

**comac**



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# **C85B-C100B**

**Ed.03/2003**

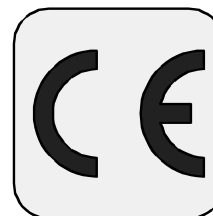
**Codice 75112004**

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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 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.



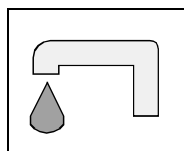
### Introductory comment

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.

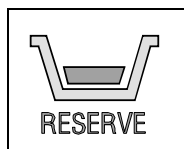
**The machine must be used only for such purpose.** We would impress upon you that any machine will function efficiently and operate successfully, only if used correctly and maintained in fully efficient working order. We therefore suggest you to read this instruction booklet carefully and re-read it 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		C85B	C100B
Cleaning width	mm	830	1000
Base side movement	mm	150	150
Squeegee width	mm	1110	1230
Working capacity	sqm/h	5400	6500
Brushes	Ø mm	430	510
Brushes rpm	rpm	180	180
Brushes pressure	kg	130max	150max
Brushes motor	W	1500	2000
Traction motor	W	1300	1500
Traction wheel	Ø mm	300	300
Movement speed	km/h	0÷6.5	0÷6.5
Max. gradient under full load		10%	10%
Suction motor	W	670	670
Suction vacuum	mbar	190	190
Rear elastic wheels	Ø mm	300x90	370x105
Solution tank	l	170	265
Recovery tank	l	190	280
Steering diameter	mm	2500	2800
Machine length	mm	1920	2040
Machine height	mm	1410	1900
Machine width	mm	870	1120
Measurements battery compartment (width x length x height)	mm	540x740x525	600x890x450
Batteries' tension	V	36	36
Batteries	Ah in 5 h	420max	480max
Batteries weight	kg	420max	500max
Machine weight (empty and without batteries)	kg	450	585
Acoustic pressure level (in conformity with EN ISO 11201)	dB (A)	69.6	73.1
Vibration level to the hand	m/sqs	2.1	1.56
Vibration level to the body	m/sqs	1.05	0.98

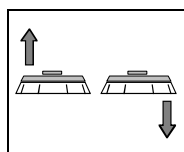
## SYMBOLGY USED ON THE MACHINE



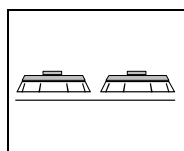
Symbol denoting solenoid valve open  
It is used to indicate the solenoid valve switch



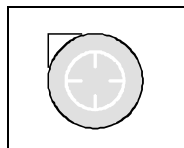
Symbol denoting solution tank empty



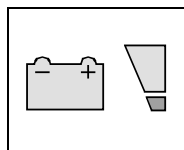
Symbol denoting up – down of the brushes base  
It is used to indicate the signal lamp of the brushes actuator when operating



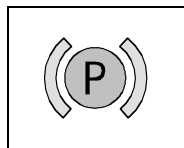
Symbol denoting brush  
It is used to indicate the brushes motor switch



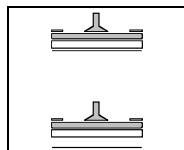
Symbol denoting suction motor  
It is used to indicate the suction motor switch



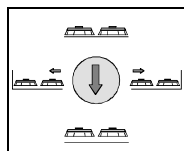
Symbol denoting charge level of the batteries



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

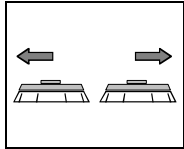


Symbol denoting up – down of the squeegee  
It is used to indicate the commutator for the squeegee lifting

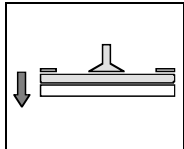


Symbol denoting manipulator brushes  
It is used on the instrument board to indicate the manipulator of the brushes base. Making side movements with the manipulator, they correspond to side movements of the brushes base. Longitudinal movements correspond to vertical movements of the brushes base.

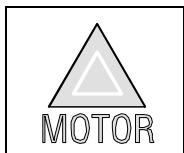
## SYMBOLOLOGY USED ON THE MACHINE



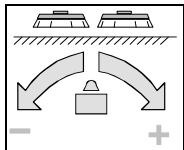
Symbol denoting stop base side movement  
The green signal lamp comes on when the brushes base is moved all to the left side



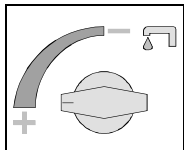
Symbol denoting squeegee all down (green signal lamp)



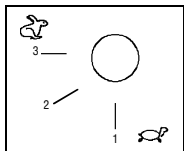
Symbol denoting amperometric control of the brushes motor (red signal lamp)  
The signal lamp comes on when the brushes motor is under stress



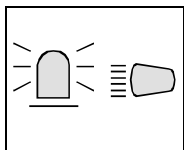
Symbol denoting pressure carried on the brushes



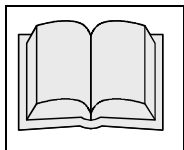
Symbol denoting regulation cock



Symbol denoting speed selector forwards and backwards



Symbol denoting the switches of the blinking and working lights



Symbol denoting the open book  
Indicates that, the operator has to read the manual before the use of the machine

## SYMBOLS USED IN THE MANUAL



Symbol denoting a warning  
Read carefully the sections preceded by this symbol, for the safety of the operator and of the machine



Indicates danger of gas exhalations and emission of corrosive liquids



Indicates fire danger  
Do not approach with free flames

## MACHINE PREPARATION

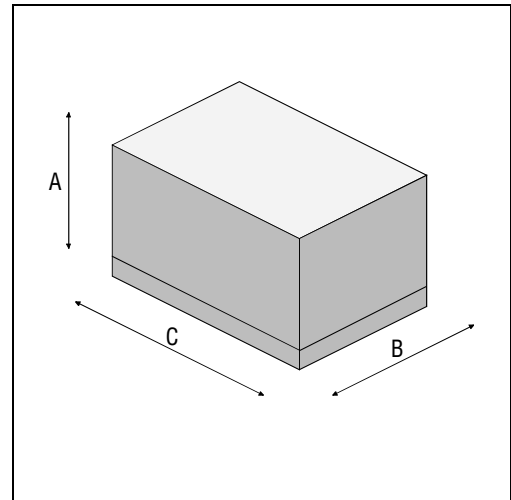
### 1. HANDLING OF THE PACKED MACHINE

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 560 kg for C85B and 690 kg for C100B

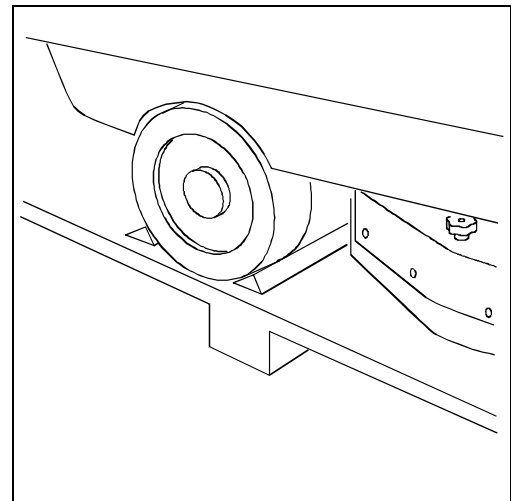
The overall dimensions are:

	<b>C85B</b>	<b>C100B</b>
<b>A :</b>	1550mm	1700mm
<b>B :</b>	1020mm	1340mm
<b>C :</b>	1980mm	2150mm

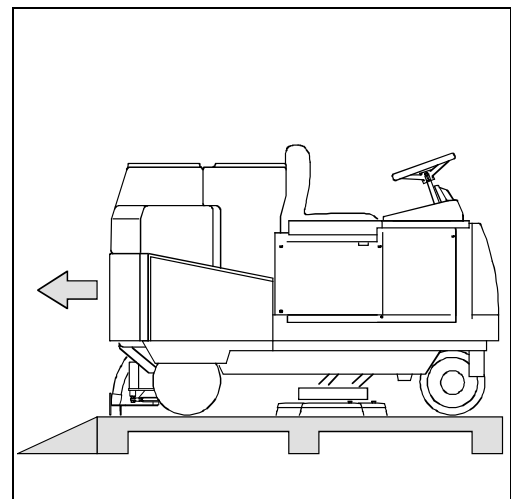


### 2. HOW TO UNPACK THE MACHINE

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



## 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.



**WARNING!** For maintenance, first charge and daily recharge of the batteries, it is necessary to follow strictly all the indications given from the constructor or from his dealer.

Specialized staff must carry out all the installation and maintenance operations

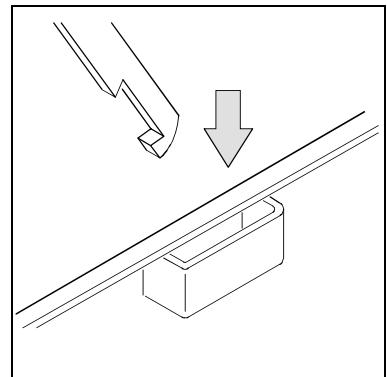
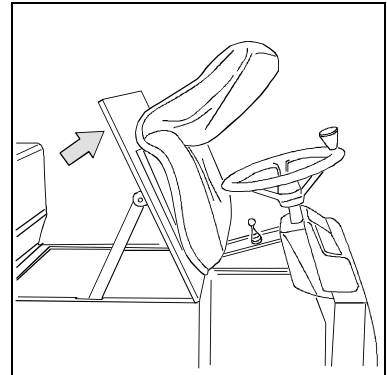
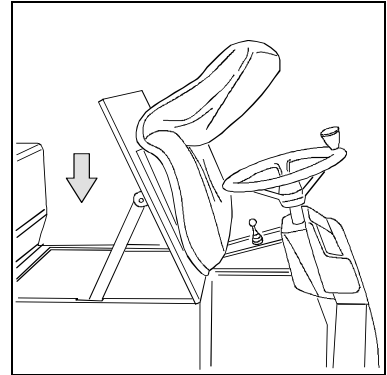


**WARNING!** Danger of exhalation of gas and coming out of corrosive liquids.

**WARNING!** Danger of fire: do not get close with open flames

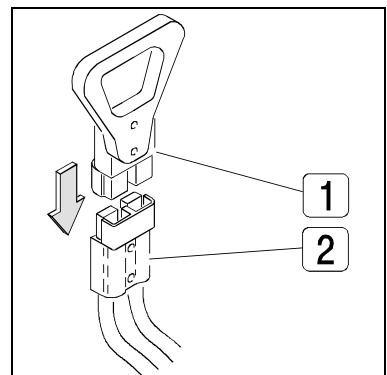
For the battery installation:

1. Lift the base support of the seat
2. Extract the prop from its slot
3. Lean the seat onto the steering wheel
4. Put the batteries into position following the instructions indicated in paragraph "Batteries"
5. Lower the base support of the seat being careful to insert correctly the prop in its slot



### 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.

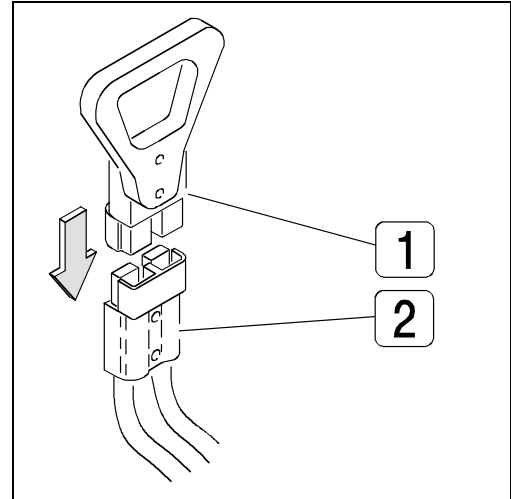




## MACHINE PREPARATION

### 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 recharger. 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 recharger).



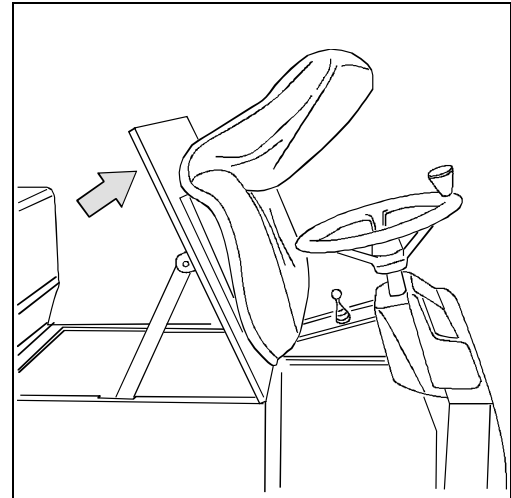
### 6. RECHARGE OF THE BATTERIES

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.



**WARNING!** For the daily recharge of the batteries, it is necessary to follow strictly all the indications given from the constructor or from his dealer. Specialized staff must carry out all the installation and maintenance operations. **Danger of gas exhalations and emission of corrosive liquids. Fire danger: do not approach with free flames.**



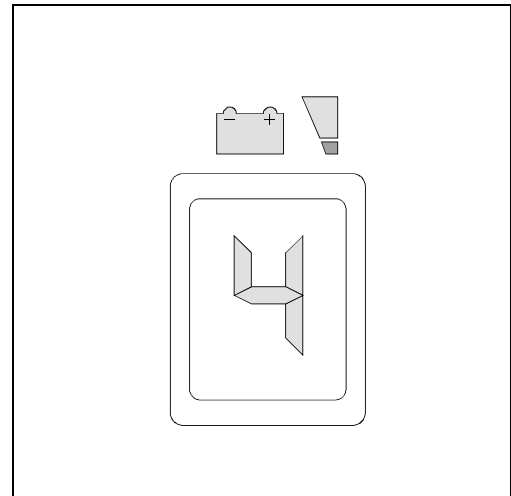
### 7. LEVEL INDICATOR FOR THE CHARGE OF THE BATTERIES

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) discharged batteries



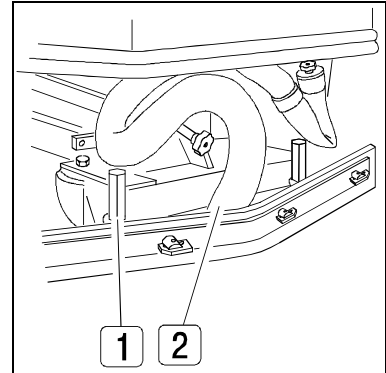
**WARNING!** Some seconds after that "0" blinks, the brushes motor automatically switches off. Anyway, the machine can finish to dry before recharging the batteries.



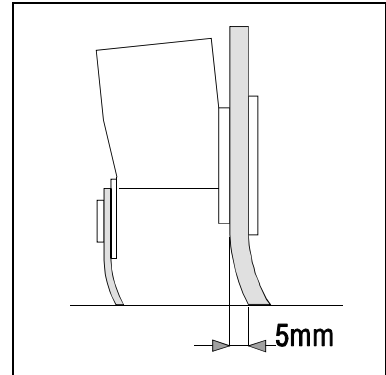
## MACHINE PREPARATION

### 8. SQUEEGEE

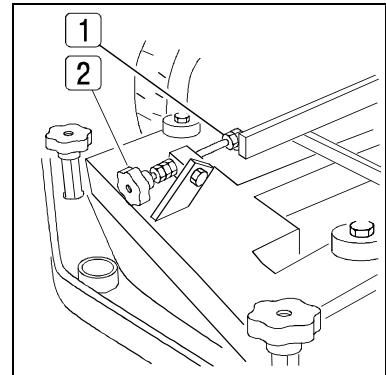
The squeegee, which is packed separately from the machine, should be assembled as shown in the figure, couple the stud bolts (1 - C85B) or the nuts (C100B) of the squeegee into their seats on the squeegee support and fix them with a key CH17. Fit the suction hose (2) into its coupling and fix it with the appropriate clamp.



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, tilt the squeegee body backwards, loosen the adjuster nut (1) and rotate the knob (2) counterclockwise. 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.

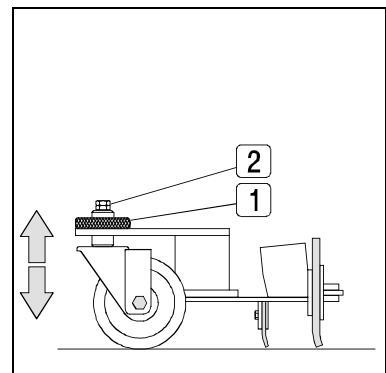


### 9. ADJUSTMENT HEIGHT SQUEEGEE SUPPORT

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)

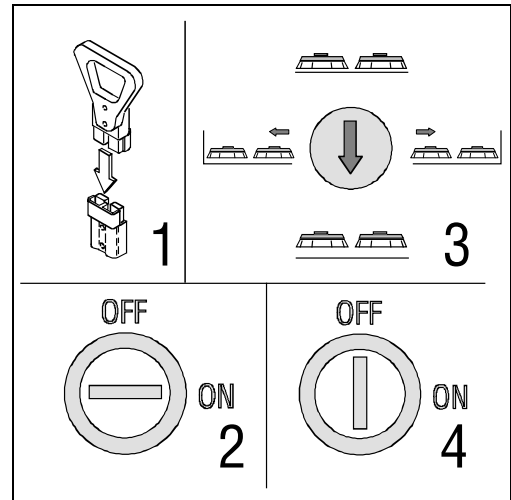
**NOTE:** The right and left castor wheels have to be regulated equally.



## MACHINE PREPARATION

### 10. BRUSHES ASSEMBLY

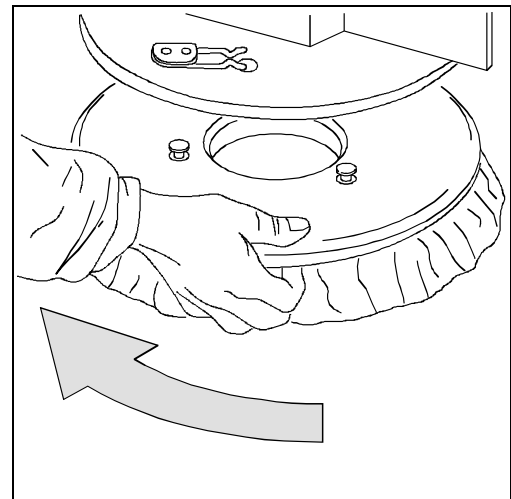
1. Connect the battery connector
2. Turn the key into position ON
3. With the manipulator lift the brushes base
4. Turn the key into position OFF and take it off from the instrument board (to carry out the operations of brushes assembly with connected current can cause damage to the hands).



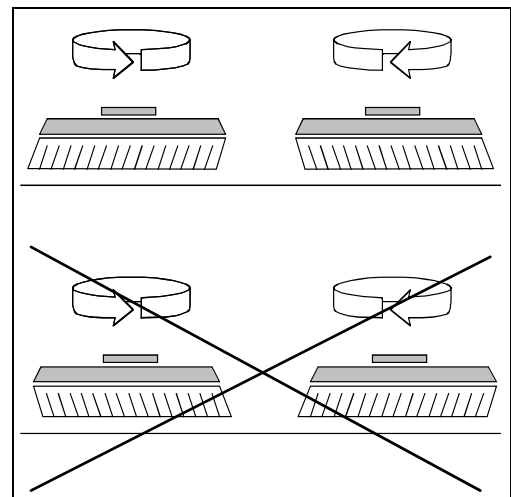
5. With the brushes base in lifted position, insert the brushes into the seat of the plate under the base until the three buttons fit into the holes of the plate. Turn the brush so that the buttons are pushed towards their retaining springs until the brush is clamped in place. The figure shows the direction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



**WARNING!** During this operation make sure that, there are not any objects or persons close to the brush.



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.



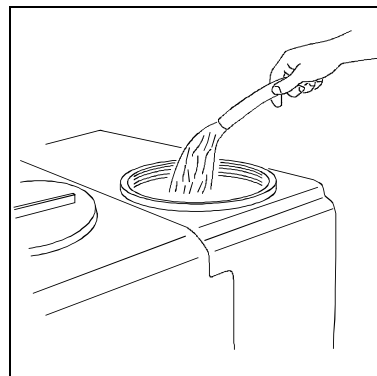
## MACHINE PREPARATION

### 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. Reassemble de cover.

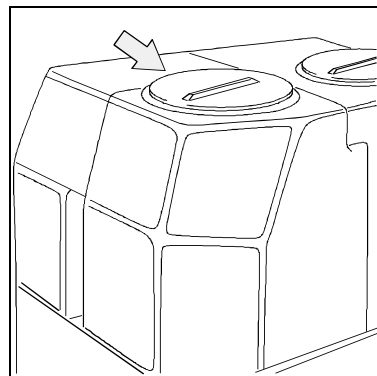


**WARNING!** Always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. **Never use pure acid.**

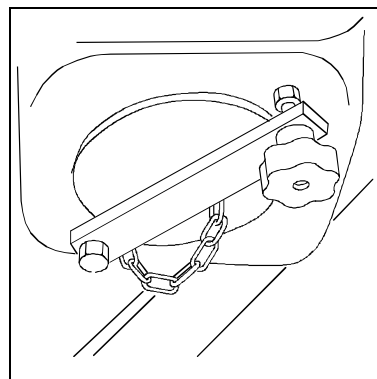


### 12. RECOVERY TANK

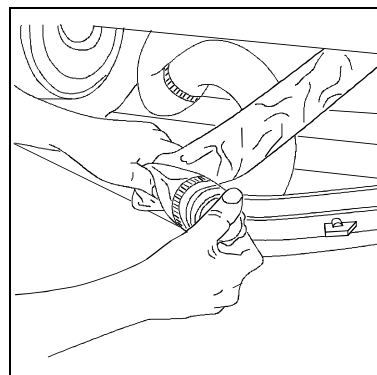
Check that the inspection cover has been tightened



and that the exhaust plug of the tank



and the plug of the exhaust pipe are closed



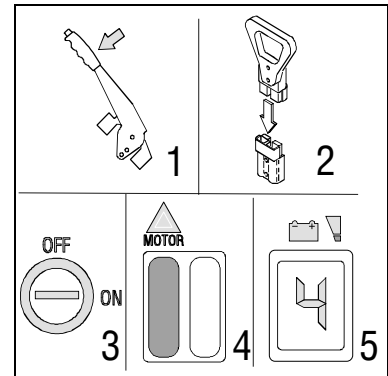
## GENERAL RULES OF SECURITY

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

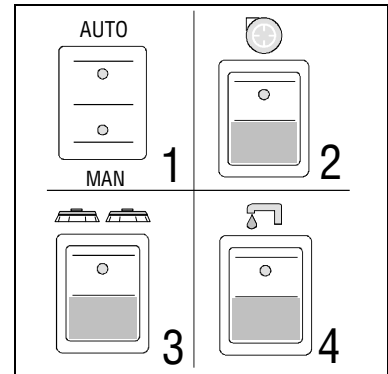
- ☐ Read the labels carefully on the machine. Do not cover them for any reason and replace them immediately if damaged
- ☐ The machine must be used exclusively by authorized staff that has been instructed for its use
- ☐ During the working of the machine, pay attention to other people and especially 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%
- ☐ The machine does not have to be used or stored outside
- ☐ Do not use the machine in explosive atmosphere
- ☐ The machine is not suitable to collect dangerous powders
- ☐ Do not vacuum inflammable liquids
- ☐ Do not use the machine as a means of transport
- ☐ Do not use acid solutions which could damage the machine and/or the persons
- ☐ Avoid working with the brushes when the machine stands still, in order to prevent floor damages
- ☐ 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 use the machine on areas having a higher gradient than the one stated on the number plate
- ☐ 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 **COMAC** dealer
- ☐ Use only original **COMAC** brushes indicated in the paragraph "CHOICE AND USE OF BRUSHES"
- ☐ In case of danger act immediately upon the emergency lever (connector placed on the left side of the operator)
- ☐ For any cleaning and 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
- ☐ Before using the machine, check that all doors and coverings are in their position as indicated in this use and maintenance catalogue
- ☐ Do not wash the machine with direct water jets or with high water pressure nor with corrosive material
- ☐ In order to avoid scales on the solution tank filter, do not fill the detergent solution many hours before the machines' use
- ☐ 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

## PERFORMANCE

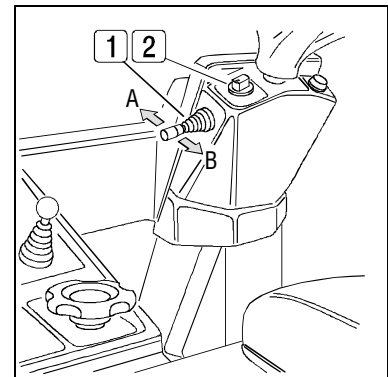
1. Carry out the operations for the preparation of the machine
2. Sit on the driver's seat
3. Check that the parking brake is released (1)
4. Connect the connector to the batteries (2)
5. Turn the key of the general switch (3) clockwise of a quarter turn. Immediately, the red signal lamp (4) on the instrument board begins to blink and the batteries' display (5) comes on. The blinking indicates that the checking of the brushes motor is taking place.



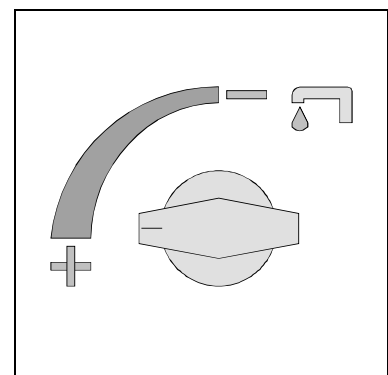
6. Place the switch into its automatic position (1)
7. Press the suction motor switch (2)
8. Press the brushes motor switch (3)
9. Press the solenoid valve switch (4)



10. Collocate forward the drive selector (1)
11. Select the speed movement rotating the knob (2)

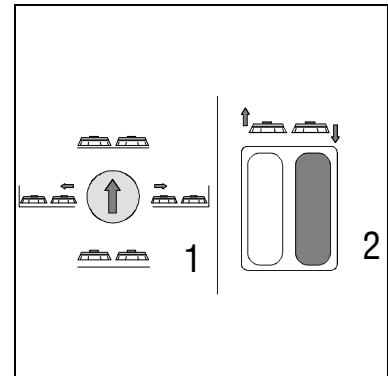


12. Open the cock rotating the knob counterclockwise. The signal lamp of the water comes on only during the moving period.

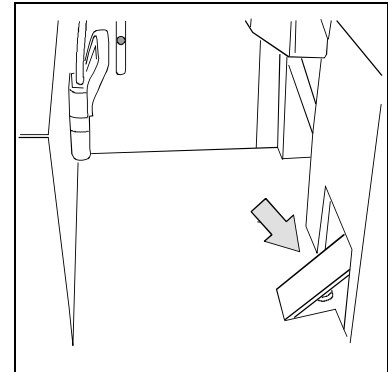


## PERFORMANCE

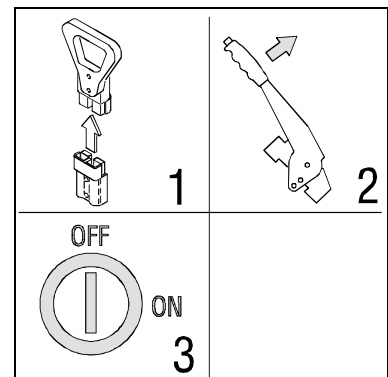
13. Push forward the brushes manipulator (1) so to lower the base. During the descent, the signal lamps of the actuator and the brushes motor come on. The brushes base will be in its working position when the yellow signal lamp (2) comes off.



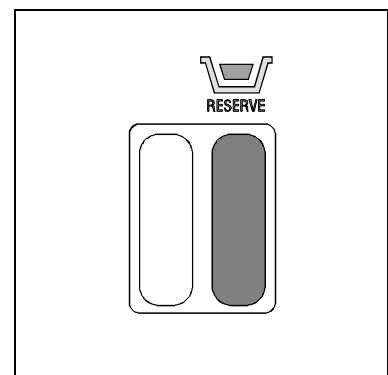
14. Press the accelerator pedal. The machine begins to move, the squeegee begins to lower itself and the suction motor comes on.  
During the first metres of operating, check that the brushes pressure is suitable (see further on under "BRUSHES PRESSURE"), that the quantity of the detergent solution is 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).



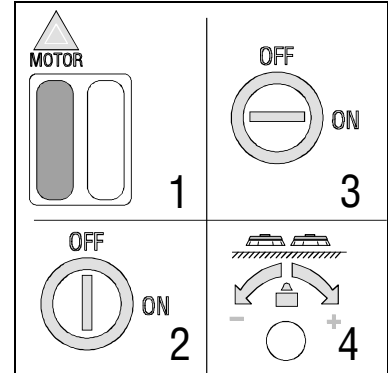
The machine will not start if the operator is not properly seated.  
When the solution tank is empty, the signal lamp on the instrument board comes on.  
When the recovery tank is full, the suction motor stops. To start it up again, even if the tank has been emptied, it is necessary to first turn off the main switch key and then on again.



## PERFORMANCE

### CHECK BRUSHES MOTOR

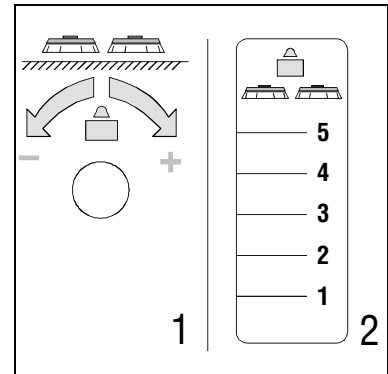
The brushes motor is electronically controlled. If it reaches pre-set overload limits, the red signal lamp (1) on the instrument board starts to blink. After a few seconds the motor stops and the signal lamp of the brushes switch goes off. To start up the motor again, turn the main switch key (2) off 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) counterclockwise.



### BRUSHES PRESSURE

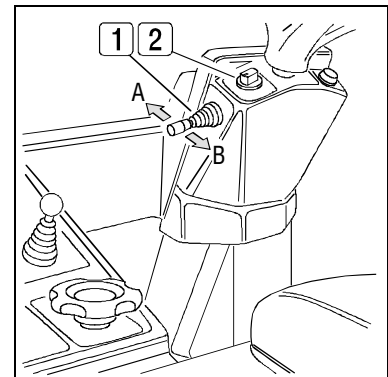
It is possible to adjust the brushes pressure using the hand wheel (1) placed on the left side of the operator. To increase the pressure rotate clockwise. The pressure gauge (2) moves up as pressure increases.

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

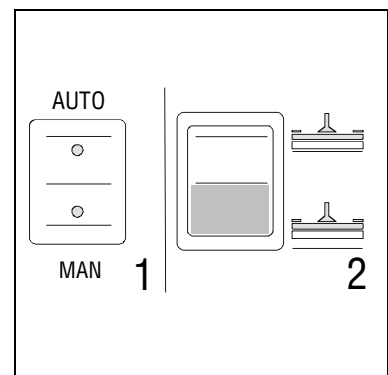


### TRACTION

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 movement speed can be adjusted rotating the selector (2).



**NOTE:** 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.



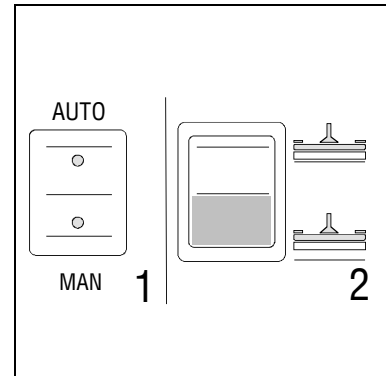


## PERFORMANCE

### SQUEEGEE AUTOMATIC - MANUAL

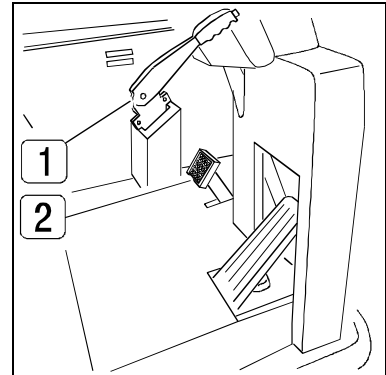
**Automatic:** If the switch is placed on automatic, lowering of the squeegee and starting of the suction motor are obtained with the machine advancement. Also, lifting of the squeegee and stopping of the suction motor are achieved with the reverse motion of the machine.

**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.



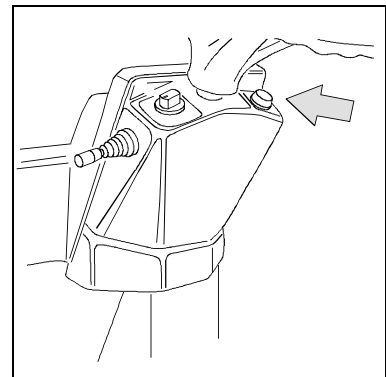
### BRAKES

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).



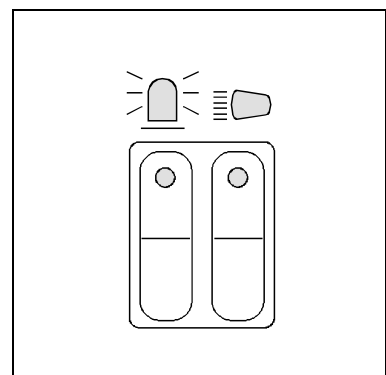
### HORN

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



### BLINKING AND WORKING LIGHTS

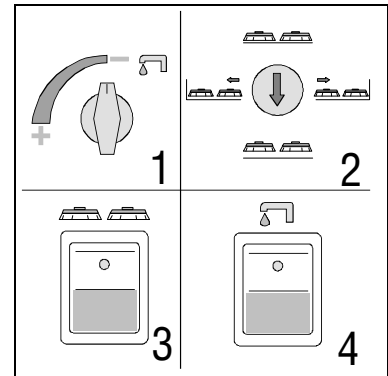
The machine is equipped with a blinking light, a rear working light and one (C85B) or two (C100B) front working lights. For their lighting press the switches as shown in the figure.



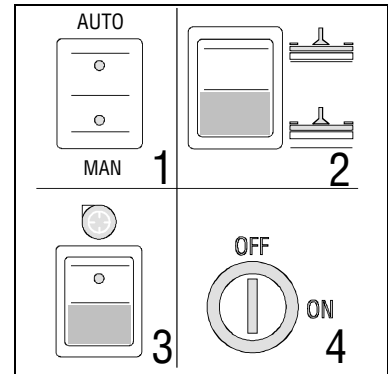
## ON COMPLETION OF THE WORK

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

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



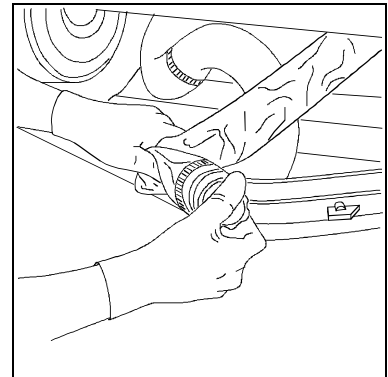
5. Place the squeegee switch onto manual
6. Lift the squeegee
7. Switch off the suction motor switch
8. Bring the machine up to the place provided for the water outlet
9. Turn the key 1/4 round counterclockwise



10. 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.



**WARNING!** This operation has to be carried out using gloves to protect from contact with dangerous solutions.



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

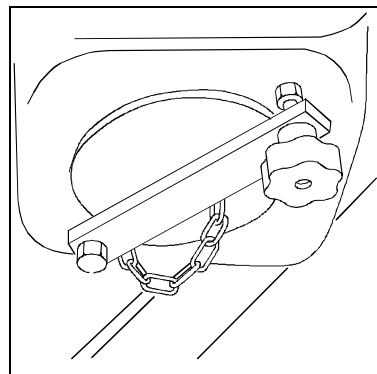
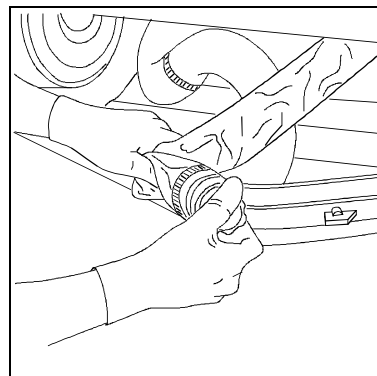


**WARNING!** During this operation make sure that, there are not any objects or persons close to the brush.

## DAILY MAINTENANCE

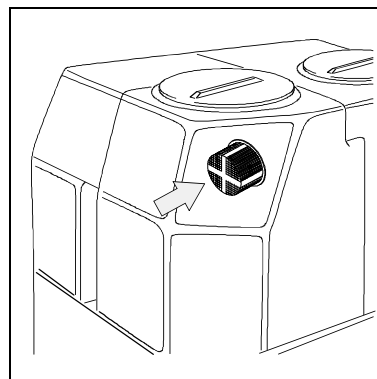
### CLEANING OF THE RECOVERY TANK

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
3. Rinse the tank and clean the exhaust plug
4. Check the perfect position of the side plug gasket
5. Retighten the side plug and the plug onto the exhaust pipe



### 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



### CLEANING OF THE SQUEEGEE

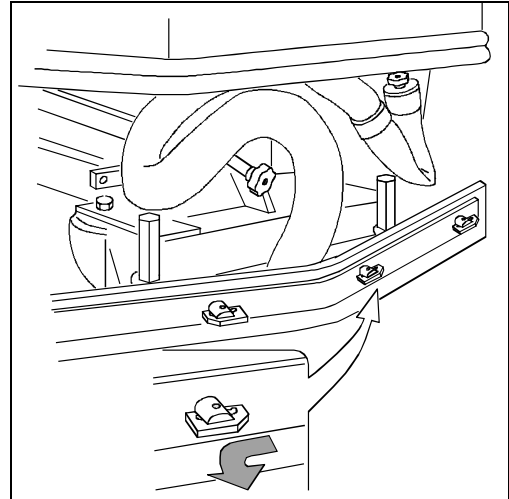
Clean the squeegee with a water jet. Check the rubber wear and if necessary, turn them upside-down or change them. The careful cleaning of the complete suction group assures higher life of the suction motor.

## DAILY MAINTENANCE

### REPLACEMENT OF THE SQUEEGEE RUBBER

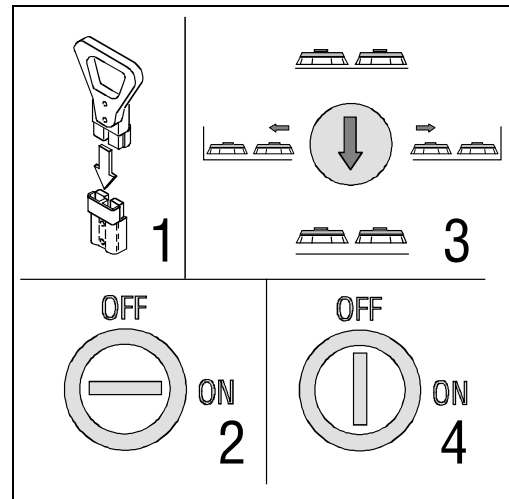
If the squeegee rubber is worn and does not dry well, it is possible to change the drying edge proceeding as follows:

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

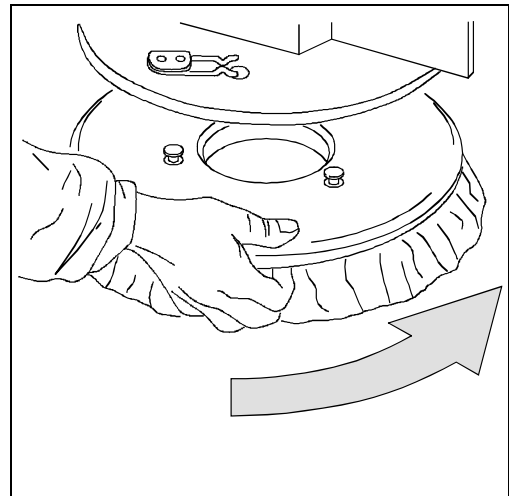
1. Connect the battery connector if it is not connected
2. Turn the key into position ON
3. With the manipulator lift the brushes base
4. Turn the key into position OFF and take it off from the instrument board (to carry out the operations of brush disassembly with connected current can cause damage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



**WARNING!** This operation has to be carried out using gloves to protect from contact with dangerous solutions.



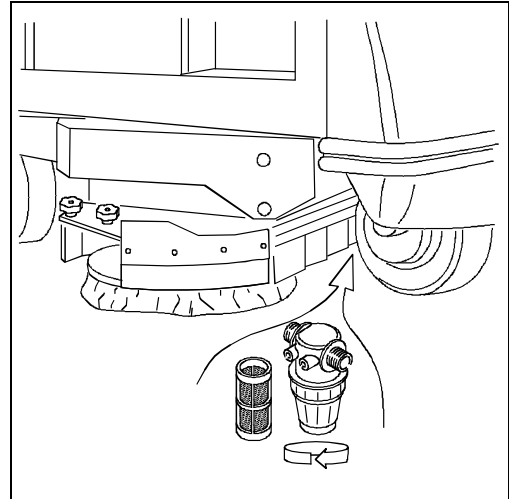
## DAILY MAINTENANCE

### SOLUTION TANK AND FILTER CLEANING (C85B)

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

**Note :** The filter can also be cleaned, when the solution tank is full. It is enough to remember to close the cock

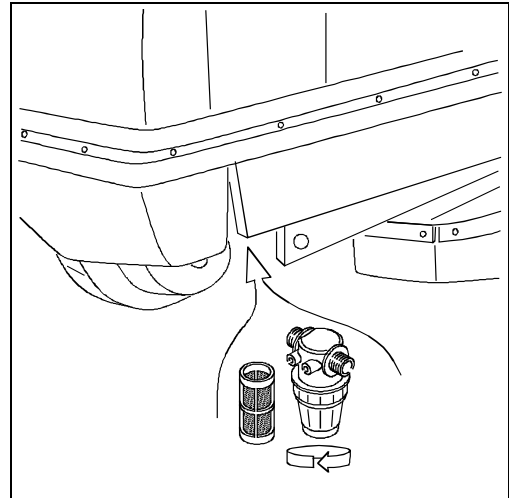


### SOLUTION TANK AND FILTER CLEANING (C100B)

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

**Note :** The filter can also be cleaned, when the solution tank is full. It is enough to remember to close the cock

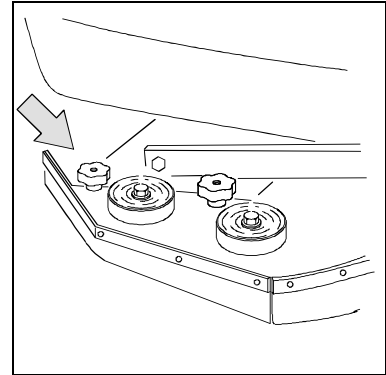


## WEEKLY MAINTENANCE

### ADJUSTMENT SPLASH GUARD BRUSHES BASE

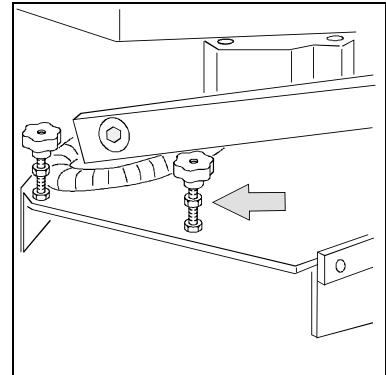
Periodically proceed with the height adjustment of the side covers of the brushes base. This operation has to be carried out with the brushes base down.

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



3. Tighten the upper nut with a key CH17 all that is necessary
4. Put the covers back into their position
5. 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.



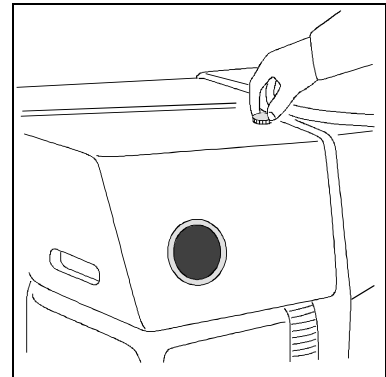
### CLEANING OF THE SUCTION HOSE

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 connected to the tank
4. Reassemble everything proceeding inversely with above operations

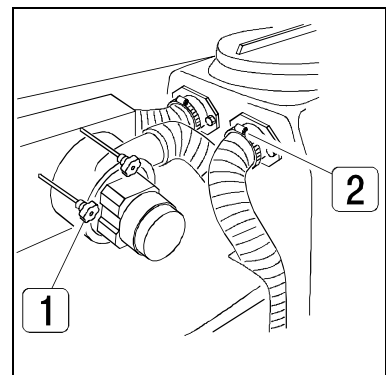


**WARNING!** Do not wash the hose, which goes from the suction motor to the recovery tank.



### CLEANING SUCTION MOTOR FILTER

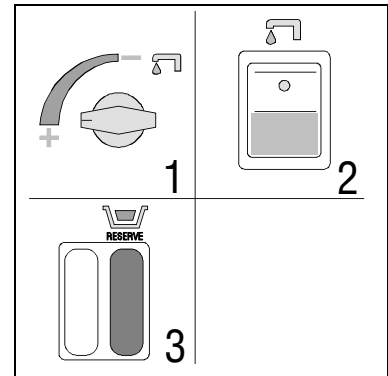
1. Unscrew the knob (fig.3) and take off the suction motor cover
  2. Unscrew the three knobs (1) which fix the suction motor to the support
  3. Take off the suction motor
  4. Extract the filter and clean it thoroughly
  5. Clean the inside of the suction motor box
- Reassemble everything proceeding inversely with above operations



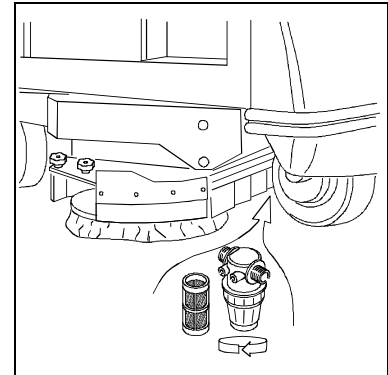
## TROUBLE SHOOTING GUIDE

### 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 SATISFACTORILY

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").

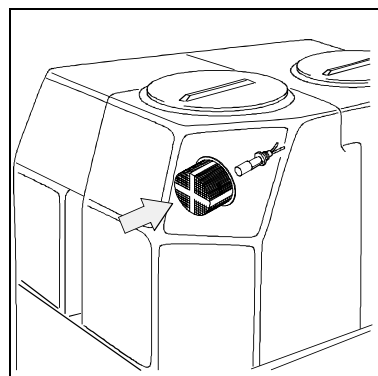
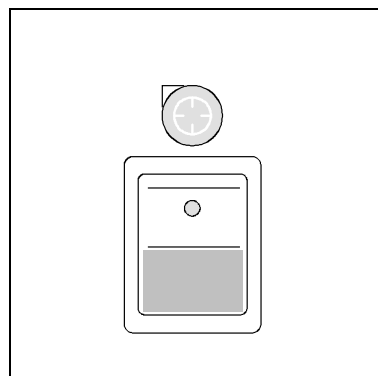
### THE SQUEEGEE DOES NOT DRY PERFECTLY

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

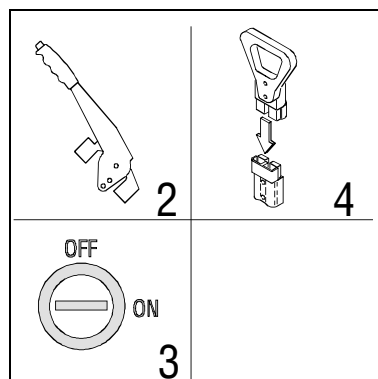
### THE SUCTION MOTOR DOES NOT FUNCTION

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 more the detergent.



## 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.

### ABRASIVE 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; it is used to descale floors which are anyhow resistant to the abrasion, very uneven or with wide joints.

### 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
C85B	2	66806060	PPL	1	430	Pad blocking
		66806070	NYLON	1	430	
		66806080	ABRASIVE	1	430	
		66803060	STEEL	3,3X0,6	430	
		66703010	Pad holder		410	
		66703020	Pad holder Center Lock		410	
C100B	2	66810070	PPL	1	510	Pad blocking
		66810110	PPL	0,6	510	
		66810080	ABRASIVE	1,5	510	
		66810420	STEEL	0,3	510	
		66710030	Pad holder		505	
		66710040	Pad holder Center Lock		505	

## BATTERIES

### TYPE OF BATTERY

For the power supply of the machine, use the following battery types:

- either lead batteries for traction use with tubular plates at free electrolyte;
- or sealed batteries for traction at recombination of gas with gel technology.

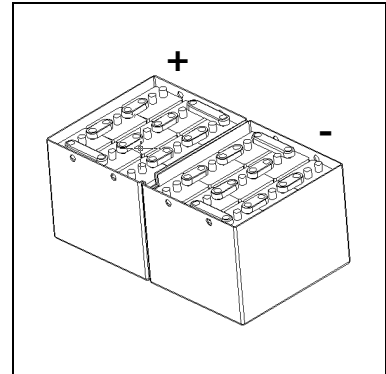
DO NOT USE OTHER TYPES OF BATTERIES.

Every battery is made of elements type DIN connected in series and assembled in two boxes each, each box supplies a power of 18V to the terminals.

The maximum dimensions and the weight of each box are:

C 85: width 500mm, length 350mm, height 505mm; weight 210kg

C100: width 590mm, length 420mm, height 435mm; weight 250kg



They have to be moved by means of appropriate lifting and transport equipment suitable for their weight and dimensions.

The batteries have to be hooked to the four holes present in the upper part of each box.

They have to be inserted into the battery compartment with the battery terminals as shown in the drawing.

They have to be connected in series, in order to obtain a voltage of 36V at the battery terminals.

The electric connection process has to be carried out by specialised staff trained by a Comac service center.

### MAINTENANCE OF THE BATTERY

For the maintenance and the recharge follow strictly the instructions given by the manufacturer of the batteries.

Pay particular attention to the choice of the battery-charger, which differs according to the type and capacity of the battery.

### DISPOSAL OF BATTERIES

When the battery is exhausted let carry out the disconnection by specialised and trained staff, hook them on the four provided holes of the box and lift them with suitable means out of the battery compartment.

IT IS OBLIGATORY TO HAND OVER THE EXHAUSTED BATTERIES, WHICH ARE CLASSIFIED AS DANGEROUS WASTE, TO A AUTHORIZED INSTITUTION CORRESPONDING TO THE DISPOSAL LAW.

