READ THE USE AND MAINTENANCE HANDBOOK

Electric plant check

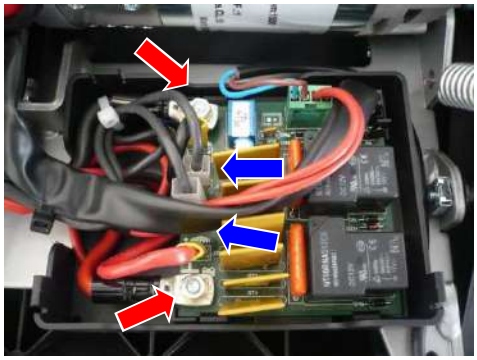
Check the electric plant functionality:

1. brush motor (the brush starts by the double consent of **brush switch** and **man presence levers**);
2. suction motor (turn on it by the **suction switch**);
3. solenoid valve (this is turned on by the double consent of **solenoid valve switch** and **man presence levers**)
4. Check the functionality of the **battery display** in the center of the dashboard:

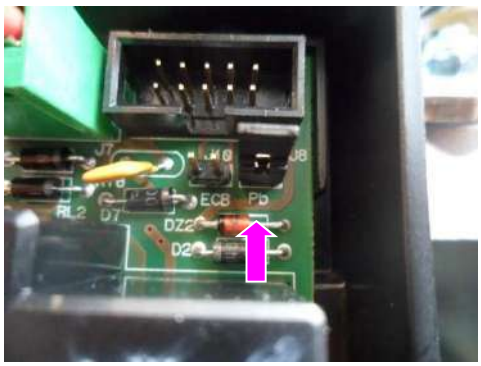
- Turning on the display a "G" letter appear for gel setted up card and the number which shows the battery level;

- In working conditions shows the battery level (4=full charge, 0= battery discharged, suction motor off).

5. Check the tightness of the **battery contacts** and **faston cables** into the electric box situated on the front side of the machine (behind the black ABS cover under the solution tank).



WARNING: if you use wet cell batteries, put the jumper on the **pin with "Pb" label**. In this case turning on the machine a letter "P" will appear, instead of the "G" letter.



The ECB pin are used to bypass the battery control to verify a possible malfunctioning of the battery check card. In case of breakdown of the control battery, inserting a jumper you can bypass the control and keep on working up to the discharge of the battery.

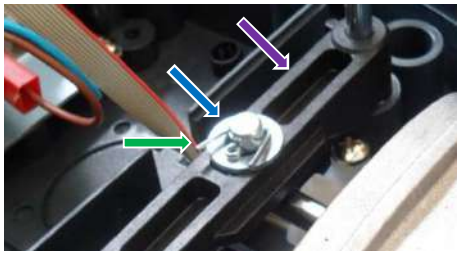
WARNING: use this workaround only in case of emergency, check immediately the fault, replace the probable broken component end restore the standard working condition of the machine. Otherwise the battery will be completely discharged and it could be damaged irreparably.

Rod locker adjustment

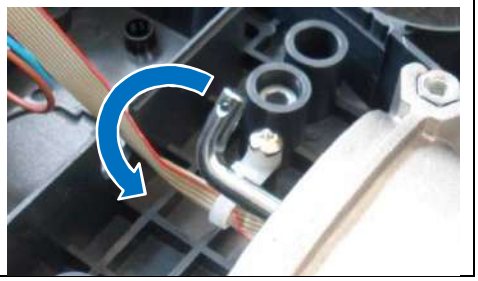
1. Verify the correct functionality of the rod locker.

2. If an adjustment is needed, proceed as follows:
   - Unscrew the **four screws** that secure the handlebar cover.
   - Lift the front cover.

   - Remove the **cotter pin**, **washer**, and the **control rod**

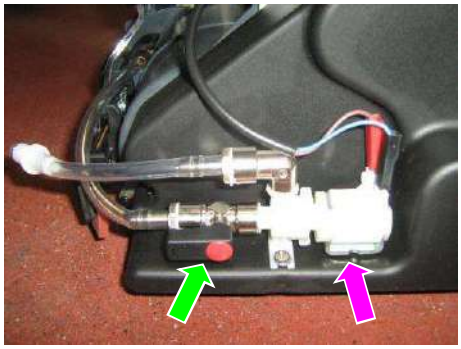


   - Screw or unscrew the **rod locker** to obtain the proper adjustment.
   - Restore the handlebar cover.

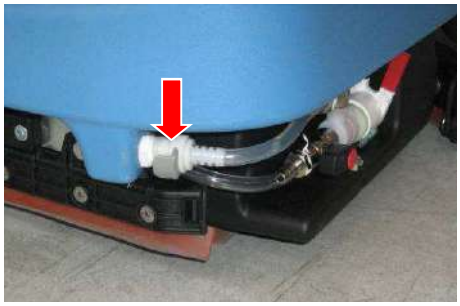


Check the water system

1. Full the solution tank and check the tightness of the tubes and gaskets on the **cock** and **solenoid valve.**
2. Check that the water flow on the floor is uniform and at the cock opening. In any case check the cleaning of the cock.



3. Check the **quick coupling**.

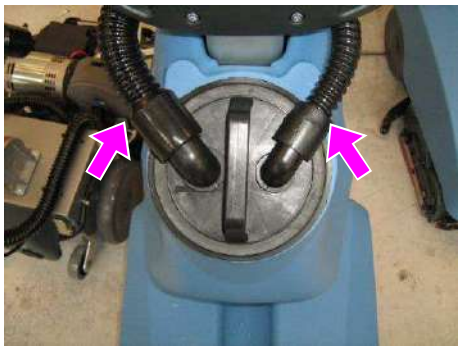


4. Check the funcionality and the cleaness of the **water distributor**.

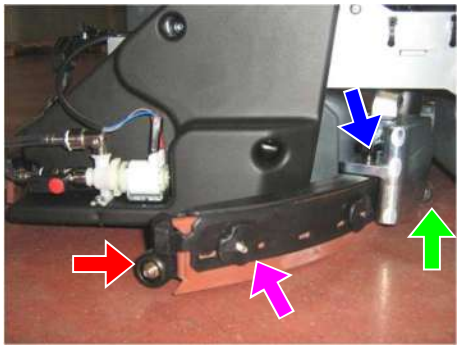
Check the suction system

1. Check the cleaning and functionality of the **filter with ball**.
2. Check, if closed, the tightness of the **cap** of the recovery tank, verifying the good wear of the **gaskets** of the muffs.

3. Check the right position and tightness of the **muffs** on the recovery tank cap.

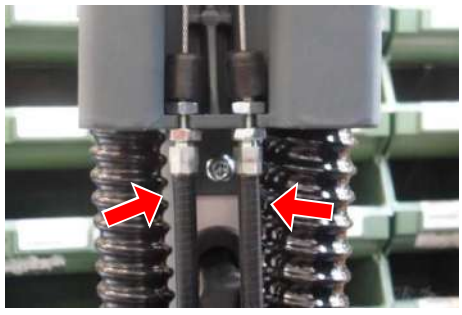


4. Check the wear of the squeegee rubber and the right closing of the **knobs**.
5. Check the closing of the **knobs** of the squeegee blade.
6. Adjust the **side squeegee wheels** with the screw threads with the blade and the **central wheel** all low.



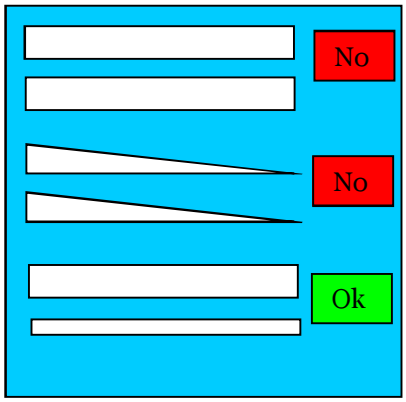
7. Check the wear of the **front rubber** and the right tightness of the screws.
8. Check the functionality to collect the water.

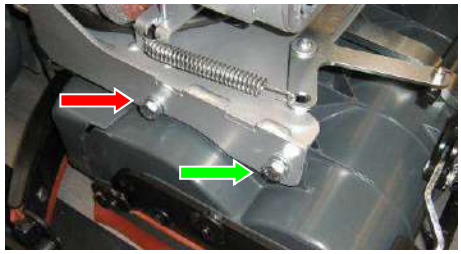
9. Adjust the cables adjusting the rear squeegee and the front rubber so that the threaded is out of 4-5 mm from the squeegees side and **4-5 mm** from the levers side.

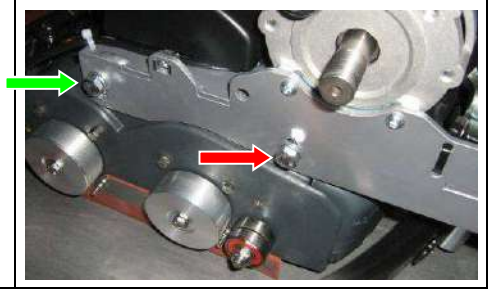


Adjustment brush base

1. Check the uniformity of the mark on the floor (as per the drawing).
2. If the adjustment is not correct, act as follow :
   - remove the solution tank and the tunnel cover;
   - lose the screw of the base arms;
   - fix the brushes so that the mark on the floor is uniform on both sides and rectangular; then tight the **screws** positioned on both sides on back side;
   - put a spacer of 1,5-2 mm. under the rear brush and adjust the inclination of the brush base so that is slightly inclinated in the front part; then tight the **screws** positioned on both sides on the front part.
3. Check, by a functional test, that the brushes mark on the floor is as on the picture.





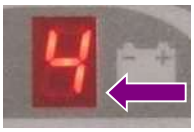


Battery check card inspection

Set a **multimeter** for voltage readings of maximun 20V. Put the **red pin** of the tester on the positive pole of the battery and the **black pin** on the negative pole of the battery to check the **threshold** of the battery check card:

- Value **4**: Vb > 11,6
- Value **3**: 11,4 < Vb < 11,6
- Value **2**: 11,1 < Vb < 11,4
- Value **1**: 10,9 < Vb < 11,1
- Value **0**: Vb < 10,9

Any value can have a 0,1 volt of tolerance. The measure of the battery voltage have to be done with the machine in working conditions. To have a more reliable reading let the machine work 10-15 seconds before doing the reading.

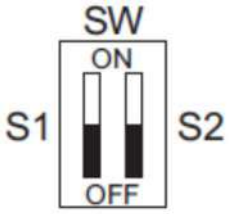


Check battery charger

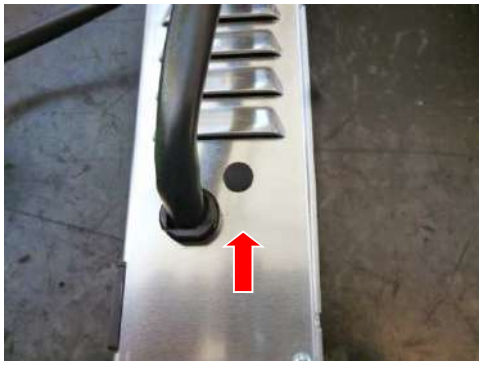
1. Check that the battery charger makes the initial test:
   a. **red led** on for one second.
   b. **yellow Red** on for one second.
   c. **green Led** on and flashing. The number of flashing stands for the setting done on battery charger (check table in section 4. Battery Charger Set Up).
2. Check the working of the led during charging phase of battery charger:
   a. **red led** fixed: first phase of charging ended correctly.
   b. **yellow led** fixed: second phase of charging ended correctly.
   c. **green led** fixed. Charging phase is ended or maintenance phase active.
3. In case of trouble related to battery charger, the led can sign out the type of anomaly:

yellow LED on + 1 flashing for **green** LED	Battery is not connected or short circuit or reverse polarity.
yellow LED on + 2 flashings for **green** LED	Time-out Alarm: defective battery.
yellow LED on + 3 flashings for **green** LED	Alarm for Defective Battery Charger.
red LED on + 1 flashing for **green** LED	Overvoltage alarm.

4. Battery Charger Set Up.
   To set up correctly the battery charger, do the following:
   a. Take away the small **plastic cap** with a screw driver.
   b. Set up the dipswicth according to the table here below.
   c. Close the plastic cap.



S1	S2	Battery Type	Number of Flashing (Green Led)
OFF	OFF	Lead	1
ON	ON	TROJAN GEL	2
OFF	ON	Normal GEL or AGM	3
ON	OFF	Sonnenschein GEL	4



Fucntional check

- ☐ Check the switches and lamps functionality;
- ☐ Check the brush base functionality;
- ☐ Check the brush motor functionality;
- ☐ Check the squeegee functionality and the front rubber;
- ☐ Check the suction motor functionality;
- ☐ Check the battery charger funcitonality;
- ☐ Check the conditions of battery, connectors and cables;

Functional test

- ☐ Fill the solution and recovery tanks and check if there are leakage;
- ☐ Check that there are not leakage on the water plant and that water fall in the center of the brush;
- ☐ Check the wearing of the squeegee rubbers and their position, by a functional test;
- ☐ Check the fucntionality of water cock and solenoid valve;

Final test

- ☐ Check all functions: cleaning, sweeping and drying.