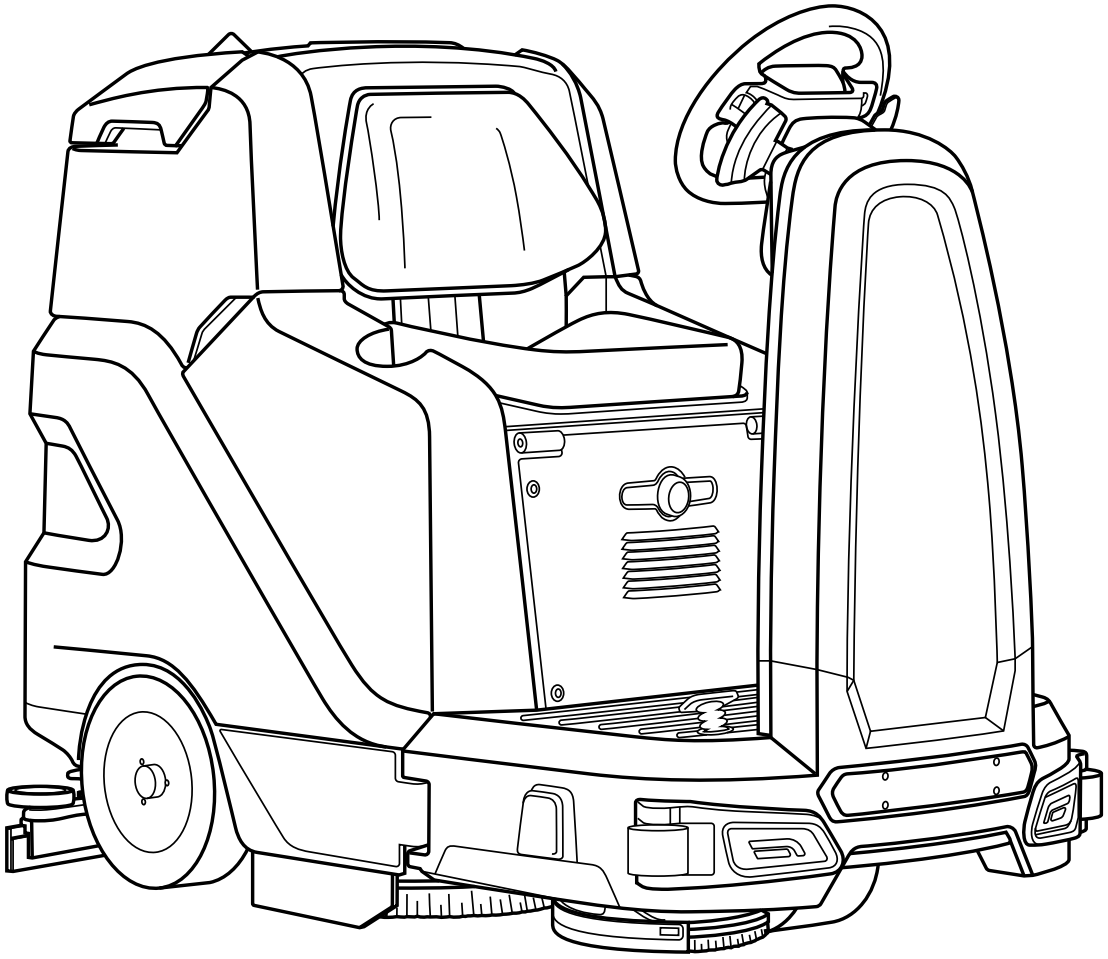
R30 SC PLUS
R28 SC PLUS

ORBITAL Technology



Scrubbing Machine

USE AND MAINTENANCE MANUAL

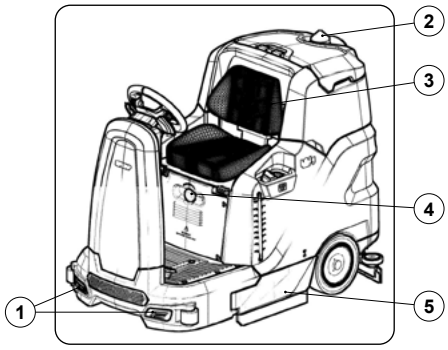
HILLYARD

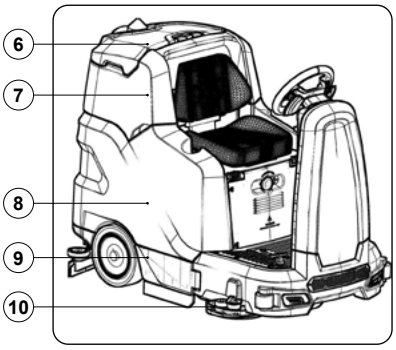
TRIDENT®

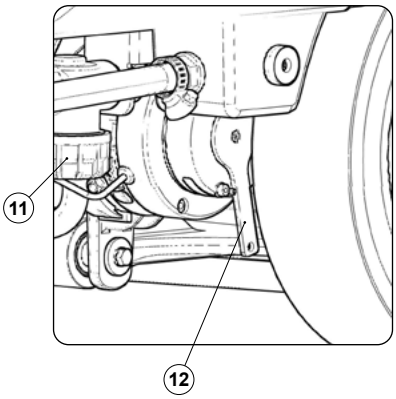
by HILLYARD

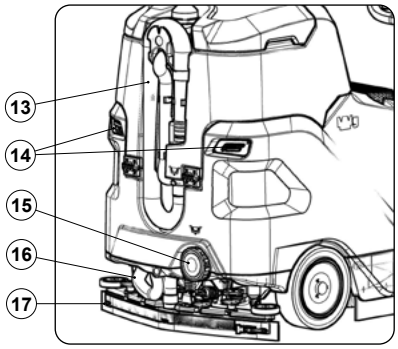
Original instructions - DOC. 10075405- Ver. AB - 11-2020

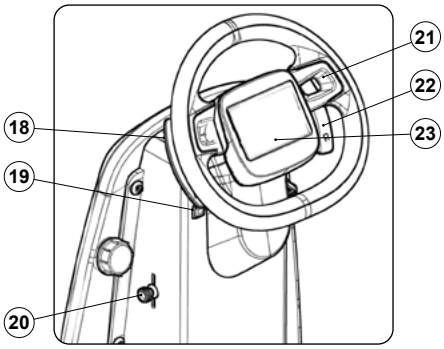
LOCATION OF THE MAIN MACHINE COMPONENTS

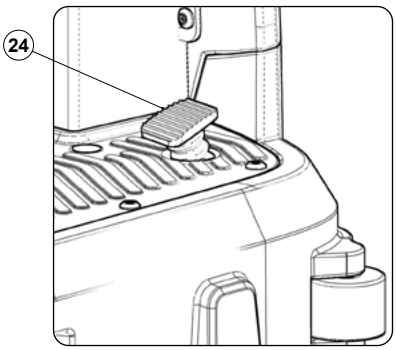


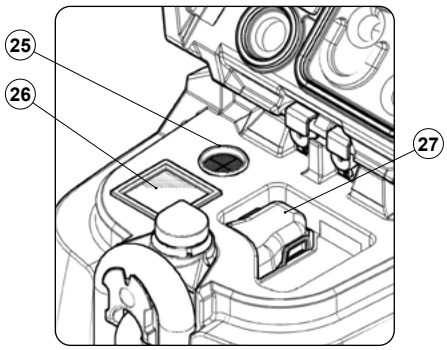


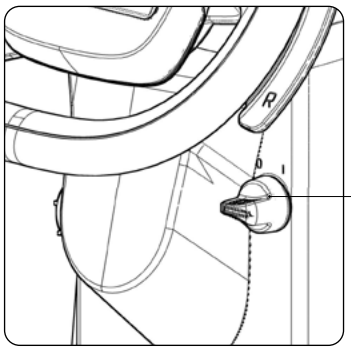


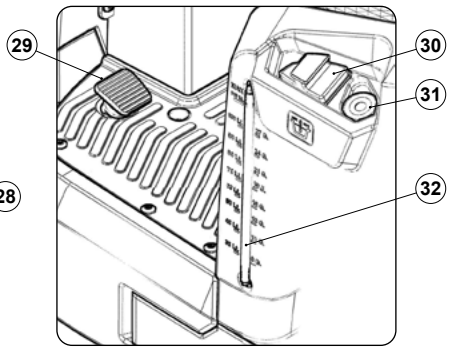












The machine's main components are the following:

1. Headlights.
2. Blinking light.
3. Operator seat.
4. Emergency button.
5. Left hatch.
6. Recovery tank lid.
7. Recovery tank.
8. Solution tank.
9. Right hatch.
10. Lateral scrubbing brush head.
11. General machine water system filter.
12. Electric brake control lever.
13. Recovery tank drainage hose.
14. Tail lights.
15. Solution tank drainage shaft cap.
16. Squeegee vacuum hose.
17. Squeegee body.
18. Extra brush head pressure command lever.
19. Horn button.
20. Detergent solution tap adjustment lever control knob.
21. Steering wheel.
22. Reverse gear activation - deactivation lever.
23. Control display.
24. Accelerator pedal.
25. Vacuum motor air duct filter.
26. Overflow tank.
27. Recovery tank filter.
28. Main key switch.
29. Service brake pedal.
30. Measuring cap.
31. Solution tank rapid filling hose.
32. Solution tank level hose.

TRIDENT®

CONTENTS

GENERAL DESCRIPTION

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 shown as reference only and are not binding as to the actual design and/or equipment.**

GENERAL SAFETY REGULATIONS

Before using the machine, please read the following document carefully and follow the instructions contained herein, along with the instructions in the document supplied with the machine itself, "GENERAL SAFETY REGULATIONS" (document code 10094528).

CONFIGURATION OF USER INTERFACE

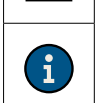
Before configuring the machine's user interface, please carefully read and observe the instructions in the following document, as supplied with the machine: "GUIDE TO CONFIGURING THE USER INTERFACE" (document code 10089030).

SYMBOLS USED IN THE MANUAL

Open book symbol with an “i”:
Indicates the need to consult the instruction manual.

Open book symbol:
Tells the operator to read the manual before using the appliance.

Covered place symbol:
the operations preceded by this symbol must always be carried out in a dry, covered area.



Information symbol:
Indicates additional information for the operator, to improve the use of the device.

Warning symbol:
Carefully read the sections preceded by this symbol meticulously following the instructions indicated for the safety of the operator and the device.

Danger symbol (corrosive substances):
The operator should always wear protective gloves to avoid the risk of serious injury to the hands caused by corrosive substances.

Danger symbol (battery acid leakage):
Indicates the danger of leaking acid or acid fumes from the batteries while they are being recharged.

Danger symbol (moving carriages):
Indicates that the packed product should be handled with suitable carriages that conform to legal requirements.

Mandatory room ventilation symbol:
Informs the operator that the room must be ventilated while the batteries are being recharged.

Symbol indicating the compulsory use of protective gloves:
Indicates that the operator should always wear protective gloves, to avoid the risk of serious injury to his hands from sharp objects.

Recycling symbol:
Tells the operator to carry out the operations in compliance with environmental regulations in force in the place where the appliance is being used.

Disposal symbol:
Carefully read the sections marked with this symbol for disposing of the appliance.

REGULATIONS

All references to forwards and backwards, front and rear, right and left indicated in this manual should be understood as referring to the operator in a driving position with his hands on the steering wheel.

DEFINITION OF LEVELS OF WARNING

DANGER: indicates an imminent dangerous situation that, unless avoided, will result in death or serious injuries.

WARNING: Indicates a potentially dangerous situation that, unless avoided, could cause death of serious injury.

ATTENTION: Indicates a potentially dangerous situation that, unless avoided, could cause slight or moderate injuries.

N.B.: instructs the reader to pay particular attention to the topic that follows.

PURPOSE AND CONTENT OF THE MANUAL

The aim of this manual is to provide customers with all the information needed to use the machine in the safest, most appropriate and most autonomous way. This includes information concerning technical aspects, safety, operation, downtime, maintenance, spare parts and scrapping. The operators and qualified technicians must carefully read the instructions in this manual before carrying out any operations on the machine. If in doubt with regard to the correct interpretation of instructions, contact your nearest HILLYARD assistance centre to obtain the necessary clarifications.

TARGET GROUP

This manual is written both for operators and for qualified machine maintenance technicians. Operators must not perform operations that should be carried out by qualified technicians. The manufacturer is not liable for damages resulting from failure to comply with this veto.

PRESERVATION OF THE USER

The Use and Maintenance Manual must be stored in its special pouch close to the machine, protected from liquids and anything else that could compromise its legibility.

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

Any floor scrubbing machine can only work properly and effectively if used correctly and kept in full working order by performing the maintenance operations described in the attached documentation. 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 the serial number (written on the relevant plate).

TECHNICAL DESCRIPTION

The **Trident R30SC Plus version** is a floor scrubbing machine that is capable of handling a wide variety of floors and types of dirt thanks to the mechanical action of one or two brushes and the chemical action of a water-detergent solution. As it advances, it collects the dirt removed, as well as the detergent solution not absorbed by the flooring itself. **The machine must only be used for this purpose**.

INTENDED USE

This scrubbing machine was designed and built for the cleaning (scrubbing and drying) of smooth, compact flooring in the commercial, residential and industrial sectors by a qualified operator in proven safety conditions. The scrubbing machine is not suitable for cleaning rugs or carpet floors. It is only suitable for use in closed (or at least covered) places.

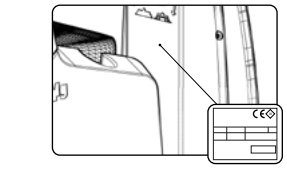
ATTENTION: the machine is not suitable for use in the rain, or under water jets.

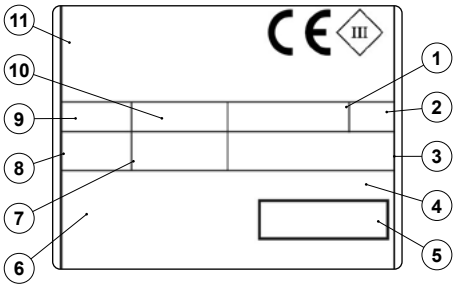
IT IS FORBIDDEN to use the machine in environments with an explosive atmosphere to clean dangerous powders or flammable liquids. In addition, it is not suitable as a means of transport for people or objects.

SAFETY

Operator cooperation is paramount for accident prevention. No accident prevention programme can be effective without the full cooperation of the person directly responsible for machine operation. The majority of occupational accidents that happen either in the workplace or whilst moving are caused by failure to respect the most basic safety rules. An attentive, careful operator is most effective guarantee against accidents and is fundamental in order to implement any prevention programme.

SERIAL NUMBER PLATE





The serial number plate is located at the rear of the steering column, and indicates the machine's general characteristics, including its serial number. The serial number is a very important piece of information and should always be provided together with any request for assistance or to purchase spare parts. The serial number plate contains the following:

1. The weight of the batteries that power the machine (expressed in kg).
2. The IP protection rating of the machine.
3. The gross weight of the machine (expressed in kg).
4. The machine ID code.
5. The machine serial number.
6. The machine ID name.
7. The nominal power consumed by the machine (expressed in W).
8. The maximum grade that the appliance can handle during work activities (expressed in %).
9. The year of machine manufacture.
10. The nominal voltage of the machine (expressed in V).
11. The commercial name of the machine, and the manufacturer's address.

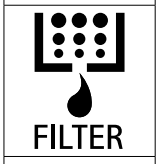
TECHNICAL DATA

TECHNICAL DATA	Unit of Measurement	Trident R30SC Plus	Trident R28SC Plus
Nominal input power [IEC 60335-2-72; IEC 62885-9]	KW	2.2	1,8
Nominal power input, versions with side brush [IEC 60335-2-72; IEC 62885-9]	KW	2,3	-
Maximum theoretical productivity	sq.ft/h	48.761	48.438
Working width [IEC 62885-9]	in	30	28
Working width with the lateral brush	in	33	-
Squeegee width	in	35	35
Nominal power of central brush head motor [IEC 62885-9]	W	500	680
Total width of brushes [IEC 62885-9]	in	2x16	-
Total width of abrasive pad	in	-	28
Central brush head motor RPM	rpm	140	2000
Weight exerted by the central brush head	lb	79 ÷ 243	93 ÷ 220
Nominal power of the side brush motor	W	100	-
Total width of the side brush	in	1x10	-
Number of rotations of side brush motor	rpm	150	-
Weight exerted by the side brush	lb	22	-
Nominal power of traction motor [IEC 62885-9]	W	520	
Maximum transfer speed [IEC 62885-9]	mph	0÷5	0÷5
Gradeability when working with GVW (maximum period of use 20 seconds)	%	7	7
Gradeability during transfer with full solution tank only (maximum period of use 20 seconds)	%	10	10
Gradeability during transfer with both tanks empty	%	18	18
Nominal power of suction motor [IEC 62885-9]	W	680	680
Maximum vacuum [IEC 62885-9; IEC 60312-1]	psi	2,1	2,1
Solution tank capacity [IEC 62885-9]	gal	29	29
Recovery tank capacity [IEC 62885-9]	gal	29	29
Detergent solution tank volume [IEC 62885-9]	gal	3	3
Minimum inversion corridor [IEC 62885-9]	in	82	82
Machine dimensions (length - width - height)	in	63 35 49	63 35 49
Battery compartment dimensions (length - width - height)	in	21 15 12	21 15 12

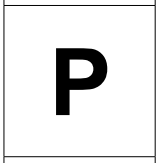
TECHNICAL DATA	Unit of Measurement	Trident R30SC Plus	Trident R28SC Plus
Weight of batteries used for test [four 6V batteries, model 6TP210]	lb	284	284
Machine net weight [IEC 62885-9]	lb	611	580
Machine weight during transport [IEC 62885-9]	lb	895	864
GVW [IEC 60335-2-72; IEC 62885-9])	lb	1.356	1.325
Sound pressure on the operator's ears (Lp_A) [ISO 11201, ISO 4871, EN 60335-2-72]	dB (A)	72,2	72,2
Uncertainty Kp_A	dB (A)	±1.5	±1.5
Vibration level on the operator's arms [ISO 5349-1, EN 60335-2-72]	m/s^2	<2.5	<2.5
Vibration level on the operator's body [ISO 5349-1, EN 60335-2-72]	m/s^2	<0.5	<0.5
Vibration measurement uncertainty		±1.5%	±1.5%

SYMBOLS USED ON THE MACHINE

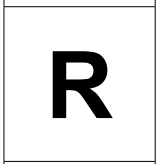
Symbol of maximum temperature for filling the solution tank:
Applied to the left-hand side of the machine's solution tank to indicate the maximum temperature of the water that can be used to safely fill the solution tank.



Filter body position symbol:
Applied to the left-hand side of the machine to indicate the position of the solution tank filter.

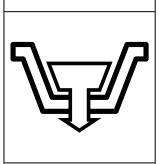


Extra pressure activation/deactivation lever position symbol:
Applied to the central brush head's extra pressure activation/deactivation lever.

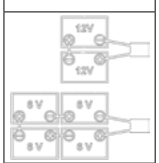


Reverse gear activation/deactivation lever position symbol:
Applied to the reverse gear activation/deactivation lever.

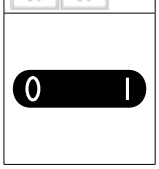
Recovery tank drainage hose symbol:
Applied to the back of the machine to identify the recovery tank's drainage hose.



Solution tank drainage cap symbol:
Applied to the back of the machine to identify the solution tank's drainage cap.



Battery connection symbol:
Applied beneath the recovery tank to indicate how to connect the 6 V or 12 V batteries in order to obtain a total voltage of 24 V.



Main switch symbol:
Applied to the control panel, positioned on the front of the machine, to indicate the main switch.

LABELS USED ON THE MACHINE

Battery charging sequence label (versions without Battery Charger):
Located near the steering column, indicating the sequence to perform to recharge the batteries correctly.

Warning label to read the user manual of the battery charger (versions with Battery charger):
Applied in the vicinity of the steering column indicating to read the user manual of the battery charger. Also indicates to pay attention to when to perform the charging cycle and how long it should last.

Water system filter maintenance label:
Applied near the water system filter to remind the user to clean it after each work cycle.

Warning label during battery charging:
Located near the steering column, listing the warnings to perform when recharging the batteries.

Label indicating the need to read the Use and Maintenance Manual:
Used in the brush head body, and indicates the prohibition to approach the brush head while the brush is moving.

Visible daily maintenance label:
Applied near the steering column, indicating to tighten the machine's water tap after every work cycle and to clean the filters and the squeegee.

Label indicating the need to read the Use and Maintenance Manual:
Applied in the vicinity of the steering column in order to remind the operator to read the user and maintenance manual before using the machine.

Label warning about the risk of crushed hands:
Indicates danger to hands due to crushing between two surfaces.

Acoustic signalling device control label:
Applied in the vicinity of the steering column to indicate the acoustic signalling device's control button.

Solution tank filter maintenance label:
Applied near the water system filter to remind the user to clean it after each work cycle.

Suction motor filter maintenance label:
Applied near the suction motor air filter to remind the user to clean it after each work cycle.

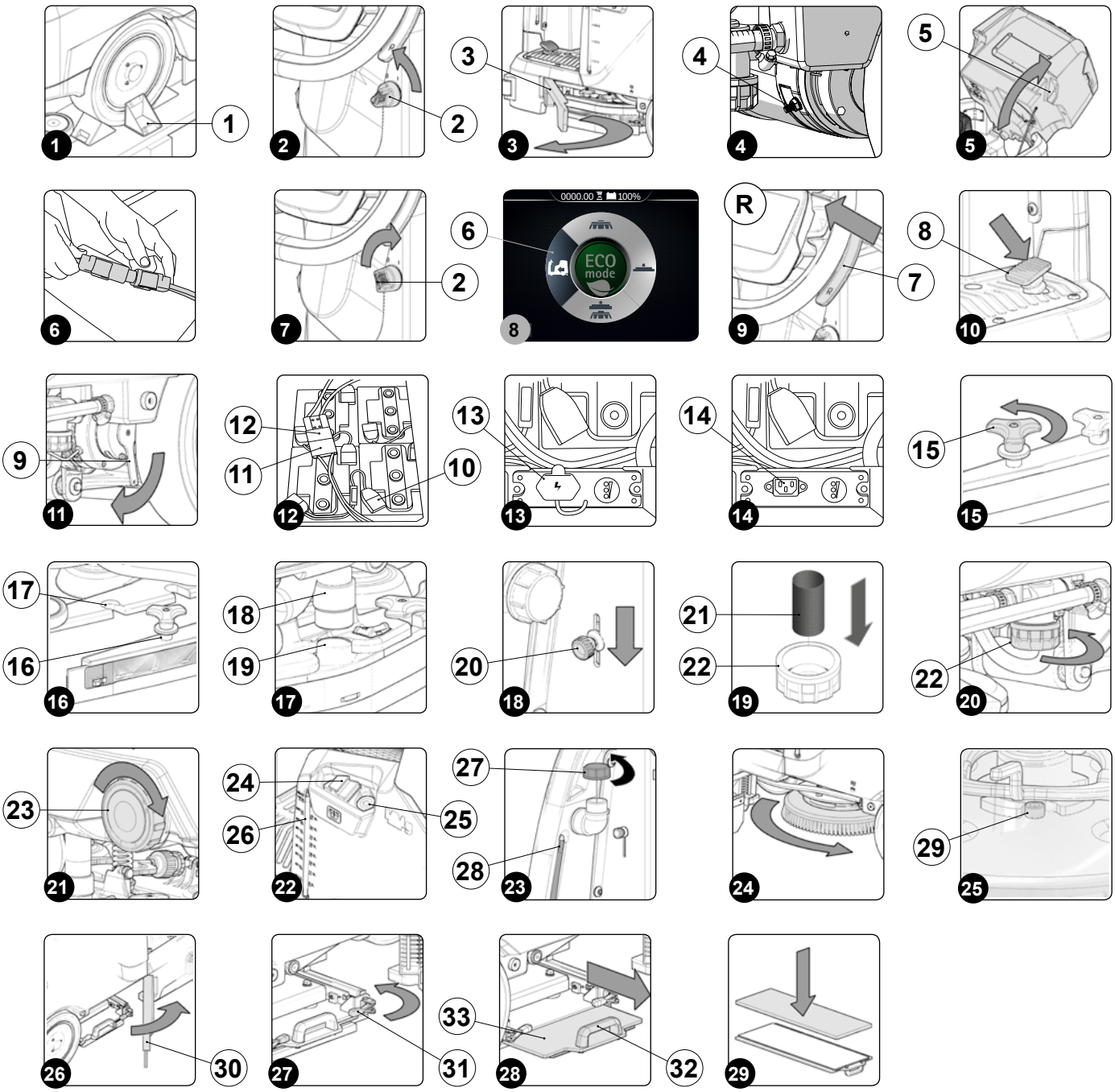
Label for detergent solution tap command:
Applied in the vicinity of the control column to identify the detergent solution tap control lever.

Recovery tank spray gun cleaning kit control label (optional):
Applied near the steering column to indicate the control button for the optional recovery tank spray gun cleaning kit.

CONTROL DISPLAY

1. HFM symbol, if visible it shows that the “HILLYARD FLEET MANAGEMENT” system is active.
2. HDC symbol, if visible it shows that the “HILLYARD DOSING CONTROL” system is active.
3. Side brush head symbol, if visible it shows that the side brush is operating.
4. Working lights symbol, if visible it shows that the working lights are on.
5. Hour meter.
6. battery charge level percentage.
7. General alarm symbol.
8. Recovery tank float symbol, if visible it shows that the recovery tank is full and that to continue you need to empty it.
9. Solution tank float symbol, if visible it shows that the recovery tank is empty and that to continue you need to fill it.
10. Detergent solution level symbol.
11. Vacuum motor performance level symbol.
12. “Eco Mode” programme button.
13. Working mode selector (DRIVE SELECT).
14. Rear camera symbol.
15. Menu screen activation symbol.
16. Text indicator.
17. Zone program selector button.
18. Brush head extra pressure level symbol.
19. Forward speed level symbol.

PREPARATION OF MACHINE



HANDLING THE PACKAGED MACHINE

The overall dimensions of the entire package are: height=1420mm width=1025mm length=1760mm, while the overall mass of the package is 300Kg.

N.B.: it is recommended that all the packaging components be kept for any future machine transportation.

DANGER: Move the packaged product with handling equipment that complies with legal requirements regarding size and mass of the packaging.

HOW TO UNPACK THE MACHINE

The machine is shipped in specific packaging. To remove it, proceed as follows:

1. Place the lower part of the outer packaging in contact with the floor.

N.B.: use the pictograms printed on the box as a reference.

2. Remove the outer package.

WARNING: the machine is contained in specific packaging materials, whose elements (plastic bags, staples, etc.) can pose potential hazards, and must not be left within reach of children, disabled persons, etc.

3. Remove the boxes containing the brushes and squeegee body from the machine.

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

4. Insert a ramp in the rear part of the machine.

ATTENTION: the ramp gradient must not be such as to cause damage to the machine as it comes down.

1. The machine is fixed to the pallet with wedges (1) that block the wheels (**Fig.1**). Remove these wedges.
2. Check to make sure that the main switch on the control panel has been set to its “0” position. If this is not the case, turn the key (2) a quarter turn to the left (**Fig.2**). Remove the key from the main switch.
3. Move to the left hand side of the machine and open the left lateral carter (3) (**Fig.3**).

WARNING: the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause a malfunction of the device.

4. Connect the traction motor power supply cable to the connector (4) that is located on the traction motor itself (**Fig.4**).
5. Once the electrical connection is complete, close the left-hand side carter again.
6. Grip the handle (5) and raise the recovery tank to the maintenance position (**Fig.5**).

WARNING: the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause a malfunction of the device.

7. Connect the backup battery carriage's connector to the machine's main system connector (**Fig. 6**).
8. Grip the handle (5) and lower the recovery tank to its working position.
9. Sit on the driver’s seat.
10. Insert the key (2) into the main switch on the control panel. Set the main switch to "I" by turning the key a quarter turn clockwise (**Fig.7**).
11. Move the brush head body and the squeegee body into the rest position, and using the DS selector on the command display (**Fig.8**), select the “TRANSFER” program (6) (see”DS SELECTOR (DRIVE SELECT)” on page 26).
12. Engage the reverse gear using the reverse gear activation/deactivation lever (7) (**Fig.9**).
13. Press the drive pedal (8) (**Fig.10**) to begin moving the machine.
14. Drive the machine down the ramp.

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

15. Bring the main switch to its "0" position by turning the key (2) a quarter turn anti-clockwise (**Fig.2**). Remove the key from the main switch.
16. Get off the machine.
17. Grip the handle (5) and raise the recovery tank to the maintenance position (**Fig.5**).

WARNING: the following operations must be carried out by qualified personnel.

18. Disconnect the backup battery carriage's connector from the machine's main system connector (**Fig. 6**).
19. Grip the handle (5) and lower the recovery tank to its working position (**Fig.5**).

MACHINE SAFETY

The procedure for securing the machine, thus allowing the operations to be performed under conditions of complete safety, is as follows:

1. Take the machine to the maintenance area.

WARNING: the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

2. Check to make sure that the solution tank and the recovery tank are empty. If this is not the case, empty them (see the sections titled “EMPTYING THE SOLUTION TANK” on page 35 and “EMPTYING THE RECOVERY TANK” on page 35).
3. Move the brush head body and the squeegee body into the rest position, and using the DS selector on the command display (**Fig.8**), select the “TRANSFER” program (6) (see”DS SELECTOR (DRIVE SELECT)” on page 26).
4. Bring the main switch to its "0" position by turning the key (2) a quarter turn anti-clockwise (**Fig.2**). Remove the key from the instrument panel.
5. Get off the machine.
6. Grip the handle (5) and raise the recovery tank to the maintenance position (**Fig.5**).

WARNING: the following operations must be carried out by qualified personnel.

7. Disconnect the battery connector from the machine's main system connector (**Fig. 6**).

8. Grip the handle (5) and turn the recovery tank to its working position (**Fig.5**).
9. Move to the left hand side of the machine and open the left lateral carter (3) (**Fig.3**).
10. Check to make sure that the electronic brake is engaged, and turn the lever on the rear left portion of the machine (9) clockwise (**Fig.11**). Close the left-hand side carter.

HOW TO MOVE THE MACHINE

To transport the machine safely, proceed as follows:

DANGER: before starting any task, make sure the current regulations concerning the safe transport of dangerous substances are scrupulously observed.

1. Check to make sure that the solution tank and the recovery tank are empty. If this is not the case, empty them (see the sections titled “EMPTYING THE SOLUTION TANK” on page 35 and “EMPTYING THE RECOVERY TANK” on page 35).

WARNING: during this operation, check there are no people or objects near the machine.

N.B.: the ramp gradient must not be such as to cause damage to the machine as it goes up.

2. Sit on the driver’s seat.
3. Insert the key (2) into the main switch on the control panel. Bring the main switch to position "I" by turning the key (2) a quarter turn clockwise (**Fig.7**).
4. Move the brush head body and the squeegee body into the rest position, and using the DS selector on the command display (**Fig.8**), select the “TRANSFER” program (6) (see”DS SELECTOR (DRIVE SELECT)” on page 26).
5. Press the drive pedal (8) (**Fig.10**) to begin moving the machine.
6. Use a ramp to move the machine up onto the transport vehicle.

WARNING: during this operation, check there are no people or objects near the machine.

N.B.: the ramp gradient must not be such as to cause damage to the machine as it goes up.

7. Once the machine has been positioned on the means of transport, carry out the steps to ensure the machine is in a safe condition (see paragraph “MACHINE SAFETY” on page 13).

WARNING: secure the device according to the directives in force in the country of use, so that it cannot slide or tip over.

TYPE OF BATTERY TO BE USED

Used batteries must meet the requirements set out in DIN EN 50272-3 "Traction batteries for industrial trucks". **To carry out the work well, the machine must have a 24V power supply**; we recommend using four 6V MFP 210Ah/C_5 batteries.

BATTERY MAINTENANCE AND DISPOSAL

For battery maintenance and recharging, respect the instructions provided by the battery manufacturer. When the batteries reach the end of their service life, they must be disconnected by a HILLYARD assistance centre technician or by a specialised and properly trained worker, and must be subsequently removed from the battery compartment using suitable lifting devices.

N.B.: dead batteries are classified as dangerous waste and as such must be delivered to an authorized body for disposal.

INSERTING THE BATTERIES INTO THE MACHINE

The batteries must be housed in the special compartment beneath the recovery tank and should be handled using lifting equipment that is suitable in terms of both weight and its coupling system.

DANGER: make sure that you comply with the accident prevention regulations in force in the country where you work or with DIN EN 50272-3 and DIN EN 50110-1, before any handling of the batteries.

WARNING: to prevent an accidental short circuit use insulated tools to connect the batteries, and do not place or drop metal objects on the battery. Remove rings, watches and any clothing with metal parts that may come into contact with the battery terminals.

The various phases for inserting the batteries in the battery compartment are as follows:

WARNING: HILLYARD declines all responsibility for any damage to property or injury to persons in the event that the batteries are replaced by an unauthorized technician.

1. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).
2. Grip the handle (5) and raise the recovery tank to the maintenance position (**Fig.5**).

N.B.: for battery maintenance and daily recharging, you must fully respect the indications provided by the manufacturer or retailer.

WARNING: all installation and maintenance operations must be carried out by specialized personnel.

N.B.: before installing the battery, clean the battery compartment. Check that the connectors on the cables supplied are functioning correctly.

ATTENTION: check that the characteristics of the battery that you are looking to use are appropriate for the type of work to be performed. Check the battery charge and the condition of the contacts on the battery.

N.B.: you are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size

WARNING: the lifting hooks must not damage the blocks, connectors or cables.

N.B.: Before inserting the batteries into the machine, remember to cover the terminals with a little grease to protect them against external corrosion.

3. House the batteries in the compartment, positioning the poles “+” and “-“ opposite each other.

CONNECTING THE BATTERIES TO THE MACHINE'S ELECTRICAL SYSTEM

The batteries should be connected so as to obtain a total voltage of 24 V.

ATTENTION: it is recommended that all installation and maintenance operations be carried out by expert personnel, trained at the specialised assistance centre.

WARNING: to prevent an accidental short circuit use insulated tools to connect the batteries, and do not place or drop metal objects on the battery. Remove rings, watches and any clothing with metal parts that may come into contact with the battery terminals.

The various phases for inserting the batteries in the battery compartment are as follows:

1. Using the jumper cable supplied (10), connect the “+” and “-“ poles of the batteries in series (**Fig.12**).
2. Connect the battery connector cable (11) to the “+” and “-“ poles to obtain a voltage of 24V at the terminals (**Fig.12**).
3. Connect the electrical system connector (12) to the battery connector (11) (**Fig.12**).

RECHARGING THE BATTERIES

The batteries must be charged prior to first use, and whenever they no longer provide sufficient power.

ATTENTION: to avoid any permanent damage to the batteries, it is essential to avoid their complete discharge; begin recharging them within a few minutes of noting the "discharged batteries" signal.

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

1. Bring the appliance to the zone where the batteries are charged.

WARNING: the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

ATTENTION: Park the machine in an enclosed place, on a flat and level surface; near the machine there must be no objects that could either damage it, or be damaged through contact with it.

ATTENTION: the room used to recharge the batteries must be adequately ventilated to prevent the accumulation of gases that leak from batteries.

2. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).
3. Grip the handle (5) and raise the recovery tank to the maintenance position (**Fig.5**).

To recharge the batteries without the built-in battery charger, proceed as follows:

ATTENTION: the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause a malfunction of the device.

- Disconnect the electrical system connector (12) from the battery connector (11) (**Fig.12**).
- Connect the external battery charger cable to the battery connector.

N.B.: the coupling connector of the battery charger is consigned inside the bag containing this instruction booklet, and must be assembled on the cables of the battery charger as indicated in the instructions.

ATTENTION: before connecting the batteries to the battery charger, make sure it is suitable for the batteries used.

N.B.: carefully read the use and maintenance instructions of the battery charger that is used for charging.

WARNING: keep the recovery tank open for the duration of the battery recharging cycle to allow gas fumes to escape.

- Once the recharge cycle has been completed, disconnect the battery charger's cable from the battery connector.
- Connect the electrical system connector (12) to the battery connector (11) (**Fig.12**).
- Grip the handle (5) and turn the recovery tank to its working position (**Fig.5**).

To recharge the batteries with the on-board battery charger proceed as follows:

ATTENTION: the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause a malfunction of the device.

N.B.: carefully read the use and maintenance instructions of the battery charger that is used for charging.

- Remove the cap (13) from the battery charger socket (**Fig.13**).
- Connect the connector of the battery charger power cable to the socket (14) in the charger itself (**Fig.14**).
- Plug the battery charger cable into the mains socket.

WARNING: before connecting the batteries to the battery charger, make sure it is suitable for the batteries used.

WARNING: Before inserting the battery charger power cable into the socket (14), check that there is no condensate or other forms of liquids.

N.B.: the battery charger power cable is delivered inside the bag containing this instruction booklet.

WARNING: keep the recovery tank open for the duration of the battery recharging cycle to allow gas fumes to escape.

- When the recharge cycle is complete, disconnect the battery charger cable from the mains.
- Disconnect the battery charger's power cable from the socket on the battery charger itself.
- Apply the cap (13) to the battery charger socket (**Fig.13**).
- Grip the handle (5) and turn the recovery tank to its working position (**Fig.5**).

ASSEMBLING THE SQUEEGEE BODY

For packaging reasons, the squeegee body comes disassembled from the machine. In order to mount it on the squeegee support, do the following:

1. Take the machine to the maintenance area.
2. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

3. Unscrew the knobs (15) in the squeegee body pre-assembly (**Fig.15**).
4. First, insert the left pin (16) on the squeegee body into the left slit (17) in the squeegee support (**Fig.16**), so that the bushing adheres to the walls of the slit in the squeegee support.
5. Repeat the same operation for the right pin.
6. Insert the vacuum hose (18) in the sleeve (19) on the squeegee body (**Fig.19**).

N.B.: Although the squeegee comes pre-adjusted, it is nevertheless recommended to read the section entitled “ADJUSTING THE SQUEEGEE BODY’S RUBBER BLADES” on page 39.

INSERTING WATER SYSTEM FILTER

Before using the machine for the first time the water system filter needs to be reset, for shipping reasons the filter cartridge and the cap have been removed. To insert the filter cartridge in the water system filter body proceed as follows:

1. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).

CAUTION: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

2. Close the tap's output flow, shifting the knob (20) on the left hand side of the steering column (**Fig.18**) downwards.
3. Move to the front of the machine, insert the filter cartridge (21) in the housing on the cap (22) (**Fig.19**).

N.B.: The O-ring gasket in the filter cartridge should be inserted into its seat in the cap.

4. Screw the cap (22) onto the body of the detergent solution filter (**Fig.20**).

DETERGENT SOLUTION

Before filling the solution tank, carry out the following steps:

1. Take the machine to the usual place for filling the solution tank.

WARNING: the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

2. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).
3. Check to make sure that the solution tank drainage cap (23) is closed. If this is not the case, close it (**Fig.21**).
4. Check to make sure that the water system's filter cap (22), located on the rear left-hand side of the machine, is closed; if not, close it (**Fig.20**).

The solution tank can be filled with water in two different ways:

- Removing the cap/measuring device (24) and filling the solution tank by means of a rubber hose or a bucket (**Fig.22**).
- Using the filler hose (25) (**Fig.22**), which supports the water hose on its own; be sure to remove the cap-measuring device (24) in order to allow the air to vent properly.

5. Fill with clean water, at a temperature not higher than 50°C and not lower than 10°C. The amount inside the tank can be seen by means of the level tube (26) on the left-hand side of the machine (**Fig.22**).
6. For versions without automatic chemical product management system, add the liquid detergent to the tank in the concentration and manner indicated on the detergent manufacturer's label. To prevent the formation of an excessive amount of foam that could damage the vacuum motor, use the minimum percentage of detergent required.

WARNING: protective gloves should always be worn before handling detergents or acidic or alkaline solutions, to avoid serious injury to the hands.

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

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

ATTENTION: The filler cap can be used as measuring device for the detergent to be added to the solution tank; the cap features moulded notches identifying the percentage of detergent, ranging from a minimum of 0.1% to a maximum of 0.5%.

7. For versions with automatic chemical product management system, remove the cap (27) of the detergent tank (**Fig.23**).
8. Fill the canister with the desired detergent; it is possible to see the quantity in the detergent canister using the level tube (28) on the front left of the canister (**Fig. 23**).

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

ATTENTION: the dosing system is suitable for frequent maintenance cleaning. Acid or alkaline maintenance detergent can be used with pH values between 4 and 10 and that do not contain: oxidising agents, chlorine or bromine, formaldehyde, mineral solvents. The detergents used must be suitable for use with scrubbing machines. Wash the circuit with water after use if the system is not used daily. The system can be excluded. In case of sporadic use of detergents with pH between 1-3 or 11-14, use the floor scrubbing machine in the traditional way by adding the detergent in the clean water tank and excluding the dosing circuit.

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

9. Close the cap (27) correctly to prevent liquid coming out when working.

ASSEMBLING THE BRUSH HEAD BRUSHES (Trident R30SC version)

To assemble the brushes to bush head body, which for reasons of packaging are supplied dismantled from the machine, proceed as follows:

1. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

2. Move to the left hand side of the machine and open the left lateral carter (3) (**Fig.3**).
3. With the brush head UP, insert the brush in the plate housing underneath the brush head, turning it until the three buttons engage with the niches on the plate itself.
4. Turn in increments until the button is pushed towards the coupling spring and is locked in place (**Fig.24**).

N.B.: Image 24 indicates the direction of rotation for coupling the left brush; the right brush must be turned in the opposite direction.

ASSEMBLING THE SIDE BRUSH (Trident R30SC version)

For packaging reasons, the lateral brush comes disassembled from the machine, and must be assembled on the brush head body by doing the following:

1. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

2. With the brush head in the rest position, insert the brush into the plate housing underneath the brush head, and turn it until the two buttons (29) engage with the recesses on the plate itself (**Fig. 25**).
3. Push the brush until the stopper spring on the brush itself has engaged with the niche present on the gearmotor pin.

ASSEMBLING THE ABRASIVE PAD (Trident R28SC version)

For packaging reasons, the abrasive pad comes disassembled from the machine (if requested on the purchase order), and must be assembled on the brush head body by doing the following:

1. Carry out the steps to ensure the machine is in a safe condition (read “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

2. Move to the right-hand side of the machine and open the right-hand carter (30) (**Fig.26**).
3. With the brush head raised, release the pad support retainers (31) - (**Fig.27**) shows the rotation direction for releasing the front retainer.
4. Use the handle (32) to remove the pad support (33) (**Fig.28**).
5. Place the required pad in the lower part of the support (**Fig.29**).
6. Once the work is complete, repeat the operations in reverse order to reassemble all the parts.

USER SEAT ADJUSTMENT

The careful adjustment of the driver's seat ensures a greater sense of comfort when using the machine; the seat should always be positioned using the pedals as a point of reference, in order to adjust the seat, use the lever located under the seat.

N.B.: The distance should be adjusted so that with the pedals fully pressed to the floor the knees are slightly bent (about 120°).

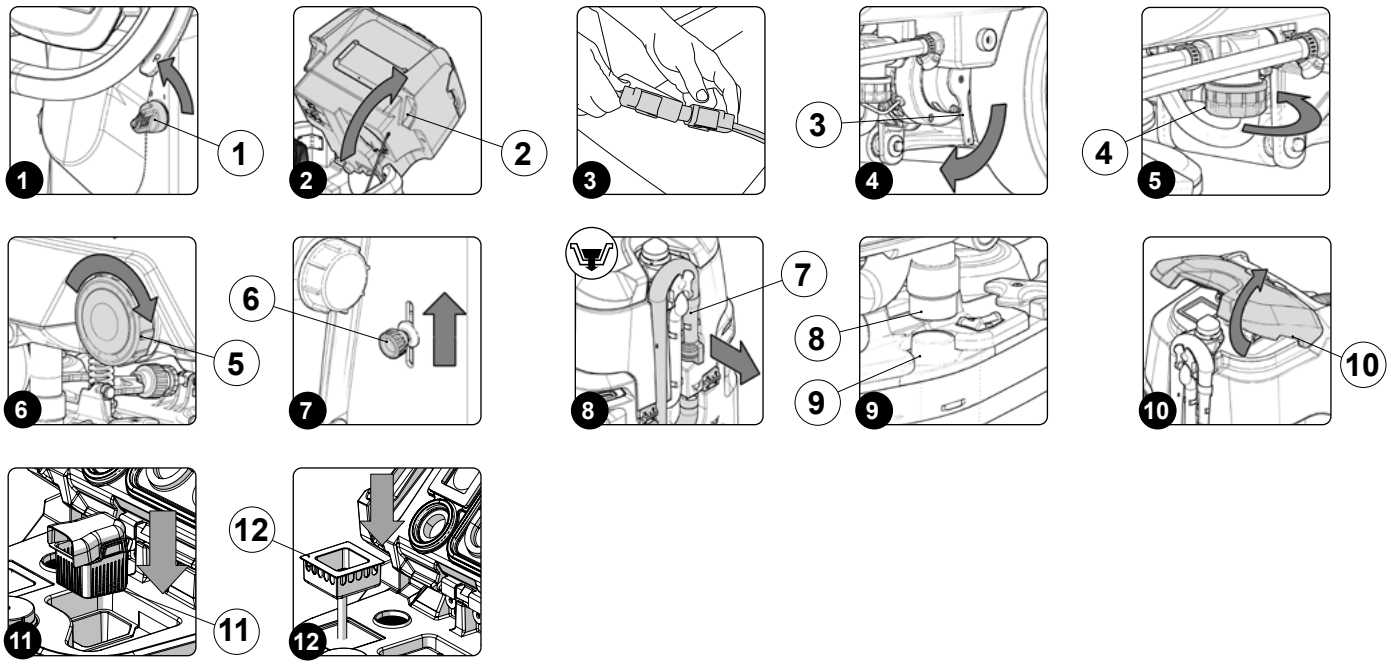
N.B.: Adjust the distance of the seat so that when pressing the brake pedal it goes as far as it can.

N.B.: If the knee is not bent enough, it is too far from the steering wheel, if however the knee is bent almost 90°then it is too close to the steering wheel.

N.B.: The feet should be positioned keeping the heels on the footrest, the sole of the foot directly below the fingers should push the pedals.

N.B.: The ideal driving position is that which allows you to grip the steering wheel correctly with the palms slightly lower than the shoulders. With a good grip on the steering wheel, the elbows should be bent by about 120°. There should be at least 12 cm between the middle of the steering wheel and our breastbone. In any case, this distance should be no more than 18 cm.

PREPARING TO WORK



Before beginning to work, it is necessary to:

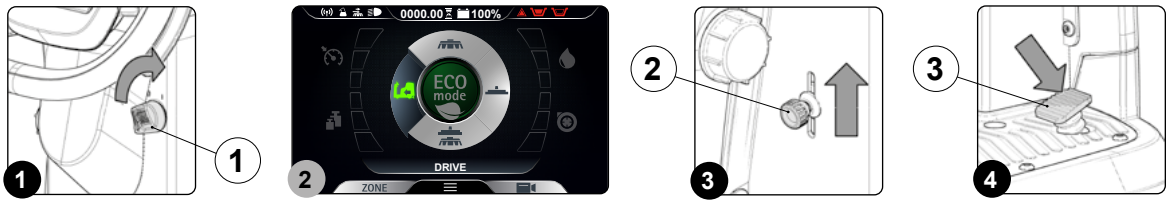
1. Make sure the recovery tank is empty. If this is not the case, empty it (read “EMPTYING THE RECOVERY TANK” on page 35).
2. Check that the quantity of detergent solution in the solution tank is correct for the type of work to be carried out; if not, refill the solution tank; see paragraph. “DETERGENT SOLUTION” on page 17.
3. Check the rubber squeegee blades are in good working condition. If they are worn, replace them (see “REPLACING THE SQUEEGEE BODY RUBBER BLADES” on page 38).
4. Check the lateral squeegee splashguard rubber blades are in good working condition. If they are worn, replace them (see “REPLACING THE SIDE SQUEEGEE SPLASHGUARD RUBBER BLADES” on page 39).
5. For sweeping versions, check that the brush head brushes are in good working condition for the task to be carried out. If they are worn, replace them (see ““ASSEMBLING THE BRUSH HEAD BRUSHES (Trident R30SC version)” on page 17.
6. For Trident R28SC versions, check that the abrasive pad is in good working condition for the task to be carried out. If this is worn, replace it (see “ASSEMBLING THE ABRASIVE PAD (Trident R28SC version)” on page 18.
7. For Trident R30SC versions, check that the side brush is in good working condition for the task to be carried out. If this is worn, replace it (see “ASSEMBLING THE SIDE BRUSH (Trident R30SC version)” on page 18.
8. For Trident R30SC versions, check that the brush head body splashguard rubber blades are in good working condition for the task to be carried out. If they are worn, replace them (see ““REPLACING THE BRUSH HEAD SPLASHGUARDS (Trident R30SC version)” on page 38.
9. Check that the main switch is set to “0", turn the key (1) a quarter turn anticlockwise (**Fig.1**) . With the machine off, remove the key from the instrument panel.
10. Grip the handle (2) and raise the recovery tank to the maintenance position (**Fig.2**).

⚠ **CAUTION:** the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause a malfunction of the device.

11. Connect the battery connector from the main machine system connector (**Fig.3**).
12. Rotate the recovery tank into the work position.
13. Move to the right rear part of the machine and check that the electro-brake in the traction gear motor is engaged; if not, turn the lever (3) clockwise (**Fig. 4**).
14. Move to the front of the machine and check that the water system filter cap (4) is closed, otherwise tighten it (**Fig.5**).
15. Move to the rear of the machine and check that the cap (5) of the solution tank drainage well is closed. If it isn't, close it (**Fig.6**).
16. Move to the front left-side of the machine and check that the water tap is fully open, move the water adjustment knob (6) in the direction shown by the arrow (**Fig.7**).
17. Move to the rear of the machine a check that the cap of the recovery tank drainage tube (7) is closed. If it isn't, close it (**Fig.8**).
18. Make sure the vacuum hose (8) is correctly connected to the sleeve (9) in the squeegee body. If it isn't, connect it (**Fig.9**).
19. Grip the handle (10) and raise the recovery tank lid to its maintenance position (**Fig. 10**).

20. Make sure the basket-filter (11) is correctly connected and is clean (**Fig.11**). If it isn't, clean it (see “CLEANING THE RECOVERY TANK FILTERS” on page 35).
21. Make sure the anti-wave tray (12) is correctly connected and is clean (**Fig.12**). If it isn't, clean it (see “CLEANING THE RECOVERY TANK FILTERS” on page 35).

STARTING WORK



The machine can be used in the following work modes:

- Eco Mode, see “HILLYARD ECO MODE” on page 21.
- MANUAL MODE, see “MANUAL MODE” on page 21.
- PROGRAM ZONE, see “PROGRAM ZONE MODE” on page 22.

As an example, we will look at the program mode. To begin working in this mode, proceed as follows:

1. Carry out all the checks listed in the section “PREPARING TO WORK” on page 19.
2. Sit on the driver’s seat.
3. Insert the key (1) into the main switch on the control panel and move the main switch to position "I" by turning the key a quarter turn clockwise (**Fig.1**).
4. The first and second screen displayed allow you to check the software versions of the functions board and the display board.
5. A few seconds after turning on, the “MAIN” screen will appear (**Fig.2**).

N.B.: by default the machine is set to the transfer program (**Fig.2**).

6. Select the desired working program with the DS selector device (see “DS SELECTOR (DRIVE SELECT)” on page 26).
7. Select the desired working zone by pressing the “ZONE” button present on the “MAIN” screen (see paragraph “PROGRAM ZONE MODE” on page 22).
8. If a working program is selected which includes “SCRUBBING WITH DRYING”, open the flow of the detergent solution into the machine's water system and shift the knob (2) upwards (**Fig. 3**).
9. Press the drive pedal (3) to begin moving the machine (**Fig.4**).

N.B.: If the program selected is “SCRUBBING WITH DRYING”, the squeegee and brush head will lower until they touch the floor. As soon as the drive pedal is pressed, the traction motor, brush head motor and vacuum motor will start working. As a result, the solenoid valve will also be activated and detergent solution will be dispensed onto the brushes. During the first few metres, check that there is sufficient solution and that the squeegee is drying correctly. The machine will now begin to work with full efficiency until the battery is flat or until the detergent solution has finished.

HOUR METER

The control display is in the control panel, at the top in the middle it is possible to observe the total time the machine has been used.
The digits that precede the “.” symbol identify hours, whilst the digit that follows it indicates hour decimals (an hour decimal corresponds to six minutes).
When the “hour glass” symbol (1) is flashing it indicates that the hour meter is counting the appliance's operating time.

BATTERY CHARGE LEVEL INDICATOR

The control display is in the control panel, at the top in the middle it is possible to observe the charge level of the batteries.
The indicator is composed of two charge level symbols, the first represented by a graphic symbol (2), the second by a number that indicated the charge percentage (3). With a low charge level the graphic symbol (2) will start to flash and after a few seconds it will switch off, in these conditions take the machine to the place where its batteries can be charged.

N.B.: a few seconds after the battery charge reaches the critical level, the brush gear motors switch off automatically. With the remaining charge it is possible to complete the drying process before starting the recharge.

N.B.: A few seconds after the battery charge reaches the discharge level, the suction motor switches off automatically.

WORKING MODE

HILLYARD ECO MODE

At the centre of the DS selector is the Eco Mode button; pressing this will activate “ECO MODE”, a program which guarantees the best possible performance in terms of consumption and cleaning. To activate the Eco Mode program, proceed as follows:

1. Sit on the driver’s seat.
2. Insert the key (1) into the main switch on the control panel. Set the main switch to "I" (**Fig.1**).
3. Select the Eco Mode working program with the button (2) at the centre of the DS selector (**Fig.2**).

N.B.: A grey Eco Mode button means that the economical mode is not active. A green Eco Mode button means that the economical mode is active. In addition, when Eco Mode is active, on the text indicator row (3) on the display, the words “ECO mode” will appear (**Fig.3**).

N.B.: pressing the button (2) on the DS selector (**Fig.2**) will activate the SCRUBBING WITH DRYING program. If you wish to use another working program, select it using the DS selector (read the section “DS SELECTOR (DRIVE SELECT)” on page 26).

4. Press the drive pedal (4) to begin moving the machine (**Fig.4**).

N.B.: if the button (2) is pressed when working in Eco Mode, the machine will shift to MANUAL MODE, leaving the program in use at the time active (**Fig. 5**).

N.B.: if the "ZONE" button (5) is pressed when working in Eco Mode (**Fig.3**), the machine will shift to PROGRAM ZONE mode; as soon as button (5) is pressed, the screen enabling you to select the working zone will appear on the display (**Fig.6**).

MANUAL MODE

To activate the MANUAL-MODE program, proceed as follows:

1. Sit on the driver’s seat.
2. Insert the key (1) into the main switch on the control panel. Set the main switch to "I" (**Fig.1**).
3. Using the DS selector, select the working program you want (**Fig.2**); see “DS SELECTOR (DRIVE SELECT)” on page 26.

N.B.: by selecting one of the three working programs on the DS selector, Eco Mode will be automatically activated.

4. Deactivate Eco Mode by pressing the button (2) at the centre of the DS selector (**Fig.2**); the display will move from Eco Mode (**Fig.3**) to MANUAL MODE (**Fig.5**).

N.B.: A grey Eco Mode button means that the economical mode is not active. A green Eco Mode button means that the economical mode is active. In addition, when Eco Mode is not active, on the text indicator row (3) on the display, the word "MANUAL” will appear (**Fig.5**).

5. Press the drive pedal (4) to begin moving the machine (**Fig.4**).

N.B.: if the button (2) (**Fig.5**)is pressed when working in MANUAL MODE, the machine will shift to Eco Mode, leaving the program in use at the time active (**Fig.3**).

N.B.: if the "ZONE" button (5) is pressed when working in MANUAL MODE, the machine will shift to PROGRAM ZONE mode; as soon as button (5) is pressed, the screen enabling you to select the working zone will appear on the display (**Fig.6**).

In manual mode the visible buttons are:

A. Adjusting the detergent solution.
B. Vacuum motor performance level.
C. Pressure level exercised on the central brush head.
D. Maximum forward movement speed level.

N.B.: the four keys are always present but can be selected depending on the working mode selected.
Particularly:
- Transfer: the visible button will be that of the maximum speed.
- Scrubbing without drying: the buttons visible will be those of the maximum speed, the detergent solution adjustment and the pressure exercised on the central brush head.
- Drying: the buttons visible will be those of the maximum speed and the vacuum motor performance level.
- Scrubbing with Drying: the buttons visible will be those of the maximum speed, the detergent solution adjustment, the pressure exercised on the central brush head and performance level of the vacuum motor.

N.B.: the disabled buttons and the respective indicators are grey.

N.B.: each time one of the enabled keys is pressed, it increases the relative level in a cyclical manner. Only the detergent solution adjustment permits zero level.

N.B.: to activate or deactivate “MANUAL ZONE” mode, see the user interface configuration manual.

PROGRAM ZONE MODE

The zone programs are programs saved in the machine's memory, the parameter levels:

- Pressure exercised on the central brush head
- Forward speed
- Adjustment of the detergent solution flow
- Vacuum motor efficiency

These are set and have been created on the basis of the type of environment where you want to work.
To select one of the zone programs, do as follows:

1. From any screen, press the “ZONE” button (5) (**Fig.3**).
2. As soon as the button (5) is pressed, the “ZONE SELECTION” menu will be displayed (**Fig.6**). Select one of the programs.

N.B.: the name of the zone program selected is displayed in the text indicator (3) (**Fig.7**).

N.B.: to exit the zone program: from the program zone menu, select the “EXIT” button (8) (**Fig.6**) or enable and then disable the Eco Mode button (2) (**Fig.7**).

N.B.: the light blue ZONE button (9) shows that the selected zone is active (**Fig. 7**). In this case, the Eco Mode button is not active.

N.B.: to activate or deactivate “PROGRAM ZONE” mode, see the user interface configuration manual.

WORKING PROGRAMS

TRANSFER

By selecting the "TRANSFER” program, the command display screen will appear as in the adjacent figure.

N.B.: with this working program both the brush head and the squeegee support are put in the rest position (raised off the floor) and the motors switch off with the respective switching off delays (even if the drive pedal is not pressed). When the drive pedal is pressed only the traction motor is powered.

N.B.: on the DS selector, the symbol of the transport program is green.

N.B.: the grey symbols show working programs that are not active. the green symbols show working programs that are active.

The icons that may be visible on the control panel display are:

1. HFM symbol, if visible it shows that the system is operating.
2. HDC symbol, if visible it shows that the system is operating.
3. Side brush head symbol, if visible it shows that the side brush head is in the working position.
4. Working lights symbol, if visible it shows that the working lights are on.

N.B.: If you need to activate the dipped headlights during transfer, see the section “WORKING HEADLIGHTS” on page 28.

5. General alarm symbol.

ATTENTION: if visible, stop the machine. To continue working, see “ALARM SCREEN” on page 29.

6. If the recovery tank float symbol is visible, this signals that the recovery tank is full and needs to be emptied (see “EMPTYING THE RECOVERY TANK” on page 35).
7. Solution tank float symbol, if visible this signals that the solution tank is empty and needs to be refilled. See paragraph “DETERGENT SOLUTION” on page 17.
8. Eco Mode activation - deactivation button.

N.B.: if the Eco Mode button is pressed in transfer mode, the "scrubbing with drying" program is activated in economic mode.

9. Menu button.
10. Rear video camera activation - deactivation button. See paragraph “REAR VIDEO CAMERA” on page 31.

N.B.: Pressing the rear camera button (if present) will activate the camera positioned at the rear of the machine.

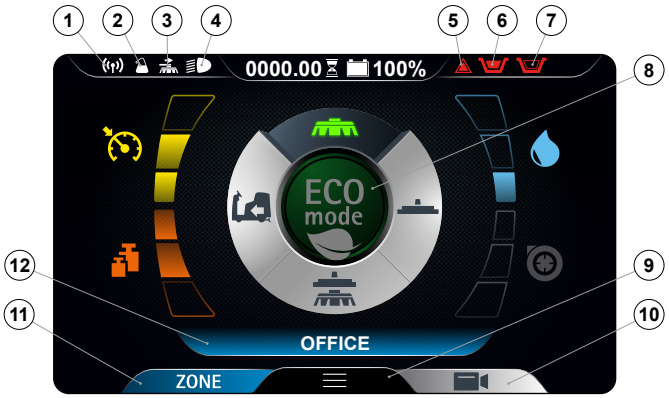
11. Program Zone mode activation button.

N.B.: if you press the button (11) in transfer mode, the "PROGRAM ZONE" screen is displayed, which enables you to recall programs that have been saved in the machine memory; see paragraph “PROGRAM ZONE MODE” on page 22.

12. Text indicator.

N.B.: the text indicator shows which zone program has been selected, or whether the machine is in transport mode if the word “DRIVE” is visible.

SCRUBBING WITHOUT DRYING



By selecting the "SCRUBBING WITHOUT DRYING” program, the command display screen will appear as in the adjacent figure.

N.B.: with this working program pressure on the drive pedal only brings the brush heads to the work position (in contact with the floor), while the squeegee remains in the rest position (raised from the floor). The brush head solenoid valve and the water system pump are powered up (only if the detergent solution is other than zero). When the drive pedal is pressed the brush heads, the solenoid valve, the electric pump and the traction motor are powered up.

N.B.: on the DS selector, the symbol of the "scrubbing without drying" program is green.

N.B.: the grey symbols show working programs that are not active. the green symbols show working programs that are active.

N.B.: when the drive pedal is released all the brush head motors stop with the respective delays. After the “Reset Delay”time all the brush heads are taken to the rest position (raised off the floor). by pressing the forward movement pedal it will start working with the same program and with the same parameters that were set before it stopped.

N.B.: if you reverse with this program active the brush head will remain in contact with the floor, the motor will continue working but the solenoid valve will not deliver the detergent solution to the brushes.

The icons that may be visible on the control panel display are:

1. HFM symbol, if visible it shows that the system is operating.
2. HDC symbol, if visible it shows that the system is operating.
3. Side brush head symbol, if visible it shows that the side brush head is in the working position.
4. Working lights symbol, if visible it shows that the working lights are on.

N.B.: If you need to activate the dipped headlights during transfer, see the section “WORKING HEADLIGHTS” on page 28.

5. General alarm symbol.

ATTENTION: if visible, stop the machine. To continue working, see “ALARM SCREEN” on page 29.

6. If the recovery tank float symbol is visible, this signals that the recovery tank is full and needs to be emptied (see “EMPTYING THE RECOVERY TANK” on page 35).
7. Solution tank float symbol, if visible this signals that the solution tank is empty and needs to be refilled. See paragraph “DETERGENT SOLUTION” on page 17.
8. Eco Mode activation - deactivation button.

N.B.: if the Eco Mode button is pressed in transfer mode, the "scrubbing with drying" program is activated in economic mode.

9. Menu button.
10. Rear video camera activation - deactivation button. See paragraph “REAR VIDEO CAMERA” on page 31.

N.B.: Pressing the rear camera button (if present) will activate the camera positioned at the rear of the machine.

11. Program Zone mode activation button.

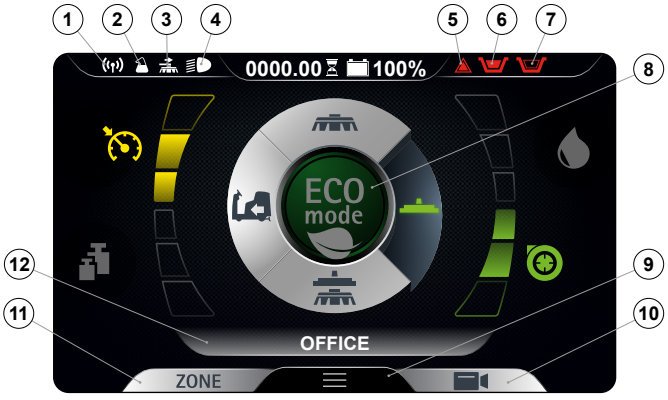
N.B.: if you press the button (11) in transfer mode, the "PROGRAM ZONE" screen is displayed, which enables you to recall programs that have been saved in the machine memory; see paragraph “PROGRAM ZONE MODE” on page 22.

12. Text indicator.

N.B.: the text indicator shows which zone program has been selected, or whether the machine is in transport mode if the word “DRIVE” is visible.

ATTENTION: never switch off the machine with the squeegee and/or brush head in contact with the floor

DRYING



By selecting the "DRYING” program, the command display screen will appear as in the adjacent figure.

N.B.: with this working program pressure on the drive pedal only brings the squeegee to the work position (in contact with the floor), while the brush head remains in the rest position (raised from the floor). When the drive pedal is pressed both the suction motor and the traction motor are powered.

N.B.: on the DS selector, the symbol of the drying program is green.

N.B.: the grey symbols show working programs that are not active. the green symbols show working programs that are active.

N.B.: when the drive pedal is released the suction motor will stop support is taken to the rest position (raised off the floor). by program and with the same parameters that were set before it

with the respective delay. After the “Reset Delay” time all the squeegee pressing the forward movement pedal it will start working with the same stopped.

N.B.: if you reverse with this program active, the squeegee support is put in the rest position (raised off the floor) and the suction motor is switched off with the relative delay.

The icons that may be visible on the control panel display are:

1. HFM symbol, if visible it shows that the system is operating.
2. HDC symbol, if visible it shows that the system is operating.
3. Side brush head symbol, if visible it shows that the side brush head is in the working position.
4. Working lights symbol, if visible it shows that the working lights are on.

N.B.: If you need to activate the dipped headlights during transfer, see the section “WORKING HEADLIGHTS” on page 28.

5. General alarm symbol.

ATTENTION: if visible, stop the machine. To continue working, see “ALARM SCREEN” on page 29.

6. If the recovery tank float symbol is visible, this signals that the recovery tank is full and needs to be emptied (see “EMPTYING THE RECOVERY TANK” on page 35).
7. Solution tank float symbol, if visible this signals that the solution tank is empty and needs to be refilled. See paragraph “DETERGENT SOLUTION” on page 17.
8. Eco Mode activation - deactivation button.

N.B.: if the Eco Mode button is pressed in transfer mode, the "scrubbing with drying" program is activated in economic mode.

9. Menu button.
10. Rear camera button.

N.B.: pressing the rear video camera button (if present) will activate the camera positioned at the rear of the machine, see paragraph “REAR VIDEO CAMERA” on page 31.

11. Zone button

N.B.: if you press the button (11) in transfer mode, the "PROGRAM ZONE" screen is displayed, which enables you to recall programs that have been saved in the machine memory; see paragraph “PROGRAM ZONE MODE” on page 22.

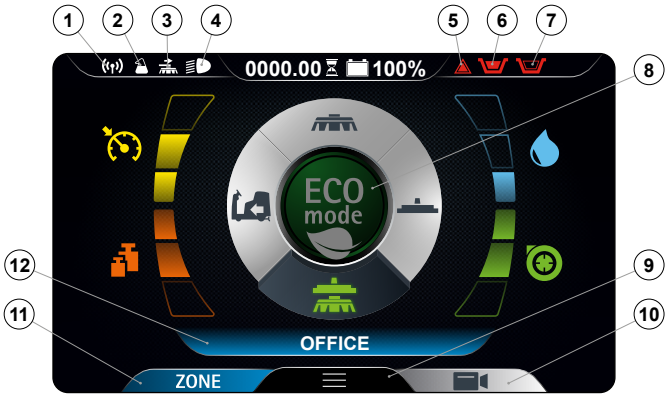
12. Text indicator.

N.B.: the text indicator shows which zone program has been selected, or whether the machine is in transport mode if the word “DRIVE” is visible.

ATTENTION: The drying without scrubbing operation should only be carried out if the device was used beforehand to carry out a scrubbing without drying operation.

ATTENTION: never switch off the machine with the squeegee in contact with the floor

SCRUBBING WITH DRYING



By selecting the "SCRUBBING WITH DRYING” program, the command display screen will appear as in the adjacent figure.

N.B.: with this working program pressure on the drive pedal brings the brush heads and the squeegee to the work position (in contact with the floor). When the drive pedal is pressed, all the motors are powered. The brush head solenoid valve and the water system pump are powered up (only if the detergent solution is other than zero).

N.B.: on the DS selector, the symbol of the drying program is green.

N.B.: the grey symbols show working programs that are not active. the green symbols show working programs that are active.

N.B.: when the drive pedal is released all the brush head motors and the suction motor stop with the respective delays. After the “Reset Delay”time all the brush heads and the squeegee body are taken to the rest position (raised off the floor). by pressing the forward movement pedal it will start working with the same program and with the same parameters that were set before it stopped.

N.B.: if you reverse with this program active the brush head will remain in contact with the floor, the motor will continue working but the solenoid valve will not deliver the detergent solution to the brushes. The squeegee support is put in the rest position (raised off the floor) and the suction motor is switched off with the relative delay.

The icons that may be visible on the control panel display are:

1. HFM symbol, if visible it shows that the system is operating.
2. HDC symbol, if visible it shows that the system is operating.
3. Side brush head symbol, if visible it shows that the side brush head is in the working position.
4. Working lights symbol, if visible it shows that the working lights are on.

N.B.: If you need to activate the dipped headlights during transfer, see the section “WORKING HEADLIGHTS” on page 28.

5. General alarm symbol.

ATTENTION: if visible, stop the machine. To continue working, see “ALARM SCREEN” on page 29.

6. If the recovery tank float symbol is visible, this signals that the recovery tank is full and needs to be emptied (see “EMPTYING THE RECOVERY TANK” on page 35).
7. Solution tank float symbol, if visible this signals that the solution tank is empty and needs to be refilled. See paragraph “DETERGENT SOLUTION” on page 17.
8. Eco Mode activation - deactivation button.

N.B.: if the Eco Mode button is pressed in transfer mode, the "scrubbing with drying" program is activated in economic mode.

9. Menu button.
10. Rear video camera activation - deactivation button. See paragraph “REAR VIDEO CAMERA” on page 31.

N.B.: Pressing the rear camera button (if present) will activate the camera positioned at the rear of the machine.

11. Program Zone mode activation button.

N.B.: if you press the button (11) in transfer mode, the "PROGRAM ZONE" screen is displayed, which enables you to recall programs that have been saved in the machine memory; see paragraph “PROGRAM ZONE MODE” on page 22.

12. Text indicator.

N.B.: the text indicator shows which zone program has been selected, or whether the machine is in transport mode if the word “DRIVE” is visible.

ATTENTION: never switch off the machine with the squeegee and/or brush head in contact with the floor

ADDITIONAL FUNCTIONS

DS SELECTOR (DRIVE SELECT)

Using the DS selector it is possible to select one of the following working programs:

A. Transfer: movement of the machine without working.
B. Scrubbing only: using only the brushes in the brush head.
C. Drying: using the squeegee only.
D. Scrubbing with Drying: using both the brushes and the squeegee.

Pressing one of the symbols in the selector will shift from the working screen (**Fig.1**) to the “DRIVE SELECT” screen (**Fig.2**). On this screen it is possible to:

1. Confirm the selected program.

N.B.: to confirm the program press the icon just selected once again.

N.B.: once the selection is confirmed you return to the working screen (**Fig.1**).

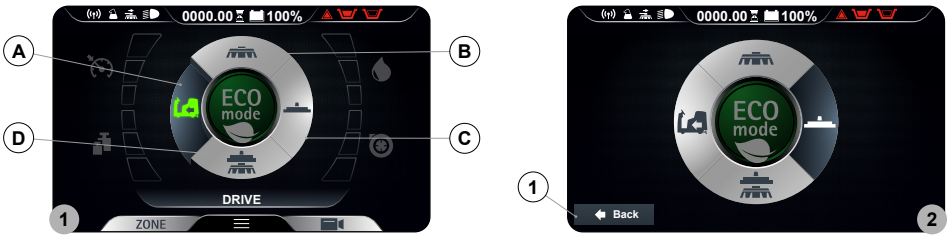
2. Cancel the selection and return to the working screen

N.B.: to cancel the selection press the “back” button (1) (**Fig.2**) and you return to the working screen without changing the program being used.

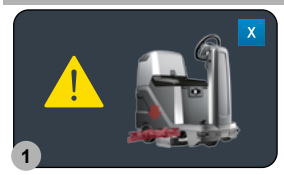
N.B.: to cancel the selection wait 5 seconds without selecting anything and you will return to the working screen without changing the program being used.

3. Select a mode other than the one highlighted.

ATTENTION: if you want to pass from a work program with the washing mode (only washing or washing with drying) to the transfer program always remember to select the vacuum program for the time needed to collect the detergent solution on the ground.

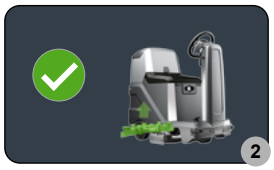


SMART DRYING MODE



When moving from the scrubbing with drying program to the transfer program (see “DS SELECTOR (DRIVE SELECT)” on page 26), the drying function is delayed by a “Reset Delay” time.

N.B.: While the function is active, the image in **Fig.1** will be displayed on the control panel.

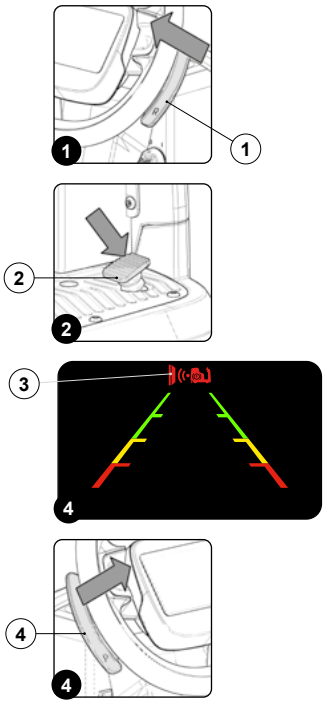


At the end of the "Reset Delay" time, the squeegee body is moved into the rest position (raised off the floor) and the suction motor is switched off with its "Reset Delay" time.

N.B.: it is possible to cancel this function in advance by pressing the “X” symbol as seen in **Fig.1**.

N.B.: at the end of the smart drying function, the image in **Fig.2** will be displayed on the control panel.

REVERSE FUNCTION



This machine is equipped with electronic traction control. To reverse, proceed as follows:

1. Engage the “REVERSE GEAR ACTIVATION/DEACTIVATION” lever (1) underneath the steering wheel (**Fig. 1**).
2. Press the drive pedal (2) (**Fig.2**); in this manner the machine will begin to move in reverse.

CAUTION: the reverse speed is lower than the forward speed to comply with current health and safety standards.

N.B.: In order to disengage the reverse gear, disengage the lever (1) underneath the steering wheel (**Fig.1**).

N.B.: Once the lever has been engaged (1), the acoustic signalling device will be activated in order to signal that the machine's reverse gear has been engaged.

N.B.: If the reverse gear is engaged with the squeegee in its working position, once the drive pedal is pressed, the machine will begin to move in reverse and the squeegee body will be raised into its resting position.

N.B.: If the reverse gear is engaged with the brush head body in its working position, once the drive pedal is pressed, the machine will begin to move in reverse and the brush head will remain in its working position, but the solenoid valve will stop dispensing detergent solution to the brushes.

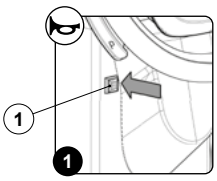
N.B.: if you are reversing with the video camera accessory (optional), the image provided by the connected camera will be displayed across the full screen (see paragraph “REAR VIDEO CAMERA” on page 31) with the delimitation cones superimposed on it (**Fig.4**).

N.B.: if the "Brake" function in the "Anticollision" parameter is active, by moving the lever (1), the function will start to slow the machine down automatically once a certain distance (set in the parameters) is reached. If the "Brake" function is active, the red symbol (3) will be visible in the control display. (**Fig.3**).

N.B.: if the "Brake" function in the "Anticollision" parameter is active, moving the "EXTRA-PRESSURE ACTIVATION/DEACTIVATION" lever (4) under the steering wheel (**Fig.4**) for more than three seconds will temporarily deactivate the "Brake" function; however, the function will be active and when approaching an obstacle, the machine will emit a sound.

N.B.: if the symbol (3) is red, this means that the "Brake" function is active; if the symbol (3) is grey, this means that the "Brake" function is not active.

BUZZER



The machine is equipped with a buzzer. if you need to sound a warning, just press the button (1) on the steering column (**Fig.1**).

EXTRA BRUSH HEAD PRESSURE

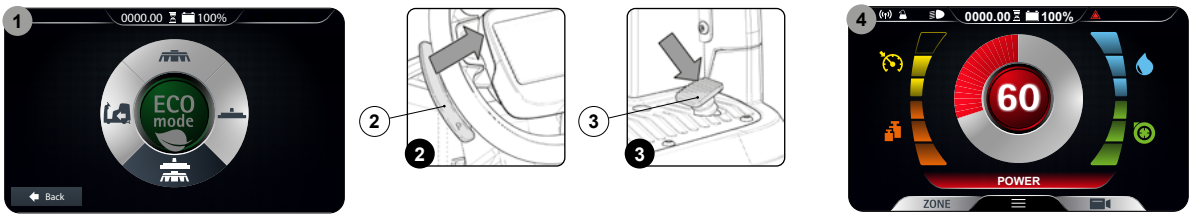
This machine is capable of increasing the pressure exerted upon the brushes during the work cycle. This can be done in the following manner:

1. Check that the brush head body is in contact with the floor, if not select in the DS selector the programs “SCRUBBING WITH DRYING” OR “SCRUBBING WITHOUT DRYING” (**Fig. 1**).
2. Shift the “EXTRA-PRESSURE ACTIVATION/DEACTIVATION” lever (1) underneath the steering wheel (**Fig.2**).
3. Press the drive pedal (2) (**Fig.3**) to initiate the machine's working cycle.

N.B.: as soon as the lever (1) is shifted the control display will show the “POWER” screen (**Fig.4**), in the middle of the screen there is a graphic symbol (3) and a numeric symbol (4), these represent a countdown.

N.B.: when the extra-pressure function is activated, the countdown starts. During this time, a pressure stronger than the standard pressure is exerted on the brush head body.

N.B.: at the end of the countdown you return to the working screen that was previously used and the pressure on the brush head goes back to standard.



WORKING HEADLIGHTS

The machine is equipped with front and rear working lights. To start them do as follows.

1. With the machine on, press the menu button (1) on the working screen (**Fig. 1**).
2. Press the working lights activation - deactivation button (2) (**Fig. 2**).

N.B.: if the symbol (2) is grey the working lights are not active, if the symbol (2) is green the working lights are active.

N.B.: to quit the menu screen, wait a short time without pressing anything, or else press on any point of the display (except one of the displayed buttons).

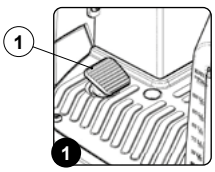
N.B.: the sidelights come on when the machine is started.

N.B.: if the side lights are activated the relative symbol (3) is displayed.

N.B.: if you want to switch off the lights press the button (2).

N.B.: to return to the working screen press on any point of the screen, except the edges of the display or else wait three seconds without touching anything.

BRAKING CONTROL



The machine has an encoder to assist with braking. If the machine is moving and the accelerator pedal is released, the machine brakes with a gentle deceleration ramp, until it stops the encoder. Only when the encoder has stopped is the electric brake engaged. If the machine is moving and the brake pedal (1) is pressed (**Fig.1**), the machine will brake. Only when the encoder has stopped is the electric brake engaged.

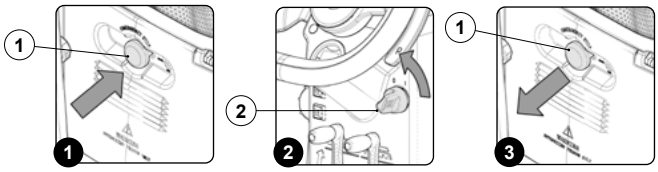
EMERGENCY BUTTON

If any problems are encountered during the work operations, press the emergency button (1) on the electrical system's cover carter (**Fig.1**).

CAUTION: This command interrupts the electrical circuit between the batteries and the machine system.

N.B.: After having stopped and resolved the problem, the work operations can be resumed by doing the following:

1. Bring the main switch to its "0" position by turning the key (2) a quarter turn anti-clockwise (**Fig.2**).
2. Disengage the mushroom-head emergency button (1) (**Fig. 3**).
3. Set the main switch to "I" by turning the key (2) a quarter turn clockwise.



ALARM SCREEN

When an error occurs the symbol (1) is displayed in the information field (**Fig. 1**), it remains visible until the error is resolved. The “ERROR” window will also be displayed in superimposition (**Fig. 2**), in it are described the number of the alarm, the group it belongs to and a brief description. When an error occurs, do as follows:

1. Stop the machine and press the button (2) (**Fig. 2**).
2. If the error persists, switch off the machine, wait for at least ten seconds and switch on the machine.

N.B.: to close the error screen press the button (3) (**Fig.2**).

3. If the error persists contact the nearest service centre.

N.B.: the symbol (1) (**Fig.1**) remains visible until the error is resolved.

The alarms can be divided into the following groups:

- Lockout alarms: these can only be reset by switching off the machine; they may entail the immediate stopping of the entire machine or a part thereof.
- Manual reset alarms: these can be reset manually via the user interface; they may entail the immediate stopping of the entire machine or a part thereof.
- Automatic reset alarms: these are reset automatically once the error has been resolved; they may entail the immediate stopping of the entire machine or part thereof.

ALARM NUMBER	DESCRIPTION	LOCK	MANUAL	AUTOMATIC
AL_1: General	Memory error	X		
AL_2: General	Key fault	X		
AL_3: General	Undervoltage	X		
AL_4: General	Overvoltage	X		
AL_5: General	Batt. connection	X		
AL_6: General	Dashboard communication			X
AL_7: General	HFM Communication			X
AL_8: General	Internal communication 1	X		
AL_9: General	Internal communication 2	X		
AL_10: General	Enter tag	X		
AL_11: General	Invalid tag	X		
AL_12: General	Update in progress…			X
AL_13: General	Switch-off	X		
AL_14: General	Recovery tank full			X
AL_15: General	Brake fluid Reserve		X	

ALARM NUMBER	DESCRIPTION	LOCK	MANUAL	AUTOMATIC
AL_41: Function	Overtemperature	X		
AL_42: Function	Power board damaged	X		
AL_43: Function	Main fuse faulty	X		
AL_44: Function	Main contactor faulty	X		
AL_45: Function	Main contactor faulty - CC	X		
AL_46: Function	Overcurrent - brush outputs 1-2-3	X		
AL_47: Function	Overcurrent - vacuum cleaner outputs 1-2	X		
AL_48: Function	Overcurrent - water pump outputs	X		
AL_49: Function	Amperometric - brush output 1		X	
AL_50: Function	Amperometric - brush output 2		X	
AL_51: Function	Amperometric - brush output 3		X	
AL_52: Function	Amperometric - vacuum cleaner output 1		X	
AL_53: Function	Amperometric - vacuum cleaner output 2		X	
AL_60: Function	Time-out Actuator 1	X		
AL_61: Function	Amperometric Actuator 1		X	

ALARM NUMBER	DESCRIPTION	LOCK	MANUAL	AUTOMATIC
AL_62: Function	Overcurrent Actuator 1	X		
AL_63: Function	Incorrect limit switches - actuator 1	X		
AL_64: Function	Time-out Actuator 2	X		
AL_65: Function	Amperometric Actuator 2		X	
AL_66: Function	Overcurrent Actuator 2	X		
AL_67: Function	Incorrect limit switches - actuator 2	X		
AL_68: Function	Time-out Actuator 3	X		
AL_69: Function	Amperometric Actuator 3		X	
AL_70: Traction	Overcurrent Actuator 3	X		
AL_71: Traction	Incorrect limit switches - actuator 3	X		
AL_80: Traction	Overtemperature	X		

ALARM NUMBER	DESCRIPTION	LOCK	MANUAL	AUTOMATIC
AL_81: Traction	Power board damaged	X		
AL_82: Traction	Main fuse faulty	X		
AL_83: Traction	Main contactor faulty	X		
AL_84: Traction	Main contactor faulty - CC	X		
AL_85: Traction	Overcurrent - traction output	X		
AL_86: Traction	Amperometric - traction output		X	
AL_87: Traction	Motor reading	X		
AL_88: Traction	Electric brake fault			X
AL_89: Traction	Pedal fault	X		
AL_90: Traction	Pedal pressed			X
AL_91: Traction	Encoder fault			X

TUTORIAL

The machine's internal memory contains tutorials that explain:

- The initial commissioning of the machine (document in IT-EN-ES-FR-DE).
- The routine maintenance to be carried out (document in IT-EN-ES-FR-DE).
- The machine's use and maintenance manual (document in IT-EN-ES-FR-DE).

To start them do as follows.

1. With the machine on, press the menu button (1) on the working screen (**Fig. 1**).
2. Press the TUTORIAL button (2) (**Fig. 2**).

N.B.: to return to the working screen press on any point of the screen, except the edges of the display or else wait three seconds without touching anything.

3. On the tutorial screen (**Fig. 3**) select the topics you want to study:
   - Using the machine.
   - Daily maintenance.
   - Extraordinary maintenance.

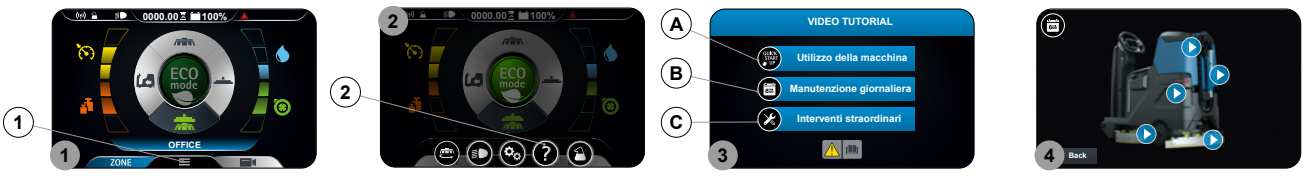
N.B.: select the “USING THE MACHINE” key (A) to view the video explaining the stages for preparing the machine for work (**Fig.3**).

N.B.: select the “DAILY MAINTENANCE” KEY (B) to view the video explaining the maintenance to be carried out every day (**Fig.3**). When this button is selected the screen regarding the selection of the videos to view will be displayed (**Fig.4**), you can view the following video tutorials:

- Draining and cleaning the recovery tank.
- Cleaning the vacuum tube and the squeegee body.
- Cleaning the vacuum motor filter.
- Draining and cleaning the solution tank and the water system filter.

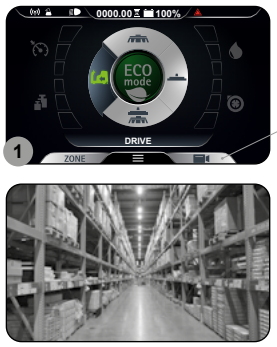
N.B.: select the “EXTRAORDINARY MAINTENANCE” key (C) to see the video explaining the maintenance to be carried out daily (**Fig.3**). When this button is selected the screen regarding the selection of the videos to view will be displayed (**Fig.4**), you can view the following video tutorials:

- Replacing the squeegee rubber blades.
- Replacing the brush head brushes.
- Adjusting the squeegee rubber blades.



OPTIONAL FUNCTIONS

REAR VIDEO CAMERA

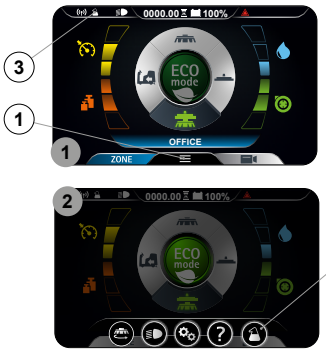


Upon request, the machine can be fitted with a rear video camera, which allows you to view the condition of the floor where you have just passed over, and it also helps when reversing, allowing you to identify any obstacles.
To activate the rear video camera, proceed as follows:

1. On any screen, press the “VIDEO CAMERA” button (1) (**Fig. 1**).
2. As soon as the button (1) is pressed, the video camera image is shown full screen.

N.B.: to exit the video camera screen, press on any point of the screen, except the edges of the display.

AUTOMATIC DETERGENT DOSING SYSTEM (HDC versions)



Upon request, the machine can be fitted with a system that measures out the detergent separately from the water in the solution tank. To activate it, proceed as follows:

1. With the machine on, press the menu button (1) on the working screen (**Fig. 1**).
2. Press the HDC system activation/deactivation button (2) (**Fig. 2**).

N.B.: if the symbol (2) is grey the HDC system is not active, if the symbol (2) is green the HDC system is active.

N.B.: to quit the menu screen, wait a short time without pressing anything, or else press on any point of the display (except one of the displayed buttons).

N.B.: the HDC system is activated when the electric pump in the machine water system starts up.

N.B.: if the HDC system is activated, the relative symbol (3) is displayed in the working screen.

N.B.: if you want to deactivate the HDC system press button (2) again.

ATTENTION: before starting any work, remember to start the HDC system.

N.B.: to return to the working screen press on any point of the screen, except the edges of the display or else wait three seconds without touching anything.

SIDE BRUSH

If the lateral brush needs to be used during the floor scrubbing operations, and therefore with the brush head in its working position, do as follows.

1. With the machine on, press the menu button (1) on the working screen (**Fig. 1**).
2. press the ACTIVATION-DEACTIVATION OF LATERAL BRUSH 1SL (2) (**Fig.2**).

N.B.: when the ACTIVATING-DEACTIVATING THE SIDE BRUSH 1SL (2) key is grey it shows that the brush is not active (**Fig.2**).

N.B.: when the ACTIVATING-DEACTIVATING THE SIDE BRUSH 1SL (2) key is green it shows that the brush is not active (**Fig.2**).

N.B.: when the SIDE BRUSH 1SL mode is active, the top left part of the work screen displays the symbol (3) specifically for this (**Fig.1**).

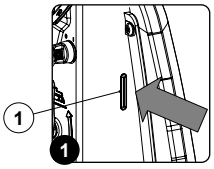
N.B.: the lateral brush head starts to move towards the outside of the machine only when the drive pedal (4) is pressed (**Fig.3**). Only when the lateral brush head is in the working position will the solenoid valve begin to dispense the detergent solution (if the detergent level is other than zero).

N.B.: In order to bring the lateral brush head back to its resting position, press the button (2).

N.B.: when the drive pedal is released all the brush head motors stop with the respective delays. After the “Reset Delay”time all the brush heads are taken to the rest position (raised off the floor). Even if the lateral brush head is in a rest position, the lateral brush function is still active, in fact when the drive pedal (4) is operated all the brush heads are brought to the working position (in contact with the floor).

N.B.: to return to the working screen press on any point of the screen, except the edges of the display or else wait three seconds without touching anything.

TAG INSERTION (HFM versions)



To activate the automatic fleet management data recording function, which is valid for machine versions with the HFM system, after the screen displaying the machine programming characteristics appears, insert the TAG in the slot (1) on the right-hand side of the steering column (**Fig.1**).

N.B.: If the owner of the TAG just inserted is not enabled to use it, the AL_11 alarm will appear on the control display.

OVERFLOW DEVICE

The machine is not equipped with an overflow device, because the volume of the recovery tank is greater than the capacity of the solution tank. In extraordinary cases, there is a mechanical device (float) under the recovery tank lid that, when the recovery tank is full, shuts off the air to the vacuum motor intake to protect it; the sound of the suction motor will then be deeper. Empty the recovery tank (read “EMPTYING THE RECOVERY TANK” on page 35).

RECOVERY TANK SPRAY GUN CLEANING KIT (optional)

On request, the machine can be equipped with the recovery tank spray gun cleaning kit. To use this, proceed as follows:

1. Move the brush head body and the squeegee body into the rest position, and using the DS selector (1) on the command display (**Fig.1**), select the “TRANSFER” program (2) (**Fig. 2**) (see “DS SELECTOR (DRIVE SELECT)” on page 26).
2. Release the tank cleaning spray gun (at the back of the machine) from the retainers.
3. Activate the pump kit optional tank cleaning spray gun by pressing the button (3); this is located to the rear of the steering column (**Fig.3**).

N.B.: As soon as the button (3) is pressed, the LED on it comes on.

N.B.: With the tank cleaning spray gun kit active, the traction and work functions are deactivated.

CAUTION: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

N.B.: Before activating the optional tank cleaning kit, check that the quantity of detergent solution in the solution tank is suitable for the type of work you wish to carry out; check the level via the indicator (4) on the solution tank (**Fig. 4**).

4. Activate the jet of solution by pressing the lever on the tank cleaning spray gun. Make sure the jet is pointing into the tank before pressing the lever.

N.B.: To adjust the jet of solution that comes out of the spray gun, use the knob on the front of the spray gun itself.

N.B.: To adjust the intensity of the jet of solution that comes out of the spray gun, use the ring on the back of the spray gun itself.

N.B.: To block the jet of solution, use the stopper on the lower part of the tank cleaning spray gun control lever.

AT THE END OF THE WORK

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

1. Take the appliance to the dedicated dirty water drainage area.

N.B.: the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

2. Carry out all the procedures listed in the paragraph “RECOMMENDED PERIODIC MAINTENANCE” (in the column “AT THE END OF THE WORK”).
3. Once the maintenance work is finished take the machine to the designated storage place.
4. Secure the machine, see the section entitled “MACHINE SAFETY” on page 13.

ATTENTION: Park the machine in an enclosed place, on a flat surface; near the machine there must be no objects that could either damage it, or be damaged through contact with it.

ROUTINE MAINTENANCE

PERIOD	COMPONENTS	PROCEDURE	REFERENCE
DAILY LONG PERIODS OF NON-USE	RECOVERY TANK	Empty the recovery tank.	“EMPTYING THE RECOVERY TANK” on page 35
		Cleaning the vacuum system filters.	“CLEANING THE RECOVERY TANK FILTERS” on page 35
	SQUEEGEE BODY	Clean the vacuum chamber; the squeegee rubber blades; the vacuum nozzle.	“CLEANING THE SQUEEGEE BODY” on page 35
	SOLUTION TANK	Empty the solution tank.	“EMPTYING THE SOLUTION TANK” on page 35
	BRUSH HEAD BODY	Clean the brushes in the brush head body.	“CLEANING THE BRUSH HEAD BRUSHES (Trident R30SC version)” on page 36
		Clean the abrasive pad in the brush head body.	CLEANING THE ABRASIVE PAD (Trident R28SC version)
		Clean the brush in the side brush head body.	“CLEANING THE SIDE BRUSH (Trident R30SC version)” on page 37
		Cleaning the splashguard rubber blades into he brush head body.	“CLEANING THE BRUSH HEAD BODY SPLASHGUARD RUBBER BLADES (Trident R30SC version)” on page 37
WEEKLY	MACHINE WATER SYSTEM	Clean the filter in the machine's water system.	“CLEANING THE WATER SYSTEM FILTER” on page 37
	SQUEEGEE BODY	Clean the vacuum hose.	“CLEANING THE VACUUM TUBE” on page 37
		Check the condition and wear of the rubber blades on the squeegee body.	“REPLACING THE SQUEEGEE BODY RUBBER BLADES” on page 38
		Check the condition and wear of the lateral squeegee splashguard rubber blades at the rear of the machine.	“REPLACING THE SIDE SQUEEGEE SPLASHGUARD RUBBER BLADES” on page 39
	BRUSH HEAD BODY	Check the condition and wear of the brushes in the brush head body.	“ASSEMBLING THE BRUSH HEAD BRUSHES (Trident R30SC version)” on page 17
		Check the condition and wear of the abrasive pad in the brush head body.	ASSEMBLING THE ABRASIVE PAD (Trident R28SC version)
		Check the condition and wear of the brush in the side brush head body.	“ASSEMBLING THE SIDE BRUSH (Trident R30SC version)” on page 18
		Check the condition and wear of the splashguard rubber blades in the brush head body.	“REPLACING THE BRUSH HEAD SPLASHGUARDS (Trident R30SC version)” on page 38
MONTHLY	SQUEEGEE BODY	Check the correct levelling of the rubber blades present in the squeegee body.	“ADJUSTING THE SQUEEGEE BODY’S RUBBER BLADES” on page 39
	BRUSH HEAD BODY	Check the correct levelling of the splashguard rubber blades present in the brush head body.	“ADJUSTING THE BRUSH HEAD BODY SIDE SPLASHGUARDS (Trident R30SC version)” on page 40

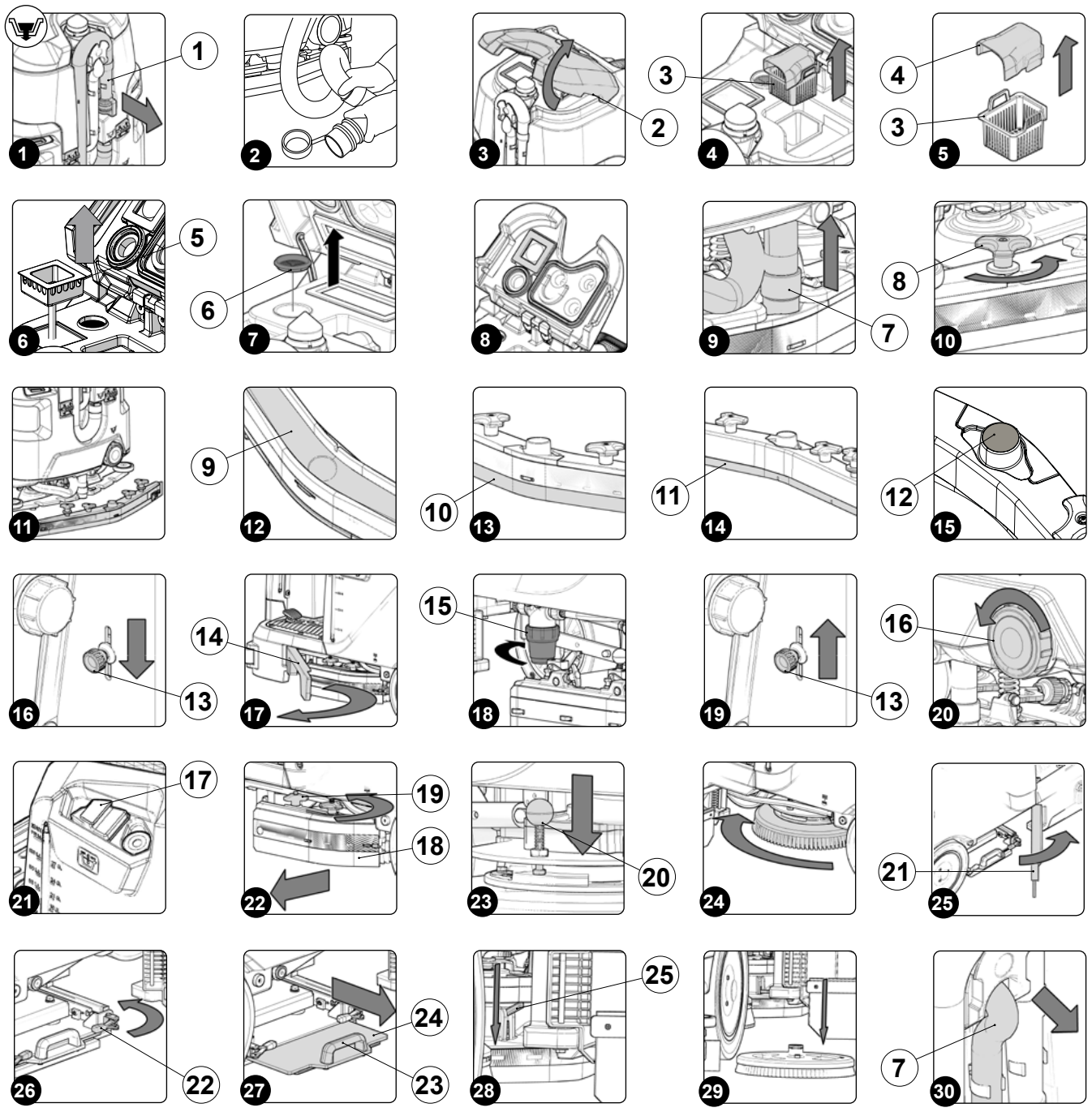
Before carrying out any routine maintenance operations, proceed as follows:

1. Take the machine to the maintenance area.

N.B.: the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

2. Make sure the machine is in a safe condition (see “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.



EMPTYING THE RECOVERY TANK

Proceed as follows to empty the recovery tank:

1. Release the recovery tank drainage tube (1) (at the back of the machine) from the retainers (**Fig.1**).
2. Bend the end of the drainage tube in order to create a choke and prevent the content from coming out (**Fig. 2**), then position the tube on the discharge surface, unscrew the cap, and gradually release the tube.
3. Rinse the inside of the recovery tank with a jet of water. If necessary, use a spatula to remove any sludge that may have accumulated at the bottom of the tank.

WARNING: Take care to also clean the electro-mechanical float inside the tank.

4. Repeat the operations in reverse order to reassemble all the parts.

CLEANING THE RECOVERY TANK FILTERS

In order to clean the filters present inside the recovery tank, do the following:

1. Grip the moulded handles (2) on the recovery tank cover (**Fig.3**).
2. Rotate the recovery tank cover as far as it will go.
3. Remove the dirty water basket/filter (3) from the support (**Fig.4**).
4. Remove the basket cover (4) from the basket/filter (3) (**Fig.5**).
5. Clean the basket/filter and the basket cover under a jet of water.

N.B.: Use a spatula or brush to eliminate any dirt that is particularly difficult to remove.

6. Use a cloth to dry the basket/filter and basket cover, and place them back inside the recovery tank.
7. Remove the anti-wave tray from the support (5) (**Fig.6**).
8. Clean the basin under a jet of water.

N.B.: Use a jet of water to eliminate any remaining dirt, and use a spatula or a brush with soft bristles to eliminate any dirt that is particularly hard to remove.

9. Remove the suction motor duct filter (6) from its support (**Fig.7**).
10. Clean the suction motor duct filter under a jet of water.

N.B.: Use a spatula to eliminate any dirt that is particularly difficult to remove.

11. Dry the suction motor duct filter with a dry cloth and place it back on its support.
12. Clean the lower part of the vacuum cover with a damp cloth, and carefully clean the filter gaskets (**Fig. 8**).
13. Repeat the operations in reverse order to reassemble all the parts.

CLEANING THE SQUEEGEE BODY

The careful cleaning of the whole vacuum unit ensures better drying and cleaning of the floor as well as a longer vacuum motor life. To carry out the cleaning of the squeegee body, proceed as follows:

1. Extract the vacuum hose (7) from the vacuum nozzle on the squeegee body (**Fig.9**).
2. Completely unscrew the knobs (8) in the squeegee body pre-assembly (**Fig.10**).
3. Remove the squeegee body from the slits in the squeegee connector (**Fig.11**).
4. Thoroughly clean the squeegee body vacuum chamber (9) with a jet of water, and then with a damp cloth (**Fig. 12**).

N.B.: Use a spatula to eliminate any particularly stubborn dirt.

5. Thoroughly clean the squeegee body rear rubber blade (10) with a jet of water, and then with a damp cloth (**Fig. 13**).
6. Thoroughly clean the squeegee body front rubber blade (11) with a jet of water, and then with a damp cloth (**Fig. 14**).
7. Use a jet of water and then a damp cloth to thoroughly clean inside the vacuum nozzle (12) (**Fig.15**).

N.B.: Use a spatula to eliminate any particularly stubborn dirt.

8. Repeat the operations in reverse order to reassemble all the parts.

EMPTYING THE SOLUTION TANK

Proceed as follows to empty the solution tank:

1. Close the detergent solution flow, and shift the knob (13) on the left-hand side of the steering column (**Fig.16**) downwards.
2. Move to the left hand side of the machine and open the left lateral carter (14) (**Fig. 17**).
3. Unscrew the detergent solution filter cap (15) (**Fig.18**).

N.B.: For the sweeping versions, the detergent solution filter is located on the right side of the machine.

4. Open the detergent solution flow to the maximum, and shift the knob on the left hand side of the steering column (13) (**Fig.19**) upward.

5. When the solution tank is empty, go to the rear of the machine and unscrew the cap (16) for the solution tank dumping system (**Fig.20**).
6. Go to the left side of the machine and remove the doser cap (17)(**Fig.21**).
7. Clean the inside of the tank with a jet of running water.
8. Once the work has been completed, repeat the operations in reverse order to reassemble all the parts.

In machine versions with the FLR kit, to empty the solution tank, proceed as follows:

1. Close the detergent solution flow, and shift the knob (13) on the left-hand side of the steering column (**Fig.16**) downwards.
2. Move to the left hand side of the machine and open the left lateral carter (14) (**Fig. 17**).
3. Unscrew the detergent solution filter cap (15) (**Fig.18**).

N.B.: For the sweeping versions, the detergent solution filter is located on the right side of the machine.

4. Open the detergent solution flow to the maximum, and shift the knob on the left hand side of the steering column (13) (**Fig.19**) upward.
5. When the solution tank is empty, go to the rear of the machine and unscrew the cap (16) for the solution tank dumping system (**Fig.20**).
6. Grip the seat (18) and turn the seat's support plate to its maintenance position (**Fig.22**).
7. In order to prevent the seat's support plate from turning, insert the pin (19) into the slit (20) in the seat's support plate (**Fig.23**).
8. Unscrew the inspection cap (21) (**Fig.24**) located beneath the seat's support plate.
9. Rinse the inside of the solution tank with a jet of water.
10. Once the work has been completed, repeat the operations in reverse order to reassemble all the parts.

CLEANING THE BRUSH HEAD BRUSHES (Trident R30SC version)

Careful cleaning of the brush guarantees better cleaning of the floor as well as a longer brush head gearmotor lifespan. To clean the brush, proceed as follows:

1. Open the machine's left lateral carter (14) (**Fig.17**).
2. Remove the side splashguard support (18) by loosening the knobs (19) on it (**Fig.22**).
3. Press the brush locking pin (20) (**Fig.23**).
4. Keeping the pin (20) pressed, turn the brush clockwise until it is locked (**Fig.24**).
5. Turn until the button is pushed towards the outside of the coupling spring and is locked into place.
6. Clean the brush under a stream of running water to remove any impurities from its bristles.

N.B.: Check the wear of the bristles and replace the brushes if they are excessively worn (the bristle protrusion must not be less than 10mm; this distance is indicated on the brush by the yellow band). To replace the brush, see “ASSEMBLING THE BRUSH HEAD BRUSHES (Trident R30SC version)” on page 17.

7. After checking to make sure that the brush is clean, reassemble it and move on to the one on the right hand side.

N.B.: you are advised to invert the right and left-hand brushes every day.

N.B.: Image 24 indicates the direction of rotation for coupling the left brush; the right brush must be turned in the opposite direction.

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

8. Once the work is complete, refit the brushes (see “ASSEMBLING THE BRUSH HEAD BRUSHES (Trident R30SC version)” on page 17.

CLEANING THE ABRASIVE PAD (Trident R28SC version)

Ensuring that the abrasive pad is clean will guarantee better floor cleaning results, and will extend the service life of the brush head motor. In order to clean the abrasive pad, do the following:

1. Move to the right-hand side of the machine and open the right-hand carter (21) (**Fig.25**).
2. With the brush head raised, release the pad support retainers (22) - (**Fig.26**) shows the rotation direction for releasing the front retainer.
3. Use the handle (23) to remove the pad support (24) (**Fig.27**).
4. Remove the pad from the support and clean it under a jet of running water to remove any impurities present.
5. Once the work is complete, see “ASSEMBLING THE ABRASIVE PAD (Trident R28SC version)” on page 18.

CLEANING THE BRUSH HEAD BODY SPLASHGUARD RUBBER BLADES (Trident R30SC version)

Careful cleaning of the splashguard rubber blades present in the brush head body guarantees better cleaning of the floor; in order to clean the splashguard rubber blades, proceed as follow:

1. Open the machine's left lateral carter (14) (**Fig.17**).
2. Remove the side splashguard support (18) by loosening the knobs (19) on it (**Fig.22**).
3. Clean the splashguard rubber blades with a damp cloth .

N.B.: Check the condition of the brush head body splashguard rubber blades. If worn, replace these (see “REPLACING THE BRUSH HEAD SPLASHGUARDS (Trident R30SC version)” on page 38.

4. Once the operation is complete, repeat the operations in reverse order to reassemble all the parts.

CLEANING THE SIDE BRUSH (Trident R30SC version)

Careful cleaning of the brush guarantees better cleaning of the floor as well as a longer brush head gearmotor lifespan. To clean the brush, proceed as follows:

1. Go to the right-hand side of the machine and open the right lateral carter (21) (**Fig.25**).
2. Move the brush release lever downwards (25) (**Fig.28**).
3. Remove the brush from the lateral brush head (**Fig.29**).
4. Clean the brush under a stream of running water to remove any impurities from its bristles.

N.B.: Check the wear of the bristles and replace the brush if they are excessively worn (the bristle protrusion must not be less than 10mm; this distance is indicated on the brush by the yellow band). To replace the brush, see “ASSEMBLING THE SIDE BRUSH (Trident R30SC version)” on page 18.

5. Once the work is complete, refit the brushes (see “ASSEMBLING THE SIDE BRUSH (Trident R30SC version)” on page 18.

CLEANING THE WATER SYSTEM FILTER

Proceed as follows to empty the solution tank:

1. Close the detergent solution flow, and shift the knob (13) on the left-hand side of the steering column (**Fig.16**) downwards.
2. Move to the left hand side of the machine and open the left lateral carter (14) (**Fig. 17**).
3. Unscrew the detergent solution filter cap (15) (**Fig.18**).
4. Remove the detergent solution filter and clean it under a jet of running water to remove any impurities present

N.B.: For the sweeping versions, the detergent solution filter is located on the right side of the machine.

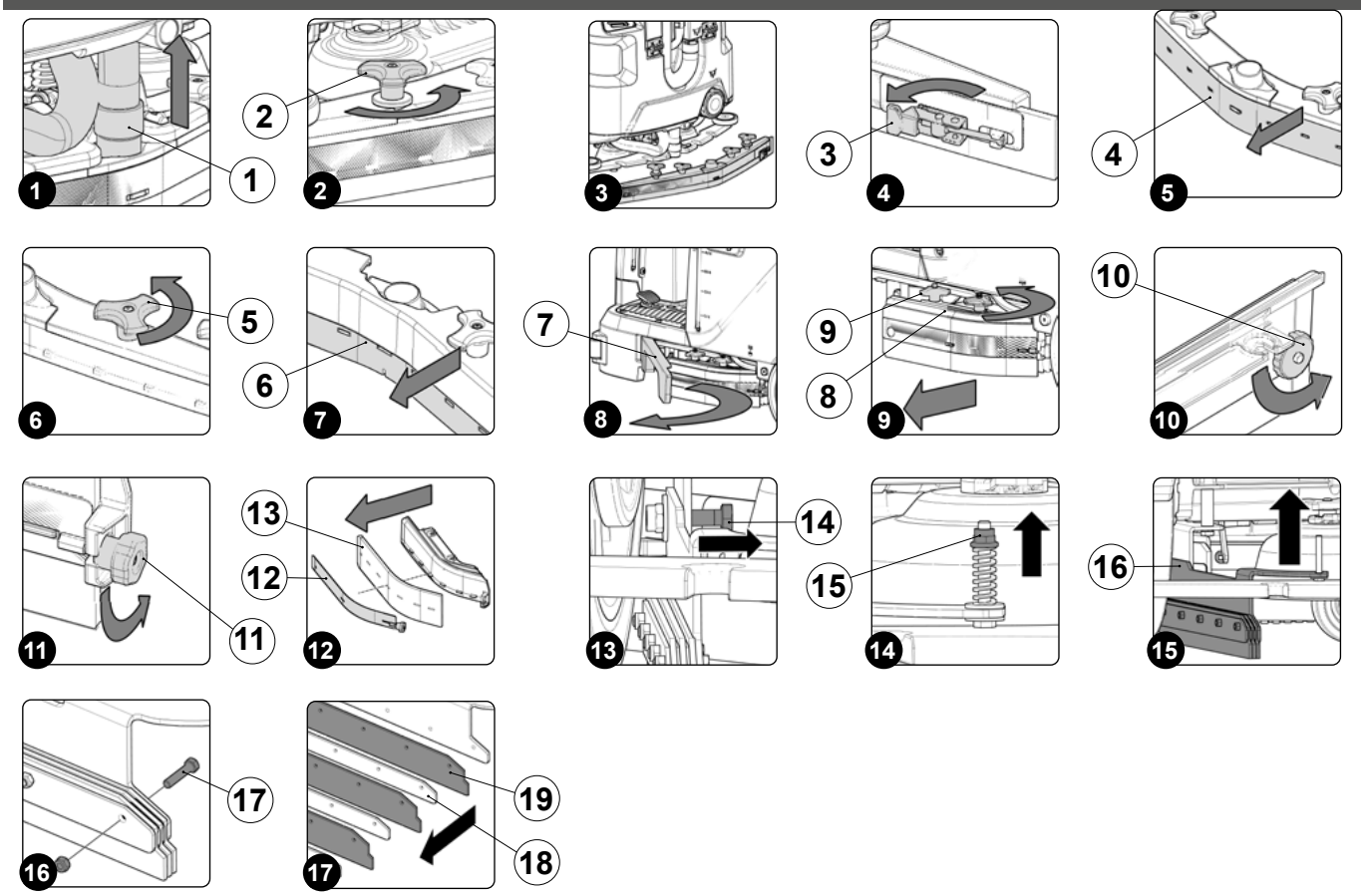
5. Once the operation is complete, repeat the operations in reverse order to reassemble all the parts.

CLEANING THE VACUUM TUBE

Careful cleaning of the vacuum hose guarantees better cleaning of the floor as well as a longer vacuum motor life. Proceed as follows to clean the vacuum hose:

1. Extract the vacuum tube (7) from the vacuum nozzle on the squeegee body (**Fig.9**).
2. Remove the vacuum tube (7) via the hole on the back of the recovery tank (**Fig.30**).
3. The vacuum hose from the retainers present inside the recovery tank.
4. Rinse the inside of the vacuum hose with a jet of running water.
5. Once the operation is complete, repeat the operations in reverse order to reassemble all the parts.

EXTRAORDINARY MAINTENANCE WORK



REPLACING THE SQUEEGEE BODY RUBBER BLADES

Ensuring the integrity of the squeegee body's rubber blades guarantees better floor cleaning and drying results, as well as a longer service life for the vacuum motor. In order to replace the squeegee body's rubber blades, do the following:

1. Extract the vacuum hose (1) from the vacuum nozzle on the squeegee body (**Fig. 1**).
2. Completely unscrew the knobs (2) in the squeegee body's pre-assembly (**Fig. 2**).
3. Remove the squeegee body from the slits in the squeegee connector (**Fig. 3**).
4. Remove the rear rubber blade compression plate, and release the stopper (3) at the rear of the squeegee (**Fig. 4**).
5. Remove the rear rubber blade (4) from the squeegee body and replace it with the new one (**Fig.5**).
6. Completely unscrew the knobs (5) in the squeegee body's pre-assembly (**Fig. 6**).
7. Remove the front rubber blade (6) from the body inside the squeegee and replace it with the new one (**Fig.7**).
8. Repeat the operations in reverse order to reassemble all the parts.

N.B.: Before using the machine, remember to adjust the squeegee body: see the section entitled “ADJUSTING THE SQUEEGEE BODY’S RUBBER BLADES” on page 39.

N.B.: It is recommended to replace both squeegee body blades in order to ensure good results when drying the floor.

REPLACING THE BRUSH HEAD SPLASHGUARDS (Trident R30SC version)

If the splashguard rubber blades of the brush head side casing are damaged they cannot work properly, namely they cannot convey the dirty detergent solution towards the squeegee, therefore the splashguard rubber blades need to be checked. To replace the brush head splashguards, proceed as follows:

1. Open the machine's left lateral carter (7) (**Fig.8**).
2. Remove the side splashguard support (8) by loosening the knobs (9) on it (**Fig.9**).
3. Remove the rear rubber blade compression plate (10), and release the stopper (11) on rubber blade compression plate (**Fig.10**).
4. Remove the splashguards (12) from the left splashguard body and replace it with a new one or else turn it around (**Fig.11**).
5. Repeat the operations in reverse order to reassemble all the parts.
6. Repeat the operations just carried out also for the right side casing as well.

REPLACING THE SIDE SQUEEGEE SPLASHGUARD RUBBER BLADES

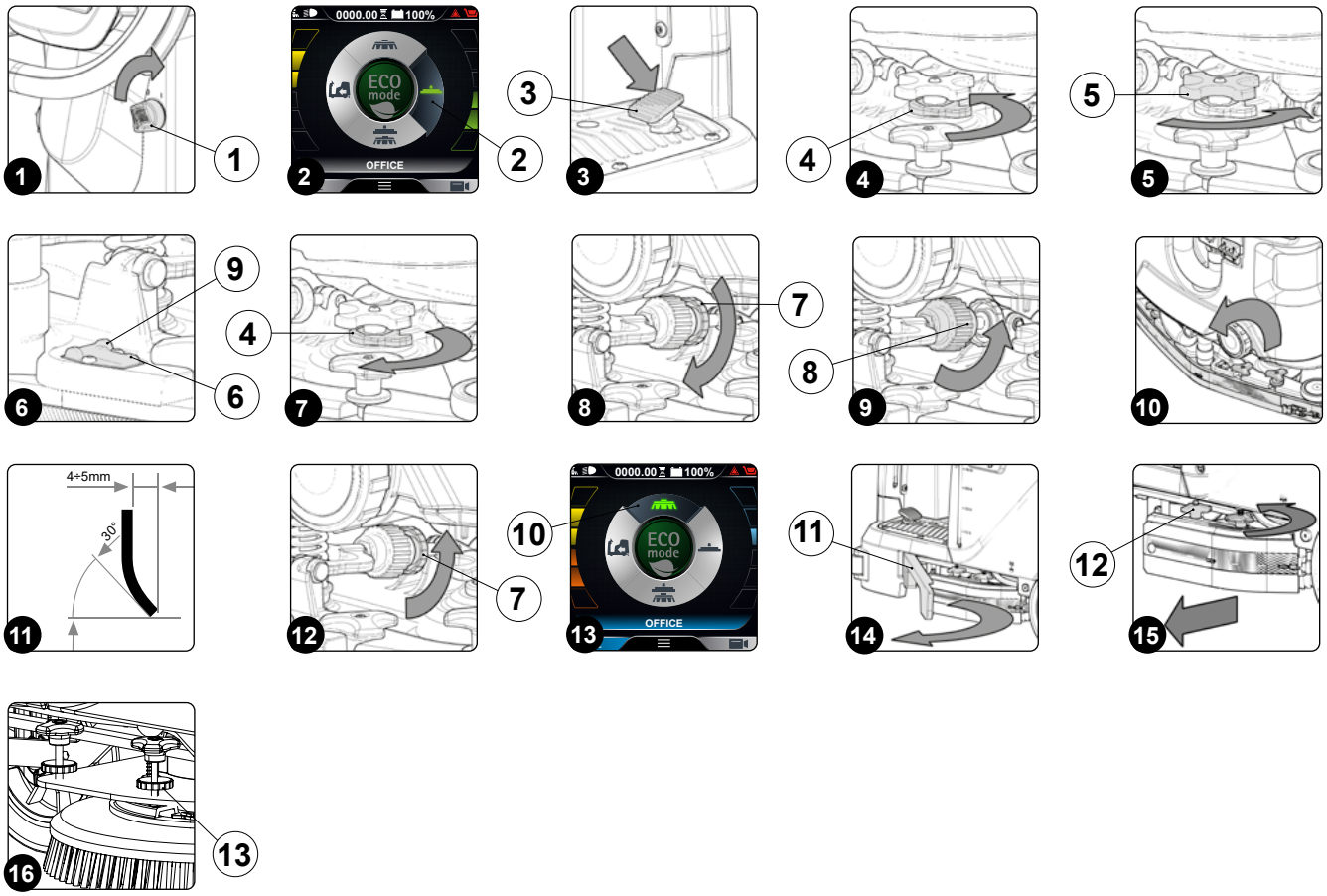
If the splashguard rubber blades of the side squeegee are damaged they cannot work properly, namely they cannot convey the dirty detergent solution towards the squeegee, therefore the rubber blades need to be checked. To replace the brush head splashguards, proceed as follows:

1. Extract the vacuum hose (1) from the vacuum nozzle on the squeegee body (**Fig. 1**).
2. Completely unscrew the knobs (2) in the squeegee body's pre-assembly (**Fig. 2**).
3. Remove the squeegee body from the slits in the squeegee connector (**Fig. 3**).
4. Using the right equipment (not supplied with the machine) remove the screw (14) (**Fig.13**).
5. Using the right equipment (not supplied with the machine) remove the nut (15) (**Fig.14**).
6. Remove the left side squeegee (16) from the machine (**Fig.15**).
7. Using the right equipment (not supplied with the machine) remove the splashguard rubber blade fixing screws (17) (**Fig.16**).
8. Remove the rubber blade compression plates (18) and the splashguard rubber blades (19) and replace them with new ones (**Fig.17**).
9. Repeat the operations in the reverse order and reassemble all the parts, then move on to the right side squeegee.

N.B.: remember to put the blade compression plate (18) between one splashguard rubber blade and the other (**Fig.19**).

N.B.: when adjusting the side squeegee, remember to leave about 10 mm of the threaded part beyond the self-locking flanged nut (15) (**Fig.14**).

ADJUSTMENT INTERVENTIONS



ADJUSTING THE SQUEEGEE BODY'S RUBBER BLADES

The careful adjustment of the squeegee body rubber blades guarantees better cleaning of the floor.
To adjust the squeegee blades, proceed as follows:

1. Sit on the driver’s seat.
2. Insert the key (1) into the main switch on the control panel. Bring the main switch to its "I" position by turning the key (1) a quarter turn clockwise (**Fig.1**).
3. Using the DS selector, choose the “DRYING” work program (2) (**Fig.2**).
4. Press the drive pedal (3) (**Fig. 3**) to begin moving the machine.

N.B.: Once the drive pedal has been pressed, the squeegee body will begin to descend into its working position.

5. As soon as the brush head and the squeegee have reached their working positions, perform the procedure for securing the machine (see the section entitled “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

6. Stand at the back of the machine.

Adjusting the height of the squeegee body:

- Release the stopper lever (4) for the squeegee's height adjustment knob (5) (**Fig. 4**).
- Adjust the height of the rubber blade in relation to the floor by loosening or tightening the knobs (5) (**Fig. 5**).

N.B.: Figure 5 indicates the direction of rotation for decreasing the distance between the squeegee support and the floor. This distance can be increased by turning it in the opposite direction.

N.B.: By decreasing the distance between the squeegee support and the floor, the rubber blades present in the squeegee's body move closer to the floor.

N.B.: the right-hand and left-hand knobs must be rotated the same number of times, so that the squeegee is parallel to the floor when it is working.

N.B.: Check the adjustment is correct by looking at the horizontal bubble gauge (6) on the squeegee body (**Fig.6**).

- Once the adjustment has been completed, engage the stopper lever (4) (**Fig. 7**).

Adjusting the tilt of the squeegee body:

- Loosen the stopper knob (7) for the squeegee's tilt adjustment knob (8) (**Fig. 8**).
- To adjust the inclination of the squeegee body rubber blades with respect to the floor, tighten or loosen the knob (8) (**Fig.9**), until the squeegee body rubber blades are bent towards the outside evenly along the entire length by about 30° with respect to the floor (**Fig.11**).

N.B.: Figure 9 indicates the direction of rotation for tilting the squeegee towards the rear of the machine (**Fig.10**). Turn it in the opposite direction to rotate the squeegee towards the front of the machine.

N.B.: Check the adjustment is correct by looking at the horizontal bubble gauge (9) on the squeegee body (**Fig.6**).

- Once the adjustment has been completed, tighten the stopper knob (7) (**Fig. 12**).

ADJUSTING THE BRUSH HEAD BODY SIDE SPLASHGUARDS (Trident R30SC version)

If the side splashguards of the brush head body are not positioned correctly they cannot do their work properly, namely convey the dirty detergent solution towards the squeegee, therefore the height of the splashguard needs to be adjusted.
This operation can be done with the brush head body in the work position, proceeding as follows:

1. Sit on the driver’s seat.
2. Insert the key (1) into the main switch on the control panel. Bring the main switch to its "I" position by turning the key (1) a quarter turn clockwise (**Fig.1**).
3. Using the DS selector, choose the “SCRUBBING WITHOUT DRYING” work program (10) (**Fig.13**).
4. Press the drive pedal (3) (**Fig. 3**) to begin moving the machine.

N.B.: Once the drive pedal has been pressed, the brush head body will begin to descend into its working position.

5. As soon as the brush head and the squeegee have reached their working positions, perform the procedure for securing the machine (see the section entitled “MACHINE SAFETY” on page 13).

WARNING: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

6. Go to the front left-hand side of the machine.
7. Open the machine's left lateral carter (11) (**Fig.14**).
8. Remove the side splashguard support by loosening the knobs (12) on it (**Fig.15**).
9. Adjust the height of the splashguard with respect to the floor; tighten or loosen the handwheels (13) (**Fig.16**), until the splashguard rubber blade is bent outwards, to the same degree along its entire length, at an angle of around 30° in relation to the floor (**Fig.11**).

N.B.: Both the front and rear of the splashguard need to be at the same height off the floor.

10. Once the adjustment is complete, repeat the operations described above in reverse order to reassemble all the parts.
11. Close the left-hand lateral carter and repeat the operations just carried out on the right-hand side splashguard.

DISPOSAL

Dispose of the machine in accordance with the waste disposal regulations in force in the country in which the machine is being used.

CHOOSING AND USING BRUSHES

POLYPROPYLENE BRUSH (PPL)
Used on all types of floors. Good resistance to wear and tear, and hot water (no greater than 50°C.). PPL is non-hygroscopic and therefore retains its characteristics even when working in wet conditions.

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

BRISTLE THICKNESS
Thicker bristles are more rigid and are therefore used on smooth floors or floors with small joints.
On uneven floors or those with deep joints, it is advisable to use softer bristles which can enter the gaps more easily.
Remember that when the bristles are worn and therefore too short, they will become rigid and are no longer able to penetrate and clean deep down. In this case, like with over-large bristles, the brush tends to jump.

PAD HOLDER
The pad holder is recommended for cleaning shiny surfaces.
There are two types of pad holder:

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

RED PAD
Suitable for frequent use on relatively clean floors. Even cleans without water, and polishes by removing marks.

GREEN PAD
Suitable for removing surface layers of wax and for preparing the flooring for subsequent treatments. For wet use.

BLACK PAD
Suitable for wet scraping heavy layers of wax. Removes the old finish, and eliminates burrs in concrete.

WHITE PAD
Suitable for finishing treated floors and for shiny polishing. Use dry or slightly damp.

BROWN PAD
Suitable for wet or dry scraping with wax removers. Prepare the floor for new waxing. Resistant to acids.

CENTRAL BRUSH HEAD BRUSH TYPE (Trident R30SC version)

CODE	QTY	Ø EXTERNAL	TYPE OF BRISTLE	NOTES
414272	2	390	PPL 0,3	BRUSH $Ø_F$=390mm $Ø_E$=400mm BLUE COLOUR
414270	2	390	PPL 0,6	BRUSH $Ø_F$=390mm $Ø_E$=400mm WHITE COLOUR
414273	2	390	PPL 0,9	BRUSH $Ø_F$=390mm $Ø_E$=400mm BLACK COLOUR
414271	2	390	ABRASIVE	BRUSH $Ø_F$=390mm $Ø_E$=400mm GREY COLOUR
449915	2	390	TAMPICO	BRUSH $Ø_F$=390mm $Ø_E$=400mm
405508	2	380	-	BRUSH PAD HOLDER $Ø_F$=380mm

SIDE BRUSH HEAD BRUSH TYPE (Trident R30SC version)

CODE	QTY	Ø EXTERNAL	TYPE OF BRISTLE	NOTES
443121	1	260	PPL 0,3	BRUSH $Ø_F$=255mm $Ø_E$=260mm BLUE COLOUR
444020	1	260	PPL 0,6	BRUSH $Ø_F$=255mm $Ø_E$=260mm WHITE COLOUR
444021	1	260	PPL 0,9	BRUSH $Ø_F$=255mm $Ø_E$=260mm BLACK COLOUR
444022	1	260	ABRASIVE	BRUSH $Ø_F$=255mm $Ø_E$=260mm GREY COLOUR
449916	1	260	TAMPICO	BRUSH $Ø_F$=255mm $Ø_E$=260mm
444023	1	260	-	PAD HOLDER $Ø_F$=255mm $Ø_E$=260mm

CENTRAL BRUSH HEAD ABRASIVE PAD TYPE (ORBITAL VERSION)

CODE	QTY	WIDTH	LENGTH	NOTES
444025	1	712	245	WHITE ABRASIVE PAD
442484	1	712	245	ABRASIVE PAD, GREEN COLOUR
437864	1	712	245	RED ABRASIVE PAD
444027	1	712	245	BROWN ABRASIVE PAD
442810	1	712	245	ABRASIVE PAD, BLACK COLOUR

TROUBLESHOOTING

This chapter lists the most common problems linked with the use of the machine. If you are unable to resolve the problems with the information given here, please contact your nearest assistance centre.

PROBLEM	POSSIBLE CAUSE	SOLUTION
THE MACHINE DOES NOT START	The main switch is set to “0”.	Make sure that the main switch is in its "I" position, otherwise turn the key a quarter turn clockwise.
	Check that when switched on there are no alarm messages on the control display.	Stop the machine immediately, and contact a specialised service centre.
	Make sure that the batteries are correctly connected to each other and that the battery connector is connected to the electrical system connector.	Correctly connect the batteries to each other (see “CONNECTING THE BATTERIES TO THE MACHINE’S ELECTRICAL SYSTEM” on page 15.
		Correctly connect the batteries to the machine's electrical system (see “CONNECTING THE BATTERIES TO THE MACHINE’S ELECTRICAL SYSTEM” on page 15.
	Check the charge level of the batteries.	If the battery charge level is critical, perform a complete recharge cycle (see paragraph “RECHARGING THE BATTERIES” on page 15).
THE BATTERIES ARE NOT CHARGED CORRECTLY	The connector of the battery charger cable is not properly inserted in the battery connector.	Connect the battery charger cable connector to the battery connector again.
	The plug on the battery charger's power cable is not correctly inserted into the electrical outlet.	Check that the battery charger power supply cable plug is connected to the mains socket.
	The characteristics of the mains power supply do not correspond to those required by the battery charger.	Check that the characteristics in the battery charger plate are the same as those of the mains supply.
	The LEDs of the battery charger blink repeatedly.	Referring to the battery charger use and maintenance manual, check the meaning of the flashing signals that the battery charger emits dung the battery recharge stage.
THE MACHINE HAS A VERY LOW WORKING AUTONOMY	Check the battery charge level, check the symbol on the control display.	If the battery charge level is critical, perform a complete recharge cycle (see paragraph “RECHARGING THE BATTERIES” on page 15).
THE MACHINE DOES NOT MOVE	The machine does not start.	Read the section “THE MACHINE DOES NOT START”.
	The electrobrake located in the traction gearmotor is not engaged.	Go to the left-hand side of the machine and turn the lever in the traction gearmotor clockwise.
	There is an issue on the drive pedal.	Contact your nearest service centre.

PROBLEM	POSSIBLE CAUSE	SOLUTION
INSUFFICIENT DETERGENT SOLUTION ON THE BRUSHES	The quantity of detergent solution in the water system is not sufficient for the work to be carried out.	Check that the amount of detergent solution present in the machine's water system is sufficient for the work to be carried out.
	Detergent solution filter obstructed.	Check the detergent solution filter isn't obstructed. If it is, clean it (see “CLEANING THE WATER SYSTEM FILTER” on page 37).
THE MACHINE DOES NOT CLEAN CORRECTLY	The machine does not start.	Read the section “THE MACHINE DOES NOT START”.
	Not enough detergent solution comes out.	Read the section “INSUFFICIENT DETERGENT SOLUTION ON THE BRUSHES”.
	The brushes have not been inserted correctly in the machine.	Check that the disc brushes are correctly inserted inside the machine.
	The type of brush used is not suitable for the dirt to be cleaned.	Check that the brushes on the machine are adequate for the work to be carried out, contact the nearest technical assistance centre.
	The brush bristles are excessively worn.	Check the state of wear of the brush and, if necessary, replace it.
THE SQUEEGEE DOES NOT DRY PERFECTLY	The vacuum unit is obstructed.	Make sure the squeegee is free of obstructions (see “CLEANING THE SQUEEGEE BODY” on page 35).
		Make sure the vacuum tube is free of obstructions (see “CLEANING THE VACUUM TUBE” on page 37).
		Make sure the vacuum cap filter is free of obstructions (see “CLEANING THE RECOVERY TANK FILTERS” on page 35).
		Make sure the suction motor filter is free of obstructions (see “CLEANING THE RECOVERY TANK FILTERS” on page 35).
	The cap on the recovery tank drainage tube is not properly positioned.	Check that the cap on the recovery tank drainage tube is positioned properly.
	The recovery tank lid is not positioned correctly.	Check that the recovery tank lid is properly positioned on the machine.
EXCESSIVE FOAM PRODUCTION	The detergent being used is not suitable.	Check that a low foam detergent has been used. If necessary, add a small quantity of anti-foam liquid to the recovery tank.
	The floor is not very dirty.	Dilute the detergent more.
THE MACHINE DOES NOT VACUUM CORRECTLY	The recovery tank is full.	Empty the recovery tank (read “EMPTYING THE RECOVERY TANK” on page 35).
	The vacuum device is obstructed	Read the section "THE SQUEEGEE DOES NOT DRY PERFECTLY".

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