ICS CLEAN SUPPLIES

EQUIPMENT MAINTENANCE GUIDELINES

General equipment maintenance & troubleshooting guidelines for machine longevity.

Presented by: ICS Clean Supplies
V.2023

Guide Overview

General Maintenance & Trouble Shooting Guidelines

Presented by: ICS Clean Supplies

1.0 Maintenance

These are the general guidelines for mechanical scrubbing equipment to help ensure your equipment provides years of uninterrupted performance. Specific operating guidelines for each type of equipment are available in your **operator manual**.

WARNING!

Prior to performing any checks or maintenance make sure the machine is parked on a level surface with the key off. When servicing a machine, keep all metal objects off batteries. Avoid all contact with battery acid.

The following actions should be performed each time prior to operating. NOTE: the machine should be ready to operate once the brushes and/or pads, squeegee assembly and hoses are connected and installed, as the **Daily Post Operation Maintenance** would have been performed at the end of the previous shift.

1.1 Daily Maintenance " Pre Operation"

Below you will find a comprehensive daily maintenance check-list for all "pre operation" standards.

- Disconnect the charging unit (would have been plugged in from previous shift)
- Check the battery fluid (not required with AGM batteries)
- Check charging level of your machine
- Check the vacuum fan inlet filter
- Check and install the scrubbing brushes
- Check and install the squeegee assembly unit NOTE: do not over tighten!
- Check the vacuum hose for debris or blockage and connect to squeegee inlet
- Check the solution and recovery tanks (ensure recovery tank is clean & empty)
- Check debris tray (remove any debris if required)
- Fill in the solution tank

Maintaining the cleanliness of your equipment is the number 1 step in ensuring optimal daily performance and is the easiest task for everyone to complete!

1.2 Daily Maintenance " Post Operation"

The following actions are to be performed at the end of every shift and/or use of your equipment.

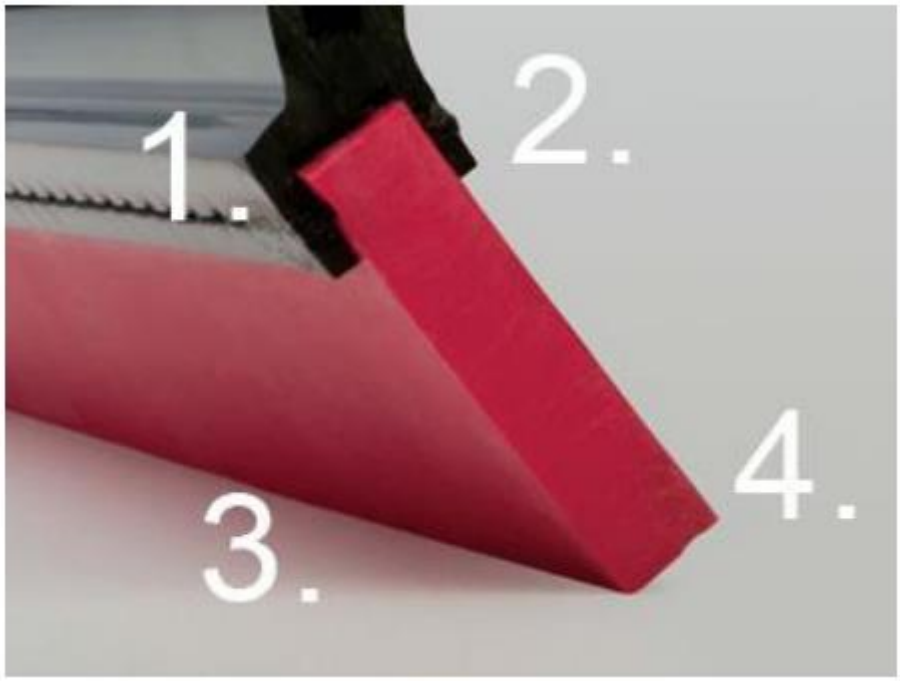
- Remove, check and clean drive head, brushes and pads. Hang to dry

Always remove the pad driver/brush at the end of the day in order to clean it of any dirt & debris. If you do not clean the pads and/or brushes you will risk leaving small rocks or other particles that will damage your floor*

- Remove, clean and check squeegee assembly for ware and hang to dry (see squeegee maintenance example)
- Drain hose solution tank and clean as required
- Drain and clean recover tank. Ensure to rinse all of the dirt & debris out of the tank and drain hose
- Remove and clean float
- Remove scrub head skirt (if applicable), check for damage, clean and install on machine.
- Check wheels for damage & ware.
- Charge batteries; plug the machine in to charge at the end of your shift. (see batteries-proper charging method)
- When charging, always leave lid up so that batteries can breathe and do not overheat.
- Check the service records to determine additional maintenance requirements.

1.3 Weekly Maintenance

- Remove water flow filter and clean screen. Install the cleaned screen back onto your unit.
- Remove squeegee assembly. Check ware on squeegee blades and flip to clean edge if required.
- There are 4 edges to every squeegee blade. **GENERAL RULE:** flip blades once the ware pattern gets close to the halfway point (see diagram below).
- Once both edges ware on one side, flip to the other side and repeat process. This will significantly prolong the life of your squeegee blades and save money.



1.4 Additional Machine Maintenance

NOTE: each machine has required maintenance tasks based on the machine operating hours, please consult with the operator manual for your specific machine.

2.0 Batteries & Proper Charging Methods

The life of your batteries depend heavily on proper maintenance. To get the most life from your batteries it is imperative to take the necessary steps to maintain and service them.

- Do not charge the batteries more than once a day and only after running the machine for a minimum of 15 minutes.
- Do not leave the batteries partially discharge for long periods of time.
- Only charge the batteries in a well-ventilated area to prevent gas build-up. Charge batteries in areas with ambient temperatures of 80F/ 26C or less.
- Allow the charger to complete charging the batteries before re-using the machine.

WARNING!

DO NOT opportunity charge. **Opportunity charging** is when you plug the machine in for a quick top up and then unplug the machine before it is able to complete a full

charge cycle. If you do this, the batteries will burn out very quickly and will need a replacement well before its expectancy.

- Always charge the machine at the end of your shift. Whether you have 75% battery left or 30% battery left it is BEST PRACTICES to plug the machine in and let it complete a full charge.
- When Charging, always leave the lid up so that batteries do not overheat.

2.1 Types of Batteries

Machines are equipped with either Flooded (WET) Lead Acid Batteries or Maintenance Free Sealed Batteries (AGM). It is imperative you know the difference.

Flooded (WET) Lead Acid Batteries

The flooded (wet) lead acid batteries require routine watering as described below.

- Check the battery electrolyte level weekly. The electrolyte level should be slightly above the battery plates before charging. Add distilled water if low.

DO NOT OVERFILL!

The electrolyte will expand and may overflow when charging. After charging, distilled water can be added up to about 3mm (0.12 in) below the sight tubes.

Maintenance Free Sealed Batteries (AGM)

These batteries DO NOT require watering. Cleaning and other routine maintenance is still required.

3.0 Troubleshooting Guidelines

The following are troubling shooting tops for common issues you may encounter while operating **walk-behind** and **self-propelled** cleaning equipment. They are intended to allow you to identify and solve the problem before calling a service technician.

3.1 Electrical System Troubleshooting

Issue:

If the machine will not move with the key in the on position or if you receive flashing lights on the console.

Solution:

Check to see if the red emergency stop button is pushed in. If it is, twist button a quarter turn until you feel it pop back out. Reset the machine (turn the key off and on) to see if the issue is fixed.

Issue:

If a brush motor or vacuum motor does not seem to be working.

Solution:

Locate the breaker and fuse box to see if any of the fuses have been burnt, or if any of the breakers are popped out. NOTE: if a breaker is popped out, push the button back in and reset the machine. If this does not solve the issue, then you know it is a bigger problem and a service technician will need to be arranged.

WARNING!

DO NOT troubleshoot an electrical issue outside of the breakers as a certified technician is necessary for anything above and beyond.

3.2 Water Flow Troubleshooting

If you are finding that the machine is not releasing water as it typically should, there are a few areas that we can look at.

1. Ensure that the water flow setting is set to dispense water.

If the machine is still not releasing water, look underneath the machine and you will see a **clear twist off filter** with a small screen inside. Remove this filter and clean out the screen.

2. Install the filter back onto the machine and check if this has fixed your issue.

If this has not fixed the problem, it is most likely a solenoid that needs to be replaced and a service technician will have to be arranged to resolve the issue.

3.3 Water Recovery System Troubleshooting

The squeegee assembly is a VITAL piece to ensure we are getting the best possible pick up. If you are finding the squeegee is leaving streaks or not picking up water as it should be, here are a few things to check:

Step 1:

Check for “simple”: Your issue could be a piece of hair or debris stuck under the squeegee. In this case, lift the squeegee and give it a wipe with a cloth or a rag. This will alleviate the streaking.

Step 2:

If no debris found in step 1, check for the cleanliness of the overall squeegee; or if the blades need to be flipped as demonstrated in 1.3 Weekly Maintenance. Remove the squeegee from your machine and thoroughly clean.

Step 3:

If the squeegee blades are wearing down close to the half way point, it is time to flip them to the other side. You will be able to get significantly more life out of your squeegees if you continue to monitor this process.

NOTE: Keep in mind that you can flip the squeegees 4 different ways. (Both front and back can be flipped 4 ways) In order to have the squeegees ware evenly, flip rear squeegee every week and front squeegee every other week.

Step 4:

If you find that the squeegee is not picking up water this could be a result in a clog in the recovery hose. To diagnose this issue you will want to:

- With the vacuum motor running, take the vacuum hose off of the squeegee and check to see if you are getting suction at any point. If you are not, then you know there is likely a clog in the hose and it will have to be flushed out with regular running water.

All of the above steps should fix any issues, but if for some reason this does not, reach out to a service technician for further diagnosis of your machine.