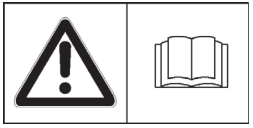


Hako
Clean ahead

Instruction Manual

Sweepmaster M600 (6206)

Preface

Dear customer, It is our desire that the good characteristics of the Sweepmaster M600 should justify the confidence you demonstrated by making this purchase.
Prior to the first use, read the chapter "Safety Information" carefully as this will ensure safe operation of the machine.
Your own safety, as well as the safety of others, depends to a great extent on how the machine is moved and operated. 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 manual provides valuable information about operation, service and maintenance. The warning symbols as used in this manual identifies items relevant to safety. Please observe the safety provisions (see chapter "Safety Information").
Your authorized Hako dealer will be pleased to answer further questions regarding the machine or the operation and maintenance manual.

Please be advised explicitly that we cannot accept any legal issues out of the contents of this manual.
If repair work has to be performed make sure that only genuine spare parts are used; only genuine spare parts may guarantee a dependable machine.
We reserve the right for technical improvement.

Valid as of: September 2019

Hako GmbH
D-23843 Bad Oldesloe
Hamburger Str. 209-239
Phone +49 4531 806-0

Proper use

The Sweepmaster M600 is designed exlusively for sweeping floors, e.g. in production facilities, warehouses, parking sites, and pedestrian areas, for collecting both, dry and moist matter.
Using the machine beyond this scope of application will be deemed improper use; The manufacturer cannot be held liable for consequential damages; the user alone bears the risk.
The term of proper use also includes operation, maintenance and repair work to be performed in compliance with the manufacturer's specifications.
The Sweepmaster M600 may only be operated, serviced and repaired by personnel who are familiar with the work involved and are aware of the risks.
The manufacturer is not deemed liable for any damage resulting from unauthorized modifications to the machine.

Caution
The machine must not be used for evacuation of dusts dangerous to health!

Information on the warranty

As a fundamental rule, the regulations in the purchase agreement apply.
There are no rights to claims for compensation under the terms of warranty when the damage is a result of failure to observe the stipulations concerning service and maintenance.
The following are excluded from the terms of warranty: normal wear and tear and damage caused by overuse, improper handling or unauthorized modifications. Claims under the terms of warranty are also annulled when damage occurs to the machine as the result of the use of parts and accessories not explicitly approved by us or to failure to observe maintenance procedures

Handover of the machine

Inspect the vehicle immediately on delivery for signs of transport damage. Replacement will be made when confirmation is provided immediately by the freight carrier with regard to the damage and the damage report is sent to our authorized sales partner together with the consignment note.

Inhaltsverzeichnis

1 First operation

1.1 Attach handlebar

Bolt handlebar to both sides of the housing, use the wing bolts (Fig. 1/1).

Note:
The handlebar can be mounted in two positions, as suitable for the operators' tallness.
For short people:
Install the handlebar with handle rod bent to downside.
For average and bigger tallness:
Install the handlebar with handle rod bent to the top end (Fig. 1/2).

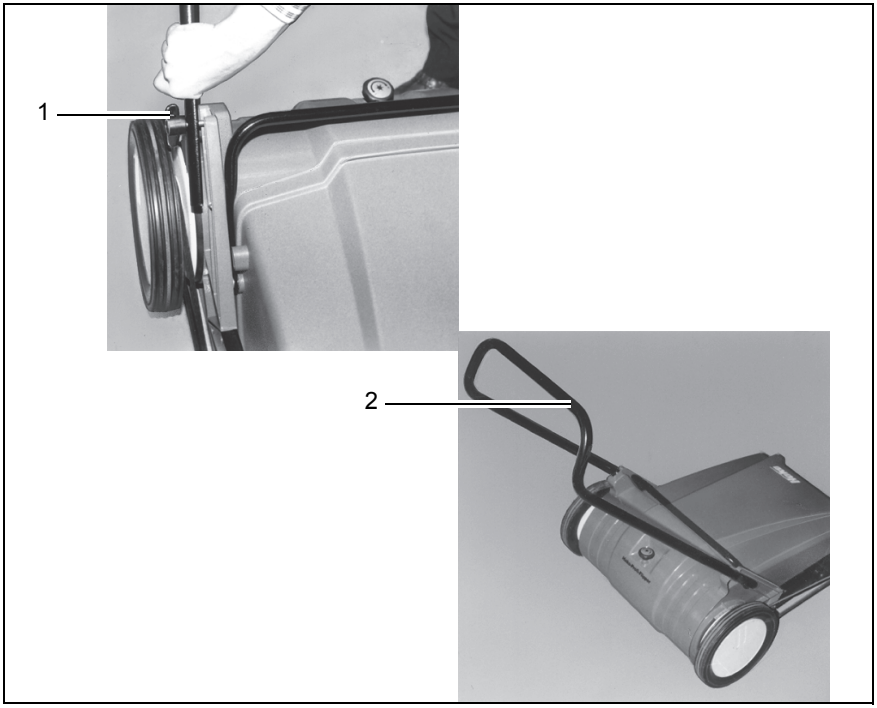


Fig. 1

1.2 Attach side broom

1. Plug side broom (Fig. 2/1) on broom shaft and secure with bolt; use 10 mm spanner size. Do not over-torque bolt to avoid damage to the broom hub.
2. Place the Vee belt (Fig. 2/2) in the pulley over the RH wheel; side broom will have to rotate CCW when machine moves forward (top view).
3. Attach size broom arm with plug (Fig. 2/3) and safety pin (Fig. 2/4). Introduce plug from outside
4. Slue side brush down and adjust broom height, or better said, broom pressure with knurled-head bolt (Fig. 2/6); loosen knurled nut (Fig. 2/5). Side broom should not be seated on the floor with more than 2/3 of its circumference. Secure with knurled nut.
5. Check belt tension, adjust tension as required, see paragraph 4.8

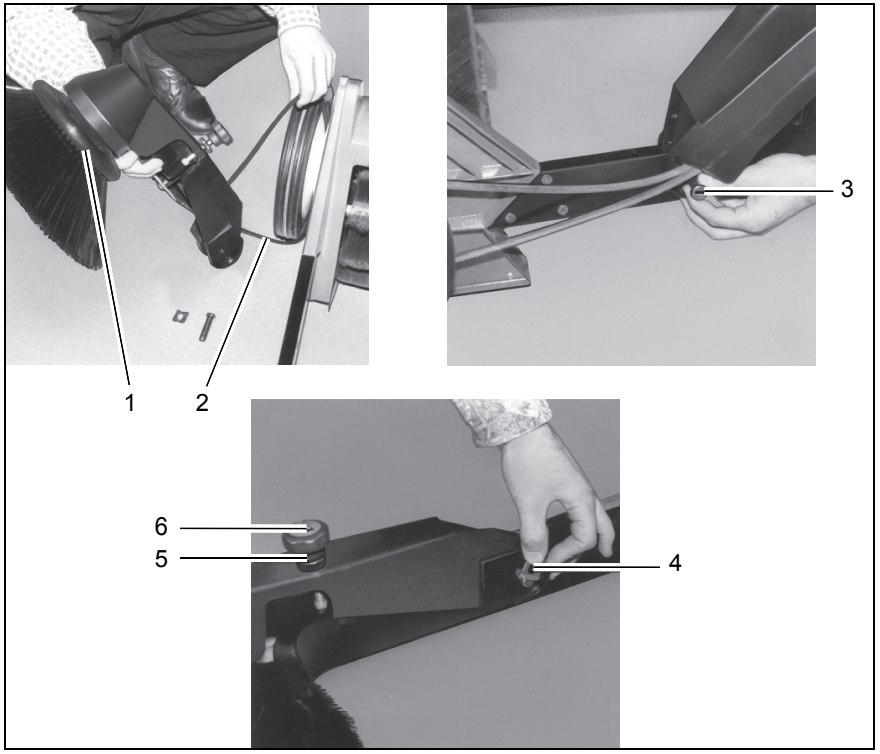
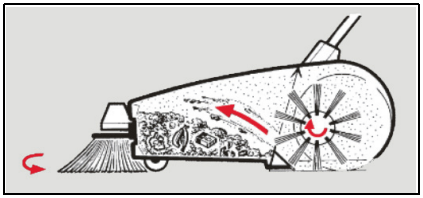


Fig. 2

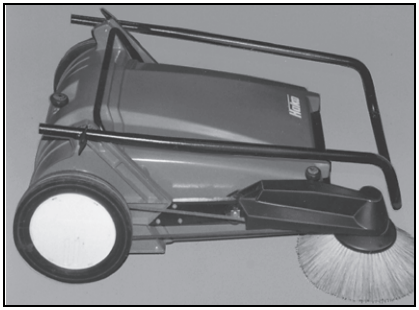
2 Operation

2.1 Mode of operation



The Sweepmaster M600 uses a side broom and a cylindrical brush. The side broom feeds the matter swept to the cylindrical brush. The cylindrical brush is rotating against the direction of travel of the machine and throws the dirt into the dirt hopper located at the forward end. Side broom and cylindrical brush are driven by the machine wheels. A jack wheel will guarantee uniform ground clearance and perfect sweeping. The cylindrical brush housing uses rubber seals all around to seal it against the floor surface. At the forward end, the cylindrical brush housing is closed by the dirt hopper, at the rear end a large rubber lip is assembled.

If any part of the floor shall be omitted (smeared floor or transport), just lift side broom and cylindrical brush from the floor by depressing the handlebar. Steps and stairs are easily overcome by the Sweepmaster M600. The large wheels extend beyond the rear end of the machine. This means that all usual obstacles are overcome by pulling the machine ”uphill“ or pushing it ”downhill“.



The handlebar is folding to ease transportation or storage of the Sweepmaster M600. For folding, loosen both wing bolts a few turns, expand the handlebar structure and fold forward.

2.2 Controls

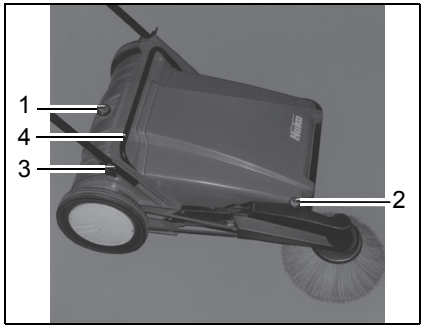
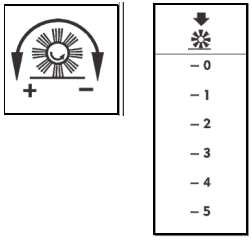


Fig. 3

1 handwheel for cylindrical brush adjustment
2 handwheel with knurled nut for side-brush adjustment
3 butterfly nuts for fixing of handlebar
4 hopper handle



Handwheel for cylindrical brush adjustment (Fig. 3/1)
is used for adjustment of the cylindrical brush ground pressure.
The cylindrical brush ground pressure should be adjusted as recommended by us, or be adapted to local conditions, until good sweeping performance will be achieved. Adjustment is indicated by the scale close to the track wheel.

Recommended adjustment
(valid for new cylindrical brush)

Scale code	Litter	Ground
1	light-weight, dry litter	unruffled
1,5	**basic adjustment**	
2	heavy dirt, or big dirt quantities; humid or sticky dirt	rough or uneven

Note:
cylindrical brush ground pressure, if adjusted to too high a value, requires higher physical force to push the machine, and increases the wear of brooms. Best sweeping performance will be achieved at 2.5 m.p.h. = 4 km.p.h., i.e. normal pedestrian's speed.

Handwheel to adjust side broom (Fig. 3/2)
The broom may touch the floor with the forward 2/3 of its circumference only so that it can feed the rubbish to the forward end of the cylindrical brush and not sweep it around only. The pre set working level of the side broom is kept constant as soon as the knurled nut (check nut) is tightened in position.

Butterfly nuts for fixing of handlebar (Fig. 3/3)
The butterfly nuts are used to attach the handlebar.

Hopper handle (Fig. 3/4)
The handle is used to remove and insert the hopper.

3 Technical Data

Dimensions, weights, ratings	Unit of measurements	measures
width w/o side broom	mm (")	720 (28.35)
width with side broom	mm (")	790 (31.10)
height with handlebar, handlebar high/low position	mm (")	1060 (41.7) / 900 (35.4)
height with folded handlebar	mm (")	390 (15.35)
length with folded handlebar with side broom	mm (")	1030 (40.5)
length w/o side broom, handlebar high/low position	mm (")	1080/1260
length with side broom, handlebar high/low position	mm (")	1330 (42.5) / 1510 (59.4)
weight (opearting, incl. side broom)	kg (lbs)	25 (55)
drive wheels (dia./width)	mm (")	280 x 40 (11.2 x 1.57)
swept width w/o side broom	mm (")	480 (18.9)
swept width with side broom	mm (")	670 (26.38)
cylindrical brush dia.	mm (")	250 (9.84)
cylindrical brush width	mm (")	480 (18.9)
min. dia. of cylindrical brush	mm (")	180 (7.09)
cylindrical brush speed at 4 km/h (2.5 mph)	rpm	250
side broom (Polyester), dia.	mm (")	325 (12.8)
side broom speed at 4 km/h (2.5 mph)	rpm	85
side broom drive (Vee belt)	mm (")	8 x 1765 ± 5
dirt hopper (40 litres capacity)	l	25 – 28 usable
surfacing rating (theoretic) at 4 km/h with side broom	m²/h	2680

4 Maintenance and Service

General information

By adhering to the maintenance work recommended by us, you can be sure that the vehicle is always ready to be put into operation.

Maintenance and repair work necessary on a daily and weekly basis can be carried out by a driver trained to complete the work, all other Hako system maintenance may only be completed by personnel who are correspondingly qualified and trained. Please contact your nearest Hako service center or Hako authorized dealer. Failure to observe this annuls any rights to claims under the terms of guarantee in respect of resulting damage or consequential damage.

Always specify the serial number in the case of inquiries and spare parts orders - Rating plate.

Hako system maintenance, customer:

Work to be carried out by the customer according to the service and maintenance instructions in the operating manual

4.1 Maintenance Schedule
Hako-System Maintenance Customer

The maintenance works are to be performed by the operator.

To be performed	Interval		
	daily	weekly	every 6 month
Empty dirt hopper and clean	o		
Clean the machine	o		
Check sealing strips, replace if required		o	
Check side brooms for wear and replace if required		o	
Check sweeping roller for wear and replace if required		o	
Grease the wheels axles and pinions			o
Check drive belt tension, re-adjust as required			o
Check drive belt for wear and replace if required			o

4.2 Emptying the dirt hopper

Check the fill level of the hopper regularly (payload max 28 kg) and empty if necessary.

1. Lift the hopper upwards by the handle. Dispose of the contents in an environmentally friendly way (Fig. 4/1).
2. Insert the dirt hopper:
   Place the hopper on the front frame and swing it down (Fig. 4/2).

Note:
Do not place the dirt hopper flat on ground to avoid damage to the rubber lip. Use the four feet for storing the detached hopper.

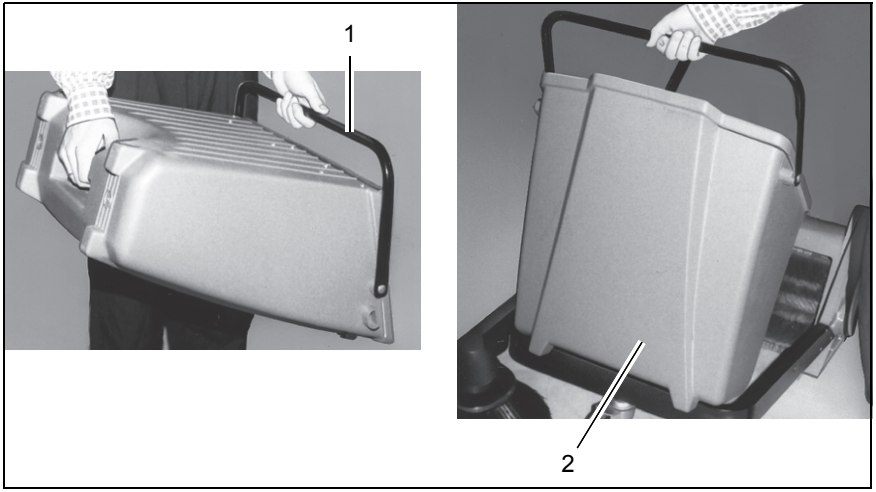


Fig. 4

4.3 Cleaning the cylindrical brush compartment

Check the cylindrical brush compartment with cylindrical brush and seals for soiling daily, clean if necessary.
Remove rolled-up bands from the cylindrical brush.

4.4 Replacing the cylindrical brush

Check the cylindrical brush once per week and replace if wear is present.
Dia, wear limit: approx. 180 mm (7.1")

1. Slue side broom up.
2. Tilt machine back to rest on the handlebar.
3. Unscrew the three head screws on the cylindrical brush (Fig. 5/1) and remove the first half shell.
4. Manually rotate the cylindrical brush shaft 180° and remove the second half shell.
5. Remove cylinder pin from cylindrical brush shaft.
6. Attach the new half shells in the reverse order.

Note: The sweeping level must be readjusted after replacing the cylindrical brush, see paragraph 2.2

4.5 Sealing strips

The sealing strips must be in perfect condition for the sweeping machine to operate efficiently. Inspect the sealing strip of the cylindrical brush compartment for wear and check for damage at regular intervals.
Replace defective sealing strips

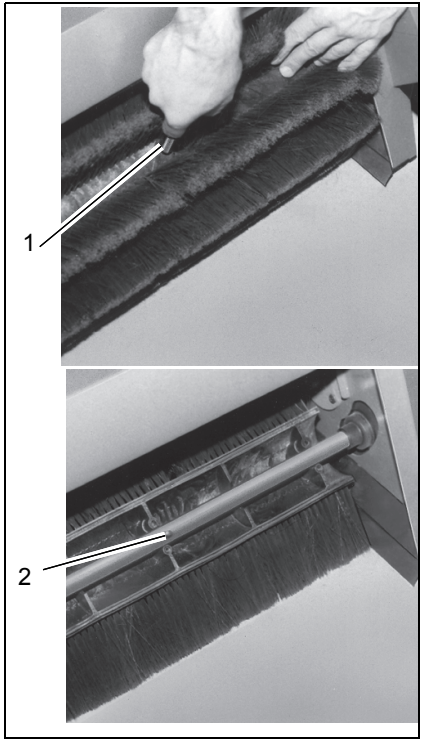


Fig. 5

4.6 Replacement of side broom

Inspect the side broom once per week and replace if wear is present.

1. Slue-up side broom arm.
2. Remove clamp screw underneath side broom (spanner size 10 mm).
3. Pull out side broom.
4. Plug-on new side broom and secure. Do not overtorque clamp screw to avoid squeezing the bristles hub.

4.7 Adjusting the sweeping level

The sweeping level must be readjusted if the event of brush wear and after replacing the side broom.

1. Slue down side broom.
2. Release knurled nut.
3. Rotate the adjusting wheel (Fig. 6/1) until the side broom touches the ground with about 2/3 of its circumference.
4. Tighten the knurled nut again.

4.8 Adjust tension of side broom Vee belt

To tension the Vee belt, proceed in the following way:

1. Slue-up side broom arm.
2. Loosen bolts (Fig. 6/2), should come out approx. 5 mm (0.2").
3. Lift roller holder (Fig. 6/3) from slot in plastic rib.
4. Slue roller holder out, introduce into next slot, slue back and tighten.
5. Slue down side broom, check tension, readjust as required.

Note: Adjust Vee belt tension just as far as required to ensure power transmission. Do not adjust too high a tension of the Vee belt to avoid excessive load and wear to the side broom, and to preclude poor sweeping performance.

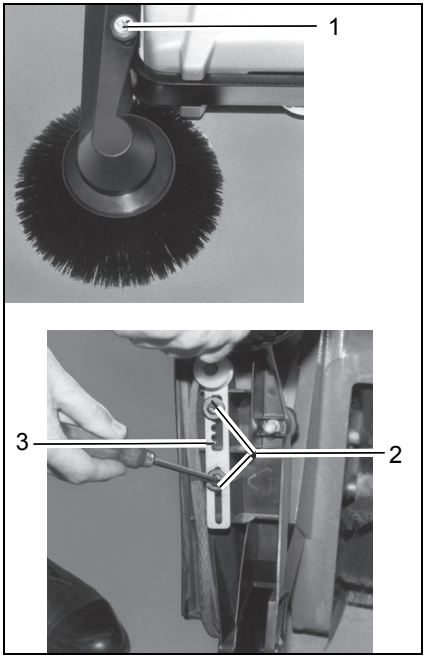


Fig. 6

4.9 Replacement of side broom Vee belt

To remove or to re-install a Vee belt, proceed in the following way:

1. Dismantle the side broom and deflector plate with all standard parts up to the pulley (Fig. 7/1).
2. Remove pulley with Vee belt (Fig. 7/2) off the shaft (driving key should not drop out from the shaft).
3. Fit new Vee belt on the pulley and reassemble parts in reverse order (Fig. 7/3).

Note: After having assembled the pulley, check for driving key in place (Fig. 7/4).

Check:
Move Vee belt to the right:
shaft will have to follow.
move Vee belt to the left:
shaft will have to stand still. (view into side broom arm).

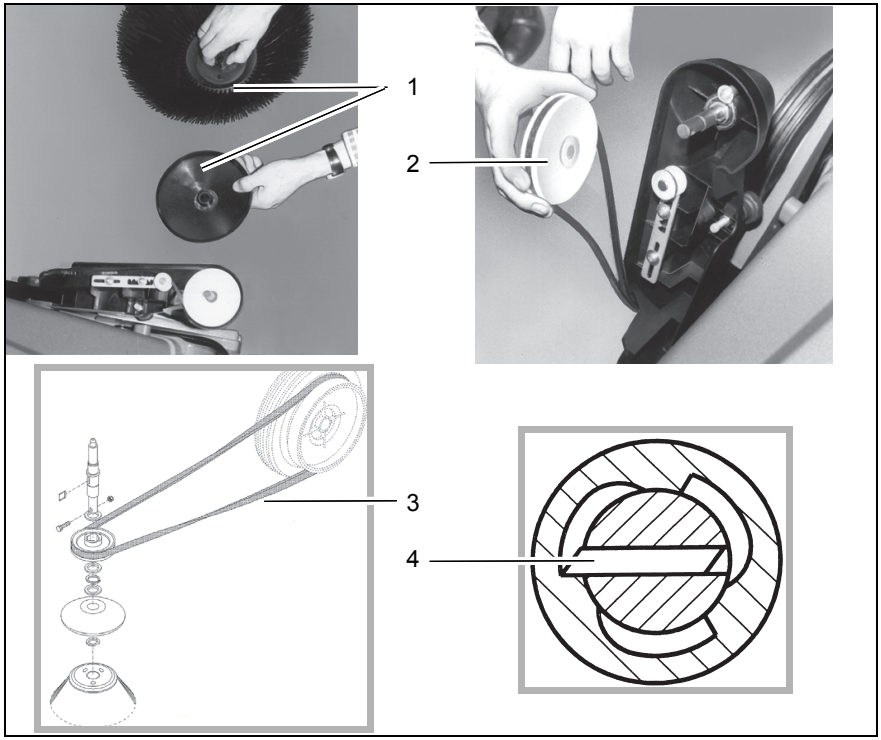


Fig. 7

4.10 Grease track wheels

For cleaning and greasing the axle and pinion, remove track wheels as follows:

1. Remove hub caps:
   insert two screwdrivers into the slots marked by arrows, and remove the hub cap using the screwdriver as a lever, applying force in a uniform manner (Fig. 8/1).
2. Remove circlip on wheel axle (Fig. 8/2) and remove the track wheel.
3. Grease axle and pinion (Fig. 8/3).
4. Reassemble track wheel.
5. Fit the wheel cap (Fig. 8/4), paying attention to the position of the fixing points.

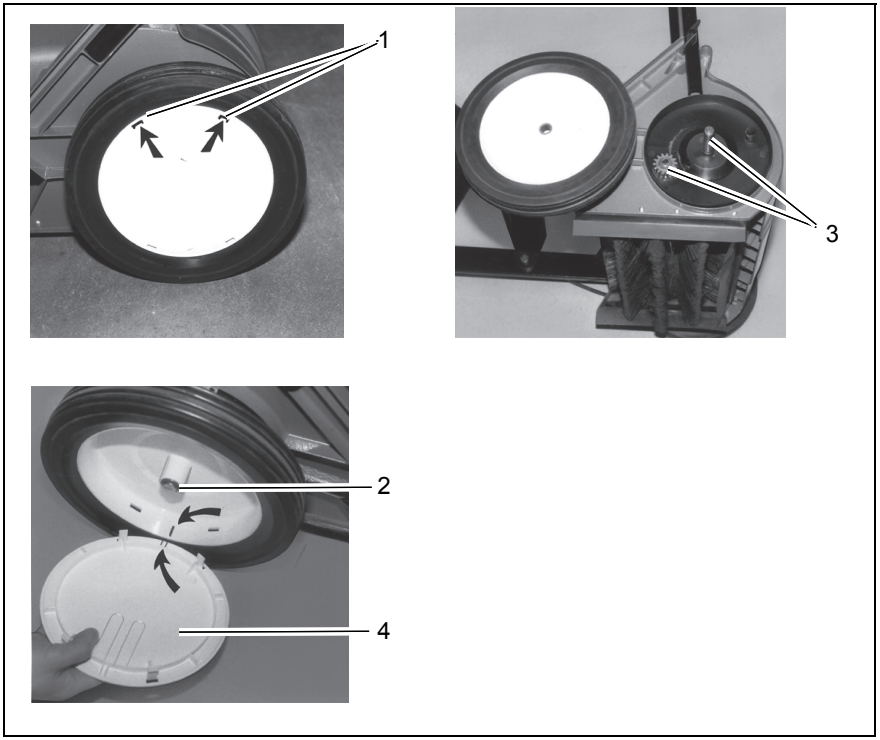


Fig. 8

Clean ahead

Advanced Technology for a Cleaner, Better Environment

88-10-2574 - 4270-07

Hako GmbH · Head Office · Hamburger Str. 209-239 · D-23843 Bad Oldesloe
Tel. +49 4531 806-0 · Fax +49 4531 806-338