

Powr-Flite®

Multi-Wash Scrubber

Service Manual



Model# PFMW14

Written by: Brian Copeland

Table of Contents

<u>General Safety Instructions</u>	3
General Guidelines	3
Safety During Machine Operation	3
<u>Machine Operation</u>	4
Operating Instructions	4
Before Operation Starts	4
Recommended Washing Sequence	4
<u>Care of The Machine</u>	5
Maintenance	5
<u>Electrical</u>	6
Wiring Diagram	6
<u>Troubleshooting</u>	7
Machine has no power	7
Water leaking from bottom of clean water tank	8
Water leaking from drip bar	8
Brushes not spinning - Motor hums	9
Brushes not spinning - Grinding Sound	10
Drum not spinning - Grinding Sound.....	11
<u>Work Instructions</u>	12
Replacing Drum / Motor	12

Please be advised explicitly that we, Tacony Corporation, cannot accept any legal claims out of the contents of this manual. If repair work has to be performed, make sure that only genuine parts are used. Genuine parts only may guarantee continuous and dependable operation of your machine.

Tacony Corporation
1760 Gilsinn Ln
Fenton, MO 63026

General Safety Instruction

General Guidelines

- This machine is for **WET** scrubbing only.
- Apart from information contained in this manual, generally applicable legal provisions for safety and prevention of accidents must be adhered to.
- Do not put this manual aside without reading it thoroughly and in its entirety, even if you have already operated similar floor cleaning equipment before.
- Preparing yourself for the use and maintenance of your machine can save time later.
- The operator is responsible for all persons in the working area.
- Children must be kept away from the machine during operation.
- No person must be allowed to remain in the zone of danger.
- The warning and instruction plates attached to the machine give important advice on safe operation
- Replace lost or illegible stickers.
- Before use, the operator must check that the machine and its working components are in proper and safe operating condition.
- Machines with known defects must not be used.
- It is important for operators and all persons likely to use the product, to familiarize themselves with all accessories and controls, as well as their functions, before use.
- To avoid risks, all repairs and replacement of spare parts may only be carried out by authorized service repair personnel.
- Ensure all parts are fitted properly before operation.
- Never use excessive foaming or highly corrosive cleaning agents.



Never collect explosive fluids, undiluted acids and solvents. This includes: gasoline, paint thinners or fuel oil, which-when combined with air, may form explosive vapors or mixtures. Acetone, undiluted acids and solvents can be aggressive to the material used for the machine components.



Do not clean the machine by means of high pressure jet or high pressure cleaning equipment.



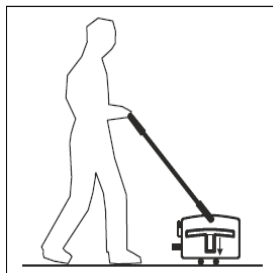
Use only genuine spare brushes as specified by the Manufacturer. Use of other than the indicated brush types may affect safety and function.

Safety during machine operation

- Floor cleaning machines must be run by qualified personnel only.
- The machine may be used to clean surfaces approved by the owner or this authorized operator.
- The operator must use the machine in accordance to its intended fields of application.
- The machine must be unpacked and assembled in accordance with the instructions found in the Operator's Manual before connecting to the electrical supply.
- Keep hair, loose clothing, hands, feet and all other parts of the body away from openings and moving parts.
- Take care when using a machine near the top of stairs to avoid over balancing.
- During operation, the operator must take account of local conditions (stairs, obstacles) and of other persons, particularly children.
- Do **NOT** use the machine on stairways or steps.



- Before moving the machine, select the **Transport** mode.
- Slide the knob to bottom position to move the machine from one place to another and to park the machine

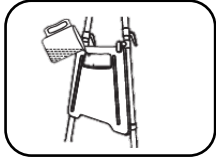


Operating the Machine

Before the washing operation starts

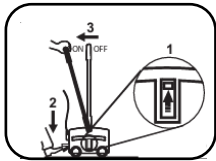


Warning! Pre-sweep the floor to remove debris before using the Multiwash.



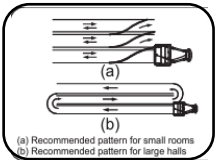
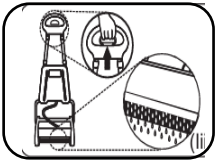
1. Verify that the brushes are fitted properly.
2. Fill fresh water tank with cleaning solution (diluted with water).
3. Insert the plug into a grounded 3-prong outlet.

Recommended washing sequence



1. Start the machine by pressing the handle release pedal and pulling the handle back
2. Move forward, while sparingly pulling the solution control handle. This handle should only be pulled intermittently, based on the floor type and the amount of soil on the floor. For tiled or stone floors, apply very little water.
3. Stop the solution discharge approximately 12 inches before the end of forward motion. Continue to move forward up to the wall without pulling the pull handle.
4. Pull the machine backwards in the same track, but without discharging any solution. When you reach the starting point, change the track and repeat steps 2 through 4. When you are changing the track allow some overlap with the cleaned area. In case of large halls, take a U-turn and move forward. If quick drying is required, move on the same track without discharging any solution.
5. When you are finished with the cleaning operation, switch off the machine and unplug the power cord. Lift the recovery tank lid and remove the recovery tank. Empty the tank, rinse with clean water and clean off the steel wiper blade before replacing the tank on the machine

Model (Standard)



(a) Recommended pattern for small rooms
(b) Recommended pattern for large halls

Important – dispose of dirty water in accordance with all local, state and federal hazardous material disposal regulations.

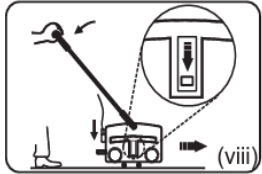


Warning! Avoid touching the sharp edge of the dirty water tank. It may cause injury.

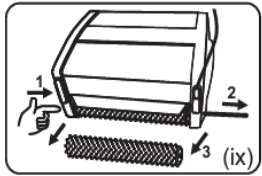
Care of the Machine



Warning! Before cleaning the scrubber, switch off the machine and unplug from the electrical supply.



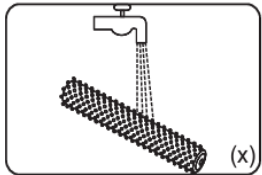
1. Move the Transport / Working mode control knob to **BOTTOM** (Transport) position.



2. Disconnect the power supply by unplugging the electrical plug and loop the cable over the cable holders on the handle.

3. Pull out the dirty water tank and wash it completely.

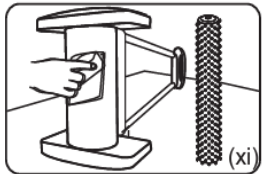
4. To prevent possible clogging of filter, drain cleaning liquid and keep the fresh water tank clean.



5. Remove the brushes by pushing the brush shaft out.

6. Wash the brushes either by dipping in a bucket, sink or under running water.

7. Turn the machine sideways and wipe clean the conveyor and machine body with a damp cloth.



8. Re-install the brushes after washing. It is easier to push the brush shaft from the right hand side (identified by the electrical cable).

9. Store the machine in a dry indoor area only.

MAINTENANCE



Warning! Before undertaking any maintenance operations or adjustments, switch off the machine and unplug from the electrical supply.

• Power Cord

- Regularly inspect power cord, plug and strain relief for damage or loose connection.

• Brushes

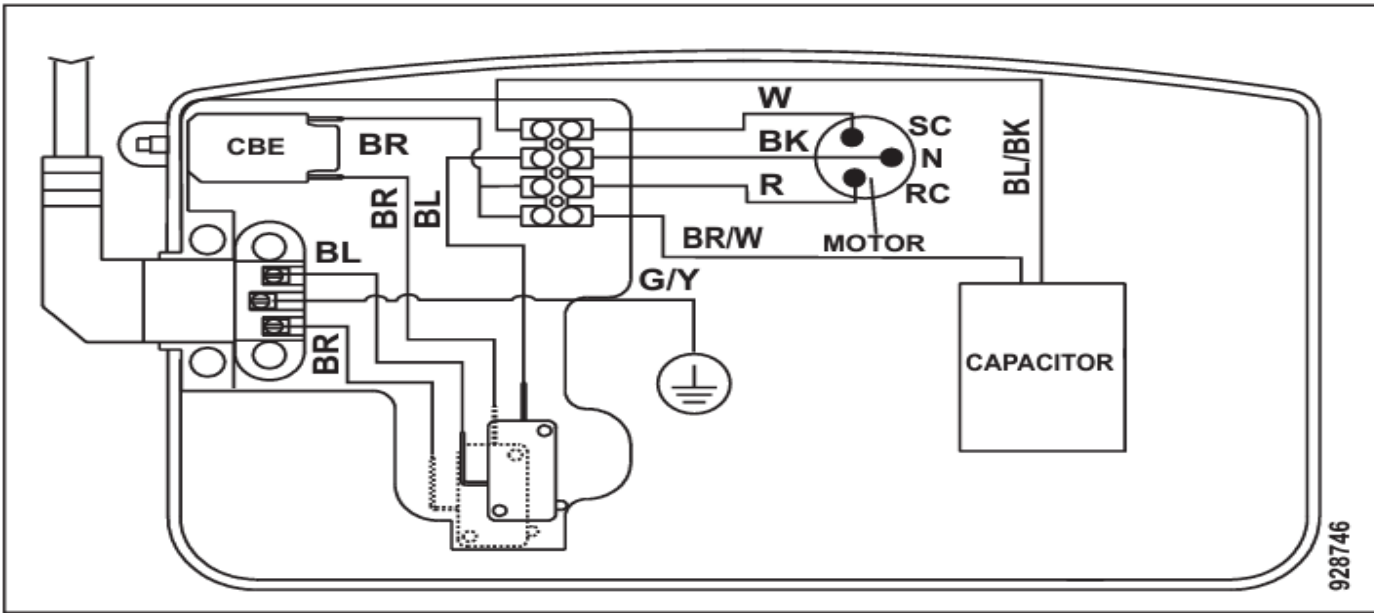
- For maximum life, wash the brushes regularly. Ensure machine is in Transport mode when not in use. Store additional brushes in a vertical position to avoid bending of bristles. Check for permanent bending of bristles in a particular direction. This may occur if the machine is not operated for several days. Remove the brushes when not in operation, which is recommended. If this occurs, reverse the brush so that the bent bristles are automatically straightened.

Care of the Machine

MAINTENANCE - CONTINUED

- **Wiper Blade**
 - After years of use, the wiper blade may wear. If this occurs, the water collection performance will decrease. It should be replaced by an authorized service agent.
- **Solution Tank Filter**
 - The filter prevents clogging of the drip holes in the tank. Periodically clean the filter to ensure uniform discharge of liquid. In case of non uniform discharge from the drip holes, back flush the tank in running water. Clean the drip holes using wire or a blunt pin.

ELECTRICAL DIAGRAM



Abbreviations given in the diagram as listed:

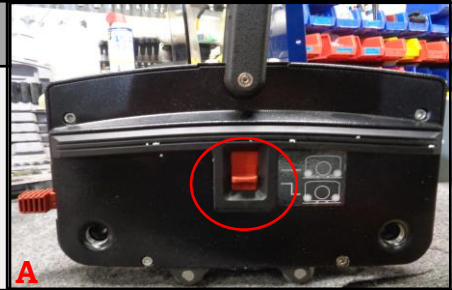
Abbreviation / Symbol	Description	Abbreviation / Symbol	Description
CBE	Circuit Breaker	G/Y	Green / Yellow
BR	Brown	SC	Starting Coil
BL	Blue	RC	Running Coil
W	White	N	Normal
BK	Black	⊕	Ground

Troubleshooting

PROBLEM: Machine has no power when switched ON.

Resolution

1. Check that the scrubber is in “Working Mode”, on Idle side housing.
 - On the “Idle Side” housing, if the red lever is in the ↓ that indicates “Transport Mode”. If the red lever is in the ↑ that indicates “Working Mode. (Figure A)



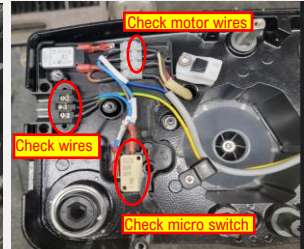
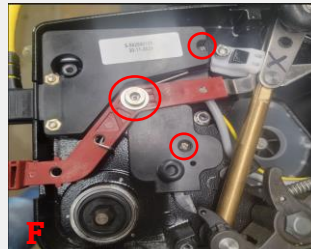
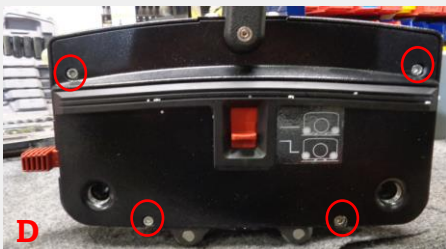
2. Check the power supply, making sure there is 120v at the equipment end.
 - You can do this by using a Multi-Meter on the AC voltage setting. With the cord plugged into the wall outlet, put the two probes into the equipment end of the cord and verify the cord has 120v. Figure B



3. Check whether the circuit breaker is tripped.
 - Check the circuit breaker located just above the yellow power cord. Push in the dome to reset the circuit breaker. Figure C



4. Check the micro switch, wirings, and power supply to brush motor.
 - Using a 5mm allen wrench, remove the (4) allen screws on the Idle side housing, and remove cover. Figure D
 - Using a 3mm allen wrench, remove the (2) allen screws on the opposite side of the Idle side housing cover. Figure E
 - Remove the 5mm allen screw on the red foot lever, and the (2) philips head screws to remove the plastic cover. Figure F

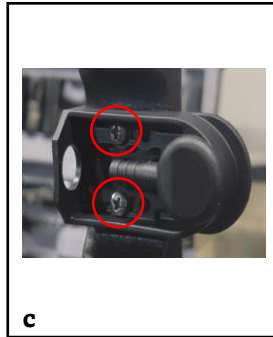
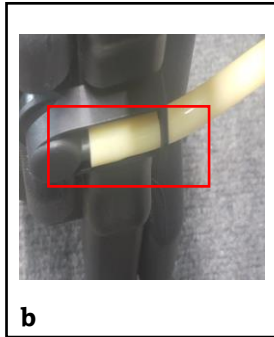


Troubleshooting

PROBLEM: Water leaking from bottom of clean water tank.

Resolution

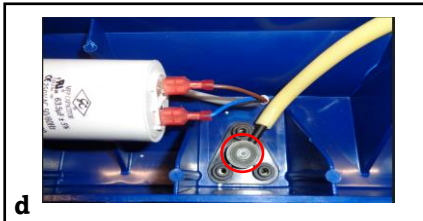
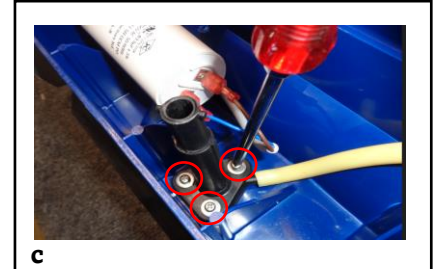
1. Base Valve Assembly faulty - Replace Assembly
 - a) Remove Clean Water Tank from handle.
 - b) On bottom side of the handle, remove the solution hose.
 - c) Remove the (2) philips screws.
 - d) Replace base valve assembly.



PROBLEM: Water leaking from drip bar.

Resolution

1. Valve Body Seal is faulty – Replace Seal
 - a) Press and twist counter clockwise to release pull cable from Tank Lid.
 - b) Using a flat head screwdriver, pry open both sides of Tank Lid to open.
 - c) Remove the (3) philips head screws from the Valve Cap.
 - d) Remove and replace seal.



Troubleshooting

PROBLEM: Brushes not spinning, motor hums.

Resolution

1. Check for possible faulty Capacitor.
 - a. Press and twist counter clockwise to release pull cable from Tank Lid
 - b. Using a flat head screwdriver pry open both sides of Tank Lid to open.
 - c. Disconnect wires from Capacitor.
 - d. Discharge Capacitor - (*Instructions for discharging and testing capacitor are below*).



How to Discharge and Test a Capacitor:

Release the Charge

- Since a capacitor stores an electric charge, you'll need to release that energy before you can safely work on it to eliminate the risk of shock. Use the metal end of your screwdriver to connect the electrical terminals to each other to release the charge.
- Make sure you use a screwdriver with a plastic or rubber-insulated handle and don't allow your hands to come into contact with any exposed metal on the screwdriver while you're releasing the charge in the capacitor.

Identify the Capacitors Rating

- You'll need to know what you're looking for before you can test your capacitor. Check the capacitor label for its microfarad (MFD) rating, which is a measurement of the amount of electricity the capacitor can store.
- If you're testing a single capacitor, you'll find a single microfarad rating on the label. Dual capacitors have two microfarad ratings; the higher rating is for the START while the lower rating is for the RUN.
- Next to the microfarad ratings, you'll also see a percentage on the label with a plus and minus sign. This percentage tells you how far off the listed microfarad ratings the capacitor can be and still function properly. For example, a capacitor with a rating of 25 microfarads and a plus or minus rating of 5% will have readings between 23.75 and 26.25 microfarads on the multi-meter if it is functioning normally.

Troubleshooting

Set up the Multi-Meter

- Turn the dial on the multi-meter to the setting for capacitance. Most multi-meters use the symbol “—|—” to signify capacity. You should also see a uF symbol on the display, which stands for Microfarads. If you're not sure which setting on the dial to use, consult the multi-meters instructions for how to find the setting for testing capacitance. After you have the multi-meter dialed in, plug the two probes into the meter's outlets.

Test the Capacitor

- How to test a capacitor varies depending on whether you have a SINGLE capacitor, which has two terminals, or a DUAL capacitor, which has three terminals.

Testing a Single Capacitor

- Connect the test leads to the capacitor terminals. Keep test leads connected for a few seconds to allow the multi-meter to automatically select the proper range. Read the measurement displayed. If the capacitance value is within the measurement range, the multi-meter will display the capacitor's value. It will display OL if a capacitance value is higher than the measurement range or the capacitor is faulty.
 - Capacitors have a limited life and are often the cause of a malfunction.
 - Faulty capacitors may have a short circuit, an open circuit or may physically deteriorate to the point of failure.
 - When a capacitor short circuits, a fuse may blow or other components may be damaged.
 - When a capacitor opens or deteriorates, the circuit or circuit components may not operate.
 - Deterioration can also change the capacitance value of a capacitor, which can cause problems.

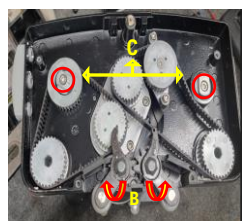
PROBLEM: Brushes not spinning and there is a grinding sound.

Resolution – Stripped Nylon Gears

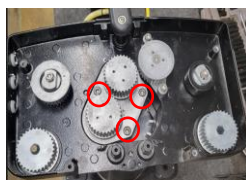
- A. Using a 5mm allen wrench, remove the (4) allen screws on the drive side cover.
- B. Remove the cover and Transport Wheels to access the gears and belt.
- C. Using a 5mm allen wrench, loosen the allen screw on the Idler Assembly and the Sprocket Hub.
- D. Remove both belts.
- E. Remove the (3) 5mm allen screws on the Gear Housing.
- F. Remove Gear Housing, look at the (white) nylon gears, replace if needed.



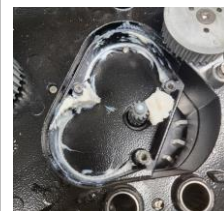
A



B & C



E

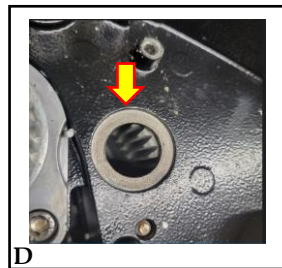
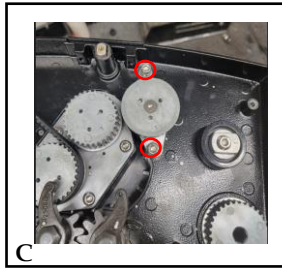
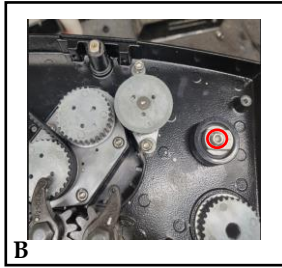
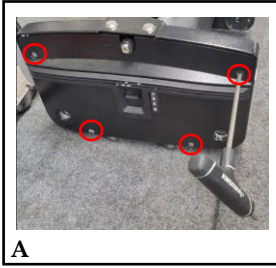


Troubleshooting

PROBLEM: Drum not spinning and there is a grinding sound.

Resolution – Check for stripped teeth on Drum.

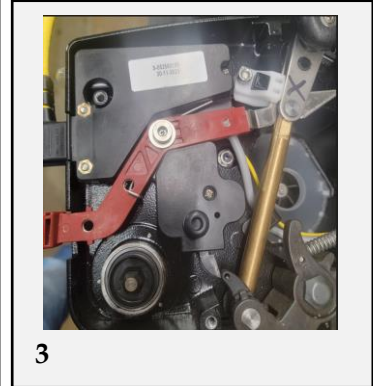
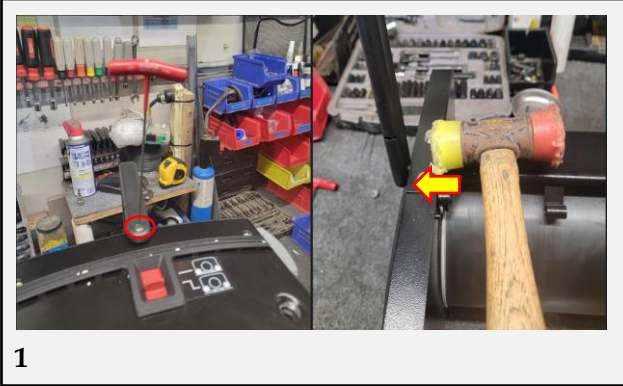
- A. Using a 5mm allen wrench, remove the (4) allen screws on the drive side cover.
- B. Using a 5mm allen wrench, loosen the allen screw on the Idler Assembly (Belt Tensioner) and remove the belt.
- C. Remove the (2) 5mm allen screws on the Drum Pinion Assembly, and pull the Drum Pinion out.
- D. Visually inspect the teeth on the drum to make sure there are no stripped teeth. If so, replace the drum (See work instructions for replacing drum/motor).



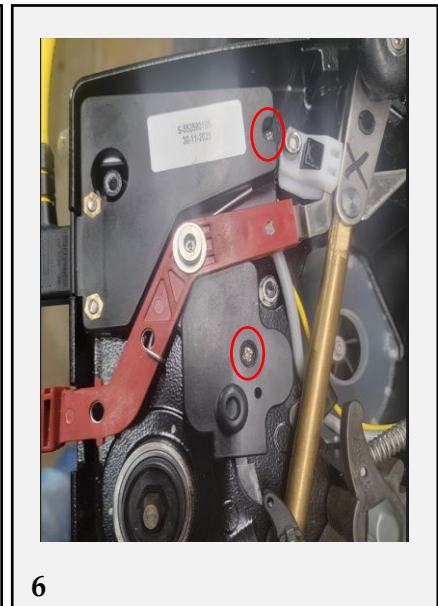
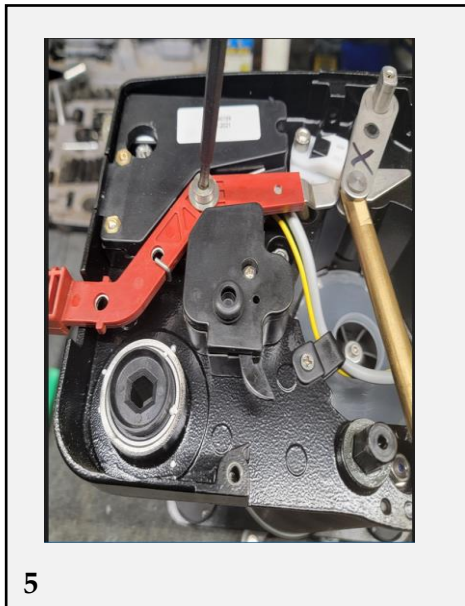
Work Instructions

Replacing Drum or Motor

1. Remove the 3mm allen screw on both sides of the handle, pull the handle away from the Idle and Drive side cover. *This may require using a rubber mallet and tapping the handle to free it from the cover.*
2. Remove the (4) 5mm allen screws on the Idle Side Cover. *This is the side with the foot lever and circuit breaker.*
3. Remove the Idle Side Cover.

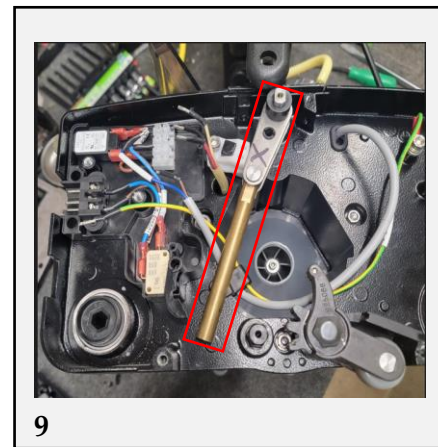
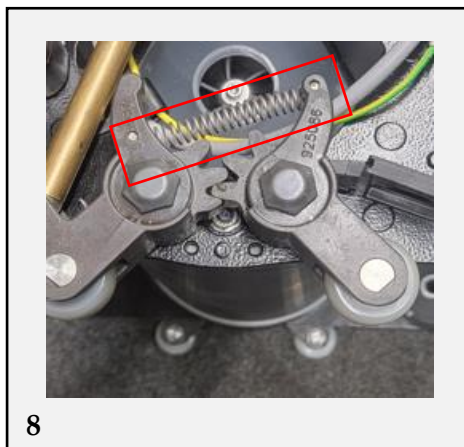
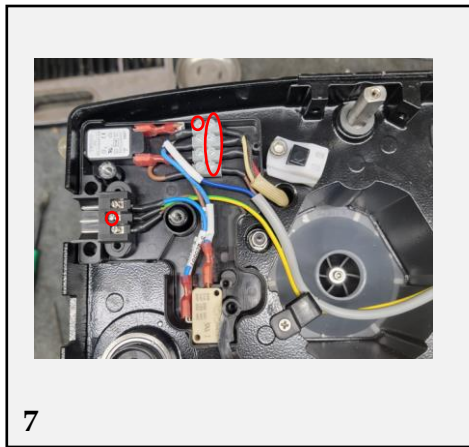


4. Remove the (2) 3mm allen screws that are located on the opposite side of the electric cover.
5. Using a 5mm allen wrench, remove the screw on the foot lever and remove foot lever. *(Be sure not to lose the spring on the underside of the foot lever).*
6. Remove the (2) philips head screws on the electric cover, and remove cover. *(Be sure not to lose the rubber boot located on top of the electric Cover).*

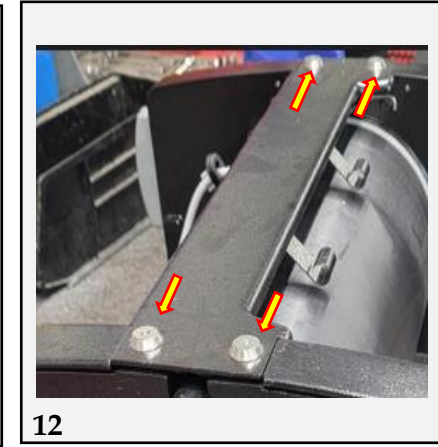
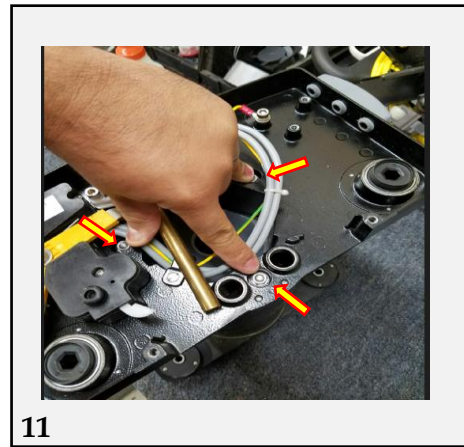
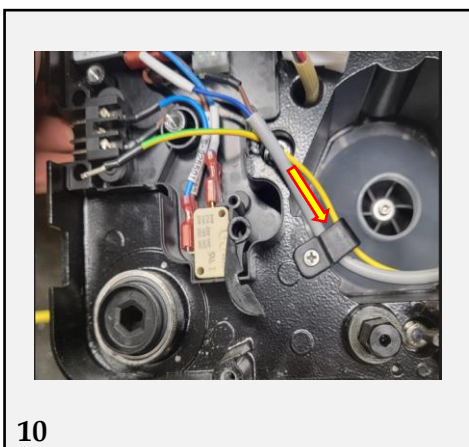


Work Instructions

7. Once the electric cover is removed, you will need to use a “small” flathead screwdriver, to loosen and remove the GRN/YLW ground wire from the receptacle. Next, remove the dark BLU wire going into the terminal block. On the opposite side of the terminal block remove the white, black, red (motor wires) and brown wire (dark blue and brown wires are the capacitor wires).
8. Remove the spring that is attached to both transport wheels and remove wheels.
9. Pull the linkage guide off of the handle shaft. *(Be sure to mark the top of the linkage guide with an X, this will help with making sure the appropriate side gets put back on during reinstallation).*



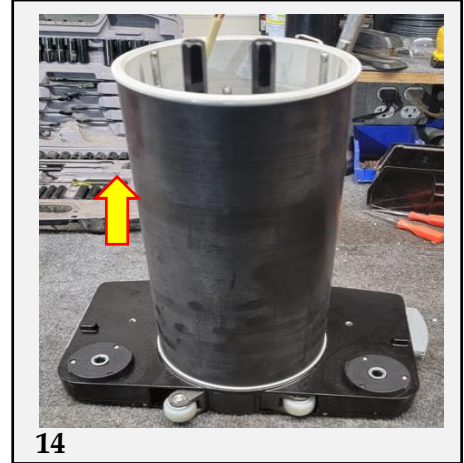
10. Pull the capacitor & ground wires through the cable retainer (stopper).
11. Remove the (3) 10mm nuts on the housing.
12. Remove the (4) 5mm allen screws on the bridge cover, and remove cover. *(Be sure to pay attention to the orientation of the handle springs on the housing notches).*



Work Instructions

- 13. Remove the bushing on the handle shaft and slowly pull the housing apart.
- 14. Pull the drum assembly off carefully.

At this point you can remove/replace the drum assembly. Reassemble in reverse order. To remove motor continue below.



- 15. At this point you can pry/pull the motor and motor shaft from the drive side housing.

Make sure that the rollers and washers are in the correct place upon reinstallation of the new drum.

If only replacing the rubber sleeve, it is easier to loosen the sleeve with a heat gun or letting the sleeve soak in hot water.



****IMPORTANT****

When reinstalling new motor, make sure the bottom of the motor is flush with the opposite housing. This also goes for reinstalling the drum assembly, make sure it is flush with the housing or the two sides will not go back together correctly.

