

# MANUAL USE AND MAINTENANCE



**FLEXY 70BS-85BS**

**ED. 04-2009**

**EN**

Doc. 10016974  
Ver. AA



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The company reserves itself the right to bring changes of technical character and/or of endowment. The images are meant of pure reference and not binding in terms of design and endowment.

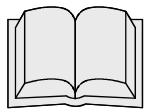
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#### **Symbols used in the manual**

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Symbol of the book open with letter i  
It points out that this document is a manual of instructions.



Symbol of the open book  
It points out to the operator to read the manual of use before using the machine.



Symbol of warning  
Read attentively the sections preceded by this symbol for the safety of the operator and the machine

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## On consignment of the machine

When the machine is consigned to the customer, an immediate check must be performed to ensure all the material mentioned in the shipping documents has been received, and also to check the machine has not suffered damage during transportation. If this is the case, the carrier must ascertain the extent of the damage at once, informing our customer service office. It is only by prompt action of this type that the missing material can be obtained, and compensation for damage successfully claimed.

## Introductory comment

This is a floor scrubber-dryer that is able to clean a wide variety of types of flooring and types of dirt by using the mechanical action of two disk or cylindrical brushes, depending on the model, and the chemical action of a water-detergent solution. As it advances, it also collects the dirt removed and the detergent solution not absorbed by the floor.

**The machine must be used only for this purpose.** Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you to read this instruction booklet carefully and re-read it whenever difficulties arise while using the machine. If necessary, remember that our assistance service (organised in collaboration with our dealers) is always available for advice or direct intervention.



TECHNICAL DESCRIPTION	UM	FLEXY 70 BS	FLEXY 85 BS
Working width	mm	700	850
Squeegee width	mm	1015	1115
Work capacity, up to	m <sup>2</sup> /h	3500	4250
Cylindrical brushes (No. 2)	Ø mm	150	150
Cylindrical brush rotations	rpm	800	800
Cylindrical brush motor	W	2 x 650	2 x 650
Pressure on the brushes	kg	50	50
Traction motor	V	36	36
Traction motor	W	700	700
Traction wheel	Ø mm	260	260
Movement speed	km/h	0÷5	0÷5
Maximum gradient with full load	%	10	10
Suction motor	W	560	560
Suction vacuum	mbar	160	160
Rear elastic wheels	Ø mm	303x90	303x90
Solution tank	l	130	130
Recovery tank	l	138	138
Steering diameter	mm	2450	2450
Machine length	mm	1700	1700
Machine height	mm	1530	1530
Machine width (without squeegee) Tank	mm	805	940
Battery compartment	mm	538x620xH460	538x620xH460
Rated battery voltage	V	36	36
Battery capacity (C5)	Ah	320	320
Battery weight	kg	345	345
Machine weight (empty and without batteries)	kg	405	410
Noise level (in compliance with IEC 704/1)	dB (A)	<70	<70
Hand vibration level	m/s <sup>2</sup>	0.71	0.71
Body vibration level	m/s <sup>2</sup>	0.74	0.74



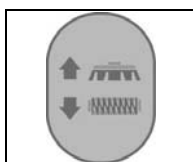
## SYMBOLS USED ON THE MACHINE



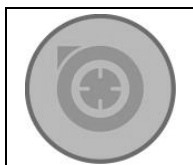
Symbol denoting solenoid valve open  
Used to indicate the solenoid valve switch



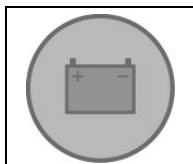
Symbol denoting solution tank empty



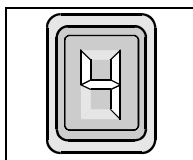
Symbol denoting base rise/fall  
Used to indicate the base rise/fall manipulator



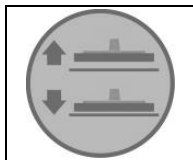
Symbol denoting suction motor  
Used to indicate the suction motor switch



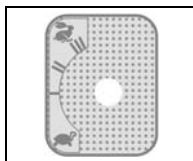
Symbol denoting battery electric charging



Symbol denoting charge level of batteries  
Used to indicate the charge level (from 1 to 4) of the batteries



Symbol denoting squeegee rise/fall  
Used to indicate the squeegee rise/fall manipulator



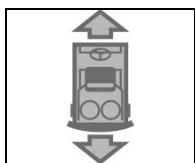
Label representing the speed selector for machine forwards or backwards movement



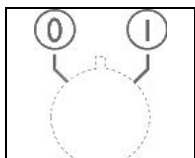
Label representing detergent regulation tap



## SYMBOLS USED ON THE MACHINE



Symbol denoting forward/backward drive selector



Main switch symbol (key switch)

Used on the instrument panel, to indicate the key switch for machine operation on (I) or off (O)



Symbol denoting the manual/automatic operating mode switch

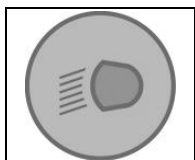


Symbol denoting the indicator light incorrect operation



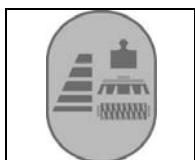
Symbol denoting acoustic alarm

Used to indicate the acoustic alarm button



Symbol denoting lights

Symbol denoting the switch of the working lights



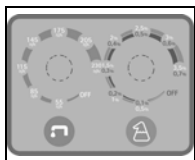
Symbol denoting pressure applied to the brushes

Used to indicate the switch to increase the pressure on the brushes



Symbol denoting brake

Used for the indicator light showing the handbrake is on

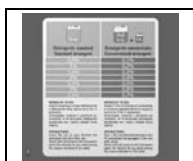


Symbol denoting regulation of quantity of water and detergent (optional)

Used on the panel, to indicate the knobs for adjusting the percentage level of detergent dissolved in the water, and the level of water distributed on the brushes

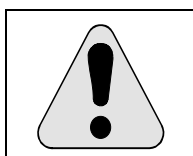


## SYMBOLS USED ON THE MACHINE



Label with instructions for using standard or concentrated detergents

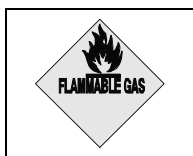
## SYMBOLS USED IN THE MANUAL



Indicates how to carry out the work correctly



Indicates danger of gas exhalation and leakage of corrosive liquids



Indicates the danger of fire  
Do not go near with free flames



Indicates the disposal methods  
Respect the regulations



## GENERAL SAFETY REGULATIONS

The regulations below must be carefully followed in order to avoid harm to the operator and damage to the machine.

- ☐ Read the labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged
- ☐ The machine must be used exclusively by authorised, trained personnel
- ☐ During the working of the machine, pay attention to other people and especially to children
- ☐ The machine is not suitable for cleaning carpets.
- ☐ Do not mix different types of detergent as this may produce harmful gases
- ☐ Do not place any liquid containers on the machine
- ☐ The storage temperature must be between -25°C and +55°C; do not store outdoors in damp conditions
- ☐ Conditions of use: room temperature between 0°C and 40°C with relative humidity between 30 and 95%
- ☐ Do not use the machine in an explosive atmosphere
- ☐ Do not use the machine as a means of transport
- ☐ Do not use acid solutions, which may damage machine and/or people
- ☐ Avoid working with the brushes when the machine is standing still, so as not to damage the floor
- ☐ Do not vacuum inflammable liquids
- ☐ Do not use the device to collect dangerous powders.
- ☐ In the event of a fire, use a powder extinguisher. Do not use water
- ☐ Do not knock against shelving or scaffolding, where there is a danger of falling objects
- ☐ Adapt the speed to the adhesion conditions
- ☐ Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- ☐ When the machine is in parking mode, remove the key and insert the parking brake
- ☐ The machine is designed to carry out the washing and drying operations simultaneously. Different operations should only be carried out in areas where the passage of unauthorised persons is prohibited. Signal the presence of damp floors with suitable signs
- ☐ If the machine does not work properly, check this is not caused by failure to carry out routine maintenance. Otherwise, request the intervention of the **COMAC** technical service
- ☐ If you need to replace any components, request the ORIGINAL spare parts from a **COMAC** dealer and/or Authorised Retailer
- ☐ Use only original **COMAC** brushes indicated in the paragraph "CHOOSING AND USING THE BRUSHES"
- ☐ In the event of danger, activate the emergency lever (connector placed under the operator's seat) immediately
- ☐ Before carrying out any maintenance work, switch off the machine and disconnect the battery connector
- ☐ ATTENTION: Restore all electrical connections after any maintenance operation
- ☐ Do not remove any protection devices which require the use of tools in order to be removed
- ☐ Do not wash the machine with direct water jets or with pressurised water, nor with corrosive substances
- ☐ After every 200 hours of operation, have the machine checked by a **COMAC** assistance centre
- ☐ To prevent the formation of scale in the solution tank filter, do not fill the tank with detergent solution many hours before using the machine.
- ☐ Before using the machine, check that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- ☐ Before you lift the recovery tank make sure it is empty
- ☐ When disposing of consumption materials, observe the laws and regulations in force.
- ☐ The machine does not cause harmful vibrations
- ☐ When your **COMAC** machine has reached the end of its long working life, dispose of the materials it contains (especially oils, batteries and electronic components) in an appropriate manner, and bearing in mind that the machine itself was constructed using 100% recyclable materials (see the paragraph "MACHINE DISPOSAL").
- ☐ The batteries must be removed from the machine before its disposal
- ☐ The batteries must be disposed of in a safe manner, fully observing the laws and regulations in force
- ☐ The machine is not suitable for use by children or people with reduced physical, mental and sensorial capacities, or people lacking experience and knowledge, unless supervised and instructed in the use of the machine by a person responsible for their safety
- ☐ The machine must be used mainly in closed areas, and must anyway not be parked outside, in the damp
- ☐ Check that all covers and tanks are correctly fixed onto the machine
- ☐ The elements of the batteries used must have a cell voltage no greater than 2.7V
- ☐ Children must be supervised to ensure they do not play with the device





## MACHINE PREPARATION

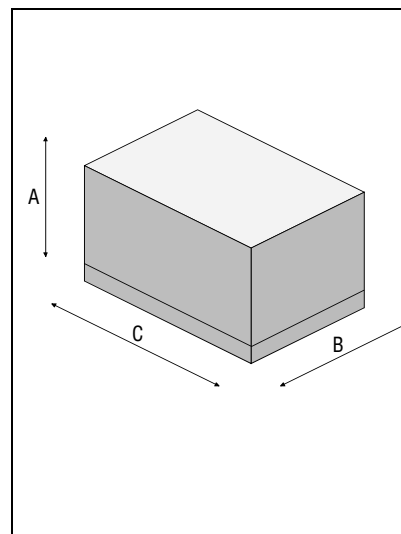
### 1. HANDLING THE PACKED MACHINE

The machine is contained in specific packaging with a pallet for the handling with fork trucks. The packages cannot be placed on top of each other.

The total weight is 410kg (without batteries)

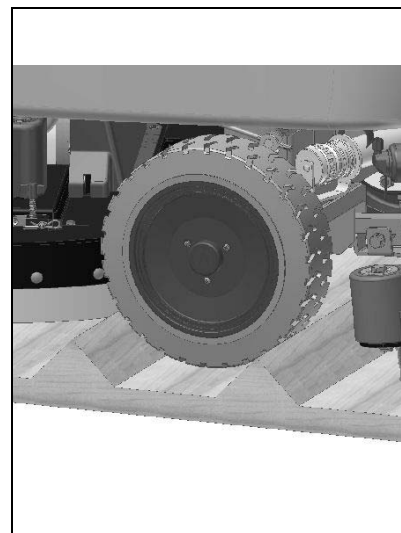
The Flexy 70 / 85 BS overall dimensions of the package are:

- A : 1550mm
- B : 1000mm
- C : 1740mm



### 2. HOW TO UNPACK THE MACHINE

1. Remove the outer packaging
2. The machine is fixed to the pallet with wedges which block the wheels
3. Remove the wedges
4. Use a chute to get the machine down from the pallet, pushing it backwards.
5. Keep the pallet for any future transport needs





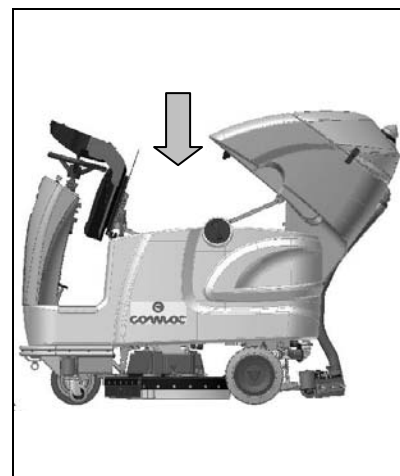
## MACHINE PREPARATION

### 3. FITTING THE BATTERIES INTO THE MACHINE

The batteries must be housed in the special compartment beneath the recovery tank. They should be handled using lifting equipment that is suitable in terms of both weight and hook-up system. They must also satisfy the requirements of Standard CEI 21-5. The dimensions of the battery compartment are: 538 x 620 x H460mm.

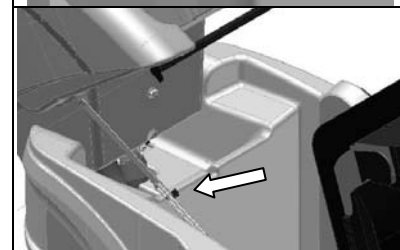
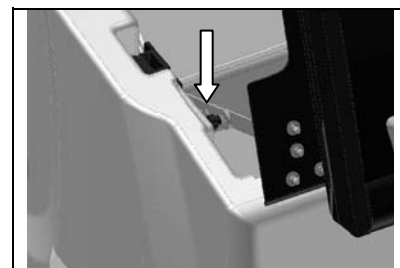


For battery maintenance and daily recharging, you must fully respect the indications provided by the manufacturer or retailer. All installation and maintenance operations must be carried out by specialised personnel.

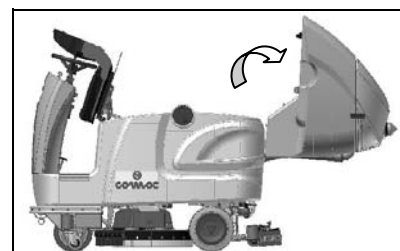


To insert the batteries you must:

1. make sure that the recovery tank is empty
2. lift the solution tank until it hooks to its safety clamp
3. lift the recovery tank until it hooks to its safety clamp
4. position the batteries

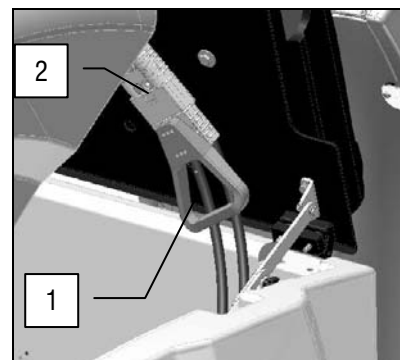


5. If necessary, you can increase tank rotation by loosening the knob and the locking nut. Turn the recovery tank until the battery case is inserted. After completing the work, reconnect the safety lock.
6. Release the safety clamps, then lower the tank and the seat



### 4. CONNECTING THE BATTERY CONNECTOR

The battery connector (1) is placed under the operator's seat, and must be connected to the machine connector (2).





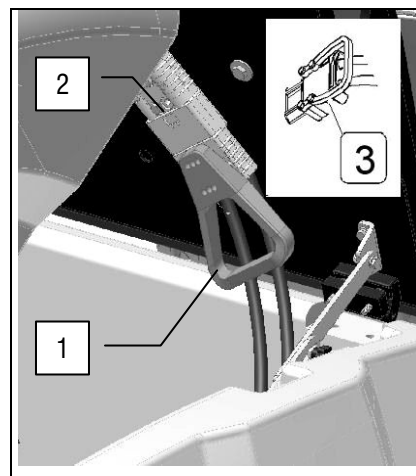
## MACHINE PREPARATION

### 5. CONNECTING THE BATTERY CHARGER

The battery connector is placed under the operator's seat. The lower part (1), connected to the batteries, must be detached from machine connector (2) and hooked up to the battery charger connector for charging. The coupling connector (3) is consigned inside the bag containing this instruction booklet, and must be assembled on the cables of the battery charger as indicated in the instructions (see the battery charger manual).



**ATTENTION!** This process must be carried out by qualified personnel. The incorrect or imperfect connection of the cables to the connector can cause serious harm to people and damage to objects.



### 6. RECHARGING THE BATTERIES

In order not to cause permanent damage to the batteries it is essential to avoid their complete discharge: arrange the recharge within a few minutes of the switching on of the flashing "discharged batteries" signal.

**NOTE:** never leave the batteries completely discharged, even if the machine is not being used. After every 20 recharging operations, check the level of the electrolyte and, if necessary, top up with distilled water.



**ATTENTION!** While recharging, keep the seat raised and blocked with the special prop. Check the battery charger is suitable for the batteries installed, in terms of both capacity and type (lead/acid or GEL and equivalents). **Never charge a GEL battery with an unsuitable battery charger.** Carefully follow the instructions given by the manufacturer of batteries and battery charger.



**Danger of exhalation of gas and leakage of corrosive liquids.**



**Danger of fire: do not go near with naked flames.**





## MACHINE PREPARATION

### 7. BATTERY CHARGE LEVEL INDICATOR

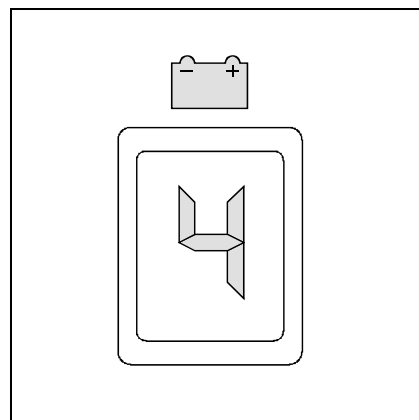
The digital battery indicator has 4 fixed positions and a flashing one. The numbers which appear on the display show the approximate charge level.

**4** = maximum charge, **3** = 3/4 charge, **2** = 2/4 charge, **1** = 1/4 charge,

**0** = discharged batteries (flashing)



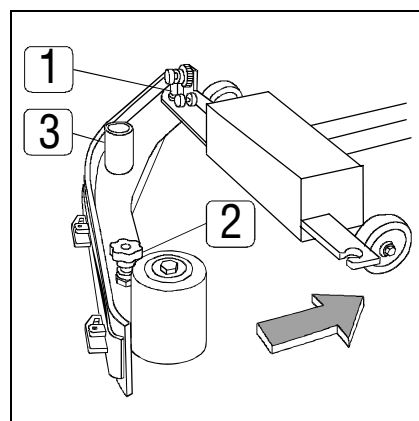
**ATTENTION!** A few seconds after the appearance of the flashing "0", the brush motor will switch off automatically. With the remaining charge it is possible to complete the drying process before starting the recharge.



### 8. ASSEMBLING THE SQUEEGEE

For packaging reasons, the squeegee is supplied disassembled from the machine, and must be assembled as shown in the figure. First threading left pin (1) of the squeegee into the left slot on the arm and then right pin (2) into the right slot, being careful to keep the spring and the washer above the arm's flat bar. This can be simplified by first loosening the handwheel on the pin. Then retighten the handwheel to block the squeegee in place.

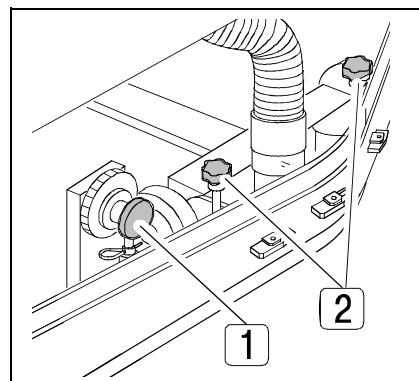
Insert the squeegee tube in the appropriate sleeve (3).



### 9. SQUEEGEE INCLINATION

During working operation, the rear rubber is slightly tilted backwards (by about 5mm) in a uniform way for its whole length.

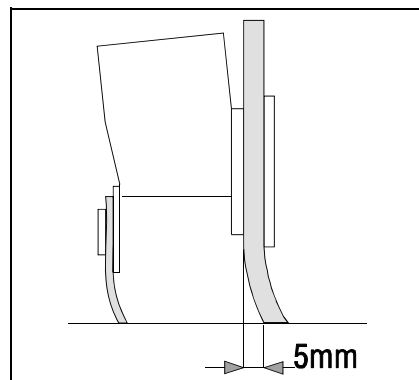
If it is necessary to increase the bend of the rubber in the central part, you must tilt the squeegee backwards, rotating the adjuster (1) anticlockwise. To increase the bend of the rubber at the sides of the squeegee, rotate the adjuster (1) clockwise.



### 10. ADJUSTING THE SQUEEGEE SUPPORT HEIGHT

The height of the squeegee must be adjusted on the basis of the state of wear and tear of the rubber. To do this, turn the knob (2) clockwise (tighten) to raise the squeegee, and anticlockwise (unscrew) to lower it.

**Note:** the right and left wheels must be adjusted to the same level, so the squeegee can work parallel to the floor.

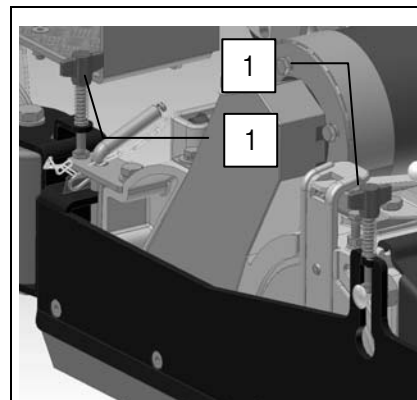




## MACHINE PREPARATION

### 11. ADJUSTING THE HEIGHT OF THE SPLASH GUARD RUBBER SUPPORTS

During operation, the splash guard of the base must touch the floor lightly. To alter the height of the support, and therefore of the splash guard rubbers, tighten or loosen the regulating knobs (1) so the rubber is parallel with the floor.

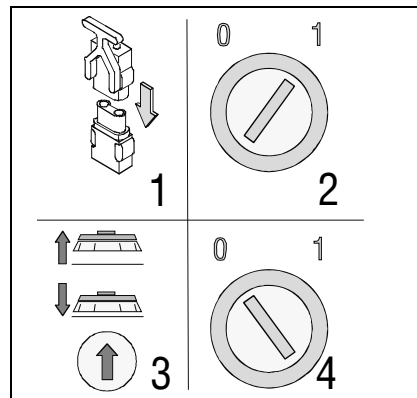


### 12. ASSEMBLING THE CYLINDRICAL BRUSHES

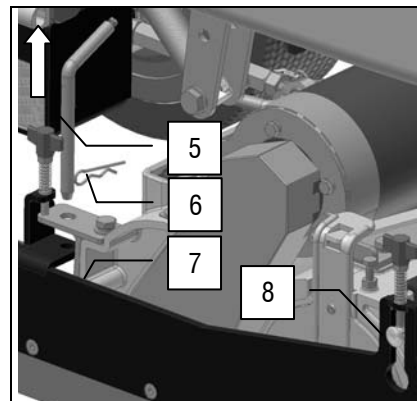
1. Connect the battery connector
2. Turn the key to position "1"
3. Move the lever to lift the base
4. Turn the key to position "0" and remove it from the electrical board



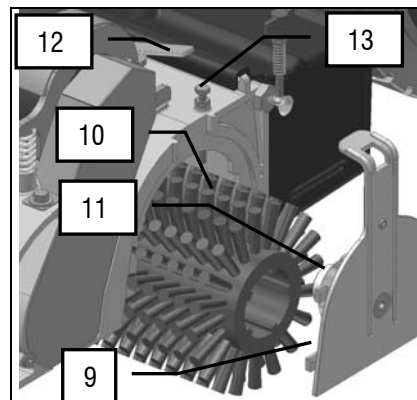
**ATTENTION!** During this operation, check there are no people or objects near the brush.



5. With the base up, release the clip (6) and unthread the front pin (5). Raise the splash guard support (7) until the fixing screw (8) is in line with the hole.
6. Rotate the support (7), releasing it from the screw (8), and unthread the left-hand splash guard.
7. To assemble the brush on the opposite side, repeat the same operations to unthread the right-hand splash guard.



8. To release the brush support plate (9), lower it until it touches the tunnel, then pull it outwards.
9. Insert the cylindrical brush (10) in the hole of the tunnel. Raise the brush, pushing it forwards until its hub is inserted in the driving pulley.
10. Insert the mobile pulley (11) - fixed to the brush support (9) - in the cylindrical brush (10).
11. Raise the support (9) and hook the teeth up to the tunnel shoulder. At the same time, lower the hook-up lever (12) until it is inserted in the square hole on the support (9).
12. Release the support (9) by pushing it slightly forwards until the end of its upward stroke.
13. Repeat the same operations for the right-hand brush support.
14. Adjust the alignment of the brushes by means of the screw (13), so the lower edge of the support (9) coincides with the end of the brushing tunnel.
15. Reassemble the side splash guards, repeating the release operations in the reverse order.

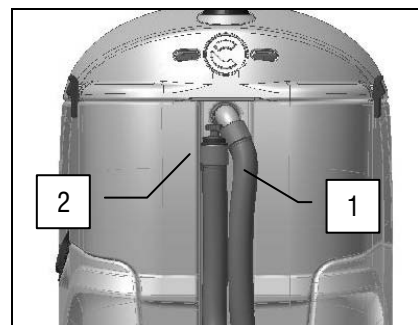




## MACHINE PREPARATION

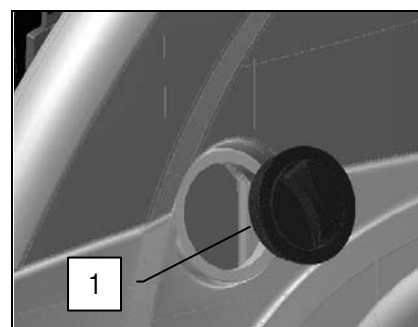
### 13. RECOVERY TANK

Check that the squeegee tube (1) and drainage tube are correctly positioned.  
Check that the plug (2) knob on the drainage tube is screwed



### 14. DETERGENT SOLUTION

Unscrew the tank plug (1) and fill with clean water at a temperature of not more than 50°C. Add the liquid detergent in the concentration and manner specified by the manufacturer. The formation of excess foam could damage the suction motor, so use only the minimum amount of detergent necessary.



**ATTENTION!** Always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. **Never use pure acid.** Replace into position the solution tank cover after filling.

### 15. EMPTY SOLUTION TANK DEVICE

When the solution tank is empty, the red indicator light on the instrument panel switches on, and it is therefore necessary to refill the tank with detergent solution before starting work.



### 16. AUTOMATIC WATER/DETERGENT DOSING SYSTEM (OPTIONAL)

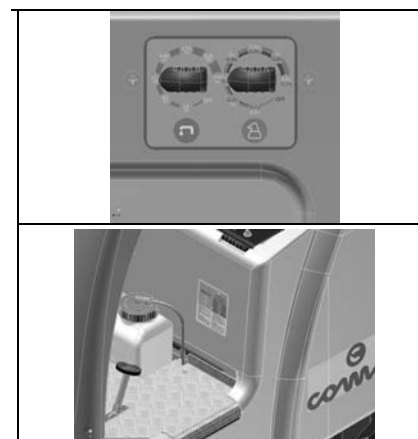
The machine is equipped with an automatic dosing system for dosing the water/detergent solution.

Thanks to the two levers on the machine steering column, this device allows you to regulate the quantities of water and detergent used. Fill the tank that is partly enclosed in the footrest (1) with liquid detergent, as indicated by the manufacturer. Check the screw cap is well closed, to avoid any liquid leaking out while the machine is being used.

To regulate the water/detergent mixture, see the chapter "Regulating the detergent"



**ATTENTION:** always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. Do not use pure acids.

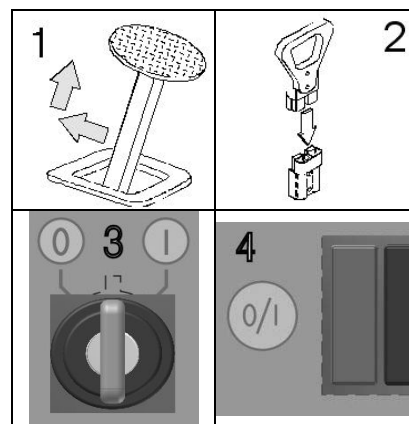




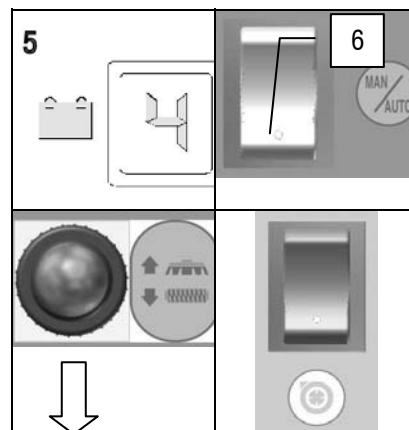
## WORK

### PREPARING TO WORK

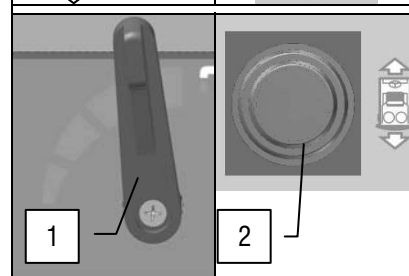
1. Carry out the operations to prepare the machine
2. Sit on the driver's seat
3. Check the parking brake is released (1)
4. Connect the connector to the batteries (2)
5. Turn the key of the main switch (3) a quarter of a turn clockwise. The main green indicator light (4) on the instrument panel will immediately turn on and the display will show the battery charge level (5)



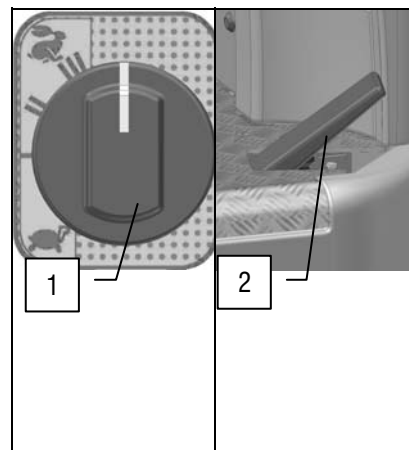
6. Place the switch on automatic mode (6)
7. Push the brush manipulator downwards to lower the base
8. Press the suction motor switch



9. Turn the tap lever up (1) and adjust to the right quantity of solution
10. If the machine is equipped with the automatic water/detergent dosing system (optional), the tap lever must always be in the fully open position
11. Position the selector on (2) forwards



12. Select the advance speed by turning the knob (1). The selector has three positions, indicated by the symbols: turtle = slow speed, middle position = normal speed, hare = fast speed  
The machine is fitted with a safety device to limit its speed on bends.
13. After pressing the accelerator pedal (2), the machine starts moving and the squeegee drops down.  
During the first metres, check there is sufficient solution and that the squeegee dries perfectly. The machine will now start to work efficiently until the detergent solution runs out.
14. The machine is fitted with a device that blocks the water flow on bends, to prevent any accidental leakage.





## WORK

### REGULATING THE AUTOMATIC WATER/DETERGENT DOSING SYSTEM (OPTIONAL)

The machine is supplied with the switches (on the instrument panel) already integrated. Two rubber caps are also supplied.

Once the regulation has been made, you can remove the knobs and cover the holes with the rubber caps.

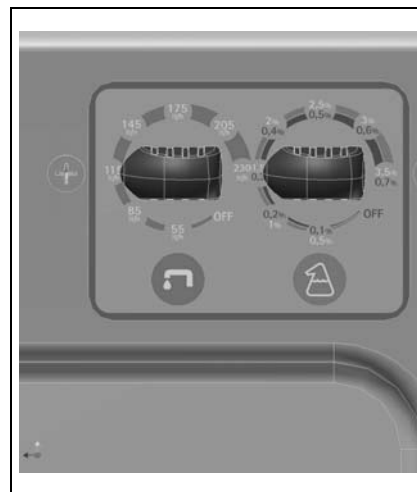
The left-hand knob allows you to regulate the water flow, while the right-hand one regulates the quantity of detergent.

The scale of detergent for each of the seven positions shows two values, expressed as percentages.

The inner scale refers to the use of concentrated detergents, while the outer scale refers to standard detergents.

To use standard detergents, just fill the tank with detergent. To use concentrated detergents, you must pour 1lt of concentrated detergent into the empty can, then fill it to the top with water.

In both cases, the water/detergent quantities must be decided on the basis of how dirty the floor is.



**ATTENTION:** the CDS automatic dosing system is designed to work with any liquid detergent. For this reason, the percentage of detergent in the solution is subject to a maximum error of 5% compared with the nominal value selected.



**ATTENTION!** This operation must be carried out using gloves to protect against contact with dangerous solutions.

Detergente standard Standard detergent	Detergente concentrato Concentrated detergent
0.5%	0.14%
1%	0.28%
1.5%	0.42%
2%	0.56%
2.5%	0.70%
3%	0.84%
3.5%	0.98%

**MODALITÀ D'USO:**  
Inserire la bottiglia a volume determinato di detergente nella tanica da 4 litri in dotazione.  
Scolloppare, trasferire il contenuto sul mucrono, la fu diluizione detergente procederà la valore indicato nella tabella.

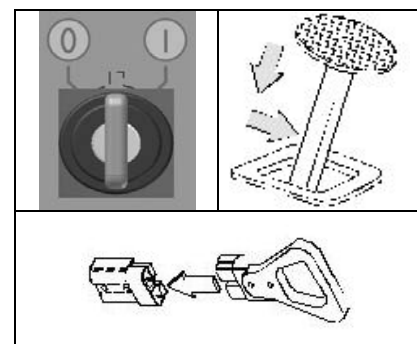
**MODALITÀ D'USO:**  
Versare 1 litro di detergente concentrato e riempire completamente di acqua la tanica da 4 litri in dotazione.  
Scolloppare, trasferire il contenuto sul mucrono, la fu diluizione detergente procederà la valore indicato nella tabella.

**INDICAZIONI:**  
Inserire la can in your directly the detergent into the 4-ltr can.  
Select with the knob on the instrument panel the dilution % you need among the values indicated in the table.

**INDICAZIONI:**  
Pour 1-ltr concentrated detergent and fill completely the measured 4-ltr can with water.  
Select with the knob on the instrument panel the dilution % you need among the values indicated in the table.

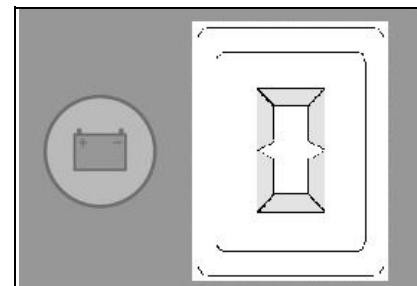
Whenever problems arise during operation turn off the key, set the emergency brake by pushing the lever down and pulling it towards yourself until it is hooked in place, then quickly detach the emergency lever placed below the operator. These commands block all moving machine parts. To start working again, once you have solved the problem, reconnect the connector, turn on the key and release the parking brake pedal.

**The machine will not start if the operator is not properly seated.**



A "flashing zero" appears on the display when the battery charge level is getting too low. The brush motor automatically turns off; batteries must be recharged as soon as possible.

A residual charge remains so you can complete the drying operation and move the machine to the recharging point







## WORK

### OVERFLOW DEVICE

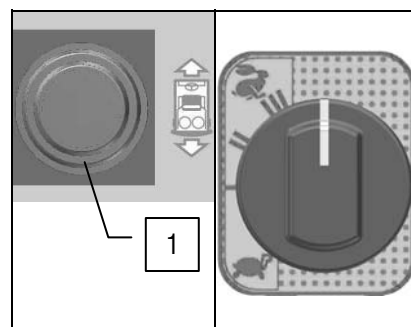
The machine is fitted with an overflow switch that intervenes when the recovery tank is full, causing the suction tube to close.

In this case you must empty the tank. To start working again turn the main key-operated switch off and on again

### TRACTION

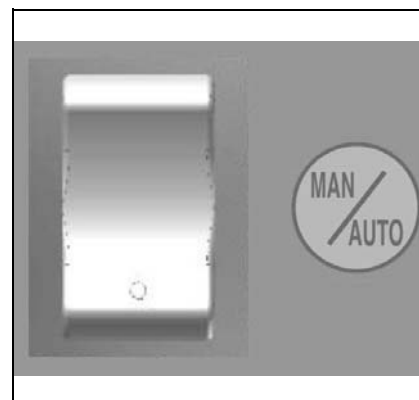
This machine is equipped with electronically commanded traction, with three speeds forwards and one backwards. To move the machine, it is necessary to turn the key and then move the manipulator (1) forwards (forward movement) or backwards (rear movement). Press the drive pedal and the machine will start to move. The movement speed can be adjusted by rotating the selector.

During reverse motion, the machine emits an acoustic signal

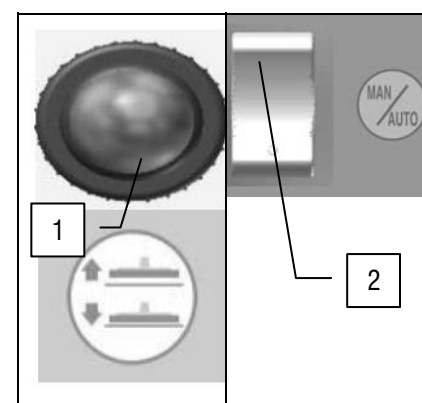


### MANUAL OPERATION

This machine is pre-set to work also in manual mode. In this case however, the rise of the squeegee during the backwards movement must be individually activated via the appropriate command.



**ATTENTION!** During reverse movements, when working in manual operating mode, always remember to lift the squeegee using manipulator (1). Use switch (2) to activate manual operating mode when moving the machine from work site to work site.

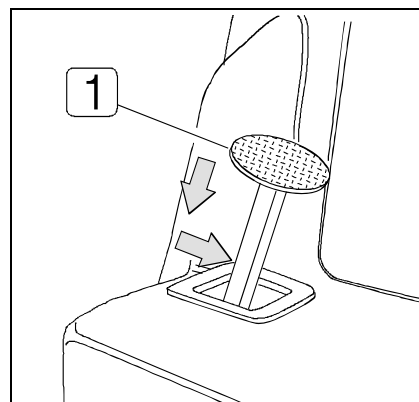




## WORK

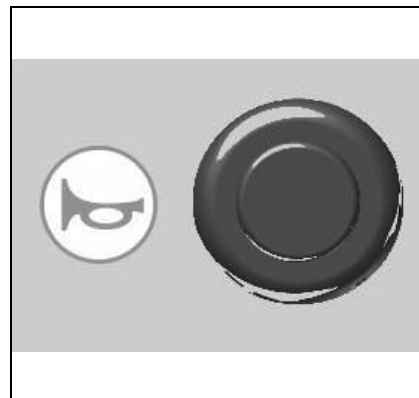
### BRAKES

The machine has an electronic braking system. To brake, in normal conditions, just remove your foot from the accelerator pedal. If the service brake does not operate properly or in case of need (parking, danger, etc.) actuate the pedal-operated mechanical brake by pushing it down and pulling it towards yourself until the lever is hooked up (1).



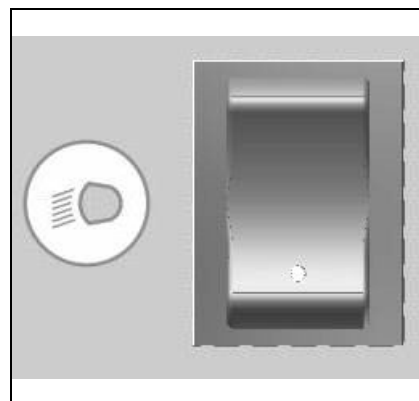
### ACOUSTIC ALARM

The machine is fitted with an acoustic alarm, commanded from the button on the electrical commands instrument panel.



### LIGHTS

The machine is fitted with front and rear work lights. To turn them on, press the switch on the electrical commands instrument panel.



### FLASHING LIGHT

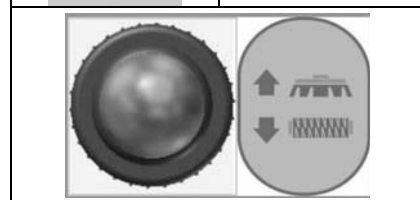
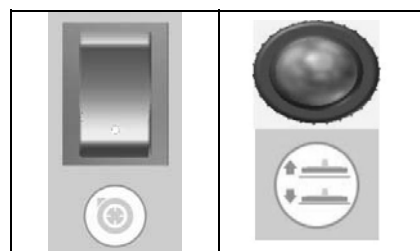
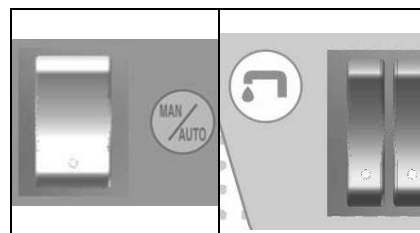
The machine has a flashing light that turns on automatically when the key in the main switch is turned on.



## AT THE END OF THE WORK

At the end of the work, and before carrying out any type of maintenance, perform the following operations:

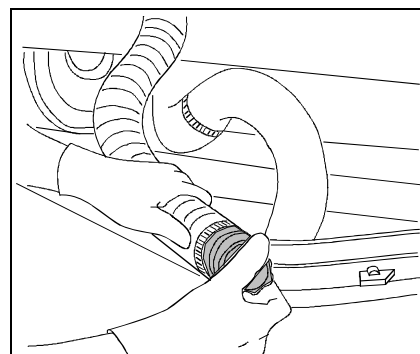
1. turn off the tap
2. set the "AUTO/MAN" switch on manual (yellow indicator light off)
3. switch off the solenoid valve switch
4. Switch off the suction motor switch
5. Lift the squeegee using the manipulator
6. Lift the base using the manipulator
7. Bring the machine to the place provided for draining the water
8. Turn the key a quarter of a turn counter-clockwise to turn the machine off



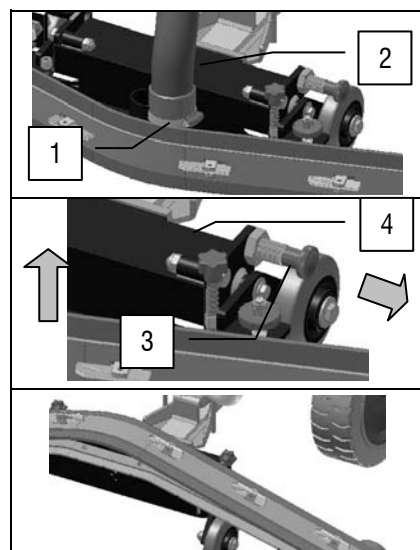
9. Disconnect the tube from its seat, unscrew the drainage cap and empty the recovery tank.



**ATTENTION!** This operation must be carried out using gloves to protect against contact with dangerous solutions.



11. Clean the squeegee with a jet of water. The squeegee must be raised when the machine is not operating, to avoid deforming the rubber blades. To facilitate the cleaning of the rubbers, the squeegee can be rotated forwards.
12. Disconnect the metal clamp (1) and remove the suction tube (2) from the squeegee suction sleeve
13. Pull out the knob (3) and raise the support (4).
14. Rotate the squeegee forwards until it locks. The knob (3) will hook up to the support (4) so as to stop the squeegee from moving back.
15. After cleaning the rubbers, bring the squeegee back to its initial position by pulling the knob and rotating the support backwards until it is hooked.





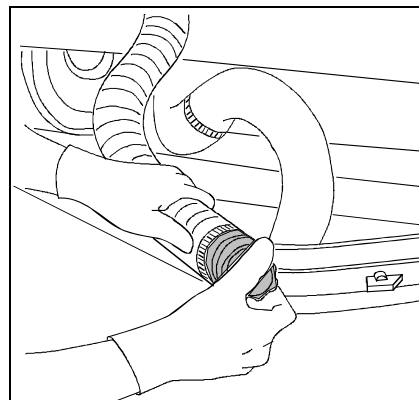
## DAILY MAINTENANCE

### CLEANING THE RECOVERY TANK

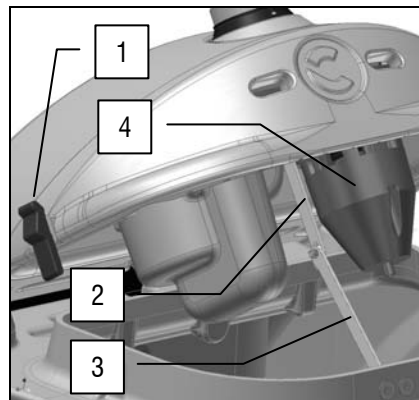
1. Empty the tank through the hose, turning the knob a few turns and then pulling out the drain plug



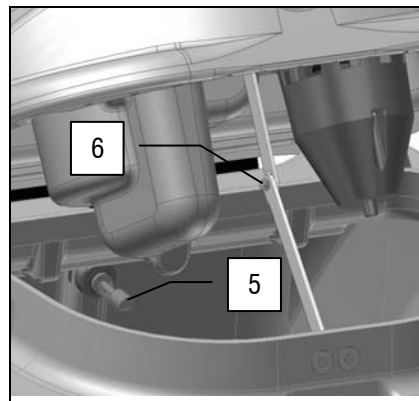
This operation must be carried out using gloves to protect against contact with dangerous solutions.



2. Disconnect the hinges of the suction cap (1) from the tank
3. Raise the cap until the prop (2) is hooked to the prop (3) of the recovery tank.
4. Check the filter inside the cover (4) is clean and, if necessary, loosen the cover fixing screws and carefully rinse the filter



5. Check the electric float (5) inside the tank is clean
6. Rinse the recuperation tank and clean the drain plug
7. Reposition the cap on the drainage tube and lower the suction cap. To release the props (2 and 3), just raise the cap slightly, push the connection joint (6) forwards and lower it again until the props rotate between them
8. Reconnect the hinges to the recovery tank



### CLEANING THE SQUEEGEE

Clean the squeegee with a jet of water. Check the condition of the rubbers and reverse or replace them as necessary. Careful cleaning of the entire aspiration unit ensures a longer working life for the aspiration motor.  
Clean the squeegee tube and make sure it is not clogged.

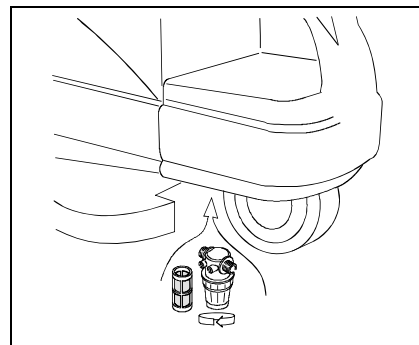


## DAILY MAINTENANCE

### CLEANING THE SOLUTION TANK AND FILTER

With the solution tank empty:

1. turn on the tap
2. unscrew and carefully rinse the filter
3. remove the plug from the solution tank refill opening
4. rinse the inside of the tank with a jet of water
5. remove and clean the filter cartridge
6. reassemble everything, repeating the above-mentioned operations in the reverse order

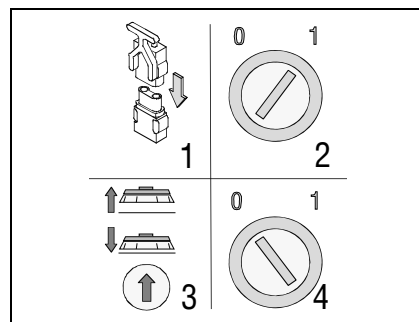


### DISASSEMBLING AND CLEANING THE CYLINDRICAL BRUSHES

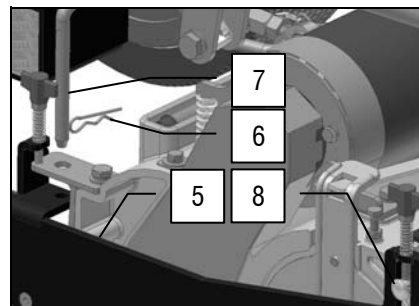
1. Connect the battery connector if it is not already connected
2. Turn the key to position "1"
3. Use the manipulator to lift the base (if it is not already raised)
4. Turn the key to the 0 position and remove it from the panel (carrying out the brush disassembly operation with the power supply connected may cause injuries to the hands).



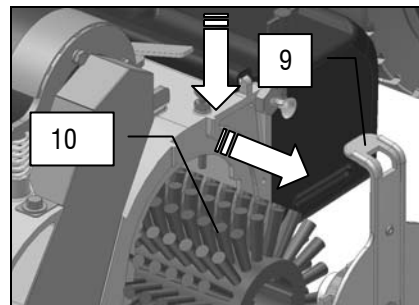
**ATTENTION!** This operation **must be carried out using gloves to protect against contact with dangerous materials and solutions.**



5. With the base up, release the clip (6) and unthread the lower pin (7)
6. Raise the splash guard support (5) until the fixing screw (8) is in line with the respective hole.
7. Remove the splash guard support (5), resting it on the floor.

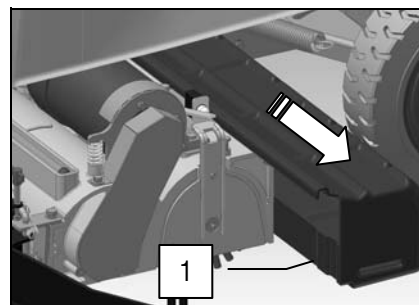


8. Push the brush support plate (9) downwards, then pull it outward until it is released from the brush.
9. Release the cylindrical brush (10) by pulling it towards you then removing it from the tunnel
10. Clean the bristles of the brush with a jet of water
11. Reassemble the cylindrical brushes (see ASSEMBLING THE CYLINDRICAL BRUSHES)



### CLEANING THE DRAWER

1. Remove the left-hand side splash guard
2. Unthread the hopper (1)
3. Empty the drawer and clean it with a jet of water
4. Reassemble the hopper
5. Reassemble the left-hand side splash guard



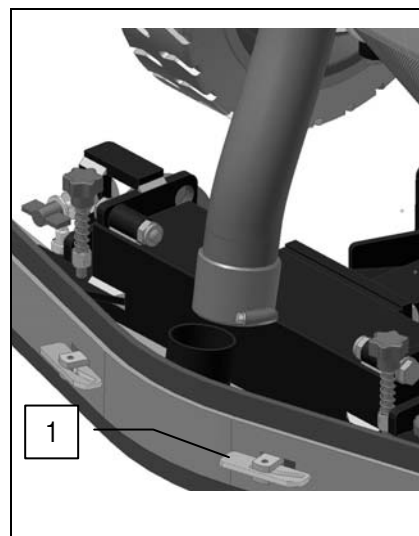


## WEEKLY MAINTENANCE

### REPLACING THE REAR SQUEEGEE RUBBER

If the squeegee rear rubber is worn and does not dry well, it is possible to change the drying edge, proceeding as follows:

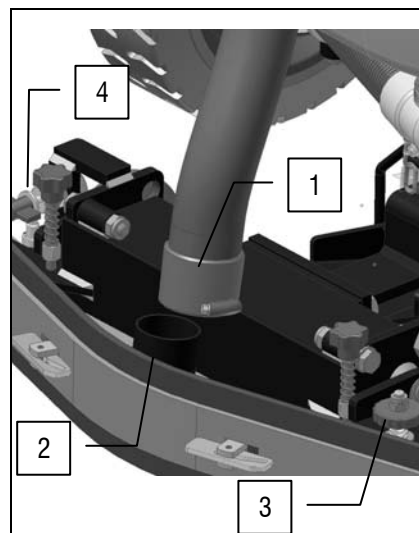
1. push and rotate the fixing plates (1)
2. remove the rubber-pressing blade and the rubber itself
3. turn the rubber upside-down and, if necessary, replace it
4. reassemble everything, carrying out the above-mentioned operations in the reverse order
5. adjust the height of the squeegee depending on the rubber (see "ADJUSTING THE HEIGHT OF THE SQUEEGEE SUPPORT")



### REPLACING THE FRONT SQUEEGEE RUBBER

Suction will be poor and the machine will not dry perfectly if the front squeegee rubber is worn. Proceed as follows to replace:

1. With the squeegee up, unthread the suction tube (1) from the squeegee sleeve (2)
  2. Loosen the ring nut (3) until it touches the nut.
  3. Push the squeegee to the left, unthreading the inclination adjustment column (4) from the squeegee support seat.
  4. Loosen the screws that clamp the front rubber
  5. Remove the rubber-pressing blade
  6. Pull out and replace the front rubber
- Reassemble everything, carrying out the above-mentioned operations in the reverse order



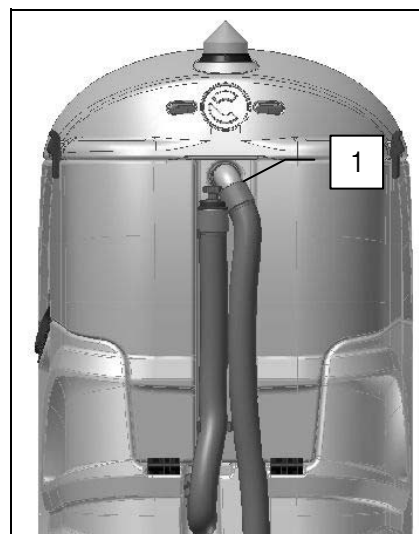
### CLEANING THE SUCTION TUBE

Whenever suction seems to be unsatisfactory, check that the suction tube is not obstructed. If necessary, clean it with a water jet introduced from the side where it is connected to the tank. Proceed as follows:

1. Detach the aspiration tube from the seat (1) on the recuperation tank
2. Clean it with a water jet introduced from the side where it is connected to the tank
3. Reassemble everything, carrying out the above-mentioned operations in the reverse order



**ATTENTION!** This operation must be carried out using gloves to protect against contact with dangerous solutions.





## EXTRAORDINARY MAINTENANCE

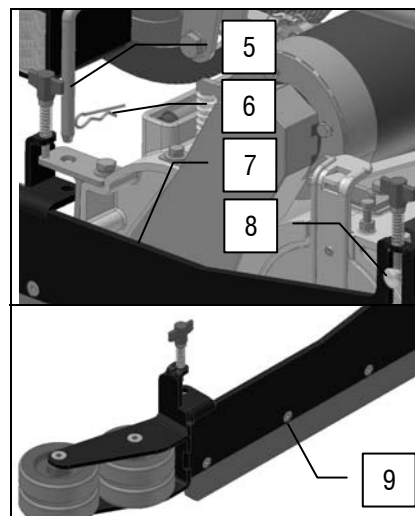
### REPLACING THE BASE SPLASH GUARD

To ensure water is picked up efficiently during machine operation, you must regularly check the state of wear of the side splash guards. To replace them, proceed as follows:

1. With the base up, release the clip (6) and unthread the front pin (5)
2. Raise the splash guard support (7) until the fixing screw (8) is in line with the respective hole, then unthread the splash guard.
3. Loosen the screws (9) that fix the blade which locks the splash guard rubber.
4. Unthread the splash guard rubber, rotating it by 180° so the worn part can be replaced with a new one. If the splash guards are worn on all sides, replace them with new rubbers (contact the COMAC Technical Assistance Centre)
5. Reassemble everything, carrying out the above-mentioned operations in the reverse order



**ATTENTION!** This operation must be carried out using gloves to protect against contact with dangerous solutions.

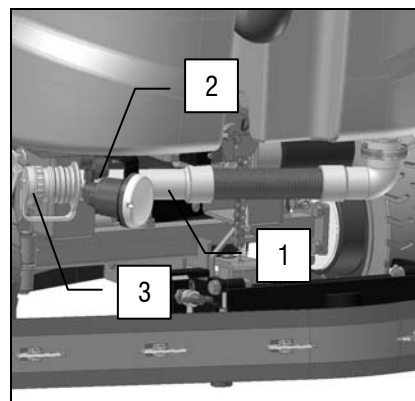


### CLEANING THE RECOVERY TANK

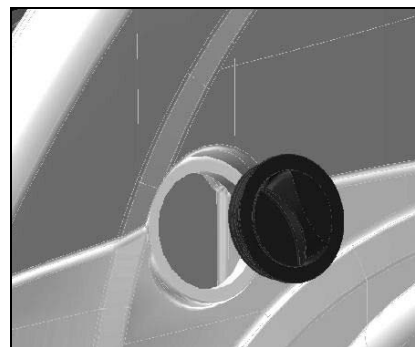
1. Empty the recovery tank via the flexible tube, unhooking the hose (1) from the support (2)
2. Open the nozzle, unscrewing the closing flange (3)



**ATTENTION!** This operation must be carried out using gloves to protect against contact with dangerous solutions.



3. Open the tank closing cap and rinse inside
4. Clean the nozzle and tighten the flange
5. Reposition the hose on the support and reclose the tank cap



### AUTOMATIC WATER/DETERGENT DOSING SYSTEM (OPTIONAL)

The automatic water/detergent dosing system does not require any special maintenance, apart from an occasional check of the detergent suction filter in the tank.

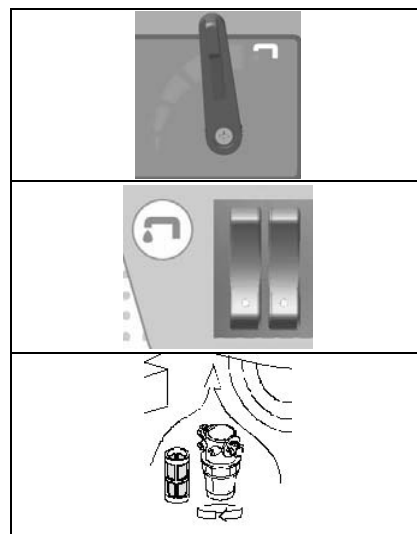
Check it, and clean it if necessary.



## TROUBLESHOOTING

### INSUFFICIENT WATER ON THE BRUSHES

1. Check the tap is turned on
2. Check the solenoid valve switch is on
3. Check there is water in the solution tank
4. Clean the solution filter



### THE SQUEEGEE DOES NOT DRY PERFECTLY

1. Check the squeegee is clean
2. Check the regulation of the squeegee (see "MACHINE PREPARATION")
3. Clean the entire suction unit (see "WEEKLY MAINTENANCE")
4. Replace the rubbers, if worn

### THE MACHINE DOES NOT CLEAN WELL

1. Check the state of wear and tear of the brushes and, if necessary, replace them. The brushes should be changed when the bristles are about 15mm long. To replace them, see "REPLACING THE BRUSHES", or "DISASSEMBLING THE BRUSHES" and "ASSEMBLING THE BRUSHES". Working with over-worn brushes may cause damage to the floor.
2. Use a different kind of brush to the one fitted as standard. For cleaning floors where the dirt is particularly resistant, we recommend the use of special brushes supplied upon request and according to needs (see "CHOOSING AND USING THE BRUSHES").

### EXCESSIVE FOAM PRODUCTION

Check that a low foam detergent has been used. If necessary, add a small quantity of antifoam liquid to the recovery tank.

Remember that, when the floor is not very dirty, more foam is generated. In this case the detergent solution should be more diluted.





## TROUBLESHOOTING

### THE SUCTION MOTOR DOES NOT FUNCTION

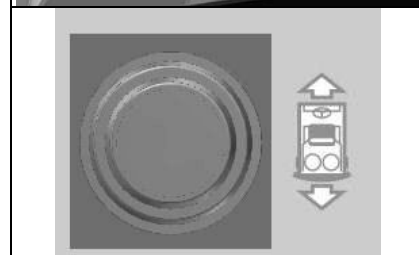
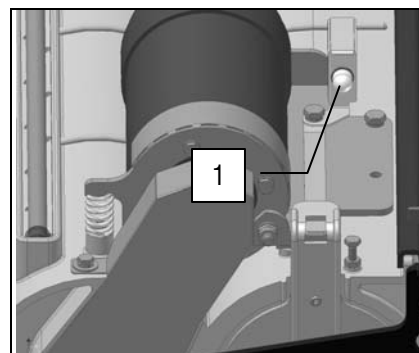
1. Check whether the motor indicator light is lit up
2. Check whether the recovery tank is full and, if necessary, empty it
3. Check the float switch is working well (see also "CLEANING THE RECOVERY TANK" in the chapter "DAILY MAINTENANCE")



### THE BRUSH MOTORS DO NOT WORK

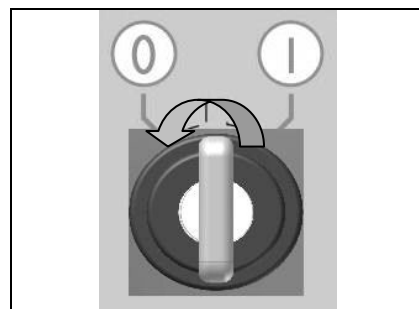
**ATTENTION** To avoid damaging the floor, the motors only start up when the machine is moved forwards. In addition, to avoid damaging the electric motors in the event of an excessive workload, a thermal protection device has been fitted on each motor.

1. Check no thermal protection device has intervened. If the motors overheat, wait a few minutes until they have cooled down then press the trip unit button (1) next to each motor.
2. Check the electrical connector of the brushing unit is correctly connected with the safety connector.
3. Check the base is down
4. The operator must be properly seated in the driving position
5. Check the power supply indicator light is lit up and the forwards manipulator is inserted on forwards or backwards
6. Press the working operation command pedal to activate the brush motors. If the problem persists, contact the COMAC Technical Assistance Centre.



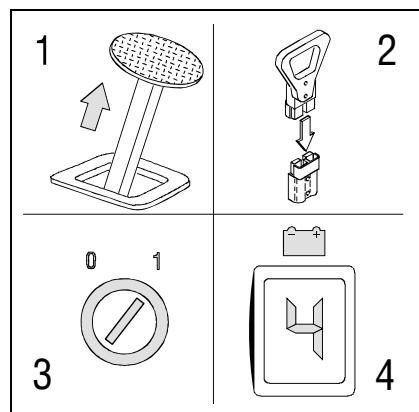
### IT IS IMPOSSIBLE TO RAISE OR LOWER THE BASE OR SQUEEGEE

1. The machine is fitted with electrical protection devices that control the base and squeegee ascent/descent motor reducers. In the event of overloading, the fuses interrupt the power supply. After checking and removing the reason for the problem, to reset them just switch the machine off then on again. If the problem persists, contact the COMAC technical assistance centre.



### THE MACHINE DOES NOT START

1. The operator must be properly seated in the driving position
2. Check the parking brake pedal (1) is released
3. Check that connector (2) is connected to the batteries
4. Check the key switch (3) is on
5. Check that batteries (4) are charged



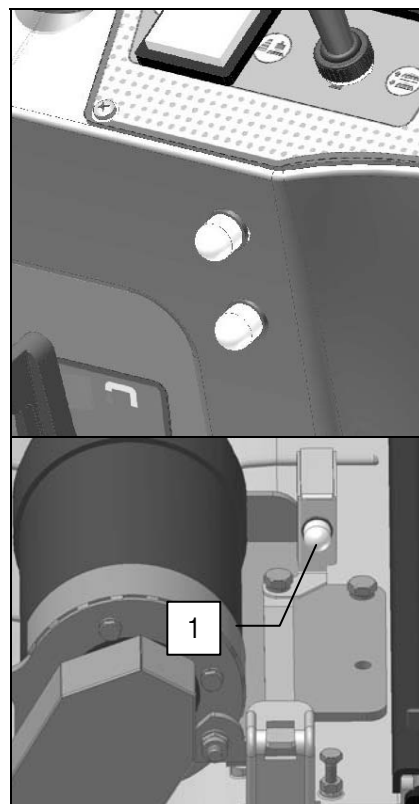


## TROUBLESHOOTING

### ELECTRIC FUSES AND THERMAL CUT-OUTS

The machine is fitted with the following electrical protection systems:

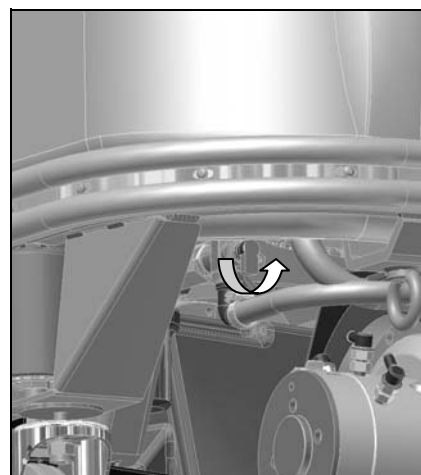
1. power fuses arranged in the electrical box, to protect against short-circuiting
2. thermal trip units arranged on the outside, on the column, to protect:
  - General 50 A trip unit for two base motors
  - Single 20 A trip unit (1) for each base motor
  - 25 A trip unit for suction motor



### THE AUTOMATIC WATER/DETERGENT DOSING SYSTEM DOES NOT WORK

The automatic water/detergent dosing system has been designed with criteria of extreme sturdiness and reliability, but there is a special by-pass system that allows you to use the machine even if the system is out-of-use.

To by-pass the automatic water/detergent dosing system, you must rotate the tap lever on the front right of the machine upwards; in this way you can go on working even with the system out-of-use. Remember, however, to put not only water in the solution tank, but the right quantities of both water and detergent. With the dosing system out-of-use, the water flow is regulated via the tap on the steering column. Contact an Authorised Retailer to have the system repaired.



### ALARMS

The machine is fitted with a flashing indicator light for diagnosing system anomalies and checking the traction motor. Each sequence (number of consecutive flashes) indicates a particular type of fault. When flashing begins (with an accompanying working fault), you should contact the technical assistance centre, specifying the number of flashes.





## CHOOSING AND USING THE BRUSHES

### POLYPROPYLENE BRUSH (PPL)

Used on all types of floors. Good resistance to wear and tear, and hot water (no greater than 60°C.). The Polypropylene brush is non-hygroscopic and therefore retains its characteristics even when working in wet conditions.

### ABRASIVE BRUSH

The bristles of this type of brush are charged with highly aggressive abrasives. It is used to clean very dirty floors. To avoid floor damage, work only with the pressure strictly necessary.

### THICKNESS OF THE BRISTLES

Thicker bristles are more rigid and are therefore used on smooth floors or floors with small joints.

On uneven floors or those with deep joints, it is advisable to use softer bristles which can enter the gaps more easily.

Remember that when the bristles are worn and therefore too short, they will become rigid and are no longer able to penetrate and clean deep down. In this case, like with over-large bristles, the brush tends to jump.

TABLE FOR CHOOSING THE BRUSHES

Machine	N° Brush	Code	Type of bristles	Ø Bristles	Ø Brush	Length	Colour
FLEXY 70 BS	2	405597	PPL	0.7	150	678	WHITE
		405599	PPL	0.8			YELLOW
		405598	PPL	1.0			BLACK
		405600	ABRASIVE	1.2			GREY
FLEXY 85 BS	2	404650	PPL	0.7	150	828	WHITE
		404651	PPL	1.0			WHITE
		404652	ABRASIVE	1.2			GREY



## MACHINE DISPOSAL

### MACHINE DISPOSAL

To dispose of the machine, take it to a demolition centre or an authorised collection centre.

Before scrapping the machine it is necessary to remove and separate the following materials and send them to the appropriate collection centres in accordance with the environmental hygiene regulations currently in force:

- brush
- felt/pads
- electric and electronic parts\*
- batteries

(\*) In particular, to scrap the electric and electronic parts, contact your area distributor.





## EC DECLARATION OF CONFORMITY

The undersigned company:  
**COMAC S.p.A.**  
Via Ca' Nova Zampieri no. 5  
37057 San Giovanni Lupatoto (VR), Italy  
Declares under its sole responsibility that the

### **FLOOR SCRUBBER-DRYER mod. FLEXY 70BS-FLEXY 85BS**

complies with the requirements of the following Directives:

- 98/37/EEC: Machinery Directive
- 2004/108/EC: Electromagnetic Compatibility Directive and subsequent modifications.

It also complies with the following standards:

- EN 60335-1: Household and similar electrical appliances - Safety. Part 1: Generic standards
- EN 60335-2-72: Household and similar electrical appliances. Part 2: Generic standards for automatic machines for floor treatment for commercial and industrial use
- EN 12100-1: Machine safety - Fundamental concepts, fundamental principles of design - Part 1: Basic terminology and methodology
- EN 12100-2: Machine safety - Fundamental concepts, fundamental principles of design - Part 2: Technical principles
- EN 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Standard emission for residential, commercial and light-industrial environments
- EN 61000-6-1: Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments
- EN 50366: Household and similar electrical appliances - Electromagnetic fields Methods for evaluation and measurement

San Giovanni Lupatoto (VR), 05/02/2007

COMAC S.p.A.

Legal representative  
Giancarlo Ruffo

**COMAC spa**

Via Cà Nova Zampieri, 5 – 37057 San Giovanni Lupatoto – Verona – ITALY  
Tel. +39 045 8774222 – Fax +39 045 8750303 – E-mail: [com@comac.it](mailto:com@comac.it) or [info@comac.it](mailto:info@comac.it) - [www.comac.it](http://www.comac.it)