

# ***Powr-Flite***®

## **OPERATOR'S MANUAL**

### **Predator Automatic Scrubber 20 Model PAS20DX**



**WARNING: OPERATOR MUST READ AND UNDERSTAND THIS MANUAL  
COMPLETELY BEFORE OPERATING THIS EQUIPMENT.**

**Save These Instructions**

## IMPORTANT SAFETY INSTRUCTIONS

All operators must read, understand and practice the following safety instructions. They will be repeated occasionally throughout this manual, and additional cautions may be added for specific cases.

- CAUTION: Operators must read and understand this manual completely before operating this equipment.
- CAUTION: Make sure key switch is in the "OFF" position before installing pad.
- CAUTION: Loose objects on the floor can become dangerous projectiles if struck by the high-speed pad. Remove them before operating this machine.
- CAUTION: Keep hands and feet away from revolving pad.
- CAUTION: Keep machine moving to prevent damage to finish or floor.
- CAUTION: Make sure key switch is turned "OFF" and battery connector is unplugged from machine before performing any maintenance procedures.
- CAUTION: Maintenance and repairs must be performed by authorized personnel.
- CAUTION: Battery acid can cause burns. When working on or around batteries, wear protective clothing and safety glasses. Remove metal jewelry. Do not lay tools or metal objects on top of batteries.
- CAUTION: Do not operate this equipment in bare feet or with open-toed shoes or sandals.
- CAUTION: Charging batteries generate explosive gases.
- CAUTION: Make sure the charger has turned off before disconnecting it from the batteries. Charge batteries in a well-ventilated area with the tanks in the raised and locked position.
- CAUTION: Store or park this machine on a level surface only. Remove key from switch if machine is left unattended.
- CAUTION: Do not operate machine or charger in areas where flammable liquids or gases are present. Do not use or pick up flammable chemicals or liquids with this machine.
- CAUTION: Make sure all caution, warning and instructional decals are in place and legible. Replace damaged or missing labels.
- CAUTION: These machines are designed for level floor operations only. DO NOT OPERATE on ramps or inclines unless adequate personnel are available for assistance.
- CAUTION: Do not expose electrical components to water or other liquids. To clean machine wipe down with a damp cloth.
- CAUTION: Do not draw current from the batteries with makeshift connectors, clips or contacts.
- CAUTION: Park the cleaner on a flat and level floor.

### WARNING:

**DO NOT OPERATE MACHINE OR CHARGER IN AREAS WHERE FLAMMABLE LIQUIDS OR GASES ARE PRESENT.**

**DO NOT USE OR PICK UP FLAMMABLE CHEMICALS OR LIQUIDS WITH THIS MACHINE.**

This manual refers to a battery powered automatic floor scrubber. Designed to be simple, easy to operate and safe, with maneuverability and automatic variable electronic drive. Routine maintenance has been simplified and reduced to the minimum to keep equipment on the job.

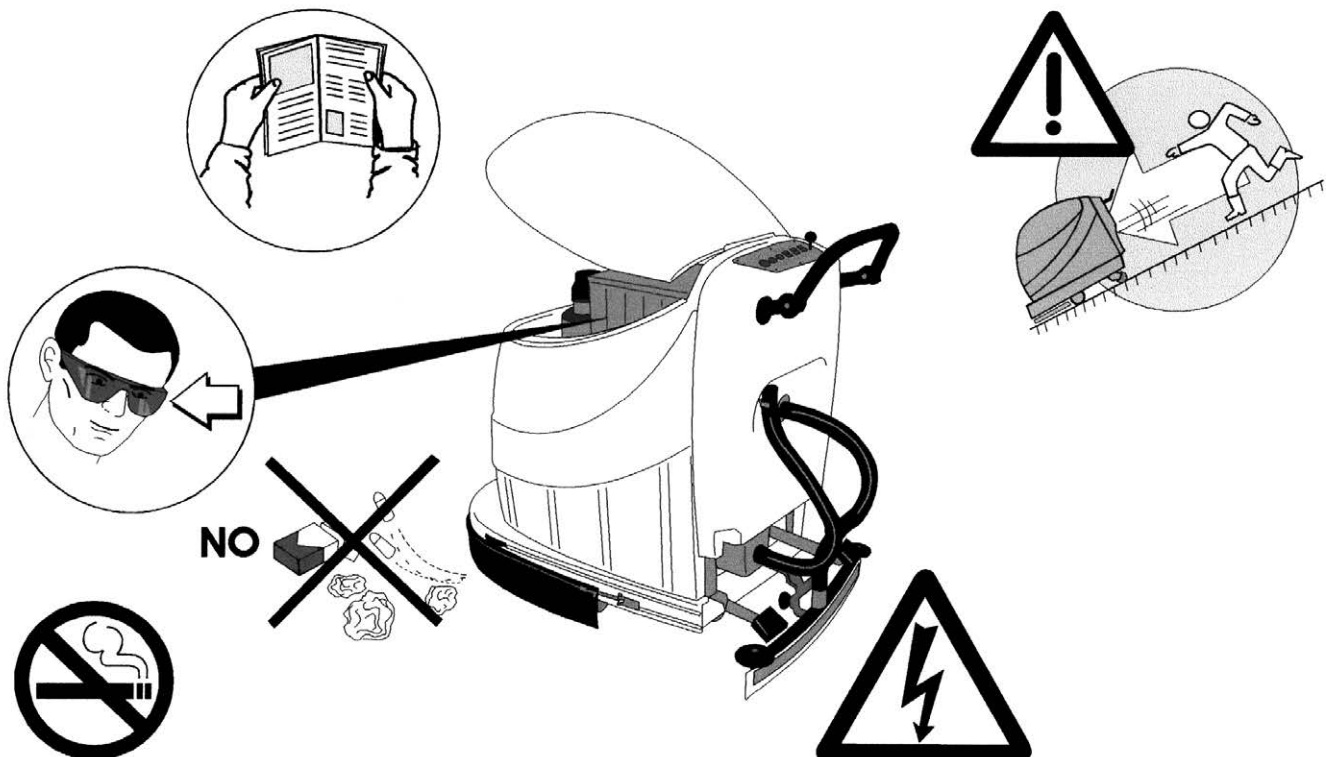
The floor cleaner is intended for cleaning and washing level floors in closed spaces using appropriate detergents. This manual serves to guarantee the correct use of the machine thus supporting the service that we offer the customer. You are advised to adhere strictly to the instructions contained in this manual since the manufacturer does not accept responsibility for any damage caused to persons or to property, or to the machine itself if it is not used in the way described here or if the safety and maintenance instructions are not followed. The instructions set out in this manual do not substitute the safety measures and technical specifications to be applied directly to the product for installation and operation, nor the safety regulations in force in the country where it is used or the rules of common sense.

The installation or maintenance personnel must report any defects or deterioration, which might compromise the safety of the machine.

The personnel responsible for operating the machine must have specific professional training or must have experience of using machines of this type. In order to prevent damage to people or to property, we advise the customer to instruct adequately the operators on any risks related to the use of this machine. The operator must always make use of the protective measures prescribed by the laws of the country in which the machine is used as well as additional protection provided by the employer (safety shoes, overalls, safety glasses, etc.).

The responsibilities of the personnel authorized to use the machine are at the discretion of the customer.

Maintenance personnel must have the specific characteristics (maintenance technician) necessary for correctly interpreting diagrams and instructions.



Powr-Flite declines all responsibility for damage of any kind resulting from imprudent use by expert or inexperienced personnel who have not operated the machine in accordance with this manual. The installation must be carried out in accordance with the laws in force in the country where it is installed; Powr-Flite is not responsible for equipment upstream of the cleaner.

The customer must use exclusively original spare parts and fit them in the intended way. Responsibility deriving from other commercially available components rests with the customer. Do not leave any objects of any kind on the floor as they may be thrown at high speed by the brushes.

Keep feet and hands clear of the moving brushes.

Ensure that the main power key switch is in the OFF position and that the batteries are disconnected before carrying out any maintenance and/or filling the tanks with detergent and/or changing the brushes.

Maintenance procedures must be carried out by authorized personnel.

Do not carry out any unsafe or temporary repairs or use non-original spare parts.

Regularly check the wear and deterioration of the materials and, if necessary, call out your regular supplier. When working near the batteries use protective glasses and clothing. Remove any metal object.

Do not rest metal tools or equipment of any type on the batteries.

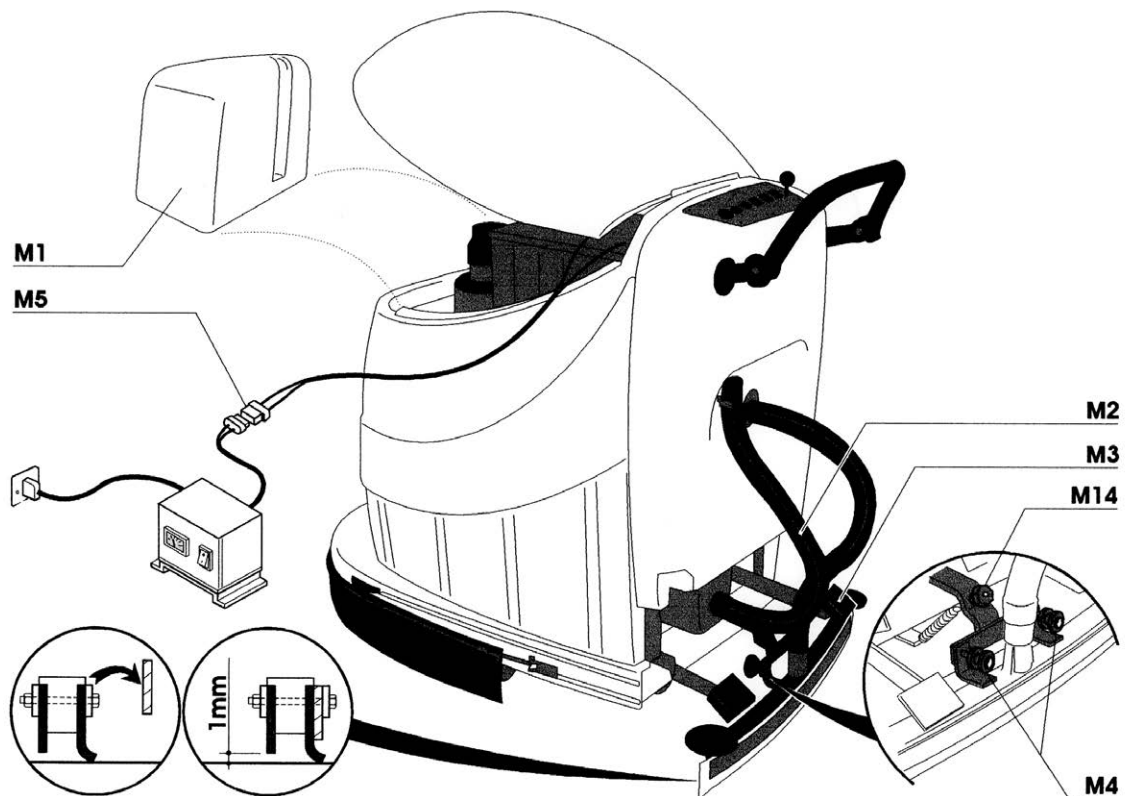
Recharging the batteries produces explosive gas.

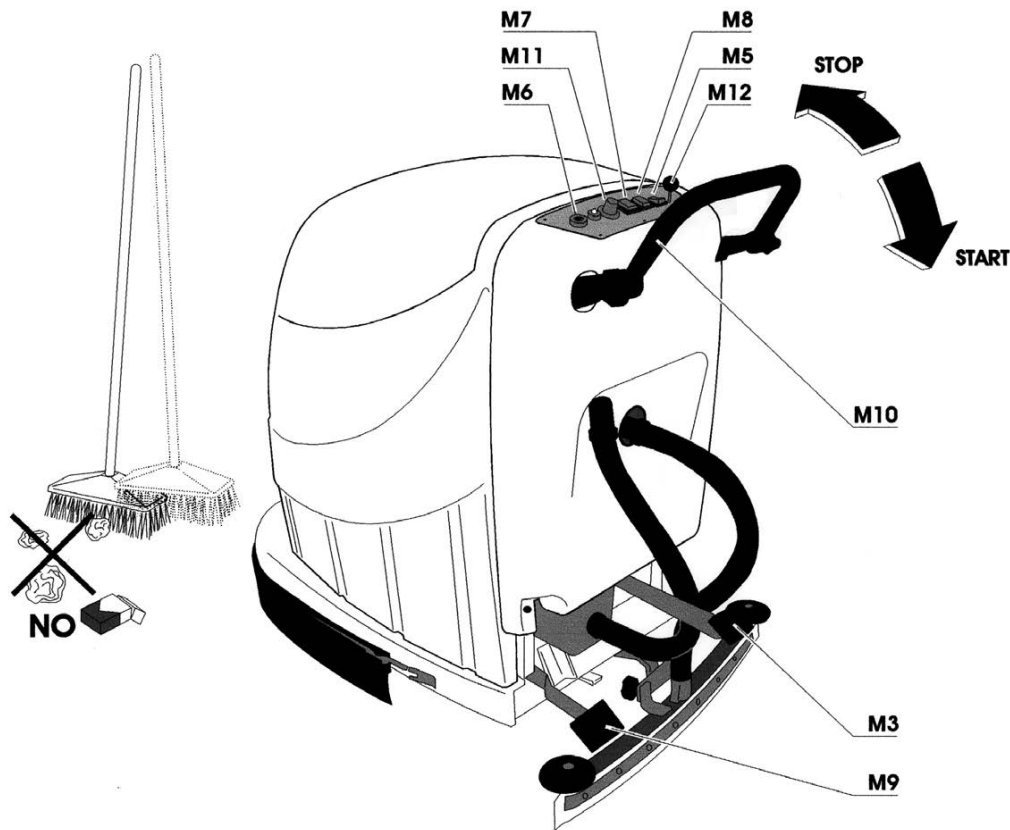
**DO NOT SMOKE,  
LIGHT FLAMES OR  
MAKE SPARKS.**

Ensure that the charger is switched off before disconnecting it from the batteries. Recharge the batteries in a well ventilated area and with the cover fixed in the open position.

Do not draw current from the batteries with make-shift connectors, clips or contacts.

Park the cleaner on a flat and level floor.





If the cleaner is left unattended remove the key from the main power switch.

Do not leave the cleaner unattended particularly if children are present. Do not use or install the cleaner in places where flammable gases or liquids are present. Do not use flammable liquids or chemicals with this cleaner. Ensure that the instruction manual and warnings are always to hand and are legible. Replace any torn or missing pages. This machine must only be used on flat and level surfaces.  
**DO NOT USE IT ON INCLINED SURFACES** without the assistance of the appropriate personnel.

Do not operate the machine in bare feet, with sandals or any kind of open footwear.

Do not wet electrical components with water or any other liquid. Dry the machine with a cloth.

Powr-Flite is not responsible for the disposal or production of products necessary for its operation; e.g. batteries, detergents, etc.; the customer himself must, therefore, arrange for the disposal of substances harmful to the environment in accordance with the laws of the country in which it is used.

The same precautions should be taken when the machine is scrapped.

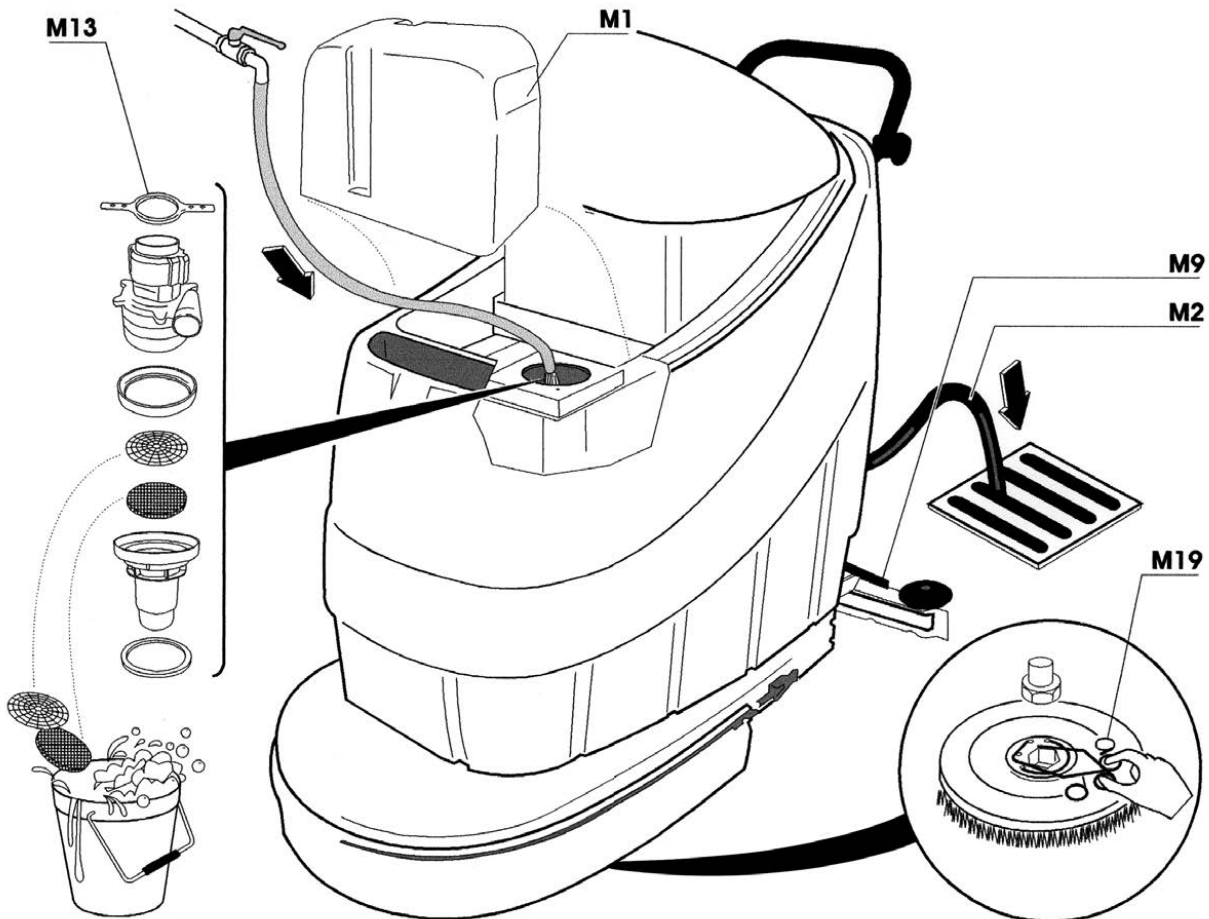
The machine generates a sound pressure level (noise) in an industrial environment (warehouse/ shop floor) which is less than 80 dBA and is therefore absolutely harmless for the operator. However, in other surroundings, this level may be exceeded in which case the customer must provide appropriate protection (ear defenders) as well as notices to promote their use and periodic hearing examinations.

The operator must not wear clothing with wide sleeves, laces or belts; he must not approach the machine with bare or wet feet; he must not pull out the plug by pulling the cable; must not smoke if the environment or products used do not allow it.

For lifting and transporting use only specialized personnel (slings, crane operators, etc..) with proper lifting gear which is suitable for the weight of the various components.

- Transport (especially by road) must be carried out in the correct way and with the appropriate means so as to protect the components (especially the electronic ones) from violent shocks, humidity, vibration, etc..; the machines are supplied with wheels and therefore need to be securely anchored before beginning transportation.





We remind you that packing material (wood, nails, paper, cellophane, metal staples, adhesive tape, straps, ropes, etc.) may cause cuts or wounds and should be handled with care. These must be removed with appropriate tools and should not be left in the care of irresponsible people (e.g. Children); the same applies to the unpacking tools (scissors, hammers, pliers, knives, etc.). On specific request, Powr-Flite will pack the machines appropriately but this does not eliminate the above safety notes. During movement, suspended loads made up of machine components or parts represent a collision risk, it is the responsibility of the customer to highlight this danger.

**WARNING:** before attempting to adjust or prepare the machine or to fill the tanks, make sure that the power supply is disconnected.

**Solution Tank:** The detergent tank is positioned underneath the upper cover at the front of the machine with the filter hole M1 easily accessible for easy refilling. Before filling the tank with correctly diluted detergent, empty the waste collection tank as described in the following paragraph; obviously this step is not required for the first time of filling.

The capacity of the solution tank is 17 gal. only use the quantities and dilution recommended by the detergent supplier and use only non-foaming detergents. If foam is created, use a defoaming chemical in recovery tank.

**Recovery Tank:** The waste tank should be emptied (preferably after each use) so as not to let the dirt settle; to do this, remove the cap covering the drain tube M2 which is held in place by a retaining spring, and put in a position so that it drains. Always abide by the environmental regulations of the country where the machine is used.

**Squeegee Blade:** The floor squeegee serves to finish the drying operation and it is very important to ensure it is in the correct position: lower the squeegee to its working position using the foot pedal M3; level the squeegee using the knobs M4 so that the black rubber strip is approximately 1 mm above the floor.

The remaining rubber strips must wipe the floor with a certain amount of pressure; after the first few hours of operation the rubber squeegees adapt themselves to the inclinations and the drying action improves. The pressure of the squeegees on the floor is regulated by pressing the knob.

The battery charger should be set up in the area where it is planned to leave the machine for recharging. Use the cable supplied to connect to the mains supply, make sure that the supply voltage is the same as indicated on the battery charger itself. To charge the batteries connect the connector M5, which comes directly from the battery compartment, to the battery charger connector. The charger will automatically regulate the charging current and will turn itself off when the batteries are recharged.

When cleaning shiny or smooth floors and when there are holes (joins between tiles) it is advisable not to use the rear (lowest) rubber squeegee.

#### **Installing and recharging the batteries:**

The batteries are supplied separately and are located in the appropriate compartment underneath the cover; apply a coating of grease (e.g. Vaseline) to the terminals; connect the batteries as shown in diagram 1; make sure the terminals are securely tightened.

**WARNING:** The battery acid may give off harmful fumes. When working near the batteries use protective glasses and clothes. **DO NOT PLACE ANY METAL TOOLS OF ANY KIND ON THE BATTERIES.** Recharging the batteries generates explosive gas. Do not smoke, light flames or make sparks. Make sure the charger is switched off before disconnecting. Recharge the batteries in a well ventilated area and keep the cover open.

**WARNING:** objects lying on the floor can be thrown at high speed by the brushes, endangering people and/or property.

**The area to be cleaned:** In order to increase the effectiveness of the detergent, the area to be cleaned should first be swept (manually or by machine) to remove loose dirt, which may quickly clog up the suction circuit.

#### **Powering up and operation:**

- Turn off the battery charger and disconnect it from the machine. Connect battery cable to machine.
- Turn the key switch, M6, to position 1 and press buttons M7 and M8;
- Lower the brush by pressing pedal M9;
- Lower the floor wiper by pressing pedal M3;
- Regulate the flow of detergent to a minimum using knob M12;
- Press lever M10, the machine will go forward, keep press the button M5, the machine will go back-ward. Releasing M10 to stop the machine
- Regulate the forward speed with potentiometer M11;

- Finally, use lever M12 to regulate the dosage of detergent according to the amount of dirt and the speed of the machine. Particularly dirty floors: Certain floors or environments require particular attention or even a second pass with the cleaner. In this case you should make one pass with the wiper raised and the brush in the working position; in this way the detergent remains on the floor for longer and will dissolve the tougher dirt. The second pass should be made with the brush and wiper lowered and at a slower speed.

#### **WARNING**

this machine is designed to work in closed industrial environments on level floors or on inclines no steeper than 2%.

Do not use flammable chemicals and/or explosives with this machine.

**Squeegee assembly:** Inspect and clean the floor squeegee weekly and make sure to restore it to its working condition. If the drying action is not perfect after cleaning the wiper assembly, remove and replace any worn rubber blades.

**Brush:** The brush must be kept in working order; to remove a worn brush proceed as follows (follow the procedure in reverse to reassemble):

- Turn off the machine (key switch in OFF position) and lift the brush with the pedal provided (M9);
- Release the catch M15 and remove the rubber spray guard;
- Turn the brush to be re-moved by hand until the coils of spring M19 are accessible;
- By closing together the coils of spring M19 with your fingers (as if you were closing a pair of scissors) the brush will free itself;

**Recovery Tank:** clean the tank every week as follows: lift the cover; remove the cover of the suction motor M1; remove the motor stop ring M13 and remove the suction motor from its seat; carefully clean the filter, net and sponge, and remove the dirt which has accumulated in the tank.

**Batteries:** Check the electrolyte level and top up with distilled water if drops below the level of the battery elements. Keep the batteries clean and dry with anti-static cloths. Recharging must be carried out with the cell plugs removed and the cover of the machine opened so as to allow the gases generated to escape.

In confined spaces these gases can be explosive, so recharging should be done in a well ventilated area.

## TROUBLESHOOTING

Trouble	Possible Cause	Possible Solution
The machine does not start up	Low battery Main fuse blown Control Card Fault	Ensure battery is charged Replace fuse* Replace Control Card
The machine does not move	Defective handle switch Blown fuse	Check/Replace handle switch Replace fuse
The brush does not rotate	Blown fuse	Replace fuse
The vacuum does not work	Blown fuse Defective vacuum switch	Replace fuse Check/replace switch
The squeegee does not recovery completely	Vacuum switched OFF Vacuum hose blocked Recovery tank lid not sealed Recovery tank full Worn/improperly adjusted squeegee blades	Turn ON vacuum Clear blockages Seat tank lid Empty recovery tank Replace/adjust squeegee blades
No solution on the brushes	Solution tank empty Solution Valve closed Solution filter clogged	Fill solution tank Open solution valve Clean filter
Insufficient Cleaning	Incorrect brush selection Incorrect detergent selection Worn brushes	Select correct brush Select correct detergent Replace brush

\* If the fuse blows several times, the machine should be checked by an authorized Service Agent



For warranty information go to [www.Powr-Flite.com](http://www.Powr-Flite.com)

***Powr-Flite***®

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