

Ride-On Floor Scrubber

Operation Manual

Dual-brush type & Single-brush type

Be sure to read this manual before using the machine

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1. Introduction



Please read this manual before using the machine

1.1 Purpose of the Manual

This manual has been prepared by the manufacturer and is an integral part of the machine.

It outlines the purpose for which this machine was designed and manufactured, containing all information required by the operator.

In addition to the operating manual, other manuals concerning maintenance and servicing are also published with this manual.

Operating and maintaining the machine according to the manual ensures operator and machine safety, reduces operating costs, achieves high-quality results, and extends the machine's service life. Failure to do so may result in injury to the operator and damage to the machine, as well as compromise the cleanliness of the floor environment.

To quickly locate topics of interest, refer to the manual's table of contents. Text requiring special attention is highlighted in bold and accompanied by symbols and illustrations.

! DANGER

This symbol indicates that special attention is required. Failure to understand the operating instructions may result in personal injury or even death.

! IMPORTANT NOTICE

This symbol indicates that special attention is required to prevent damage to the machine or disruption of the work environment, which could lead to financial loss.

! INFORMATION

This symbol indicates that special attention is required to achieve optimal cleaning results and extend the machine's service life.

Special Operating Considerations

Manufacturers reserve the right to make improvements to the machine without prior notice, as products undergo continuous updates and enhancements.

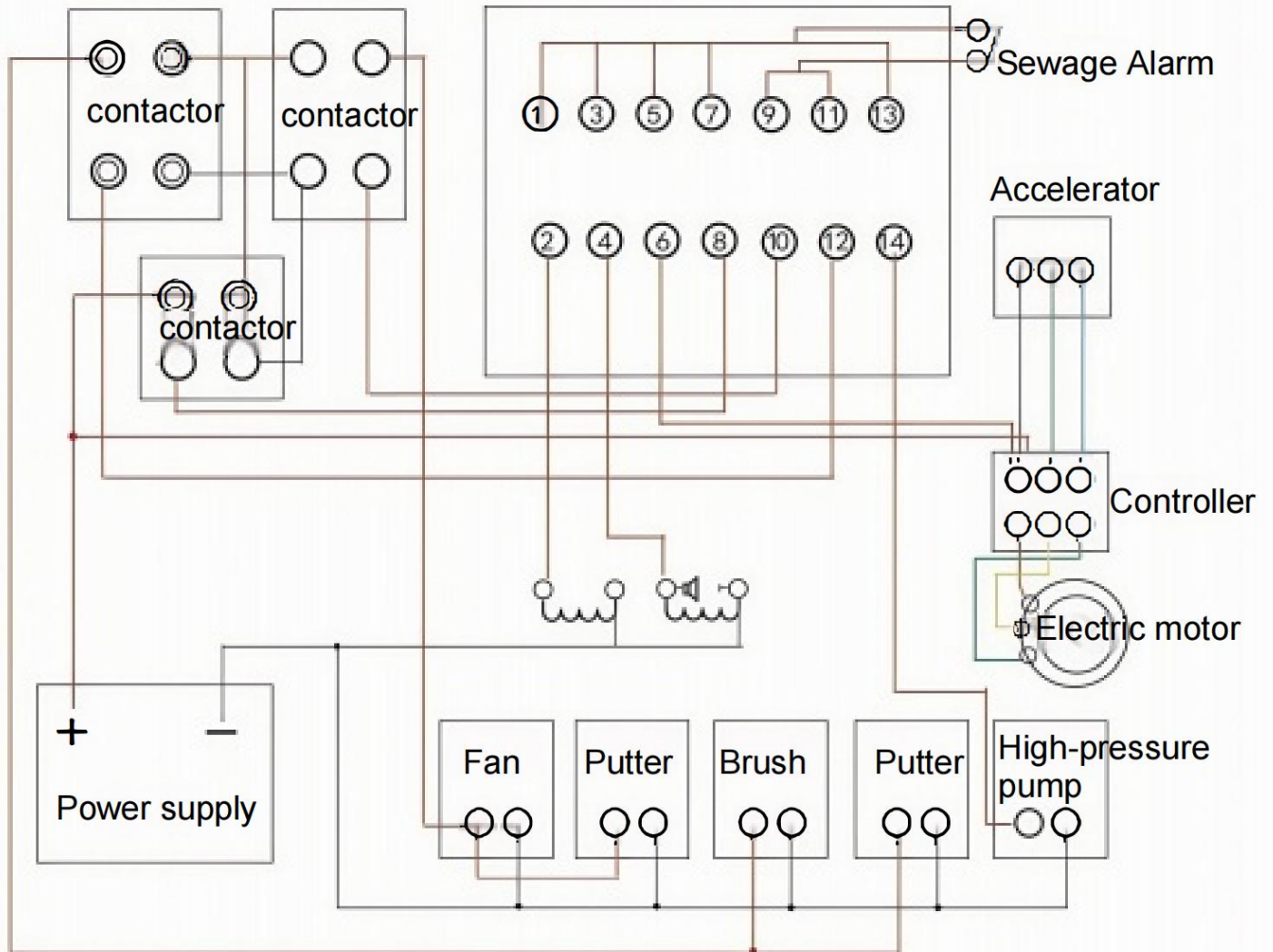
Even if the machine you purchased differs slightly from the images in this manual, the safety and informational content herein remains applicable to your machine.

1.2 Included Documentation

- ◆ User Manual
- ◆ Certificate of Conformity

2. Diagram & Table

2.1 Electrical Wiring Diagram



Notes :

1/2 Headlight	3/4 Speaker
5/6 On/Off	7/8 Power lock
9/10 Fan	11/12 Brush
13/14 High-pressure pump	

2.2 Fault Code Reference Table

Classification	Panel Indicator Light	Number of Flashes	Fault Content	Solutions and Causes
Control Panel	Headlight Indicator	Constant flashing	Headlight overload	Instantaneous current exceeds 7A
	Wastewater Indicator Light	Constant flashing	Wastewater tank is full	Clean the wastewater tank
YG2402F Dual-Channel Controller	Fan Indicator Light	Constant flashing	Fan overload or short circuit	Check whether the water-absorbing motor is burnt out or experiencing severe sparking.
	Brush Work Indicator	Constant flashing	Brush plate overload or short circuit	Check whether the brush motor is burnt out or overloaded
YG24140 Drive Controller	Fault Indicator Light	Flash once in succession	Electromagnetic brake not engaged	Check whether the electromagnetic brake plug and wiring are loose or disconnected
		Flash twice in succession	Drive motor not connected	Check whether the drive motor wiring is loose or disconnected
		Flash three times in succession	Pushing Mode	After disabling push mode, restart the power supply to resolve the issue.
		Flash four times in succession	Master Control Circuit Failure	Replace the controller and return it to the factory for repair.
		Flash five times in succession	Main control circuit or motor short circuit fault	If the device operates within 10 seconds of initial power-up, it may be a false trigger. If it continues to flash after powering on again, replace the controller.
		Flash six times in succession	Motor overload	Restart the power supply and check whether the drive motor is overloaded.

Flashing Pattern:

For example, when the implementation mode is activated, it indicates a fault. After flashing three times consecutively, pause for 1-2 seconds, then flash three times consecutively again, pause for 1-2 seconds, and repeat this cycle.

3. Technical Information

3.1 Overview

This machine performs two major tasks in one step: cleaning floors and sucking up dirty water. It is suitable for flat or moderately rough surfaces in both residential and industrial settings.

The floor scrubber automatically dispenses appropriately concentrated cleaning solution and fresh water onto the surface to remove contaminants. Carefully select the appropriate cleaning solution and floor brushes to suit different floor cleaning requirements.

This machine incorporates built-in fresh water and dirty water tanks, enabling simultaneous floor cleaning and wastewater recovery. Its operational principle utilizes suction generated by the water suction motor installed in the dirty water tank. This suction draws dirty water through the squeegee and recovers it into the dirty water tank.

3.2 Figure & Table

The main components of the machine are as follows (Figure 1)



Figure 1: Diagram of Machine Components

1. Steering Wheel
2. Control Panel
3. Seat
4. Charging Port
5. Accelerator Pedal
6. Lighting Lamp
7. Warning Light
- 8 Wastewater Tank
9. Fresh Water Filling Port
10. Fresh Water Filling Hose
11. Fresh Water Level Indicator
12. Fresh Water Tank
13. Suction Nozzle
14. Drive Motor
15. Brush Disk / Needle Disk
16. Water Skirt
17. Emergency Stop
- 18 Water Drain Port

Machine Operation Panel
Diagram (Figure 2)

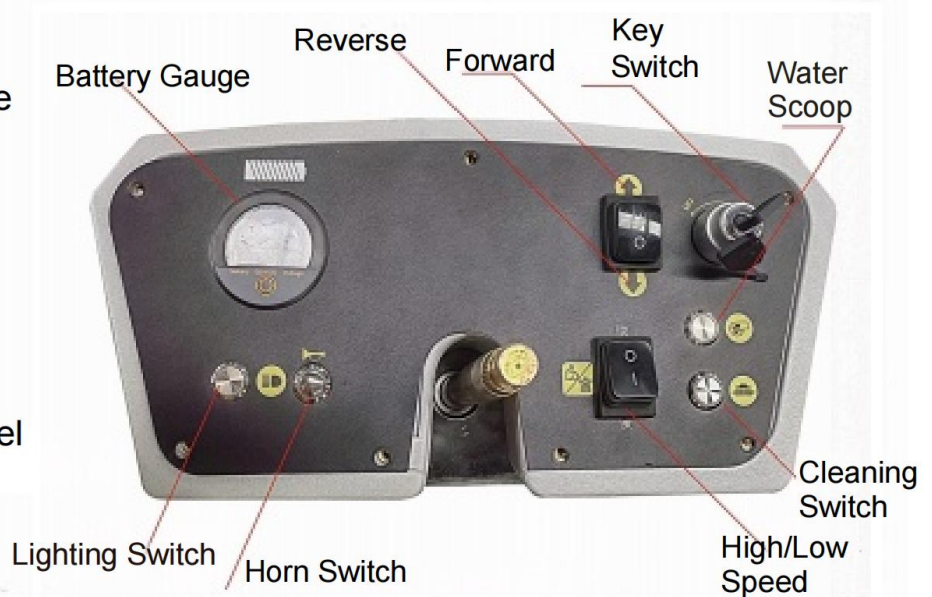


Figure 2: Diagram of Operation Panel

3.3 Hazardous Areas

Water Tank System: Irritation to eyes, skin, mucous membranes, and respiratory tract when using commercially available approved cleaning agents. Hazards arise from contaminants (bacteria and chemicals) collected from the surrounding environment. Risk of pinching injury from the water tank also exists.

- ◆ Control Panel: Risk of short circuit.
- ◆ Floor Brush Chassis: Rotating floor brushes pose a hazard during operation.
- ◆ Rear Wheels: Pinch hazard exists between rear wheels and chassis.
- ◆ Battery Compartment: Risk of short circuits between battery terminals and hydrogen gas accumulation during charging.

4. Safety CodeSafety Code



Please read this manual before using the machine

! IMPORTANT NOTICE

Strictly adhere to this manual (especially critical information involving hazards or warnings) and the accompanying safety guidelines. The manufacturer shall not be held liable for any serious consequences arising from failure to follow these instructions.

The machine may only be operated by trained and competent personnel. Minors are prohibited from operating the machine.

The machine must not be used for purposes beyond its intended design scope. When used in specialized environments (e.g., pharmaceutical companies, hospitals, chemical plants), strict adherence to safety standards and workplace conditions is mandatory.

Do not operate the machine in poorly lit areas, locations with flammable or explosive substances, on roadways, or in places harmful to health.

The machine's optimal operating temperature range is 4°C to 35°C. Do not use the machine when temperatures fall below 0°C or exceed 50°C. The

machine's optimal ambient humidity range is 30% to 95%.

Do not use the machine to suck up flammable or explosive liquids (e.g., gasoline, fuel oil), flammable gases, dry powders, or even diluted acids or solvents (e.g., paint thinner, acetone). Do not suck up burning or hot objects.

Do not operate the machine on slopes exceeding 12° incline. On gentle slopes, avoid lateral movement of the machine.

Proceed with caution and do not reverse. When operating on steep inclines, take care to prevent machine overturn or uncontrolled acceleration. Advance slowly on slopes with the floor brush and squeegee raised.

Never park the machine on a slope under any circumstances.

Always shut off the engine before leaving the machine. Ensure the machine cannot start unexpectedly.

Wherever you work, be mindful not to harm people around your workspace, especially children.

Do not use the machine for transporting or towing objects. Towing the machine is strictly prohibited.

Do not store any items on the machine.

Do not block ventilation openings or heat dissipation components.

Do not arbitrarily remove or modify the machine's safety devices.

Numerous incidents demonstrate that wearing personal items during operation can cause serious accidents. Therefore, remove jewelry, watches, ties, and similar items before starting work.

Workers must wear protective clothing and gear—aprons or work uniforms, slip-resistant waterproof shoes, rubber gloves, goggles, ear protection, and masks to protect respiratory tracts.

Do not insert hands into moving machine parts.

Prohibit use of non-compliant cleaning agents. Adhere to relevant safety guidelines.

Store cleaning agents out of children's reach. If cleaning agent accidentally

splashes into eyes, immediately rinse thoroughly with copious amounts of water. If cleaning agent is swallowed, seek medical attention immediately.

Ensure the charger's power outlet is properly grounded and equipped with overcurrent protection.

Verify all electrical parameters (voltage, frequency, power) on the machine match the supply power specifications.

Batteries must be used and maintained according to the manufacturer's instructions. Keep batteries clean and dry to prevent leakage. Protect batteries from contamination by foreign substances, such as metal dust.

Do not place tools on the battery, as this may cause short circuits or explosions. When handling battery fluid, strictly adhere to relevant safety guidelines.

The machine operates in high magnetic fields, which may cause electronic control systems to malfunction.

Never use a water gun to clean the machine.

Machine-recycled wastewater contains detergents, disinfectants, organic and inorganic substances, and must be treated in accordance with local regulations.

If the machine malfunctions during operation, immediately turn off the power supply, disconnect the battery, do not tamper with the machine, and contact an authorized service center as soon as possible.

All maintenance work must be performed on level ground after disconnecting the machine's power supply.

Except for procedures clearly described in this manual, all electrical maintenance and repairs must be performed by qualified professionals.

To ensure operator safety, use only genuine manufacturer-supplied parts.

Do not use components removed from other machines.

This machine is designed for a 10-year service life. After this period, regardless of continued use, the machine must be disposed of in accordance with local regulations.

5. Transportation and Installation

5.1 Loading, Unloading and Transportation of Machines

! IMPORTANT NOTICE

During lifting operations, ensure the machine is securely fastened to prevent tipping or accidental falls. Load and unload only on level surfaces.

The machine is shipped secured to a wooden pallet by the manufacturer. Use appropriate equipment to load it onto transport vehicles. Upon arrival at the destination, use the same equipment for unloading.

The squeegee is packaged in a cardboard box.

When moving the machine with a forklift, handle it together with its packaging. During operation, take care to avoid collisions and tipping.

5.2 Inspection Upon Machine Arrival

After the machine is delivered to its destination, inspect both the machine and its packaging for damage. If the machine is damaged, notify the logistics company before accepting delivery and request compensation in writing.

5.3 Unpacking the Machine

! IMPORTANT NOTICE

When unpacking, operators must wear necessary protective gear (gloves, safety goggles, etc.) to minimize accident risks.

Follow these steps to remove the machine:

- ◆ Cut the plastic straps with scissors and pliers;
- ◆ Remove the cardboard boxes;
- ◆ Dismantle the wooden frame secured to the wooden pallet;
- ◆ Open the ramp on the wooden pallet and slide the machine off the pallet;
- ◆ Remove the floor brush and squeegee;
- ◆ Open the sealed paper bag inside the battery compartment and verify the following items are present: operating manual and certificate of conformity
- ◆ Clean the area around the machine.
- ◆ After removing all packaging, you may install the battery.

Please retain the machine's packaging for reuse when transporting the

machine to another location or sending it to a service center. Otherwise, dispose of the packaging according to local regulations.

! DANGER

Failure to follow the instructions in this manual may result in serious injury to persons or property, and will void any manufacturer's warranty.

5.4 Battery

The machine can be equipped with either of the following battery types:

◆ Lead-acid battery: Regularly check the electrolyte level. If low, add distilled water. Do not overfill (level should be 5mm above the battery plates).

◆ Gel batteries: These batteries require no maintenance. All electrical specifications of the battery must match the machine's requirements. Using an excessively heavy battery may cause poor maneuverability and overload the brush motor. Using a battery with insufficient capacity will result in frequent recharging.

The battery must be charged regularly, kept clean and dry, and ensure all connections are secure.

! IMPORTANT NOTICE

The battery type of the floor scrubber is determined by the manufacturer's factory settings.

5.4.1 Battery Preparation

! DANGER

When installing or maintaining batteries, operators must wear necessary protective equipment (gloves, goggles, work pants, etc.) to minimize the risk of accidents. Keep away from open flames, avoid short circuits between terminals, prevent sparks, and do not smoke.

The battery is typically pre-filled with lead-acid electrolyte and ready for use. If the battery is empty, follow these steps:

- ◆ Open the battery cap and add electrolyte to each cell until the fluid level covers the plates.
- ◆ Allow 4 to 5 hours for bubbles to escape and the plates to absorb the

electrolyte.

◆ Ensure the electrolyte level remains above the plates. Add more electrolyte if necessary.

Replace the battery cover. Install the battery into the machine (following the steps below).

◆ Before using the machine for the first time, charge the battery according to the relevant instructions.

5.4.2 Battery Installation and Connection

! DANGER

Ensure all switches on the control panel are in the “0” (stop) position. Ensure the battery cable with the “+” terminal is connected to the positive terminal of the battery.

Do not attempt to determine battery polarity by starting the engine.

Follow these instructions carefully, as shorting the battery terminals may cause the battery to explode.

- 1) Ensure both water tanks are completely drained.
- 2) Lift the freshwater tank and tilt it backward 90 degrees while supporting it to reveal the battery compartment.
- 3) Place the battery into the battery compartment.

! IMPORTANT NOTICE

Before opening the water tank, first remove the suction hose from the squeegee.

- 4) Connect all battery cables and apply petroleum jelly to the battery terminals.

! IMPORTANT NOTICE

Use appropriate equipment to lift the battery for installation.

The positive and negative battery terminals have different diameters (battery terminals come in various specifications).

- 5) Return the clean water tank to its normal operating position.
- 6) Refer to the following guidelines to begin using the machine.

5.4.3 Battery Removal

! DANGER

When removing the battery, the operator must wear necessary protective equipment (gloves, safety goggles, work pants, etc.) to minimize the risk of

accidents. Ensure all switches on the control panel are in the “0” (stop) position. Keep away from open flames, avoid short circuits between electrodes, prevent sparks, and prohibit smoking.

- ◆ Disconnect the battery cables from the battery terminals.
- ◆ If necessary, remove the securing straps from the battery first.
- ◆ Use appropriate equipment to remove the battery from the battery compartment.

5.5 Battery Charger

! IMPORTANT NOTICE

Do not allow the battery to become excessively discharged, as this will cause irreversible damage to the battery.

5.5.1 Charger Selection

Ensure the charger is suitable for the battery to be charged:

- Tubular lead-acid batteries: An automatic charger is recommended. Consult the charger manufacturer and refer to the manual to confirm your selection.
- Gel batteries: Use a dedicated charger.

5.5.2 Preparing the Charger

The unit comes with a dedicated charger for floor scrubber batteries, which is also suitable for lead-acid batteries.

If you are using a charger not supplied with the unit, ensure the selected charger connector matches the machine's socket.

5.6 Machine Packaging and Transportation

! IMPORTANT NOTICE

All operations must be performed on level surfaces, with the most appropriate safety measures implemented according to the prevailing conditions.

Operators must wear personal protective equipment.

Follow these steps to load the machine onto a transport vehicle:

- ◆ Empty the fresh water tank and waste water tank;
- ◆ Remove the squeegee and floor brush (or scrub pad);
- ◆ Remove the battery;
- ◆ Place the machine on a wooden pallet and secure it with metal brackets or strapping;
- ◆ Use a forklift to load the pallet with the machine onto the transport vehicle;

- ◆ Secure the machine and pallet to the transport vehicle using safety straps.

6. User Operation Guide

6.1 Installing and Adjusting the Water Scoop

The water scoop is the first step in drying the floor.

Follow these steps to install the water scoop onto the machine:

- 1) Insert the water suction hose into the water scoop.
- 2) Loosen the two knobs in the center of the water scoop.
- 3) Place the water scoop onto the slot of the water scoop bracket.
- 4) Tighten both knobs on the squeegee.

The squeegee blade removes water and cleaning solution from the floor. Over time, the edges of the blade that contact the floor may become rounded or cracked, reducing suction effectiveness. To maintain optimal performance, replace the blade promptly. Regularly inspect the blade for wear.

For optimal water pickup, adjust the squeegee blade to ensure the rear rubber edge forms a 45-degree angle with the floor during operation while maintaining full contact. Adjust the blade's curvature by altering the height of the squeegee wheels while the machine is running.

6.2 Installing and Replacing the Floor Brush/Brush Roll (Standard Configuration)

! IMPORTANT NOTICE

Do not start the machine before installing the floor brush/needle plate.

Installing the floor brush/needle plate:

- 1) Open the water skirt, rotate the brush motor drive plate, align it with the locking groove, and push upward. Turn the brush counterclockwise until it locks into place.
- 2) To remove the needle plate/brush, simply lift the machine head and rotate the needle plate/brush clockwise.
- 3) Inspect the brush to ensure it is positioned correctly.

6.3 Use of Cleaning Agents

! IMPORTANT NOTICE

Dilute cleaning agents according to manufacturer's instructions. Do not use bleach or oxidizing agents (especially highly concentrated types). Do not use solvents or saturants. The temperature of water or cleaning agents must not exceed specified parameters. Water must be free of sand or other impurities. This machine may only use low-foaming cleaning agents specifically designed for floor scrubbers.

Contact the manufacturer for the latest and complete cleaning agent information.

Select the appropriate cleaner based on the floor type and soil condition.

Use cleaners in accordance with the relevant safety manual.

6.4 Pre-Work Preparations

! IMPORTANT NOTICE

Before starting the machine, wear protective clothing, a hat, slip-resistant boots, etc., according to the work environment. Also wear a respirator mask as recommended by the cleaning agent supplier to protect your respiratory system.

Before beginning work, follow these steps:

- ◆ Check the battery charge level. If low, recharge it.
- ◆ Ensure the waste water tank is empty. Drain the tank if necessary.
- ◆ Fill the fresh water tank with water mixed with low-foam detergent at the appropriate concentration through the inlet beneath the seat. Leave at least 5 cm of space between the water level and the inlet.
- ◆ Select the appropriate brush or needle pad for the surface to be cleaned.
- ◆ Ensure the squeegee is securely attached and connected to the suction hose. Verify the rear squeegee blade is not worn or damaged.

! INFORMATION

If the operator is using this machine for the first time, please select a spacious area for training. Before refilling the clean water tank, always empty the wastewater tank.

To achieve optimal cleaning results and extend the machine's service life, please follow these simple guidelines when operating the machine.

- ◆ Clear the work area beforehand and move obstacles out of the way as much as possible.
- ◆ Work during times with minimal foot traffic to prevent re-soiling of the floor.
- ◆ Operate the machine in straight lines whenever possible during cleaning.
- ◆ For large areas requiring cleaning, divide the space into several rectangular sections and clean them separately. If necessary, use a mop or cloth to dry

areas inaccessible to the large floor scrubber.

6.5 Adjust steering wheel angle

The steering wheel angle can be adjusted using the adjustment lever to achieve a comfortable driving feel.

6.6 Machine operation

- ◆ Prepare before starting the machine.
- ◆ Follow these steps:
 - 1) Sit in the seat.
 - 2) Without pressing the accelerator, turn the switch to the “ON” position. Observe whether the battery indicator displays normally.
 - 3) Press the accelerator pedal.
- ◆ Grip the steering wheel firmly, apply pressure to the accelerator, select forward or reverse direction, and maneuver the floor scrubber to the work area. Adjust the scrubber's speed by varying accelerator pressure to achieve the maximum speed range.

! IMPORTANT NOTICE

The machine is equipped with a headlight switch. Please turn on the headlights when driving in low-light areas.

! IMPORTANT NOTICE

The machine is equipped with a safety device to prevent overturning. When accelerating and turning sharply, reduce speed to enhance safety and prevent the machine from tipping over.

! IMPORTANT NOTICE

Please avoid lingering in one spot for extended periods during work to prevent damage to the floor.

Ending Operation (Shutdown):

- ◆ Release the throttle pedal.
- ◆ The machine does not have a brake pedal as it is equipped with an automatic braking system. When the throttle pedal is released, the machine will automatically brake.
- ◆ Pressing the brush deck and water suction switch buttons will stop all functions.

! IMPORTANT NOTICE

Always empty the waste tank before refilling the clean water tank.

! DANGER

Operators must use appropriate protective equipment. Disconnect the power supply when discharging wastewater.

When the wastewater tank is full, the liquid level indicator light will illuminate, and the suction motor will automatically stop after a few seconds. You must cease cleaning operations and empty the wastewater from the tank.

To empty the wastewater tank:

- 1) Release the accelerator pedal.
- 2) Press the brush and suction buttons to deactivate all functions.
- 3) Drive the scrubber to a drainage area.
- 4) Empty the wastewater tank via the drain hose. Rinse the tank with clean water.

Emptying the Fresh Water Tank:

- 1) Follow steps 1–3 above.
- 2) Open the drain valve to empty the fresh water tank. Rinse the tank with clean water.

! IMPORTANT NOTICE

When cleaning the wastewater tank, do not remove the filter screen, and do not spray water directly onto the filter screen.

At this point, you can resume cleaning operations.

Pushing or pulling the machine:

When the machine cannot be driven, to push or pull it easily, you must lock the electromagnetic brake handwheel or screw: the standard machine uses a locking handwheel. After completing the machine's movement, you must release this handwheel to disengage the electromagnetic brake.

7. Machine Storage

If the machine will not be used for an extended period, remove the squeegee and floor brush (or needle plate), wash them thoroughly, and store them in a dry location (preferably in a sealed plastic container).

Ensure the water tank is completely emptied and cleaned.

The battery must be fully charged before storing the machine. During long-term storage, the battery must be periodically recharged (at least once every two months) to maintain its charge.

! IMPORTANT NOTICE

Failure to periodically recharge the battery may result in permanent damage.

8. Maintenance and Charging of Batteries

! DANGER

Do not use a spark to determine battery polarity.

Batteries release hydrogen gas.

Keep away from sparks or open flames.

Keep the battery compartment open during charging.

Perform battery maintenance in a well-ventilated area.

To avoid irreversible damage to the battery, do not allow it to become completely discharged.

8.1 Charging Procedure

◆ Plug the charger into a power outlet.

◆ During initial charging, the left red light flashes. When fully charged, the right green light illuminates.

Pressing the button on the charger displays the following characters:

Refer to the charger manual for details.

V: Voltage

H: Charging time

AH: Ampere-hours

bv: Lead-acid battery indicator

A: Current charging current

◆ Unplug after charging is complete.

9. Machine Maintenance

! DANGER

Before servicing the machine, be sure to disconnect the main power supply.

All maintenance involving electrical components must be performed by certified and trained professionals, strictly adhering to safety regulations and the instructions in the manual.

9.1 Maintenance Overview

Follow the manufacturer's guidelines for regular maintenance to enhance machine performance and extend its service life.

When cleaning the machine, observe the following precautions:

- ◆ Do not use high-pressure water jets or other water spray devices to clean the machine, as water may penetrate circuit boards or motors and cause short circuits.
- ◆ Do not use steam cleaners, as they may deform the machine's plastic components.
- ◆ Do not use solvents or hydrocarbons, as they may damage the machine housing or rubber parts.

9.1.1 Daily Maintenance

After daily cleaning operations are completed, perform the following maintenance tasks:

- ◆ Empty and clean the waste water tank.
- ◆ Clean the squeegee blade and inspect for wear. Replace with a new blade if necessary.
- ◆ Check the suction inlet of the squeegee for blockages. Remove any debris inside.
- ◆ Charge the battery according to the relevant specifications.

9.1.2 Weekly Maintenance

- ◆ Clean the float switch in the dirty water tank to ensure it functions properly.
- ◆ Clean the suction motor's filter screen and inspect for damage. Replace if necessary.
- ◆ Clean the clean water filter screen and inspect for damage. Replace if necessary.
- ◆ Clean the suction hose.
- ◆ Clean the clean water tank and dirty water tank.

! IMPORTANT NOTICE

Before opening the water tank, first remove the suction hose from the squeegee.

- ◆ Check the battery fluid level. Add distilled water if insufficient.

Have a qualified technician inspect the electrical system.