

USE AND MAINTENANCE MANUAL



SIMPLA 55BT-65BT-50BST

ED. 06-2011

EN

ORIGINAL
INSTRUCTIONS
Doc. 10021540
AC Version



The descriptions contained in this document are not binding.

The company therefore reserves the right to make any modifications at any time to elements, details, or accessory supply, as considered necessary for reasons of improvement or manufacturing/commercial requirements.

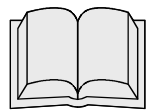
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The company reserves the right to make any technical and/or supply modifications. The images are for reference purposes only, and are not binding in terms of design and supply.

Symbols used in the manual



Open book symbol with an "i"
Indicates the need to consult the instruction manual



Open book symbol
Used to tell the operator to read the manual before using the machine



Warning symbol
Carefully read the sections marked with this symbol and observe the indications, for the safety of the operator and the machine



Warning symbol
Indicates danger of gas exhalation and leakage of corrosive liquids



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



Warning symbol
Indicates that the packed product should be handled with suitable lifting means that comply with the legal requirements



Disposal symbol
Carefully read the sections marked with this symbol, for machine disposal



CONTENTS

ON CONSIGNMENT OF THE MACHINE	5
INTENDED USE	5
INTRODUCTORY COMMENT	5
SERIAL NUMBER PLATE	5
TECHNICAL DESCRIPTION	5
SYMBOLS USED ON THE MACHINE	6
GENERAL SAFETY REGULATIONS	8
MACHINE PREPARATION	9
1. HANDLING THE PACKED MACHINE	9
2. HOW TO UNPACK THE MACHINE	9
3. HOW TO MOVE THE MACHINE	9
4. INSTRUMENT PANEL COMPONENTS	10
5. REAR COMPONENTS	10
6. SIDE COMPONENTS	10
7. TYPE OF BATTERY	11
8. BATTERY MAINTENANCE AND DISPOSAL	11
9. INSERTING/CONNECTING THE BATTERIES	11
10. RECHARGING THE BATTERIES WITH AN EXTERNAL BATTERY CHARGER (VERSIONS WITHOUT BC)	12
11. CONNECTION OF THE ELECTRICAL POWER SUPPLY CONNECTOR (FOR VERSIONS B-BT ONLY)	13
12. RECHARGING THE BATTERIES WITH BUILT-IN BATTERY CHARGER (VERSIONS WITH BC)	13
13. BATTERY INDICATOR	14
14. SQUEEGEE ASSEMBLY	14
15. ADJUSTING THE SQUEEGEE INCLINATION	15
16. ADJUSTING THE SQUEEGEE HEIGHT	15
17. RECOVERY TANK	15
18. SOLUTION TANK	15
19. DETERGENT SOLUTION (VERSIONS WITHOUT CDS)	16
20. DETERGENT SOLUTION (FOR VERSIONS WITH CDS ONLY)	16
21. EMPTY SOLUTION TANK DEVICE	17
22. ASSEMBLING THE SPLASH GUARD RUBBERS (BASES WITH DISC BRUSHES)	18
23. ASSEMBLING THE BRUSH (BASES WITH DOUBLE DISC BRUSH)	18
24. ASSEMBLING THE BRUSH (BASES WITH CYLINDRICAL BRUSHES) MX 50S	18
25. SOLUTION ADJUSTMENT (FOR VERSIONS WITHOUT CDS ONLY)	19
26. SOLUTION ADJUSTMENT (FOR VERSIONS WITH CDS ONLY)	19
27. POTENTIOMETER ADJUSTMENT	20
28. REVERSE FUNCTION	20
29. DETERGENT PUMP PRIMING (VERSIONS WITH FSS)	21
WORK	22
1. PREPARING TO WORK	22
2. OVERFLOW DEVICE	23
AT THE END OF THE WORK	24
1. AT THE END OF WORK	24
2. EMPTYING THE MX HOPPER	24
3. STORING OF THE MACHINE	25
DAILY MAINTENANCE	26
1. CLEANING THE RECOVERY TANK	26
2. CLEANING THE SUCTION FILTER	26
3. CLEANING THE SUCTION TUBE FILTER	26
4. DISASSEMBLING AND CLEANING THE SQUEEGEE	27
5. DISASSEMBLING THE BRUSH (B VERSIONS)	27
6. DISASSEMBLING THE BRUSH (BS VERSIONS)	27
7. CLEANING THE SOLUTION FILTER	28
WEEKLY MAINTENANCE	29
1. CLEANING THE SQUEEGEE TUBE	29
2. CHECKING THE WHEEL BRAKE	29
3. CLEANING THE SOLUTION TANK	29
4. REPLACING THE BRUSH HEAD SPLASH GUARDS	29
5. REPLACING THE SQUEEGEE RUBBERS	29
EXTRAORDINARY MAINTENANCE	31
1. SCRUBBING OF DOSING SYSTEM (VERSIONS WITH FSS)	31
TROUBLESHOOTING	32
1. INSUFFICIENT WATER ON THE BRUSH	32
2. THE MACHINE DOES NOT CLEAN WELL	32



3.THE SQUEEGEE DOES NOT DRY PERFECTLY	32
4.EXCESSIVE FOAM PRODUCTION.....	32
5. ELECTRIC FUSES AND THERMAL CUT-OUTS.....	32
DISPOSAL	33
CHOOSING AND USING THE BRUSHES.....	34
EC DECLARATION OF COMPLIANCE.....	35



On consignment of the machine

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

Introductory comment

SIMPLA 2009 is a floor scrubbing machine which, by means of the mechanical action of the rotating brush and the chemical action of a water/detergent solution, can clean any type of flooring. As it advances, it also collects any removed dirt as well as the detergent solution not absorbed by the floor.

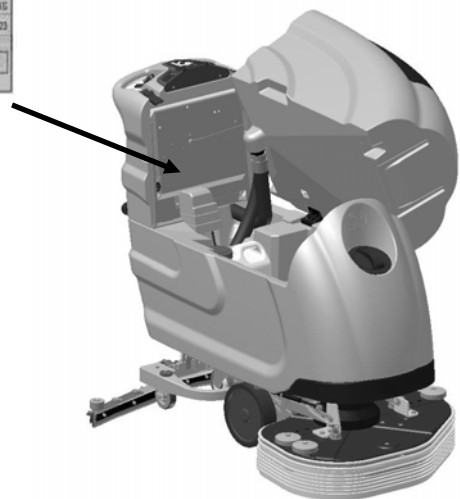
The machine must be used only for this purpose. Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you read this instruction booklet carefully and read it again whenever difficulties arise while using the machine. If necessary, remember that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

Intended use

The scrubbing machine is designed exclusively for the professional cleaning of surfaces and floors in industrial, commercial and public environments. The machine is only suitable for use in closed (or at least covered) places.

The machine is not suitable for use in the rain, or under water jets. It is **FORBIDDEN** to use the machine in places with a potentially explosive atmosphere, for picking up dangerous dusts or inflammable liquids. In addition, it is not suitable as a means of transport for people or objects.

Serial number plate



TECHNICAL DESCRIPTION	UM	SIMPLA 55BT	SIMPLA 65BT	SIMPLA 50BST
Rated power	W	1260	1260	1300
Working width	mm	560	660	500
Width of rear squeegee	mm	760	948	760
Work capacity	m ² /h	2240	2640	2000
Brushes (diameter or length)	∅ mm	290	340	110x500
Brush rotations	rpm	190	190	700
Pressure on the brushes	kg	30-40	30-40	30-40
Brush motor	V / W	24/560	24/560	24/600
Type of advance		autom	autom	autom
Maximum gradient	%	10%	10%	10%
Movement speed	km/h	0-4	0-4	0-4
Suction motor	V / W	24/330	24/330	24/330
Suction vacuum	mbar	90	90	90
Traction motor	V / W	24/150	24/150	24/150
Solution tank PE	l	55	55	55
Recovery tank PE	l	62	62	62
Total machine weight (empty and without batteries)	kg	125	125	140
Machine weight in running order (machine + batteries + water)	kg	270	270	275
Batteries	V / AhC5	12/150	12/150	12/150
Battery weight	kg	80	80	80
Battery charger *	V/A	24/15	24/15	24/15
Battery compartment dimensions (Length / Height / Width)	mm / mm / mm	350x310x325	350x310x325	350x310x325
Machine dimensions (Length / Height / Width)	mm / mm / mm	1320x1040x600	1400x1040x700	1350x1040x610
Noise level (in compliance with IEC 704/1)	dB (A)	59.2	59.2	59.2
Vibration level	m/s ²	1.16	1.16	1.16

* CB models with built-in battery charger



SYMBOLS USED ON THE MACHINE



Tap symbol
Used to indicate water regulation changes (CDS versions)



Detergent symbol
Used to indicate detergent regulation changes (CDS versions)



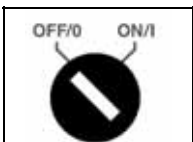
Indicator showing battery charge level on the upper line and hour-counter on the lower line



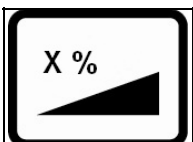
Indicator showing the type of hour-counter (total) on the upper line and the type of service (none) on the lower line



Indicator showing the type of technology of the batteries used (lead)



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



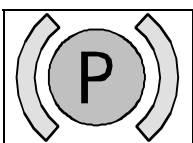
Indicates the maximum gradient



Battery symbol



Indicates the maximum temperature of the detergent solution
Located near the solution tank inlet



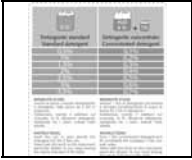
Symbol denoting brake
Located above the emergency and parking brake lever



SYMBOLS USED ON THE MACHINE



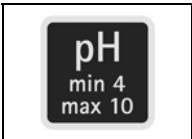
Indicates the risk of crushed hands



Indicates the instructions for measuring the detergent in the canister (machine version DS only)



Label with warning about the type of detergent used (for FSS system only)



Label with the pH value of the detergent to be used (for FSS system only)



GENERAL SAFETY REGULATIONS

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

WARNING:

- ρ Read the labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged.
- ρ The machine must be exclusively used by authorised, trained personnel.
- ρ The machine is designed for dry use only.
- ρ Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- ρ The machine is not suitable for cleaning rough or uneven floors. Do not use the machine on slopes.
- ρ Avoid damaging the power supply cable by crushing or bending it, or applying stress.
- ρ If the power supply cable of the battery charger is damaged, contact an Authorised service centre immediately.
- ρ Do not let the power cable come into contact with the rotating brush.
- ρ In the event of danger, quickly intervene on the handle located on the battery connector.
- ρ For all maintenance interventions, switch off the machine and disconnect the battery connector and/or the power supply cable.
- ρ Children must be supervised to ensure they do not play with the device.
- ρ During the working of the machine, pay attention to other people and especially to children.
- ρ Only use the brushes supplied with the machine, or those specified in the "CHOOSING AND USING THE BRUSHES" paragraph of the instruction manual. The use of other brushes could compromise safety levels.

ATTENTION:

- ρ The machine is not suitable for use by children and persons with reduced physical, mental and sensory capabilities, or people who lack experience and knowledge.
- ρ The machine must not be used or stored outdoors, in damp conditions or directly exposed to rain.
- ρ The storage temperature must be between -25°C and +55°C; do not store outdoors in damp conditions.
- ρ Conditions of use: room temperature between 0°C and 40°C with relative humidity between 30 and 95%
- ρ The socket for the machine's power cable (electric version) or for the battery charger power cable (battery version) must be correctly earthed.
- ρ Adapt the speed to the adhesion conditions.
- ρ Do not use the machine as a means of transport.
- ρ The machine does not cause harmful vibrations.
- ρ Do not use the machine in an explosive atmosphere.
- ρ Do not vacuum inflammable liquids.
- ρ Do not use the device to collect dangerous powders.
- ρ Do not mix different types of detergent as this may produce harmful gases.
- ρ The machine is not suitable for cleaning carpets.
- ρ Do not place any liquid containers on the machine.
- ρ Avoid working with the brushes when the machine is standing still, so as not to damage the floor.
- ρ In the event of a fire, use a powder extinguisher. Do not use water.
- ρ Do not knock against shelving or scaffolding, where there is a danger of falling objects. The operator must always be equipped with the appropriate safety devices (gloves, shoes, helmet, goggles, etc.).
- ρ The machine is designed to simultaneously carry out the washing and drying operations. Different operations should only be carried out in areas where the passage of unauthorised persons is prohibited. Signal the presence of damp floors with suitable signs.
- ρ If the machine does not work properly, check this is not caused by failure to carry out routine maintenance. Otherwise, ask for intervention of the authorised technical assistance centre.
- ρ If you need to replace any components, request the ORIGINAL spare parts from an Authorised dealer and/or Retailer.
- ρ Restore all electrical connections after any maintenance interventions.
- ρ Before using the machine, check that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- ρ Do not remove any protection devices which require the use of tools in order to be removed.
- ρ Do not wash the machine with direct water jets or with pressurised water, nor with corrosive substances.
- ρ To prevent scaling in the solution tank filter, do not fill the tank with detergent solution many hours before using the machine.
- ρ Do not use acid or basic solutions that could damage the machine and/or harm people.
- ρ Have the machine checked by an authorised technical assistance centre every year.
- ρ When disposing of consumption materials, comply with currently effective laws and regulations.
- ρ When your machine has reached the end of its long working life, dispose of the materials it contains (especially oils, batteries and electronic components) in an appropriate manner, taking into account that the machine itself was constructed using 100% recyclable materials.
- ρ The batteries must be removed from the machine before its disposal. The batteries must be disposed of in a safe manner, fully observing the laws and regulations in force.



MACHINE PREPARATION

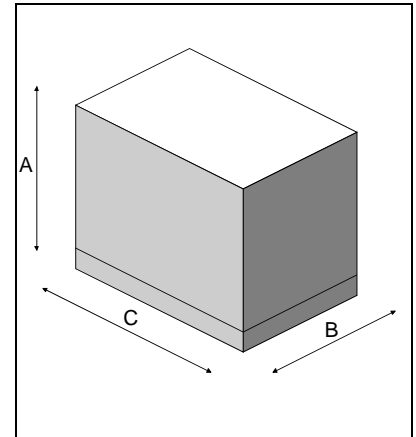
1. HANDLING THE PACKED MACHINE

The machine is contained in specific packaging.

It is not possible to place more than two packages on top of each other.

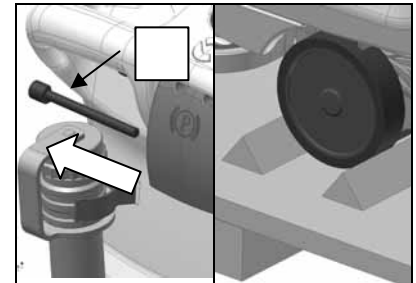
The overall dimensions of the package are:

	SIMPLA 50BST-65BT	SIMPLA 65BT
A	1077	1152
B	654	764
C	1424	1684



2. HOW TO UNPACK THE MACHINE

1. Remove the outer packaging.
2. Release the parking brake by removing the blocking pin (1).
3. The machine is fixed to the pallet with wedges which block the wheels.
4. Remove these wedges.



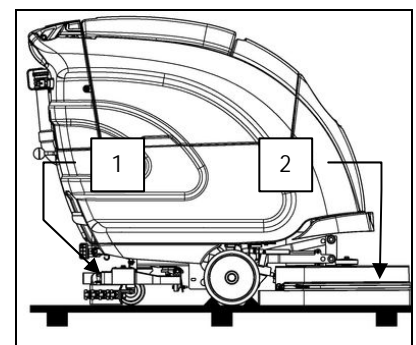
5. Use a chute to get the machine down from the pallet, pushing it backwards. Do not assemble the rear squeegee before unloading the machine, and avoid violently jolting the brush base. To assemble the squeegee, read the "ASSEMBLING THE SQUEEGEE" paragraph.
6. Keep the pallet for any future transport needs.



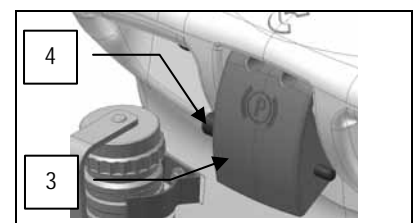
ATTENTION: if the product is delivered in cardboard containers, handle the packed product with suitable lifting means that comply with the legal requirements.

3. HOW TO MOVE THE MACHINE

1. To safely transport the machine, the pallet should be used to support the machine, using a chute to position the machine on the pallet and secure the wheels using the wooden wedges, as shown in the previous paragraph.
2. Lower the squeegee (1) by means of the lever or the key (AU version).
3. Use the lever or key (AU version) to lower the base (2) until the brushes are resting on the floor.



4. Pull the brake lever (3) and block the machine using the pin (4).



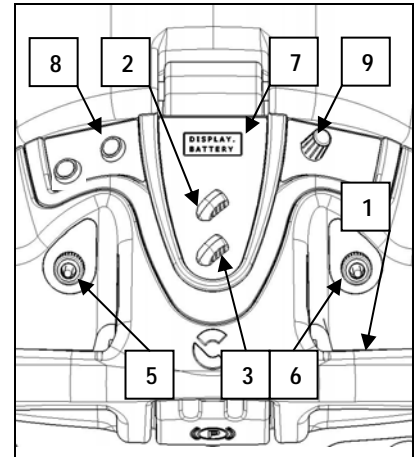


MACHINE PREPARATION

4. INSTRUMENT PANEL COMPONENTS

The instrument panel components are identified as follows:

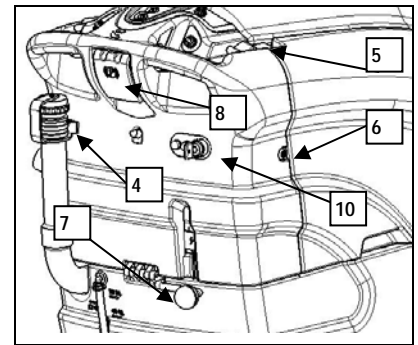
- 1- levers to activate brushes/traction (located beneath the grip)
- 2- Water outlet regulation switch (CDS versions)
- 3- Detergent outlet regulation switch (CDS versions)
- 5- automatic squeegee command lever (automatic version)
- 6- Automatic base command lever (automatic version)
- 7- battery level / hour-counter display
- 8- command button for the monitor of the hour-counter battery level
- 9- speed level key



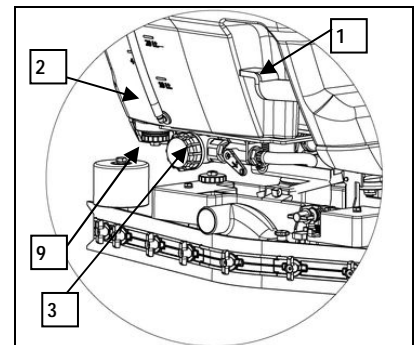
5. REAR COMPONENTS

The rear components are identified as follows:

1. Brush lifting pedal
2. Water level tube
3. Solution filter
4. Drainage tube with recovery tank cap



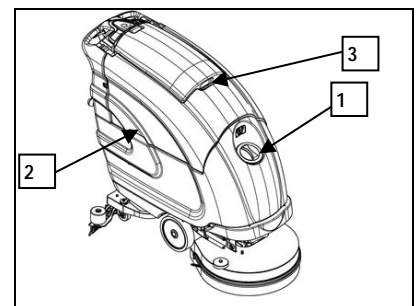
5. Tank closure hinges
6. Handlebar fastening screws
7. Squeegee lifting lever
8. Brake lever
9. Solution tank drainage cap
10. Key switch and circuit breakers



6. SIDE COMPONENTS

The side components are identified as follows:

1. Solution water filler cap
2. Recovery tank lifting handle
3. Suction unit lifting handle





MACHINE PREPARATION

7. TYPE OF BATTERY

To power the machine it is necessary to use:

- liquidelectrolyte lead traction batteries
- sealed traction batteries with gasrecombination or gel technology

OTHER TYPES MUST NOT BE USED.

The batteries must meet the requisites laid out in standards CEI EN 60254-1:2005-12 (CEI 21-5) + CEI EN 60254-2:2008-06 (CEI 21-7).

Every battery consists of DIN-type elements connected in series and providing the clamps with a power of 6V. You are advised to use batteries with an electric capacity of 120Ah (C5)



8. BATTERY MAINTENANCE AND DISPOSAL

For maintenance and recharging, respect the instructions provided by the battery manufacturer.

Particular attention must be paid when choosing the battery charger, if not supplied, since there are different kinds according to the type and capacity of the battery.

When the battery reaches the end of its working life, it must be disconnected by expert, trained personnel, then lifted (using the grips and suitable lifting devices) to remove it from the battery compartment. EXHAUSTED BATTERIES ARE CLASSIFIED AS DANGEROUS WASTE AND MUST BE CONSIGNED TO THE AUTHORISED BODIES FOR CORRECT DISPOSAL.



ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands



ATTENTION: You are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size

9. INSERTING/CONNECTING THE BATTERIES

The machine may be supplied with batteries and a built-in battery charger.

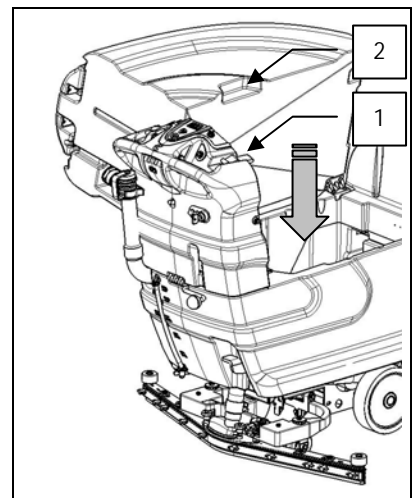
If batteries other than those supplied with the machine are used, have the battery charger and battery control card configuration checked by a qualified, COMAC-trained technician.

Perform a battery charging cycle before using the machine.

The batteries must be housed in the special compartment beneath the recovery tank.

To insert the batteries you must:

1. Lower the squeegee and base (see the appropriate chapter)
2. release the hinges (1) on the handlebars
3. Rotate the tank as far as it will go, using the side handle (2)
4. Lift the batteries by means of the grips on the upper part
5. house the batteries in the compartment, positioning the poles "+" and "-" opposite each other
6. connect the batteries in series - using the jumper cables supplied (3) - to the poles "+" and "-"
7. connect the battery connector cable (4) to the terminal poles "+" and "-" to obtain a voltage of 24V on the clamps





MACHINE PREPARATION



ATTENTION: you are advised to use airtight batteries only, to avoid the leakage of acids!

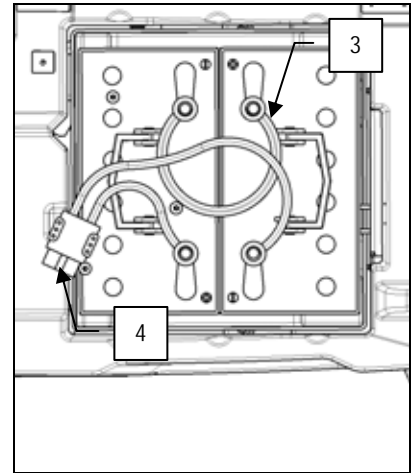
ATTENTION: you are advised to have the electric connections made by a qualified, COMAC-trained technician



ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands



ATTENTION: You are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size



ATTENTION: Connect the traction motor connector before fitting the batteries. this process must be carried out by qualified personnel. An incorrect connection of the connector may cause problems with machine functioning.

This operation is possible for machines with traction only

10. RECHARGING THE BATTERIES WITH AN EXTERNAL BATTERY CHARGER (VERSIONS WITHOUT BC)

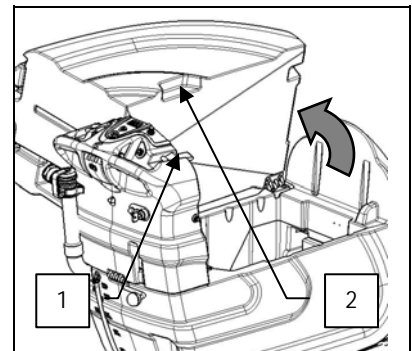
In order not to cause permanent damage to the batteries it is essential to avoid their complete discharge: arrange the recharge within a few minutes of the switching on of the flashing "discharged batteries" signal.



NOTE: never leave the batteries completely discharged, even if the machine is not being used. While recharging, keep the recovery tank raised, supporting it with the cable, as shown in the figure. Check the battery charger is suitable for the batteries installed, in terms of both capacity and type.

To charge the battery proceed as follows:

1. Engage the parking brake.
2. Check that the machine's master switch is in the "0" position.
3. Lower the base by means of the pedal on the back of the machine
4. Lower the squeegee by means of the lever on the back of the machine.
5. Check the recovery tank is empty, otherwise empty it (see the appropriate chapter).
6. release the hinges (1) on the handlebars
7. Rotate the tank as far as it will go, using the side handle (2)



8. Attach the battery charger connector to the battery connector.
Allow the battery to charge until the green LED of the charger lights



ATTENTION: Carefully read the use and maintenance instructions of the battery charger that is used for charging.



ATTENTION: Keep the recovery tank open for the duration of the battery recharging cycle to allow gas fumes to escape



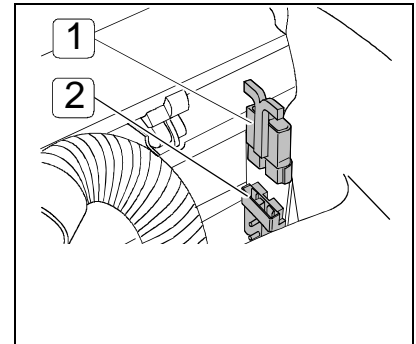
MACHINE PREPARATION

11. CONNECTION OF THE ELECTRICAL POWER SUPPLY CONNECTOR (FOR VERSIONS B-BT ONLY)

Proceed as follows to connect the machine connector to the battery connector:

1. Engage the parking brake.
2. Check that the machine's master switch is in the "0" position.
3. Lower the base by means of the pedal on the back of the machine
4. Lower the squeegee by means of the lever on the back of the machine.
5. Check the recovery tank is empty, otherwise empty it (see the appropriate chapter).
6. release the hinges (1) on the handlebars
7. Rotate the tank as far as it will go, using the side handle (2)

Make sure the main switch is disconnected (the key must be set to "0").



8. Connect the machine connector (1) to the battery connector (2)
9. Close the recovery tank, always using the side handle to avoid crushing hands.
10. Close the hinge located on the handlebars, lift the base and the squeegee.



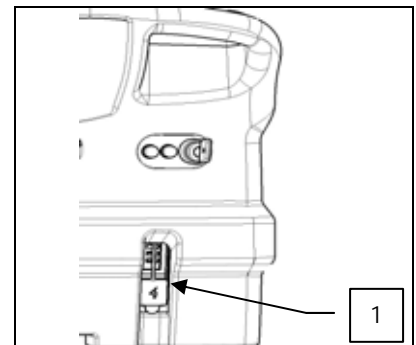
ATTENTION: this is done only once for machines with built-in battery charger, with the exception of maintenance operations

12. RECHARGING THE BATTERIES WITH BUILT-IN BATTERY CHARGER (VERSIONS WITH BC)

The machine is shipped with the battery connector (if supplied) disconnected, connect the battery connector to the machine connector (see previous paragraph).

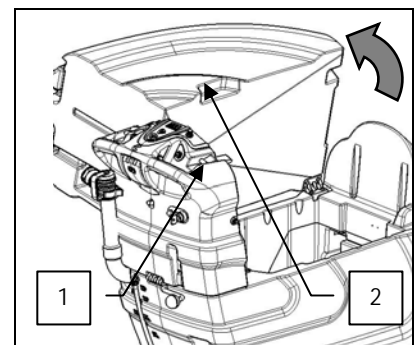
To charge the gel battery proceed as follows:

1. Engage the parking brake.
2. Check that the machine's master switch is in the "0" position.
3. Lift the battery charger socket guard (1) on the back of the machine.
4. Plug the battery charger cable into the electrical system of the machine.
5. Plug the power supply cable of the charger into the mains socket.

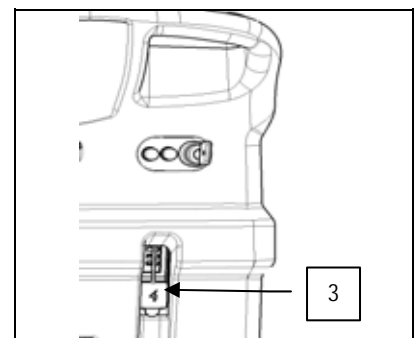


To charge the lead acid batteries proceed as follows:

1. Engage the parking brake.
2. Check that the machine's master switch is in the "0" position.
3. Lower the base by means of the pedal on the back of the machine
4. Lower the squeegee by means of the lever on the back of the machine.
5. Check the recovery tank is empty, otherwise empty it (see the appropriate chapter).
6. release the hinges (1) on the handlebars
7. Rotate the tank as far as it will go, using the side handle (2)



8. Lift the battery charger socket guard (3) on the back of the machine.
9. Plug the battery charger cable into the electrical system of the machine.
10. Plug the power supply cable of the charger into the mains socket.



When replacing the battery, be sure to use batteries suitable for the battery charger installed.



ATTENTION: the machine is equipped with an automatic system that disconnects the power supply from the electrical system while the batteries are being recharged



MACHINE PREPARATION



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

ATTENTION: never leave the batteries completely discharged, even if the machine is not being used



ATTENTION: for the daily recharging of the batteries, you must fully respect the indications provided by the manufacturer or retailer. All installation and maintenance operations must be carried out by expert personnel, trained at the COMAC assistance centre

WARNING Make sure that the battery charger green LED is on before using the machine again



ATTENTION: danger of exhalation of gas and leakage of corrosive liquids



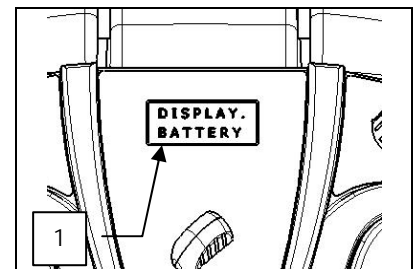
ATTENTION: danger of fire: do not go near with free flames

13. BATTERY INDICATOR

On the instrument panel of the machine there is a monitor (1) indicating (amongst other things) the battery charge status. If the upper line contains 8 light indicators, the battery charge level is 100%. If the edges of the indicators are flashing, this means the batteries are run down.



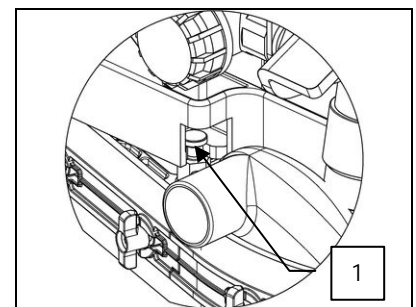
ATTENTION: a few seconds after the last indicator on the monitor has flashed, the brush motor will automatically switch off. With the remaining charge it is possible to complete the drying process before recharging



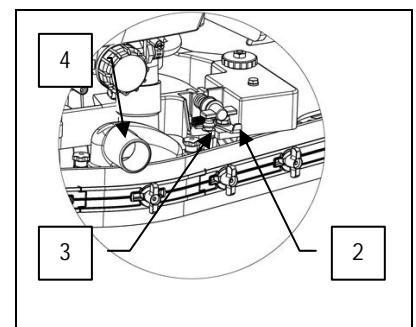
14. SQUEEGEE ASSEMBLY

For packaging reasons, the squeegee is supplied disassembled from the machine, and must be assembled on the machine connection. It is necessary to raise the squeegee coupling using the lever, and then:

1. raise the squeegee and insert the small left-hand column (1) in the connection hole
2. push the connection lever (2) to the left
3. raise the squeegee and insert the small right-hand column (3) in the connection hole
4. release the connection lever (2) so it is blocked in the flat housing of the small column
5. insert the suction tube in the appropriate squeegee sleeve (4), ensuring that the tube lies to the right of the lifting cable



ATTENTION: these operations must be carried out using protective gloves to avoid any possible contact with the edges or tips of metal objects

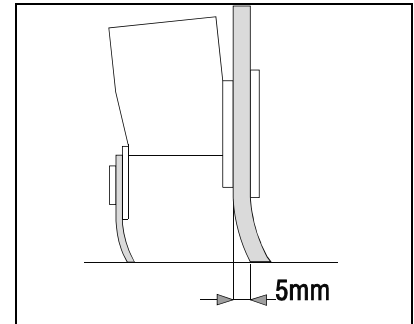




MACHINE PREPARATION

15. ADJUSTING THE SQUEEGEE INCLINATION

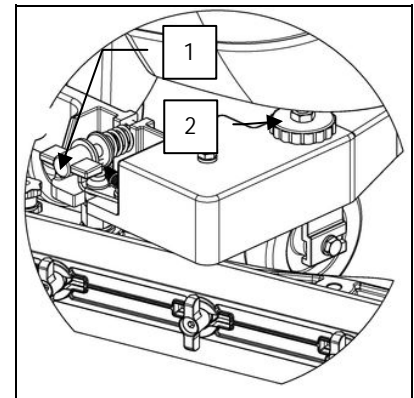
During working operation, the rear rubber is tilted slightly backwards (by about 5mm) in a uniform way for its whole length. If it is necessary to increase the bend of the rubber in the central part, you must tilt the squeegee backwards, rotating the adjuster (1) anticlockwise. To increase the bend of the rubber at the sides of the squeegee, rotate the set screw clockwise.



16. ADJUSTING THE SQUEEGEE HEIGHT

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

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

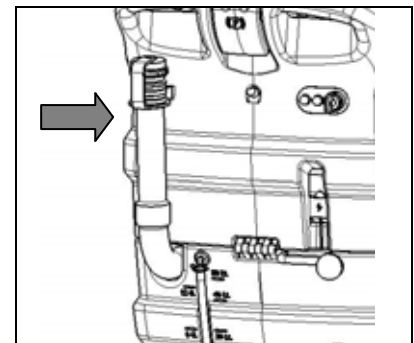


17. RECOVERY TANK

Check the cap of the drainage tube (on the rear of the machine) is correctly closed.



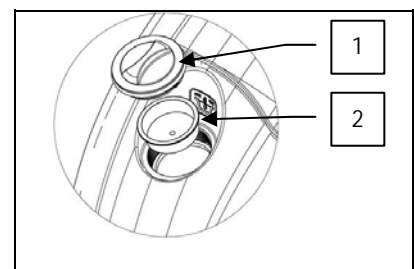
ATTENTION: To avoid foam production, put a minimum quantity of antifoam liquid in the recovery tank before starting to clean



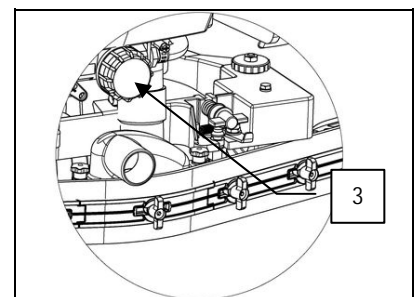
18. SOLUTION TANK

The recovery tank must be completely empty each time the solution tank is filled.

Remove the front-mounted hopper (1) and check the solution filter (2) is correctly assembled.



Check that the detergent solution filter cap (3), located at the rear of the solution tank, is properly closed.

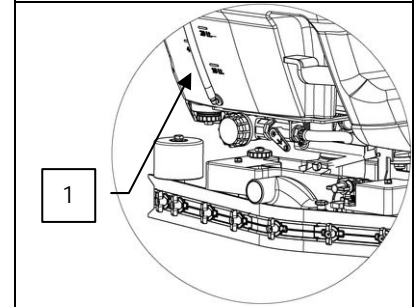




MACHINE PREPARATION

19. DETERGENT SOLUTION (VERSIONS WITHOUT CDS)

1. Check the switch key is set to "0" (for the electric version, check that the power cable is unplugged from the mains).
2. Apply the parking brake by pulling the lever and blocking the handle with the pin.
3. Make sure the recovery tank is empty before opening, if full empty it.
4. Remove the front solution tank cap and fill with clean water at a temperature not exceeding 50°C. The amount present in the tank can be seen through the rear level tube (1). The solution tank has a maximum capacity of about 60 litres.
5. Add the liquid detergent to the tank in the concentration and manner indicated on the detergent manufacturer's label. The formation of excess foam could damage the suction motor, so use only the minimum amount of detergent necessary. In addition, you are advised to always use low foam detergents. Do not use pure acids.



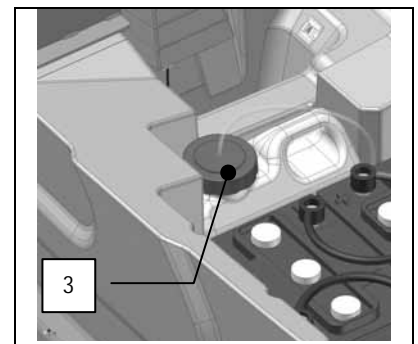
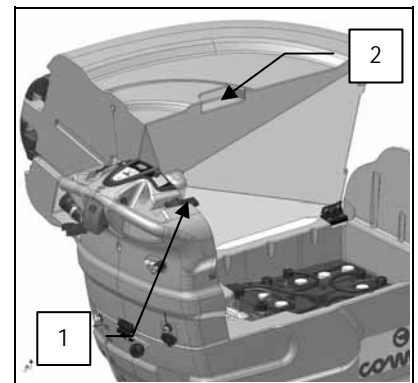
WARNING: always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication. In addition, you are advised to always use low foam detergents. Do not use pure acids.



WARNING: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands

20. DETERGENT SOLUTION (FOR VERSIONS WITH CDS ONLY).

1. Check the switch key is set to "0" (for the electric version, check that the power cable is unplugged from the mains).
2. Apply the parking brake by pulling the lever and blocking the handle with the pin.
3. Make sure the recovery tank is empty before opening, if full empty it.
4. Release the hinges (1) on the handlebars.
5. Rotate the recovery tank as far as it will go, using the side handle (2).
6. Unscrew the cap (3) of the canister in the compartment (behind the batteries) and fill it with liquid detergent in the manner indicated on the label supplied with the machine.
7. Check the screw cap is well closed, to avoid any liquid leaking out while the machine is being used.
8. Close the recovery tank, rotating it by hand. Only hold the recovery tank by the handle (2), to avoid crushing your hands.

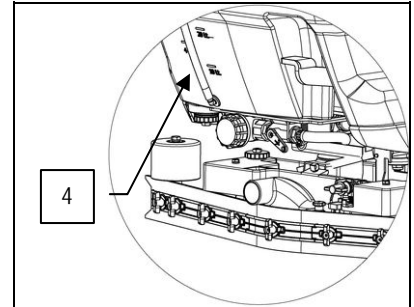




MACHINE PREPARATION

9. Remove the front solution tank cap and fill with clean water at a temperature not exceeding 50°C. The amount present in the tank can be seen through the rear level tube (4). The solution tank has a maximum capacity of about 60 litres.

To regulate the water/detergent mixture, carefully read the "REGULATING THE DETERGENT WITH THE CDS SYSTEM" paragraph.



ATTENTION: always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication.

In addition, you are advised to always use low foam detergents.

Do not use pure acids or detergents with a stronger gradation than that indicated on the label supplied.

Detergente standard Standard detergent	Detergente concentrato Concentrated detergent
1.0%	0.1%
1.5%	0.15%
2.0%	0.2%
2.5%	0.25%
3.0%	0.3%
3.5%	0.35%
4.0%	0.4%

MODALITÀ D'USO
 Usare il sistema di dosaggio per pulizie di manutenzione frequenti.
 È possibile utilizzare detergenti di manutenzione acidi, in soluzioni con valori di pH compresi tra 4-10 in caso di sporco alcalino, oppure alcalini, con valori di pH compresi tra 11-14, utilizzando la tecnologia della macchina tradizionale aggiungendo il detergente nel serbatoio acqua pulita ed escludendo il circuito di dosaggio.

AVVERTENZE:
 Non usare mai acqua saponificata, acqua calda o acqua con additivi per lavaggio. Il sistema è studiato per l'uso di soluzioni di detergenti con pH compreso tra 4-10 o 11-14, utilizzando la tecnologia della macchina tradizionale aggiungendo il detergente nel serbatoio acqua pulita ed escludendo il circuito di dosaggio.

AVVERTENZE:
 Non usare mai acqua saponificata, acqua calda o acqua con additivi per lavaggio. Il sistema è studiato per l'uso di soluzioni di detergenti con pH compreso tra 4-10 o 11-14, utilizzando la tecnologia della macchina tradizionale aggiungendo il detergente nel serbatoio acqua pulita ed escludendo il circuito di dosaggio.



ATTENTION: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands



ATTENTION: the metering system is particularly suitable for frequent maintenance cleaning.

Acid or alkaline detergents can be used with pH values between 4 and 10 and that do not contain: oxidising agents, chlorine or bromine, formaldehyde, mineral solvents.

The detergents used must be suitable for use with scrubbing machines.

If the system is not used on a daily basis, wash the circuit with water after use. The system can be excluded. In the case of occasional use of detergents with a pH of 1-3 or 11-14, use the scrubbing machine in the traditional way by adding the detergent in the water clean tank and excluding the metering circuit (see paragraph 25 for the procedure).

ATTENZIONE: il sistema di dosaggio è particolarmente indicato per pulizie di manutenzione frequenti.
 È possibile utilizzare detergenti di manutenzione acidi, in soluzioni con valori di pH compresi tra 4-10 in caso di sporco alcalino, oppure alcalini, con valori di pH compresi tra 11-14, utilizzando la tecnologia della macchina tradizionale aggiungendo il detergente nel serbatoio acqua pulita ed escludendo il circuito di dosaggio.

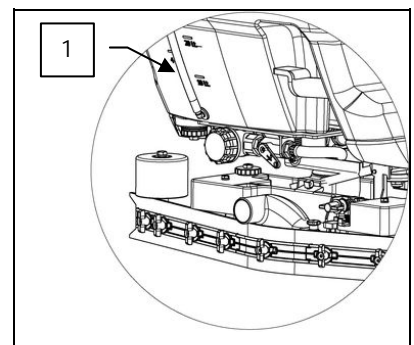
AVVERTENZE: il sistema di dosaggio è studiato per l'uso di soluzioni di detergenti con pH compresi tra 4-10 o 11-14, utilizzando la tecnologia della macchina tradizionale aggiungendo il detergente nel serbatoio acqua pulita ed escludendo il circuito di dosaggio.

AVVERTENZE: non usare mai acqua saponificata, acqua calda o acqua con additivi per lavaggio. Il sistema è studiato per l'uso di soluzioni di detergenti con pH compresi tra 4-10 o 11-14, utilizzando la tecnologia della macchina tradizionale aggiungendo il detergente nel serbatoio acqua pulita ed escludendo il circuito di dosaggio.

pH
min 4
max 10

21. EMPTY SOLUTION TANK DEVICE

You can check the quantity of solution in the tank by means of the rear tube (1). The solution tank has a maximum capacity of about 60 litres.



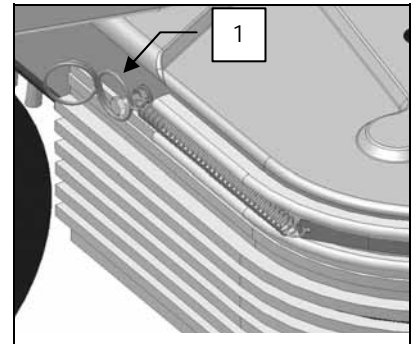


MACHINE PREPARATION

22. ASSEMBLING THE SPLASH GUARD RUBBERS (BASES WITH DISC BRUSHES)

For packaging reasons, the splash guard rubbers are supplied disassembled from the machine. To connect the rubber, remove the rubber-pressing blades and unthread the spring hook (1) from the connection screw. Wind the rubber all around the base, inserting the base fixing screw in the central hole. Reattach the blades, starting from the centre of the base.

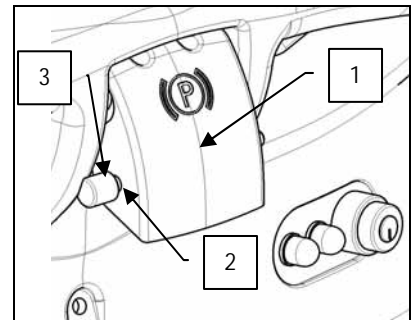
Be careful not to invert the right blade with the left one, as they are not the same.



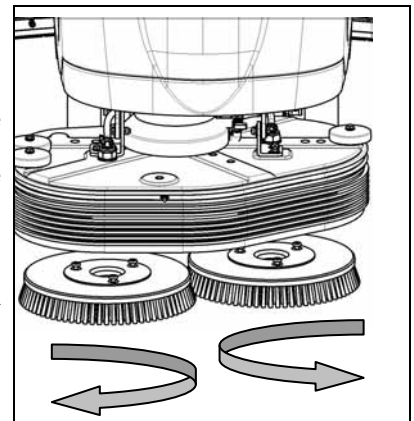
23. ASSEMBLING THE BRUSH (BASES WITH DOUBLE DISC BRUSH)

Proceed as follows to assemble the brushes:

1. Use the parking brake handle (1) to stop the machine. Unthread the pin (3) from its seat on the handlebars, and insert it in the holes of the handle (2) to prevent the lever slipping.
2. Raise the base by means of the appropriate pedal
3. Check that the key is in the "0" position (2)
4. With the base up, place the brushes into the plate housing beneath the base, turning the brushes until the three pins enter the niches in the plate itself; turn until the pin is pushed towards the coupling spring and is locked into place.



The figure shows the rotation direction for coupling the right-hand brush; for the left-hand one, rotate in the opposite direction.



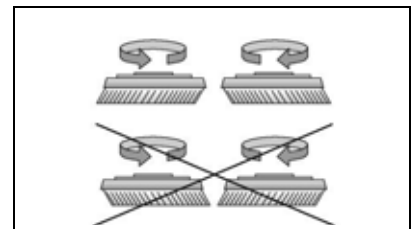
ATTENTION: during this operation, check there are no people or objects near the brush.

ATTENTION: Make sure the brushes are correctly connected. If this is not the case, the machine could move in an irregular, sudden manner.



ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands

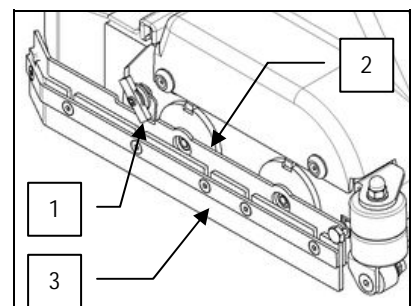
5. You are advised to invert the right and left-hand brushes every day. If the brushes are not new however, and have deformed bristles, it is better to reassemble them in the same position (the right-hand one on the right, and the left-hand one on the left), to prevent the different inclination of the bristles producing an overload on the brush motor as well as excessive vibrations.



24. ASSEMBLING THE BRUSH (BASES WITH CYLINDRICAL BRUSHES) MX 50S

Proceed as follows to assemble the brushes:

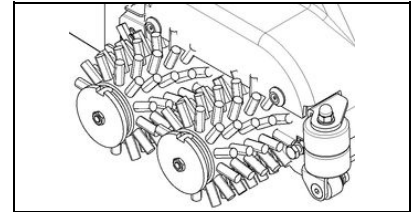
1. Use the parking brake handle to stop the machine. Unthread the pin from its seat on the handlebars, and insert it in the holes of the handle to prevent the lever from slipping.
2. Make sure that the key switch is in the "0" position
3. Raise the base by means of the appropriate pedal
4. Loosen the wing nut (1)
5. Rotate the side splash guard (2).
6. Remove the splash guard (3)
7. Remove the idle hubs





MACHINE PREPARATION

8. Insert the brush (the side with 5 teeth) in the tunnel until it is coupled with the dragging device hub.
9. Insert the idle hub of the mobile support in the brush (the side with 6 teeth).
10. Repeat the operation for the second brush.
11. Reassemble the side splash guard (3).
12. Rotate the side splash guard (2).
13. Fix the wing nut (1)



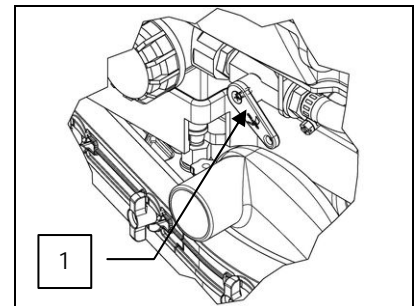
Take care not to mix up the brushes, the blue brush should always be placed in the rear idle hub.
Take care how the brushes are mounted, the assembly is correct if the direction of the bristles form an X looking from above.



WARNING: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands

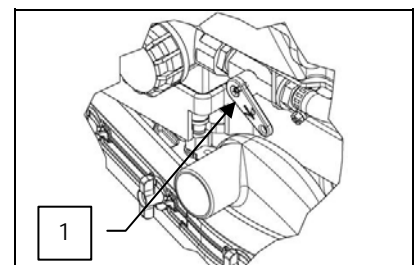
25. SOLUTION ADJUSTMENT (FOR VERSIONS WITHOUT CDS ONLY)

First of all, turn the tap in the rear part of the machine fully on, by turning its lever anticlockwise. Press the "man present" levers to activate the brushes and begin moving the machine. In the first few metres, check that the quantity of solution is sufficient to wet the floor, but not so much that it leaks out from the splash guard. The amount of detergent can be adjusted by turning the knob (1) clockwise to increase the flow or anticlockwise to reduce the flow. If turned fully to the left, the flow of detergent is completely halted. Bear in mind that the correct amount of solution is always depends on the nature of the floor, the degree of dirt and the forward speed.



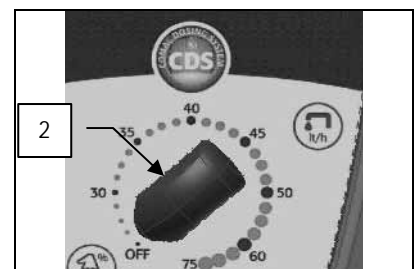
26. SOLUTION ADJUSTMENT (FOR VERSIONS WITH CDS ONLY)

1. Turn the tap (on the back of the machine) fully on by turning its knob anticlockwise.

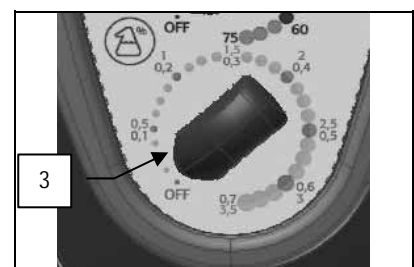


2. Regulate the detergent solution flow to the brushes by rotating the upper knob (2) clockwise. The quantity of solution varies from a minimum of 30 litres/hour to a maximum of 75 litres/hour, with 7 set measurement points. The right solution flow should be proportional to the degree of dirt on the floor. In addition, remember that the time available for continuous working depends on the quantity of water in the tank:

For example, the work autonomy with a full tank (about 60 litres) and the selector (2) set at 30, is about 3 hours.



3. Regulate the percentage of liquid detergent in the solution by rotating the lower knob (3) clockwise. The lower value is equal to 0.5% (for standard detergents) or 0.1% (for a concentrated detergent, diluted as indicated on the label supplied with the machine), while the higher value is equal to 3.5% or 0.7%, with 7 set points. Use high detergent percentages to remove very greasy dirt from the floor.

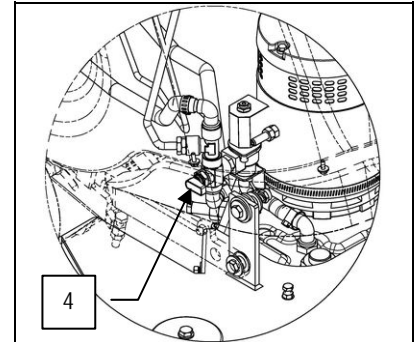




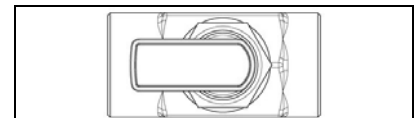
MACHINE PREPARATION

WARNING: if the CDS system does not work, or you want to clean without using this device, you can intervene on the tap (4) on the brush base near the motor, rotating the lever by 180° as shown in the figure. Rotate the knobs (2) and (3) anticlockwise, to the "0" position.

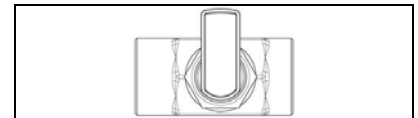
ATTENTION: before regulating the solution, check there is detergent in the inner can, and that the side water tap is turned on. To avoid any tampering with the set regulation, you can remove the two switches and cover the two holes with the plastic caps supplied with the machine. To resolve any malfunctioning of the CDS system, contact the COMAC assistance centre.



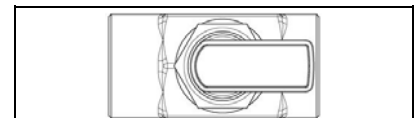
WARNING: By positioning the tap lever in this way the CDS dosing system is excluded and the detergent solution is deposited on the brushes. Rotate the knobs (2) and (3) anticlockwise, to the "0" position.



ATTENTION: Placing the tap lever in this way there will be no leakage of detergent solution on the brushes. Rotate the knobs (2) and (3) anticlockwise, to the "0" position.



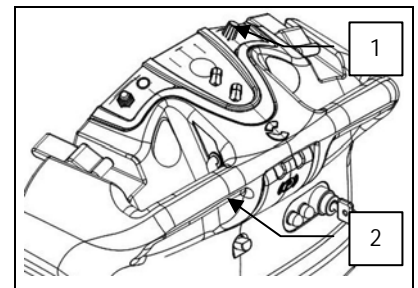
WARNING: By positioning the tap lever in this way the CDS dosing system is activated.



27. POTENTIOMETER ADJUSTMENT

Proceed as follows to adjust the forward speed with the potentiometer:

1. Check that the potentiometer knob is placed on minimum.
2. Check that the base and squeegee are lifted off the ground
3. Turn the key operated master switch to "ON".
4. Engage the "man present" levers on the handlebars, so the machine starts to move
5. Adjust the desired forward speed by turning the knob gradually clockwise



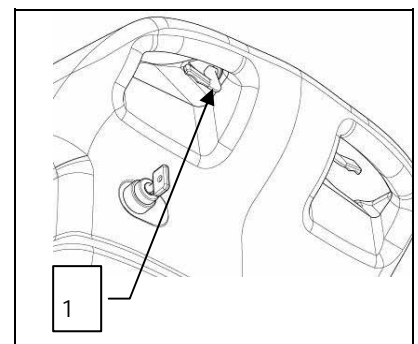
WARNING! The reverse speed was reduced compared to that of forward speed in order to comply with existing safety at work standards. If the potentiometer is adjusted while reversing, the adjustment of the forward speed will be automatically changed.

28. REVERSE FUNCTION

To activate the reverse direction, just push the command levers (1) downwards.



ATTENTION: When moving backwards even for brief moments, check that squeegee is raised, and check the base is also raised when the machine is not working.



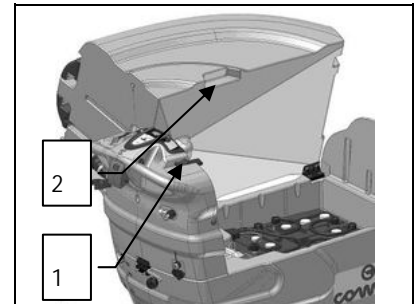


MACHINE PREPARATION

29. DETERGENT PUMP PRIMING (VERSIONS WITH FSS)

Before starting work the detergent pump must be primed, to do so proceed as follows:

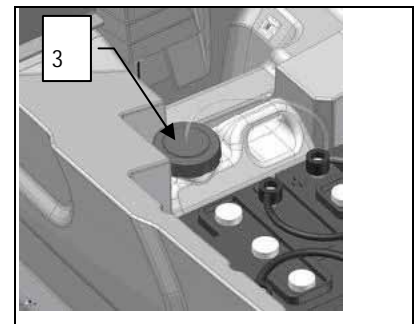
1. Check that the main switch is in the "Off - 0" position
2. Check that the battery connector is disconnected from the machine connector
3. Check the parking brake is correctly engaged
4. Make sure the recovery tank is empty, otherwise empty it completely
5. Disconnect the tank closure hinge (1) By gripping the handle (2) on the left side of the machine, turn the recovery tank



6. Unscrew the cap of the detergent canister (3) and fill it with the desired product

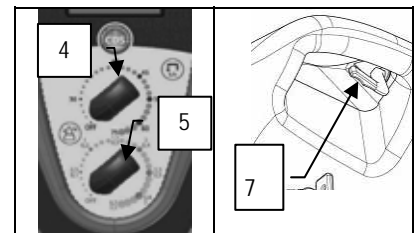


ATTENTION: always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. Do not use pure acids.



7. Close the lid of the detergent tank, taking care that the suction filter is positioned at the bottom of the tank
8. Check there is clean water in the solution tank

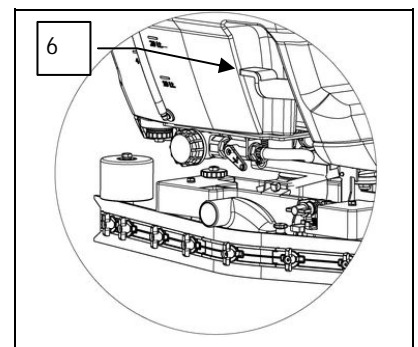
9. Check that the tap lever is fully opened, the lever is positioned at the rear of the machine.
10. Check that the by-pass tap is in the "dosing system" position
11. Turn the water flow rate adjustment knob (4) to the maximum position
12. Turn the detergent percentage adjustment knob (5) to the maximum position
13. Insert the battery connector into the machine connector.
14. Place the main switch in position "ON - I"
15. Disengage the parking brake



16. Lower the brush head body by means of the pedal (6)
17. Activate the dead man's levers (7) to allow the operation of the brush head and the dosing system
18. Wait a few moments keeping the dead man's levers pressed (normally 20 to 40 seconds) to allow the insertion of the system
19. Proceed with the desired adjustment for normal cleaning



WARNING: The machine will deliver solution during this operation





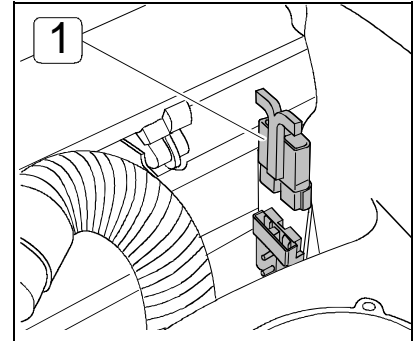
WORK

1. PREPARING TO WORK

1. Connect the connector (1) to the batteries (versions without a built-in battery charger).



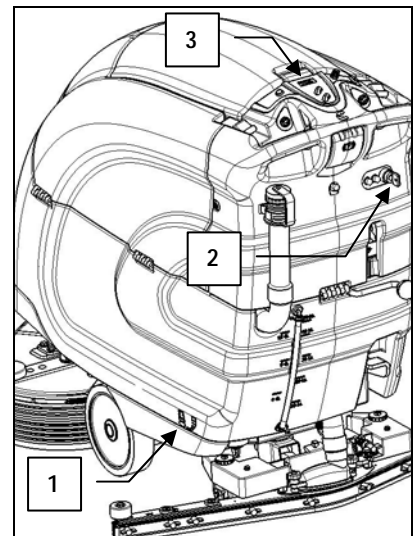
ATTENTION: before using the machine, the operators must be suitable trained. We therefore suggest you read this instruction booklet carefully and read it again whenever difficulties arise while using the machine



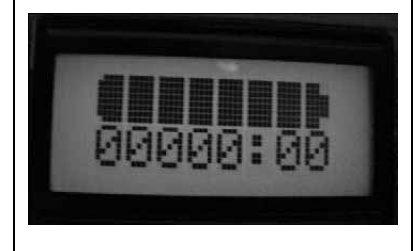
2. Turn on the water tap beneath the symbol (1); the water falls automatically while the brushes are turning.
3. Turn the key (2) of the main switch to position "1" (clockwise). The monitor (3) on the instrument panel will immediately come on.



ATTENTION: if the machine is used in places where there is a risk of falling objects, the operator must be provided with all the appropriate protection devices as laid out in the legal requirements



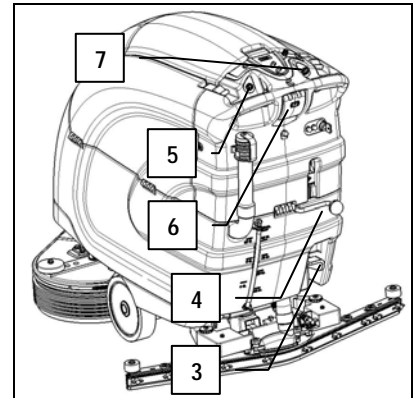
4. With switch-on, three consecutive screens are visualised on the monitor. The first screen shows (on the top line) what type of hour-counter has been set; in this case it's a total hour-counter (to visualise a different type - for instance partial - contact the qualified, COMAC-trained personnel). The bottom line shows the "service" setting (in this case there is no setting).
5. The second screen visualises what battery technology has been set for machine operation; in this case it's lead batteries (to set another type of battery - for instance gel - contact the qualified, COMAC-trained personnel).
6. The third and last screen (known as "work") visualises the battery charge status and the total functioning time. When the batteries supplied are fully charged, the upper line contains 8 light indicators that represent a battery. As the batteries gradually run down, the indicators go out and, with the batteries completely run down, only the battery outline flashes. The bottom line indicates the hours and minutes of functioning. The flashing ":" symbol indicates that the hour-counter is counting the machine functioning time.



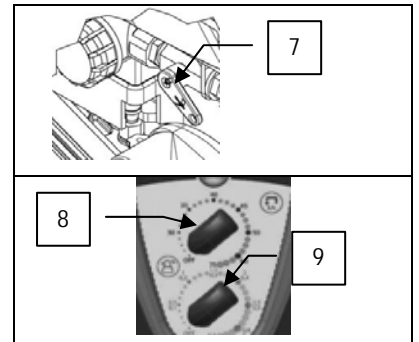


WORK

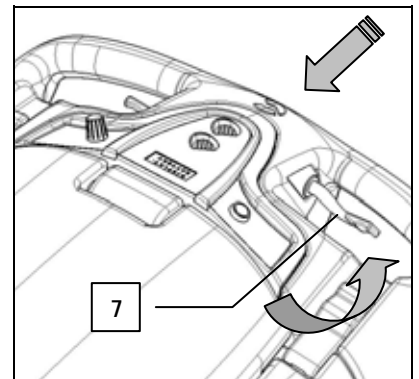
7. Release the lever (3) and lower the base. In the case of an automatic machine, lower the key (7).
8. Lower the squeegee, rotating the lever (4) anticlockwise. If the machine is automatic, use the key (5); when you have turned it as far as it will go, the suction motor will switch on. To switch off the suction motor, turn the key to position "0" once the work is finished.
9. Check the brake (6) is off.



10. Adjust the flow of detergent by means of the lever (7) for versions without CDS, or the solution flow adjustment knob (8) and (9).



11. Press the "man present" levers (7) to activate the brushes; the machine will begin to move. During the first metres, check there is sufficient solution and that the squeegee dries perfectly.
12. The machine will now begin to work efficiently until the battery is flat or the cleaning solution finishes.

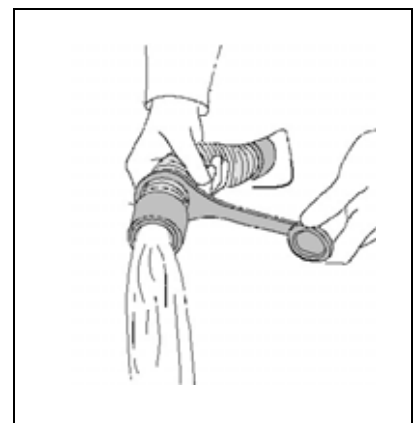


2. OVERFLOW DEVICE

The machine is fitted with a float which intervenes when the recovery tank is full, causing the suction tube to close. In this case, it is necessary to empty the recovery tank, removing the cap of the rear drainage hose.



ATTENTION: this operation must be carried out using gloves to protect against contact with dangerous solutions



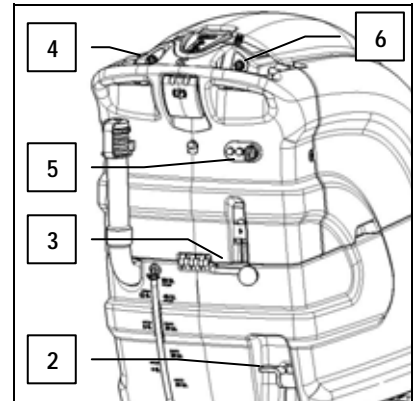


AT THE END OF THE WORK

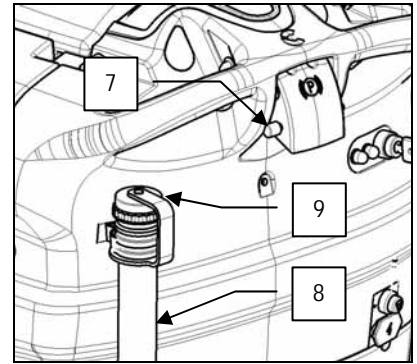
1. AT THE END OF WORK

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

1. raise the base by means of the pedal (2) or the key (6) (automatic version)
3. Raise the squeegee by means of the lever (3) or the key (4) (automatic version). When the squeegee is up, the suction motor switches off automatically
4. bring the machine to the place provided for draining the water
5. turn the key switch (5) anticlockwise (to "OFF") to switch off the machine



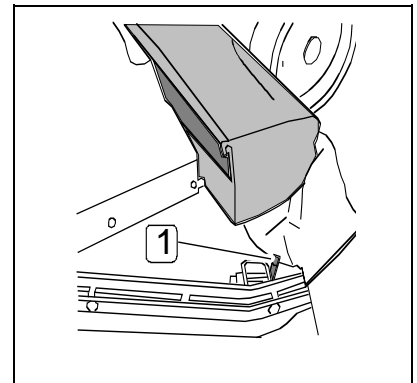
6. pull the brake lever and block it with the pin (7)
7. Remove the drainage hose (8) from its compartment, unscrew the drainage cap (9) and empty the recovery tank
8. the squeegee must be raised when the machine is not operating in order to avoid deforming the rubber blades
9. disassemble the brushes and clean them with a jet of water (to disassemble the brushes, see "DISASSEMBLING THE BRUSHES" below)



2. EMPTYING THE MX HOPPER

Empty the hopper after work and before performing any type of maintenance, to do so proceed as follows:

1. Push the knob (1) towards the rear of the machine and release the left side splash guard.
2. Extract the hopper, empty and clean it thoroughly
3. reassemble all the elements.
4. Raise the brushing unit at the end of the work, to avoid deforming the brushes.



WARNING: this operation must be carried out wearing gloves to protect against contact with dangerous solutions.

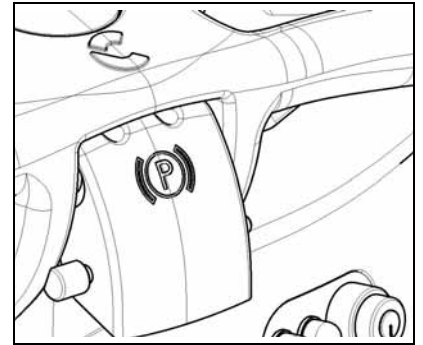


AT THE END OF THE WORK

3. STORING OF THE MACHINE

Proceed as follows to store the machine at the end of work:

1. Place the machine in a place where it can not cause damage or injury
2. Position the machine where the accidental fall of objects do not cause damage
3. Engage the parking brake
4. Lift the base with the specific pedal or operating the dedicated key (AU version)
5. Raise the squeegee by turning the rear lever or by operating the dedicated key (AU version)



6. Turn the key switch to "0", and remove the key from the main switch
7. Disconnect the machine connector



ATTENTION: do not leave the machine unattended without first removing the start-up switch key and applying the parking brake. In addition, do not park the machine in open places or on sloping floors



DAILY MAINTENANCE

PERFORM ALL MAINTENANCE OPERATIONS IN SEQUENCE

1. CLEANING THE RECOVERY TANK

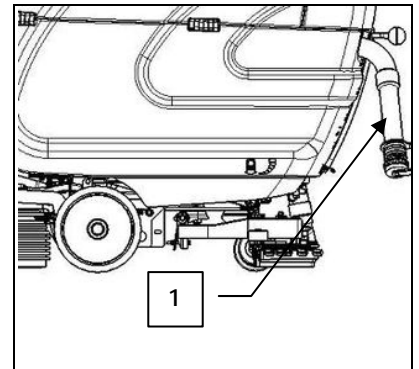
1. Disconnect the tube (1) from its seat, unscrew the drainage cap and empty the recovery tank.



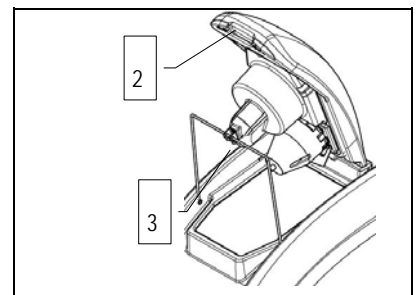
ATTENTION: Before performing any maintenance, remove the keys from the panel and disconnect the battery connector of the machine.



WARNING: this operation must be carried out wearing gloves to protect against contact with dangerous solutions.



2. Engage the parking brake.
3. Lift the brush head body and the squeegee body off the ground.
4. Raise the cap (2) until the hook is secured to the prop (3) of the recovery tank.
5. Clean and rinse the recovery tank and the suction pipe (connecting pipe between the squeegee and the tank).
6. Reposition the cap on the drainage tube and lower the suction cap. To lock the prop (3) just slightly raise the cap, release the prop (3) and lower the cap up to close it.

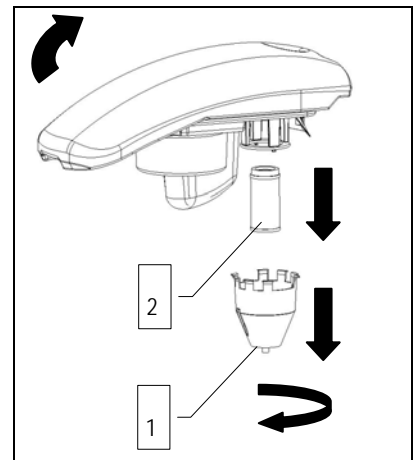


2. CLEANING THE SUCTION FILTER

1. Turn the main switch key anticlockwise to position "0" and remove the key, for the electric versions unplug the machine from the mains.
2. Apply the parking brake and block the handle with the pin, inserting it in the lever holes.
3. Lift the cap until the hook is secured to the recovery tank prop.
4. Remove the suction filter protection (1) by rotating it clockwise
5. Remove the suction filter (2) from its seat
6. Use a jet of water to clean the walls and base of the filter
7. reassemble all the elements



WARNING: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands

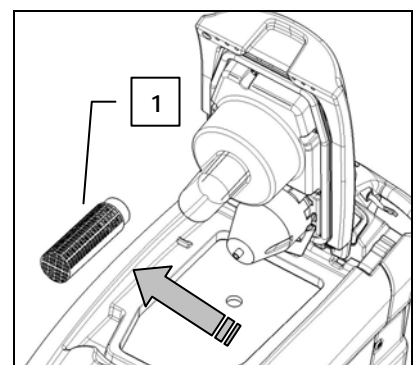


3. CLEANING THE SUCTION TUBE FILTER

1. Engage the parking brake and turn the key switch to position "0 "
2. Check the recovery tank is empty (if necessary, empty it).
3. Raise the suction cover and block it as indicated in the previous paragraph
4. Rotate the inner filter (1) and remove it
5. Carry out the cleaning operations carefully
6. reassemble all the elements



ATTENTION: These operations must be carried out using gloves to protect against contact with dangerous solutions





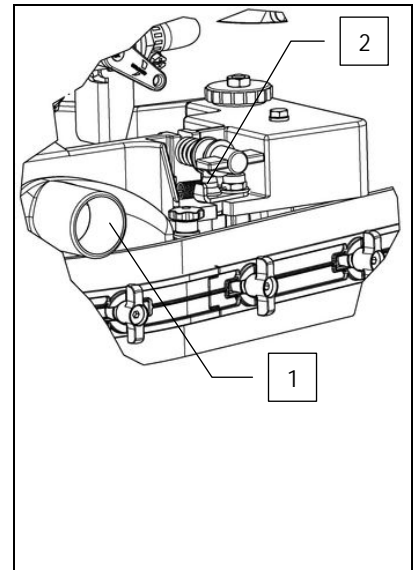
DAILY MAINTENANCE

4. DISASSEMBLING AND CLEANING THE SQUEEGEE

Check the squeegee is always clean, for better drying results.

To clean it you must:

1. Turn main switch key anticlockwise to position "0", and remove the key, for the electric versions unplug the machine from the mains, and engage the parking brake.
2. remove the tube (1) from the squeegee
3. remove the squeegee, pushing the plate (2) to the left in order to release the squeegee small column from its seat
4. pull the squeegee to the right until the left-hand small column is released from its seat
5. carefully clean the inside of the squeegee and its suction nozzle
6. carefully clean the squeegee rubbers
7. reassemble all the elements

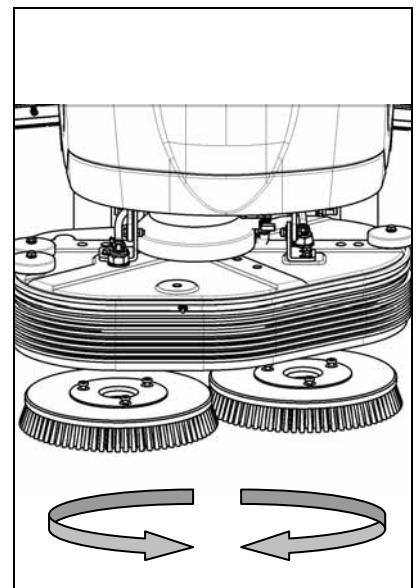


5. DISASSEMBLING THE BRUSH (B VERSIONS)

1. Engage the parking brake and turn the key switch to position "0 "
2. Raise the base, using the lever
3. With the base up, rotate the brush until it comes out of the brush-holder plate seat, as shown in the figure. The figure shows the rotation direction to release the right-hand brush; for the left-hand one, rotate in the opposite direction
4. Always check the bristles for signs of wear. You are advised to replace the brushes when the bristles are less than 15mm long



ATTENTION: this operation must be carried out using gloves to protect against contact with dangerous solutions



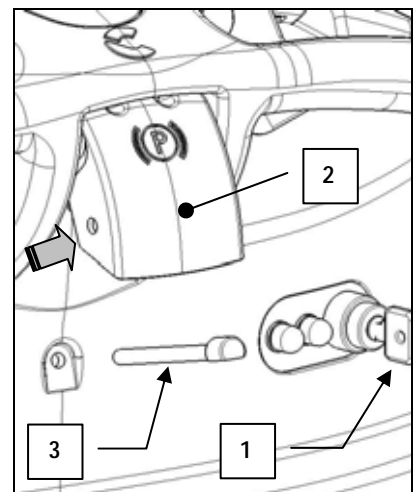
6. DISASSEMBLING THE BRUSH (BS VERSIONS)

To remove the brushes:

1. Turn the key anticlockwise to "OFF" (1)
2. stop the machine moving by applying the brake lever (2)
3. insert the blocking pin (3) in the holes of the brake handle to prevent the lever slipping



ATTENTION: do not leave the machine on sloping or wet floors, and check the parking brake is correctly applied

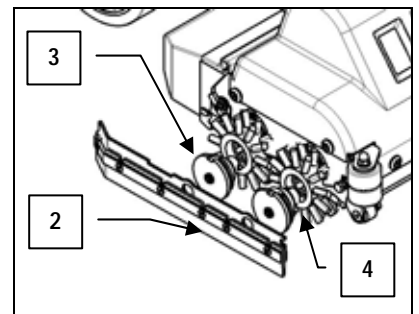
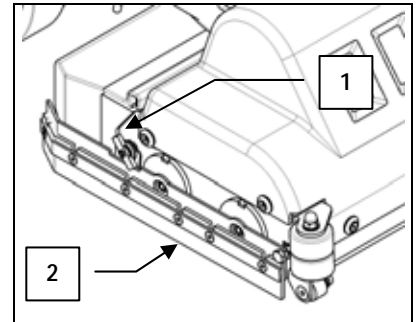




DAILY MAINTENANCE

Clean the hopper as described in the "AT THE END OF THE WORK" paragraph

4. Check there are no wires, bits of plastic or anything else at the ends of the brushes; these objects could stop the brushes from rotating freely. If the brushes are not clean:
5. Loosen the closure element (1)
6. Release the splash guard (2)
7. Remove the idle hubs (3) that support the brushes (4)
8. Remove the brushes (4), clean them with a jet of water, then reassemble them. Check the bristles are not worn; in the event of excessive wear, replace the brushes (the bristles should be at least 10mm long)
9. Reassemble the splash guards (2), inserting first the hubs (3) in the toothed seat of the brushes and tightening the closure element (1)



Take care not to mix up the brushes, the blue brush should always be placed in the rear idle hub.
Take care how the brushes are mounted, the assembly is correct if the direction of the bristles form an X looking from above.



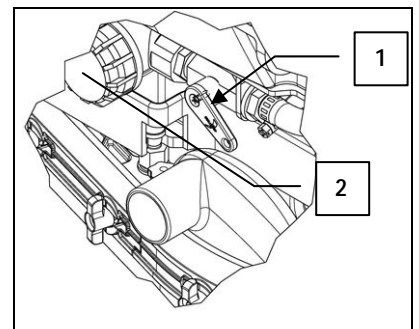
WARNING: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands

7. CLEANING THE SOLUTION FILTER

1. Turn off the tap by means of the lever (1)
2. Loosen the cap (2) of the solution filter
3. Remove the filter and rinse with a jet of water
4. Reassemble the filter and tighten the cap
5. Turn on the tap beneath the symbol (1)



WARNING: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands



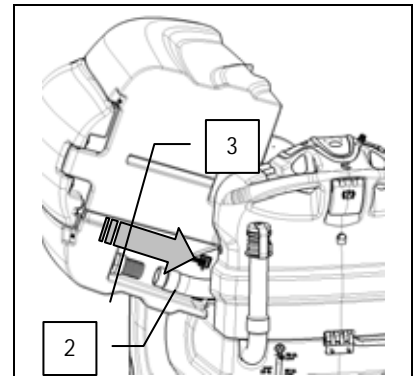


WEEKLY MAINTENANCE

1. CLEANING THE SQUEEGEE TUBE

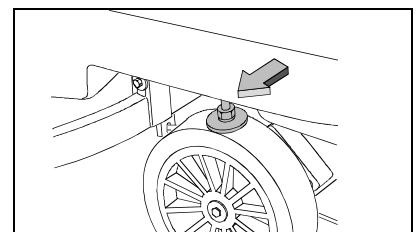
Every week, or whenever suction seems to be unsatisfactory, check the squeegee tube is not obstructed. To clean it, proceed as follows:

1. Engage the parking brake and turn the key switch to position "0 "
2. Check the recovery tank is empty (if necessary, empty it).
3. remove the tube from the sleeve on the squeegee
4. open the recovery tank
5. remove the other end of the tube (2) from the rubber-holder connector (3) of the recovery tank
6. wash the inside of the tube with a jet of water (from the tank side)
7. reassemble the tube



2. CHECKING THE WHEEL BRAKE

Every week, check the distance between the work brake pads and the wheels. If necessary, adjust them by means of the nuts, so they are at a distance of 3mm when homed.

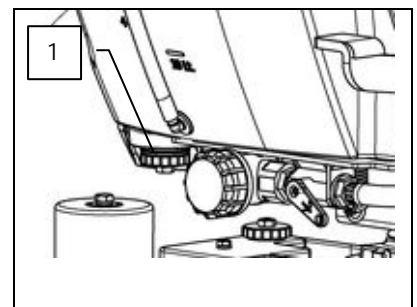


3. CLEANING THE SOLUTION TANK

1. Engage the parking brake and turn the key switch to position "0 "
2. Loosen the front cap of the solution tank
3. Loosen the wing nut of the drainage cap (1) to the left of the tank, and remove the cap
4. Rinse the inside of the tank with a jet of water
5. Insert the cap in the tank, and retighten the wing nut (1)



ATTENTION: These operations must be carried out using gloves to protect against contact with dangerous solutions



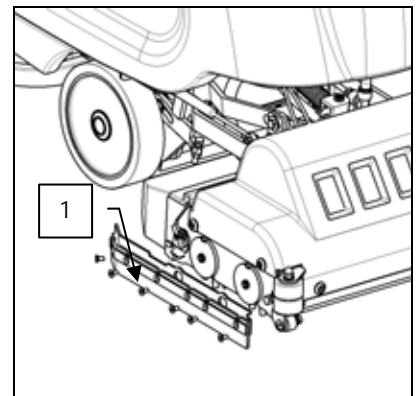
4. REPLACING THE BRUSH HEAD SPLASH GUARDS

To ensure the water is collected efficiently while the machine is working, you should periodically check the state of wear and tear of the side splash guards. When you need to replace them, proceed as follows:

1. with the base up, loosen the screws (1) that fix the blocking blade of the splash guard rubber
2. unthread the splash guard rubber and rotate it by 180° in order to replace the worn part with a new one. If the splash guards are worn on both sides, replace them with new rubbers (contact the COMAC assistance centre)
3. reassemble everything, carrying out the above-mentioned operations in the reverse order



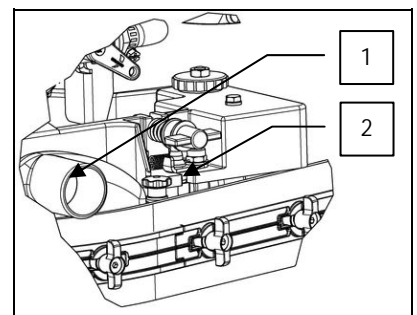
ATTENTION: this operation must be carried out using gloves to protect against contact with dangerous solutions



5. REPLACING THE SQUEEGEE RUBBERS

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

1. remove the tube (1) from the squeegee
2. remove the squeegee, pushing the plate (2) to the left in order to release the squeegee small column from its seat
3. pull the squeegee to the right until the left-hand small column is released from its seat





WEEKLY MAINTENANCE

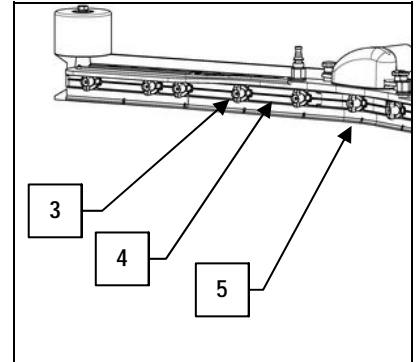
4. Turn the wing nuts (3) in the horizontal position
5. Remove the front rubber-pressing blades (4).
6. Remove the rubber (5) and replace it
7. Proceed in reverse to replace the rubber



ATTENTION: Before performing any type of maintenance, turn the main switch to "OFF" and disconnect the battery connector of the machine.



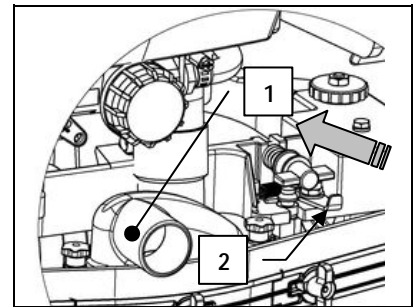
ATTENTION: These operations must be carried out using gloves to protect against contact with dangerous solutions



If the squeegee rear rubber is worn and does not dry well, it is possible to change the drying edge using one of the 4 edges of the rubber.

This operation can be done both with a squeegee fitted or removed as follows:

1. remove the tube (1) from the squeegee
2. remove the squeegee, pushing the plate (2) to the left in order to release the squeegee small column from its seat
3. pull the squeegee to the right until the left-hand small column is released from its seat



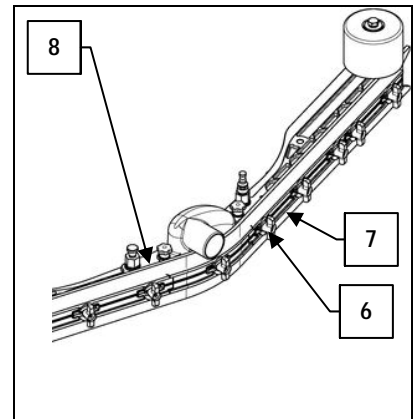
4. Turn the wing nuts (6) in the horizontal position
5. Remove the rear rubber-pressing blades (7).
6. Remove the rubber (8) and replace it
7. adjust the height of the squeegee depending on the rubber (see "ADJUSTING THE HEIGHT OF THE SQUEEGEE SUPPORT")



ATTENTION: Before performing any type of maintenance, turn the main switch to "OFF" and disconnect the battery connector of the machine.



ATTENTION: These operations must be carried out using gloves to protect against contact with dangerous solutions



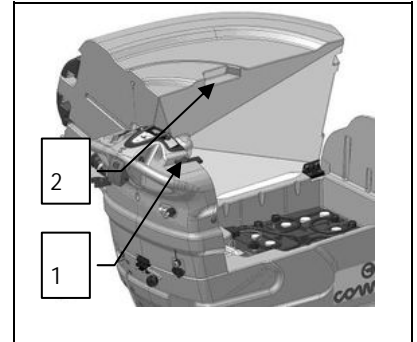


EXTRAORDINARY MAINTENANCE

1. SCRUBBING OF DOSING SYSTEM (VERSIONS WITH FSS)

The dosing system should be cleaned when the machine is not used for a long period (more than 48 hours); to do so, proceed as follows:

1. Check that the main switch is in the "Off - 0" position
2. Check that the battery connector is disconnected from the machine connector
3. Check the parking brake is correctly engaged
4. Make sure the recovery tank is empty, otherwise empty it completely
5. Disconnect the tank closure hinge (1) By gripping the handle (2) on the left side of the machine, turn the recovery tank

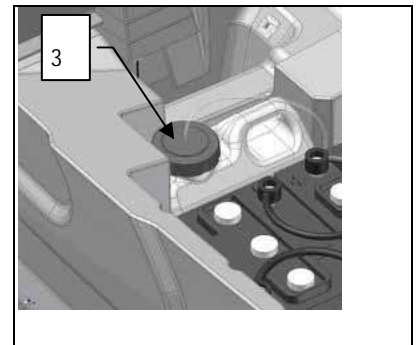


6. Unscrew the cap of the detergent canister (3) and fill it with clean water

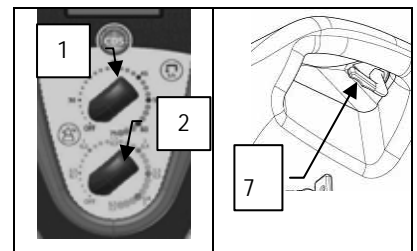


ATTENTION: always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. Do not use pure acids.

7. Close the lid of the detergent tank, taking care that the suction filter is positioned at the bottom of the tank
8. Check there is clean water in the solution tank



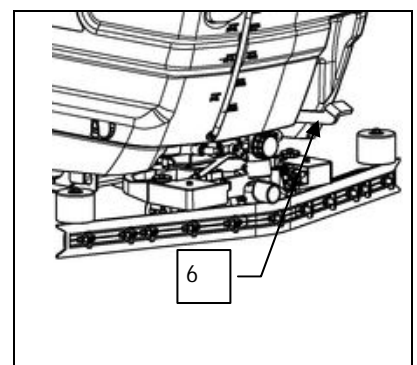
9. Check that the tap lever is fully opened, the lever is positioned at the rear of the machine.
10. Check that the by-pass tap is in the "dosing system" position
11. Turn the water flow rate adjustment knob (4) to the maximum position
12. Turn the detergent percentage adjustment knob (5) to the maximum position
13. Insert the battery connector into the machine connector.
14. Place the main switch in position "ON - I"
15. Disengage the parking brake



16. Lower the brush head body by means of the pedal (6)
17. Activate the dead man's levers (7) to allow the operation of the brush head and the dosing system
18. Wait a few minutes keeping the dead man's levers pressed (normally 2 to 4 minutes) to allow the cleaning of the dosing system
19. Completely empty the solution tank and the detergent canister
20. Park the machine in a safe manner



WARNING: The machine will deliver solution during this operation

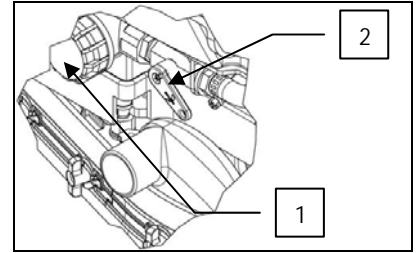




TROUBLESHOOTING

1. INSUFFICIENT WATER ON THE BRUSH

4. Check that the solution filter is not blocked (1)
5. Check the tap beneath the symbol (2) is turned on.
6. Check there is water in the solution tank.



2. THE MACHINE DOES NOT CLEAN WELL

1. Check the state of wear and tear of the brush and, if necessary, replace it (the brush must be replaced when the bristles are about 15mm long).
2. Use a different kind of brush to the one fitted as standard. For cleaning floors where the dirt is particularly resistant, we recommend the use of special brushes supplied upon request and according to needs (see "CHOOSING AND USING THE BRUSHES").

3. THE SQUEEGEE DOES NOT DRY PERFECTLY

1. Check the squeegee rubbers are clean.
2. Adjust the inclination and height of the squeegee (see the "ADJUSTING THE SQUEEGEE INCLINATION AND HEIGHT" paragraph).
3. Check the suction tube is correctly inserted in its housing on the recovery tank.
4. Check the inner filter of the recovery tank is not dirty and, if necessary, clean it thoroughly.

4. EXCESSIVE FOAM PRODUCTION

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

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

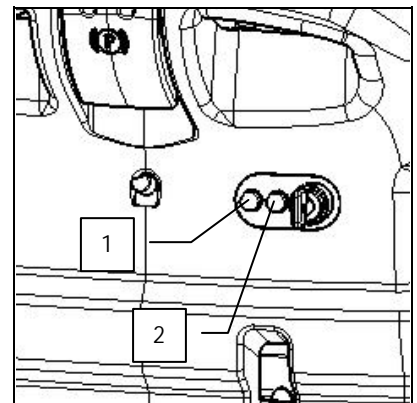
5. ELECTRIC FUSES AND THERMAL CUT-OUTS

The machine is fitted with the following electrical protection systems:

Power fuses arranged in the electrical box, to protect against short-circuiting
thermal trip units arranged on the outside of the handlebars, to protect the following motors:

1. 30A trip unit (1) for the base motor
2. 20A trip unit (2) for the suction motor

In the event of malfunctioning, check a thermal cut-out has not intervened. If the motor overheats, its thermal cut-out intervenes to block the electricity supply. Wait a few minutes until it has cooled down, then press the specific trip unit button to reactivate the power supply and motor operation.





DISPOSAL

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

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

- brushes
- filter
- electric and electronic parts*
- batteries
- plastic parts (tanks and handlebars)
- metal parts (levers and frame)

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



CHOOSING AND USING THE BRUSHES

POLYPROPYLENE BRUSH (PPL)

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

ABRASIVE BRUSH

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

THICKNESS OF THE BRISTLES

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

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

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

PAD HOLDER

The pad holder is recommended for cleaning shiny surfaces.

There are two types of pad holder:

1. the traditional pad holder is fitted with a series of anchor points that allow the abrasive floor pad to be held and dragged while working
2. the CENTRE LOCK type pad holder not only has anchor points, but also a snap-type central locking system in plastic that allows the abrasive floor pad to be perfectly centred and held without any risk of it becoming detached. This type of dragging device is recommended above all for machines with more than one brush, where the centring of the abrasive discs is difficult

TABLE FOR CHOOSING THE BRUSHES

Machine	N° Brushes	Code	Type of bristles	ØBristles	Ø Brush.	Length	Notes
SIMPLA 55BT	2	427701	PPL 0.3	0.3	280		PAD LOCKING
		427710	PPL 0.6	0.6	280		
		427711	PPL 0.9	0.9	280		
		427712	TYNEX	1	280		
		427713	CENTER LOCK PAD	-	280		
SIMPLA 65BT	2	422189	PPL	0.3	340		PAD LOCKING
		422971	PPL	0.6	340		
		422972	PPL	0.9	340		
		422981	ABRASIVE	1	340		
		422973	CENTER LOCK PAD	-	330		
SIMPLA 50SBT	1	405639	PPL LIGHT BLUE	0.5	110	500	FRONT BRUSH REAR BRUSH FRONT BRUSH
	1	405640	PPL WHITE	0.3	110	500	
	1	405641	ABRASIVE GREY	0.6	110	500	



EC DECLARATION OF COMPLIANCE

The undersigned manufacturer:
COMAC S.p.A.
Via Maestri del Lavoro, 13
37050 Santa Maria di Zevio (VR)
declares under its sole responsibility that the products

FLOOR SCRUBBING MACHINES mod. SIMPLA55 BT – SIMPLA 65 BT - SIMPLA 50 BST

comply 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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Santa Maria di Zevio (VR), 18/10/2010

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