

MANUAL USE AND MAINTENANCE



ULTRA 85B
ULTRA 100B

ED. 01-2009

EN

Doc. 10004922
Ver. AB



The contained descriptions in the present publication are not binding. The company therefore reserves itself the right to bring in whatever moment possible organs changes, details or supplies of accessories, that it holds convenient for an improvement, or for any demand of constructive or commercial character.

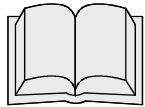
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The company reserves itself the right to bring changes of technical character and/or of endowment. The images are meant of pure reference and not binding in terms of design and endowment.

Symbols used in the manual



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



TABLE OF CONTENTS

TABLE OF CONTENTS	1
ON CONSIGNMENT OF THE MACHINE.....	2
MACHINE PLATE.....	2
PREFACE	2
SYMBOLOLOGY USED ON THE MACHINE.....	4
SIMBOLOGY USED IN THE USER MANUAL	7
GENERAL RULES OF SECURITY	8
MACHINE PREPARATION	9
1. HANDLING OF THE PACKED MACHINE	9
2. HOW TO UNPACK THE MACHINE.....	9
3. INSTALLATION OF THE BATTERIES INTO THE MACHINE	10
4. CONNECTION OF THE BATTERY CONNECTOR.....	10
5. CONNECTION OF THE BATTERY CHARGER.....	11
6. RECHARGE OF THE BATTERIES.....	11
7. LEVEL INDICATOR FOR THE CHARGE OF THE BATTERIES	11
8. SQUEEGEE.....	12
9. ADJUSTMENT HEIGHT SQUEEGEE SUPPORT.....	12
10. BRUSHES ASSEMBLY	13
11. SOLUTION WATER	14
12. RECOVERY TANK	14
DURING WORK	15
ON COMPLETION OF THE WORK.....	19
DAILY MAINTENANCE.....	20
WEEKLY MAINTENANCE	24
FUNCTIONING CONTROL	25
TROUBLE SHOOTING GUIDE	26
CHOICE AND USE OF BRUSHES	27
EC DECLARATION OF CONFORMITY	28



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 have been received and moreover to find out that the machine has not suffered damage during transportation. If damage has occurred, get the shipping agent to verify immediately the amount and nature of the damage suffered and at the same time inform our claim department. It is only by prompt action of this type that compensation for damage may be successfully claimed.

Machine plate



Preface

This is a floor cleaning machine which, using the mechanic abrasive action of two rotary brushes and the chemical action of a solution water-detergent, is able to clean any type of floor, picking up during its advance movement, the removed dirt and the detergent solution which has not been absorbed from the floor.

The machine must be used only for such purpose. We would impress upon you that any machine will function efficiently and operate successfully, only if used correctly and maintained in fully efficient working order. We therefore suggest you to read this instruction booklet carefully and re-read it whenever difficulties arise in the course of machine use. Our Service Department is at your disposal for all such advice and servicing as may prove necessary.



TECHNICAL DATA		ULTRA 85B	ULTRA 100B
Cleaning width	mm	830	1000
Base side movement	mm	100	100
Squeegee width	mm	1115	1265
Working capacity	m ² /h	3800	4500
Water consumption	g/m ²	90	90
Brushes	Ø mm	430	510
Brushes rpm	giri/min	180	180
Brushes pressure	kg	130max	150max
Max. specific pressure	g/cm ²	54	52
Brush motor	V	36	36
Brush motor	W	1500	2000
Traction motor	V	36	36
Traction motor	W	1500	1500
Traction wheel	Ø mm	300	300
Movement speed	km/h	0÷6.5	0÷6.5
Max gradient at full load		10%	10%
Suction motor	V	36	36
Suction motor	W	670	670
Suction vacuum	mbar	190	190
Rear elastic wheel	Ø mm	370x105	370x105
Solution tank	l	200	200
Recovery tank	l	215	215
Steering diameter	mm	2500	2500
Machine length	mm	1965	1965
Machine height	mm	1560	1560
Machine width (without squeegee)	mm	895	1045
Batteries	V/Ah	36/360max	36/360max
Batteries weight	kg	430max	430max
Batteries weight (empty and without batteries)	kg	535	556
Noise level (in conformity with IEC 704/1)	dB (A)	62,6	62,6
Livello di vibrazione alla mano	m/s ²	2,99	2,78
Body vibration level	m/s ²	0,96	0,92



SYMBOLGY USED ON THE MACHINE



Symbol denoting solenoid valve open
It is used to indicate the solenoid valve switch



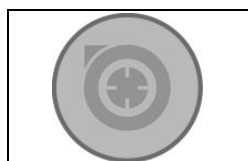
Symbol denoting solution tank empty



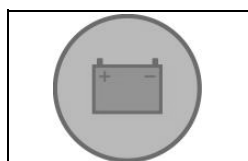
Symbol denoting up - down of the brushes base
It is used to indicate the signal lamp of the brushes actuator when operating



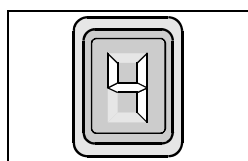
Symbol denoting brush
It is used to indicate the brushes motor switch



Symbol denoting suction motor
It is used to indicate the suction motor switch



Symbol denoting the batteries



Symbol denoting charge level of the batteries



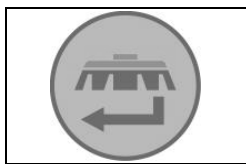
Symbol denoting brake
It is used to indicate the signal lamp of the hand brake on



Symbol denoting brake
It is used to indicate oil shortness in the working brake system
It is used on top of the emergency brake lever

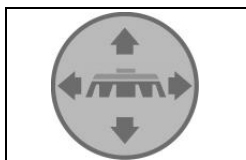


SYMBOLGY USED ON THE MACHINE



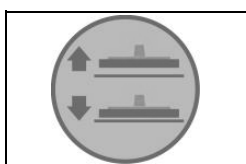
Symbol of endstroke side brush base movement

It is used on the dashboard to indicate the green lamp which mean that the brush base is totally moved to the left



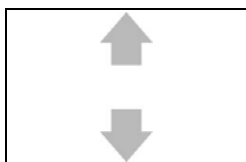
Symbol of manipulator of the brush.

It is used to indicate the manipulator of the brush base. At side movement of the manipulator side movement of the brush base corrispond. To longitudinal movement of the manipulator vertical movement of the rush base corrispond



Symbol denoting up - down of the squeegee

It is used to indicate the commutator for the squeegee lifting



Symbol denoting the lowered brush base.

It is used to indicate the green lamp which means presence of brush base on the floor.



Symbol denoting amperometric control of the brushes motor (red signal lamp)

The signal lamp comes on when the brushes motor is under stress

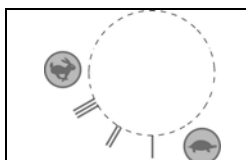


Symbol denoting pressure carried on the brush

It is used on the dashboard to denote the switch which increase the pressure carried on the brushes.



Symbol denoting regulation cock

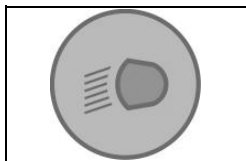


Symbol denoting speed selector forwards and backwards



Symbol denoting horn

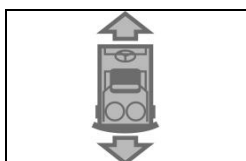
It is used on the dashboard to denote the horn button.



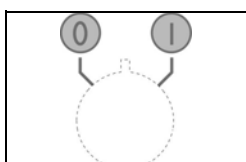
Symbol denoting the switches of the blinking and working lights



Symbol denoting the automatic or manual functioning
It is used to denote the manual or automatic functioning of the squeegee



Symbol denoting the direction manipulator.
It is used on the dashboard to denote the manipulator of the direction



Symbol of turned on or turned off.
It is used on the dashboard to denote the key switch to turn on or turn off the machine



Symbol denoting some functionality problem
It is used on the dashboard to indicate the red lamp which shows anomalies in machine functioning



Symbol denoting chemical
It is used on the chemical tank lid to denote the presence of chemical substances



Symbol denoting the regulation of water quantity and chemical percentage (optional)
It is used on the lateral left panel to denote the knobs which regulate the chemical percentage and the water quantity on the water



SIMBOLOGY USED IN THE USER MANUAL



Denotes the waste disposal
Follow the regulations



Denotes the risk of gas exhalation and the corrosive liquid leakage



Denotes the fire hazard
Do not approach with flames



GENERAL RULES OF SECURITY

The rules below have to be followed carefully in order to avoid damages to the operator and to the machine.

- ☐ Read the labels carefully on the machine. Do not cover them for any reason and replace them immediately if damaged
- ☐ The machine must be used exclusively by authorized staff that has been instructed for its use
- ☐ During the working of the machine, pay attention to other people and especially to the children
- ☐ Do not mix different detergents, avoiding harmful odours
- ☐ Do not place any liquid containers onto the machine
- ☐ The storage temperature has to be between - 25° C and + 55° C
- ☐ The perfect operating temperature should be between 0° C and 40° C
- ☐ The humidity should be between 30 and 95 %
- ☐ Do not use the machine in explosive atmosphere
- ☐ Do not use the machine as a means of transport
- ☐ Do not use acid solutions which could damage the machine
- ☐ Avoid working with the brushes when the machine stands still, in order to prevent floor damages
- ☐ Do not vacuum inflammable liquids
- ☐ In case of fire, use a powder extinguisher. Do not use water
- ☐ Do not strike shelvings or scaffoldings, where there is danger of falling objects
- ☐ Adapt the utilization speed to the adhesion conditions
- ☐ Do not exceed over the limit gradient stated, to avoid conditions of instability
- ☐ When the machine is in parking position, take off the key and insert the parking brake
- ☐ The machine has to carry out simultaneously the operations of washing and drying. Different operations have to be carried out in areas which are not permitted for the passage of non employed staff. Signal the areas of moist floors with suitable signs
- ☐ If the machine does not work properly, check by conducting simple maintenance procedures. Otherwise, it is better to ask for COMAC technical service.
- ☐ Where parts are required, ask for ORIGINAL spare parts to an agent and/or to an authorized dealer.
- ☐ In case of danger act immediately upon the emergency lever (connector placed on the left side of the operator)
- ☐ For any maintenance operation take off the power supply from the machine
- ☐ Do not take off the pieces which require the use of tools to be removed
- ☐ Do not wash the machine with direct water jets or with high water pressure nor with corrosive material
- ☐ Every 200 working hours have a machine check through a Comac service department
- ☐ The machine should not be abandoned, because of the presence of toxic-harmful materials (batteries, oil etc.). This disposal must be subject to the rules which provide for its scrapping in appropriate centres
- ☐ The machine does not cause any harmful vibrations



MACHINE PREPARATION

1. HANDLING OF THE PACKED MACHINE

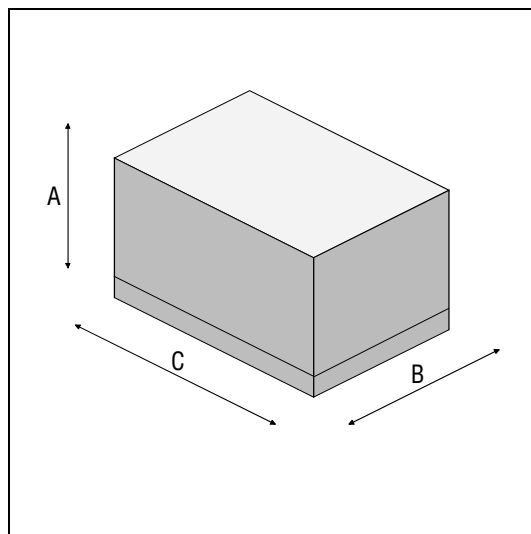
The machine is packed in a specific package provided on a pallet for the handling with fork trucks. The packages cannot be placed on top of each other.

The total weight is 535 kg for ULTRA 85B and 556 kg for ULTRA 100B

The overall dimensions are:

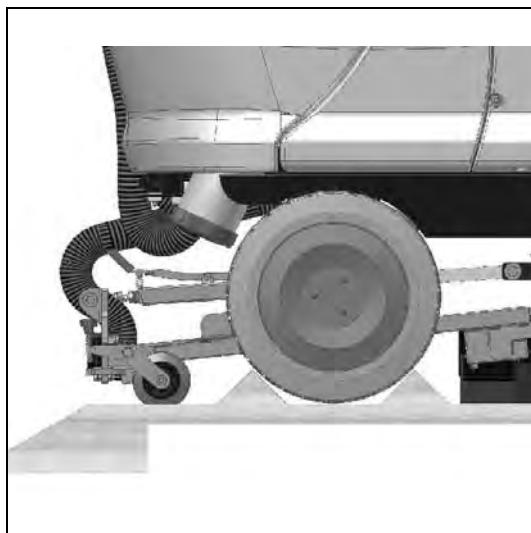
ULTRA 85B / ULTRA 100B

- A** : 1760 mm
- B** : 1335 mm
- C** : 2135 mm



2. HOW TO UNPACK THE MACHINE

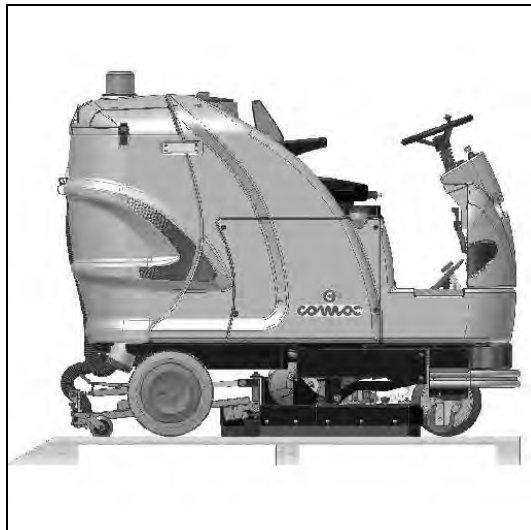
1. Take off the outer package
2. The machine is fixed on the pallet with wooden wedges which block the wheels
3. Take off these wedges



4. Using a chute, get the machine down from the pallet, pushing it in reverse motion. Avoid violent blows to the base.
5. Keep the pallet for eventual transport necessities



Performing this operation be sure that no persons or object are close to the machine





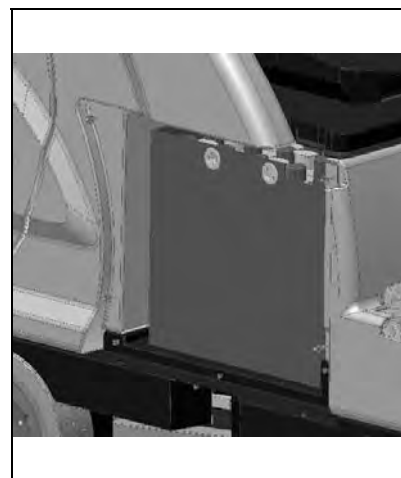
MACHINE PREPARATION

3. INSTALLATION OF THE BATTERIES INTO THE MACHINE

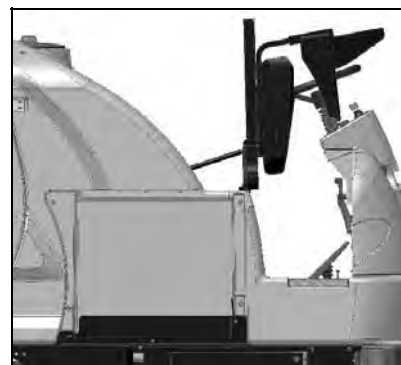
The batteries are fitted in the appropriate compartment under the seat and must be handled by using appropriate lifting equipment suitable both for the weight and for the coupler system. They must moreover satisfy the requirements quoted in the Specification CEI 21-5.



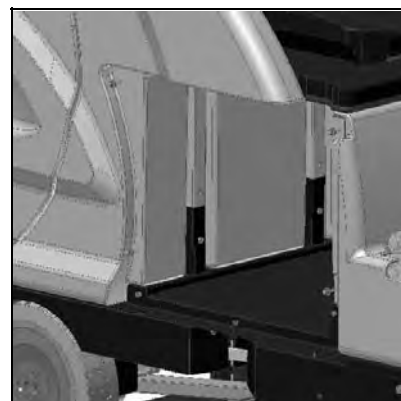
For maintenance and daily recharge of the batteries, it is necessary to follow strictly all the indications given from the constructor or from his dealer. All the installation and maintenance operations must be carried out by specialized staff.



There are two ways to install the batteries in the battery compartment:
The first one is to lift up the seat support until the seat lean on the steering wheel. Put the battery in the compartment by the upper opening letting the first one lean to the tank. If battery box is used put them in the compartment by the upper opening and arrange them side by side.



The second one to install the battery on the machine is to remove the chemical tank and the protection sheet and thread the battery by the side opening.

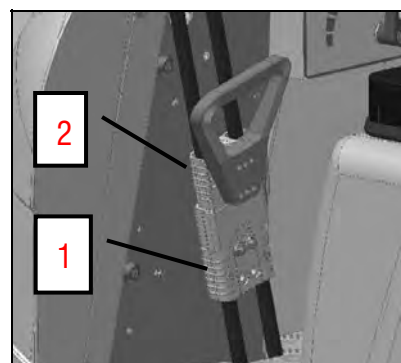


4. CONNECTION OF THE BATTERY CONNECTOR

The battery connector (1) is placed in the left lower part of the operator and must be connected to the connector (2) of the machine.



This operation has to be performed by qualified personnel only. A not perfect connection of the battery cables can cause serious damages to persons or things.

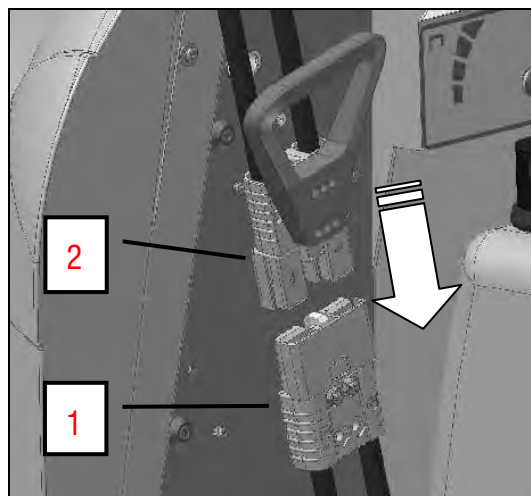




MACHINE PREPARATION

5. CONNECTION OF THE BATTERY CHARGER

The connector is placed in the left lower part of the operator seat. The upper part (1), which is connected to the batteries, is the one which has to be inserted to the connector (2) fixed to the cables of the battery **charger**. The coupling connector of the battery charger is delivered in the bag where this instruction booklet is found and must be assembled on the battery charger cables following the suitable instructions (see instruction booklet of the battery **charger**).



6. RECHARGE OF THE BATTERIES

In order not to cause the risk of permanent damage to the batteries, one should at all costs avoid their complete discharge and effect recharging within a few minutes after that the signal lamp of discharged batteries begins to blink.

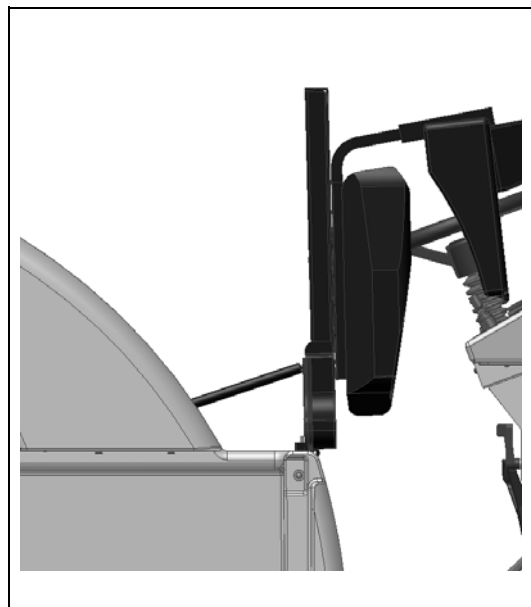
NOTE: Never leave the batteries completely discharged, even if the machine is not being used. **When recharging the batteries, keep the base support of the seat lifted.** Every 20 recharging operations, check the level of the electrolyte and, if necessary, top up with distilled water.



Exhalation gas and corrosives liquids hazard.



Fire hazard: do not bring flammables.



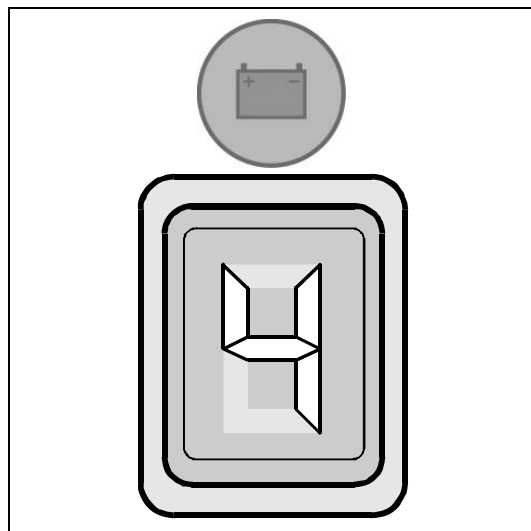
7. LEVEL INDICATOR FOR THE CHARGE OF THE BATTERIES

The batteries' indicator is digital with 4 fixed positions and a blinking one. The numbers which appear on the display show the approximate charge level.

4 = maximum charge, **3** = charge 3/4, **2** = charge 2/4, **1** = charge 1/4,
0 = (blinking) **battery is due to charge.**



Some seconds after that "0" blinks, the brushes motor automatically switches off. Anyway, the machine can finish to dry before recharging the batteries.



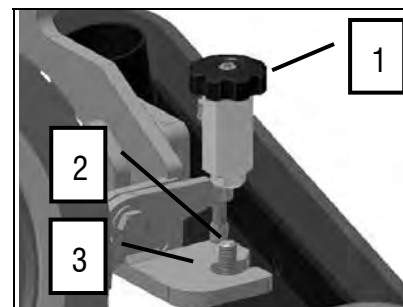


MACHINE PREPARATION

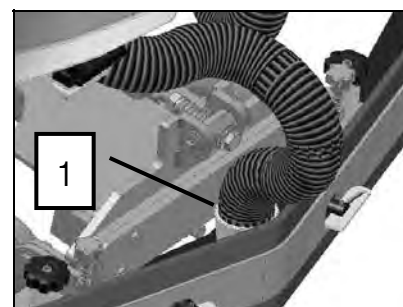
8. SQUEEGEE

The squeegee, which is packed separately from the machine, should be assembled as shown in the figure, couple the stud bolts (1 - C85B) or the nuts (C100B) of the squeegee into their seats on the squeegee support and fix them with a key CH17.

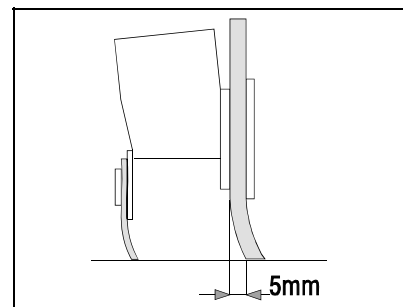
Fit the suction hose (2) into its coupling and fix it with the appropriate clamp



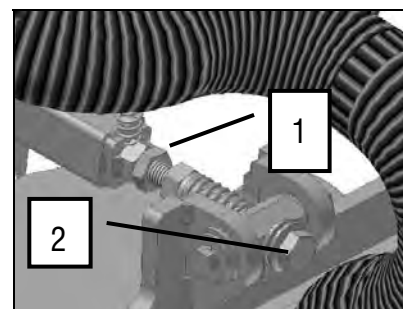
Fit the suction hose (2) into its coupling and fix it with the appropriate clamp



During working operation, the rear rubber has to work slightly tilted backwards and this equally in its whole length for about 5 mm.



If it is necessary to increase the rubber bending in the central part, then tilt the squeegee body backwards, loosen the adjuster nut (1) and rotate the knob (2) counter clockwise. If the rubber bending is to be noticeable at the sides of the squeegee, loosen the adjuster nut (1) and rotate the knob (2) clockwise. After regulations have been done fix the adjuster nut.

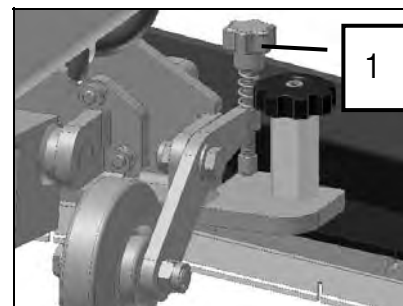


9. ADJUSTMENT HEIGHT SQUEEGEE SUPPORT

The squeegee has to be regulated in height depending on the wearing of the rubbers. To adjust this:

1. Loosen the ring nut (1)
2. With a key CH17 rotate the castor wheel through the nut (2) clockwise to lift the squeegee and counterclockwise to lower it
3. Fix the ring nut (1)

NOTE: The right and left castor wheels have to be regulated equally.

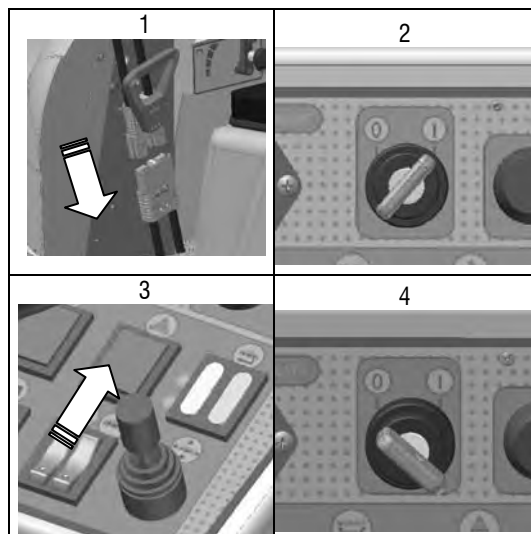




MACHINE PREPARATION

10. BRUSHES ASSEMBLY

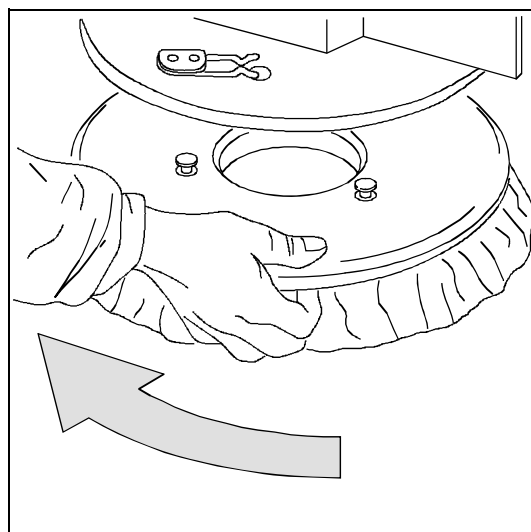
1. Connect the battery connector
2. Turn the key into position ON
3. With the manipulator lift the brushes base
4. Turn the key into position OFF and take it off from the instrument board (to carry out the operations of brushes assembly with connected current can cause damage to the hands).



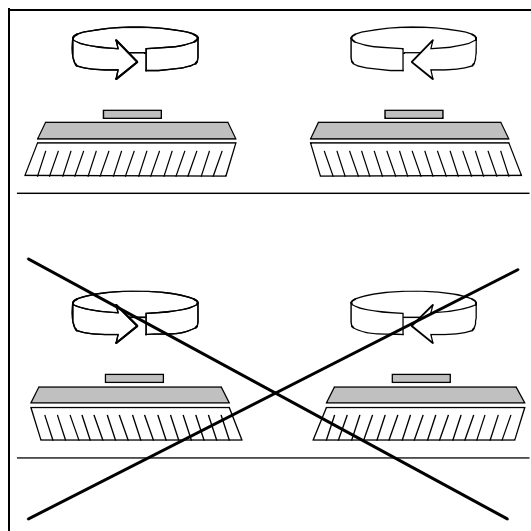
5. With the brushes base in lifted position, insert the brushes into the seat of the plate under the base until the three buttons fit into the holes of the plate. Turn the brush so that the buttons are pushed towards their retaining springs until the brush is clamped in place. The figure shows the direction of rotation for the coupling of the right brush. The left brush has to be in **the opposite direction**.



Questa operazione deve essere eseguita utilizzando guanti per proteggersi le mani



6. It is recommended to invert daily the position of the right brush with the left one and vice versa. If the brushes are not new and they show deformed bristles, it is better to reassemble them in the same position (the right to the right side and the left to the left side), to avoid that the different inclination of the bristles causes an overload to the brushes motor and excessive vibrations.





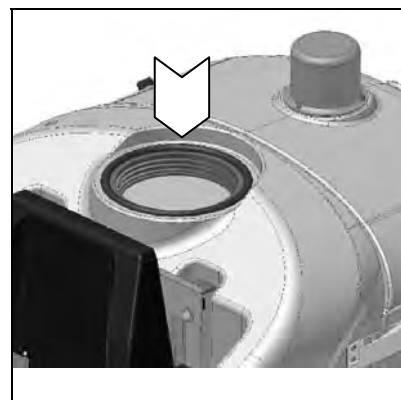
MACHINE PREPARATION

11. SOLUTION WATER

Fill the solution tank with clean water at a temperature not more than 50° C and add liquid detergent in the proper concentration following the instructions of the manufacturer. Excess foam in the recovery tank could damage the suction motor, so use only the minimum amount of detergent necessary.

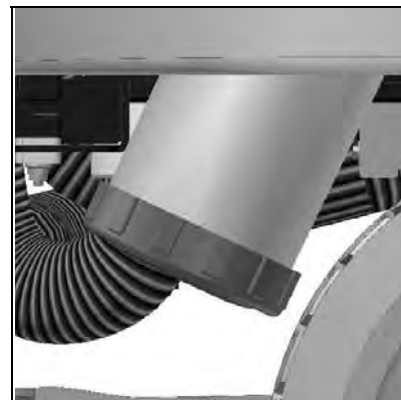


Always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. **Never use pure acid.**

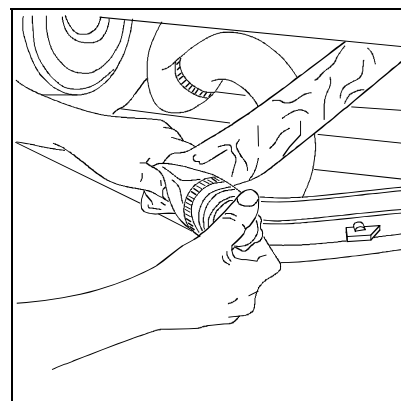


12. RECOVERY TANK

Check that the inspection cover has been tightened



and that the exhaust plug of the tank and the plug of the exhaust pipe are closed





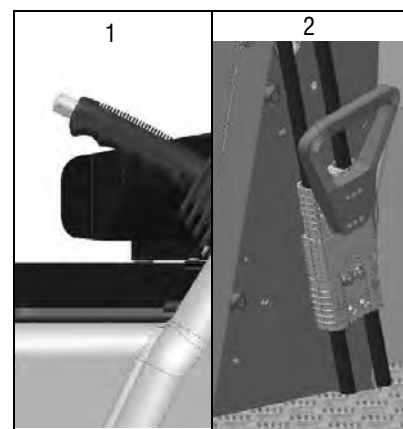
DURING WORK

1. Carry out the operations for the preparation of the machine

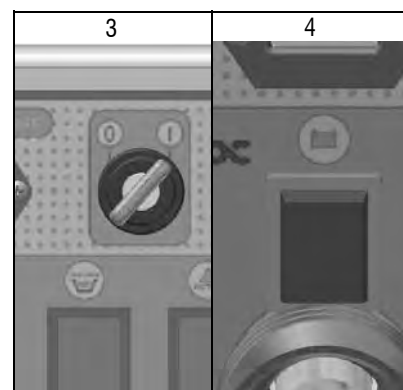
2. Take place on the driver seat.

3. Check that the parking brake is released (1)

4. Connect the connector to the batteries (2)

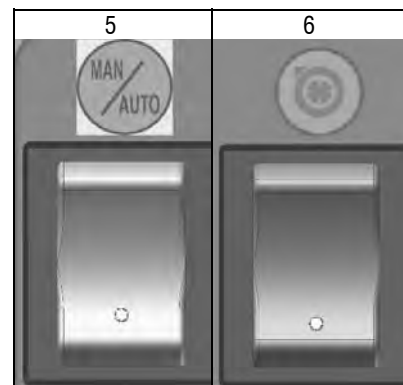


5. Turn the key of the general switch (3) clockwise of a quarter turn. Immediately, the red signal lamp (4) on the instrument board begins to blink and the batteries' display (5) comes on. The blinking indicates that the checking of the brushes motor is taking place..



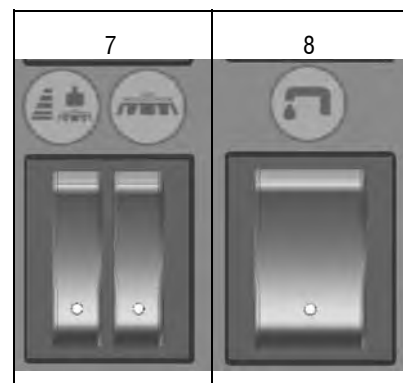
6. Place the switch into its automatic position (1)

7. Press the suction motor switch (2)



8. Press the brushes motor switch (3)

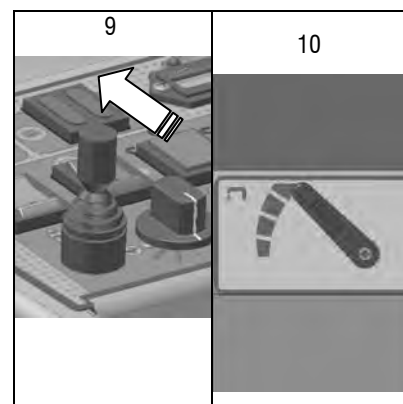
9. Press the solenoid valve switch (4)



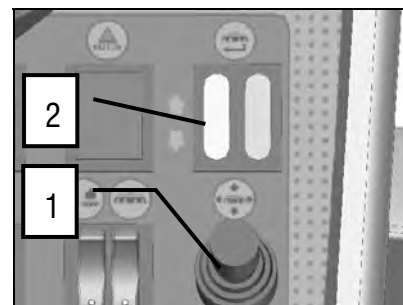


DURING WORK

1. Collocate forward the drive selector (1)
2. Select the speed movement rotating the knob (2)
3. Open the cock rotating the knob counter clockwise. The signal lamp of the water comes on only during the moving period.



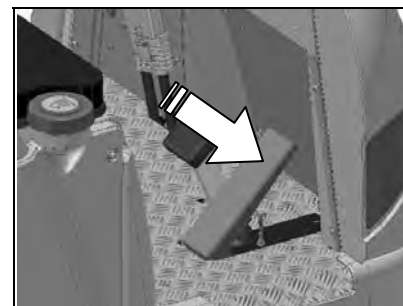
13. Push forward the brushes manipulator (1) so to lower the base. During the descent, the signal lamps of the actuator and the brushes motor come on. The brushes base will be in its working position when the yellow signal lamp (2) comes off..



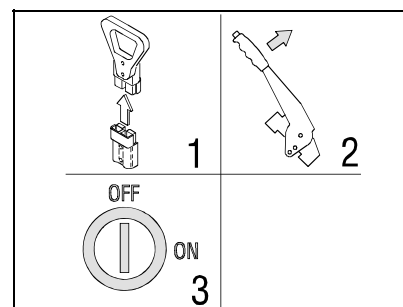
14. Press the accelerator pedal. The machine begins to move, the squeegee begins to lower itself and the suction motor comes on.

During the first metres of operating, check that the brushes pressure is suitable (see further on under "BRUSHES PRESSURE"), that the quantity of the detergent solution is sufficient and that the squeegee dries perfectly.

The machine will now start working efficiently until the detergent solution runs out.



Immediately disconnect the emergency lever (1) situated on the left side from the operator and apply the emergency brake (2), whenever the machine develops operating problems when it is working. These commands disconnect all the functions on the machine. To start the machine again, once the problem has been solved, turn off the key (3), reconnect the connector (1), switch on the key (3) and lower the parking brake lever (2).



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

When the solution tank is empty, the signal lamp on the instrument board comes on.

When the recovery tank is full, the suction motor stops. To start it up again, even if the tank has been emptied, it is necessary to first turn off the main switch key and then on again.

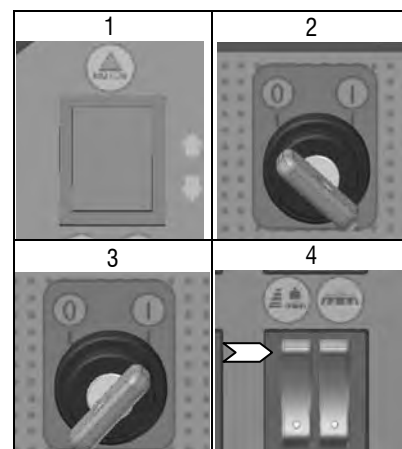




DURING WORK

CHECK BRUSHES MOTOR

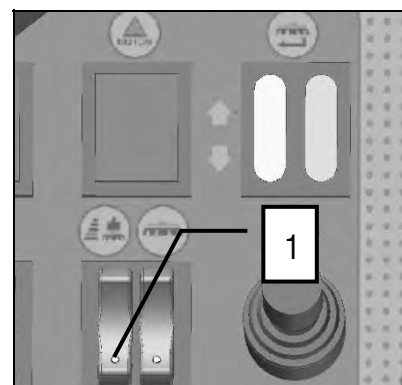
The brushes motor is electronically controlled. If it reaches preset overload limits, the red signal lamp (1) on the instrument board starts to blink. After a few seconds the motor stops and the signal lamp of the brushes switch goes off. To start up the motor again, turn the main switch key (2) off and on again. If the motor stops again, check the reason of the overload to prevent motor damage. Generally, it is enough to reduce the brushes pressure rotating the hand wheel (4) counter clockwise.



BRUSHES PRESSURE

It is possible to adjust the brushes pressure using the hand wheel (1) placed on the left side of the operator. To increase the pressure, rotate clockwise. The pressure gauge (2) moves up as pressure increases.

The pressure must be chosen based on the type of floor and the type of dirt. Excessive pressure causes higher brushes wear and major energy consumption (for further information read on "CHOICE AND USE OF BRUSHES").

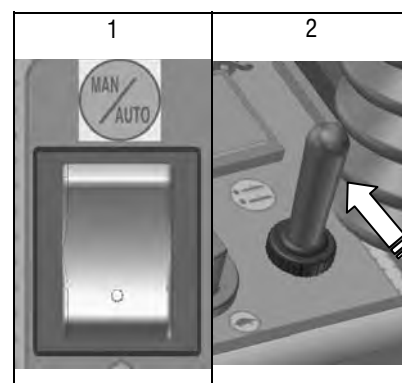
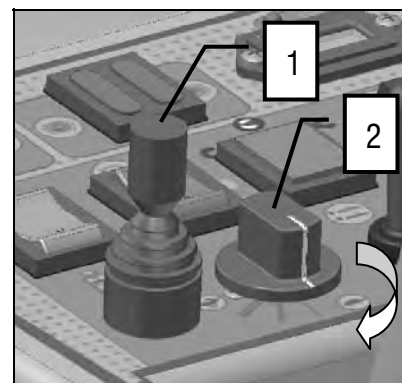


TRACTION

These machines are 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 forwards (forward movement) or backwards (rear movement) the manipulator (1). Press the drive pedal and the machine will start to move. The **travel** speed can be adjusted rotating the selector (2).



ATTENZION During reverse motion, if the switch automatic-manual of the squeegee is on manual position, remember to lift the squeegee through the commutator. During transfer, put the switch onto manual.



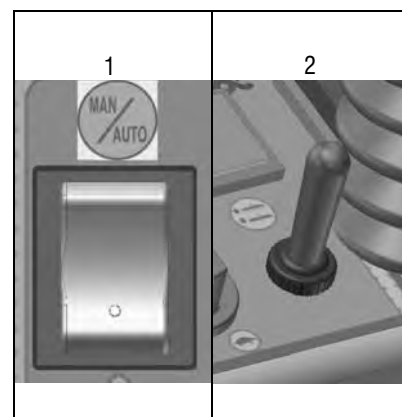


DURING WORK

SQUEEGEE AUTOMATIC - MANUAL

Automatic : If the switch is placed on automatic, lowering of the squeegee and starting of the suction motor are obtained with the machine advancement. Also, lifting of the squeegee and stopping of the suction motor are achieved with the reverse motion of the machine.

Manual : If the switch is placed on manual, the squeegee lifts and lowers itself manually through the commutator (2). The operation of the suction motor is commanded anyhow through the squeegee movement.

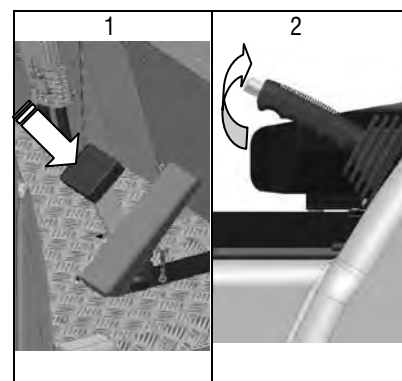


BRAKES

To brake, press with the left foot the pedal of the service brake (2). In case of bad operation of this brake, or in case of necessity (interruption, danger), act upon the parking brake (1).

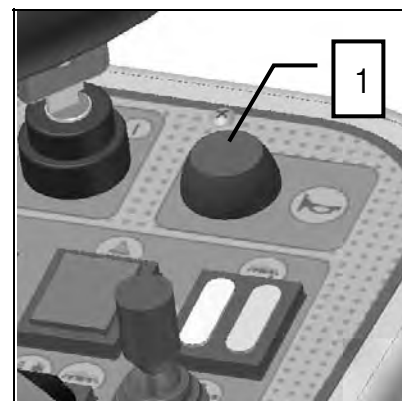


When the parking brake is **engaged**, the related red lamp turn on



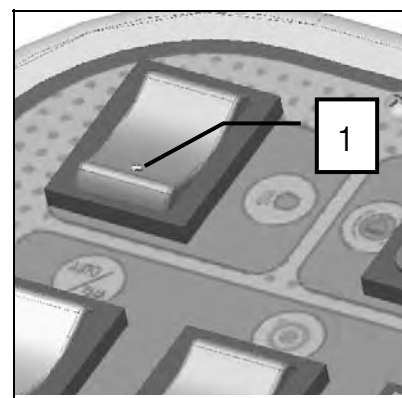
HORN

The machine is equipped with a horn switch. To operate it, press the push button as shown in the figure.



BLINKING AND WORKING LIGHTS

The machine has two headlamps in the front and one headlight on the rear side. To **switch this** on push the related button (1).

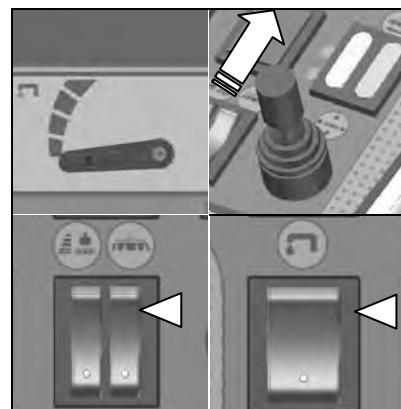




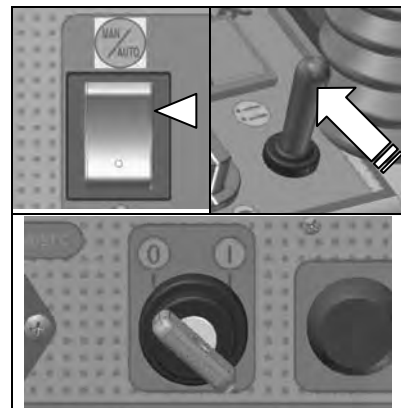
ON COMPLETION OF THE WORK

Having finished the job and before any type of maintenance is done:

1. Close the tap
2. Raise the brush base
3. Switch off the brushes motor switch
4. Switch off the solenoid valve switch



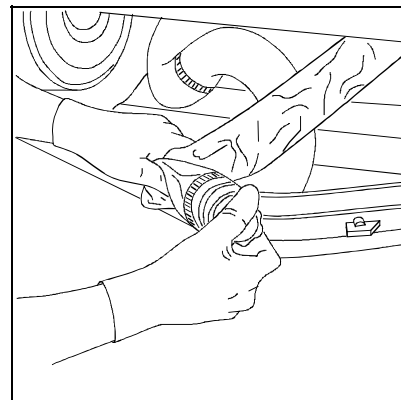
5. Place the squeegee switch onto manual
6. Lift the squeegee
7. Switch off the suction motor switch
8. Bring the machine up to the place provided for the water outlet
9. Turn the key 1/4 round counter clockwise



1. Take off the exhaust pipe from its hook, unscrew the exhaust plug and empty the recovery tank. To simplify draining operation, it is recommended to hold the hose bent with one hand and with the other unscrew the knob and take off the plug. Slowly straighten the hose and the liquid will start draining at the desired speed. This operation has to be carried out using gloves to protect from contact with dangerous solutions.



To perform this operation wear the protection gloves to **prevent** contacts with dangerous liquid



1. The squeegee has to be lifted when the machine is not operating. In this way damage to the squeegee rubbers is avoided.
2. Take off the brushes and clean them with a water jet (for the brushes disassembly please read further on under "DISASSEMBLY OF THE BRUSHES").



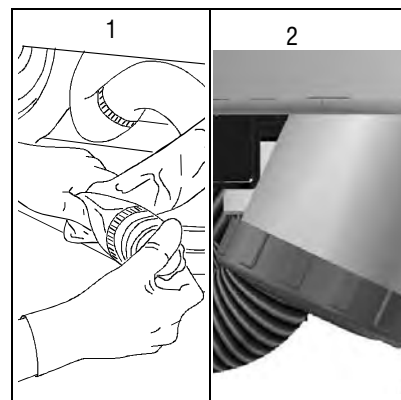
DAILY MAINTENANCE

CLEANING OF THE RECOVERY TANK

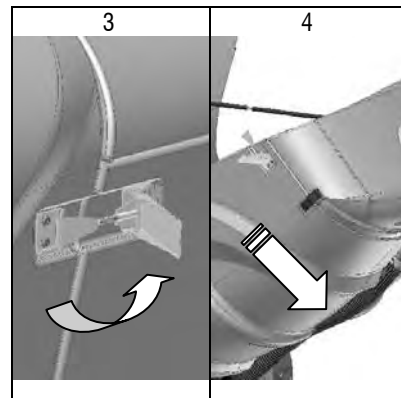
1. Empty the tank through the flexible hose, unscrewing of some turns the knob and then taking off the plug
2. Open the side plug by unscrewing the knob and rotating the closing blade



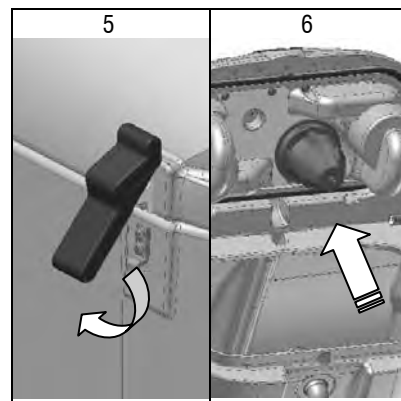
To perform this operation wear the protection gloves to prevent contacts with dangerous liquid



3. Open the hooks for the tank fastening (3)
4. Pull carefully the tank in the rear side until the chain is tensioned (4)

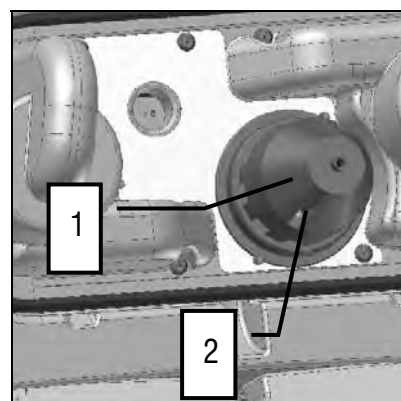


5. **Open** the hooks that fasten the suction head (5)
6. Open the lid rotating it until it lead to the tank (6)
7. Rinse the tank and clean the exhaust plug
8. Retighten the side plug and the plug onto the exhaust pipe
9. To close the suction head and the tank, perform the reverse operations



CLEANING OF THE RECOVERY TANK FILTER

1. Open the recovery tank cover
2. Clean the tank with a water jet
3. Extract the filter of the float switch fixed inside the tank
4. Wash it thoroughly and put it again into its position

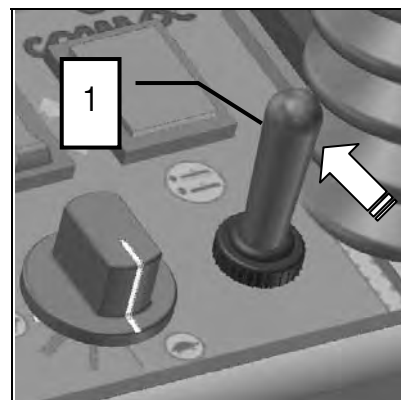




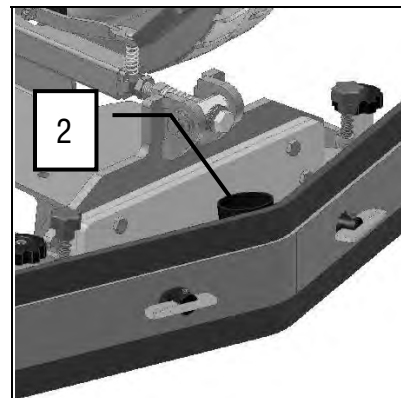
DAILY MAINTENANCE

CLEANING OF THE SQUEEGEE

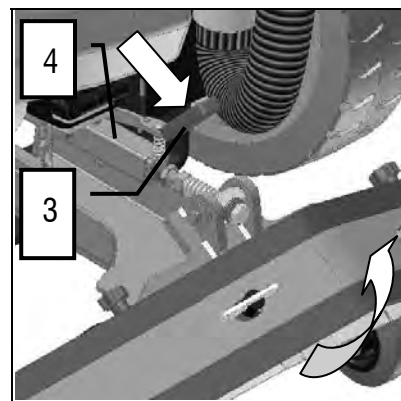
1. Lift up the squeegee assembly moving forward the manipulator (1)



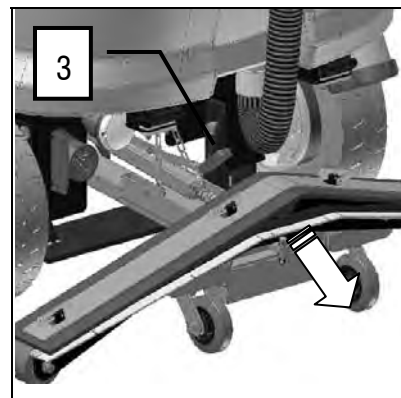
2. Remove the suction hose from the squeegee connection (2)



3. Push the unhooking lever (3) and lift up the squeegee.
4. Push the squeegee letting the support arm slide forward (4).



5. Rotate the squeegee until the arm (4) stops on the guide.
6. The unhooking (3) lever lift up automatically after the hooking of the brush ready to be pressed again.
7. Clean the squeegee using a jet of water. **Verify** the conditions of the rubbers and if necessary replace them. Taking care about the cleanliness of the squeegee assembly let the life of the suction motor be longer.
8. After the squeegee clean operations push the unhooking lever (3) and pull the squeegee in the rear side until it reach the initial position.



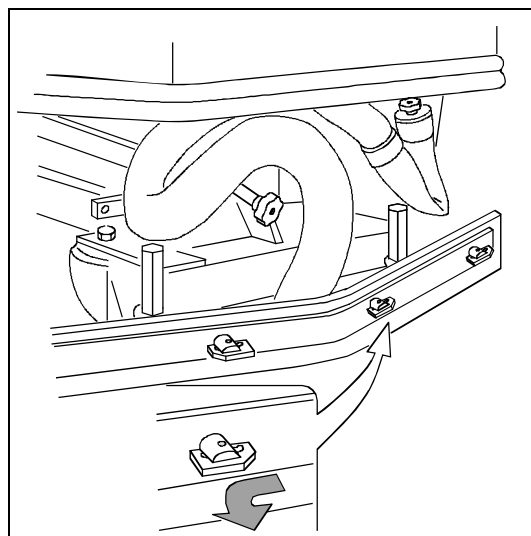


DAILY MAINTENANCE

REPLACEMENT OF THE SQUEEGEE RUBBER

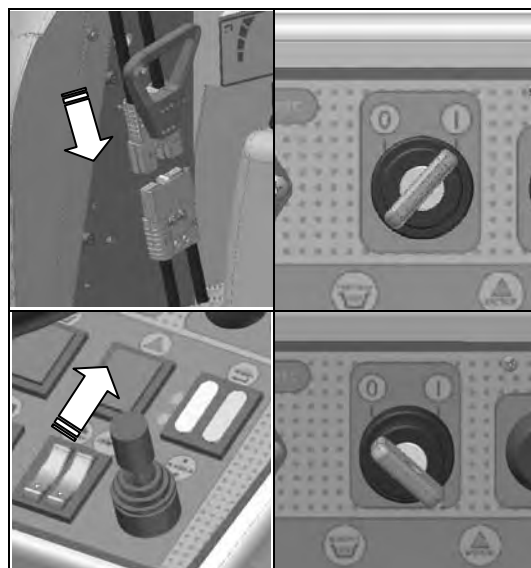
If the squeegee rubber is worn and does not dry well, it is possible to change the drying edge proceeding as follows:

1. Push and rotate the fixing plates
2. Slip off the rubber blade and the rubber itself
3. Turn the rubber upside-down and if necessary, replace it
4. Adjust the squeegee height as indicated in "ADJUSTMENT HEIGHT SQUEEGEE SUPPORT" under "MACHINE PREPARATION"
5. Reassemble everything repeating inversely above operations

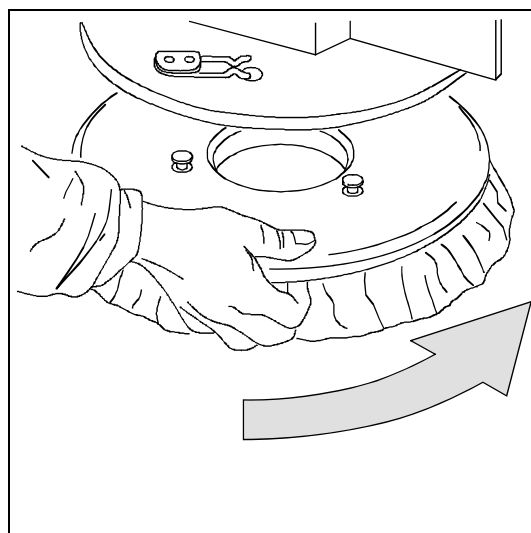


DISASSEMBLY OF THE BRUSHES

1. Connect the battery connector if it is not connected
2. Turn the key into position ON
3. With the manipulator lift the brushes base
4. Turn the key into position OFF and take it off from the instrument board (to carry out the operations of brush disassembly with connected current can cause damage to the hands)



5. With the brushes base in lifted position, rotate the brush until it comes off from the brush plate seat as shown in the figure. The figure shows the rotating direction for the disassembly of the right brush, the left one has to be rotated inversely.



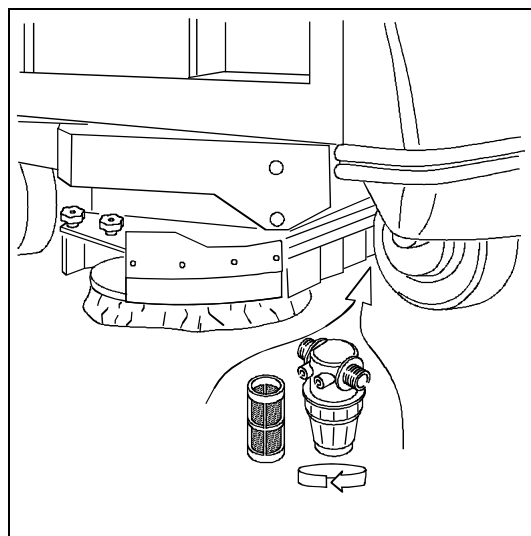


DAILY MAINTENANCE

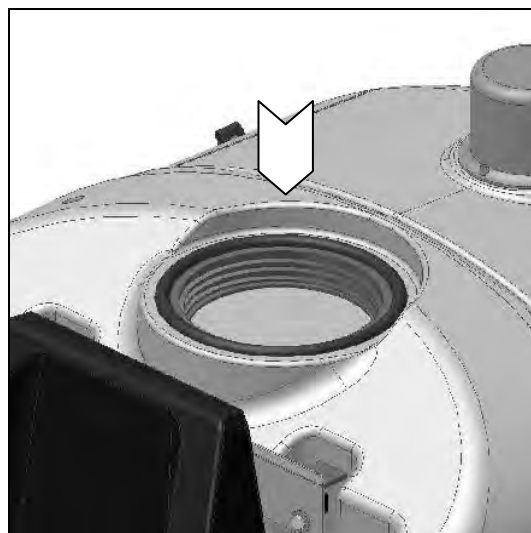
SOLUTION TANK AND FILTER CLEANING

When the solution tank is empty:

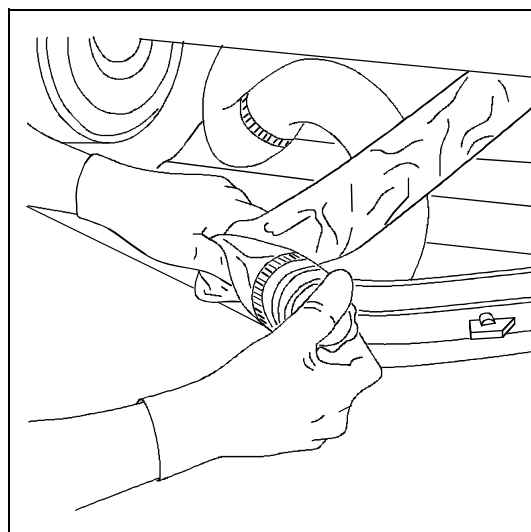
1. Unscrew the filter and rinse the inside thoroughly
2. Take off the cartridge and clean it
3. Open the cock
4. Rinse the tank with a water jet
5. Reassemble everything again repeating inversely above operations



1. Unscrew the upper lid
2. Rinse out the tank using a jet of water



3. Remove the lid of the exhaust pipe and await until the tank is totally empty
 4. Reinstall everything by performing all the operations in reverse way.
- Note :** The filter can be cleaned also if the water tank is full. To close the tap is needed.



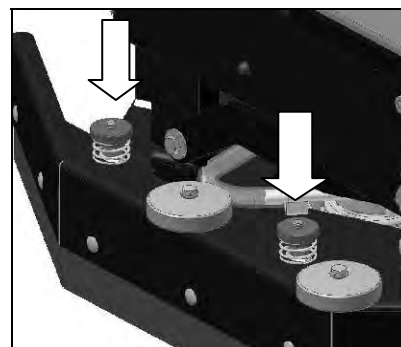


WEEKLY MAINTENANCE

ADJUSTMENT SPLASH GUARD BRUSHES BASE

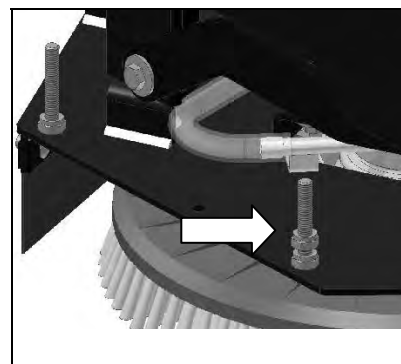
Periodically proceed with the height adjustment of the side covers of the brushes base. This operation has to be carried out with the brushes base down.

1. Loosen the fixing knobs of the covers
2. Slip off the covers from their seats



1. Tighten the upper nut with a key CH17 all that is necessary
2. Put the covers back into their position
3. Retighten the knobs

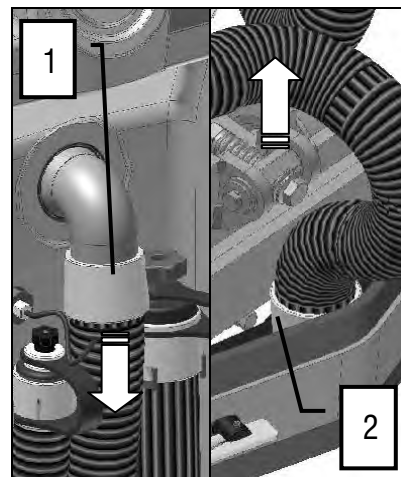
Keep in mind that the rubber must skim the floor and be parallel to it. This is being verified when the nuts have been tightened equally of both stud bolts.



CLEANING OF THE SUCTION HOSE

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

1. Unscrew the knob of the suction motor protection
2. Loosen the clamp which tightens the hose (2 fig.4)
3. Clean with a water jet introduced from the side where it is being connected to the tank
4. Reassemble everything proceeding inversely with above operations

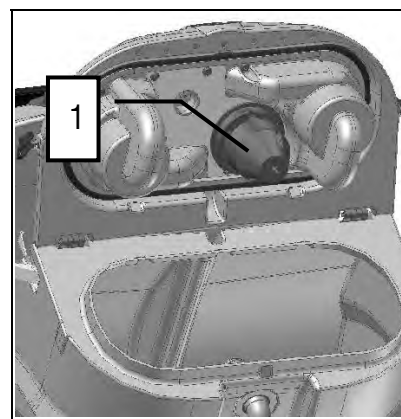


CLEANING SUCTION MOTOR FILTER

In caso di aspirazione insufficiente è necessario controllare anche il filtro di aspirazione. Per accedere al filtro è necessario aprire il coperchio aspirazione seguendo le indicazioni scritte nel capitolo "PULIZIA SERBATOIO DI RECUPERO" e verificare che non sia ostruito. Per fare ciò procedere nel seguente modo :

1. Togliere il coperchio conico di protezione del filtro (1) svitando le viti di fissaggio
2. Estrarre il filtro e lavarlo accuratamente

Rimontare il tutto ripetendo all'inverso le operazioni suddette

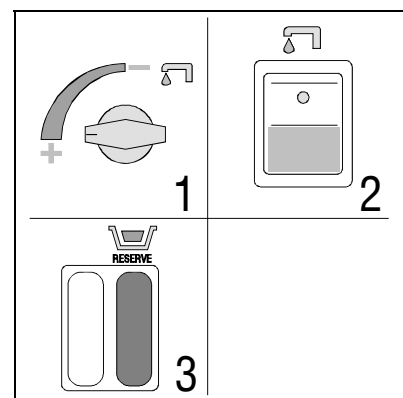




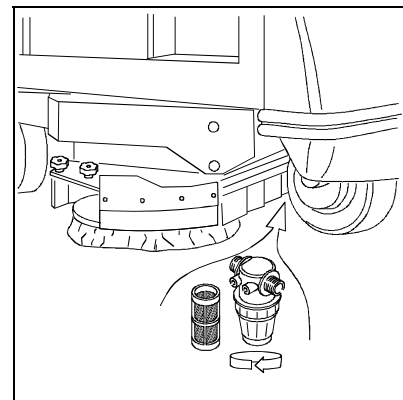
FUNCTIONING CONTROL

INSUFFICIENT WATER ONTO THE BRUSHES

1. Make sure that the cock is open
2. Make sure that the solenoid valve switch is on
3. Make sure that there is water in the solution tank (signal lamp "RESERVE" off)



4. Clean the solution filter



THE MACHINE DOES NOT CLEAN SATISFACTORY

1. Check the condition of the brushes and replace them, if necessary (the brushes have to be replaced when the bristles reach around 15 mm)
2. Check that the brushes pressure is sufficient, eventually increase it (see "BRUSHES PRESSURE" under "PERFORMANCE")
3. Use a different kind of brushes to the ones fitted as standard. For cleaning operations on floors where the dirt proves to be particularly resistant, we recommend using special brushes which may be supplied optionally according to needs (see under "CHOICE AND USE OF BRUSHES").

THE SQUEEGEE DOES NOT DRY PERFECTLY

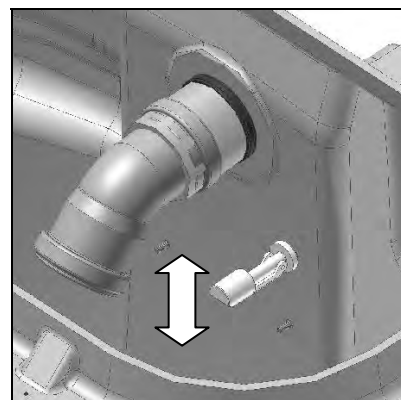
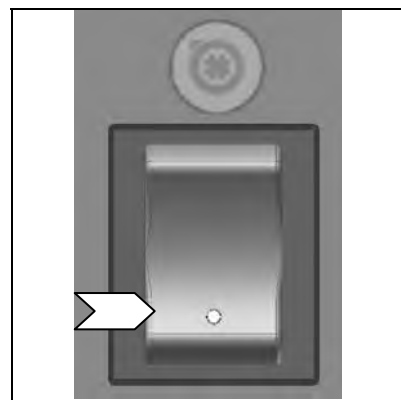
1. Check that the squeegee is clean
2. Adjust the height of the squeegee support (see under "MACHINE PREPARATION")
3. Clean the whole suction group (see under "WEEKLY MAINTENANCE")
4. Replace the rubbers, if worn



TROUBLE SHOOTING GUIDE

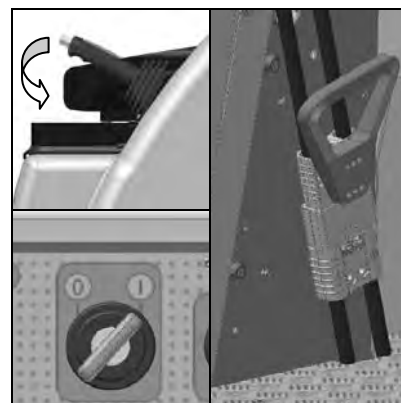
THE SUCTION MOTOR DOES NOT FUNCTION

1. Check that the suction motor switch is on
2. Check whether the recovery tank is full and eventually empty it
3. Check the perfect condition of the float switch (see also "CLEANING OF THE RECOVERY TANK FILTER" under "DAILY MAINTENANCE")
4. To reactivate the suction motor, after the intervention of the float switch, switch off and then on again the main switch key



THE MACHINE DOES NOT START

1. The operator must be properly seated in the driving position
2. Check that the hand brake lever is completely released
3. Check that the general switch key is on
4. Check that the connector is connected to the batteries



EXCESSIVE FOAM PRODUCTION

Check that a low foam detergent has been used. If required, add a small quantity of antifoam liquid into the recovery tank.
Remember that, when the floor is not very dirty, more foam is generated. In this case dilute the detergent more.



CHOICE AND USE OF BRUSHES

POLYPROPYLENE BRUSH (PPL)

It is used on all types of floors which are hot water resistant (not more than 60°C). The Polypropylene brush is nonhygroscopic and therefore conserves its characteristics even if working in the wet conditions.

NYLON BRUSH

It is used on all types of floors with excellent wear and hot water resistance (more than 60°C). The nylon is hygroscopic and so, over time, loses its characteristics working on the wet.

TYNEX BRUSH

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

STEEL BRUSH

The bristles are made of steel wires or flat blades or can be mixed, by means of steel and synthetic fibres. The steel wire brush is used to descale very uneven floors or with wide joints. The brush with steel blades is used to scrape off more resistant incrustations.

THICKNESS OF THE BRISTLES

The thicker the bristles are, the more rigid they will be. These ones are therefore used on smooth floors or with small joints.

On uneven floors with deep joints it is recommended that, softer bristles, which enter more easily in depth, are used.

Please bear in mind that, when the bristles are worn out and get too short, they will get rigid and cannot penetrate anymore. As well as for thick bristles, the brush will begin to jump.

PAD HOLDER

The pad holder is recommended to clean glossy areas.

There are two types of pad holders:

1. The traditional pad holder is equipped with anchor points which allow the abrasive pad to be held and dragged during the work process.
2. The pad holder is of the CENTER LOCK type, apart from the anchor points, is equipped with a central blocking release system made in plastic. This allows a perfect match with the abrasive pad and to hold it without the risk of falling down. This type of pad holder is recommended especially for machines with more brushes, where the centering of the pads is difficult.

LIST FOR THE CHOICE OF THE BRUSHES

Machine	Q.ty	Code	Bristles type	Thick Ø	BrushØ	Notes
ULTRA85B	2	405587	PPL	1	430	Pad blocking
		405588	NYLON	1	430	
		405589	TYNEX	1	430	
		405506	Pad holder		410	
ULTRA100B	2	405609	PPL	1	510	Pad blocking
		405610	TYNEX	1	510	
		405516	Pad holder	1	505	



EC DECLARATION OF CONFORMITY

The undersigned manufacturer:

COMAC S.p.A.

Via Maestri del Lavoro, 13

37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the product

SCRUBBING MACHINES

mod. ULTRA 85B – ULTRA 100B

complies with the requirements of the following Directives:

- 2006/42/EC: Machinery Directive
- 2006/95/EC: Low Voltage Directive
- 2004/108/EC: Electromagnetic Compatibility Directive

They also comply 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 60335-2-29: Household and similar electrical appliances. Part 2: Special standards for battery chargers.
- 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 61000-6-2: Electromagnetic compatibility (EMC) - Part 6-2: Generic standards – Immunity for industrial environments.
- EN 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3: Generic standards — Standard emission for residential, commercial and light-industrial environments.
- EN 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2: Limits – Limits for harmonic current emissions (Equipment with input current ≤ 16 A per phase).
- EN 61000-3-3: Electromagnetic compatibility (EMC) - Part 3-3: Limits – Restriction of voltage variations and flicker in low voltage power supply systems for devices with a rated current ≤ 16 A.
- EN 55014-1: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 1: Emission - Regulation for product family.
- EN 55014-2: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 2: Immunity - Regulation for product family.
- EN 62233: Household and similar electrical appliances - Electromagnetic fields Methods for evaluation and measurement

The person authorised to compile the technical file:

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Via Maestri del Lavoro, 13

37059 Santa Maria di Zevio (VR) - ITALY

Santa Maria di Zevio (VR), 01/01/2010

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