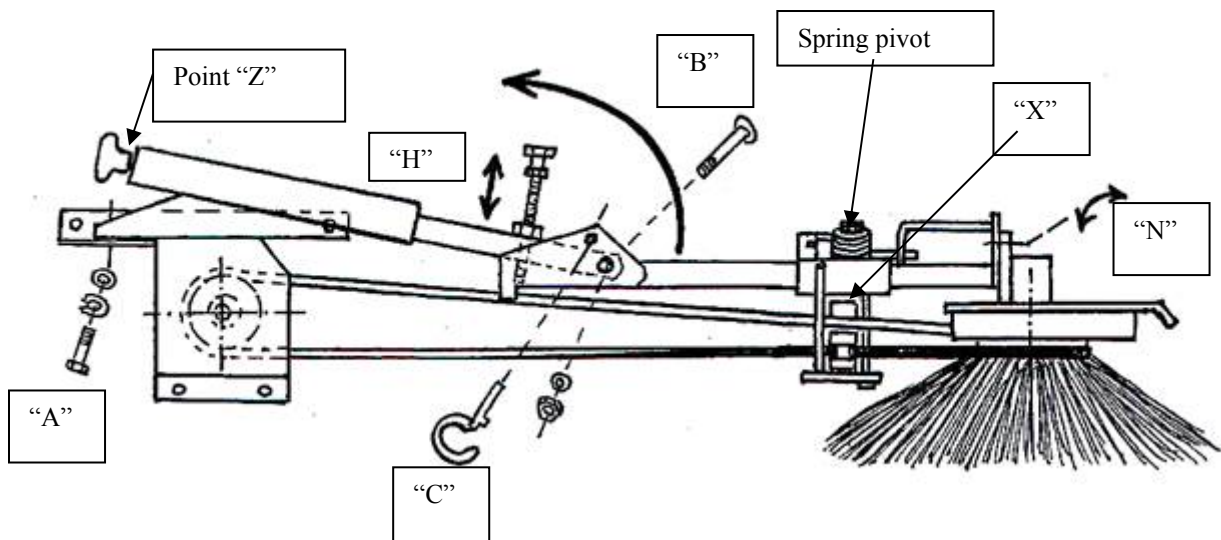
"C" = Allows the brush to become inoperative by folding it out of use. Lock it in the up position using spring clip to secure it.

Easy removal of the side broom

To dismantle the assembly remove screw "A", slide assembly forwards and remove the belt laterally from the drive pulley.

Easy side broom attachment

Fit the drive belt by sliding it over the pulley. Locate the brush assembly on the mounting plate replace screw "A".



8 Operation

Operating instructions - power unit

Handlebar adjustment :

Equally loosen both wing nuts (position1 + pos.2) and pull the handlebar in for the operator desired height, now retighten the two wing nuts again.

To fold the handlebar down, release hand wheel (position3) and unhook threaded rod..

Engine start:

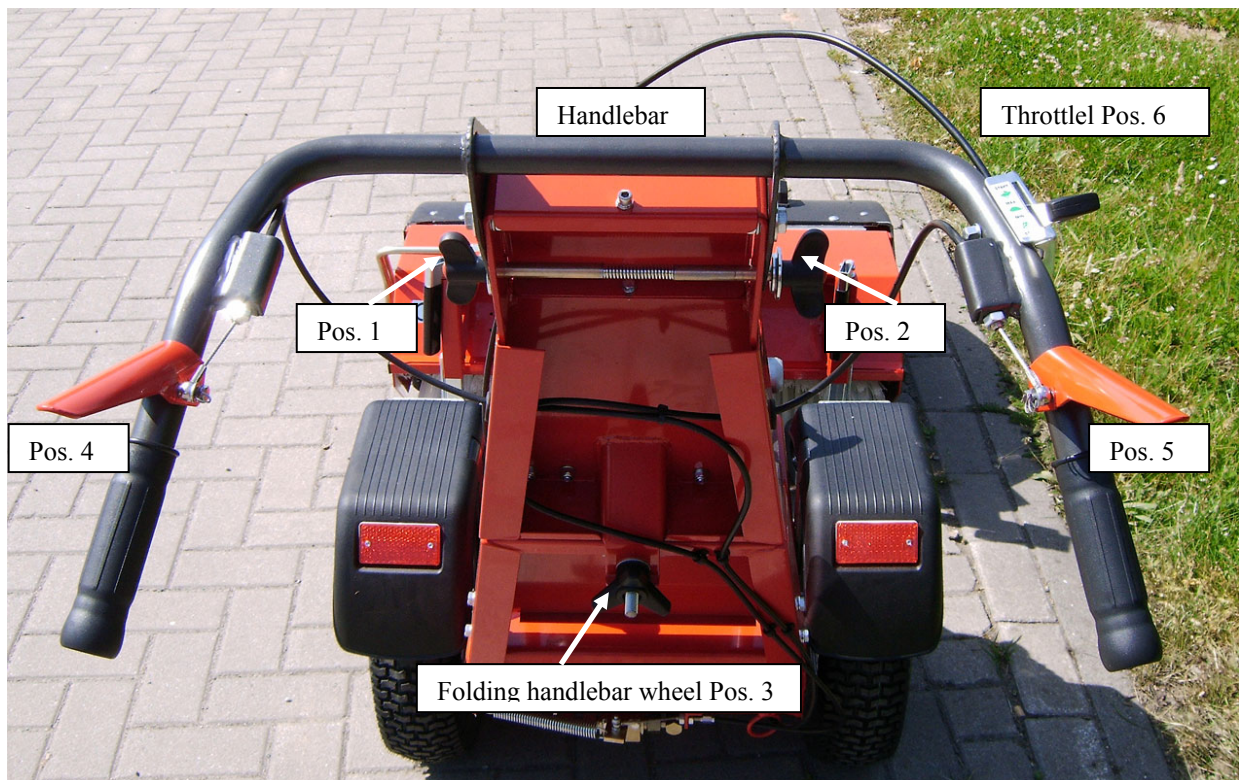
Set throttle lever (6) to the start position, (symbol "hare") and pull the starter. After starting, position the lever to the required position for normal operation between "MAX" or "MIN" position.

Drives:

Depressing the left lever (position 4) drives the machine forward.

Broom drive :

Depressing the right hand lever (position 5) engages the sweeping brush



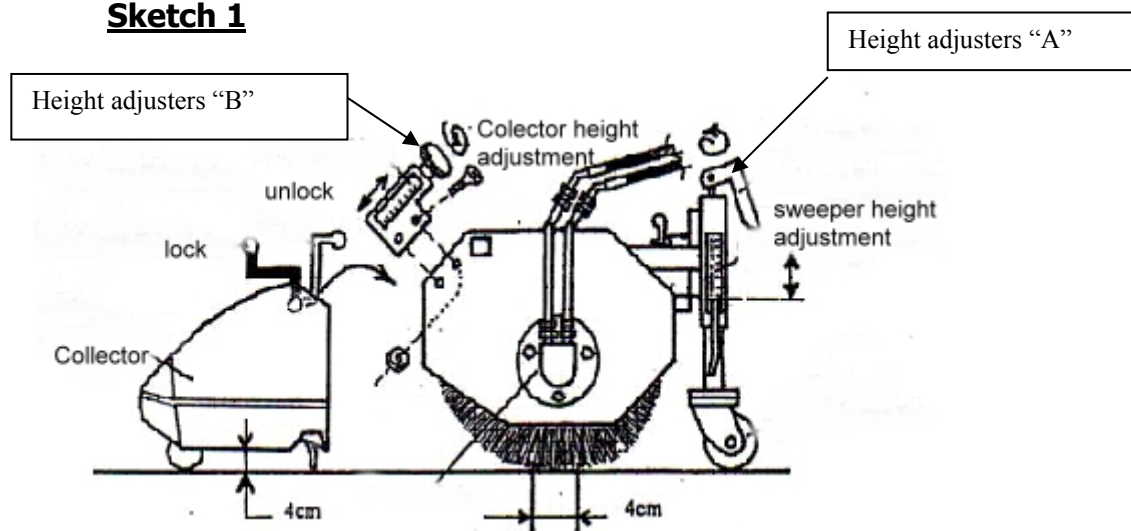
9 Operating instructions - sweeping machine:

Height adjusters "A" control the brush depth settings . Twisting them clockwise will lower the brush – anticlockwise will raise the brush. The base setting from which to work is when 40mm of the brush is in contact with the surface to be swept. Always adjust the brush evenly to achieve even wear.

The graduation scale on the side of the adjusters provides an indication of setting.

(see sketch 1)

Sketch 1



10 Collector - adjustment: (see sketch 1)

Height adjusters "B" control the box level settings. Twisting them clockwise will raise the box – anticlockwise will lower the box. The base setting from which to work is when box is level to the ground ie there is a parallel gap of 40mm between the surface to be swept and the bottom of the box.

The graduation scale on the side of the adjusters provides an indication of setting.

Note: Sweeping machine collector must never rub the ground!!!

10.1 Side broom - adjustment:

See assembly – Side broom **3.3**

11 Maintenance

11.1 General information



Note!

Injuries to people or Damages to the machine can occur. You should check before each use that the machine is safe and the relevant parts and hydraulic connections are properly connected.

11.2 Maintenance

- The sweeping machine must be submitted to regular maintenance.
- After use you must dismantle all the safety devices for reattachment when the machine is used again.
- check all fixings and pin connections after the first 5 hours of use and lubricate all mobile parts
- check the tightness of the hydraulic fittings before every use.
- check hydraulic fittings after 5 hours use for the first time, and tighten if necessary

(Important note: Only tighten joint if it is leaking. Procedure: Loosen the screw connection then move hose left and right. Now the screw connection can be tightened again.)

11.3 Daily maintenance

- check the safety and control parts for wear before every use.
- check the oil level and Air filter.
- check the Hydraulic fittings and linings
- check the air pressure in the wheels.
- do a test run before every use.
- clean the equipment after every use.
- regularly lubricate all adjustable and moving parts on the power unit and any attachments.

Storage settings

- Sweeping brush: adjust wheels so that the brush is off the floor making sure the sweeping brush is evenly relieved
- Side brush: only store off the ground.

11.4 Maintenance after 20 and 100 hours use or longer

All mobile parts must be greased and oiled regularly including at the beginning and the end of each season.

Oil change Honda motor:

Change For the first time after 20 hours use, then every 100 hours use after that for further information, see engine manual.

Hydraulic oil change:

The hydraulic oil and oil filter should be changed after the first 20 hours and then after every 100 hours

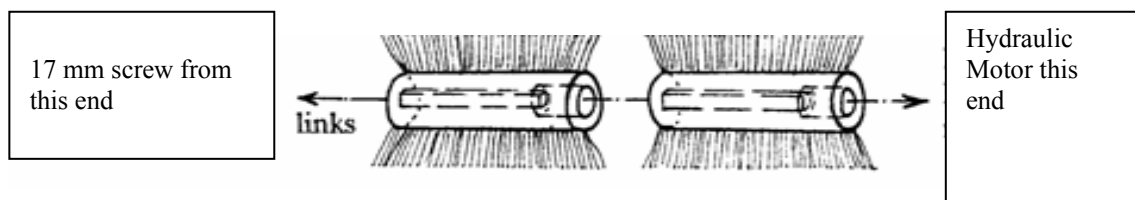
Type of oil used: BP Biohyd SE-S46 (biologically degradable Ester based) or similar.

Check chain tension between hydraulic motor and differential.

11.5 Installing a replacement sweeping brush

Remove the 17mm long clamping bolt from the sweeping machine housing. Loosen the three screws on the bearing housing and remove clamp and bearing assembly. Take the square drive tube out of the two sectioned sweeping brush and remove brushes.

Install new brush - so that the round 145mm recess is on the right as shown and fits over the hydraulic motor - see sketch. Then reinstall the drive tube in reverse with the clamp and the square bar, and install the left hand bearing and clamp.



12 Disposal

These devices must be disposed of according to the regulations of the municipality or the country. All possible parts should be recycled and the remainder disposed of in a satisfactory manner.

The company Kersten does not take responsibility of disposal.

13 Warranty

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Kersten (UK) Ltd
Progress House, 39 Boulton Road
Reading, Berkshire RG2 0NH

Phone: 0118 986 9253
Email: info@cnect2.com

14 Certificate of conformity

Certificate of Conformity by the manufacturer (article 8 of the guideline 98/37/EG)

We,
Kersten Maschinenvertriebs GmbH
Empeler Straße 93-95
D - 46459 Rees

explain that the machine:

Hand-guided front sweeping machine with combustion engine

Trade mark: **Kersten**
Type: **K 820**
with the following EEC guidelines agrees: 98/37/EG

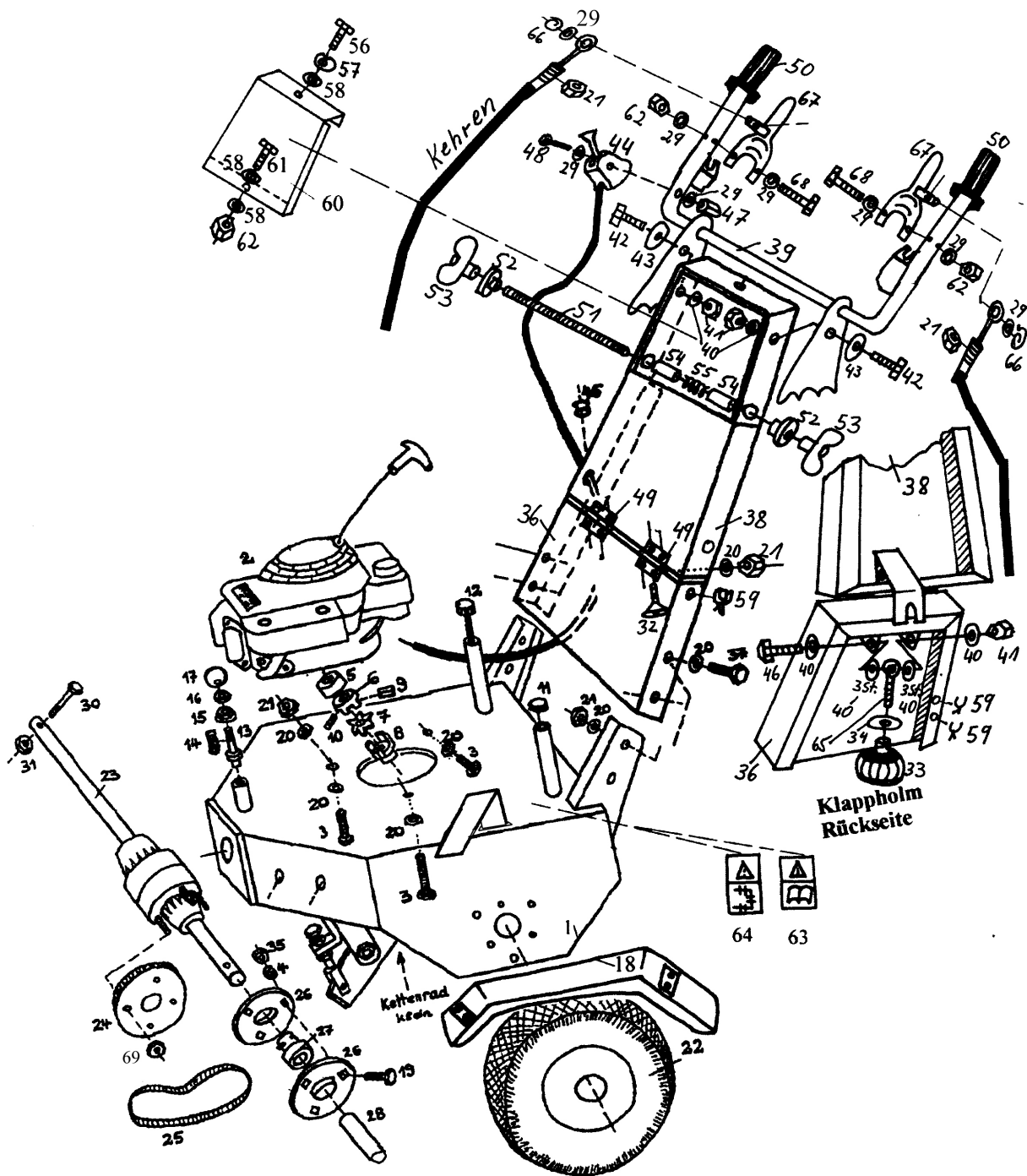
Machine type: _____
Machine Number: _____



Rees, den 26.04.04

Dipl.-Ing. Georg Kersten
- Geschäftsführe

PARTS
1. Drives

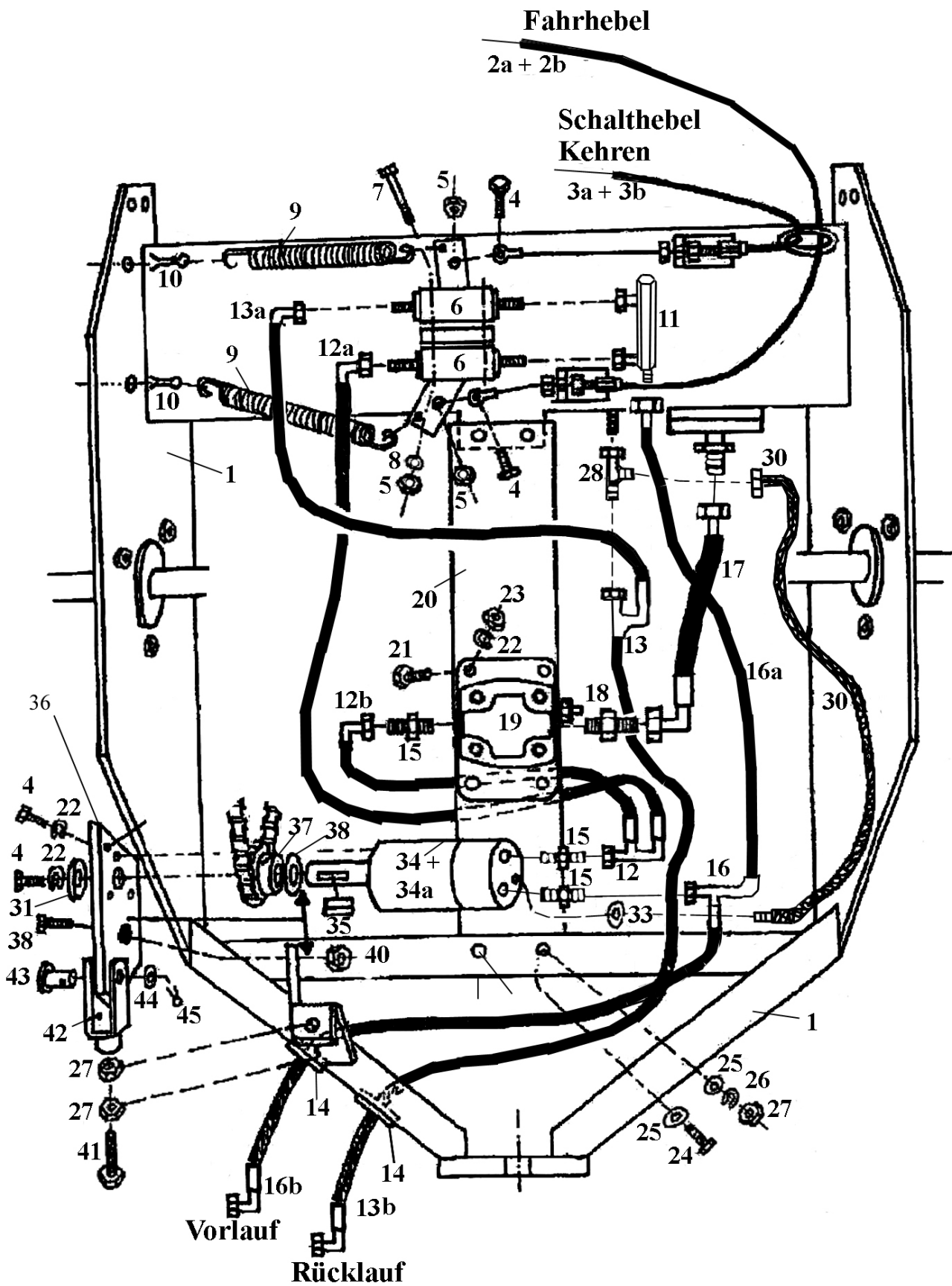


1. Drives:

Nr.	Bestellnum	Anz	Bezeichnung
1	712 000 001	1	Basic housing
2	920 000 055	1	Honda-Motor 5,5PS
3	901 008 040	3	Screw
4	905 008 000	6	lock washer
5	705 302 343	1	Socket 43mm
6	925 101 025	1	Clutch engine.
7	925 102 064	1	Clutch.
8	925 103 019	1	Clutch Pump.
9	908 474 720	1	Parallel key
10	902 305 008	1	set screw
11	931 200 031	1	Vent Screw
12	931 201 031	1	Dip stick
13	700 001 170	1	stop
14	909 100 189	1	Compression spring
15	700 000 171	1	plug
16	900 010 001	1	nut
17	941 220 010	1	knob
18	926 900 001	2	fender
19	901 008 020	6	screw
20	905 108 000	38	wearing part
21	900 008 002	23	Stop nut
22	926 141 408	2	tyre
23	712 000 005	1	Differential axle
24	920 501 045	1	Gear wheel
25	920 100 707	1	chain
26	924 200 205	4	bush
27	924 100 205	2	wheel bearing
28	820 000 070	2	bush
29	905 106 000	9	wearing part
30	901 108 045	2	screw
31	900 008 002	2	Stop nut
32	901 208 020	4	Countersunk screw with female hexagon
33	941 245 330	1	Three-star grasp (12mm)
34	905 212 000	1	Karoseriescheibe

Nr.	Bestellnum.	Anz	Bezeichnung
35	900 008 001	6	Nut
36	820 000 010	1	Guidance cross-beam down
37	901 008 025	4	Screw
38	820 000 020	1	Guidance cross-beam above
39	820 000 030	1	Hand cross-beam
40	905 110 000	8	Wearing part
41	900 010 002	3	Stop nut/mother
42	901 010 030	2	screw
43	905 210 000	2	Karoseriescheibe
44	941 130 712	1	Gashebel
45	908 700 022	1	Cable sleeve
46	901 010 060	1	Screw
47	900 006 003	1	Castellated nut
48	901 006 025	1	Screw
49	908 801 014	2	Hinge
50	941 110 700	2	Handle
51	820 000 040	1	Gewindestange8x245
52	820 000 060	2	Connection plate
53	941 300 634	2	Hand wing nut
54	820 000 050	2	Distance sleeve 12Lx75
55	909 100 262	1	Compression spring
56	901 006 006	1	Screw
57	905 006 000	1	Lock Washer
58	905 106 000	1	Wearing Part
59	912 900 712	5	Bowdenzugklips
60	820 000 080	1	Hood
61	901 006 016	1	Screw
62	900 006 002	1	Stop Nut
63	950 900 003	1	Sticker Betriebsanl.
64	950 900 004	1	Sticker spark plugs
65	903 012 080	1	Eye Bolt
66	912 800 760	2	Shackle ring
67a	820 000 001	1	Bowden cable grasp left
67b	820 000 002	1	Bowden cable grasp right
68	901 006 050	2	Screw
69	900 008 016	4	Tariff Nuts

2. Hydraulic drive



2. Hydraulic drive

Nr.	Bestellnum	Anz	Bezeichnung
1	707 000 001	1	Basic Housing
2a	820 101 638	1	Bowden cable driving lever inside
2b	820 201 465	1	Bowden cable driving lever outside
3a	820 101 638	1	Bowden cable turns inside
3b	820 201 465	1	Bowden cable turns outside
4	901 006 020	6	Screw
5	900 006 002	4	Stop Nut
6	936 400 010	2	Stop valve
7	901 106 090	2	Screw
8	905 106 000	2	Wearing Part
9	909 200 021	2	Tension Spring
10	907 205 040	2	Split Pin
11	931 212 112	1	Hydraulic screw connection
12	930 820 002	1	Screw connection with 2 hoses
13	930 820 001	1	Screw connection with 2 hoses
14	908 706 666	2	Cable sleeve 25 x 30 x 36
15	931 071 238	3	Hydraulic screw connection
16	930 820 003	1	Screw connection with 2 hoses
17	930 000 006	1	Dust extraction hose
18	931 071 512	1	Hydraulic screw connection

Nr.	Bestellnum.	Anz	Bezeichnung
19	934 712 029	1	Hydraulic pump
20	712 000 029	1	Pump carrier
21	901 006 025	4	Screw
22	905 006 000	8	Lock Washer
23	900 006 001	4	Nut
24	901 008 025	4	Screw
25	905 108 000	8	Wearing part
26	905 008 000	4	Lockwasher
27	900 008 001	6	Nut
28	931 051 208	1	Hydraulic screw connection
30	930 900 460	1	Leakage oil line
31	905 206 025	1	Karosseriescheibe
33	937 110 201	1	Sealing Ring
34	935 101 040	1	Hydraulic motor
34a	937 301 040	1	Gasket kit engine
35	908 005 516	1	Parallel key
36	700 000 035	1	Engine Owner
37	920 401 009	1	Chain Wheel
38	701 301 503	1	Disk
39	901 012 035	1	Screw
40	900 012 002	1	Stop Nut
41	901 008 060	1	Screw
42-45	908 408 032	1	Forked link - complete
43	908 508 020	1	Pin
44	905 108 000	1	Wearing Part
45	907 216 016	1	Split Pin

Kersten

SITE MAINTENANCE EQUIPMENT

Distributed in UK by
Kersten (UK) Ltd Tel. 0118 986 9253

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