



ING. O. FIORENTINI S.R.L.
INDUSTRIAL CLEANING MACHINES

SCRUBBER
MOD. PINKY 26



USER AND MAINTENANCE MANUAL

Rev.00

Congratulations for your choice!

FIorentini S.r.l. thanking you for the preference to our product, would like to remind you that FIORENTINI's S.r.l production covers manufacture and marketing of industrial cleaning machines and is currently a leading company in this sector.

Our tradition and competence guarantee technical quality of your choice; actually all our products are being built first quality materials through criteria that can give reliability, solidity and functionality satisfying every kind of customers. FIORENTINI has recently obtained the quality system certificate conforming to the requirements of UNI EN ISO 9001:2000.

We wish therefore inviting you to contact us, unhesitatingly, for every kind of request, as technical or commercial; we'll be pleased to be at your disposal for any information you may need.

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1. GENERAL INFORMATION

1.1. SYMBOLS

	<i>This symbol is used to get the operator's attention on procedures or precautions to be followed in order to avoid damages to users or to the support</i>
	<i>This symbol is used to get the operator's attention on general information.</i>

1.2. PREMISE

	<p>FIorentini S. r. l. is the only owner of this manual. <i>The reproduction of all or part of the manual or the transmission to third parties with mechanic or electronic devices are forbidden without a written manufacturer's authorization. This manual is supplied to the customers in one original copy when differently specified in the order.</i></p> <p><i>This manual is supplied to the customer with the machine and it must be kept with it even when the machine has to be transferred. Please, keep the manual in a safe place and for all the machine lifetime. In case of loss ask for a duplicate to FIORENTINI S.r.l..</i></p> <p><i>FIORENTINI S.r.l. is not responsible for any kind of damages caused by people or things due to the non-observance of the instructions dealt in this manual.</i></p> <p><i>FIORENTINI reserves the right to add at any time and without notice all the technical and commercial changes considered useful for the customer. Therefore data and information in this manual can be updated.</i></p>
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1.3. MANUAL CONSULTING

This manual deals exhaustively with all arguments that are necessary for an easy and safe use of the machine as it is recommended by European Directives on product safety.

Therefore we suggest to all authorized operators to read carefully this manual contacting FIORENTINI S.r.l. for any explanation. The manual has to be used every time the operator forgets a procedure or when new operators have to be trained.

For publishing reasons, pictures and drawings can look different from the reality but without arising doubts.

Special symbols and **bold type** and/or *sloping* get the attention of the reader on remarkable information in particular for safety.

The revision index is written on the left at the bottom of every page. The list of those pages that have been updated has to be found at the end of the manual.

1.4. WARRANTY

Warranty conditions are stated as below when not differently specified in the order confirmation.

WARRANTY OBJECT

The machine has been designed and built for a long-lasting use without relevant problems. Anyway, if problems arise during the warranty period, FIORENTINI S.r.l. is engaged to repair or substitute for free those parts that are broken or damaged by defective materials, working defects or imperfect assembly.

Warranty is not given for parts whose early breaking or wear and tear are due to:

- Non-respect of instructions included in this manual;
- Breaking and/or changes made up without FIORENTINI's approval;
- Not-use of genuine spare parts;
- Interventions made up by unauthorised personnel;
- Missing maintenance;
- Natural calamities.

FIORENTINI S.r.l., its purchasers and its suppliers have the same warranty for the electric and expendable materials that are sold by external suppliers.

WARRANTY CONDITIONS

Warranty is granted for 24 months since the delivery date of the machine. This is a single warranty term and it cannot be extended.

RETURNED GOODS

Intervention demands must be sent to FIORENTINI Service Dpt. only after a careful analysis of the problem and its causes. Following information have to be given to FIORENTINI's agent:

- **Serial number you get it from the silver label stucked on the machine (§ 2.1.);**
- **Code and position of the component taken from the spare parts list (§ 7.2.);**
- **A detailed description of the problem and its causes.**

The components considered under warranty are delivered ex factory. Those ones being substituted belong to FIORENTINI Co..

Please send defected electric or electronic material separatly in order to divide and recycle material with dangerous substances (see directive about RAEE 2002/96/CEE).



EXCEPTIONS

Expandable materials like brushes, squeegee blades and materials whose lifetime cannot be predetermined are not under warranty.

APPLICATION MODALITY

Defective components must be sent back to FIORENTINI S.r.l. in order to establish the anomalies causes and apply therefore the warranty. Repair and replacement under warranty will be done in FIORENTINI's workshop, by third parties or in loco. In case of repair or replacement in loco, energy sources and the use of particular equipment have to be paid by the customer himself.

INTERVENTION DEMANDS

Intervention demands must be sent to FIORENTINI Service Dpt. only after a careful analysis of the problem and its causes. Following information have to be given to FIORENTINI's agent:

- Serial number you get it from the silver label sticked on the machine (§ 2.1.);
- Code and position of the component taken from the spare parts list (§ 7.2.);
- A detailed description of the problem and its causes.

The components considered under warranty are delivered ex factory. Those ones being substituted belong to FIORENTINI Co..



The warranty of the machine is no more available in case of the loss of the silver label.

1.5. CONFORMITY DECLARATION

Conformity declaration is released with the machine and the user manual.

DICHIARAZIONE-DECLARATION-DECLARATION-ERKLÄRUNG- DECLARACION

DICHIARAZIONE CE DI CONFORMITA'
DECLARATION OF CONFORMITE'
DECLARATION DE CONFORMITE'
ÜBEREINSTIMMUNGSERKLÄRUNG
DECLARACION DE CONFORMIDAD

ING. O. FIORENTINI s.r.l.
Loc. Rombola
50030 PIANCALDOLI (FI) ITALIA

Dichiara sotto la propria esclusiva responsabilità che la macchina:
Declares under its own responsibility that the machine :
Declares sous sa responsabilité exclusivement que la machine :
erklärt unter ausschließlich eigener Verantwortung, daß die Maschine :
declara bajo su propia y exclusiva responsabilidad que la maquina :

FIORENTINI

Modello/model/modele/modell/modelo

**Matricola/serial number/numero
matricule/serienummer/numero matricula**

Anno/year/annee/jahr/ano

2009



Fabbricata nel rispetto delle direttive e decreti :
and moreover is built according to the directives and decrees :
et est fabriquées i, en outré, conformément aux directives et ou décrets :
und daß sie unter Einhaltung folgender Verordnungen und/oder Dekrete hergestellt worden (sind) :
y que además ha sido fabricada en conformidad con las directivas y/o decretos :

2006/42/CE/EC/EG-

Direttiva macchina: Machines Directive: Maschinen Richtlinie: Directive machines:

2004/108/CE/EC/EG-

Compatibilità elettromagnetica: Electro Magnetic Compatibility: Elektromagnetische Verträglichkeit: Compatibilité électromagnétique:

2002/95/CE/EC/EG-

Restrizione sostanze pericolose: Restrictions of Dangerous Substances Beschränkung der gefährlichen Mitteln :Restriction des substances dangereuses

2003/10/CE/EC/EG

Protezione da rumore: Exposure of Workers to Noise: Gefährdung der Arbeitnehmer durch Geräusch: Exposition des travailleurs aux Bruits:

È conforme alle seguenti norme :
conform to the following laws :
est conforme aux norms :
mit den folgenden Normen übereinstimmen :
está conforme a lassiguientes normas :

EN 12100-1- EN 12100-2

Norme applicate: Harmonized Standard Applied: Angewandte harmonisierte Normen: Normes Harmonisées Appliquées :

Ing. O. Fiorentini S.r.l.

Il titolare/chairmen/gérant

Ing. O. Fiorentini

Piancaldoli

Luogo e data

Firma

O. Fiorentini

In caso di modifiche apportate alla macchina questa dichiarazione non è piu valida

2. FEATURES AND TECHNICAL DATA OF THE MACHINE

2.1. IDENTIFYING THE MACHINE

A silver label is stuck on the protection case of the steering column and clearly shows the data referring to the "CE" brand.

Ing. O.Fiorentini S.r.l.		MADE		CE
50030 Piancaldoli (FI)		IN ITALY		
Mod	PINKY 26	S.N		2 0 0 9
V		Hz		
Kg		A	W	



PICTURE N° 2.1



The label has never to be removed and should always be kept readable. In case of damage it is necessary to ask for a duplicate. The autoscrubber machine cannot be sold without the label.

2.2. DESCRIZIONE E COMPONENTI

The scrubber machine – PINKY 26 - has been designed for the cleaning of all flat surfaces by means of washing and suction of the washing water. A series of batteries feeds all engines and electric devices.

The machine is equipped with two rotating brushes which wash the surface by means of water and detergent. Whilst the machine is running forward, the back brush (squeegee) picks the water up that is directly sucked into the recovery tank.

Thanks to the dashboard the operator can control all the machine functions and a series of LEDs shows to the operator the battery status or the errors detected by the electronic card.

The operator can control all the main machine functions and in particular:

- switch the machine on and off;
- select speed;
- start suction;
- start brushes;
- select forward/reverse gear;
- start traction;
- start service and parking brake;

The machine frame is made of zinc-plated or stainless steel in order to avoid oxidation which could compromise the machine reliability.

The main parts of the machine are:

- zinc-plated steel frame or stainless steel frame or painted frame;
- PE-HD plastic solution tank;
- PE-HD plastic recovery tank supplied with flexible suction piping system and drainage;
- Series of batteries placed in the recovery tank room;
- rotatine brushes;
- suction system (squeegee);
-
- one driving wheel with electric brake;
- handlebar.

FIorentini Co., taking the new CE safety rules into consideration, manufactures the machine following the CE directives about safety and health. The materials high quality, the high technology and FIORENTINI's experience guarantee the performance and the reliability of this machine .

Each machine is tested during the manufacturing process and the final check is done before the machine is shipped out.

2.3. TECHNICAL DATA

	PINKY 26	PINKY26 CYLINDER BRUSHES VERSION
DIMENSIONS		
LENGTH	1033 mm	1150 mm
WIDTH	700 mm	800 mm
HEIGHT	1070 mm	
NUMBER OF BRUSHES AND DIAMETER mm	N° 2 x Ø330 mm	N° 2 cylinder brushes Ø110 x 650 mm
SCRUBBING WIDTH	650 mm	650 mm
SQUEEGEE WIDTH	890 mm	980 mm
GUIDA	Uomo a terra	
SOLUTION TANK	75 l	
RECOVERY TANK	75 l	
TRACTION	front traction	
WEIGHT WITH BATTERIES	222 kg	230 kg
BATTERIES WEIGHT	4x 26 kg	
ELECTRIC FEATURES		
POWER TENSION	24V	
POWER	4x 6V 320A/h	
GEAR MOTOR BRUSHES	2X24V 500W	24V 650W 1800RPM
SUCTION ENGINE	24V 500W conv.	
FUNCTIONS		
SQUEEGEE LIFTING UP	Lever	
SUCTION	Switch	
BRUSHES	Switch	
PERFORMANCES		
WATER LIFT	2200 mBar	
BRUSHES PRESSURE	20 kg	20 kg
FORWARD SPEED	0-5 km/h	
OVERWHELMING SLOPE WITH FULL LOAD	10 %	
CLEANING CAPACITY UP TO m ² h	3250 m ² /h	
AUTONOMY	5 h	
ECOLOGIC FEATURES		
NOISE AT OPERATOR'S EAR	73 dB	73 dB



The above mentioned characteristics are not binding for the manufacturer; they can be changed without any notice . ING.O.FIORENTINI Co. is always at disposal for any information (par.6.1.).

MEASUREMENT UNITS CONVERSION

Length	1 inch = 1" = 25,4 mm	Power	1 kW = 1,36 CV = 1,34 BHP
Temperature	T (K) = t (°C) + 273 / t (°F) = 1,8 t (°C) + 32	Pressure	1 bar = 100 kPa = 14,5 psi

3. SAFETY

3.1. RIGHT USE OF THE MACHINE



Pinky 26 is an autoscrubber and has been designed for an industrial use. It can wash and dry flat surfaces or with a max. 10% slope. It can overwhelm a max. 5% sloping surface a 1km/h.

3.2. WRONG USE OF THE MACHINE



- *the machine cannot be driver by non authorized personnel;*
- *this machine cannot work on surfaces with holes;*
- *this machine cannot wash on sloping surfaces;*
- *The machine cannot wash sloping surfaces whose gradient is higher than 10%;*
- *U-turn is forbidden on sloping surfaces whose gradient is higher than 5% (speed 1 km/h);*
- *The machine cannot be used in places with dangerous substances and in particular with explosive atmospheres or with a bad microclimate;*
- *The machine cannot clean surfaces with inflammable products;*
- *The machine cannot be used as a means of transport for people or other means of transport;*
- *The protection devices of the machine cannot be modified or tampered;*
- *Batteries must be recharged in a fanned room;*
- *The operator have always to respect safety rules;*
- *The operator cannot use equipments or devices that can create problems to the machine working;*
- *The machine components cannot be modified without FIORENTINI's authorization;*
- *The operator cannot use acids that can damage the machine;*
- *The operator has always to respect the rules written in the user manual.*



Please read carefully and do not cover the labels sticked on the machine. FIORENTINI S.r.l. is not responsible for a wrong use of the machine.

3.3. SUGGESTED EQUIPMENT

In order to use the machine in a proper way, we suggest to use the FIORENTINI's equipment and original spare parts.

FIORENTINI S.r.l. Technical Dept. is always at your disposal to design components or parts for a particular use of machine as requested by the customer.

3.4. OPERATORS' QUALIFY

La tabella riporta la qualifica richiesta per gli operatori in funzione del tipo di operazione da compiere.

OPERATION	OPERATORS' QUALIFY
Driving/control of the machine	Trained operator
Installation/ disinstallation	Fiorentini technician
Mechanical parts maintenance	Fiorentini technician
Electric parts maintenance	Fiorentini technician
Cleaning maintenance	Trained operator
Dismantling and demolition	Fiorentini technician

FIorentini S.r.l. suggests to train the operator before using the machine. The operator also must be trained about safety rules and carefully read this manual.



FIorentini S.r.l. is not responsible for any possible damage to people and/or things caused by the non-observance of the instructions dealt within this manual.

3.5. PROTECTION AND WARNING DEVICES



- It is absolutely forbidden to tamper or disconnect safety and warning devices while the machine is working;***
- It is important to check periodically safety and warning devices.***

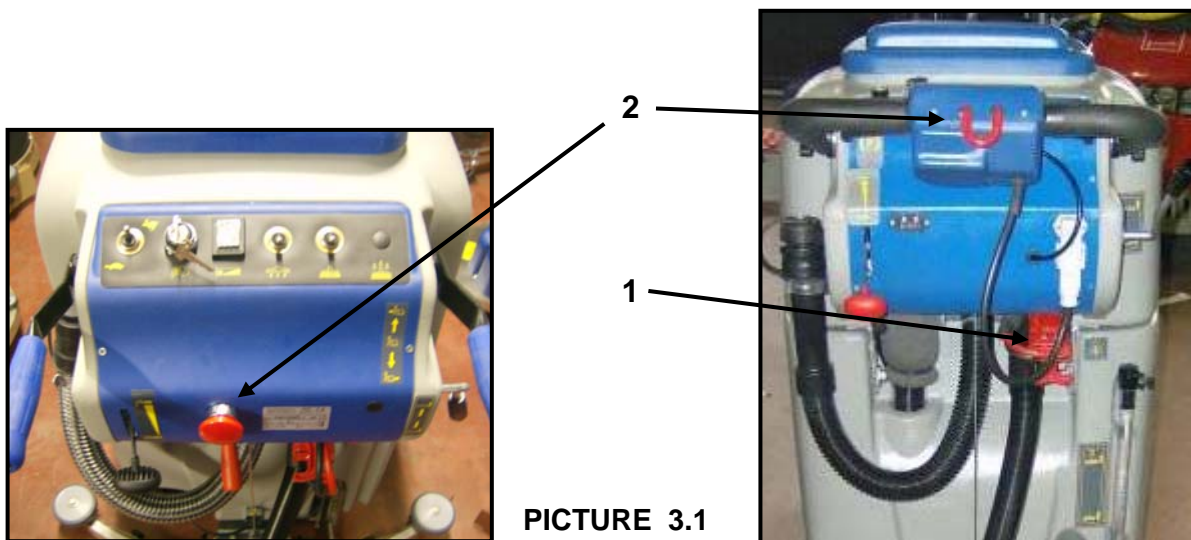
Brushes Protections	PINKY 26 is equipped with two rotating brushes made of nylon. The machine cannot reach dangerous areas thanks to one fixed steel protection and one fixed plastic or PEHD protection set up on each brush. These cases can be only willingly removed.
Suction Engine Protection	PINKY 26 is equipped with a cover set up on the recovery tank which allows suction engine inspection and protection whilst the machine is functioning. Therefore, it is very important that the cover is well set up on the machine.
Parking Brake	PINKY 26 is equipped with a braking device which allows to stop the machine safely and avoid the risk to start the machine again unwillingly.

3.6 SAFETY DEVICES

The machine is equipped with the following safety devices.

- **Socket** (picture 3.1), the same socket used for the battery charger. In case of emergency, this socket must be taken away from the plug by means of its handle.
The operator must be trained about safety rules. Do never restore this safety system before the problem has been sorted out. If it is necessary ask for the technician help.

- **Safety Device:** PINKY 26 is equipped with a special device which avoid the risk of squashing whilst the machine is reversing (see detail 1 in picture 3.2). Thanks to a safety lever, the machine is blocked when the lever gets in contact with the operator's stomach. Moreover, the machine starts running reverse for a couple of meters in order to avoid the operator's squashing during a wrong manoeuvre.



PICTURE 3.1

3.7 OTHER DANGERS

FIORENTINI S.r.l. analyzes – starting from the design of the machine - all the dangers that can occur while the machine is operating in order to prevent or at least low the operator's accidents. Thanks to a series of signals on the machine the operator can avoid many risks that can occur.

SQUASHING DANGER

This kind of danger can occur:

- whilst regulating the washing brushes
- whilst regulating the squeegee;
- whilst checking the engine or filling water into the solution tank up;

Whilst regulating the side brushes, the ignition key must be kept away from the dashboard in order to avoid the casual starting of the machine.

Special labels sticked on the cartes of the brushes or on the recovery tank prevent dangers to the operator (see § 4.7.).

TURNOVER

This kind of ranger can occur:

- during the normal operating of the machine when you exceed sloping limits as specified in the manual and you use the machine to clean disconnected surfaces or with holes and high depressions (photo 3.2)





Do not use the machine to wash sloping surfaces higher than 10% or surfaces with holes or depressions which might compromise the stability of the machine.




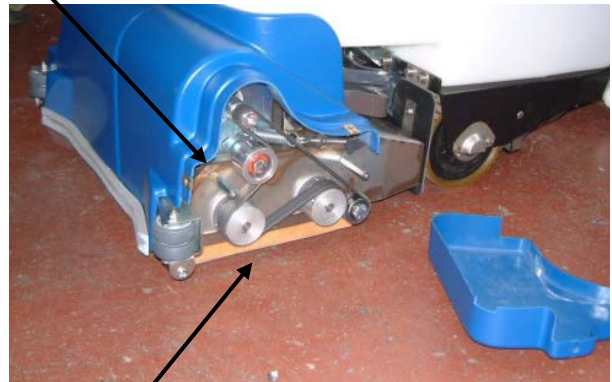
FIORENTINI is not responsible for accidents occurred to people or things provoked by a wrong use of the machine, i.e. using the machine on surfaces which can compromise its stability.

The purchaser must stick proper labels on the machine to show the operator its right use.


3.8 SAFETY SIGNALS

DANGERS		Dangers' signals are triangular with black pictures on a yellow background
PROHIBITIONS		Prohibitions' signals are round with black pictures and a red stripe


	What is it?	This signal forbids to remove the protection of pieces in movement.
	What to do	During the installation or the maintenance make sure that the ignition key is not in the dashboard before removing the mobile protections. While the machine is operating make sure that all covers are well fixed.

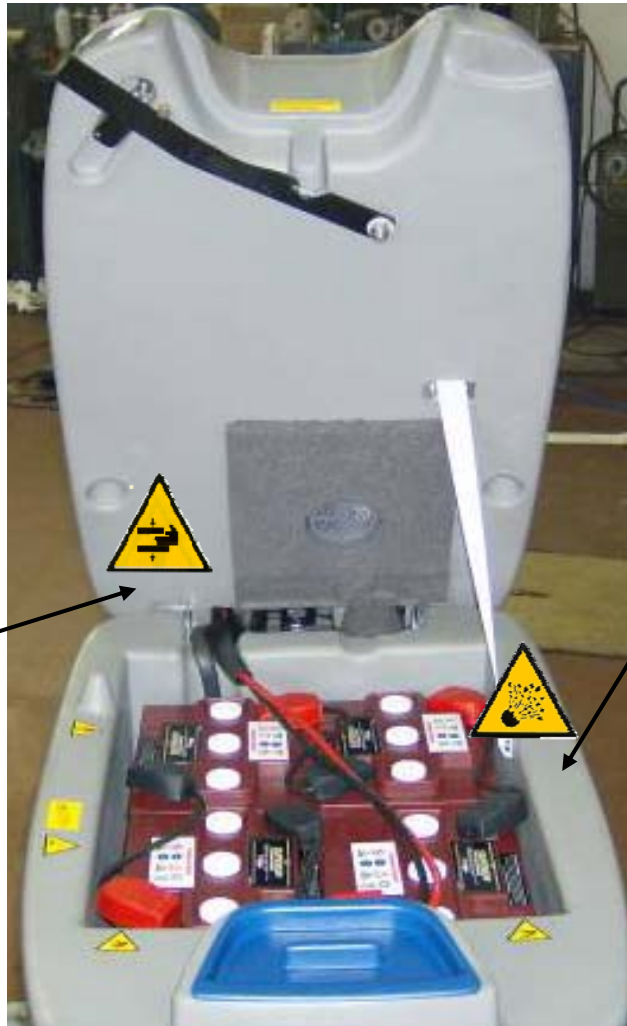


PICTURE 3.2


	What is it?	Crushing danger: it can be due to parts in movement of the machine.
	What to do	During the installation or the maintenance make sure that the ignition key is not in the dashboard before removing the mobile protections.

 ***The purchaser must replace danger signals on the machine if they are damaged. It is absolutely forbidden to remove or temper danger signals.***

	What is it?	Explosion danger: it may occur while recharging the batteries because of hydrogen spread.
	What to do	During the batteries recharge, please place the machine under a suction chimney or in a ventilated area and keep it away from heat and corrosive substances.



PICTURE 3.3

	What is it?	Crushing danger: it can be due to parts in movement of the machine.
	What to do	During the installation or the maintenance make sure that the ignition key is not in the dashboard before removing the mobile protections.


The purchaser must replace danger signals on the machine if they are damaged. It is absolutely forbidden to remove or temper danger signals.

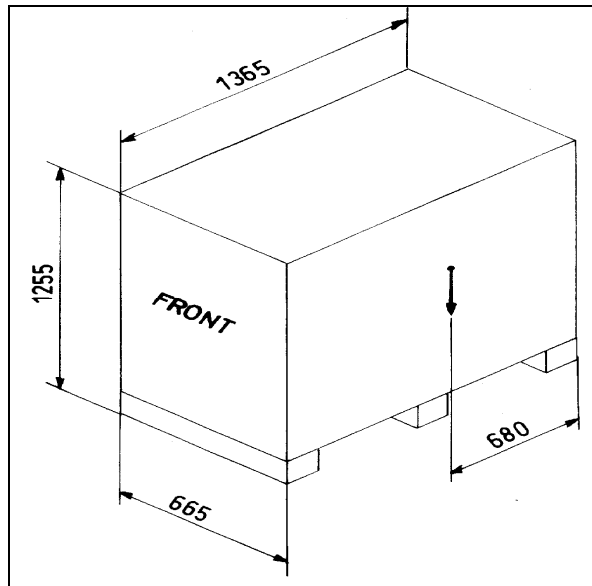
4. STARTING AND USE INSTRUCTIONS

4.1. TRANSPORT AND HANDLING

The machine is delivered to the purchaser in a proper package (see picture 4.1 below). A black arrow on the package indicates the barycentre. This arrow must be in the middle of the elevator or transpallet forks. The package must be carefully handled. Do not place one package on another one. If agreed with the purchaser, the machine can be delivered without package, placed on a pallet and fixed by means of straps.



*The purchaser must make sure that the machine has not been damaged during the transport and that all papers are on the machine. Otherwise, the purchaser must immediately contact FIORENTINI in order to sort out the problem.
The purchaser is responsible for the transport of the machine if not differently agreed with FIORENTINI.*



PICTURE 4.1

The machine must be handled with proper devices as stated in the scheme below.

Make always sure that the black arrow on the package is in the middle of the elevator forks or the straps. Anchorage and/or strapping points are set up in order to keep the machine on balance during the transport.

PACKAGE	HANDLING EQUIPMENT	PIC.
Carton box or plywood box on a pallet	Fork elevator	Nr. 4.2

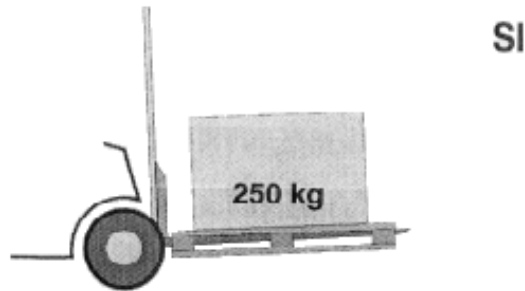


Bands used for lifting the machine up must have the same loading capacity as the machine load. Handling operations must be done without causing a loss of stability of the machine. Otherwise, the machine can be damaged or the operator can be in danger.



FIorentINI suggest to use authorized personnel (see § 2.3.) to handle the machine.

LOADING SYSTEM



PICTURE N° 4.2

4.2. STORAGE

The machine must be stored in a closed and dry place if not immediately installed in order to keep every part safe.

Relative humidity must be lower than 80% and the storage temperature must be between $3^{\circ}\text{C} \leq t \leq +45^{\circ}\text{C}$.

4.3. HOW TO UNPACK THE MACHINE

- Cut the straps paying attention to the back spring.
- Remove clips that join pallet and carton;
- in case of plywood box, please remove clips from both sides and basis of each panel:
- Cut the strips that hold the machine.
- Lay the machine on the floor.

4.4 HANDLING THE UNPACKED MACHINE

- Check the machine and install the batteries if not already installed.
- For a brief transport of the machine, please disconnect the batteries cables and remove brushes; for a longer transport, please use the original package of the machine.

4.5. INSTALLATION



Installation must be carried out by authorized personnel after reading this manual..

4.5.1 BATTERIES INSTALLATION

Please follow the instructions below to install the batteries:

- the batteries room is under the operator's seat protected by a cover;
- lift the cover of the batteries room up (picture no. 4.4 detail 2);
- install the batteries in their room (picture 4.4 detail 2 and make sure the batteries boxes are not broken);
- do never add distilled water after batteries recharge;
- clean the surfaces for the cables connections;
- use the handles on the batteries to move them.



PICTURE N° 4.3

4.5.2 BATTERY CHARGER INSTALLATION

Batteries must be recharged in a place equipped with a proper suction system of gases spread during this operation. Otherwise, batteries must be charged in a ventilated and dry place far from heat sources and corrosive substances.

Protect the electric network with a delayed switch or with a fuse whose capacity is higher than the battery charger maximum input.

Control the battery outlet polarity.

Connect the battery charger to the machine socket



PICTURE N° 4.4




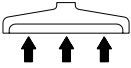
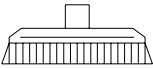

4.6 CONTROL DEVICES

4.6.1 DASHBOARD


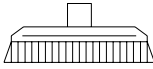
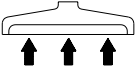

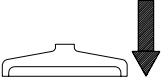
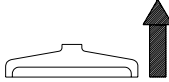
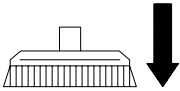
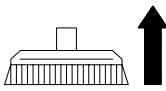
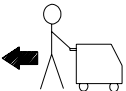
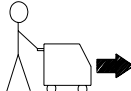




The dashboard is made of a series of switches that activate or inactivate all the machine functions. The function of each switch is shown by a picture. Picture 4.6. shows the dashboard of the machine and the switches function is explained in the scheme in the following page.



PICTURE N° 4.5

POS.	BUTTON	FUNCTION
1		POTENTIOMETER
2		KEY SWITCH
3		BATTERY CHARGER PILOT LIGHT
4		SUCTION SWITCH
5		BRUSHES SWITCH
6		SOLENOID VALVE SWITCH (optional)

4.6.2 SYMBOLS ON THE DASHBOARD

<p>0</p>	<p>closed (off)</p>	<p>1</p>	<p>Switched on</p>
	<p>Main switch</p>		<p>Washing brush</p>
	<p>Squeegee suction</p>		<p>Progressive increasing</p>
	<p>Squeegee down</p>		<p>Squeegee up</p>
	<p>Washing brush down</p>		<p>Washing brush up</p>
	<p>Reverse gear</p>		<p>Forward gear</p>
	<p>Solenoid valve</p>		<p>potentiometer</p>
	<p>Emergency switch</p>		<p>Service/parking brake</p>

4.7. FUNCTIONING

The operator, thanks to his/her experience, has to choose the right kind of brush and detergent for the surfaces that has to be washed and to decide if the floor needs a second washing.

Follow these instructions for a correct washing:

1. press the brushes motor switch;
2. press the solution solenoid valve switch;
3. press the suction switch.

By means of the accelerator pedal the washing brushes and the suction motor are activated. On the contrary, both the washing brushes and the suction motor are disactivated after a few seconds if the operator leaves this pedal. Before the surface is completely dry, the operator must switch the solution solenoid valve off because this is not activated/disactivated by the accelerator pedal.

The operator has to do a second washing if the surface is particularly dirty:

1. wash the surface with the squeegee up and the brushes down;
2. activate the brushes;
3. press the solution solenoid valve switch;
4. leave the solution on the surface to dissolve the dirt;
5. do a second washing with brushes and squeegee down, the suction activated and the solution solenoid valve open.



Before any operation, make sure that all protections are well fixed.

4.7.1 PREPARING AND STARTING THE MACHINE

If the machine is connected with the battery charger, the operator must firstly disconnect the battery charger plug from the batteries one and connect the batteries plug with the power supply plug (see picture 4.6. – battery version). Secondly, the operator must fill water lifting the recovery tank up and turning the cap (see detail nr. 1 in picture nr. 4.7.). Now the operator can seat on the machine and start it.



PICTURE N° 4.6

4.7.2 CHOOSING THE RIGHT DETERGENT

Choosing the right detergent is very important for a perfect cleaning. A too strong detergent could damage the surface. A good quality detergent has to produce little foam. Otherwise, the operator can add an antifoaming additive or 50 cc of wine vinaigre in the recovery tank in order to avoid the suction motor damage.



Make sure that the detergent is suitable for the dirty surface. FIORENTINI S.r.l. is not responsible for damages provoked by too aggressive detergents.

4.7.3 HANDLEBAR REGULATION (ELECTRIC VERSION)

The operator can regulate the handle bar in order to choose a comfortable position:

- knob for the regulation of the handle bar (see detail 1 in picture 4.7).



PICTURE N° 4.7

4.7.4 LEVERS FUNCTIONS

ELECTRIC VERSION

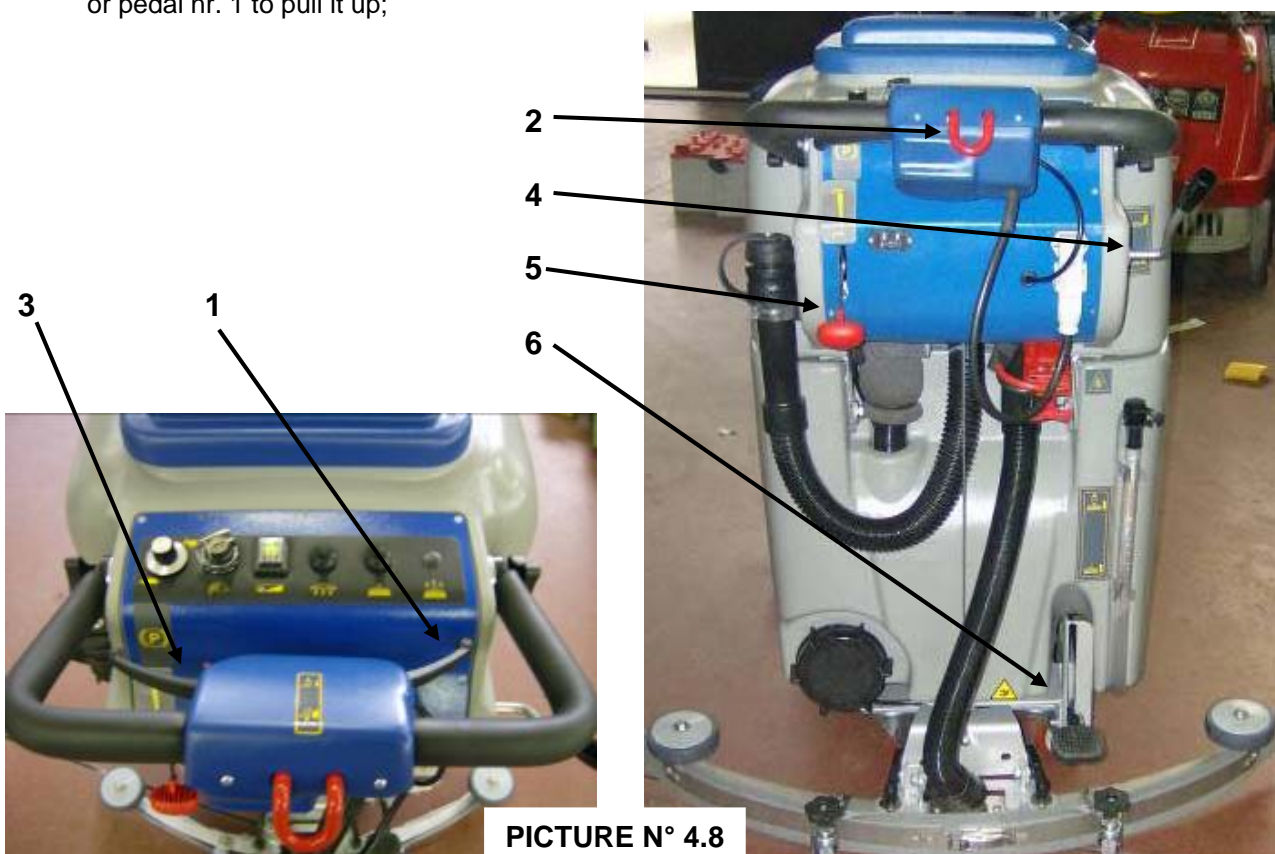
The machine is equipped with a series of levers and pedals:

- gas lever (see detail 1 in picture 4.8).
- Spingendo l'interruttore ad u (particolare 2 figura 4.8) verso la macchina poi tirando la leva si ottiene la marcia avanti, viceversa tirando verso l'esterno l'interruttore ad u e tirando la leva si ottiene la marcia indietro.



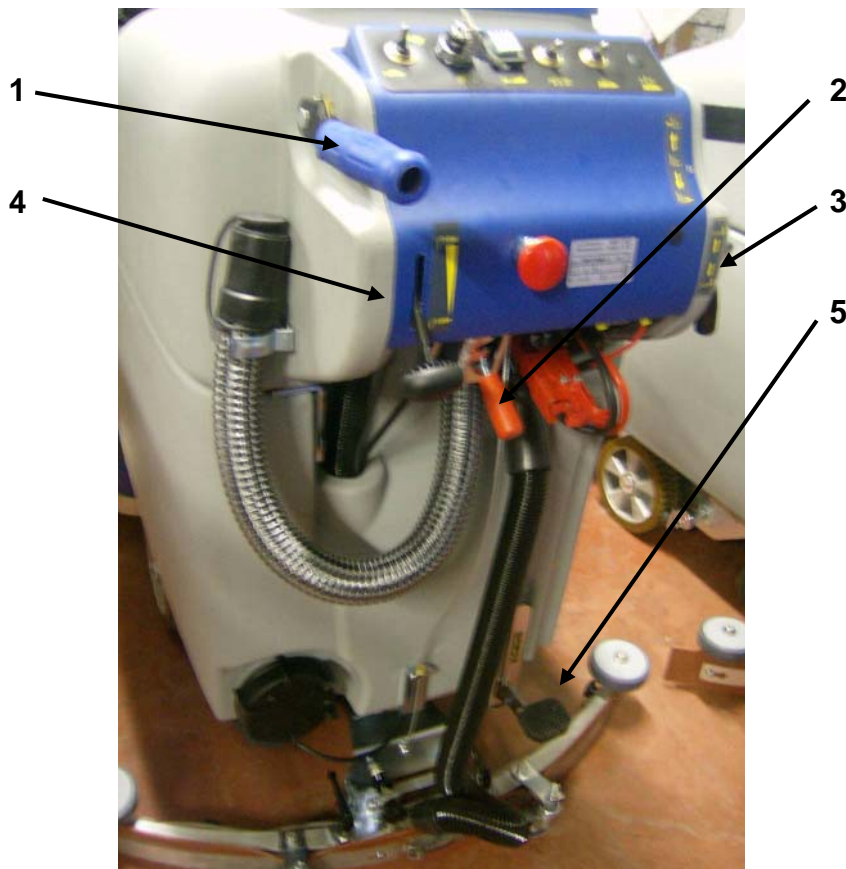
The accelerator pedal activates all the machine moving parts. This is why the brushes and the suction motor are activated pressing the accelerator pedal and their switches on the dashboard. On the contrary, the accelerator pedal can't activate the solution solenoid valve, which has to be opened and closed by the operator.

- Service/Parking Brake (see detail 3 in picture 4.9). it has to slow and stop the machine. If the operator wants to set the service brake on, he/she has to press the service brake pedal (. If he /she wants to release the service brake, he/she has to press both the brake pedal and the release pedal and press the release knob.
- Squeegee lifting up lever (see detail 4 in picture 4.8). Pull the lever up in order to lift the squeegee up or pull it down to do the opposite.
- Solution lever (see detail 5 in picture 4.8). Turn the solution lever until the solution quantity that flows out is sufficient;
- Brushes Plate up/down Pedal (see detail 2 in picture 4.8). Press pedal nr. 2 to low the brushes plate or pedal nr. 1 to pull it up;



MECHANIC VERSION

- Forward/reverse gear (see detail 1 in picture 4.8 B). In order to run the machine forward, the operator has to pull both levers on the handlebar up (and down for reverse gear);
- Service/Parking Brake (see detail 2). it has to slow and stop the machine. If the operator wants to set the service brake on, he/she has to press the service brake pedal (. If he /she wants to release the service brake, he/she has to press both the brake pedal and the release pedal and press the release knob.
- Squeegee lifting up lever (see detail 3). Pull the lever up in order to lift the squeegee up or pull it down to do the opposite.
- Solution lever (see detail 4). Turn the solution lever until the solution quantity that flows out is sufficient;
- Lifting up brushes plate (detail 5).In order to lift the brushes plate up, the operator has to press the pedal until it is blocked by the plate. Do the opposite in order to lift the brushes plate down.

**PICTURE N° 4.8 B**

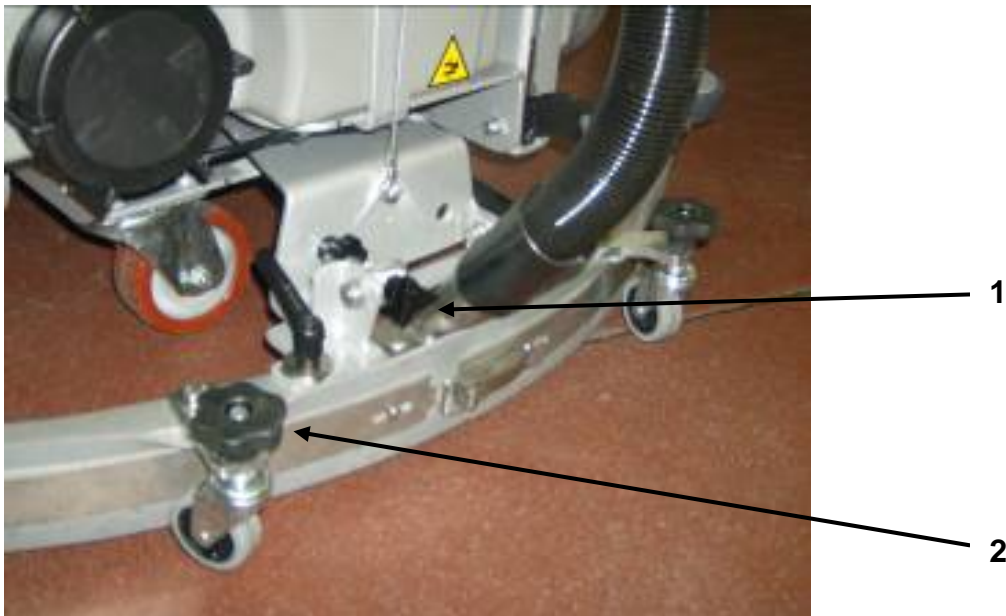
4.7.5 DETERGENT SOLUTION REGULATION

During the washing phase the operator can control the detergent quantity by means of a cock, which is at the bottom of the machine on the left inside the protection rubber (see detail nr. 5 in picture 4.8.).

4.7.6 6 SQUEEGEE ADJUSTMENT

The squeegee has to be well regulated in order to have a perfect dry system. This kind of squeegee can perfectly suck water, which flows into the suction pipe, but it must be parallel to the surface.

- Remove the ignition key from the dashboard in order to avoid the casual starting of the machine.
- By means of the exagonal tie rods regulate the squeegee inclination (see detail 1 in picture nr. 4.11)
- Regulate the squeegee pressure by means of the ring nuts that control the distance between the wheels of the squeegee and the floor (see detail 1 in picture nr. 4.12).



PICTURE N° 4.9



Make sure that the two wheels of the squeegee are well regulated in order to keeps both its blades parallel to the floor.

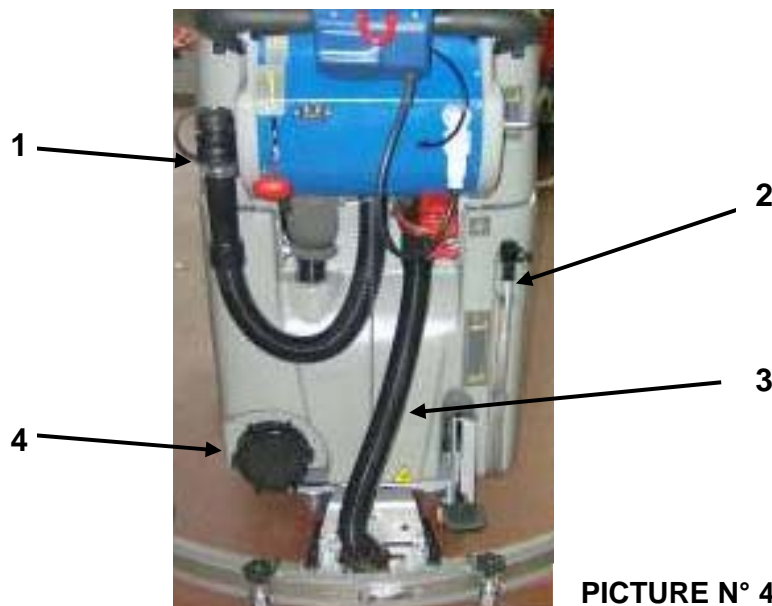
4.7.7 WATER DISCHARGE

This scrubber machine is equipped with two pipes for water discharge (picture 4.10.):

- A pipe for the recovery tank discharge (see detail nr. 1 in picture nr. 4.10.);
- A pipe for the solution tank discharge (see detail nr. 2 in picture nr. 4.10.);

Moreover, the scrubber is equipped with a flexible pipe system which intake dirty water (see detail 3 in picture 4.10) and a porthole in order to check and clean the recovery tank (see detail 4 in picture 4.10).

If you need to discharge water from the tanks, you have to place the machine on a dump well, release the pipe of the tank and open the rubber cap at the end of the pipe itself.



PICTURE N° 4.10

4.7.8 BRUSHES REPLACEMENT

Please follow the instructions below:

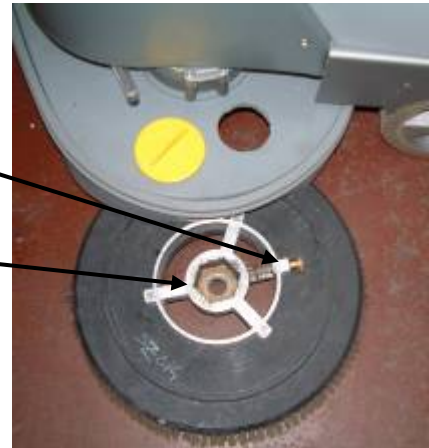
- Remove the ignition key from the dashboard in order to avoid the accidental start of the machine;
- remove the yellow caps (see detail 1 in picture 4.11);
- Remove the brushes turning them until you can see the pins, pull the pins and remove the brushes, (see detail 2 in picture 4.11);
- Set the new brush up: place it under the exagonal support and press it up (see detail 3 in picture 4.13);
- After having replaced the brushes, the operator has to set the cases and the split pin up again.



1

2

3



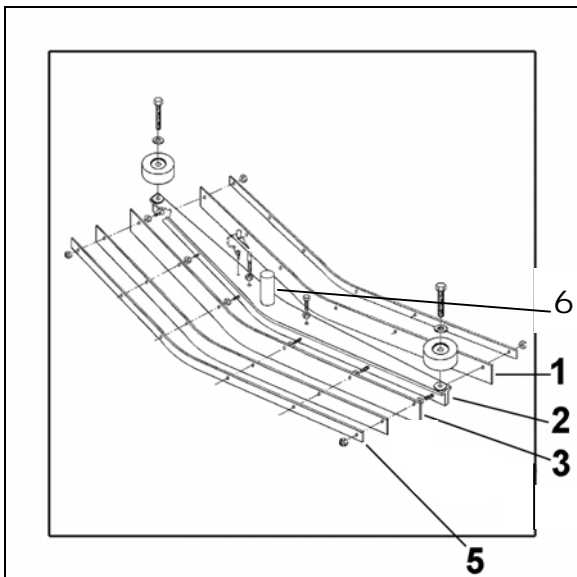
PICTURE N° 4.11

4.7.9 SQUEEGEE BLADES REPLACEMENT

Squeegee blades must be replaced when their hedges are worn. A perfect hedge allows a perfect dry (picture 4.12).

Please follow these instructions to replace the squeegee blades:

- Remove the squeegee from the machine and lay it on a table;
- Turn the lever, unloose the steel strip and the two side wing nuts;
- Remove the steel strips;
- Do now the opposite operation, set the new blades up and regulate the squeegee;
- Follow the same instructions to replace the front blade.



- | |
|---|
| 1- Squeegee front blade
2- Squeegee
3- Squeegee suction blade
5- Squeegee strap
6- Siphon |
|---|

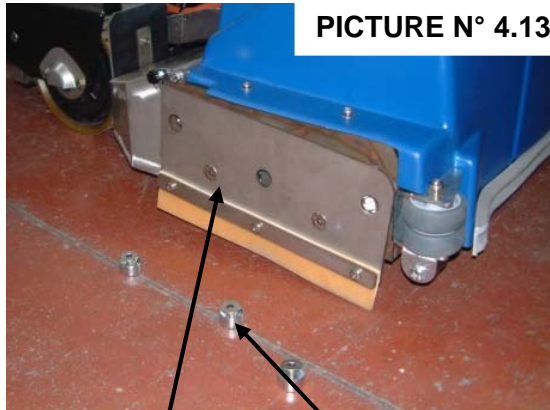
PICTURE N° 4.12

4.7.10 CYLINDER BRUSHES REPLACEMENT (cylinder brushes group version)

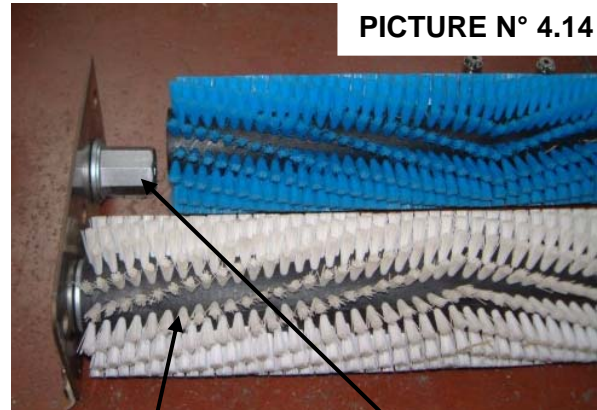
Please follow the instructions below:

- Remove the ignition key from the dashboard in order to avoid the accidental start of the machine.
- unscrew the three screws and remove the protection steel case (see detail 1 in picture 4.13) pulling it out;

- remove the cylinder brushes (see detail 3 in picture 4.13);
- set the new cylinder brushes up and match the exagonal attachment of the brush with the one of the flange;
- set the protection steel case again up and make sure that the exagonal attachment fits the cylinder brushes (see detail 4 in picture 4.13). Press the protection steel case against the machine and tighten the three screws.



1 2



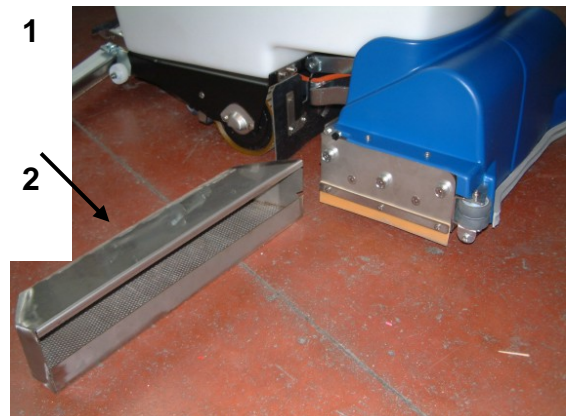
3 4

4.7.11 WASTE TANK CLEANING (cylinder brushes group version)

Please follow the instructions below:

- Remove the ignition key from the dashboard in order to avoid the accidental start of the machine;
- lift the waste tank stopper up in order to remove the tank itself (see detail 1 in picture 4.15);
- remove the waste tank pulling it out of the machine (see detail 2 in picture 4.15);
- empty and clean the waste tank;
- do now the opposite instructions.

! Before starting the machine again, please make sure that the waste is fixed to the machine by means of the hook.



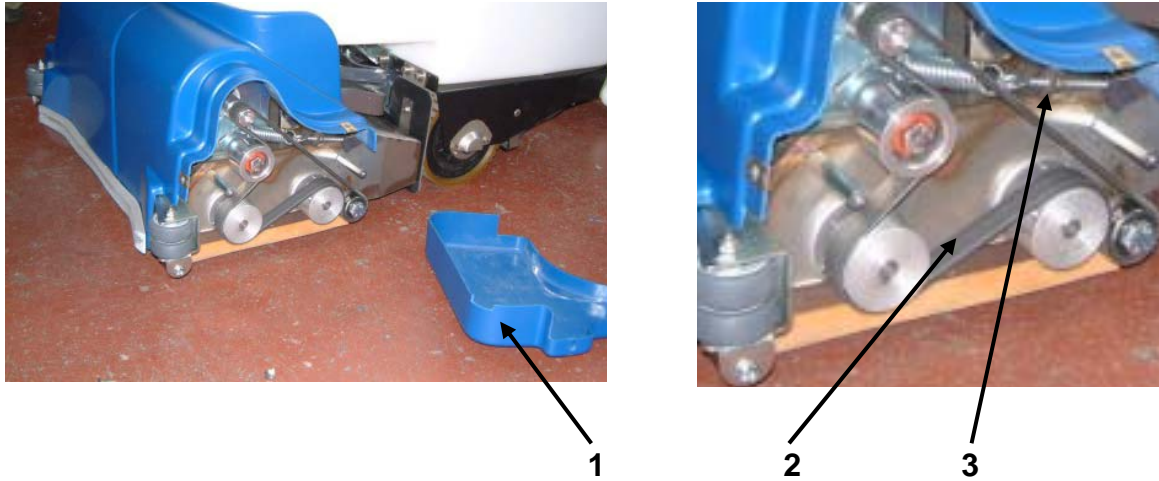
PICTURE N° 4.15

4.7.12 CYLINDER BRUSHES BELT REGULATION AND REPLACEMENT (cylinder brushes group version)

Please follow the instructions below:

- Remove the ignition key from the dashboard in order to avoid the accidental start of the machine;
- unscrew the four screws and remove the plastic case (see detail 1 in picture 4.16);

- tighten the belt by means of the nut (see detail 2 in picture 4.16) in order to increase the draw of the spring that regulates the belt (see detail 3 in picture 4.16);
- unloose the nut in order to remove and replace the belt;
- tighten the nut until the belt is well tightened;
- set the case again up by means of the four screws.



PICTURE N° 4.16

5. MAINTENANCE

5.1. PERIODICAL MAINTENANCE

A periodical maintenance is very important.
Please write down in the format you find below all the interventions done on the machine.



- *Trained personnel only can service the machine and especially electric and electromechanical parts by means of suitable tools and equipments.*
- *Make reference to FIORENTINI S.r.l. only for service and spare parts (ref.: 6.1. / 6.2.).*

OPERATION	INTERVENTION	HOW OFTEN
Cleaning	Clean the recovery tank and the oil filter of the suction motor	Daily
	<ul style="list-style-type: none"> • Do not use corrosive substances. • Do not use bolts of water. 	
	<ul style="list-style-type: none"> ➤ Check the suction pipes and the squeegee 	Weekly
	Clean the recovery tank and the oil filter of the suction motor	Weekly

Check	<ul style="list-style-type: none"> ➤ Check the rubber suction blades of the squeegee ➤ Check the water battery level 	Every 15 days
	Check the filter of the clean water tank	Every month
	Check and regulate the breaking system	Every 3 months
	Check the connection of the battery cables	Every 6 months
	Check the brushes of each motor	Every year
	<ul style="list-style-type: none"> ➤ Check the safety devices ➤ Check the electric system 	Every year

5.2 BATTERIES MAINTENANCE

The operator has to check the batteries charge when the machine is on duty by means of the indicator on the dashboard, which shows:

- Green light: charged battery
- Yellow light: slightly charged battery
- Red light: uncharged battery



The operator must keep the battery room open during the batteries recharge. Moreover:

- *It is forbidden to use flames and/or to smoke near the batteries;*
- *Pay attention to the battery acid;*
- *Do not develop sparks near the batteries;*
- *Pay attention to the batteries gazes, which can burst;*
- *Do not invert battery polarities.*

5.2. HYDROMETRY

In order to check the batteries hydrometry the operator has to follow the instructions below:

- By means of a hydrometre draw a small quantity of electrolyte so that the floater reaches the surface;
- Make sure that the floater inside the hydrometre is not blocked;
- For a new measurement, after having filled the batteries with distilled water, the operator has to wait until the liquid inside each battery becomes homogeneous.

5.2.2 WATER FILLING UP

- Fill distilled water up in each battery cell before the recharge. The liquid inside the batteries has to be of 6 mm. over the plates;
- The operator has to repeat the same operation every time the level decreases (every week).

5.2.3 CHARGE LIMITS

It is not necessary to recharge the batteries if the hydrometry, after a work day, is not under 1,24 (28 Bè). The highest suggested temperature is 45°C. If the electrolyte temperature increases more than 10/12 °C compared to the outside temperature, the batteries can be overcharged.

5.2.4 OFF DUTY OR INACTIVE BATTERIES

Inactive batteries loses their automatically their charge. If batteries do not continually work, the operator has to:

- Charge the batteries once a month with a 'final' stream intensity until gas is spread and the batteries voltage and weight are constant for 3-4 hours. This operation has to be done even if the absolute weight is high;
- Keep the batteries in a dry room.

5.2.5 BATTERY CHARGER TECHNICAL FEATURES

The battery charger has to show the features listed in the scheme below:

BATTERIES TECHNICAL FEATURES

TENSION	24 V
POWER	320 A/h
WEIGHT	26 Kg

BATTERY CHARGER TECHNICAL FEATURES

IN	V 230, Hz 50, A5
OUT	V 24, A12

This kind of battery charger can support batteries of other brands, too.



See § 2.3 TECHNICAL DATA for the batteries technical features.

5.2.6 BATTERIES DISPOSAL

BATTERIES DISPOSAL

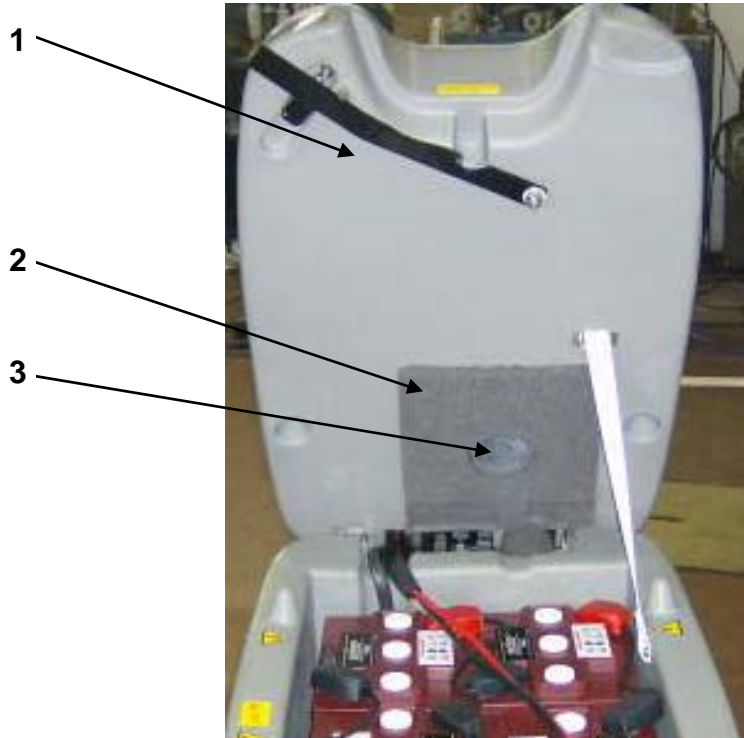
Old batteries are toxic wastes and they have to be thrown in a suitable and authorized place for the batteries disposal. For a short storage, old batteries must be located in an authorized room. Moreover, they must be stored in sealed plastic tanks, whose capacity is not lower than the electrolyte.

5.3 SUCTION ENGINE MAINTENANCE

The suction motor has to be checked up and cleaned. Every six months motor brushes have to be checked and replaced if it is necessary.

To maintain the suction motor please follow the instructions below:

- Take the ignition key off the dashboard and lift the recovery tank up (see detail 1 in picture 5.1);
- remove the soundproofing;
- unloose the screws that fix the suction engine onto the tank and remove the engine (see detail 3 in picture 5.1);
- Check the motor fan through the hole in the front side of the suction motor;
- Remove the plastic cover, loosen the screws and both the brushes supports and check the motor brushes (see detail 2 in picture 5.1);
- Do now the opposite operations to set everything up again.



PICTURE N° 5.1

5.4 ELECTRIC EQUIPMENT CONTROL

It is very important to check the electric system up every two years. Disconnected cables or burnt cables must be immediately replaced.



Interventions on the electric system must be carried out by a trained technician. Every kind of intervention not explained in the operator manual must be carried out by FIORENTINI's technicians.

5.5 Tests to be carried out

	HOW OFTEN	OPERATOR
INSPECTION		
Safety devices	Every 2 years	Trained technician
Electric system	Every 2 years	FIORENTINI technician
Braking system	Every 3 months	Trained technician
Complete check up	Every 5 years	FIORENTINI technician
MAINTENANCE		
Recovery tank cleaning	Every day	Operator
Clean water tank	Every month	Operator
Suction motor filter	Every day	Operator
Suction pipes cleaning	Every week	Operator
Squeegee cleaning	Every week	Operator
Squeegee blades	Every week	Operator
Battery water level	Every week	Operator
Battery cables fixing	Every 6 months	Trained technician
Brushes in each motor	Every year	Trained technician

6. SERVICE

6.1. SERVICE ADDRESSES

Do not hesitate to contact FIORENTINI S.r.l. service for any kind of information or request.

ING. O. FIORENTINI s.r.l.

"THE BEST IN FLOOR MACHINES"

FILIALI:

20132 MILANO – Fax. 02/2592779

Via Palmanova 211/a – Tel. 02/27207783 - 2564810

00155 ROMA – Fax. 06/22754075

Via Carlo Carrà 13 – Tel. 06/22754040-2275060

STABILIMENTO:

50030 PIANCALDOLI (FI) – Fax. 055/817144

Loc. Rombola – Tel. 055/8173610

Most of the technical problems can be sorted out with short intervention. This is why FIORENTINI S.r.l. suggest to read carefully this manual before using the machine. On the contrary, if the customer needs a FIORENTINI technician, please inform us about the problem in order to sort it out with the right material.

6.2 CLAIM REPORT

Please, fill in the format below if the machine shows particular problems.

Operator:	
Company:	_____
Operator's name:	_____
Role:	_____
Date:	Signature: _____
Machine description:	
Machine: ET 65-75	Type: _____
Purchase date: _____	S.N.: _____
Warranty: <input type="checkbox"/> YES <input type="checkbox"/> NO	Work hours: _____
Where does the machine normally work? _____	
Fault:	
Code of the defected component: _____	Description: _____
Fault:	Fault short description:
<input type="checkbox"/> Mechanical component	_____
<input type="checkbox"/> Wrong functioning	_____
<input type="checkbox"/> Electric system	_____
<input type="checkbox"/> Engine	_____
<input type="checkbox"/> Missing component	_____
<input type="checkbox"/> Extremely noisy	_____
<input type="checkbox"/> Water leak	_____
<input type="checkbox"/> Other	_____
Customer's suggestion:	

Mat. n.
Serial no.
Nr. de serie

Data di spedizione
Date of shipment
Date de spedition

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