

R-SWEEP 70 P



SWEEPING MACHINES

USE AND MAINTENANCE MANUAL



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.

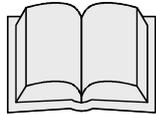
The reproduction, even partial, of the text and drawings contained in this document is prohibited by law.

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
INTRODUCTORY COMMENT	5
IDENTIFICATION DATA	5
TECHNICAL DESCRIPTION	5
INTENDED USE	5
SERIAL NUMBER PLATE	5
TECHNICAL DESCRIPTION	5
SYMBOLS USED ON THE MACHINE	6
GENERAL SAFETY REGULATIONS	8
MACHINE PREPARATION	10
1. HANDLING OF THE PACKED MACHINE	10
2. HOW TO UNPACK THE MACHINE	10
3. HOW TO MOVE THE MACHINE	11
4. INSTRUMENT PANEL COMPONENTS	11
5. STEERING COLUMN COMPONENTS	11
6. FOOTBOARD FRONT-RIGHT COMPONENTS	11
7. FOOTBOARD FRONT-LEFT COMPONENTS	12
8. FOOTBOARD REAR COMPONENTS	12
9. SIDE COMPONENTS OF THE MACHINE	12
10. REAR COMPONENTS OF THE MACHINE	12
11. FRONT MACHINE COMPONENTS	12
12. TYPE OF STARTER BATTERY	12
13. MAINTENANCE AND DISPOSAL OF THE STARTER BATTERY	13
14. WORKING FORWARD SPEED	13
15. REVERSE FUNCTION	13
16. CHECKING THE COMBUSTION ENGINE	13
17. CHECKING THE LEVEL IN THE HYDRAULIC OIL TANK	13
18. SIDE BRUSH ASSEMBLY	14
19. SERVICE BRAKE AND PARKING BRAKE	14
20. BLINKING LIGHT (OPTIONAL)	15
21. FILLING THE FUEL TANK	15
WORK	16
22. PREPARING TO WORK	16
23. EMPTYING THE DEBRIS HOPPER (MANUAL MOVEMENT)	18
24. EMPTYING THE DEBRIS HOPPER (MANUAL MOVEMENT)	18
AT THE END OF THE WORK	20
25. AT THE END OF THE WORK (VERSIONS WITH MANUAL EMPTYING OF THE DEBRIS HOPPER).....	20
26. AT THE END OF THE WORK (VERSIONS WITH AUTOMATIC EMPTYING OF THE DEBRIS HOPPER).....	21
DAILY MAINTENANCE	23
27. CLEANING THE CENTRAL BRUSH	23
28. CLEANING THE SIDE BRUSH	24
WEEKLY MAINTENANCE	25
29. CLEANING THE PANEL FILTER (FP VERSIONS)	25
30. CLEANING THE FABRIC FILTER (FS VERSIONS).....	26
31. CLEANING THE DEBRIS HOPPER (VERSIONS WITH MANUAL EMPTYING OF THE DEBRIS HOPPER).....	27
32. CLEANING THE DEBRIS HOPPER (VERSIONS WITH AUTOMATIC EMPTYING OF THE DEBRIS HOPPER).....	27
33. SIDE BRUSH ADJUSTMENT	28
34. CHECKING THE MOTOR OIL LEVEL	29
35. MAINTAINING THE HYDRAULIC OIL LEVEL	30
EXTRAORDINARY MAINTENANCE	31
36. CENTRAL BRUSH REPLACEMENT	31
37. SIDE BRUSH REPLACEMENT	32
TROUBLESHOOTING	33
38. THE MACHINE DOES NOT START	33
39. THE COMBUSTION ENGINE DOES NOT START	33
40. THE MACHINE DOES NOT CLEAN WELL	33
41. THE MACHINE LIFTS DUST DURING OPERATION.....	33



42. EXCESSIVE OR ALTERED NOISE OF THE CENTRAL BRUSH	33
43. EXCESSIVE OR ALTERED NOISE OF THE SIDE BRUSH	33
44. MOVING THE MACHINE WHEN THE MOTOR IS SWITCHED OFF	33
DISPOSAL	35
CHOOSING AND USING THE BRUSHES	36

On consignment of the machine

When the machine is consigned to the customer, an immediate check must be performed to ensure all the material mentioned in the shipping documents has been received, and also to check the machine has not suffered damage 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

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.

Identification data

For technical assistance or to request replacement parts, always give the model, the version and serial number written on the serial number plate.

Technical description

R-SWEEP 70P are ride-on sweeping machines, powered electrically (with traction batteries) or with an internal combustion (endothermic) engine, for the cleaning of both internal and external surfaces with tiled, concrete or asphalt floors.

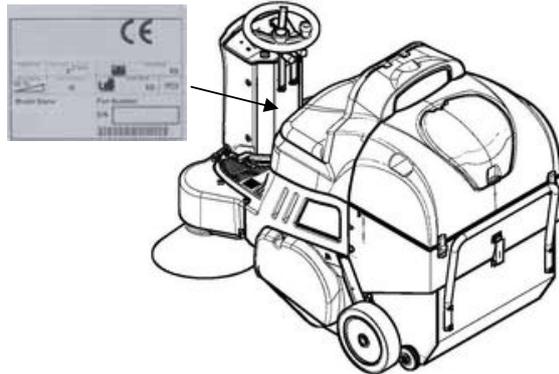
The machine must operate on dry surfaces, and if necessary can also work on wet surfaces making sure the vacuum action is not active. The machine features a central brush for the collection of brushed up

material, a side brush for cleaning edges and corners, a vacuum system with filter to avoid raising dust, and a debris hopper that can be manually removed by means of a mechanical leverage.

Intended use

The sweeping machine is designed to clean both inside and outside surfaces with tiled, concrete and asphalt floors, for professional use in industrial, commercial and public places. 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 for picking up dangerous dusts or inflammable liquids within places with a potentially explosive atmosphere. In addition, it is not suitable as a means of transport for people or objects.

Serial number plate



TECHNICAL DESCRIPTION	UM	R-SWEEP 70P
Working width without side brush	mm	700
Working width with right side brush	mm	846
Working width with left and right side brush	mm	1050
Working capacity, up to	m ² /h	6300
Central brush	∅ mm	280
Side brush	∅ mm	400
Central brush rpm	rpm	425
Side brush rpm	rpm	65
Endothermic engine	HP	5.5
Brush motor	V/W	hydraulic
Traction motor	V/W	hydraulic
Traction wheel	∅ mm	250
Rear wheels	∅ mm	300
Forward speed	km/h	6.3
Maximum gradient	%	10
Vacuum motor	V/W	-
Filter shaker motor	V/W	12/80
Filtering surface (cloth filter)	m ²	4
Filtering surface (paper filter)	m ²	5
Debris hopper volume	l	60
Steering diameter	mm	2400
Machine length	mm	1600
Machine height	mm	1310
Machine height with overhead guard	mm	1925
Machine width	mm	940
Starter battery compartment (l x L x h)	mm	230x128x188
Rated battery voltage	V	12
Battery weight (Max)	kg	6
Machine weight in running order (machine + batteries + operator)	kg	375
Noise level (in compliance with IEC 704/1)	dB (A)	-

SYMBOLS USED ON THE MACHINE



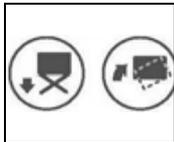
Main switch symbol (key switch)
Used on the instrument panel, to indicate the key switch for machine operation on (I) or off (O)



Symbol denoting endothermic engine air
Used on the instrument panel, to indicate the knob that controls the activation of the lever for the air of the endothermic engine



Debris hopper tipping symbol
Is used on the instrument panel to indicate the yellow three-position momentary switch, which controls the rotation of the debris hopper



Debris hopper tipping symbol
Is used on the instrument panel to indicate the yellow three-way momentary switch, which controls the rotation-movement of the debris hopper



Debris hopper lifting symbol
Is used on the instrument panel to indicate the yellow three-way momentary switch, which controls the movement of the debris hopper



Filter shaker symbol
Used on the instrument panel, to indicate the knob that controls the activation of the filter shaker in the panel filter unit



Symbol denoting horn
Used to indicate the horn button

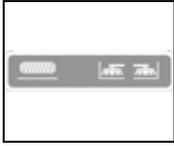


Parking brake symbol
Indicates the machines brake lever



Symbol denoting treading ban
Used to indicate the area of the machine on which it is forbidden to tread or stand

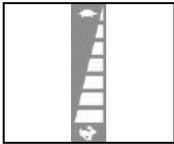
SYMBOLS USED ON THE MACHINE



Central/side brush(es) motion symbol (idle position)
Used to indicate the movement linkage of the central/side brush(es)



Central/side brush(es) motion symbol (working position)
Used to indicate the movement linkage of the central/side brush(es)



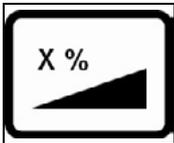
Symbol for work speed adjustment
Used on the steering column, to indicate the manual accelerator



Indicates the risk of crushed hands



Indicates the risk of burns due to the hot surface



Indicates the maximum gradient

GENERAL SAFETY REGULATIONS

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

WARNING:

- Read the labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged.
- The machine must be used exclusively by authorised and trained personnel.
- The machine is designed for dry use only.
- Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- The machine is not suitable for cleaning rough or uneven floors. Do not use the machine on slopes.
- In the event of danger, quickly intervene on the handle located on the battery connector.
- For all maintenance interventions, switch off the machine and disconnect the battery connector and/or the power supply cable.
- Children must be supervised to ensure they do not play with the device.
- During the working of the machine, pay attention to other people and especially to children.
- 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.

WARNING:

- 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.
- The machine must not be used or stored outdoors, in damp conditions or directly exposed to rain.
- The storage temperature must be between -25°C and +55°C; do not store outdoors in damp conditions.
- Conditions of use: room temperature between 0°C and 40°C with relative humidity between 30 and 95%.
- The socket for the battery charger cable must have a prescribed earth connection.
- Adapt the speed to the adhesion conditions.
- Do not use the machine as a means of transport.
- The machine does not cause harmful vibrations.
- Do not use the machine in an explosive atmosphere.
- Do not use the device to collect dangerous powders.
- The machine is not suitable for cleaning carpets.
- Do not place any liquid containers on the machine.
- Avoid working with the brushes when the machine is standing still, so as not to damage the floor.
- In the event of a fire, use a powder extinguisher. Do not use water.
- 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.).
- 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.
- If you need to replace any components, request the ORIGINAL spare parts from an Authorised dealer and/or Retailer.
- Restore all electrical connections after any maintenance interventions.
- Before using the machine, check that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- Do not remove any protection devices which require the use of tools in order to be removed.
- Do not wash the machine with direct water jets or with pressurised water, nor with corrosive substances.
- Have the machine checked by an authorised technical assistance centre every year.
- When disposing of consumable materials, observe the laws and regulations in force.
- 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.

- 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.
- Keep children and animals away from the powered motor, as it heats up and may cause burns and injuries (both directly and via the machines which it moves).
- Learn how to switch the motor off quickly, and how to use all the controls. Never entrust the motor to people who haven't had the appropriate training.
- While the motor is switched on, do not place any inflammable objects (gasoline, matches, etc.) near it.
- Top up the fuel in a well-ventilated area, with the motor switched off; gasoline is highly inflammable and may explode.
- Do not completely fill the fuel tank. Check the cap is firmly closed.
- If any fuel is spilt, clean the area thoroughly and allow the vapours to disperse before switching on the motor.
- Do not smoke or take any unprotected flames in the area where the motor is filled with fuel, or where the gasoline is stored.
- The exhaust gases contain carbon monoxide - an odourless, colourless, but highly poisonous gas. Avoid inhalation. Do not switch the motor on in a closed garage or in a room without windows.

MACHINE PREPARATION

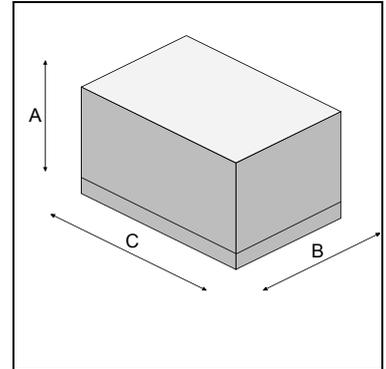
1. HANDLING OF THE PACKED MACHINE

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

The total weight of the machine with its packaging is 385kg

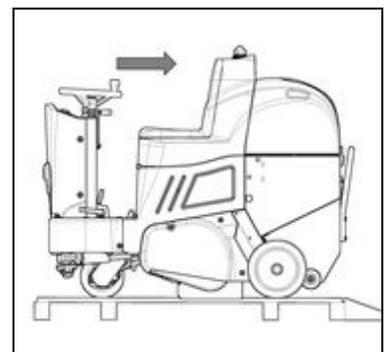
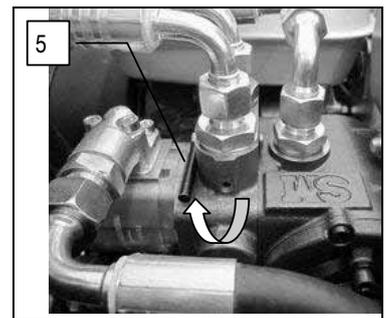
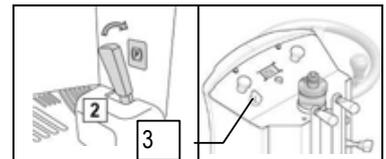
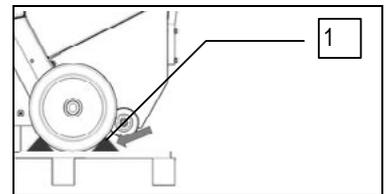
The dimensions of the packaging is as follows:

A:	1620mm
B:	1280mm
C:	2040mm



2. HOW TO UNPACK THE MACHINE

- Remove the outer package
- The machine is fixed to the pallet with wedges which block the wheels
- Remove the wedges (1)
- Release the handbrake (2) by turning the lever to the right
- Check the main machine switch (3) is in the "OFF" position (if this is not the case, turn it by a quarter rotation to the left)
- To access the motor compartment, grip the rear part of the seat casing (3)
- Rotate and raise the seat casing until the safety lock is engaged
- Rotate the lever (5) on the by-pass valve until it is vertical; this will put the hydraulic system on standby.
- Lower the seat casing as far as the working position
- Use a chute to get the machine down from the pallet, pushing it backwards.
- Keep the pallet for any future transport needs.
- To access the motor compartment, grip the rear part of the seat casing (3)
- Rotate and raise the seat casing until the safety lock is engaged
- Rotate the lever (5) on the by-pass valve until it is horizontal; this will put the hydraulic system in the working condition.
- Lower the seat casing as far as the working position.



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

MACHINE PREPARATION

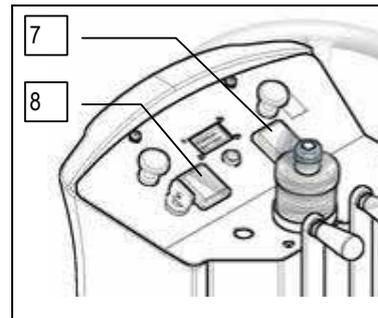
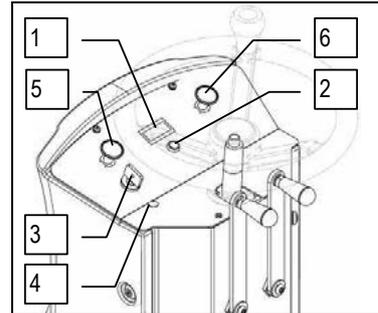
3. HOW TO MOVE THE MACHINE

1. Make sure the hopper is empty, otherwise empty it completely
2. Check the central brush is lifted up off the ground
3. Check the side brush(es) is/are lifted up off the ground
4. Place it on a pallet, using a chute
5. Check that the key switch is on OFF and remove the key
6. Engage the parking brake
7. Secure the machine to the pallet using wooden wedges

4. INSTRUMENT PANEL COMPONENTS

The instrument panel components are identified as follows:

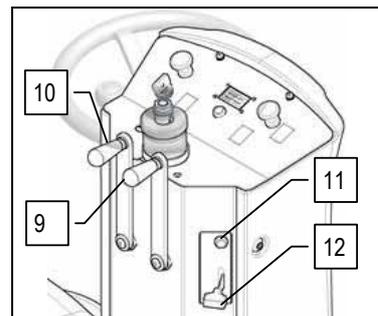
1. Battery level / hour meter display
 2. Battery level hour meter display control button
 3. Main key switch
 4. Red warning light indicating that the parking brake is on
 5. Cable of lever control for endothermic engine air
 6. Cable of filter shaker control
7. Three-way selector debris hopper lift-descent control:
 - front position debris hopper in lifting phase
 - intermediate position debris hopper movement not active
 - rear position debris hopper in descent phase
 8. Three-way selector debris hopper rotation control:
 - front position debris hopper tilting, for emptying
 - intermediate position debris hopper rotation not active
 - rear position debris hopper returns to working position



5. STEERING COLUMN COMPONENTS

The steering column components are identified as follows:

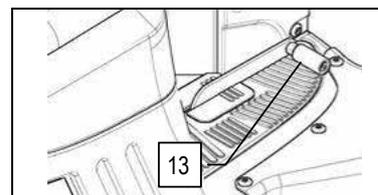
9. Lever for raising the side brush (1BS version) or brushes (2BS version)
10. Central brush lifting lever
11. Horn button
12. Lever for manual speed adjustment



6. FOOTBOARD FRONT-RIGHT COMPONENTS

The components at the front right of the footboard are identified as follows:

13. Accelerator pedal, forward – reverse

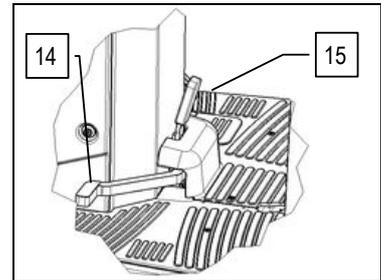


MACHINE PREPARATION

7. FOOTBOARD FRONT-LEFT COMPONENTS

The components at the front right of the footboard are identified as follows:

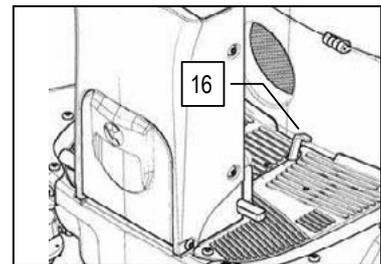
- 14. Service brake pedal
- 15. Parking brake lever



8. FOOTBOARD REAR COMPONENTS

The components at the rear of the footboard are identified as follows:

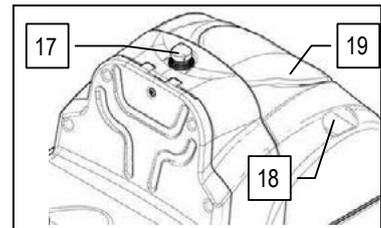
- 16. Front flap lifting pedal



9. SIDE COMPONENTS OF THE MACHINE

The side components of the machine are identified as follows:

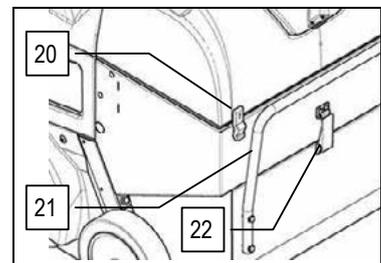
- 17. Blinking light (optional)
- 18. Rear casing lifting handle
- 19. Storage compartment casing



10. REAR COMPONENTS OF THE MACHINE

The rear components of the machine are identified as follows:

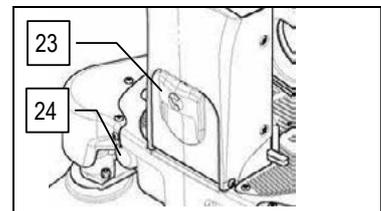
- 20. Rear casing retainer
- 21. Debris hopper handle
- 22. Debris hopper retainer



11. FRONT MACHINE COMPONENTS

The front components of the machine are identified as follows:

- 23. Steering column front carter
- 24. Front machine headlight



12. TYPE OF STARTER BATTERY

As a starter battery, you are advised to use a 12V/35 Ah C5 battery.

OTHER TYPES MUST NOT BE USED.

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

MACHINE PREPARATION

13. MAINTENANCE AND DISPOSAL OF THE STARTER BATTERY

For information about battery maintenance, refer to the instructions provided by the battery manufacturer. 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.



WARNING: You are advised to always wear protective gloves, to avoid the risk of serious injury to your hands.



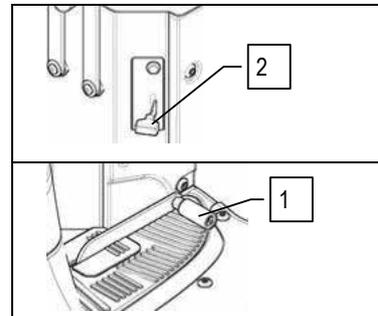
WARNING: You are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size

14. WORKING FORWARD SPEED

This machine works by means of hydraulically-controlled traction. To move it, switch on the endothermic engine and then push the drive pedal downwards (1), adjusting the speed by increasing or reducing the pressure on the pedal. The machine will then start moving.



WARNING: The lever (2) for regulating the rotations of the endothermic engine must always be positioned at its upper limit, to guarantee the optimum performance of the hydraulic system.



15. REVERSE FUNCTION

To make a reverse movement, push the drive pedal upwards (1), adjusting the speed by increasing or reducing the pressure on the pedal. The machine will begin moving backwards. During reverse motion, the machine emits an acoustic signal.

16. CHECKING THE COMBUSTION ENGINE

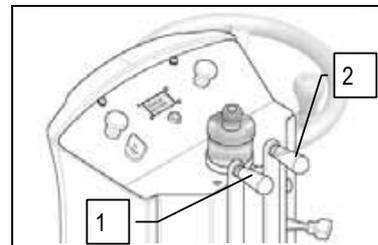


WARNING: Always check the motor before using it (and read the relevant use and maintenance manual). In this way, you will avoid any accidents or damage to the motor.

17. CHECKING THE LEVEL IN THE HYDRAULIC OIL TANK

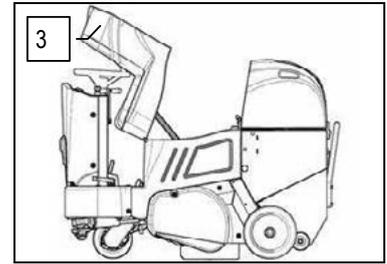
This machine is equipped with a hydraulic system. To ensure optimum machine performance, check the oil level in the following way:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.

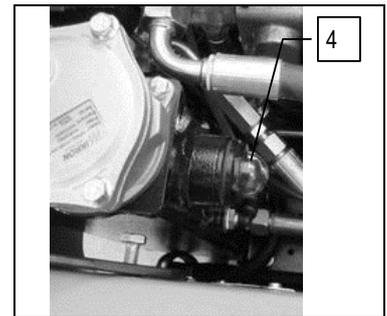


MACHINE PREPARATION

5. To access the motor compartment, grip the rear part of the seat casing (3).
6. Rotate and raise the seat casing until the safety lock is engaged.



7. Check the oil is not below the minimum level, as seen on the transparent cap (4). If necessary, add more oil by following the instructions in the "MAINTAINING THE HYDRAULIC OIL LEVEL" chapter.
8. Lower the seat casing as far as the working position.

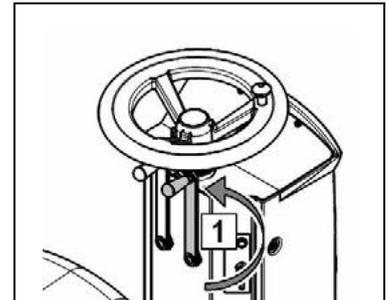


18. SIDE BRUSH ASSEMBLY

1. Check that the parking brake is engaged, if not engage it.
2. Check the main machine switch is in the "OFF" position (if this is not the case, turn it by a quarter rotation to the left).
3. Lift the side brush arm by turning the right lever (1) anticlockwise.



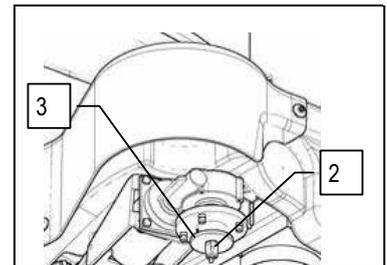
WARNING: During this operation, check there are no people or objects near the brush.



4. With the brush-holder arm up, loosen the wing nut (2) and remove the washer (3).
5. Insert the brush in the hub housing, making sure the four pins are inserted in their seats on the brush itself.
6. Insert the washer (3) and tighten the wing nut (2).

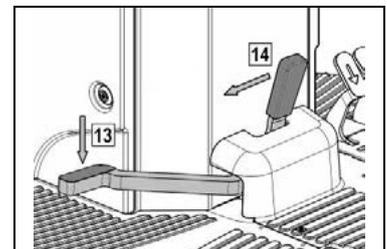


WARNING: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands.



19. SERVICE BRAKE AND PARKING BRAKE

The machine has an electronic braking system. To brake, in normal conditions, just remove your foot from the accelerator pedal. Should removing your foot from the accelerator pedal not be enough, activate the mechanical brake pedal (13) pushing it downwards. To engage the parking brake, press the brake pedal (13) and lock it by pulling the lever (14) to the left. The red indicator light on the instrument panel will switch on.



MACHINE PREPARATION



ATTENTION: The mechanical brake pedal does not affect the traction of the machine. Before every operation, check that the parking brake is disengaged (lever 14) and avoid continuous and prolonged use of the mechanical brake pedal (pedal 13), in order to avoid damage to the traction wheel or to the traction motor.

WARNING: to avoid any damage to the machine, always disengage the parking brake before beginning to work or before making any transfer manoeuvres

20. BLINKING LIGHT (OPTIONAL)

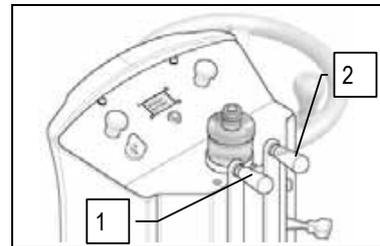
The machine can be equipped with a blinking light that turns on automatically when the key in the main switch is turned on.



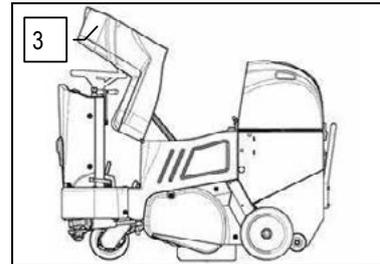
21. FILLING THE FUEL TANK

The machine is supplied without any fuel in the tank of the endothermic engine. To fill the tank, proceed as follows:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.



5. Grip the rear part of the seat casing (3) to access the battery compartment
6. Rotate and raise the seat casing until the safety lock is engaged
7. With regard to the safe filling of the endothermic engine fuel tank, you must scrupulously observe the indications given in the motor use and maintenance manual (supplied with the machine)



WARNING: The machine does not have a fuel level indicator, so you must always check the level before using it.



WARNING: Gasoline is highly inflammable and may explode.



WARNING: Top up the fuel in a well-ventilated area, with the motor switched off. Do not smoke or take any unprotected flames or sparks near the motor while it is being filled, or in the area where the gasoline is stored.

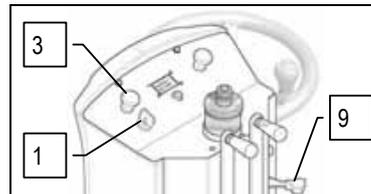


WARNING: during the filling operation, be careful not to spill the fuel. Spilt fuel or fuel vapours could ignite. If any fuel is accidentally spilt, remove it thoroughly before switching on the motor.

WORK

22. PREPARING TO WORK

1. Check that the debris hopper is empty; if not, empty it completely
2. Check that the parking brake is engaged and, if not, engage it
3. Check the fuel level; if it is low, top up the tank (as indicated in "FILLING THE FUEL TANK")
4. Check the main machine switch (1) is in the "OFF / 0" position (if this is not the case, turn it by a quarter rotation to the left).



5. Sit on the driver's seat
6. Disengage the parking brake (2).
7. Turn the key of the main switch a quarter of a turn clockwise (to position ON). Bring the motor ignition switch to the START position (turning the key further to the right), and keep it there until the motor starts up; you can now release the key.



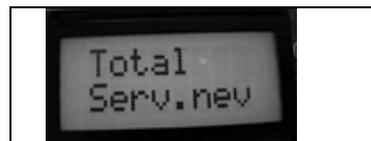
WARNING: Do not use the starter for more than 5 seconds at a time. If the motor does not start up, release the key and wait for 10 seconds before making a new attempt.

WARNING: Use the air knob (3) if the motor is cold or has not been used for a long time, or if the air temperature is too low.

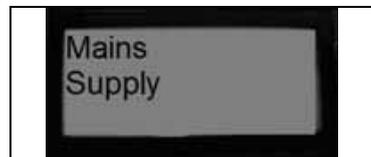
WARNING: For the machine to work correctly, as soon as the combustion engine starts push the accelerator lever (9) up to its maximum travel.

The display will immediately light up on the instrument panel, indicating the number of effective work hours

With switch-on, three consecutive screens are visualised on the monitor. The first screen shows (on the top line) what type of hour meter has been set; in this case it's a total hour meter (to display a different type - for instance partial - contact the qualified personnel of a specialised assistance centre). The bottom line shows the "service" setting (in this case there is no setting).



The second screen shows which power supply technology has been set for machine operation.



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 meter is counting the machine functioning time.



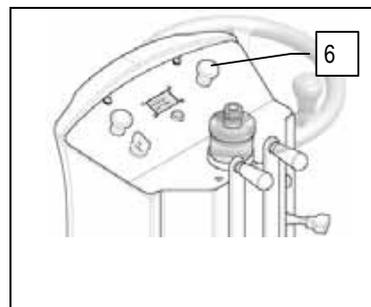
8. The vacuum function will activate at once if the knob (6) on the instrument panel is in the idle position (fully down)



WARNING! Shut off the vacuum function when you are about to clean wet or damp surfaces, to avoid ruining the filter. Shut off the vacuum function without activating the filter shaker.



WARNING! To shut off the vacuum function, pull the knob (3) on the control board upwards. Do not pull it to its end limit, as this will engage the filter shaker.



WORK

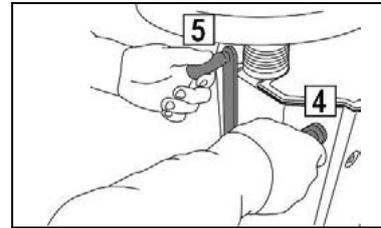
9. Lower the central brush by turning the left lever (5) anticlockwise.
10. Lower the right side brush (1BS versions) or both side brushes (2BS versions) by turning the right lever (4) clockwise.



ATTENTION: Use the side brush or brushes (according to machine version) only on edges, as it is not assisted by the vacuum action.



WARNING: Both the central brush and the side brush will begin rotating as soon as they are in their work position.

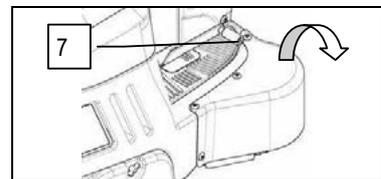


11. Pressing the accelerator pedal (7), the machine starts moving and the central and side brushes will rotate.



ATTENTION: adjust the working speed according to the amount of waste and debris to be collected

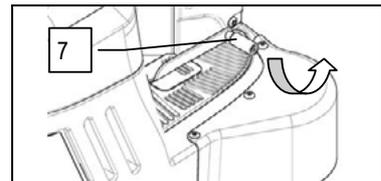
WARNING: During reverse movements, raise both the side brush and the central brush



To make a reverse manoeuvre, pull the accelerator pedal (7) upwards. The machine will begin to move backwards.



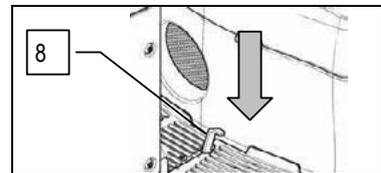
ATTENTION! The reverse speed is lower than the forward speed to comply with current health and safety standards.



Press the front flap-raiser pedal (8) when working with bulky waste, to allow the central brush to reach and



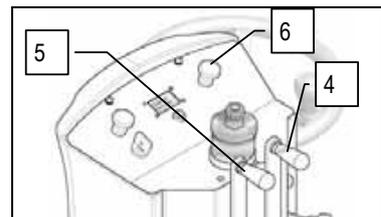
WARNING! Do not hold the pedal for long.



In order to achieve a correct vacuum action, clean the filter every 10 minutes and always before any discharge of the debris hopper.

To do this, proceed as follows:

1. Stop the machine and engage the parking brake
2. Lift the central brush by turning the left lever (5) clockwise
3. Lift the side brush if lowered, by rotating the right lever (4) clockwise
4. Activate the filter shaker by pulling the knob (6) on the control board upwards; the vacuum function will stop automatically.



WARNING! Keep the knob (6) up for no longer than ten seconds, then repeat the operation two or three times.

Periodically check the filling of the tray and if necessary proceed to empty it. Keep in mind that the weight of the waste collected is proportional to the specific weight of the material swept. In the case of heavy material such as sand, earth, gravel, etc. the tray should ideally not be filled more than 70%, otherwise it may be difficult to empty.

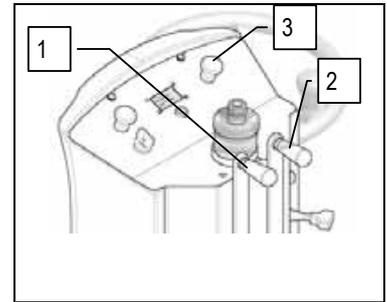
WORK

23. EMPTYING THE DEBRIS HOPPER (MANUAL MOVEMENT)

The machine is NOT equipped with a device to warn you when the debris hopper is full, so it is a good idea to empty it frequently while working.

In order to empty the debris hopper, proceed as follows:

1. Stop the machine and engage the parking brake
2. Lift the central brush by turning the left lever (1) clockwise
3. Lift the side brush if lowered, by rotating the right lever (2) clockwise
4. Activate the filter shaker by pulling the knob (3) on the instrument panel upwards; the vacuum function will stop automatically.
5. Bring the main machine switch to OFF by turning the key a quarter rotation to the left



WARNING! Keep the knob (3) up for no longer than ten seconds, then repeat the operation two or three times.

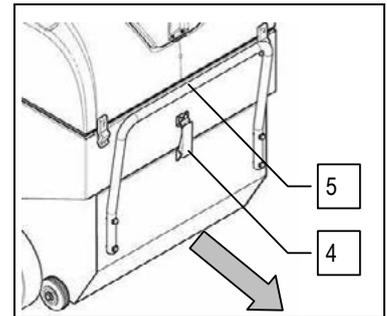


WARNING: Before carrying out any maintenance work, remove the key from the board.

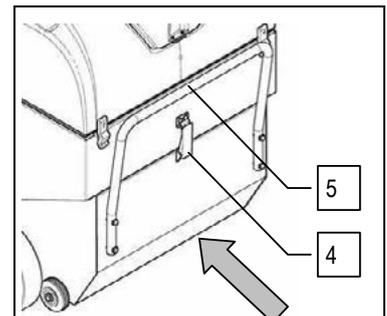
6. Release the hinge (4) on the back of the machine.
7. By gripping the handle (5) on the hopper, remove it from the machine.
8. Take the hopper to the location designated for its draining and empty it.



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



9. By gripping the handle (5) on the hopper, insert it in the machine.
10. Hook the hinge (4) on the back of the machine.

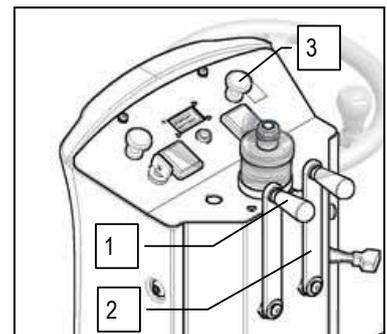


24. EMPTYING THE DEBRIS HOPPER (MANUAL MOVEMENT)

The machine is NOT equipped with a device to warn you when the debris hopper is full, so it is a good idea to empty it frequently while working.

In order to empty the debris hopper, proceed as follows:

1. Stop the machine and engage the parking brake
2. Lift the central brush by turning the left lever (1) clockwise
3. Lift the side brush if lowered, by rotating the right lever (2) clockwise
4. Activate the filter shaker by pulling the knob (3) on the control board upwards; the vacuum function will stop automatically.
5. Bring the main machine switch to OFF by turning the key a quarter rotation to the left



WORK



WARNING! Keep the knob (3) up for no longer than ten seconds, then repeat the operation two or three times.

6. Disengage the parking brake
7. Bring the machine close to the waste container which has been prepared for unloading
8. Stop the machine and engage the parking brake



WARNING! Calculate the distance between the machine and the waste container correctly, bearing in mind the rotation radius of the debris hopper when moving.

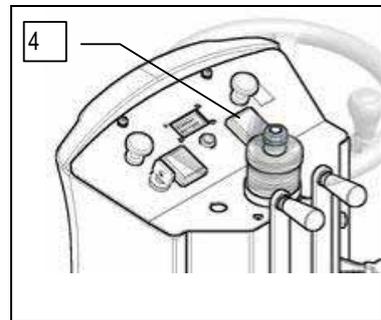
9. Move the switch (4) forward, until the debris hopper is in the desired position
10. Disengage the parking brake
11. Bring the machine close to the waste container, so that the debris hopper is inside the container's refill opening



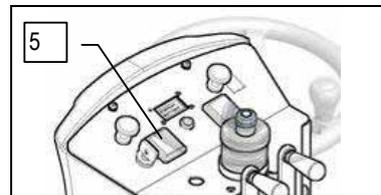
WARNING! Reduce the machine's movement speed when the debris hopper is lifted off the ground.

WARNING! Avoid unloading the debris while the machine is sloped.

WARNING! Do not activate the filter shaker while the debris hopper is lifted off the ground.



12. Stop the machine and engage the parking brake
13. Move the switch (5) forward, until the debris hopper is completely tilted
14. Move the switch (5) backward, until the debris hopper has returned to the working position



15. Disengage the parking brake
16. Move the machine forward while the debris hopper encounters no obstacles in its trajectory to return to the working position



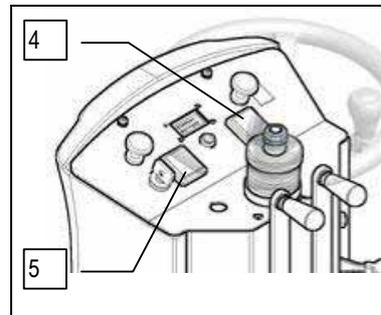
WARNING! Calculate the distance between the machine and the waste container correctly, bearing in mind the rotation radius of the debris hopper when moving.

17. Stop the machine and engage the parking brake

18. Move the switches (4) and (5) backward, until the debris hopper has returned to the working position



WARNING! If the debris hopper is not in the correct position the machine will not work to its full potential.

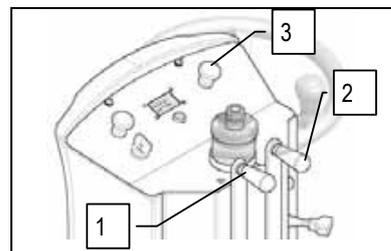


AT THE END OF THE WORK

25. AT THE END OF THE WORK (VERSIONS WITH MANUAL EMPTYING OF THE DEBRIS HOPPER)

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

1. Stop the machine and engage the parking brake
2. Lift the central brush by turning the left lever (1) clockwise
3. Lift the side brush if lowered, by rotating the right lever (2) clockwise
4. Activate the filter shaker by pulling the knob (3) on the instrument panel upwards; the vacuum function will stop automatically.



WARNING! Keep the knob (3) up for no longer than ten seconds, then repeat the operation two or three times.

5. Disengage the parking brake
6. Bring the machine to the place provided for its draining
7. Turn the machine off by turning the key one quarter turn counter-clockwise and remove it from the panel.
8. Engage the parking brake

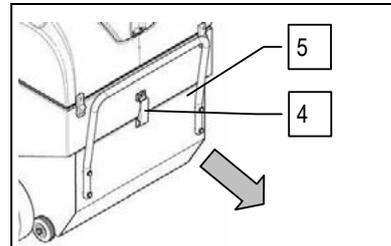


WARNING: Before carrying out any maintenance work, remove the key from the board.

9. Release the hinge (4) on the back of the machine.
10. By gripping the handle (5) on the hopper, remove it from the machine.
11. Take the hopper to the location designated for its draining and empty it.



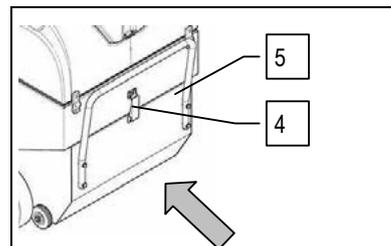
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



12. By gripping the handle (5) on the hopper, insert it in the machine.
13. Hook the hinge (4) on the back of the machine.
14. Disengage the parking brake



WARNING! Periodically check that the sealing ring of the debris hopper and of the frame, if it is worn or damaged replace it immediately.



15. Take the machine to the designated machine storage place.
16. Engage the parking brake.
17. Bring the main machine switch to "OFF-0" by turning the key a quarter rotation to the left.



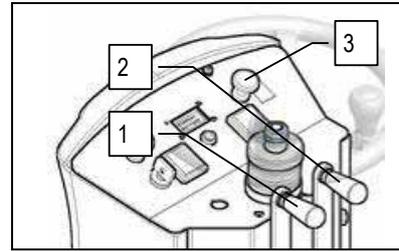
WARNING! Park the machine in a closed place, on a flat and level surface, where it cannot cause harm to people or damage to other property, but also be protected from any accidental fall of objects.

AT THE END OF THE WORK

26. AT THE END OF THE WORK (VERSIONS WITH AUTOMATIC EMPTYING OF THE DEBRIS HOPPER)

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

1. Stop the machine and engage the parking brake
2. Lift the central brush by turning the left lever (1) clockwise
3. Lift the side brush if lowered, by rotating the right lever (2) clockwise
4. Activate the filter shaker by pulling the knob (3) on the instrument panel upwards; the vacuum function will stop automatically.



WARNING! Keep the knob (3) up for no longer than ten seconds, then repeat the operation two or three times.

5. Disengage the parking brake
6. Bring the machine to the place provided for its emptying
7. Stop the machine and engage the parking brake



WARNING! Calculate the distance between the machine and the waste container correctly, bearing in mind the rotation radius of the debris hopper when moving.

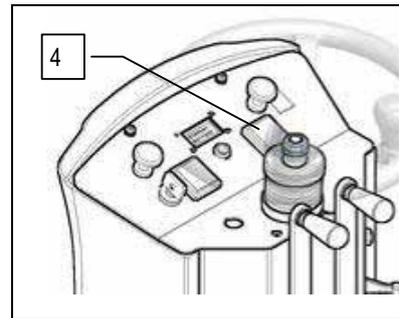
8. Move the switch (4) forward, until the debris hopper is in the desired position
9. Disengage the parking brake
10. Bring the machine close to the waste container, so that the debris hopper is inside the container's refill opening



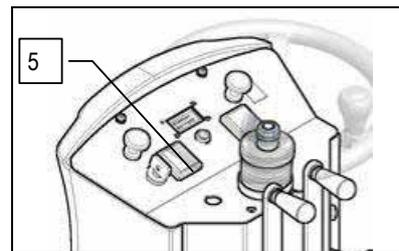
WARNING! Reduce the machine's movement speed when the debris hopper is lifted off the ground.

WARNING! Avoid unloading the debris while the machine is sloped.

WARNING! Do not activate the filter shaker while the debris hopper is lifted off the ground.



11. Stop the machine and engage the parking brake
12. Move the switch (5) forward, until the debris hopper is completely tilted
13. Move the switch (5) backward, until the debris hopper has returned to the working position



14. Disengage the parking brake
15. Move the machine forward while the debris hopper encounters no obstacles in its trajectory to return to the working position



WARNING! Calculate the distance between the machine and the waste container correctly, bearing in mind the rotation radius of the debris hopper when moving.

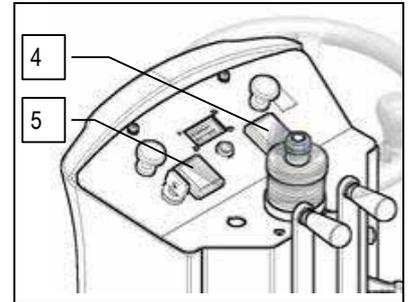
16. Stop the machine and engage the parking brake

AT THE END OF THE WORK

17. Move the switches (4) and (5) backward, until the debris hopper has returned to the working position



WARNING! If the debris hopper is not in the correct position the machine will not work to its full potential.



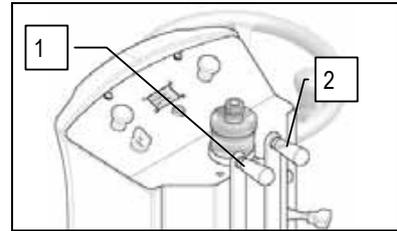
DAILY MAINTENANCE

PERFORM ALL MAINTENANCE OPERATIONS IN SEQUENCE

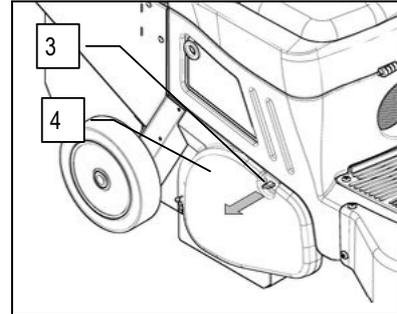
27. CLEANING THE CENTRAL BRUSH

Proceed as follows in order to clean the central brush:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.

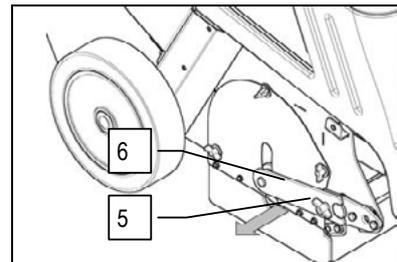


5. Loosen the wing nuts (3) fixing the right side casing.
6. Remove the right side casing (4) from the machine.



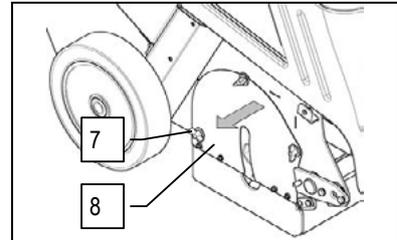
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

7. Loosen the wing nuts (5) fixing the idle support of the central brush.
8. Remove the idle support (6) of the central brush from the machine.



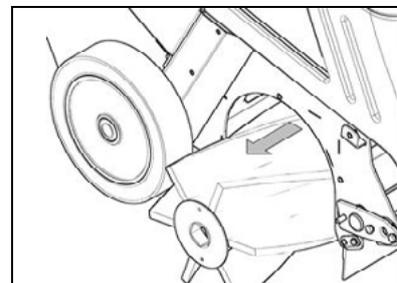
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

9. Loosen the wing nuts (7) fixing the right side splash guard pre-assembly.
10. Remove the right side splash guard pre-assembly (8) from the machine.



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

11. Remove the central brush (9) from the machine.
12. Clean it under running water and remove any impurities.



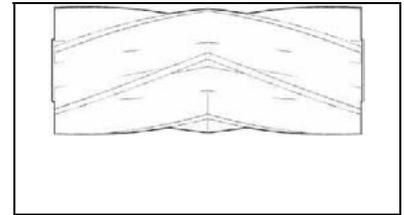
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

DAILY MAINTENANCE

13. Reassemble all the elements.



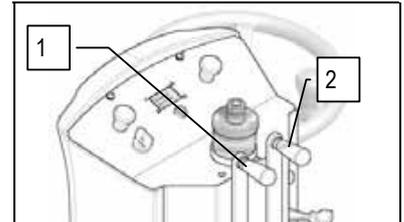
ATTENTION: The brush is correctly fitted when, seen from above, the cusp forms an upturned "V" (refer to the picture)



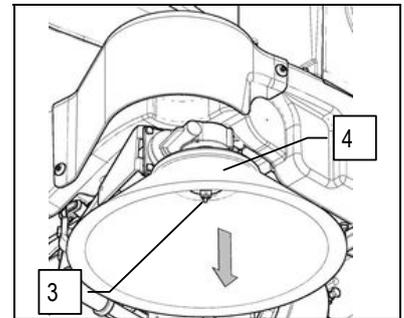
28. CLEANING THE SIDE BRUSH

Proceed as follows in order to clean the side brush:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.



5. Loosen the wing nut (3) fixing the side brush to the geared motor, then remove it together with the washer.
6. Remove the side brush (4) from the machine.



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

7. Clean it under running water and remove any impurities.



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

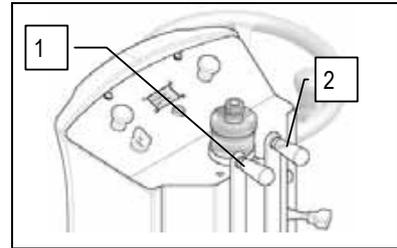
8. Reassemble all the elements.

WEEKLY MAINTENANCE

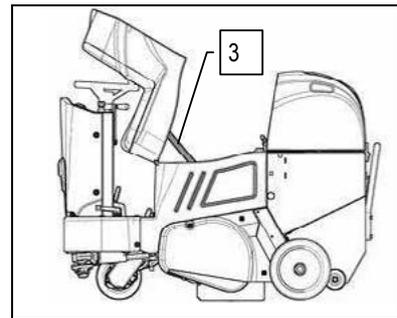
29. CLEANING THE PANEL FILTER (FP VERSIONS)

Whenever the vacuum action seems to be unsatisfactory, check that the vacuum filter is not obstructed. If necessary clean with an air jet as follows:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.

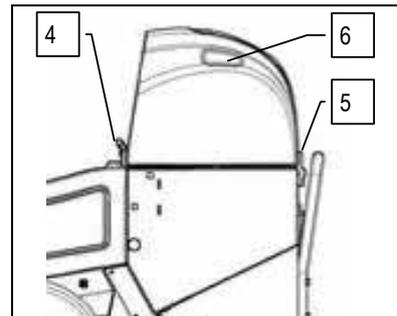


5. Check that the debris hopper is empty, if not empty it completely
6. Grip the rear part of the seat casing
7. Rotate and raise the seat casing until the safety lock is engaged (3)



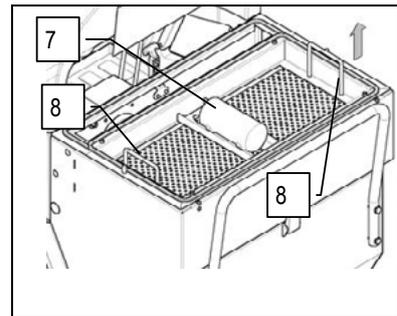
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

8. Remove the retainer (4) on the front of the casing
9. Remove the retainers (5) on the rear of the casing
10. Grip the handles (6), remove the rear casing pre-assembly and rest it on the floor



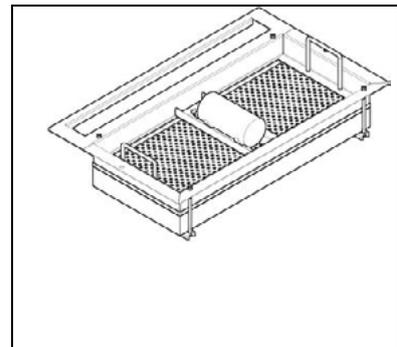
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

11. Disconnect the filter shaker (7) from the electric system of the machine
12. Grip the handles (8), remove the panel filter pre-assembly and rest it on the floor



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

13. Clean the panel filter with an air jet from a distance of more than 20cm.
14. Reassemble all the elements



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

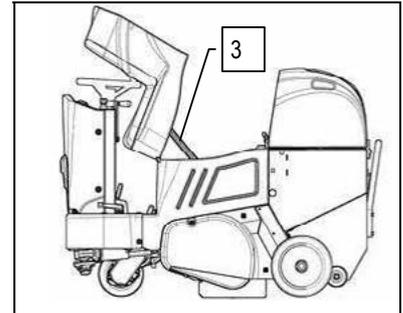
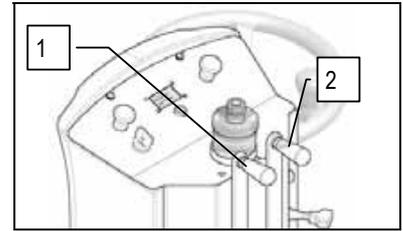
WEEKLY MAINTENANCE

30. CLEANING THE FABRIC FILTER (FS VERSIONS)

Whenever the vacuum action seems to be unsatisfactory, check that the vacuum filter is not obstructed. If necessary clean with an air jet as follows:

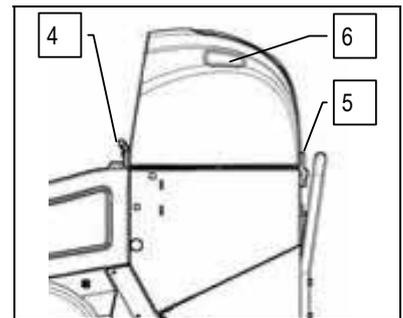
1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.

5. Check that the debris hopper is empty, if not empty it completely
6. Grip the rear part of the seat casing
7. Rotate and raise the seat casing until the safety lock is engaged (3)



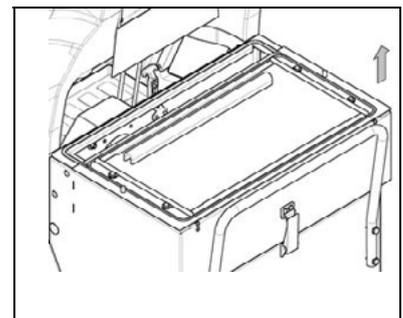
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

8. Remove the retainer (4) on the front of the casing
9. Remove the retainers (5) on the rear of the casing
10. Grip the handles (6), remove the rear casing pre-assembly and rest it on the floor



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

11. Lift the filter pre-assembly
12. Disconnect the filter shaker from the electric system of the machine
13. Remove the filter pre-assembly and rest it on the floor

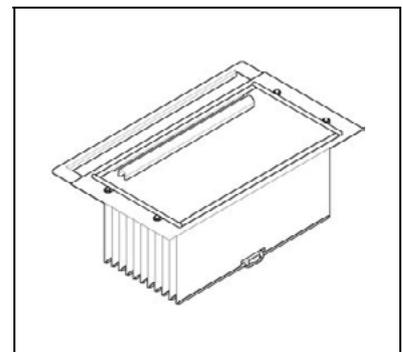


WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

14. Clean the panel filter with an air jet from a distance of more than 20cm.
15. Reassemble all the elements



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

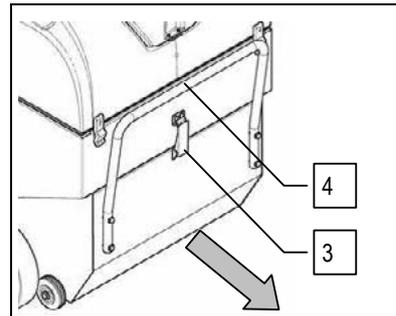
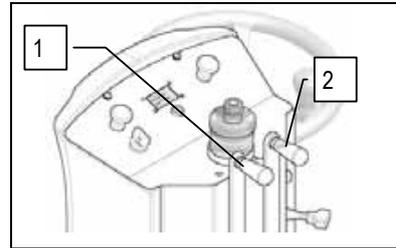


WEEKLY MAINTENANCE

31. CLEANING THE DEBRIS HOPPER (VERSIONS WITH MANUAL EMPTYING OF THE DEBRIS HOPPER)

Clean the debris hopper every week as follows:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.
5. Release the hinge (3) on the back of the machine.
6. By gripping the handle (4) on the hopper, remove it from the machine.
7. Take the hopper to the location designated for its draining and clean it with a jet of water.



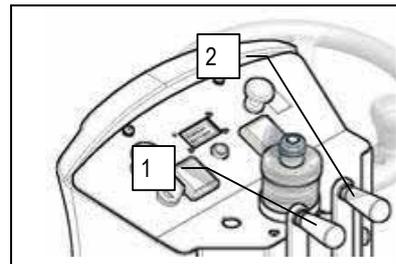
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

8. Reassemble all the elements

32. CLEANING THE DEBRIS HOPPER (VERSIONS WITH AUTOMATIC EMPTYING OF THE DEBRIS HOPPER)

Clean the debris hopper every week as follows:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.
5. Bring the machine close to the place provided for its emptying
6. Stop the machine and engage the parking brake

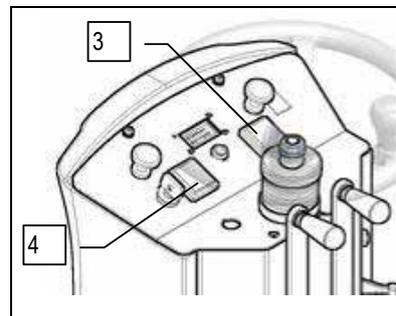


WARNING! Position the machine correctly so that the debris hopper encounters no obstacles while moving

7. Move the switch (3) forward, until the debris hopper is in the desired position
8. Move the switch (4) forward, until the debris hopper has rotate in the desired position
9. Set the main switch to the "0/OFF" position by turning the key a quarter turn to the left
10. Rinse the inside of the hopper with a jet of running water



ATTENTION: This operation must be carried out using gloves to protect against contact with dangerous substances.

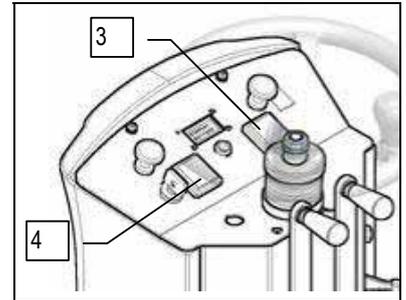


WEEKLY MAINTENANCE

11. Move the switch (2) backward, until the debris hopper has returned to the working position
12. Move the switches (2) and (1) backward, until the debris hopper has returned to the working position



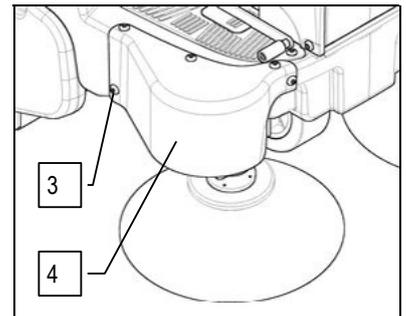
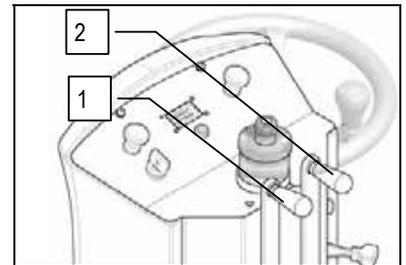
WARNING! If the debris hopper is not in the correct position the machine will not work to its full potential.



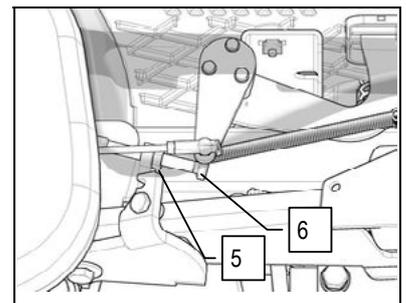
33. SIDE BRUSH ADJUSTMENT

If the side brush does not channel the dirt effectively towards the centre of the machine, you must adjust its height in relation to the ground. Proceed as follows:

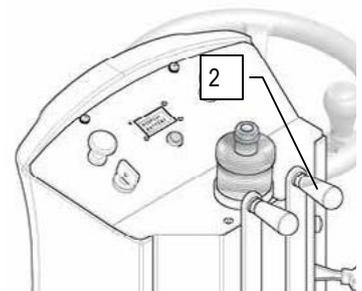
1. Engage the parking brake.
 2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
 3. Lift the central brush by turning the left lever (1) clockwise.
 4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.
5. By using the right equipment, remove the side brush casing (4), removing the screws (3)



6. By using the right equipment, loosen the counter nut (5) and the adjustment screw (6)



7. Lower the side brush by turning the right lever (2) clockwise.

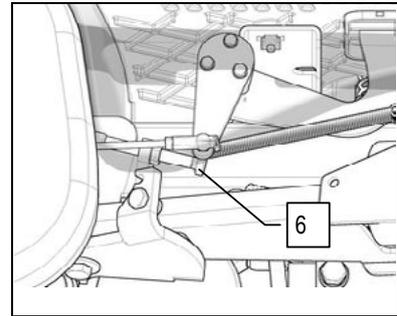


WEEKLY MAINTENANCE

8. Using a suitable tool, loosen the adjustment screw (6) until the brush bristles are pressed onto the floor by about 2cm.



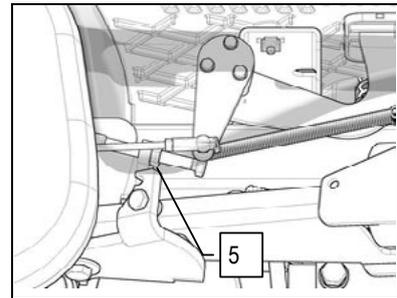
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



9. Fix the counter nut (5) by using the right equipment.



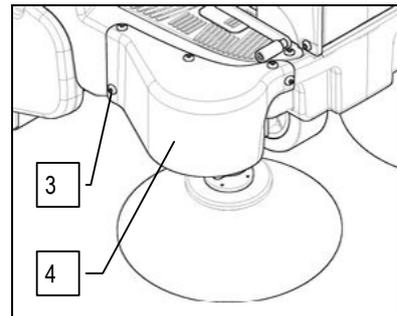
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



10. By using the right equipment, assemble the side brush casing (4), fixing the screws (3)



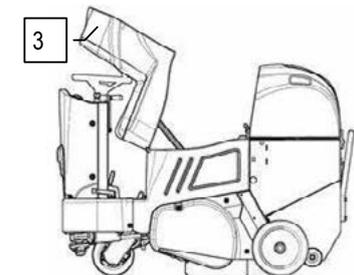
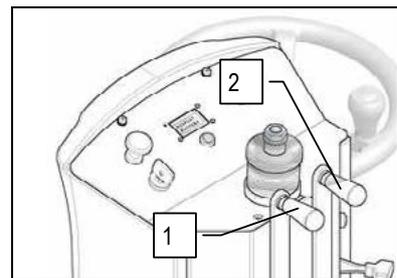
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



34. CHECKING THE MOTOR OIL LEVEL

Using the endothermic engine with insufficient oil may seriously damage the motor itself. You are therefore advised to check the level at least once a week, in the following way:

1. Engage the parking brake.
 2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
 3. Lift the central brush by turning the left lever (1) clockwise.
 4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.
-
5. To access the motor compartment, grip the rear part of the seat casing (3)
 6. Rotate and raise the seat casing until the safety lock is engaged
 7. Pull the oil tank cap (4) to remove it, then clean the dipstick.
 8. Insert the dipstick in the oil inlet, pushing the cap (4).
 9. Check the level of oil on the dipstick.
 10. If the oil level is low, top up with the recommended oil type, to the top of the tank.



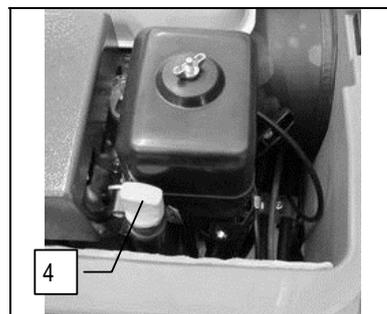
WEEKLY MAINTENANCE



WARNING: Check the oil level when the motor is switched off, and with the machine on an even surface.



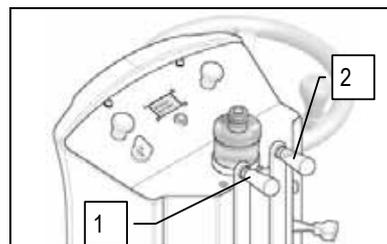
WARNING: Refer to the motor use and maintenance manual (supplied with the machine) to check the most suitable type of oil.



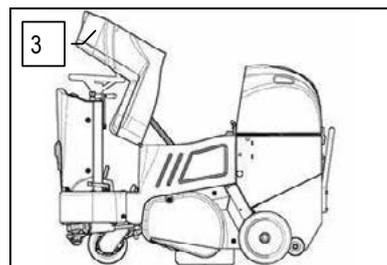
35. MAINTAINING THE HYDRAULIC OIL LEVEL

This machine is equipped with a hydraulic system. To ensure optimum machine performance, check the oil level in the following way:

1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.



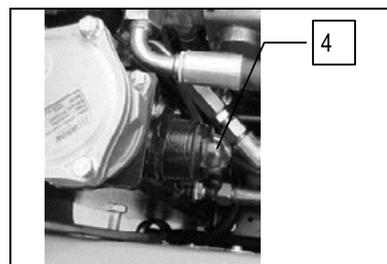
5. Grip the rear part of the seat casing (3) to access the battery compartment.
6. Rotate and raise the seat casing until the safety lock is engaged.



7. Check the oil is not below the minimum level, as seen on the transparent cap (4).



WARNING: Check the oil level when the motor is switched off, and with the machine on an even surface.



If you need to top up the oil level, proceed as follows:

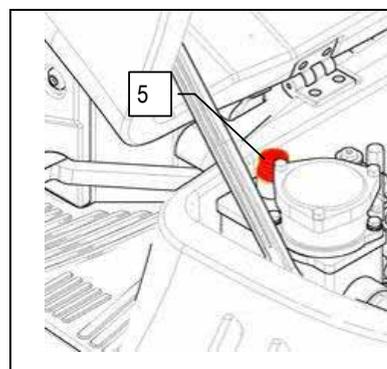
1. Use the appropriate tool to loosen the vent cap (5)
2. Top up with AGIP ARNICA 46 hydraulic oil or equivalent, checking the level via the transparent cap on the side wall of the tank.
3. Use the appropriate tool to tighten the vent cap (5)



WARNING: To ensure the hydraulic system works well, only use AGIP ARNICA 46 oil or equivalent.



WARNING: For any other maintenance work on the hydraulic system, you are advised to contact our technical assistance service (organised in collaboration with our resellers) because these interventions require specific technical skills and suitable equipment.

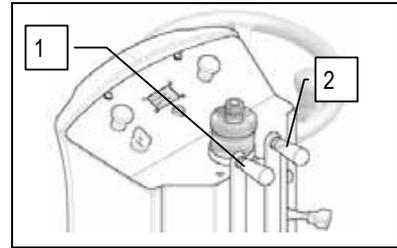


EXTRAORDINARY MAINTENANCE

36. CENTRAL BRUSH REPLACEMENT

If the central brush is worn, this will affect its performance. Proceed as follows to replace:

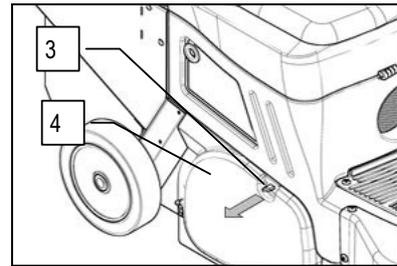
1. Engage the parking brake.
2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
3. Lift the central brush by turning the left lever (1) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.



5. Loosen the wing nuts (3) fixing the right side casing.
6. Remove the right side casing (4) from the machine.



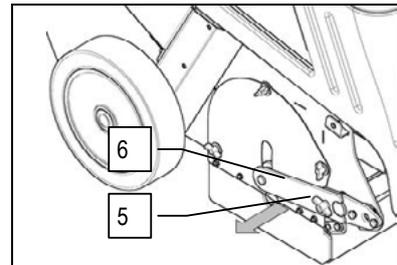
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



7. Loosen the wing nuts (5) fixing the idle support of the central brush.
8. Remove the idle support (6) of the central brush from the machine.



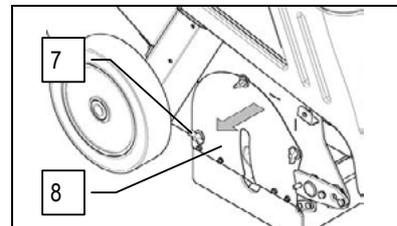
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



9. Loosen the wing nuts (7) fixing the right side splash guard pre-assembly.
10. Remove the right side splash guard pre-assembly (8) from the machine.



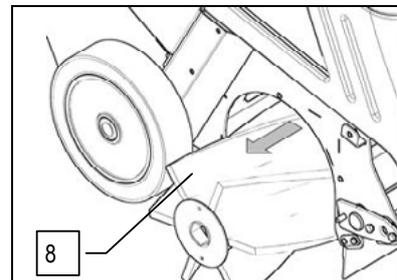
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



11. Remove the central brush (9) from the machine.



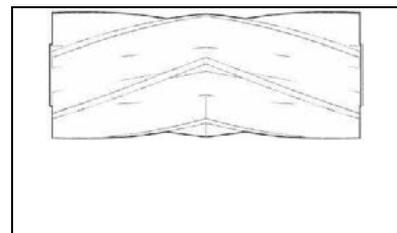
WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



12. Replace the old brush with the new one.
13. Reassemble all the elements.



ATTENTION: the brush is correctly fitted when, seen from above, the top forms an upturned "V" (refer to the picture)

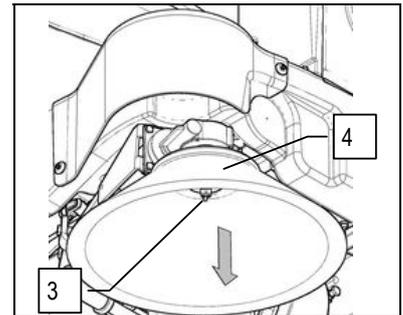
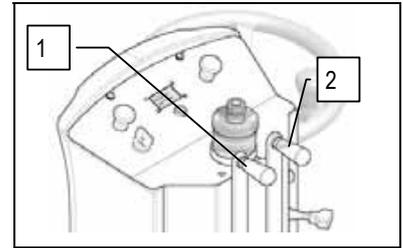


EXTRAORDINARY MAINTENANCE

37. SIDE BRUSH REPLACEMENT

If the side brush is worn, this will affect its performance. Proceed as follows to replace:

1. Engage the parking brake.
 2. Check the main machine switch is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
 3. Lift the central brush by turning the left lever (1) clockwise.
 4. Lift the side brush if lowered, by rotating the right lever (2) clockwise.
5. Loosen the wing nut (3) fixing the side brush to the geared motor, then remove it together with the washer.
 6. Remove the side brush (4) from the machine.



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

7. Replace the old brush with the new one.



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

8. Reassemble all the elements.
9. Read the "SIDE BRUSH ADJUSTMENT" paragraph in order to position the brush correctly and ensure a correct operation.

TROUBLESHOOTING

38. THE MACHINE DOES NOT START

1. Check the starter battery is connected to the machine system
2. Check the key switch is ON/I
3. Check the starter battery is charged
4. Check there is fuel in the motor tank

39. THE COMBUSTION ENGINE DOES NOT START



WARNING: If the combustion engine does not start, check the diagnostics in the motor use and maintenance manual (the booklet supplied with the machine itself)

40. THE MACHINE DOES NOT CLEAN WELL

1. Check the state of wear and tear of the brushes and, if necessary, replace them. The brushes should be changed when the bristles are about 15mm long. To replace them, see "CENTRAL BRUSH REPLACEMENT", or "SIDE BRUSH REPLACEMENT". Working with over-worn brushes may cause damage to the floor.
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 side brush is worn, to adjust it see "SIDE BRUSH ADJUSTMENT".
4. The debris hopper is full, empty it completely.

41. THE MACHINE LIFTS DUST DURING OPERATION

1. The flaps that ensure efficient vacuum action are worn: replace them.
2. The front flap is broken and the machine projected heavy dirty bodies forward: replace them.
3. The filter is blocked: clean the filter thoroughly.
4. Check the central brush is correctly assembled
5. The debris hopper position is not correct

42. EXCESSIVE OR ALTERED NOISE OF THE CENTRAL BRUSH

1. Material wrapped around the brush: remove it.

43. EXCESSIVE OR ALTERED NOISE OF THE SIDE BRUSH

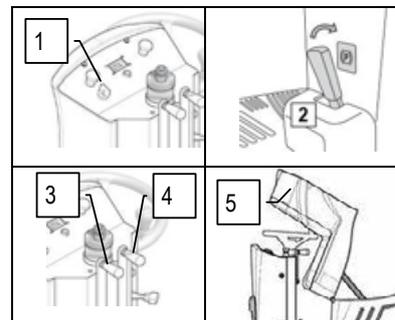
1. Material wrapped around the brush: remove it.

44. MOVING THE MACHINE WHEN THE MOTOR IS SWITCHED OFF

This paragraph describes what to do when the machine cannot be started up.

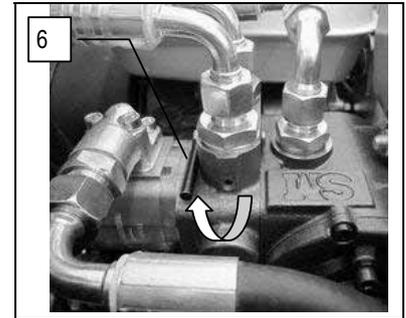
To move the machine, proceed as follows:

1. Check the main machine switch (1) is in the "OFF-0" position. If this is not the case, turn the key by a quarter rotation to the left.
2. Engage the parking brake (2).
3. Lift the central brush by turning the left lever (3) clockwise.
4. Lift the side brush if lowered, by rotating the right lever (4) clockwise.
5. Grip the rear part of the seat casing (5) to access the battery compartment.
6. Rotate and raise the seat casing until the safety lock is engaged.



TROUBLESHOOTING

7. Rotate the lever (6) on the by-pass valve until it is vertical; this will put the hydraulic system on standby.
8. Lower the seat casing as far as the working position.
9. Take the machine to the designated machine storage place.
10. To access the motor compartment, grip the rear part of the seat casing (5).
11. Rotate and raise the seat casing until the safety lock is engaged.
12. Rotate the lever (6) on the by-pass valve until it is horizontal; this will put the hydraulic system in the working condition.
13. Lower the seat casing as far as the working position.



DISPOSAL

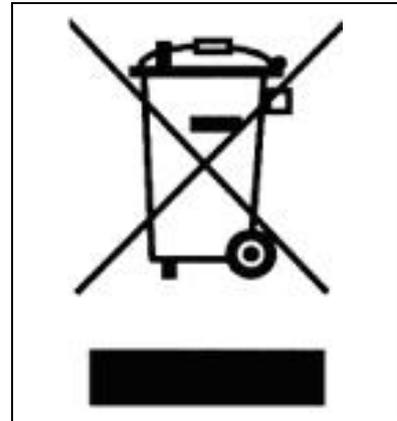
To dispose of the machine, take it to a demolition centre or an authorised collection centre.

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

- brushes
- felt
- electric and electronic parts*
- batteries
- plastic parts (tanks and handlebars)
- metal parts (levers and frame)
- endothermic engine
- hydraulic oil**

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

(**) In particular, contact your area distributor in order to scrap the hydraulic oil.



CHOOSING AND USING THE BRUSHES

POLYPROPYLENE BRUSH (PPL)

It is used on every type of floors and has good resistance to wear. The Polypropylene brush is non-hygroscopic and therefore retains its characteristics even when working in wet conditions.

THICKNESS OF THE BRISTLES

The thicker bristles are more rigid and should therefore be used on surfaces with solid or heavy dirt (e.g gravel; drinking cans; etc.).

Softer bristles are recommended for surfaces with light dirt or dust.

Remember that when the bristles are worn, and therefore too short, they become rigid and cannot pick up the dirt efficiently.

The central brush has bristles of 1.1mm and of 0.7mm to comply with both characteristics.

TABLE FOR CHOOSING THE BRUSHES

Machine	No. of brushes.	Code	Type of bristles	Ø Bristles	Ø Brush	Length	Notes
R-SWEEP 70P 1BS	1	433761	PPL + Bronze	1.1 + 0.7	280	678	Central brush
		435164	PPL + Bronze	0.7	280	678	Central brush, white
		435165	PPL + Bronze	1.4	280	678	Central brush, black
		435166	PPL + Steel	0.7	280	678	Central brush, black
	1	435433	PPL	1	400	-	Side brush, black
		435432	PPL + Steel	1.1 + 0.7	400	-	Side brush, black
R-SWEEP 70P 2BS	1	433761	PPL + Bronze	1.1 + 0.7	280	678	Central brush
		435164	PPL + Bronze	0.7	280	678	Central brush, white
		435165	PPL + Bronze	1.4	280	678	Central brush, black
		435166	PPL + Steel	0.7	280	678	Central brush, black
	2	435433	PPL	1	400	-	Side brush, black
		435432	PPL + Steel	1.1 + 0.7	400	-	Side brush, black

EC DECLARATION OF CONFORMITY



The undersigned company:
Industrial Cleaning Equipment Ltd.
Sauber House, Unit 3, Rushington Business Park
Chapel Lane, Totton, Hampshire, SO40 9AH
Declares under its sole responsibility that the products

SWEEPING MACHINES mod. R-SWEEP 70P

comply with the requirements of the following Directives:

- 2006/42/EC: Machinery Directive.
- 2014/35/EC: Low Voltage Directive.
- 2014/30/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: Specific 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: Safety of Machinery - Basic concepts, general principles for design - Part 1: Basic terminology and methodology.
- EN 12100-2: Safety of Machinery - Basic concepts, general principles for 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:

Mr. Mark Bresnihan
Sauber House, Unit 3, Rushington Business Park
Chapel Lane, Totton, Hampshire, SO40 9AH

Chapel Lane, 01/02/2017

Industrial Cleaning Equipment Ltd.
Legal representative
Mark Bresnihan

Manufacturer:
COMAC S.p.A.
Via Maestri del Lavoro, n°13
c.a.p. 37059 - S. Maria di Zevio (VR) - Verona - Italia
Tel. +39 045 8774222 - Fax. +39 045 8750303
E-mail: com@comac.it
Web: www.comac.it

Mandatory:
Industrial Cleaning Equipment Ltd.
Sauber House, Unit 3, Rushington Business Park
Chapel Lane, Totton, Hampshire, SO40 9AH
Tel. 0800 389 3869 - Fax. 023 8042 8318
E-mail: info@ice-clean.com
Web: www.ice-clean.com

NOTE

A large rectangular area with a light gray background and horizontal lines, intended for taking notes. The lines are evenly spaced and extend across the width of the page.



Industrial Cleaning Equipment Ltd.

Sauber House, Unit 3, Rushington Business Park - Chapel Lane, Totton, Hampshire, SO40 9AH
Service 0800 389 3869 - Facsimile 023 8042 8318 - Email info@ice-clean.com