

Instruction Manual

Cleanserv PB51/2000 (7675)

Preface

Dear Customer,

We are certain that the excellent qualities of the vehicle will justify the faith you have shown in us through your purchase.

Please read the Chapter "Safety Information" prior to starting the vehicle to ensure it is operated and used safely. Your safety, and that of others, basically lies in your ability to control and operate the vehicle. Before using the equipment for the first time, read this original manual thoroughly, act according to the information contained and keep it in a safe place for future reference or subsequent owners. The operating manual contains all the most important information regarding operation, maintenance and service.

Throughout this manual, texts which concern safety are indicated by the corresponding danger pictogram. Should you have any questions in respect of the vehicle or operating instruction manual, your authorized Hako dealer is available to provide help at any time.

We explicitly point out that no legal claims may be asserted based on the information contained in this manual. Ensure only original spare parts are used should any repairs be necessary. Only such original spare parts warrant that the equipment is reliably ready to use at all times. We reserve the right to make technical modifications in the interest of further development.

Valid as of: April 2014

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Proper use

Proper use

The Cleanserv PB51/2000 has been exclusively designed for cleaning hard floors of indoor areas. This machine is suitable for industrial use in e.g. hotels, schools, clinics, factories, shops, offices and rental stores. Using these machines beyond this scope of application will be deemed improper use; The manufacturer cannot be held liable for consequential damages. The term of proper use also includes operation, maintenance and repair work to be performed in compliance with the manufacturer's specifications.

The Cleanserv PB51/2000 may be operated, serviced and repaired by personnel only that are familiar with the machine and aware of possible hazards involved.

The applicable accident prevention laws must be observed and any generally accepted health and safety directives must be maintained.

Based on the conception, design and construction of the vehicle introduced onto the market by us, the vehicle com-

plies with the applicable basic safety and health requirements stipulated in the EC Directive (refer to the Declaration of Conformity). This declaration is no longer considered valid in the event of modifications to the vehicle not authorized by us. The manufacturer is not deemed liable for any damage resulting from unauthorized modifications to the vehicle.



The machine has not been designed for collecting dusts which are detrimental to health or explosive dusts.

Notes on warranty

The terms defined in the purchase agreement apply. Claims for compensation related to damage are excluded from the terms of warranty when the damage is the result of failure to observe regulations concerning service and maintenance. Maintenance work must be performed by authorized Hako service centers and confirmed in the "Maintenance Report" which serves as

a warranty logbook.

The following are excluded from the terms of warranty: wear and tear through overuse, defective fuses, improper handling and use or unauthorized modifications. Claims under the terms of warranty are annulled when damage occurs to the vehicle resulting from the use of parts or accessories not explicitly approved by us or from failure to observe maintenance regulations.

Acceptance of the vehicle

The vehicle must be inspected directly after delivery for signs of transport damage. Replacements for transport damage will be made when confirmation is provided immediately by the transporting company with regard to the damage and you send the damage report to our authorized contractual partner together with the consignment note.

Table of Contents

Table of Contents	2	First Operation	14	4	Technical Data	22
Preface	2	2.1 Battery System	14			
Proper use	3	2.1.1 Mount Battery	15	5	Maintenance/Service	24
Notes on warranty	3	2.1.2 Charge Batteries	16	5.1	Maintenance Instructions	24
Acceptance of the machine	3	2.2 Before Work	17	5.2	Remedy	25
		2.3 Switch the machine on	17	5.3	Maintenance Schedule	27
		2.4 End of work	17	5.4	General Provisions	28
				5.5	Electric System	28
1	5	3	18	5.5.1	Fuses	28
1.1	5	3.1	18	5.5.2	Check battery	28
1.2	6			5.6	Install Pads	29
1.2.1	6			5.7	Replace Sealing Strip	30
1.3	7	3.1.1	18	5.8	Clean Dust Collector	31
1.4	9	3.1.2	18	5.9	Clean Housing	31
1.5	10	3.1.3	18	5.10	Check Carbon Brushes	32
1.6	11	3.1.4	19			
1.7	13					
1.8	13	3.1.5	19			
		3.1.6	19			
		3.2	20			
		3.3	21			
					Declaration of Conformity	33

Safety Information

1 Safety Information

1.1 General Safety Information

Apart from the instructions contained in this manual, the general safety instructions and accident prevention regulations, as imposed by law will have to be complied with. Do not put the Manual aside without reading it even if you used similar cleaning machines before. Take time to read now and save time later.

Machines with known defects must not be used. It will be of essence to make yourself familiar with all accessories and controls, as well as their functions, before you start working. Avoid the mess of having to read this book while trying to run the machine.

Using the machine in areas with explosion hazard is prohibited. The machine may be used only for cleaning of hard floors and for operation on level ground with a maximum inclination of up to 2%.

Use the following 16"-Pads and Dust Bags:

- Polishing Pad peach, PN.: 7856.05
- Polishing Pad jackeroo, PN.: 7853.05
- Polishing Pad champ., PN.: 7854.05
- Polishing Pad blue ice, PN.: 7855.05

- Papier Dust Bag, PN.: 7676.05
- Hepa Dust Bag, PN.: 7677.05



Note the following safety information:

- **Before use of the machine, check the Cleanserv PB51/2000 for perfect condition and operational safety.**
- **The operator has to use the machine within its design limits.**

- **This machine has been designed for dry use. Do not use or store the machine outdoor or under wet conditions.**
- **Do not exceed the maximum inclination of 10% for transport rides (e.g. on ramps). Do not take the machine up a ramp in forward mode. Uphill ride must not exceed a duration of 2 minutes and has to be executed with outmost care (Do not drive on wet, oily or soiled ramps).**
- **The operator of the machine has to wear firm, closed-toed shoes with protection against slipping.**
- **Never leave the machine unattended before the motors are off and key pulled and the machine is protected against unintended movements.**
- **Keep clear of hazard zone.**




Safety Information

1.2 Safety and Warning Symbols

1.2.1 Generally Applicable Symbols

One of the following warning symbols has been attributed to

all paragraphs in this manual referring to your personal safety, the safety of your machine and the protection of environment:

Symbol	Hazardous for...	Description
DANGER 	persons and goods	dangerous situation caused by misuse inaccurate adherence of instructions or prescribed work routine
CAUTION 	the machine	important information on handling the Cleanserv PB51/2000 in order to maintain operability
Ecological hazard 	the environment	due to use of substances representing an inherent danger to health of environment

Tab. 1 Versions of safety and warning symbols used
Symbol

Safety Information

1.3 Labels at the Machine

The following safety and information signs are legibly attached to the machine. Missing or illegible stickers have to be replaced.

Hako nameplate (Fig. 1/1)

Hako

Nameplate (Fig. 1/2)



Fig. 1

Safety and information signs attached to the machine

Safety Information

Label Information on the operating instructions (read and observe) (Fig.2/1)



Label Pad ground pressure (Fig. 2/2)



36 Volt system (Fig. 2/3)

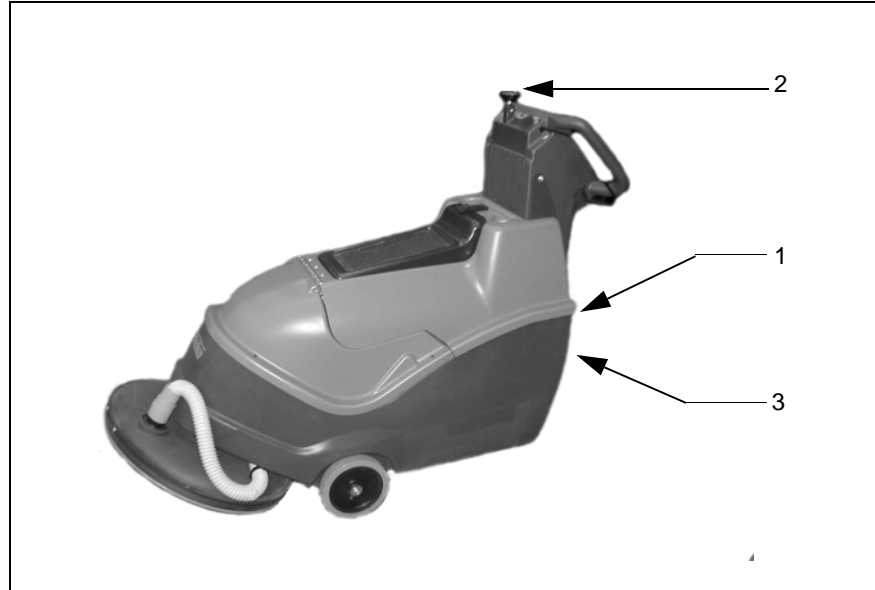
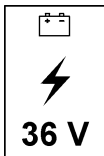


Fig. 2 Safety and information signs attached to the machine

Safety Information

1.4 Operation/Safety Information

The Cleanserv PB51/2000 may be run by qualified personnel only; such personnel will have to have evidenced their qualification for running the machine to the owner or his authorised representative; operators explicitly will have to be instructed by the owner or his authorised representative to use the machine. Never leave the machine unattended before the motors are off and the machine is protected against unintended movements. To preclude unauthorised use of the machine, switch the machine off and pull the key.

Shut down the motors before transport of the Cleanserv PB51/2000.

During operation the machine, the operator has to take account of local conditions and when working he has to watch out for other persons, especially children.



Note the following operating information:

The machine may be used for cleaning such surfaces approved by the owner or this authorised representative.

- **Do not use the machine on floors which are not suitable for the ultra-high speed process (speed of - 2000rpm max.) such as uneven or soft flooring. The high speed of the machine generates a low pressure at the pad by which the flooring may loosen and be thrown off.**
- **Do not use damaged pads. The Cleanserv PB51/2000 has not been designed for collection of dusts which are hazardous to health or explosive.**

- **Never collect explosive fluids, undiluted acids and solvents. This includes gasoline, paint thinners or fuel oil, which - when penetrating the air being taken in - may form explosive vapours or mixtures; moreover acetone, undiluted acids and solvents if they should be aggressive to material used with the machine.**
- **Do not get in the near of rotating parts during operation of the machine.**
- **Objects lying on the floor may be thrown up into the air in the area of the high-speed pads. Make sure to remove such objects before operation.**

Safety Information

1.5 Information on Cleaning

Specific safety instructions apply for handling of drive batteries. Before proceeding to cleaning of the machine, pull the key.



Switch off the key switch before cleaning the machine. Disconnect the battery plug.



Do not allow water to enter any electric part.



Do not park the machine near stoves, burners, open flames or other sources of heat. Protect the machine against frost.



Do not clean the machine by means of vapour jet or high pressure cleaning equipment.



Do not water the machine by means of a water hose since water may accumulate on the battery.



Remove accumulated

Safety Information

1.6 Maintenance Instructions

All daily or weekly maintenance and service works may be performed by an operator trained for such works; the remaining maintenance work is to be performed by qualified and trained personnel and working on the electrical system is limited to approved professionals.

In case of non-compliance of this instruction any claim for refund of consequential damages will be rejected! For service of your machines, the far-reaching network of Hako contract dealers and workshops with qualified professionals, modern equipment and all required special tools is at your disposal. You will find professional advice and effective support there. Refer to the maintenance schedule for information on the type and intervals of maintenance work.

Specific safety provisions:



Risk of injury! Switch off the machine by key switch and pull key before maintaining the machine or replacing parts of it. Disconnect the battery plug. Do not switch machine on during maintenance.



Before any work at the electric system, disconnect the battery plug and the mains plug of the charger unit.



Do not use open flames when handling batteries (explosion hazard).



Proceed to battery charging with the open hood only since explosive gas may occur during the charging procedure.



Batteries are heavy. For mounting and dismantling two persons are required.



Never place metal objects or tools onto batteries. Short-circuit and explosion hazard.

Safety Information



Eating, drinking and smoking are prohibited in battery charging stations to preclude risks to health. Wash your hand thoroughly after working at batteries. Provide for sufficient ventilation.



Do not store batteries in discharged condition but recharge them as soon as possible!



Keep the battery dry and clean and protect it from soiling e.g. by metal dust to avoid leakage-current.



Connect batteries according to the battery diagram (see Fig. 4) to avoid short-circuit of the batteries and the electrical system.



Only use pads as specified by the manufacturer. Using other pads may affect your safety.



Provide for adequate disposal of the collected dust. Wipe away spilled substances.

Safety Information

1.7 Disposal

Render the vehicle inoperable. It must not represent a source of danger for children. Dispose of the equipment in accordance with local regulations. For further information on handling and recycling, please contact the authorized Hako dealer where you purchased the vehicle.



Used batteries with the recycling symbol contain reusable commodities. The heavy metals contained represent a major risk both to people's health and to the environment. Never open or damage batteries. Never touch, inhale or swallow the content of batteries. Health hazard! Do not allow batteries to get into the environment. Risk of contaminating the ground and water! In accordance with symbol with the crossed out

garbage bin, these batteries must not be disposed of in domestic waste. Return and recycling of old batteries must be agreed on with Hako's authorized dealers in accordance with § 6 and § 8 BattG (Battery Law).

1.8 Accident Prevention Regulation

BGV 5 § 29

Power-driven working media

To maintain operability, after modification or repair, the owner of power-driven vehicles has to provide for inspection of these vehicles at regular intervals (at least once yearly) by an expert.

First Operation

1 First Operation

Before delivery, the Cleanserv PB51/2000 has been thoroughly checked and subject to a functional test.

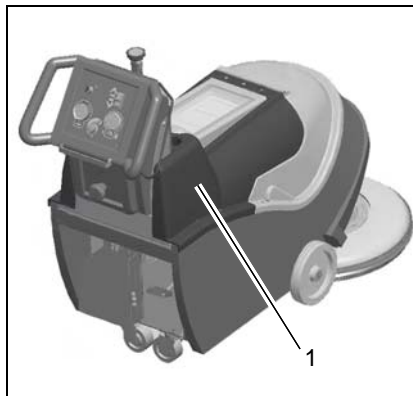


Fig. 1 Battery system

1.1 Battery System



Please observe the following safety provision:

Before first operation of the machine, proceed to a proper initial charging of the battery which is located under the front hood (Fig. 3/1). For charging, observe the operating instructions of the charger unit. Hako cannot be held liable for damages of the battery resulting from failing or incorrect initial charging.

First Operation

1.1.1 Mount Battery



Please observe the following safety provisions:

- Handle batteries with utmost care..
- Do not place metal objects on the battery cover or terminals.
- Batteries are heavy.
- For mounting and dismounting two persons are required.

The Cleanserv PB51/2000 uses three batteries of 12 V / 105 Ah each. Only used 'dryfit traction block' batteries.

1. Make sure that the machine is switched off by key switch (Fig. 4/4) and the key is pulled.
2. Open the front hood (Fig. 4/2).

3. Take the batteries by the handles and place the three batteries into the machine as represented in the figure (Fig. 4/3). Mind the battery cables.
4. Connect the battery terminals according to the diagram.



Incorrect connection may cause damage to the machine or injury. Make sure that all terminals fit tightly.

5. Connect battery plug (Fig. 4/4) again.
6. Close front hood.

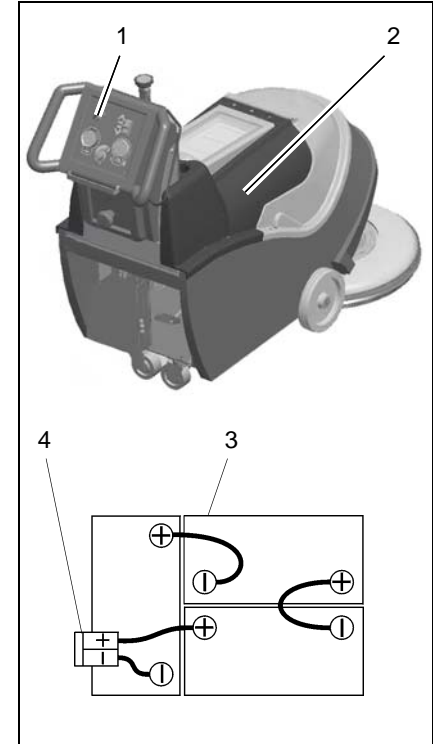


Fig. 2 Battery diagram

First Operation

1.1.2 Charge Batteries



Please observe the following safety provisions:

- Observe the instructions manual and the safety provisions of the battery and charger unit manufacturer.
- Switch the charger ON only after battery cable has been connected to the charger unit.
- Do not close the front hood during charging procedure
- After charging: First switch charger unit OFF then separate battery cable and charger unit.

1. Make sure that the machine is switched off by key switch (Fig. 5/1) and the key is pulled.
2. Open the front hood (Fig. 4/2)
3. Disconnect battery plug (Fig. 4/3).
4. Connect the battery plug and the charger unit plug.
5. Connect charger unit to the mains.
6. After charging, first switch off the charger unit, then separate the battery cable.
7. Connect battery plug of the Cleanserv PB51/2000.
8. Check the charge condition at the battery indicator, see chapter 3.

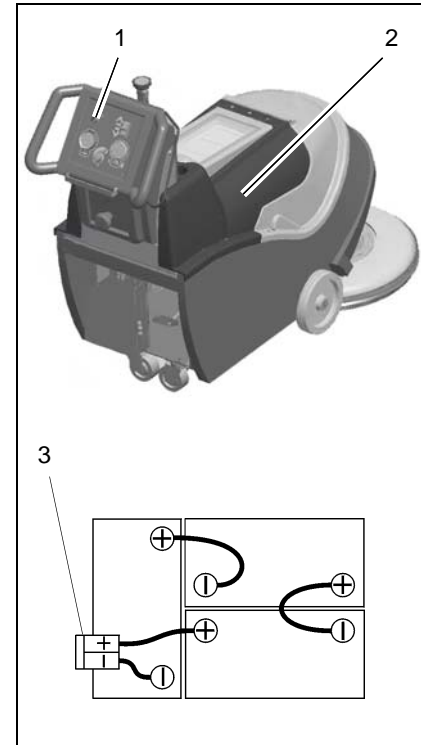


Fig. 3 Charge battery

First Operation

1.2 Before Work

1. First operation of the battery system, (see page 14).
2. Make sure that the flooring is appropriate for being polished in UHS procedure (pad speed up to 2000rpm max.)
3. Make sure that adequate pads for this procedure have been fitted and pad centring tightened.
4. Check the pad condition and its thickness in regular intervals. Immediately replace damaged pads (see page 29).
5. Check all connections of the dust collection system as well as the dust bag condition (see page 31).

6. Set polishing head into its transport position and ride to the surface to be polished (see page 21).
7. This surface has to be clean, level and free from objects.

1.3 Switch the machine on

1. Switch the machine on by the key switch. Check emergency switch and release if required.
2. Check battery condition (see page 18).
3. Set polishing head into working position (see page 21).
4. Use direction switch to select the riding direction.
5. Press the levers to start-up.
6. Check pad ground pressure (see page 20).
7. Adjust riding speed (see page 19).



Move the machine upon switching ON! Never let the machine run on the spot! The floor may be damaged by such high speed of the pads.

1.4 End of work

1. Depress pedal to lift-up the pad drive and let the pedal arm catch.
2. Switch off key switch and pull key.
3. Clean machine by mild detergent and damp cloth.
4. Recharge batteries at the end of each working cycle or in case of insufficient charge condition (see page 16).

Operation

1 Operation

1.1 Control Elements and Indicators

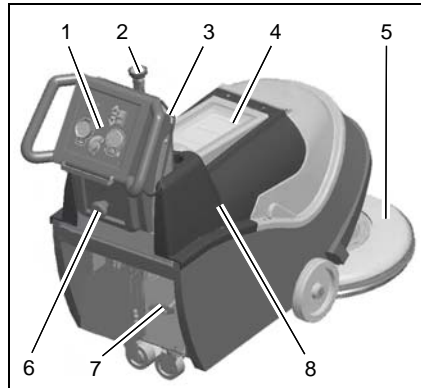


Fig. 1 Control elements

- 1 Control panel
- 2 Pad ground pressure adjustment screw
- 3 Start lever (on both sides)
- 4 Dust collector
- 5 Polishing head
- 6 Emergency off
- 7 Pedal
- 8 Front hood
- 9 Carbon brush wearing indicator

1.1.1 Key Switch

Use key switch (Fig. 7/1) to turn machine on and off.

1.1.2 Emergency OFF Switch

Press emergency off switch (Fig. 7/2) to set the machine to a safe state in case of emergency or to prevent such emergency.

1.1.3 Battery Charge Indication

Switch the machine on by key switch (Fig. 7/1). Charge condition of the batteries is checked and shown by indicator

(Fig. 7/2) after approx. 20 seconds. Seven yellow lighting LEDs indicate a fully charged battery. As battery discharges, the LEDs are extinguishing from the right to the left. Shortly before battery discharge, the left yellow LED flashes. Then flashes the red LED and signals end of function. Immediately re-charge batteries!

The battery indicator integrates a low discharge signal sender. The machine switches off automatically if the red LED zone is attained.

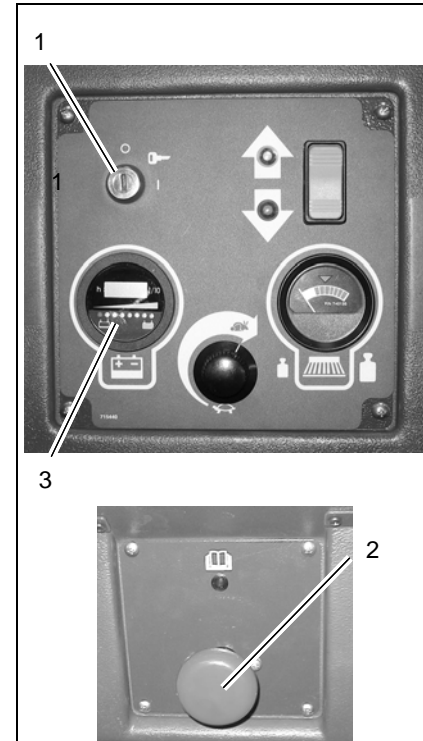


Fig. 2 Control panel

Operation

1.1.4 Direction and Speed Adjustment

Use the switch (Fig. 8/2) to adjust travel drive direction.

- Press direction switch top
 - yellow LED lights
 - forward direction
- Press direction switch bottom
 - red LED lights
 - reverse direction

The driving speed can be continuously modified. Turn the rotary knob (Fig. 8/3) to the limit stop for maximum speed.

1.1.5 Start-up Lever

The start-up levers are located at the handles next to the control panel. These levers (Fig. 6/3) are used to switch on the travel drive assembly and the pad drive.

1.1.6 Pad Ground Pressure Indicator

The Cleanserv PB51/2000 has been equipped with a pad ground pressure indicator (Fig. 8/1).

Pad ground pressure on the machine is correctly set if the green LEDs light. Lighting of the red LED zone signals insufficient pad ground pressure. See "Adjust Pad Ground Pressure".



Uneven floor may lead to changing indication.

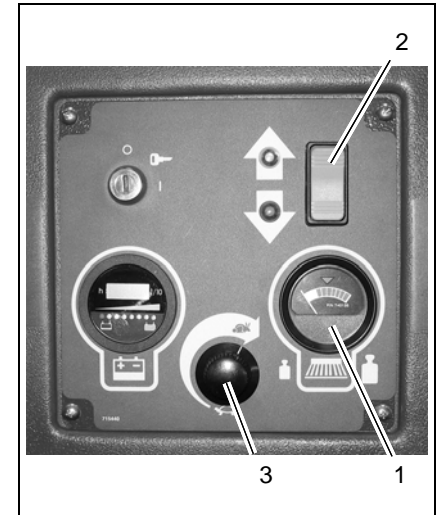


Fig. 3 Pad ground pressure indicator

Operation

1.2 Adjust Pad Ground Pressure

Adapt the pad speed to the type of flooring to be polished. The adjustment screw (Fig. 9/1) for pad ground pressure is located on the control panel. Proceed as follows for pad speed adjustment

- Turn adjustment screw counter-clockwise to increase pad ground pressure.
- Turn adjustment screw clockwise to decrease pad ground pressure.

Optimum operating condition of the polishing machine is maintained as long as the pad indication (Fig. 9/1) remains in the green LED zone.



Do not let the machine run on the spot for a longer time.

Always move the machine upon switching on in order to avoid possible damaging of the floor. Increase or reduce pad ground pressure only after the machine has run and moved.

If pad pressure indication attains the red zone decrease pad ground pressure. Should the machine be operated in the red zone for a longer period, the pad drive will be overloaded and the 70A fuse activated.

Check the pad ground pressure:

Constantly check the pad ground pressure indication (Fig. 8/1) during polishing and do not exceed ground pressure in order to shorten the working cycle of one battery charge. Avoid the red zone!

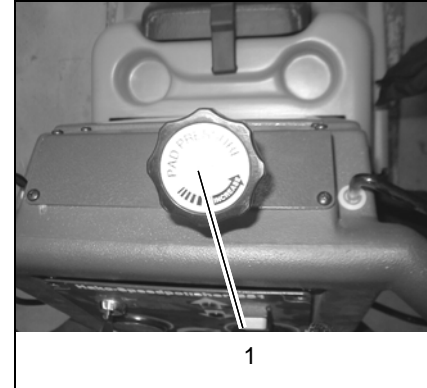


Fig. 4

Adjust pad ground pressure

Operation

1.3 Adjust Working or Transport Position

Use the pedal (Fig. 10/1) to set the polishing head either to its working or transport position

Working position: lightly push pedal to the outside (release) and then let pedal slowly go

Transport position: depress pedal down until the pedal arm catches

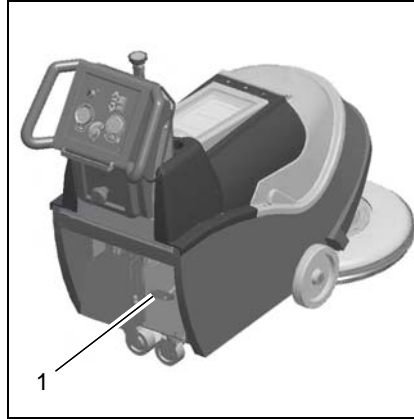


Fig. 5 Pedal

Technical Data

1 Technical Data

Designation	Unit	Cleanserv PB51/2000
Dimensions		
Length	cm	154
Width	cm	56
Height	cm	109
Working width	cm	51
Area performance	m ² / h	1600
Total weight		
Net weight (without batteries)	kg	110
Net weight (with batteries)	kg	230
Driving performance		
Driving speed (max.)	km / h	3.2
Wheels		
Drive wheels	Ø mm	203
Guide rollers	Ø mm	76

Technical Data

Designation	Unit	Cleanserv PB51/2000
Electric system		
Service voltage	Volt	36
Leistungsaufnahme Padantrieb	W	1850
F1 = Sicherung für Padantrieb	A	70
F2 = Sicherung für Bedienfeld	A	3
F3 = Sicherung für Fahrsteuerung	A	18
Pad		
Quantity of pads	pieces	1
Pad speed	1 / min	2000
Pad diameter	Inch	16
Battery system		
	pieces	3 x 12V/105 Ah
Noise emission value		
Sound power level (LpA) (at the ear of the operator) measured according to DIN EN 60335-2-67 under maximum working conditions:	dB (A)	<73
Vibration		
The weighted effective value of acceleration, measured in accordance with ISO 5349-1, to which the upper parts of the body (hand-arm) are exposed under normal working conditions:	m/s ²	<0.5

1 Maintenance/Service

1.1 Maintenance Instructions

Compliance with the recommended maintenance works gives you the certitude of always having a machine which is ready to work and in proper operating condition.

Please contact your local Hako distributor, he will be glad to perform this work for you and qualified personnel and genuine spare parts are at disposal there.

In case of inquiries or ordering of spare parts, please indicate the machine's serial number specified on the nameplate.

Switch the machine off before cleaning the unit or replacing parts.



Disconnect the battery plug. In addition, measures against unintended starting and unwanted rolling of the machine have to be taken.



Please observe the following safety provisions:

- **Take the machine into operation only with all safety facilities fitted and in protective position.**
- **Do not clean by hand but always use appropriate tools or auxiliary means for cleaning.**

- **Use appropriate tools as well for maintenance, repair or setting works. Have such work done by qualified personnel only.**
- **Strictly comply with the manufacturer's specifications when using or replacing batteries, battery connecting cables, or charger units.**
- **For safety reasons, only genuine spare parts may be used.**
- **Cleaning the machine by means of high-pressure cleaning equipment or vapour jet is not admitted.**
- **Cleaning the machine by means of high-pressure cleaning equipment or vapour jet is not admitted.**

Maintenance/Service

1.2 Remedy

The following chart lists some faults to be eventually remedied by yourself.

Malfunction	Possible cause	Remedy
Pad does not start rotating	<ul style="list-style-type: none">- Battery charge insufficient	<ul style="list-style-type: none">- Re-charge battery
Machine does not start	<ul style="list-style-type: none">- Battery cable loosened- Safety switch tripped- Engine carbon brushes worn- Incorrect adjustment of pad ground pressure	<ul style="list-style-type: none">- Fasten battery cable- Turn on safety switch- Replace engine carbon brushes- Modify pad ground pressure
Machine difficult to push	<ul style="list-style-type: none">- Damaged wheels or rollers	<ul style="list-style-type: none">- Replace wheels or rollers
Uneven polishing result	<ul style="list-style-type: none">- Pad worn out	<ul style="list-style-type: none">- Replace pad
Machine vibrations	<ul style="list-style-type: none">- Pad is torn or not centred- Washed pad in use	<ul style="list-style-type: none">- Centre pad- Replace pad- Use appropriate pad type- Check pad engaging pin for damage and replace if required- Mount new pad

Maintenance/Service

Malfunction	Possible cause	Remedy
Machine switches off	<ul style="list-style-type: none"> - Excessive pad ground pressure - Pad has contact with cover 	<ul style="list-style-type: none"> - Reduce pad ground pressure. Operate machine in green LED range - Centre or replace pad - Check pad size
Short operation time with one battery charge cycle	<ul style="list-style-type: none"> - One of the batteries is damaged - Battery is used out - Excessive pad ground pressure - Wrong pad type 	<ul style="list-style-type: none"> - Replace battery (After Sales Service) - Replace battery (After Sales Service) - Reduce pad ground pressure - Use prescribed pad type
Battery charger does not switch on	<ul style="list-style-type: none"> - Missing connection cable - Incorrect charging order - Low discharge of battery 	<ul style="list-style-type: none"> - Check connection cable - Read operating instructions of the charger unit - Replace battery

Maintenance/Service

1.3 Maintenance Schedule

Maintenance tasks	Hours of operation			
	Daily	Weekly	6-monthly	Yearly
Check batteries and re-charge if required	●			
Check dust collector (check dust bags, ducts and hoses as well) and clean if required	●			
Check sealing strip and replace if required	●			
Clean housing		●		
Grease front wheels and rear rollers			●	
Check carbon brushes of pad drive and replace if required				●

Maintenance/Service

1.4 General Provisions



Any modification, removal of genuine part or assembly of other accessories makes operation of the machine unsafe and illegal and thus cause extinguishing of warranty.

In case of malfunction or defects please contact your Hako distributor!

1.5 Electric System



Before working at the electric system, pull the key from the key switch and disconnect the battery plug.

1.5.1 Fuses



For replacement, use fuses of the same type and connecting load!

In case of repeated fuse tripping detect cause.



Only qualified personnel is admitted to perform works at the electric system of the machine.

F1: Pad drive fuse (70A)
F2: Control panel fuse (3A)
F3: Drive assembly fuse (18A)

1.5.2 Check battery
Check the battery charge condition at daily intervals.
See chapter 3, Operation.

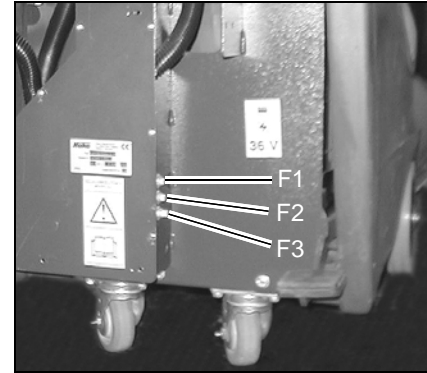


Fig. 1 Fuses

Maintenance/Service

1.6 Install Pads



Please comply with the following safety provisions:

- **Only use pads suitable for a speed of 2000 rpm or more.**
- **Inappropriate pads may cause unbalance and loosening of the pad from the pad holder.**
- **Do not use machine-washed pads but new ones.**
- **Inappropriate pads may damage the floor.**
- **Check the dust ducts and hoses after each pad replacement and clean if required.**

- 1 Switch machine off by key switch and disconnect battery plug.
- 2 Use pedal (Fig. 12/1) to set the polishing head to transport position.
- 3 Unscrew pad centring (Fig. 12/2) clockwise (left-hand thread).
- 4 Remove old pad. Position the new pad centrally onto the drive plate (Fig. 12/3) and re-place together with pad centring. Re-tighten counter-clockwise.
- 5 Use pedal and lower polishing head carefully. Proceed to ground pressure adjustment after fitting of new pad, see chapter 3.

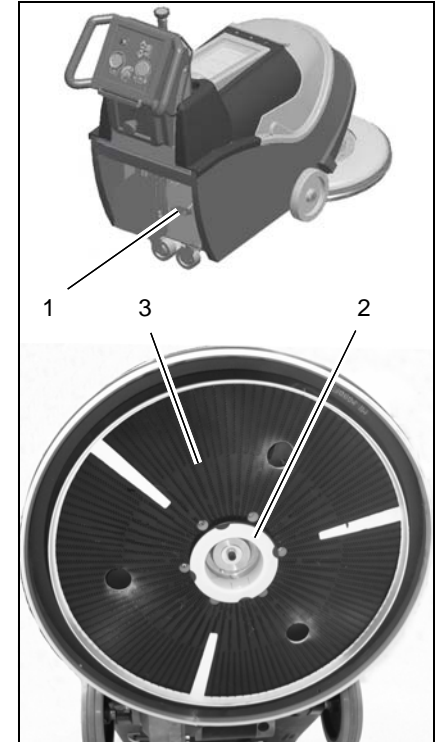


Fig. 2 Pad seating

1.7 Replace Sealing Strip

Check the sealing strip (Fig. 13/2) at daily intervals and replace it if required.

For replacement, proceed as follows:

- 1 Switch machine off by key switch and disconnect battery plug.
- 2 Use pedal (Fig. 13/1) to set the polishing head into transport position.
- 3 Loosen screws (Fig. 13/4) and retaining ring (Fig. 13/3) until the sealing ring may be pulled out.
- 4 Proceed to installation of the new sealing ring in inverse order. Make sure that the sealing ring fit tightly.

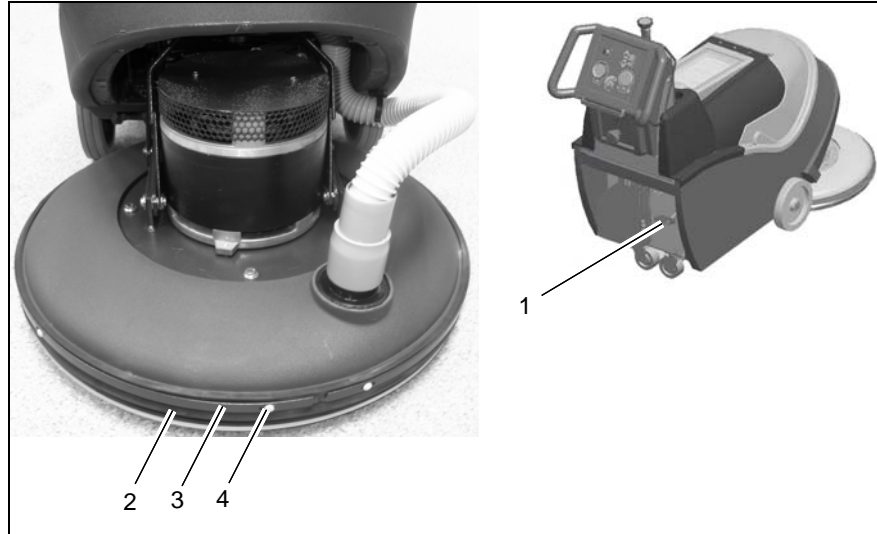


Fig. 3 Wiper rubber

Maintenance/Service

1.8 Clean Dust Collector

Check the dust collector at daily intervals and replace the dust bag (Fig. 14/2) if required.

1. Switch machine off by key switch.
2. Loosen bracket (Fig. 14/1) and open hood. Remove dust bag (Fig. 14/2).
3. Check dust ducts and hoses as well and clean if required.
4. Proceed to installation in inverse order.



Remove suction hoses by lightly turning and pulling.



Provide for appropriate disposal of the dust bags.

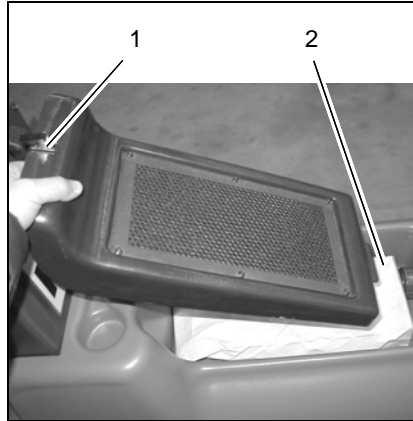


Fig. 4 Dust collector

1.9 Clean Housing

Clean the housing with a damp cloth at weekly intervals.



Do not clean the machine by means of a vapour jet or high-pressure cleaning equipment!

Maintenance/Service

1.10 Check Carbon Brushes

If premature maintenance of the pad drive carbon brushes is required, the red indicator (Fig. 15/1) above the emergency off switch lights.

Check the carbon brushes for uneven wearing and pitting during the yearly maintenance of the motor.

Proceed to replacement if the carbon brushes are worn to a length of 10 mm or if they are damaged.

Four carbon brushes are required.



Have these works performed by your Hako contract dealer or by the After Sales Service only!

- 1 Switch machine off by key switch and disconnect battery plug.
- 2 Remove motor cover (Fig. 15/2) together with both fixing screws.
- 3 Carefully blow out motor top side by compressed air.
- 4 Dismount carbon brushes.
- 5 Proceed to mounting of new carbon brushes in inverse order.

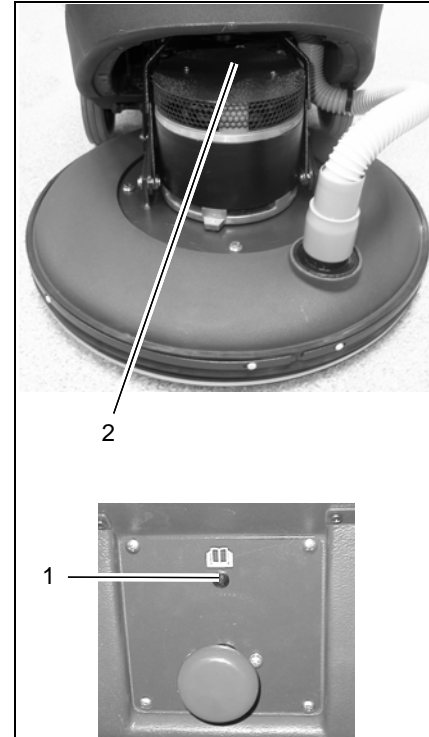


Fig. 5

Carbon brushes

EC Declaration of Conformity (in accordance with EC Directive 2006/42/EC)

Hako GmbH
Hamburger Straße 209-239
D-23843 Bad Oldesloe

declares in sole responsibility
that the product

Cleanserv PB51/2000
Type: 7675

to which this declaration relates, conforms with the relevant provisions of the safety and health requirements stipulated in EU Directive 2006/42/EC and is in accordance with 2004/108/EEC.

Reference was made to the following standards and/or norms and/or technical specifications to ensure proper implementation of the safety and health requirements in the EU Directives:

DIN EN 60335-2-67
DIN EN 55014-1
DIN EN 55014-2
DIN EN 61000-3-2
DIN EN 61000-3-3

Bad Oldesloe, 22.04.2014



Dr. Rainer Bavendiek
Director R&D

Name of the authorized person who compiles the technical documents for Hako:

Ludger Lüttel

Hako

Clean ahead

Advanced Technology for a Cleaner, Better Environment



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