

**ING. O. FIORENTINI S.p.A.
INDUSTRIAL CLEANING MACHINES**

RIDE-ON SWEEPER MOD. S38B-C01



USER AND MAINTENANCE MANUAL

Thanks for having chosen a FIORENTINI machine!

ING. O. FIORENTINI S.p.A. and all its staff is constantly committed in development and evolution of its products and services, in order to completely satisfy its customer exigencies, even towards the production of non-standard equipment, modified on request.

At the moment ING. O. FIORENTINI S.p.A. is one of the Leaders in Italy and Europe for construction, design and distribution of industrial cleaning equipment.

Our tradition and competence guarantee the technical quality of your choice as all our products are being built with first quality materials through criteria that can give reliability, solidity and functionality.



We therefore warmly invite you to contact us for every kind of request, both technical or commercial; which we will be pleased clarify at the earliest.

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1. GENERAL INFORMATION

1.1 SYMBOLS

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

1.2 WARNINGS

	<p>FIORENTINI S.p.A. 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 during 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. Purchaser is responsible for showing the manual to qualified people. In case of loss ask for a duplicate to FIORENTINI Co..</i></p> <p><i>FIORENTINI S.p.a. is not responsible for any kind of damages caused by people or things due to the non-observance of the instructions of this manual.</i></p> <p><i>FIORENTINI S.p.a. 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.p.a. 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.

1.4.1 OBJECT OF WARRANTY

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.p.a. 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;
- Use of not original spare parts;
- Interventions made up by unauthorized personnel;
- Missing maintenance;

For electric and expendable materials purchased by external suppliers ING. O. FIORENTINI S.p.a. gives the same warranty than its suppliers.

1.4.2 WARRANTY PERIOD

The warranty is granted for 12 months since the machine delivery date. This is a single warranty term and it cannot be extended.

1.4.3 WARRANTY POLICY

Defective components must be sent back to FIORENTINI S.p.a. in order to establish the causes of anomalies and therefore recognize 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.

1.4.4 GOODS TO BE RETURNED

In case of goods to be returned for warranty replacement, it is necessary to have a written acceptance from FIORENTINI technical department before sending them.

All defective parts must be carefully packed in order to avoid further damages during transport.

Goods must be shipped ex-warehouse and followed by :

- Serial number you get it from the silver label stuck 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.

In case of defective electric or electronic goods, please return them separately from other materials, in order to help us in dividing dangerous waste goods and recycle them (RAEE) as DER 2002/96/CEE LOW.



The goods replaced under warranty are sent at FIORENTINI's charge.

1.4.5 EXCEPTIONS



Consumable parts are not covered by warranty.



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

1.5 CE DECLARATION

The conformity declaration is released with the machine and the user manual.

<p align="center">DICHIARAZIONE CE DI CONFORMITA'-DECLARATION OF CONFORMITY DECLARATION DE CONFORMITE-EG-KONFORMITÄTSEKTLÄRUNG- DECLARACION DE CONFORMIDAD (ai sensi dell'allegato II 1.A della Direttiva Macchine 2006/42/CE)</p>	
<p align="center">La ING.O.FIORENTINI SPA con sede in Via Piancaldoli 1896 Firenzuola, 50033, (FI)</p>	
<p>DICHIARA/DECLARES/DECLARE/ERKLÄRT/ DECLARA n qualità di costruttore sotto la propria responsabilità che la macchina As manufacturer under its own responsibility that the machine En tant que fabricant sous sa propre responsabilité que la machine Als Hersteller, erklären, in alleiniger Verantwortung, dass das Produkt Como fabricante, bajo su responsabilidad que la máquina</p>	
<p>Modello/model/modèle/Typ/modelo Matricola/serial number/numero de série/ Fabriknummer/ Número matricula Anno di costruzione / Year of production/ Année de production/ Baujahr/ Año de producción</p>	
<p>a cui la presente dichiarazione si riferisce è conforme alle prescrizioni which this declaration refers to, is in conformity with the requirements à laquelle se réfère cette déclaration, est en conformité avec les prescriptions Auf das sich diese Erklärung bezieht, mit der normativen übereinstimmt. que esta declaración se refiere, está en conformidad con los requisitos</p>	
<p>della direttiva macchine 2006/42/CE/ Directive 2006/42/CE / de la Directive 2006/42/CE / der EG-Richtlinie 2006/42/EG über Maschinen / De la directiva máquinas 2006/42/CE</p>	
<p>della direttiva compatibilità elettromagnetica 2014/30/EU/ the Electromagnetic Compatibility Directive 2014/30 / EU / de la Directive Compatibilité Electromagnétique 2014/30 / EU / elektromagnetische Verträglichkeit (EMV) 2014/30/EU / la directiva de compatibilidad electromagnetica 2014/30/EU</p>	
<p>della direttiva sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE) 2012/19/UE/ Directive on Waste of Electrical and Electronic Equipment (WEEE) 2012/19 / EU / de la directive relative aux déchets d'équipements électriques et électroniques (DEEE) 2012/19 / UE / Elektrische und elektronische Geräte Abfälle (DEEE) 2012/19/UE Directiva sobre residuos de aparatos eléctricos y electrónicos (RAEE) 2012/19/UE/ (ISCRIZIONE AL REGISTRO PRODUTTORI A.E.E.: N° IT 1201000007391)</p>	
<p>In particolare alle disposizioni normative In particular, the regulatory rules En particulier, les dispositions réglementaires Gemäß den Bestimmungen der Richtlinie En particular, las normas reguladoras</p>	
<p align="center">EN ISO 12100, EN ISO 13857, EN ISO 13850, EN 60204-1, EN 349, EN 953, EN ISO 4413, EN 60335, EN 60335-1, EN 60335-2-69, EN 60335-2-72, EN 55014-1, EN 55014-2, EN 62233, EN 61000-6-2, EN 61000-6-4</p>	
<p>Il fascicolo tecnico è costituito da Ing.O.Fiorentini S.p.a. in qualità di persona giuridica- via Piancaldoli 1896 Firenzuola 50033 Fraz. Piancaldoli (FI) - Italia The technical dossier consists of Ing.O.Fiorentini Spa as a legal person - via Piancaldoli 1896 Firenzuola 50033 Fraz. Piancaldoli (FI) - Italy Le dossier technique est constitué de Ing.O.Fiorentini Spa comme personne juridique - via Piancaldoli 1896 Firenzuola 50033 Fraz. Piancaldoli (FI) - Italie Die technische Dokumentation besteht aus Ing.O.Fiorentini Spa as a legal person - via Piancaldoli 1896 Firenzuola 50033 Fraz. Piancaldoli (FI) - Italy El expediente técnico se compone de Ing.O.Fiorentini Spa como una persona jurídica - via Piancaldoli 1896 Firenzuola 50033 Fraz. Piancaldoli (FI) - Italia</p>	
<p>Piancaldoli _____ Luogo e data</p>	<p align="center">Ing. O. Fiorentini S.p.a. Il Legale Rappresentante/president/gérant/ representante Angelica Maria Cerutti _____ Firma </p>

2 MACHINE FEATURES AND TECHNICAL DETAILS

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” marking.

Ing. O. Fiorentini SpA		MADE		CE	
50030 Piancaldoli (FI)		IN ITALY			
Mod	S38B	S.N.		2	
V		Hz	-	0	
Kg	1200	A	125	1	
		W	1450	1	



PICTURE N°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 scrubber/sweeper machine cannot be sold without the label.

2.2 DESCRIPTION AND MACHINE COMPONENTS

2.2.1 DESCRIPTION

The machine UBF 38 is designed for the treatment of flat hard surfaces through the process of brushing and collection of dirt in a special container.

The traction motor is installed on the rear wheel and the traction system is made up by oleo-dynamic motors fed by a pump, which is fed by electric accumulators.

The oleo-dynamic pump feeds also the central brush motor, the front brushes motors and the oleo-dynamic actuators for lifting/lowering the waste tank and opening/closing the flap to discharge the container.

The vacuum motor and the filter shaker motor are fed by the battery inside the machine.


By means of a rotating brush installed on the right front side of the machine (the left side brush is optional), the dust is conveyed to the middle of the machine. Consequently, the main central brush pushes it inside the waste tank. This machine must be used on dry or little humid surfaces.

The machine can also be equipped with a dust spray system as optional.

By means of the dashboard, the operator can control the functioning of the machine motor and other components through a signalling system made of LEDs.

The following functions of the machine can be operated from the dashboard:

- Activate all brushes installed on the machine
- Activate the dust spray system (optional)
- Lift/low the waste tank
- Open/close the flap of the waste tank mouth
- Activate the vacuum motor
- Activate the filter shaker

	<p>Important: remember the following points before switching the machine off:</p> <ul style="list-style-type: none">➤ Set the waste tank in the low position➤ Set the brushes in not-working position in order to avoid the bristles to get deformed
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2.2.2 MACHINE MAIN COMPONENTS

- Painted iron chassis
- Ride side rotating brush
- Left side rotating brush (optional)
- Electric accumulators;
- Vacuum and collection system;
- One traction motor;
- Two idle wheels;
- Dust spray system (optional)

FIORENTINI Co., taking into consideration the new CE safety rules, 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

LENGTH x WIDTH x HEIGHT	1815 x 1010 x 1400 mm
TRACTION	HYDRAULIC
CENTRAL BRUSH DIMENSIONS	Ø330 x 1000mm
SIDE BRUSHES DIMENSIONS	Ø550 mm
SWEEPING WIDTH	1290 mm
SWEEPING WIDTH WITH TWO SIDE BRUSHES	1540 mm
WHEEL DIAMETER	400 - 6 mm
FILTERING SURFACE	6 m ²
WASTE TANK CAPACITY	280 L
WEIGHT WITHOUT BATTERIES	850 Kg
FUNCTIONS	
RIDE	ON-BOARD OPERATOR
CENTRAL BRUSH OPERATION/LIFTING	HYDRAULIC
SIDE BRUSH OPERATION/LIFTING	HYDRAULIC
SERVICE BRAKE	MECHANIC
PARKING BRAKE	BY LEVER
FEATURES	
FORWARD SPEED	0 – 6 Km/h
BACKWARD SPEED	0 – 6 Km/h
MAXIMUM SLOPE	15%
MAXIMUM SLOPE FOR U-TURN	5% a 3 Km/h
CLEANING CAPACITY UP TO m ² /h	8450 m ² /h
ECOLOGICAL DATA	
NOISE LEVEL	81.5 dBA
VIBRATIONS	< 2.5 m/s ²



The above mentioned characteristics are not binding the manufacturer; they can be changed without any notice . ING.O.FIORENTINI Co. is always at disposal for any information (par.7.1.).

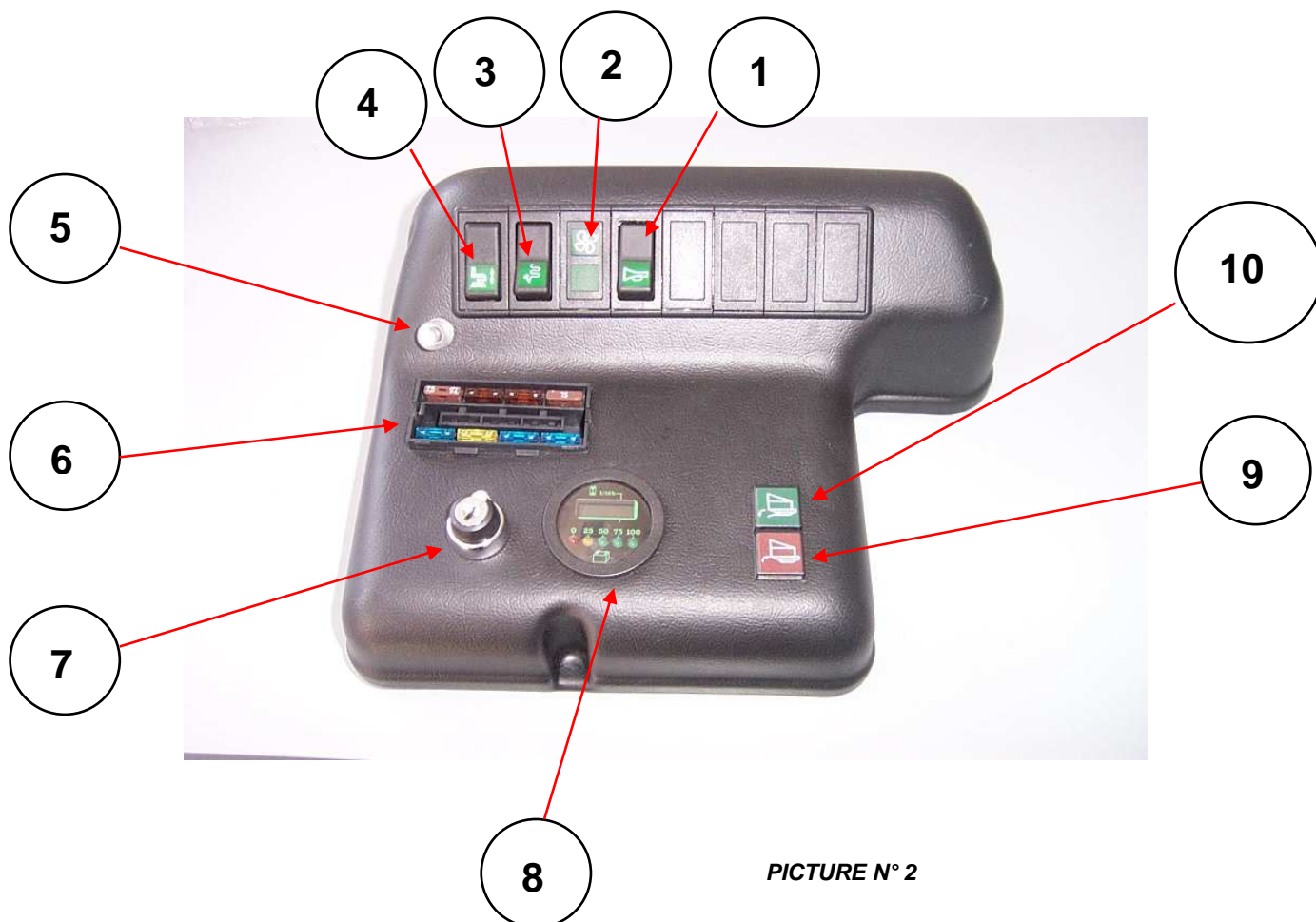
MEASUREMENT UNITS CONVERSION

Lenght	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

2.3.1 CONTROL BOARD

The dashboard is made of a series of switches that activate or defuse all the machine functions. The function of each switch is shown on the dashboard by a small picture.

Picture 4.5. shows the dashboard of the machine and the switches function is explained in the scheme here below.



PICTURE N° 2

1	Horn	6	Fuses
2	Light for vacuum motor fan switching on	7	Key switch
3	Filter shaker switch	8	Hour counter/ battery level
4	Light for side brush switching on	9	Closed flap – red light
5	Circuit breaker 5A	10	Open flap – green light

3. USE OF THE MACHINE

3.1 MACHINE SWITCH ON

To switch the machine on insert the key in the dashboard and turn it clockwise till it makes a click.

	<p>Before using the sweeper check the oil level in the tank of hydraulic gearbox. The right level is at $\frac{3}{4}$ of the level indicator (see picture 3), which is situated in the inner side of the machine. In case of insufficient level, top up with other oil, after having switched the machine off and removed the key from the control board. The topping up is made from the special plug. (picture 3a)</p>
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Picture 3

Topping up plug



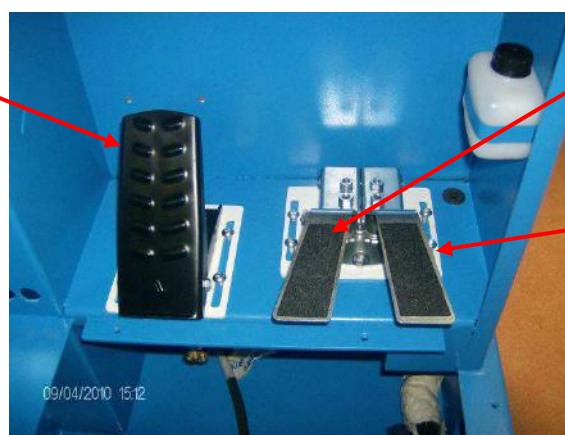
Picture 3a

3.2 MACHINE START

To make the machine move it is necessary to push one of the 2 pedals.

The forward gear is activated by pushing on the right pedal, the backward gear is activated by pushing on the left pedal.

Parking brake



Backward gear pedal

Forward gear pedal

Picture 4


3.3 MACHINE STOP

The machine is equipped with a service brake and a parking brake. The service brake is operated by a pedal situated on the left side of the running pedals (picture 4); the parking brake is operated by a pulling lever. Pull the lever to block the sweeper when it is parked. Push the lever in the opposite direction to disconnect the brake, then push it downwards.



Service brake

Picture 5

	<p>Important: check and register the brake at least once every three months.</p>
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3.4 DRIVE POSITION ADJUSTMENT

Use the lever under the seat to adjust the horizontal driving position (see picture 6)



Regulating lever

Picture 6




3.5 USE OF THE MACHINE

The three main functions of the machine are activated by three levers, which are set on the left side of the operator (see picture 7).

The meaning of the drawings stuck above the levers is explained in the below scheme.



Picture 7

	<p>Pull the lever to activate the rotation of the central sweeping group. Push the lever forward to activate the rotation of all brushes. All brushes are stopped when the lever is set in the central position.</p>
	<p>Pushing the lever forward to lift the waste tank up. Pull the lever backward to close the waste tank.</p>
	<p>Push the lever forward to open the flap for collection of dust inside the waste tank. Pull the lever backward to close the flap and lift the waste tank to the requested height for discharge.</p>

Push the bottom with the fan symbol to activate the vacuum motor for collection of dust generated by the brush rotation.

*Lever for central
brush lifting/lowering*



Picture 8

The operation of sweeping can be made by following few and simple rules:

- Make sure that the flap of the waste tank is open (the lights n. 8 and 9 of picture 2 indicate if it is open – green light – or closed – red light);
- Switch the vacuum motor on
- Switch the brushes on
- Ride the machine on the surface to be cleaned with constant speed

Follow the below instructions to discharge the dust collected:

- Close the flap
- Switch the vacuum motor off
- Activate the filter shaker to clean the vacuum filter
- Lift the waste tank up
- Open the flap and let the dust fall into the rubbish bin (picture 8a)
- Move away from the waste bin paying attention that nobody is nearby.
- Immediately lower the waste tank again

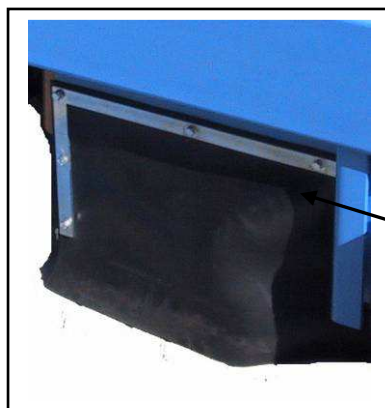


Picture 8.a

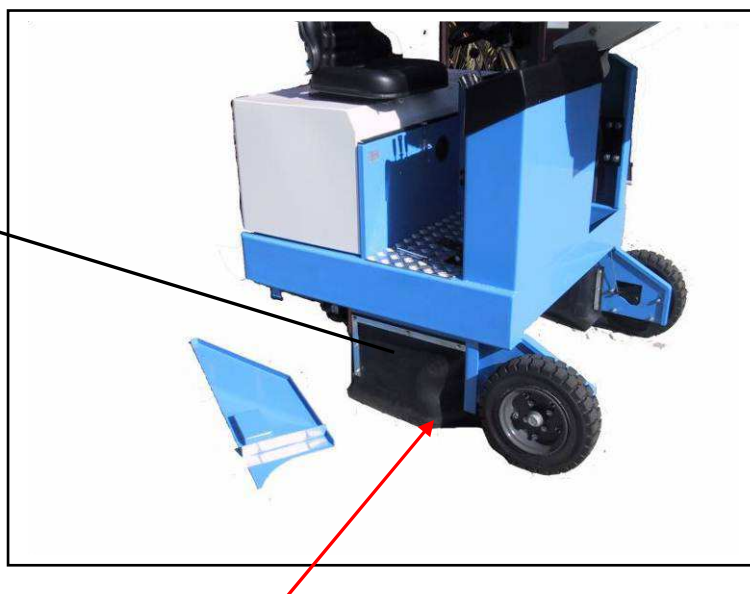
3.6 CENTRAL BRUSH REPLACEMENT

Follow the below steps to replace the main brush:

- Open the cover on the right side of the machine, after having unscrew the screw and pulled the cover towards themselves;
- unscrew the bolts (see detail 1 in picture 9) that hold the rubber catch sheet;
- remove the sheet;
- remove the dust cover rubber;
- unloose the knob and open the door that holds the brush (picture 10);
- remove the brush;
- set a new brush up and check its holders (picture 11);
- follow now the opposite operations.

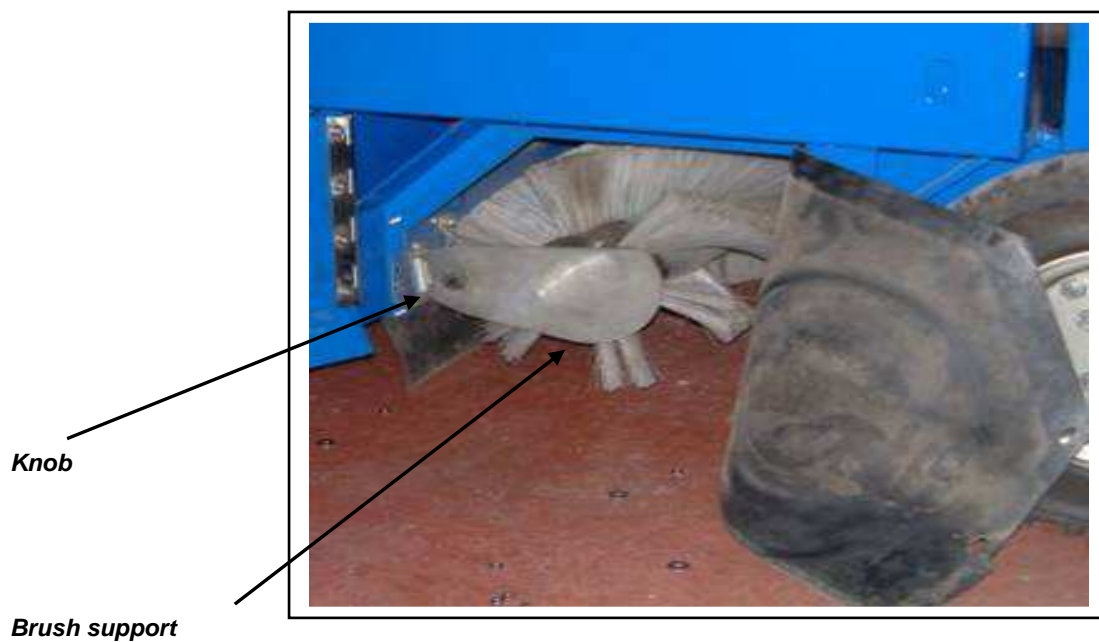


Detail 1

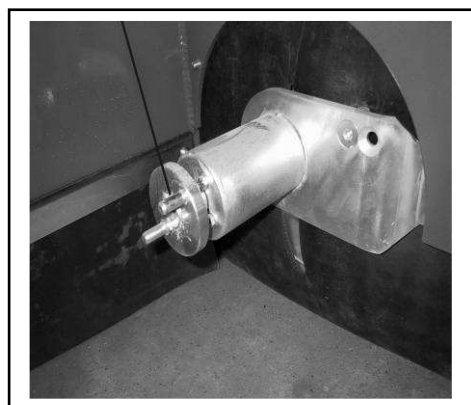


Dust protection rubber

Picture 9



Picture 10



Brush holder



Picture 11

3.7 SIDE BRUSH REPLACEMENT

- Unscrew the bolts (picture 12) and remove the brush;
- replace the brush and tighten the bolts again.



Picture 12

3.8 VACUUM FILTER REPLACEMENT

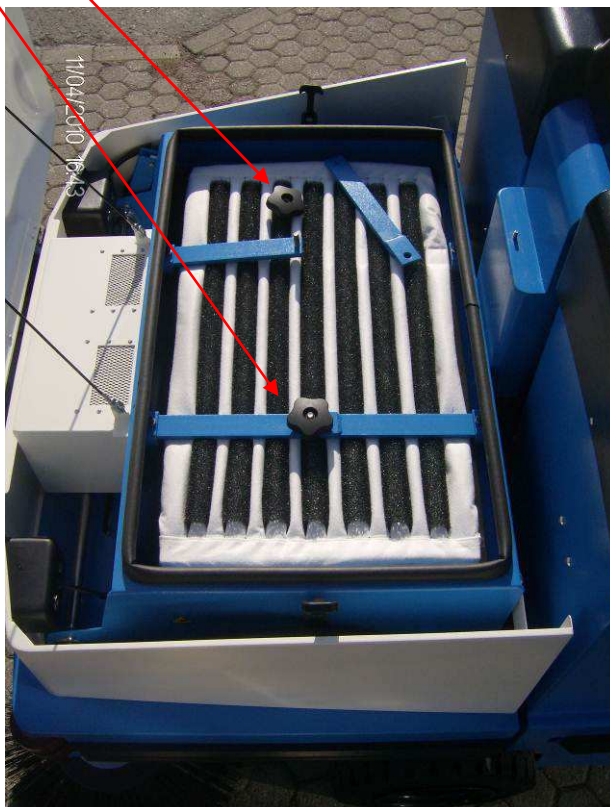
- remove the key from the dashboard of the sweeper;
- open the bonnet of the machine lifting the plastic cover;
- release the side holders to lift the cover (see picture 13)
- unloose both knobs that hold the filter (picture 14);
- remove the bag filter;
- disconnect the shaker filter engine;
- replace the filter;
- connect the filter shaker motor
- follow now the opposite operations.



Side holders

Picture 13


Fixing knobs



Picture 14


4. SAFETY


4.1. PROPER USE OF THE MACHINE

	<p><i>This sweeper is equipped with an internal combustion engine and has been designed to clean open spaces. The UBF38 can pick up dust from horizontal surfaces or with a slope not higher than 10% at a speed not higher than 3km/h. During a U-turn, the slope has not to be higher than 5%.</i></p>
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4.2 IMPROPER USE OF THE MACHINE

The manufacturer is not responsible for damages due to a wrong use of the machine as stated in the scheme below.

	<ul style="list-style-type: none"> ➤ <i>The machine cannot be driven by non-authorized personnel;</i> ➤ <i>The machine cannot sweep sloping surfaces whose gradient is higher than 10% or surfaces with holes;</i> ➤ <i>During a U-turn on a 5% sloping surface the machine has to be driven at a speed not higher than 3 km/h;</i> ➤ <i>The machine cannot be used in places with dangerous substances and in particular with explosive atmospheres or with a bad microclimate;</i> ➤ <i>The machine cannot clean surfaces with inflammable products;</i> ➤ <i>The machine cannot be used as a means of transport for people or other equipment;</i> ➤ <i>The machine protection devices cannot be modified or tampered;</i> ➤ <i>Batteries must be recharged in a fanned room;</i> ➤ <i>The operator have always to respect safety rules;</i> ➤ <i>The operator cannot use equipment or devices that can create problems to the machine working;</i> ➤ <i>The machine components cannot be modified without FIORENTINI's authorization;</i> ➤ <i>The operator cannot use acids that can damage the machine;</i> ➤ <i>The operator has always to respect the rules written in the user manual.</i>
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	<p><i>Please read carefully and do not cover the labels stuck on the machine. FIORENTINI S.p.a. is not responsible for a wrong use of the machine.</i></p>
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	<p>Important. In case of fire use a dust extinguisher. Do not use water.</p>
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4.3.RECOMMENDED TOOLS

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


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

4.4.OPERATORS' QUALIFY

OPERATION	OPERATOR'S QUALIFY
Driving/control of the machine	Trained operator
Installation/ disinstallation	Fiorentini technician
Mechanical parts maintenance	Mechanic/trained technician
Electrical parts maintenance	Electrician/ trained technician
Hydraulic system maintenance	Mechanic/ trained technician
Cleaning of the machine	Unskilled worker
Dismantling and demolition	Unskilled worker




ING. O. FIORENTINI S.p.a. suggests to train the operator before using the machine. The operator must be trained about safety rules and carefully read this manual.



ING. O. FIORENTINI S.p.a. is not responsible for any possible damage to people and/or things caused by the non-observance of the instructions dealt within this manual

4.5.PROTECTION AND WARNING DEVICES

Warning device	<p>The sweeper UBF38 is equipped with several warning devices that have to prevent dangers if somebody is near the machine during the cleaning.</p> <ul style="list-style-type: none"> ➤ an acoustic warning device to be activated during the normal use of the machine (horn); ➤ a warning acoustic and intermittent device while the operator is going to reverse speed; ➤ a yellow flashing light to signal that the machine is functioning.
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***It is absolutely forbidden to tamper, remove or defuse these devices during the normal use of the machine.
Please check their effectiveness regularly (read the chapter about maintenance).***

4.6.OTHER DANGERS

Starting from the design of the machine, FIORENTINI studies every kind of danger that can occur whilst using the sweeper in order to prevent or at least reduce the number of accidents for the operator. The operator can avoid many risks that can occur during the machine operating thanks to a series of signals on the machine.

SQUASHING

This kind of danger can occur:


- whilst regulating the central brush;
- when cleaning the waste tank
- during battery installation or hydraulic oil checking


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

TURNOVER

This kind of danger can occur:



- during the normal use of the machine when sloping limits are not respected - as specified in the manual – or whilst cleaning disconnected surfaces or surfaces with holes and high depressions (photo 3.2)


	<p><i>Do not use the machine to wash sloping surfaces higher than 12% or surfaces with holes or depressions which might compromise the stability of the machine.</i></p>
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	<p><i>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 the right use of the sweeper.</i></p>
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4.7.SAFETY SYGNALS


On the brushes protection cases of the machine the operator can find stickers that show different dangers that can occur whilst operating with the sweeper.

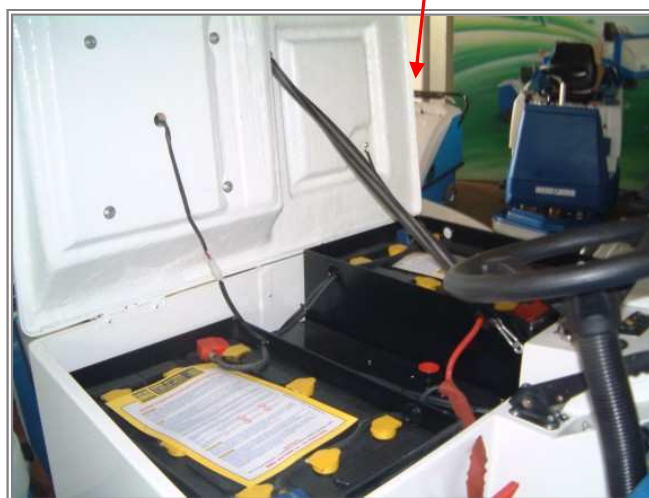
DANGERS		Dangers' signals are triangular with black pictures on a yellow background
PROHIBITIONS		Prohibitions' signals are round with black pictures and a red stripe

	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 15

	What is it?	Squashing danger: this kind of danger can occur when the engine cover is open.
	What to do	Whilst installing or maintaining the engine, the operator has to stop the engine cover with its rod.



Picture 16

	<p>The purchaser must replace danger signals on the machine if they are deteriorated. It is absolutely forbidden to remove or tamper danger signals.</p>
-------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------

	What is it ?	This signal shows the risk of explosion due to the hydrogen generated during the battery recharging phase.
	What to do?	During the battery recharging phase, make sure that the machine is below a vacuum chimney or in a airy area, far away from hot sources and corrosives environment.




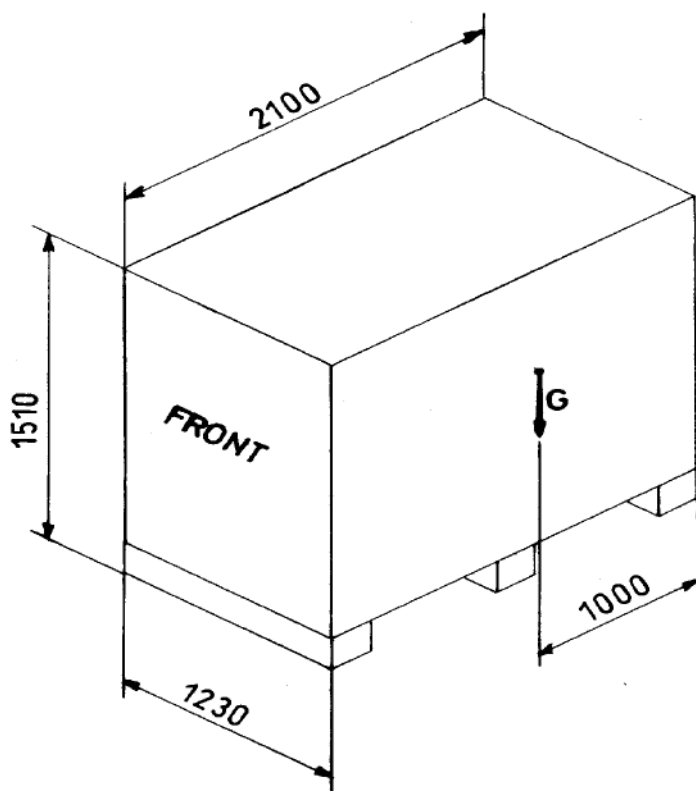
Picture 17

5. INSTRUCTIONS FOR STARTING THE MACHINE

5.1. TRANSPORT AND HANDLING

The machine is delivered to the purchaser in a proper package. A black narrow on the package shows the barycenter. This arrow must be in the middle of the elevator or transpallet forks. The package must be carefully handled. Do not place one package above another one. If agreed with the purchaser, the machine can be delivered without package, placed on a pallet and fixed by means of straps.

	<p>The purchaser must make sure that the machine has not been damaged during the transport and that all papers are inside the machine box. 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.</p>
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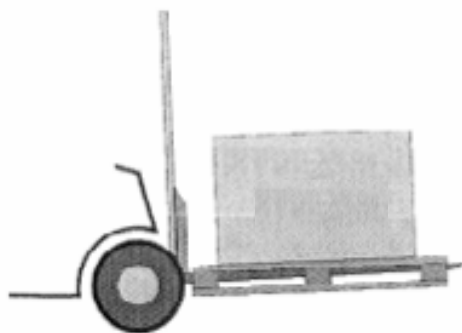


PICTURE 18

The machine must be handled with proper devices as stated in the scheme below. Please, make sure that the black narrow on the package is always in the middle of the elevator forks or the sling bands. Anchorage and/or sling points are set on the machine up in order to keep the stability of the sweeper during the handling.

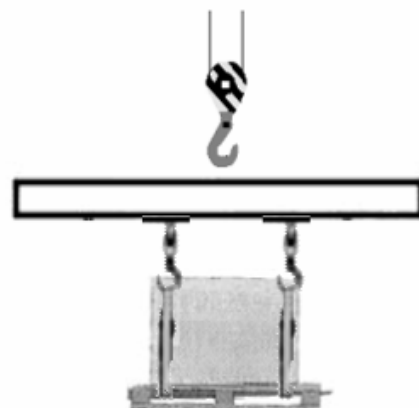
PACKAGE	HANDLING EQUIPMENT	PICTURE
Paperboard or plywood box on a pallet	Fork elevator	No. 19
None	Fork elevator or crane truck with a two-band-sling and equalizer	No. 20

LOADING SCHEME:





PICTURE 19

SI



PICTURE 20

	<p><i>Make reference to § 2.3. for the dimensions and the weight of the machine. Trained personnel only can handle the machine.</i></p>
	<p><i>The bands used to lift 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.</i></p>

5.2. 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 $3^{\circ}\text{C} \leq t \leq +45^{\circ}\text{C}$.

5.3. INSTRUCTIONS 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, remove clips from both sides and basis of each panel;
- Cut the strips that hold the machine.
- Lay the machine on the floor.

5.4. MOVING THE MACHINE UNPACKED

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

5.5. BATTERY INSTALLATION

Follow the below instructions 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. 21);
- 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 during the battery recharge but only after it
- clean the surfaces for the cables connections;

PICTURE 21



5.6.BATTERY CHARGER INSTALLATION

As anticipated above, the battery charge must be done in a proper environment, with an adequate vacuum system for the gas produce during the charge.

Otherwise the recharge must be done in a dry and airy place, far away from hot sources and corrosive environment.

Protect the electric net by a delayed switch or a fuse with a superior loading that the battery charger maximum absorption.

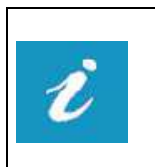
Respect the polarity of the battery plug.

5.7.STARTING THE MACHINE

The S38B sweeper can be starter only after a complete check-up of all its components and safety devices. This is why, well trained FIORENTINI technicians do a strict control while manufacturing the machine and an accurate final test. Anyway, FIORENTINI suggests to do another test before starting the machine. Please see the scheme below.

Test	Result	
	Posit.	Negat.
Hydraulic oil level	<input type="checkbox"/>	<input type="checkbox"/>
Switches and levers on the control board	<input type="checkbox"/>	<input type="checkbox"/>
Wheels brake functioning	<input type="checkbox"/>	<input type="checkbox"/>
Pilot lights functioning	<input type="checkbox"/>	<input type="checkbox"/>


If the result of the test is positive, the machine can be started. On the contrary, please contact immediately FIORENTINI service.


	<p>The test above must be periodically carried out in order to keep the machine always efficient.</p>
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6. MAINTENANCE

6.1.PERIODICAL MAINTENANCE

A periodical maintenance is important in order to keep the machine efficient. Please fill in the format below all the interventions done on the machine.

	<p>If the original product is not conform, do not use it and wait for the repair or replacement of the defected part.</p>
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	<p>Maintenance must be carried out by trained personnel only especially for the electrical or electromechanical systems. Technicians must use suitable tools for every kind of intervention. Make reference to FIORENTINI SERVICE only for original spare parts (§ 7.1. / 7.2.).</p>
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OPERATION	INTERVENTION	HOW OFTEN
Cleaning	➤ Clean the waste tank and the oil filter of the suction motor	Daily
	 <ul style="list-style-type: none"> • Do not use corrosive substances. • Do not use high pressure water. 	
Controls	<ul style="list-style-type: none"> ➤ Check the oil level of the hydraulic system ➤ Check the brush consumption 	Every week
	➤ Check and regulate the braking system	Every 3 months
	➤ Check if the battery cables are well fixed	Every 6 months
	<ul style="list-style-type: none"> ➤ Check the safety devices ➤ Check the electric system 	Every year
	➤ Complete overall	Every 5 years

6.2 BATTERY MAINTENANCE

Control of battery charge can be easily made when the operator is working with the machine through the indicator placed on the control board. It shows the following information :

- On green : the battery is charged
- On yellow : the battery is half-charged
- On red : the battery is completely low



- *During charging don't let the battery box opened*
- *Don't use fire and no smoke nearby the batteries*
- *Take care to the liquid because corrosive*
- *Don't sparkle close to the batteries*
- *Battery gas is explosive*
- *Never invert the polarity*

6.2.1. DENSITY MEASUREMENT

The hydrometry can be measured when batteries are under charge with a densimeter. Follow the below instructions :

- Put the gun densimeter and take a quantity of electrolyte sufficient to push up the floating;
- Pay attention that the top of it does not touch the rubber or the glass walls.
- For a correct measure of density, after filling the batteries up with distilled water, wait until the density has become uniform in the box.

6.2.2. WATER FILLING UP

- Put distilled water on each cell of the battery before charging the batteries to take the liquid at 6 mm over the plates.
- This operation has to be made every time the level goes down, but never over a week between two filling up.

6.2.3. CHARGING LIMITS

It is not necessary to charge the battery if density, after a working day, is underneath 1,24 (28 Bè). The best recommended temperature is 45°C. If the electrolyte temperature goes up of 10/12°C inside facing to room temperature, it can be overcharged without depending from the normal use.

6.2.4. OFF DUTY OR INACTIVE BATTERIES

While inactive, the batteries can go flat by themselves. If battery is not frequently used, it may occurs to do the following operations:

- Once in a month place it under charge, to a voltage indicated as "final", until all elements are full of gas and it is possible to read tension and specific weight for 3-4 hours;
- It's necessary to do it even when measurements of specific weight show high values. If battery stays inactive longer it has to be preserved in a dry place.

6.2.5 BATTERY CHARGER TECHNICAL SPECIFICATIONS

The battery charger must have the following specifications:

ENTRATA	V 230, Hz 50, A5
USCITA	V 36, A 30

Directive:

Electromagnetic compatibility 89/336/CEE - (EN 50081 – EN 50082) and next modification 92/31/CEE

Low tension 73/23/CEE – (EN 60950 class 1) and next modification 93/68/CEE

N.B. For that it concerns other problems on the batteries, please consult the user manual enclosed with the battery charger.


6.2.6 BATTERIES DISPOSAL

Exhausted batteries are considered toxically waste. They have to be disposed in storages under specific authorization. In case of necessity, a “temporary storage” can be effected, by laws in force, mainly :

- Having a special authorization for it ;
- Placing them in plastic boxes with higher capacity than the volume of the battery electrolyte, or anyhow without possible water infiltrations.

6.3 CHECKING THE ELECTRIC SYSTEM

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

	<p>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.</p>
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6.4 MAINTENANCE REGISTER

[illegible]

7 TECHNICAL SERVICE**7.1 ADDRESSES FOR TECHNICAL ASSISTANCE**

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

ING. O. FIORENTINI S.p.A.

“THE BEST IN FLOOR MACHINES”

FILIALI:

20132 MILANO – Fax. 02/2592779

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

00012 Guidonia Montecelio (ROMA) – Fax. (0774)353419 - 353314

Via B. Pontecorvo 20 – Tel. (0774)357184 - 353015

STABILIMENTO:

50030 PIANCALDOLI (FI) – Fax. 055/817144

Loc. Rombola – Tel. 055/8173610

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

7.2 CLAIM REPORT

Ing. O. Fiorentini S.p.a, has a big consideration of customer needing, that's why we think we can always get precious information to improve our products, placing at customer's disposal a statement to point out possible defects using our sweeper S38B.

Operator:	
Company: _____	
Operator's name: _____	
Position: _____	
Date: _____	Signature: _____
Machine Description:	
Machine: _____	Model: _____
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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Via Palmanova 211/a – Tel. 02/27207783 - 2564810

00012 Guidonia Montecelio (ROMA) – Fax. (0774)353419 - 353314

Via B. Pontecorvo 20 – Tel. (0774)357184 - 378827

STABILIMENTO:

50030 PIANCALDOLI (FI) – Fax. 055/817144

Loc. Rombola – Tel. 055/8173610