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VALIDITY

This document has validity since the serial number **211006479**

MODIFICATION COMPARING TO THE PREVIOUS DOCUMENT

Ref. Page	Descriptions
2	Removed adjustment for machine without speed potentiometer
2	Insert microswitch on dashboard
6	Update pictures squeegee
11	Update pictures squeegee



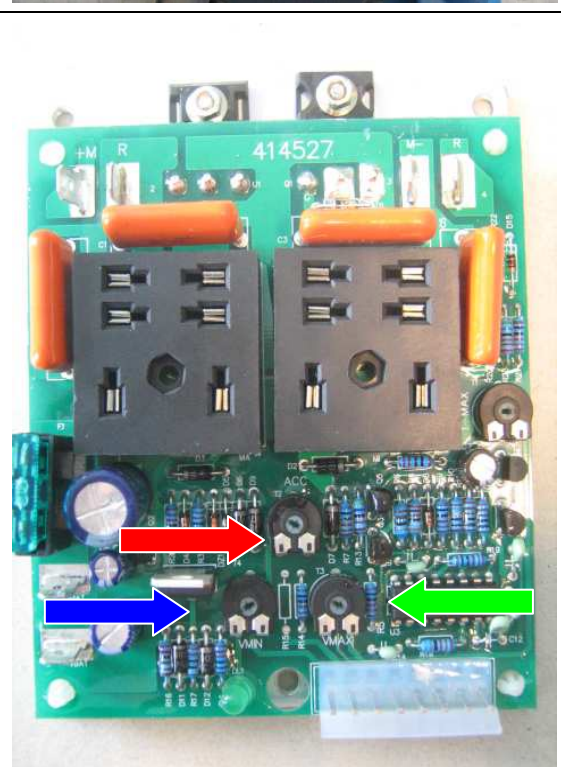
READ THE USE AND MAINTENANCE MANUAL

Electric harness inspection

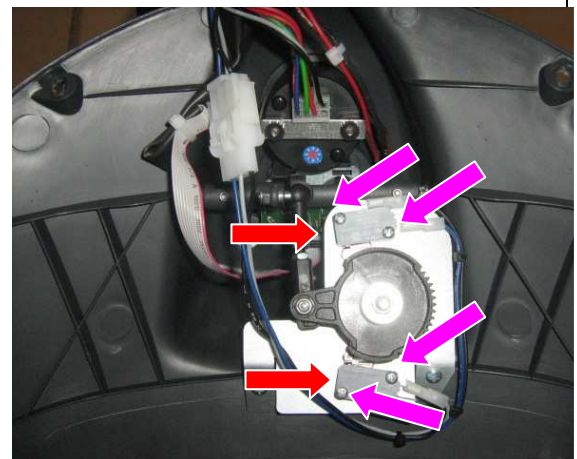
1. Verify the functionality of the electric harness: switches, motors, solenoid valve, pumps.
2. Verify the functionality of the automatic **brush unhooking** (if present).



1. Check chopper function, for machines **WITH** speed control potentiometer.
2. Proceed as follows if the **chopper card** needs calibrating:
 - Remove the handlebars in order to access the chopper
 - Adjust the **ACC trimmer (acceleration)** so that it is turned clockwise until it stops.
 - Adjust the **VMAX trimmer (maximum)** so that it is turned clockwise until it stops.
 - Adjust the **VMIN trimmer (minimum)** so that it is turned anticlockwise until it stops.
3. Check the reverse gear is functioning
4. Check the motor braking (releasing the accelerator, the machine must stop within about 1 metre)



1. Check the efficiency and regulation of the handlebar control **microswitches**.
2. Verify that the microswitches are pressed with the handlebar levers in idle and that in this condition they still have about **0.5 mm** of clearance
3. If clearance is less than 0,5 mm, adjust the microswitch by means of the two **fastening screws**.

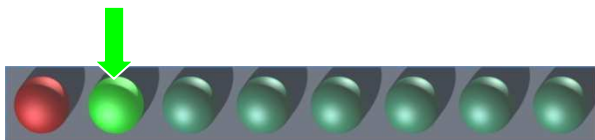


Battery check card adjustment

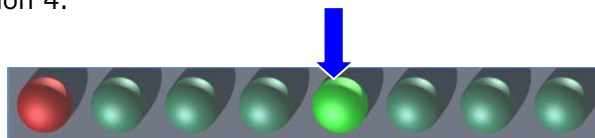
1. Verify that turning on the machine the battery check card has the following starting sequence:
 - Turning on of the LED which correspond to the set-up (**red LED = "0"**).
 - Turning on of all the LEDs (check of the lamps)
 - Turning on of the LEDs depending on the charge of the battery
2. Verify the hour meter functionality

To verify which is the set-up you simply need to turn on the machine and check which is the first LED that turns on. Counting the LEDs since the left side any LED correspond to a position and the LED which turn on correspond to the current set-up.

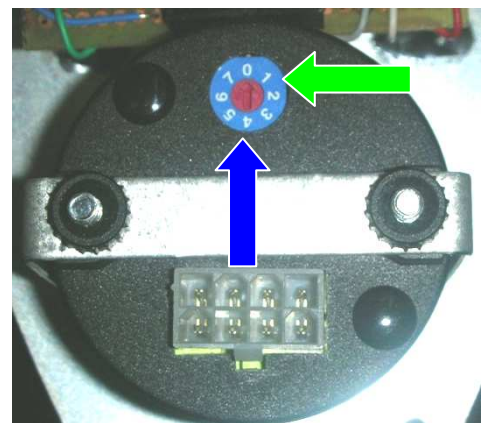
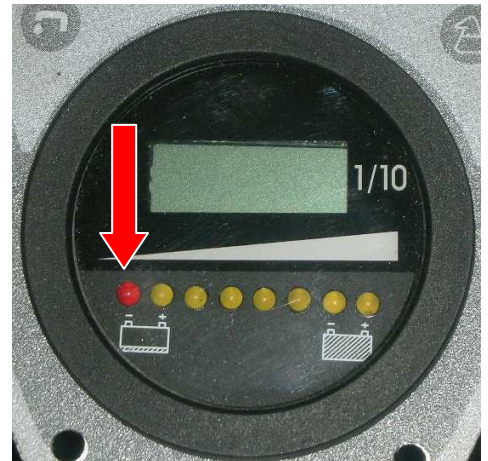
Verify that if the machine uses wet cell batteries the adjustment is on position 1.



Verify that if the machine uses GEL batteries the adjustment is on position 4.



WARNING: A wrong set-up of the battery control card can compromise the battery efficiency and damage then in irreversible way.



Battery charger adjustment

1. Verify that the set-up of the battery charger corresponds to the battery type installed on the machine.



2. To adjust the battery charger act as follow:
- Remove helping ourself with a small screw driver the small **plastic lid**
 - Set-up the dip switch under the lid as follow
 - Close the plastic lid.



The dip switches should be set as follows:

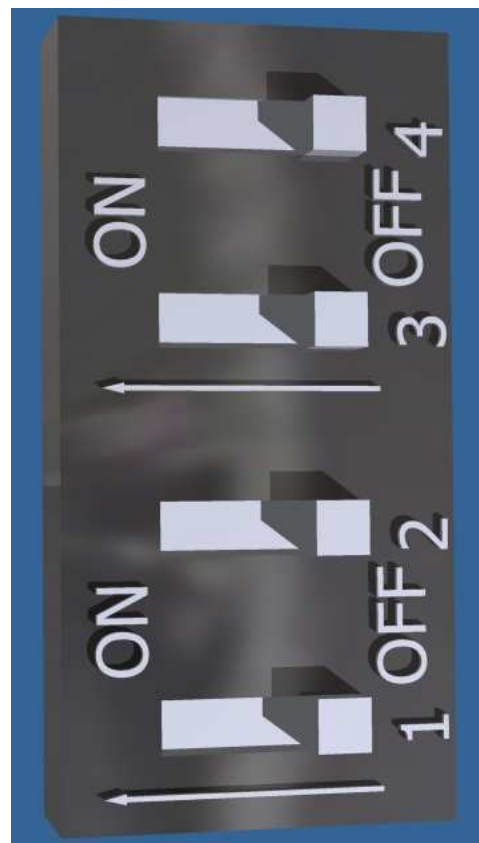
DP1	DP2	SET-UP
OFF	OFF	EXIDE SONNENSCHN gel
OFF	ON	General GEL or AGM batteries
ON	OFF	Wet-cell batteries
ON	ON	TROJAN gel

DP3:

OFF for all the batteries (not used)

DP4:

OFF for all the batteries (not used)



READ CAREFULLY THE BATTERY CHARGER OPERATIVE MANUAL

Battery charger alarm signals:

YELLOW LED blinking: wrong battery – battery unconnected – output short circuit;


RED LED blinking: overtime error – internal short circuit

Battery charger starting check:

GREEN LED that blinks twice: Battery charger setted up for GEL and AGM batteries.

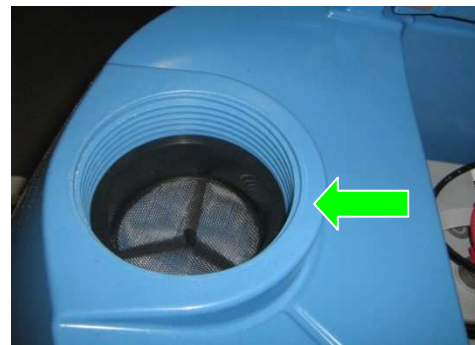
RED LED that blinks twice: Battery charger setted-up for wet cell batteries.



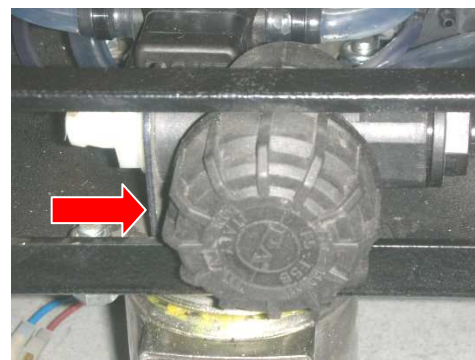
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Water plant inspection

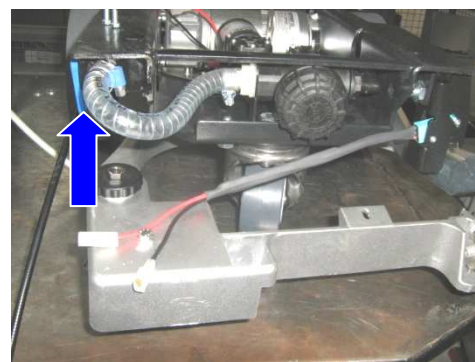
3. Verify the cleanness and functionality of the **solution filter** under the solution tank plug.




4. Check cleanness and sealing of the **solution filter**.



5. Fill completely the solution tank.
6. Verify the sealing of the hoses, **solenoid valve** and the **water valve**.
7. Verify that the solution, with valve completely open, fall continuously on the floor.



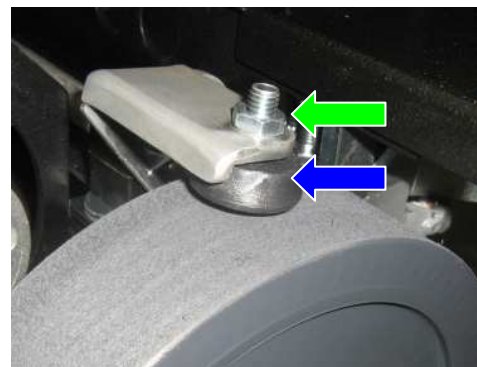
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Brake adjustment

1. Fix the brake wire to the chassis screw in up completely the **sheath** to the support.



2. Adjust the pads on the wheels to let the machine be blocked when the brake lever reach the third step.
3. To adjust the pads act as follow:
 - Unscrew the **block nut M8**;
 - Unscrew or screw the **pad** to put it in the right position;
 - Block the **block nut M8**;



Suction system inspection

1. Verify the cleanness and functionality of the **floating filter**.
2. Check the air sealing of the **suction head** on the recovery tank.
3. Verify the connections and the sealing of the suction hoses and the squeegee hoses.
4. Check the sealing of the **squeegee mouth**.
5. Check the sealing of the exhaust hose and exhaust hose plug.



6. Suction microswitch adjustment:
7. Adjust the suction microswitch in way that when the cam on the squeegee lever **push the microswitch** there is about 0,5 mm of clearance of the microswitch lever.

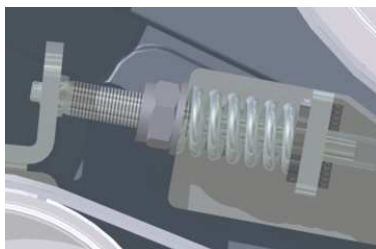


Brush assembly microswitch adjustment

1. Verify that when the pedal is hooked the **microswitch** is switched and the microswitch lever has about 0,5 mm of clearance.
2. If necessary adjust the microswitch as follow:
 - Unscrew the **selflocking nut M3** and the **M3 screw**;
 - Move the microswitch using the **eyelet**;
 - Fix the **self locking nut** and the **screw M3** to fix the microswitch being careful not to screw too much the screw-nut system to not damage the microswitch.
 - When the adjustment is finished verify the proper functionality of the microswitch.



3. Adjust the **belt tensioner spring** to a length of **27mm** in compression.



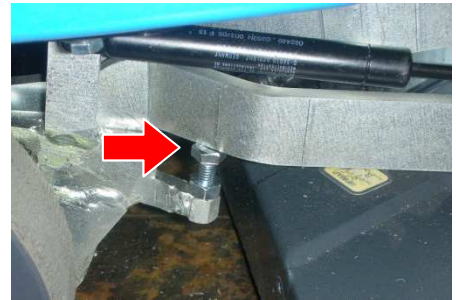
4. Adjust the transversal inclination of the brush assembly:
 - Put the machine on a even and equal floor.
 - Lower the brush base on the floor with brushes installed.
 - Lower the **screw and the nut M8** to fix the left brush base lifting arm.
 - Lay down on the floor the brush base and let the two brushes lie the floor simultaneously.
 - Fix the **M8 screw** with its **self locking nut**.



5. Verify that the **M8 screw** that fix the arm to the third point let the brush assembly to move longitudinally to let the brush base to adapt itself to the floor.

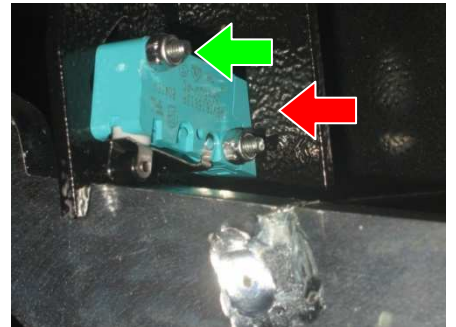


6. Verify that the brushes can be removed from the brush base and that there is space enough to let the buttons of the brushes pass under the brush connection. If necessary:
- Lift up the brush base;
 - Unscrew the blocking nut M6;
 - Unscrew the **M6 screw** until the brushes have enough space to be removed from the brush assembly;
 - Verify that with the brush base doesn't interfere with the solution tank.

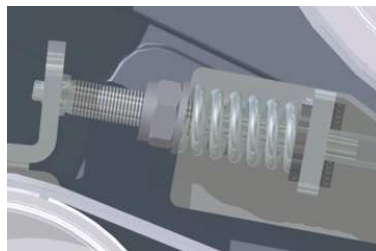


Brush Base Adjustment (single brush)

7. Verify that when the pedal is hooked the **microswitch** is switched and the microswitch lever has about 0,5 mm of clearance.
8. If necessary adjust the microswitch as follow:
- Unscrew the **selflocking nut M4** and the **M4 screw**;
 - Move the microswitch using the **eyelet**;
 - Fix the **self locking nut** and the **screw M4** to fix the microswitch being careful to not screw too much the screw-nut system to not damage the microswitch.
 - When the adjustment is finished verify the proper functionality of the microswitch.



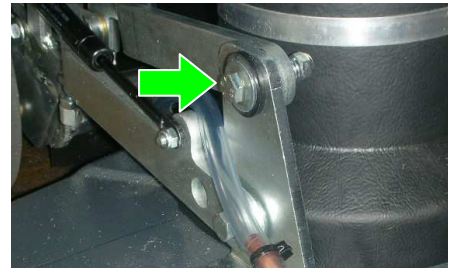
1. Adjust the length of the **belt tensioner spring** at **27mm** in compression state.



2. Adjust the transversal inclination of the brush assembly:
- Put the machine on a even and equal floor.
 - Lower the brush base on the floor with brushes installed.
 - Lower the **screw and the nut M8** to fix the left brush base lifting arm.
 - Lay down on the floor the brush base and let the two brushes lie the floor simultaneously.
 - Fix the **M8 screw** with its **self locking nut**.



3. Verify that the **M8 screw** which fix the arm to the third point let the brush base to move longitudinally to adapt itself to the floor.



4. Verify that the brush can be uninstalled and that the space between the brush buttons and the brush connection on the brush base is enough. In opposite case:
- Lift up the brush base;
 - Unscrew the blocking nut M6;
 - Unscrew the **M6 screw** until the brush has space enough to be removed from the brush base, at the same time verify that the brush base doesn't interfere with the solution tank.

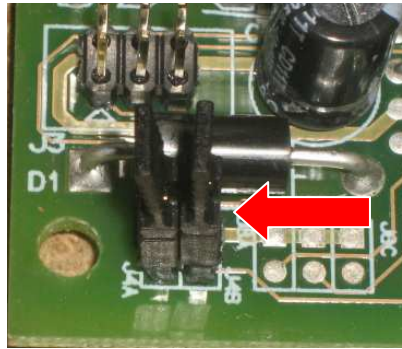
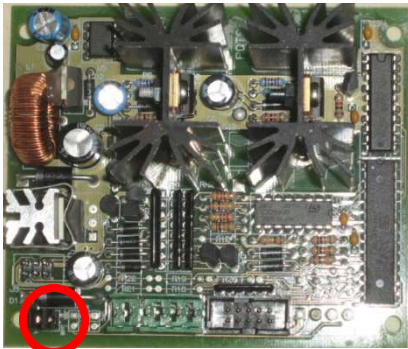


Dosing system adjustment

Verify the cleanness of the connectors and of the site of the chemical dosing system card.


Verify the set-up of the **two jumper J4A and J4B** of the card.

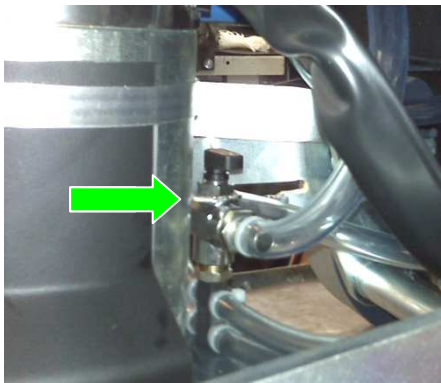
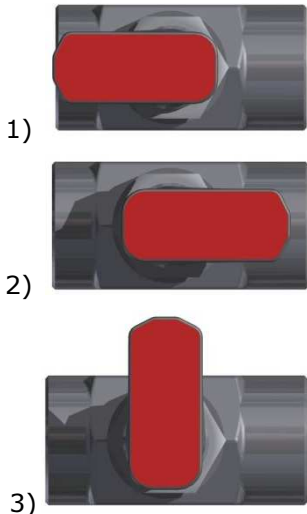
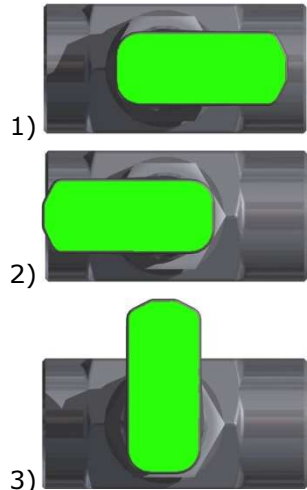

Put the jumper on the bridges to short circuit both.



Verify the cleanness and the conditions of the detergent hoses and of the chemical tank.

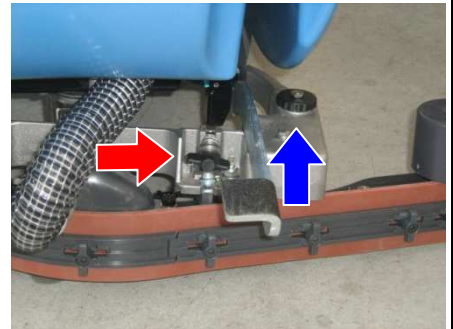
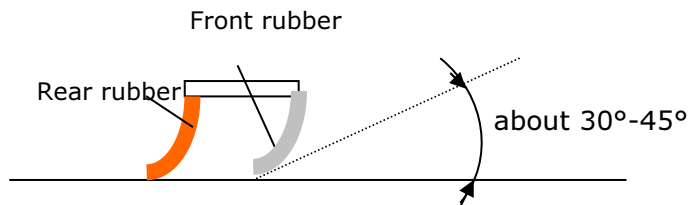


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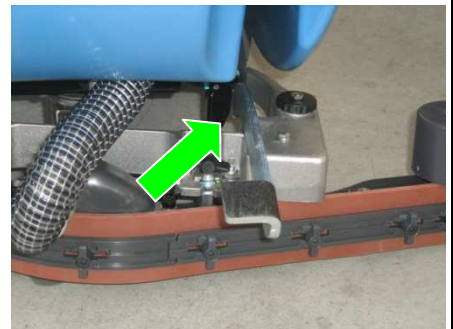
<p>Verify the functioning of the chemical dosing system bypass. The bypass system is made by a valve on the brush base.</p>	
<p>Brush base with two brushes:</p> <p>Verify that in position 1 the chemical dosing system let the solution fall on the floor.</p> <p>Verify that in position 2 the solution release is direct from the solution tank bypassing the chemical dosing system.</p> <p>Verify that in position 3 no solution fall on the floor.</p> <p>Consider the valve saw from the operator place and from the top.</p>	 <p>1)</p> <p>2)</p> <p>3)</p>
<p>Brush base with one brush:</p> <p>Verify that in position 1 the chemical dosing system let the solution fall on the floor.</p> <p>Verify that in position 2 the solution release is direct from the solution tank bypassing the chemical dosing system.</p> <p>Verify that in position 3 no solution fall on the floor.</p> <p>Consider the valve saw from the operator place and from the top.</p>	 <p>1)</p> <p>2)</p> <p>3)</p>
<p>Verify the functionality and the connections of the pumps. Verify the cleanness and the conditions of all the connections.</p>	

Squeegee adjustment

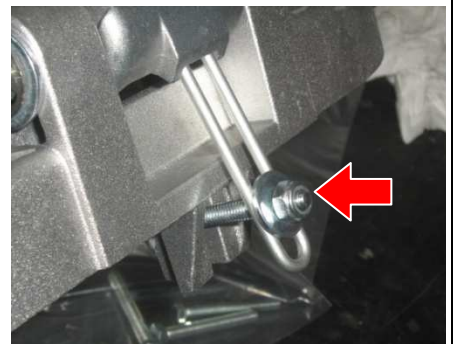
1. Adjust the inclination **adjuster** of the rubber until the rubber has a regular inclination on all its length.
2. Adjust the height of the wheels using the **knob** checking that the rubber has an inclination between 30 and 45 degrees.




3. Verify that the squeegee assembly in high position doesn't interfere with the brush base movement pedal. In opposite case act on the the M6 nut in the spring connected with the squeegee lifting wire.:
 - Lift up the squeegee and out under it a spacer of about 40mm.
 - Lower the squeegee movement lever.
 - Verify that the **nut** and the thread are visible.
 - Screw up or unscrew the nut depending on you need to lift up or lower down the squeegee assembly.
 - Verify that with the squeegee lifted up there is no interference between the **brush base movement pedal** and the **squeegee support**.



4. Verify the pressure of the squeegee on the floor. Verify that the pressure due to the spring and to the squeegee weight is enough to bend the squeegee rubbers and let the squeegee wheels touch the floor.
5. Verify that the pressure is not too much to prevent a fast wearing out of the squeegee wheels in swerving.
6. To perform the adjustment act as follow:
 - Lower down the squeegee assembly;
 - Screw up the **M8 sel locking nut** to increase the pressure on the floor or unscrew it to lower the pressure.



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Functional check of the machine

- ☐ Check the functionality of switches and warning lamps;
- ☐ Check the functionality of the accelerator lever;
- ☐ Check the functionality of the brush base;
- ☐ Check the functionality of the brush motor;
- ☐ Check the functionality of the solenoid valve;
- ☐ Check the functionality of the suction motor;
- ☐ Check the functionality of the brakes;
- ☐ Check the functionality of batteries and power cables;

Functional test of the machine

- ☐ Fill the tanks completely and verify the sealing;
- ☐ Verify the sealing of all the water plant and that the water is equal on both brushes;
- ☐ Adjust the inclination and the height of the squeegee rubbers doing a functional test;
- ☐ Adjust the inclination of the brush base and do a functional test;
- ☐ Check the efficiency of the parking brake;
- ☐ Verify the forward and backward movement, acceleration and braking;

Final Check

Check all the functions: washing, drying and movement