

ONYX®



DX15

Battery Floor Scrubber

Serial Numbers starting with "AH"

OPERATOR'S MANUAL

⚠️ WARNING Read and understand the Operator's Manual before use. Failure to follow instructions may result in electrocution and/or serious injury.

Table of Contents

Technical Support	2
Safety Precautions	2-4
Machine Specifications	4
Components and Controls	5
Machine Preparation	6
Unpacking Machine	
Handle Position	
Remove Recovery Tank	
Connect Battery Cables	
Re-Install Recovery Tank	
Install Squeegee	
Machine Operation	7-8
Fill Solution Tank	
Turn On Machine	
Operation Tips	
Turn Off Machine	
Drain Recovery Tank	
Drain Solution Tank	
Charge Battery	
Replace Brush, Pad Driver, or Pad	
Adjust Water Flow Rate	
Machine Maintenance	9
General Maintenance	
Battery Maintenance	
Machine Transport	9
Machine Storage	9
Troubleshooting Guide	10



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Quick Start Video
Illustrated Parts Lists
Wiring Schematics

Technical Support

Technical support is available by submitting a Technical Ticket (helpdesk ticket) at onyxsolutions.com/support, or by contacting us at 704-827-9368.

Safety Precautions

This machine is suitable for indoor commercial floor scrubbing, cleaning, and liquid squeegee pick up. All other uses are not approved.

The following terms and symbols are used to identify statements of potential hazards which affect safety of yourself and others. Read and observe all safety statements found on this Operator's Manual and on your machine.

⚠️ DANGER: The signal word DANGER indicates a hazardous situation which, if not avoided according to the instruction found in this Operator's Manual or on your machine, will result in death or serious bodily injury.

⚠️ WARNING: The signal word WARNING indicates a hazardous situation which, if not avoided according to the instruction found in this Operator's Manual or on your machine, could result in death or serious bodily injury.

⚠️ CAUTION: The signal word CAUTION indicates a hazardous situation which, if not avoided according to the instruction found in this Operator's Manual or on your machine, could result in minor or moderate injury or damage to your engine or property.

The following safety symbols are used on the product and in this Operator's Manual to alert the operator of potential safety hazards. Read them carefully, and understand their meaning.



Indicates **DANGER, WARNING, or CAUTION**



 **WARNING:** Read and understand the Operator's Manual before use. Failure to follow instructions may result in electrocution and/or serious injury.



 **WARNING:** Risk of fire, explosion, electrocution. Do not pick up flammable materials. Do not use near flammable liquids, vapors, or combustible dusts. Follow all safety precautions detailed in the battery, charging, and electrical safety section below.



 **WARNING:** Keep hands and feet clear of rotating parts such as pad, pad driver, brush, or motor parts.

 **WARNING:** The following information explains other safety precautions regarding battery, charging, and electrical safety:

- This machine contains a Lithium Iron Phosphate (LFP) battery. Risk of fire and explosion if improperly handled or disposed of. Do not expose to high temperatures, open flames, or other sources of ignition. Do not disassemble, crush, puncture, or modify the battery. Do not use in series or parallel with unapproved batteries.
- Handle the battery with care. Avoid dropping or jarring. Inspect regularly for signs of damage or swelling. Never use a damaged battery.
- Keep the battery dry. Avoid moisture or water exposure to prevent electrical shorts or corrosion. Do not use if the battery or electrical components have been exposed to rain or water.
- The battery in this machine is a maintenance-free, non-spillable battery. The battery does not require adding of any fluid such as water or battery acid. Do not attempt to open the battery. Do not alter the battery in any way. Do not attempt any battery repair.
- Inspect the battery cables and charging cord for damage prior to each use. Do not operate or charge the machine if the cable or cord is damaged.
- Do not pull on the battery cables or charging cord. Do not drag the machine by cable or cord.
- Keep battery cable and charging cord clear of hot surfaces, sharp edges, moving parts, or any other hazards which may cause damage.
- Only use extension cords rated for amp draw of the charger, as specified in the machine specifications section.
- Do not connect the machine to an outlet without proper grounding.
- Use only the specified charger. Do not use an unapproved charger, which could overcharge the battery.
- Charge only in well-ventilated areas, and avoid charging in sealed containers. Keep sparks and open flame away when charging.
- Turn off machine and disconnect battery cable and charger plug before attempting to service or make any adjustments to machine.

 **WARNING:** The following information explains other safety precautions and potential hazards during machine operation:

- Do not operate the machine unless you have read and understood the Operator's Manual.
- Do not operate unless you have been trained and authorized.
- Do not operate the machine unless all safety equipment such as guards and shrouds are in place.
- Do not operate the machine if the machine is not functioning normally.
- Only operate the machine when it is in normal, upright position.
- Do not operate the machine if any blockage prevents normal pad/brush rotation.
- This machine has rotating parts. Do not wear loose clothing/jewelry and secure long hair. Entanglement can cause serious injury.
- Stop the machine immediately and have the machine serviced by qualified personnel if you feel, hear, or experience any vibration or unusual noise.
- Take care to avoid slipping or falling.
- Do not operate the machine on sloped surfaces.
- Wear appropriate anti-skid shoes.
- Walk slowly, especially during turning and stopping. Avoid quick or sharp changes in direction.
- Pay attention for bystanders and keep distance.
- Proceed slowly and carefully when approaching a location of poor visibility, such as the end of an aisle or where walkways intersect.
- Look behind yourself prior to operating machine in reverse. Use caution and remain aware when operating machine in reverse.

- Collect and dispose any residual liquid waste in accordance with local rules and regulations.
- Operate the machine in a clear, unobstructed area. Remove any debris, clutter, or obstacles from the floor before use.

 **WARNING:** The following information explains other safety precautions and potential hazards during machine storage:

- Do not let children play on or around the machine.
- Do not leave the machine unattended in places populated with bystanders.
- Do not store the machine in places where unauthorized or untrained personnel could access or use the machine.
- Always turn off machine during storage.
- For extended storage, turn off machine, disconnect battery cable, and disconnect charger cable from wall outlet before storing.

 **WARNING:** The following information explains other safety precautions and potential hazards during machine repair & maintenance:

- Turn off the machine, disconnect battery cable, and disconnect charge cord from wall outlet before conducting any machine repair.
- Do not wear loose jacket, shirt, or sleeve.
- Wear protective gloves and eye protection when conducting any machine repair, and especially when contacting wires or other electronic components.
- Use only the replacement parts provided or recognized by the manufacturer.
- All maintenance and repairs must be carried out by qualified personnel.
- Do not alter the machine in any way, other than advised by the manufacturer.
- Some parts including motor and electrical parts can become hot enough to cause burns. Allow these parts to cool before conducting any maintenance or repairs.

 **WARNING:** The following information explains other safety precautions and potential hazards during machine transport:

- Turn off the machine, disconnect battery cables, and disconnect charge cord from wall outlet before transporting the machine.
- Secure the machine with rope or straps, when transporting on truck or trailer.
- The machine is heavy. Take care when pushing the machine up or down a ramp. Do not attempt to use a ramp with excessive incline angle or a ramp that is wet or slippery.

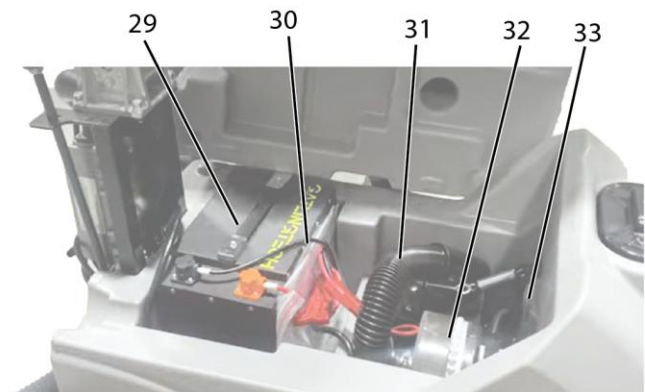
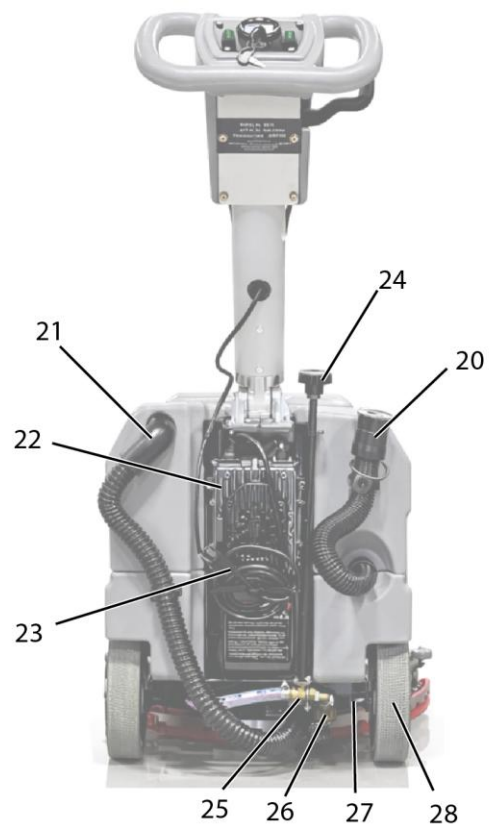
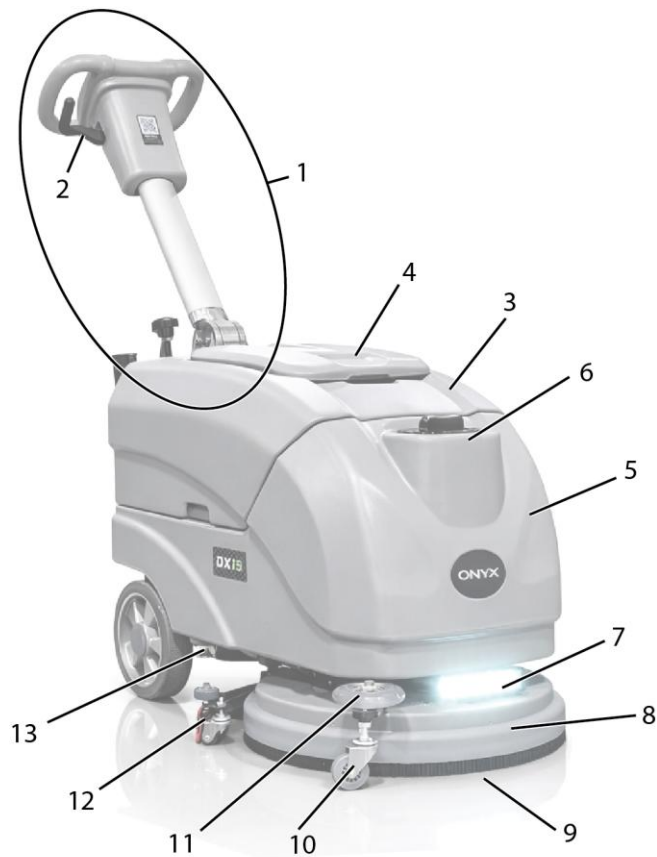
Machine Specifications

Head Size	15 inch
Recovery Tank	6.5 Gallons
Solution Tank	6.5 Gallons
Voltage	24V
Battery Type	Lithium (Lithium Iron Phosphate LiFePO4)
Battery Capacity	50 AH
Runtime	2 Hours
Brush Motor	380W
Brush RPM	200 RPM
Vacuum Motor	500W
Charger Supply Voltage	110-120V (AC)
Charger Supply Amps	5A Max
Charger Output Amps	15A
Headlight	LED Headlight Included
Squeegee Width	23 inch
Machine Weight	150 lb

Components & Controls

The following components and controls are found on your machine and referred to throughout this Operator's Manual. You must learn the names and locations of these components and controls, and understand their functions:

- | | | |
|-------------------------------|------------------------------|--------------------------|
| 1. Handle | 12. Squeegee | 23. Charger Cord |
| 2. Handle Adjustment Lever | 13. Solution Tank Drain Plug | 24. Water Flow Knob |
| 3. Recovery Tank | 14. Control Panel | 25. Water Flow Valve |
| 4. Recovery Tank Lid | 15. Brush Switch | 26. Water Filter |
| 5. Solution Tank | 16. Hour Meter | 27. Water Solenoid Valve |
| 6. Solution Tank Fill Opening | 17. Key Switch | 28. Wheels |
| 7. LED Headlight | 18. Vacuum Switch | 29. Battery |
| 8. Brush Head & Skirt | 19. Handle Grip | 30. Battery Cable |
| 9. Brush/Pad Driver | 20. Drain Hose | 31. Vacuum Hose |
| 10. Front Caster | 21. Suction Hose | 32. Vacuum Motor |
| 11. Bumper Wheel | 22. Charger | 33. Brush Motor |



Machine Preparation

Unpacking Machine

1. Cut exterior straps and/or stretch wrap.
2. Unscrew any screws that secure the carton to pallet.
3. Remove carton.
4. Cut interior straps and/or stretch wrap.
5. Identify and remove all components:
 - a. Squeegee
 - b. Pad Driver
 - c. Parts Bag
6. Set handle position to waist height, according to section below.
7. Carefully roll machine off of pallet.
8. Dispose/recycle carton material in accordance with local rules and regulations.

Handle Position

1. To release (unlock) handle and allow it to rotate/pivot, pull on the handle adjustment lever and maintain pressure on it.
2. Rotate/pivot the entire handle to a comfortable operator position, typically waist height.
3. Release the handle adjustment lever, which will lock the position.

Remove Recovery Tank to Access Battery Compartment

1. Make sure the recovery tank is fully drained, according to later section named “Drain Recovery Tank”.
2. Remove the suction hose from the rear of recovery tank.
3. Grab the recovery tank on each side, in the two depressed handle areas.
4. Carefully lift the recovery tank off of the machine, until the connected vacuum hose under the tank can be accessed.
5. Remove the vacuum hose from the port in bottom of recovery tank.
6. The recovery tank is now fully detached, and can be removed and set to the side of machine.

Connect Battery Cables

1. Locate the cable already connected to battery posts. This cable has two red connectors integrated into the cable.
2. Connect one of these red connectors to the machine harness, which comes from the front of the machine.
3. Connect the other red connector to the charger harness, which comes from the rear of the machine.
4. Bundle any loose cables to the side of the battery, and make sure that no cables will be pinched when recovery tank is replaced.

Re-Install Recovery Tank

1. Pick up the recovery tank and place it in its approximate location on top of machine, but not yet fully in position.
2. Grab the accordion vacuum hose, and insert the tapered end into the port in bottom of the recovery tank. Press firmly with slight twisting action to fully secure the hose into the port.
3. Set the recovery tank precisely in its position on top of machine.
4. Install the suction hose into the port in the rear of recovery tank. Press firmly with slight twisting action to fully secure the hose into the port.

Install Squeegee

1. Remove the two center wingnuts on squeegee from the two center threaded studs.
2. Place squeegee in its general location under the machine directly behind the brush head.
3. Raise the spring loaded squeegee mounting bracket, and insert the two threaded studs into the two holes in the bracket.
4. Install the two wingnuts onto the two threaded studs, and firmly tighten.
5. Insert the suction hose over the suction elbow of the squeegee.
6. Confirm that the squeegee can rotate fully from side to side without interference, pinching, or restriction from the suction hose. Make adjustments to hose routing if necessary.

Machine Operation



WARNING: Understand all instructions in this Operator's Manual before operating machine. If this is your first attempt to operate machine, seek training from an experienced operator, supervisor, or trainer.

Fill Solution Tank

1. Locate the solution tank fill opening, and remove the cover.
2. Add water to solution tank, paying attention to the water level by looking into the fill opening.
3. Stop filling when water level is very near the fill opening's rim.
4. Replace the fill opening cover.

Turn On Machine

1. Rotate key switch clockwise to "ON" position.
2. Confirm that LED headlight illuminates, which indicates that the machine is powered and on.
3. Press the brush switch forward to engage the brush motor and spin the brush (or pad driver).
4. Press the vacuum switch forward to engage the vacuum motor to produce suction and collect water through the squeegee.

Operation Tips

- Always maintain a firm grip with both hands.
- Overlap your cleaning paths by 1-2 inches, to ensure full cleaning coverage.
- If you notice streaks behind the machine, you may have debris caught by squeegee. Press down on handle to raise head, and allow any squeegee debris to fall down onto floor.
- To clean against a wall, walk with the wall on your right hand side and let the bumper wheel roll along the wall.
- The rotation of brush/pad on the floor will naturally produce an assisting force to help drive the machine forward. To avoid fatigue, do not over-push the machine, and instead let the machine do the work.
- To clean under low areas, such as desk or table, you can temporarily rotate the handle all the way back and very low off floor.
- To maneuver in tight corners, you can temporarily rotate the handle vertically, to allow for tight turning radius.
- The squeegee will naturally follow or "track" behind the head. For example, if you swing the machine to the left, the squeegee will naturally swing to the right. To effectively clean tight spots and corners, use this swinging motion to improve water recovery.
- Prior to scrubbing the floor with this machine, it is recommended to use a dust mop to sweep and collect any large debris on the floor.

Turn Off Machine

1. Press rearward on the Brush Switch and Vacuum Switch to disable each respective function.
2. Turn the key switch counterclockwise to the "OFF" position.
3. Confirm that the LED headlight turns off, which indicates that the machine is unpowered and off.

Drain Recovery Tank



CAUTION: Only drain the machine in an approved drain compliant with local rules and regulations. Draining the recovery waste water in an unapproved location can cause facility damage, and can violate local rules and regulations.

1. Maneuver the machine so rear of machine is near proper drain location, such as floor drain or mop sink.
2. Pull the drain hose out of its securing clamp.
3. Raise the drain hose end to be higher than recovery tank.
4. Remove the plug from the end of drain hose.
5. Slowly lower the drain hose until the recovered water starts to pour out.
 - a. Note: the lower you position the drain hose, the faster the water will drain. If the water is draining from the machine faster than it can flow down into the drain, you should raise the drain hose to slow down the water flow.
6. Continue draining until the recovery tank is fully empty, and give time to allow any leftover water droplets to drain out.
7. During and after draining, use fresh water hose to spray the recovery tank interior walls. This will help to remove grit, prevent buildup, prevent odors, and extend the life of machine.
8. Replace the drain hose plug into the end of drain hose.
9. Replace the drain hose back into its securing clamp.
10. After draining, leave the recovery tank lid open to help the tank air-out and prevent odors.



CAUTION: Failure to rinse and maintain recovery tank interior will lead to premature failure and will not be covered under warranty.

Drain Solution Tank

1. Maneuver the machine so solution tank drain plug is directly over desired drain location, such as floor drain or mop sink.
2. Remove the solution tank drain plug by turning it counterclockwise.
3. Allow the solution tank to fully drain.
4. Replace the solution tank drain plug by screwing it into the drain (turning clockwise). Finger tighten.

Charge Battery

 **WARNING:** Fully understand all safety warnings and instruction in this Operator's Manual before attempting to charge battery. In particular, review the prior Safety Precautions section regarding battery, charging, and electrical safety.

1. Turn off machine, according to prior section.
2. Unwrap the charger cord from its cord wrap/hooks.
3. Plug the charger into the wall outlet. The charger will automatically enter its charging state, indicated by red flashing light and audible charger fan.
4. Once charging is complete, the charger fan will turn off, and the indicator light will change to green.
5. After charging, unplug the charger and wrap the charger cord.

Replace Brush, Pad Driver, or Pad

1. Position the handle in a near upright position.
2. Carefully pull back/down on the handle to rock back the machine and lift the head into the air.
3. Set the handle on the floor and make sure the machine is balanced and secure.
4. Remove the brush or pad driver, by turning it clockwise, which will cause the three tabs on driver to release it.
5. At this point, you can install a new pad, by releasing the retaining clip, installing pad, and reinstalling retaining clip.
6. Reinstall the brush or pad driver, by pressing it toward the three-tab driver, aligning the tabs, and turning the brush/pad driver counter clockwise.
7. Carefully rock the machine back to its normal position, by lifting on the handle to lower the head back to the floor.

Adjust Water Flow Rate

1. The machine is equipped with a water flow knob in the rear of the machine, easily accessible from operator position. Turning this knob turns the water flow valve (ball valve) in the lower rear of machine.
2. To increase the flow of water, turn the water flow knob incrementally counterclockwise.
3. To decrease the flow of water, turn the water flow knob incrementally clockwise.
4. NOTE: in addition to this water flow valve & knob, the machine is also equipped with an electric water solenoid valve, which serves as the automatic shutoff valve. Therefore, when you turn off the machine you do not need to manually close the water flow valve. Instead, you can keep the flow valve at the desired flow rate.

Machine Maintenance

General Maintenance

Prior to each use, check the following components and functions. Arrange an authorized service provider to replace/repair parts as necessary:

- All fasteners are tight and secure
- Battery cable and charger cord are free from wear/damage
- Switches are in good working order
- Brush motor and vacuum motor engage properly and rotate smoothly
- LED headlight illuminates properly
- Bumper wheel and brush skirt are securely in place and free from damage/wear
- Pad/brush is in good condition
- Squeegee blades are in good condition and effectively picking up water
- All hoses are in good condition and free of wear, rips, or punctures
- No abnormal sounds or vibrations from machine
- Water filter is clean and unobstructed

Battery Maintenance

- Charge the batteries immediately after every use, even if the depletion was minimal.
- Leave the battery plugged in until next use. The charger will monitor the battery and will not over-charge it.

 **CAUTION:** The most unhealthy condition for the battery is to remain in a fully depleted state for an extended duration of time (multiple days or weeks). Recharge a depleted battery right away. Never allow a battery to remain depleted for extended periods of time. Failure to promptly recharge the battery can cause the battery to be unable to be recharged, and will void all warranty.

Machine Transport

To transport the machine within a facility, the machine can be rocked back onto its rear wheels, and rolled “dolly-style” on the floor:

1. Position the handle to slightly rearward but almost vertical.
2. Grab handle grips with both hands, and firmly press downward and pull rearward to rock the machine back.
3. Rock the machine back until it reaches its natural state of balance.
4. Roll the machine on its rear wheels using the dolly-style method, keeping the pad or brush off the floor.

For long distance transport on a trailer or vehicle:

1. Disconnect battery cable from battery, and make sure charger cord is unplugged and wrapped on machine.
2. Make sure both the recovery tank and solution tank are fully drained.
3. Secure machine using ropes or tie-down straps.

TIP: The recovery tank and battery can be removed and loaded individually, allowing the main machine to be lighter and easier to handle.

TIP: Put the handle in the forward position to make the machine compact and save space during transport.

Machine Storage

1. Disconnect battery cable from battery, and make sure charger cord is unplugged and wrapped on machine.
2. Make sure both the recovery tank and solution tank are fully drained.
3. Inspect the machine for any damage or wear. If needed, have the machine repaired by an authorized service technician.
4. Store the machine in an indoor, climate-controlled location.

Tip: Remove pad driver and brush during storage, to prevent them from becoming deformed while pressed against the floor.

Tip: Put the handle in the forward position to make the machine compact and save space during storage.

Tip: Open the recovery tank lid during storage, to help the tank air-out and prevent odors.

Troubleshooting Guide

<u>Problem</u>	<u>Potential Reason</u>	<u>Solution</u>
Nothing happens when key is turned on.	Battery is depleted.	Charge battery.
	Battery is disconnected.	Connect battery cables.
	Key switch is faulty.	Repair/replace key switch.
	Charger is plugged in, and disabling machine function.	Unplug charger from wall outlet.
	Failure to some other electrical component, wire, or circuitry	Have machine inspected by qualified service technician.
Light illuminates when key is turned on, but brush or vacuum motor does not function.	Brush switch or vacuum switch is damaged/faulty.	Replace faulty switch.
	Motor is damaged/faulty.	Replace motor.
	Electrical issue with internal motor/switch wiring.	Have machine inspected by qualified service technician.
Battery does not charge.	Charger cord is not plugged in.	Fully plug charger cord into wall outlet.
	Facility wall outlet is not powered.	Have facility outlet/circuit inspected by qualified electrician.
	Battery is not connected to charger cable.	Connect charger cable to battery.
	Charger is damaged/faulty.	Replace charger.
	Battery is damaged/faulty.	Replace battery.
	Electrical issue with internal switch, circuitry, or wiring.	Have machine inspected by qualified service technician.
Solution/fresh water is not flowing.	Solution tank is empty.	Fill solution tank.
	Water flow valve is closed.	Open water flow valve.
	Faulty water solenoid valve.	Replace water solenoid valve.
	Water filter is clogged.	Service water filter.
	Other blockage in water line.	Remove blockage.
	Electrical issue with internal switch, circuitry, or wiring.	Have machine inspected by qualified service technician.
Motor turns slowly or roughly.	Carbon brush on motor is worn.	Replace carbon brush or entire motor.
Motor turns, but brush does not turn.	Internal gear is damaged/stripped.	Replace motor.
Poor water recovery.	Squeegee blades are worn.	Replace squeegee blades.
	Recovery tank is full, and float stop is blocking air flow.	Drain recovery tank.
	Float stop is stuck in closed position.	Free the float stop.
	Recovery tank lid is not seated.	Install recovery tank lid in proper position.
	Recovery tank lid gasket is worn.	Replace gasket.
	Blockage in suction hose or vacuum hose.	Clear blockage.
	Vacuum motor is faulty.	Replace vacuum motor.
	Loose, damaged, or disconnected hose.	Tighten or replace as required.
Excessive vibration/noise.	Motor is damaged/faulty.	Have motor inspected by qualified service technician.
	Loose fastener.	Tighten fastener.
	Pad is not centered on pad driver.	Reinstall pad in center of pad driver.
	Pad/brush is compressed and uneven.	Install new pad/brush.
	Pad driver/brush is not secured properly onto motor coupler.	Reinstall pad driver/brush and properly secure onto motor coupler.
Burning smell or smoke observed.	Motor is damaged/faulty.	Have motor inspected by qualified service technician.
	Damage to other electrical component.	Have machine inspected by qualified service technician.



We believe that tomorrow can, and will, be better than today.

But, it won't happen on its own.

T H E F U T U R E S T A R T S W I T H Y O U

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