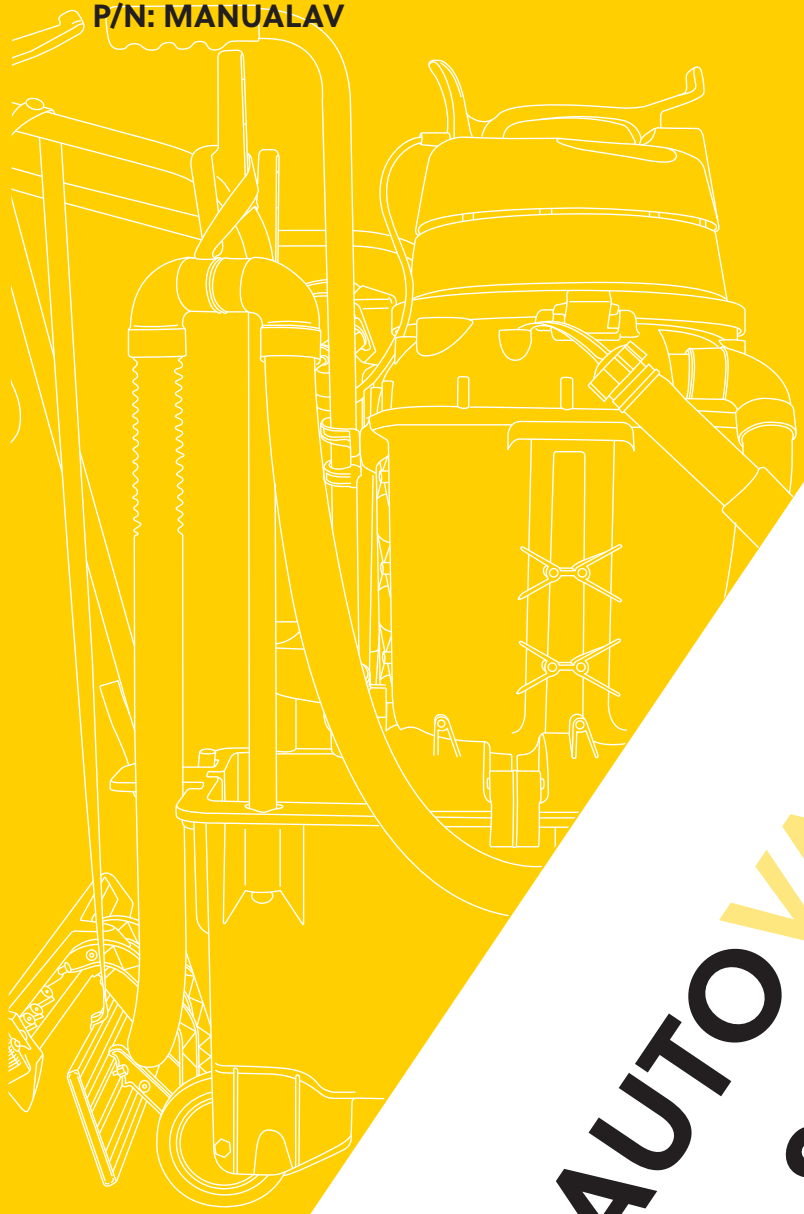
P/N: MANUALAV



AUTOVAC™ OPERATOR & PARTS MANUAL

KAIVAC®

www.kaivac.com

Revision Sheet for MANUALAV

Release No.	Date	Revision Description
1	06/18/20	Initial design/release of MANUALAV
2	06/22/21	Update to branding of MANUALAV
3	07/15/21	Battery Warning Update
4	01/18/24	Manual Update, Battery Information, Part Numbers, Images

NOTE: Specifications and parts are subject to change without notice

Kaivac, Inc.
2680 Van Hook Ave.
Hamilton, OH 45015

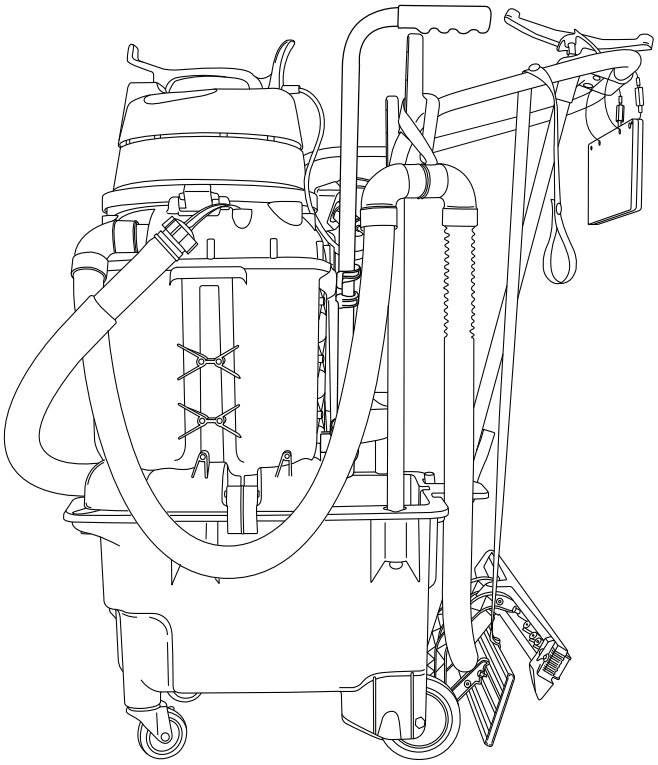
CAUTION

Do not attempt to operate the machine before reading and understanding the manual. Pay close attention to all WARNINGS, CAUTIONS and NOTES. Failure to do so may cause serious injury and extensive machine damage

Operator & Parts Manual – Table Of Contents

1.1 Product Identification

This manual corresponds to the following machines below



AUTOVAC STRETCH

1.2 Warranty Registration

Thank you for purchasing a Kaivac product. Please take a few moments to register your product at kaivac.com/warranty.

Why register?

- Ensure your warranty coverage
- Simplify warranty service in the future with your information on file
- Be the first to know about upgrades, issues, new options and special offers.

1.3 Limited Warranty Protection Plan

5 YEAR TROLLEY/TANK AND 1 YEAR PARTS AND LABOR (EXCLUDING BATTERY) Kaivac warrants to the original purchaser/user that the vacuum tank and bucket body are free from defects in workmanship and materials under normal use for a period of Five Years, and the battery box body and components (excluding Lithium-ion battery), vacuum motor, and spray system are free from defects in workmanship and materials under normal use for a period of One Year. This warranty does not include accessories or wear items. Items EXCLUDED from coverage: Squeegee blades and wheels, hoses, seals, gaskets, cords, casters, HEPA filter cartridges, chemical feed caps, spray gun, GFCI, vacuum wand assembly and other accessory tools.

- *Please Note:* using inappropriate chemicals constitutes misuse of these machines. These machines are not meant to be used with high-foaming or corrosive chemicals. Please check with your distributor or with Kaivac if you have questions about your chemical.

Battery Program Details

- Battery Warranty covers 2 years on a defective Battery.
- Battery Warranty covers the replacement of the Battery unit.
- Battery replacement remains under Warranty only for the remaining Warranty period of the original Battery unit (for a maximum of 2 years from the date of purchase of the machine.

WARRANTY LIMITATIONS:

- This warranty does not assume responsibility for damage or faulty performance caused by misuse or abuse, or where repairs or modifications have been made or attempted. Kaivac will make the final determination on whether the damage falls under this limited warranty for manufacturer's defects.
- The following actions constitute misuse or neglect of the battery that void the warranty of the battery:
  - Any modifications to Kaivac equipment may nullify any warranty
  - Improper installation of the Quick Change battery
  - Exposure to temperatures above and below the battery limits
  - Use of any charger besides the supplied Kaivac® charger
  - Dropping the battery box
  - Long term storage of the battery without maintaining a battery charge of 25 to 40% capacity
- Under no circumstances will Kaivac be liable for any loss, damage, expenses or consequential damages arising in connection with the use or inability to use Kaivac's product. This warranty is in lieu of any other warranty expressed or implied, including any warranty of merchantability or fitness for a particular purpose.

1.4 Safety Precautions: Battery Units Only

IMPORTANT SAFETY INSTRUCTIONS — SAVE THESE INSTRUCTIONS READ ALL INSTRUCTIONS BEFORE USING (THIS APPLIANCE) IMPROPER USE OF PRODUCT CAN RESULT IN SERIOUS INJURY.

When using an electrical appliance, basic precautions should always be followed, including the following:

To reduce the risk of fire, electric shock, or injury:

General Warnings:

- For commercial or residential use.
- DO NOT allow to be used as a toy. Close attention is necessary when used by or near children.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.

Battery/Electrical Warnings:

- ONLY USE with Kaivac, Inc. battery, and charger, CHARG36V series.
- Use appliance only with specifically designated battery packs. Use of any other battery packs may create a risk of injury of fire.
- When charging, make sure charger has at least 6 inches of clearance on all sides for adequate air flow.
- DO NOT charge batteries outdoors.
- DO NOT attempt to repair, service or modify the batteries or charger. Contact Kaivac Technical Support with any issues.
- DO NOT short-circuit the battery or charger terminals with conductive items such as paper clips. This can deliver high current, resulting in heat and fire.
- Keep sparks and flames away from batteries.
- DO NOT crush, drop, incinerate or damage the Battery. Do NOT use a Battery that has been damaged in any way. DO NOT incinerate the battery even if it is non-working or severely damaged. The battery can explode in a fire.
- DO NOT expose a Battery or appliance to fire or excessive temperature. Exposure to fire or temperature above 265ºF (130ºC) may cause explosion.
- DO NOT use or store the NTC System or Battery in refrigerated areas, in enviorments when the battery is in direct contact with liquids, or near flammable or combustible materials.
- DO NOT charge or store Battery for extended time (1 month or more) in temperatures below 40ºF (4ºC).
- If fumes smelled from battery, discontinue use immediately, place inside a metal canister in a well-ventilated area.
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to battery, picking up or carrying the appliance. Carrying the appliance with your finger on the switch, or energizing an appliance that has the switch on invites accidents.
- Disconnect the battery from the appliance before making any adjustments, changing accessories, or storing appliance. Such preventive safety measures reduce the risk of starting the appliance accidentally.
- When battery is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
- Do not use a battery or appliance that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- If unit is smoking or sparking, move outside to a fire-safe location immediately. If possible, disengage battery from unit, notify management, and call Kaivac Technical Support at 800-287-1136.

Charger/Electrical Warnings:

- Connect charging cord to a properly grounded outlet only. See Grounding Instructions.
- DO NOT plug in Charger while Vacuum Head is in ON position. It may damage the system.
- Follow all charging instructions and do not charge the battery or appliance outside of the temperature range specified in the instructions. Charging improperly or at temperatures outside of the specified range may damage the battery and increase the risk of fire.
- DO NOT leave charger plugged in when not in use.
- DO NOT operate charger if it has received a sharp blow, been dropped, or damaged in any way.
- DO NOT use charger if it has a damaged cord or plug. DO NOT carry charger by cord.
- DO NOT pull on charger cord to unplug. Grasp and pull the plug, not the cord.
- DO NOT handle charger, including charger plug and charger terminals, with wet hands while charger is plugged in or while inserting plug into electrical outlet.

1.4 Safety Precautions: Battery Operated (Continued)

Vacuum and operation warnings:

- NO COMBUSTIBLES! Sparks inside the motor can ignite flammable vapors or dust. Do not use near combustible liquids and gases, or to pick up explosive dusts or gasoline. Do not pick up anything that is burning or smoking such as cigarettes or hot ashes.
- DO NOT plug Battery in while Vacuum Motor is in ON position. It may damage the system.
- CHECK FLOAT on Vacuum Motor and clean before each use. Clogged screen may lead to loss of suction.
- DO NOT put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair and anything that may reduce air flow.
- Use extra care when cleaning on stairs.
- DO NOT use without Vacuum Motor Float Cage in place.

SPRAY SYSTEM WARNINGS (ONLY):

- Do not spray liquid from the Kaivac onto electrical outlets or any electrical devices.
- Risk of injection or injury to persons - do not direct discharge stream at persons.
- INJECTION HAZARD: Equipment can cause serious injury if the spray permeates the skin. Do not point the gun at anyone or any part of the body. In case of permeation, seek medical aid immediately.
- This system is capable of producing 500 PSI (3447 kPa). To avoid rupture and injury, do not operate this pump with components rated less than 500 PSI (3447 kPa) working pressure (including but not limited to spray guns, hose, and hose connections); and before servicing, cleaning or removal of any part, shut off power and relieve pressure.
- High pressure cleaners shall not be used by children, persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge or untrained personnel. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

QUICK RELEASE INSTRUCTIONS

1. To disconnect the motor from the Power Pack, push the button on the electrical connector and pull toward you to disengage the motor electrical cord from the Power Pack.

2. Then to remove the Battery from the unit, while standing at the rear of the nit, grab the Battery by the handle and lift it up away from the unit.

3. To reconnect the Power Pack to the motor, insert the motor electrical connector into the Battery Pack outlet, aligning the key features of the electrical connector into the outlet key-way. Press the connector into the outlet until it clicks to lock into place.

Personal Protective Equipment (PPE): It is recommended to wear proper personal protective equipment as required by your Chemical product label instructions used in conjunction with the appliance. Refer to the Kaivac label on Kaivac chemical products.

WARNING — To Reduce the Risk of Electric Shock — Do not expose to rain or water. Store indoors.

1.5 Battery Information

Keep Batteries at Room Temperature: Store between 32 and 113 degrees F (0ºC to 45ºC). Avoid battery exposure to extreme temperatures. If shelving battery longer than (1) month, then deplete battery to 50% charge (two bars on the battery indicator).

Batteries Lose Capacity Over Time: Batteries naturally deteriorate over time whether being used or not. If battery use instructions are properly followed, batteries deteriorate at a rate of 10% run time per year.

Fully Discharge vs. Partial Discharge and the Effect on Battery Cycles: Unlike lead acid batteries typically used in auto scrubber, the Kaivac Battery is not damaged by fully discharging. The BMS (Battery Management System) has a cutoff voltage of 30V which protects the Battery from experiencing full discharge. Running the Battery to full discharge will reduce the amount of charge cycles. The expected hours of use are approximately 600 hours. For example, if running to full discharge, you would expect 400 cycles. If you run to 80% discharge, then you would expect to get more cycles (500 cycles). With dual batteries make sure to alternate batteries per charge for full life capacity.

Extended Storage: It is recommended to discharge to 50% capacity (two bars on the battery indicator) and store in a cool location (between 32ºF to 113ºF or 0ºC to 45ºC). To avoid battery impact, store battery laying down on its side on lowest shelf, and secured. If battery is dropped or experiences an impact, discontinue use and replace. Using a damaged battery can result in damage to the unit.

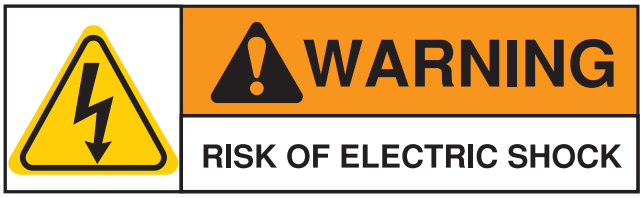
Battery Gauge: The Kaivac Batteries come with a built-in Battery Gauge or "Fuel Gauge" which shows the approximate run time for the current charge remaining.

Disposal: Rechargeable batteries eventually wear out. When your Kaivac Battery run time is less than 55% (i.e. 50 minutes for non-quick change and 33 minutes for Quick Change batteries), then we recommend replacing your battery.

⚠ WARNING DO NOT DISCARD BATTERY INTO TRASH! Doing so can lead to a fire. It is important to recycle your old batteries at your local recycling facility or by calling 1-800-USA-CLEAN (1-800-872-2532) and selecting Option 3.

Battery Specifications	
Weight	With Box, 11 lbs. (4,9 kg)
Body Material	Injection Mold Polypropylene
Dimensions (H x W x D)	18 x 7 x 5 in. (45,7 x 17,8 x 12,7 cm)
Voltage	36V DC
Battery Capacity	15 A-hr
Battery Current	15 A DC
Battery Type	Lithium-Ion
Approx. Run Time BOL (Beginning of Life)	60 minutes
Approx. Run Time EOL (End of Life)	35 minutes (discontinue use and take to recycling center)
Battery Box Receptacle	IP65 / IP67 (not required for UL)
Run Time Hour Meter	Acts as "odometer for battery" and runs only when motor switch is ON
Approx. Charge Cycles	400 @ 100% discharge / 500 @ 80% discharge
Cut off Voltage (fully discharged)	30V
Charger Specifications	
Approx. Charge Time	5 hours
Charger Amps	4 Amps
Charge Voltage	42V DC
Charger Voltage	110-240VAC / 36VDC (240VAC version only needs correct plug for wall outlet)
Charging Robustness	No special instructions
Battery Charge Memory	None
Battery Charge Gauge	Yes, LED Indicator
Approx. Charge Cycles	400 @ 100% discharge / 500 @ 80% discharge
Storage/Inventory:	
Storage & Operation Ambient Temp	32ºF (0ºC) to 113ºF(45ºC)
Storage & Shipping Charge	40-60% Charge (35-38VDC)

1.6 Grounding Information



Grounding: Corded Units

GROUND FAULT CIRCUIT INTERRUPTER PROTECTION (*for spray systems only)*

This machine was supplied with a ground-fault circuit-interrupter(GFCI) built into the plug of the power-supply cord. This device provides additional protection from the risk of electric shock. Should replacement of the plug or cord become necessary, use only identical replacement parts that include GFCI protection.

This appliance is for use on a nominal circuit and has a grounding attachment plug. Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adapter should be used with this appliance.

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local DOE and ordinances.

WARNING

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance – if it will not fit the outlet have a proper outlet installed by a qualified electrician.

This product comes with a grounded attachable extension cord. If damaged, replace with Kaivac® (OEM) cord, or if necessary an equivalent cord rated 120V, 15 amps, 3-wire, 14 GA. This cord must be attached and mechanically secured using the provided cord connector to use the equipment.

Grounding: Battery Units

GROUNDING INSTRUCTIONS

The charger must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having equipment grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance – if it will not fit the outlet; have a proper outlet installed by a qualified electrician.

This appliance is for use on a nominal circuit and has a grounding attachment plug. Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adapter should be used with this appliance.

1.6 Grounding Information (Continued)

Make sure your extension cord is in good condition and is the correct size for your appliance. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord. An undersized extension cord will cause a drop in line voltage resulting in loss of power and overheating.

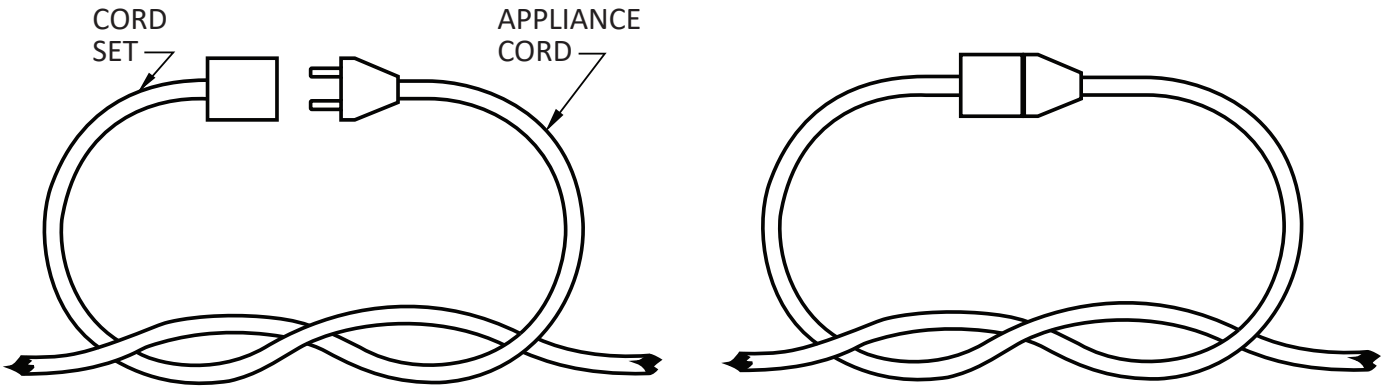
Use only three-wire outdoor extension cords that have three-prong grounding receptacles that accept the appliance's plug.

⚠WARNING To reduce the risk of personal injury due to a loose electrical connection between the appliance's plug and extension cord, firmly and fully attach the appliance plug to the extension cord. Periodically check the connection while operating to ensure it is fully attached. Do not use an extension cord that provides a loose connection. A loose connection may result in overheating, fire, and increases the risk of a burning.

To reduce the risk of disconnection of the appliance cord from the extension cord during operations:

- Make a knot as shown in Figure 1 below:

Figure 1 - Method of securing the appliance cord to the extension cord set



(A) TIE CORD AS SHOWN

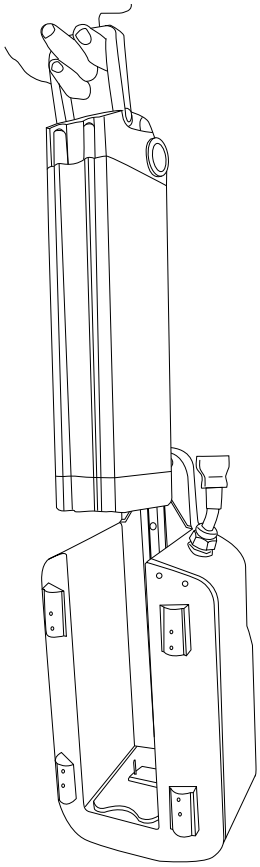
(B) CONNECT PLUG AND RECEPTACLE

Table 1 - Minimum gauge for extension cords

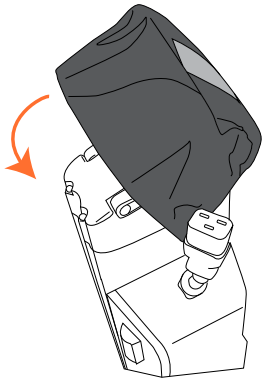
Ampere rating		Volts	Total length of cord			
			7.62 m (25 ft)	15.24 m (50 ft)	30.48 m (100 ft)	45.72 m (150 ft)
More than, A	Not more than, A	120 V	mm^2 (AWG)			
0	6	—	0.82 (18)	1.3 (16)	1.3 (16)	2.1 (14)
6	10	—	0.82 (18)	1.3 (16)	2.1 (14)	3.3 (12)
10	12	—	0.82 (18)	1.3 (16)	2.1 (14)	3.3 (12)

2.1 Battery Doc and Charging

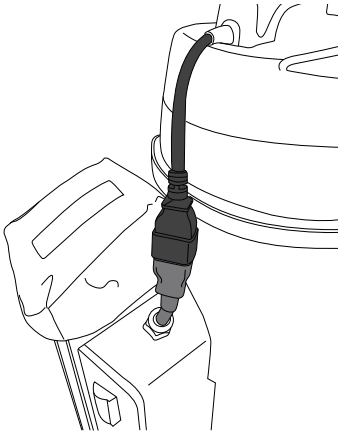
Lower battery down into the battery housing.

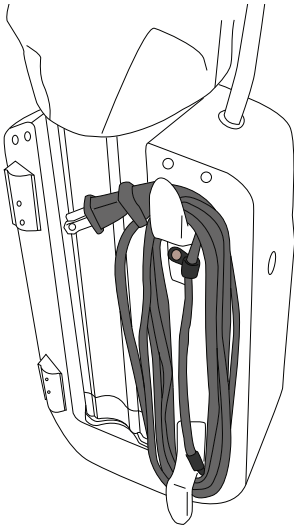


Flip the Splash Cover over the battery top.

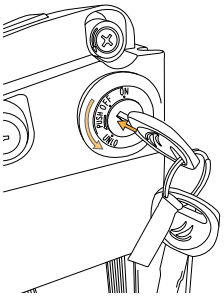


Connect the plug from the battery housing into the vacuum motor plug.

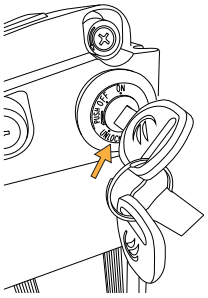




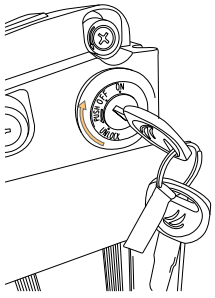
To charge the battery, keep the battery in the battery housing. Locate the cord wrapped around the cleats connected to the battery housing, plug into an outlet to begin charging.

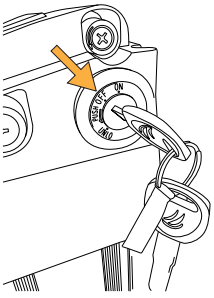


Push key IN and rotate counter clockwise to Unlock.



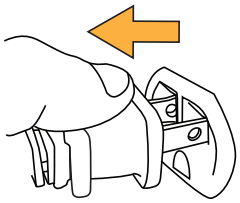
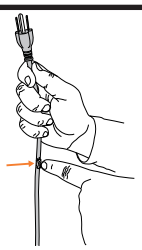
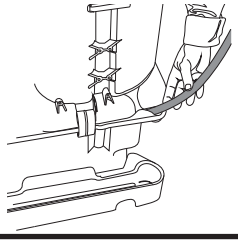
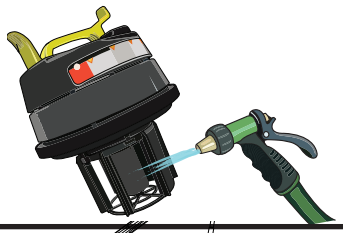
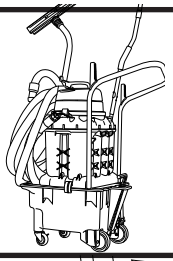
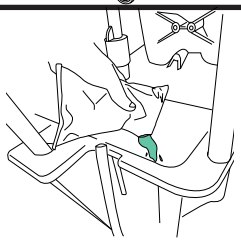
Key needs to be in unlock position to remove.



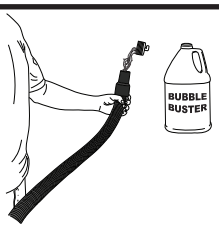
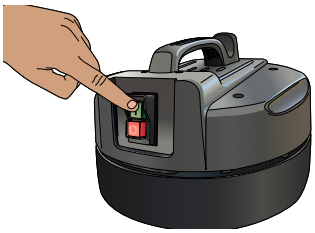


Once in place, turn key clockwise to OFF to lock in place.

2.2 Preparation For Use

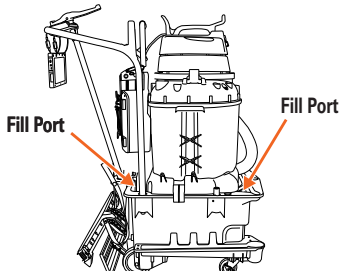
1. Unplug the charger from the battery if applicable. **⚠CAUTION** Avoid getting water on the machine.	
2. Check all hoses and spray lines for damage prior to use. If damage is found, do not continue until proper repairs are completed.	
3. Locate the corner of the trolley bucket to fill machine. Fill with clean, cool water.	
4. Clean and spray the Float Cage located inside the Vaccum Head. Ensure Float Cage is in place. **⚠CAUTION** Do not use if Float Cage is not in place.	
6. Check machine for all tools and supplies needed to complete task.	
7. If using chemical pouch, locate the trolley bucket and dump pouch. If using a chemical jug, ensure proper dilution of chemical is used.	

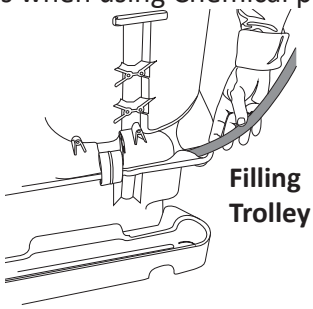
2.2 Preparation For Use *(Continued)*

8. If using a cleaning product that foams, use a foam inhibitor to cut excess. Pour 2 capfuls of inhibitor in the Vac Hose with Vac running to coat inside of Hose.	
9. If using a battery unit, ensure the battery is fully charged. Power on the Vac Head and you are now ready to begin.	

3.1 Filling The Unit

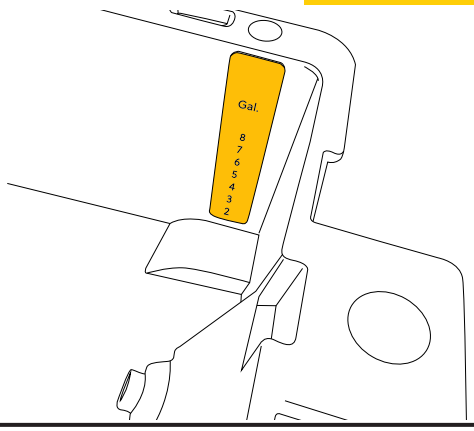
There are multiple Fill Ports available to fill the Bucket with a hose or other source. The Fill Port at the rear of the Trolley-Bucket is most convenient to access when using Chemical packets or Jugs.



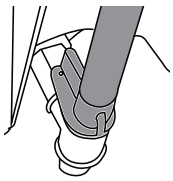


Note the location of the Fill Marker inside the Trolley Bucket.
Gallon markings are displayed for 5 to 8 gallons. For lesser quantity needs, the bottom of the label represents 2 gallons. For higher volume needs, the top of the label represents 10 gallons.

CAUTION Filling over 10 gallons is not recommended.



CAUTION **Before filling with solution, ensure the spigot is in the "OFF" position.**



NOTICE

Fill the tank with Kaivac or Kaivac approved Chemicals. Follow the proper dilution instructions on bottles or dispenser. For accuracy and convenience, use Kaivac proportioned chemical packets. Do not add chemical to Trolley-Bucket if using Pump Box set-up.

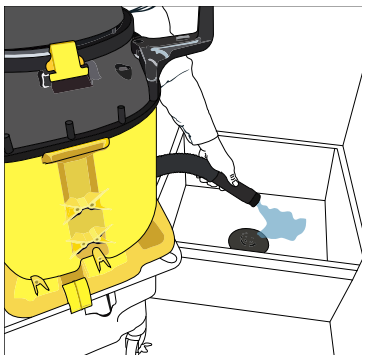
TIP: IF A CHEMICAL IS BEING USED, USE ONLY THE RECOMMENDED DILUTION.

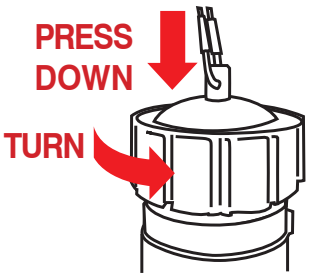
3.2 Emptying Vacuum Tank

If the Vacuum Motor shuts off before the job is complete, the Vacuum Tank may be full and need to be emptied. Lift the Vacuum Motor to check liquid level inside the Vacuum Tank. If unit is full or your job is complete, follow the instructions below to empty Tank into appropriate sink/drain.

Once cap is removed, lower Dump Hose into appropriate sink/drain.

CAUTION To prevent an accidental spill or overflow from the Dump Hose, be careful to keep hose end upright until it is over sink/drain.



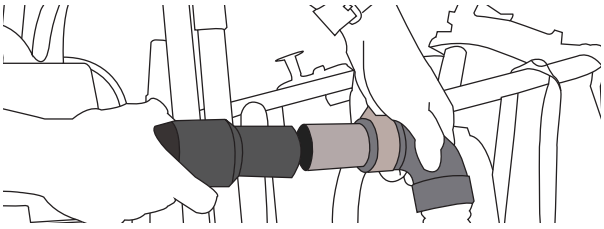


To begin the dumping process, you must first press down on the Cap and turn counter-clockwise

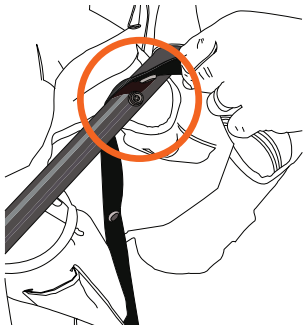
3.3 AutoVac Operation

The AutoVac feature is a walk-behind system for high speed cleaning of hard surface areas. It cleans as well and as fast as a walk-behind or ride-on auto scrubber at a fraction of the cost.

After the unit has been filled with the appropriate amount of water/solution, ensure that the AutoVac Connector on the side of the cart is connected in place.

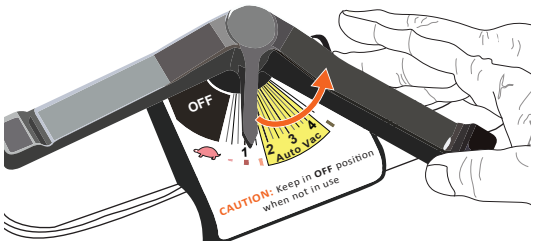


Lower the Microfiber Pad and Wide-area Squeegee Head by lifting the left Strap on the rear handle to unsnap it, and lower the pad and Squeegee Head.



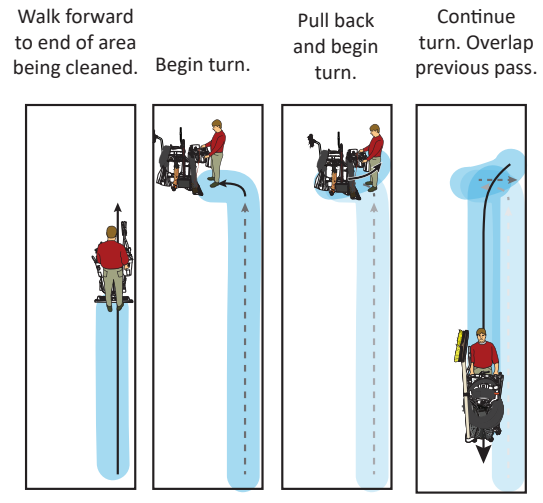
Reattach with next button snap to hold the Strap in place.

To begin cleaning floor area with AutoVac:



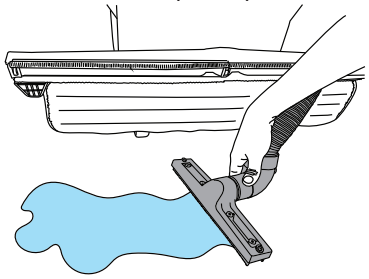
Use Thumb Throttle to dispense solution through the Spigot. Turn dial on Thumb Throttle to number that corresponds to your applicable floor type.

Walk back and forth across the area to be cleaned, using a three point turn approach when reaching turns, as detailed below.



TIP: TO USE UP THE SOLUTION IN THE PAD, TURN THE THUMB THROTTLE TO OFF APPROXIMATELY 50' IN ADVANCE OF FINISHING THE FLOOR.

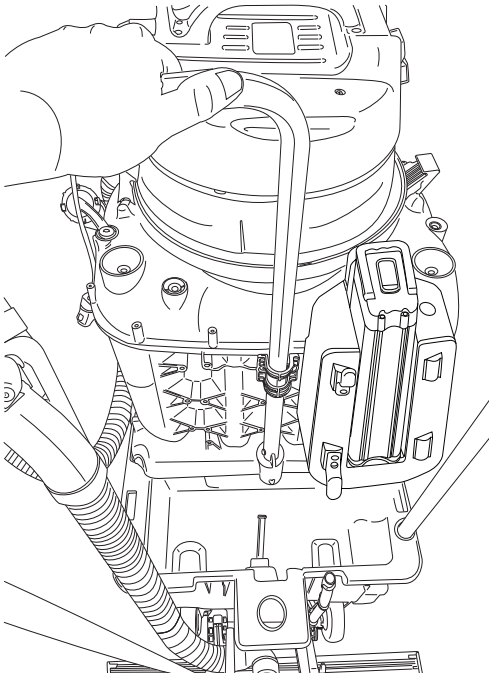
Once complete, lift the left Strap to raise the Spreader Pad and Squeegee Head and snap into place.

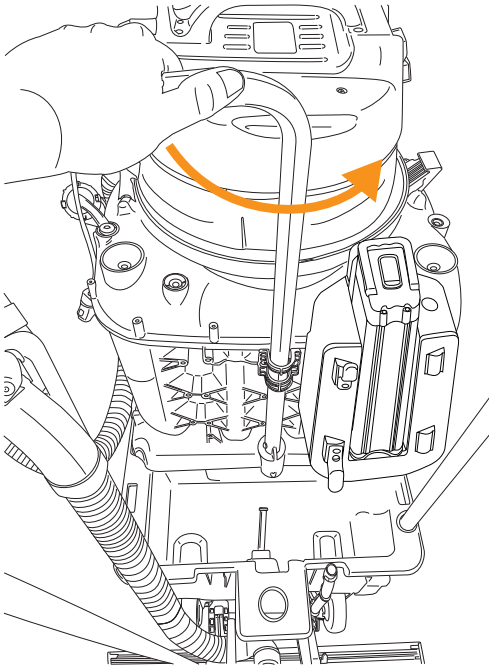


Use included Vacuum Tool to pick up any remaining liquids or drips on the floor.

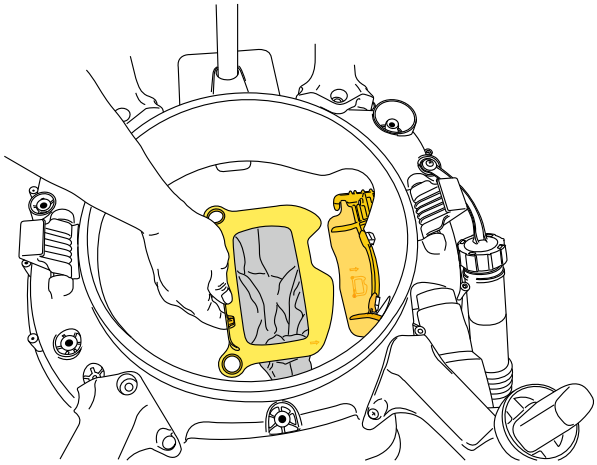
3.4 STRETCH RECYCLING **If applicable*

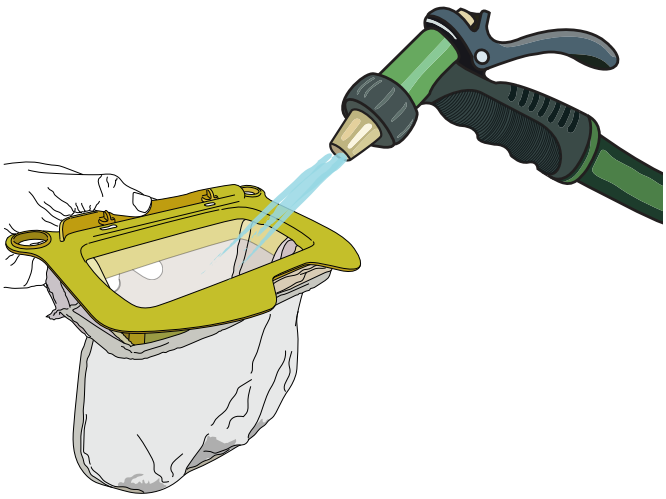
To make use of the Stretch process: After you have fully emptied the trolley bucket of solution, you can then reuse the recovered solution to extend (or STRETCH) the AutoVac process by turning the handle mounted on the Vacuum Tank to the right (as displayed below) and dispensing the recovered solution back into the Trolley Bucket.





Once all the solution from the Tank has been dumped into the Trolley Bucket, you may then continue your AutoVac process, just as before.

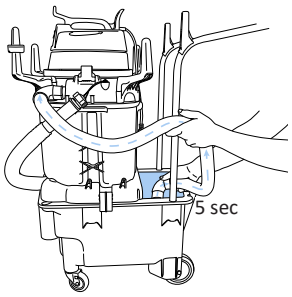




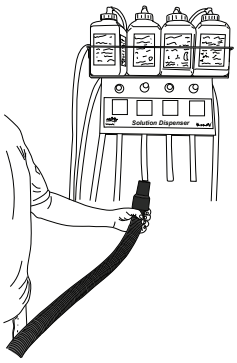
Before starting each recycle process, remove Filter Bag, dump any debris out, spray clean, and replace.

4.1 Daily Maintenance: Clean-out

When work is complete, vacuum excess cleaning solution from the bucket for 5 seconds to clean out and degrease the Vacuum Hose.

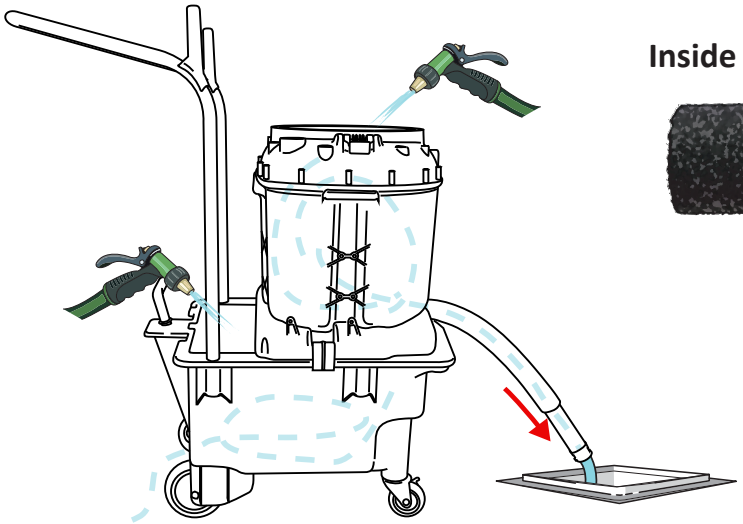


Alternatively, you can also turn Vacuum on and dispense solution into Vacuum Hose as shown to clean Hose and Tank.



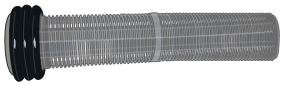
Rinse Vacuum Tank thoroughly at clean-up sink, preferably with hot water. Rinse out Trolley Bucket. Rinse foam filter inside Vacuum Tank and Trolley Bucket. Rinse plastic finger filter Trolley Bucket following to clear debris.

⚠CAUTION If unit is battery operated, avoid spraying the battery.

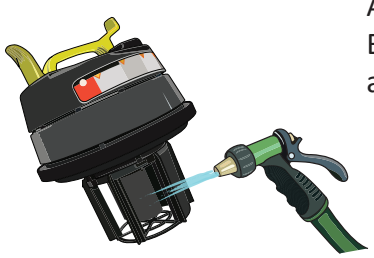


Inside Vacuum Tank:

Inside Trolley Bucket:

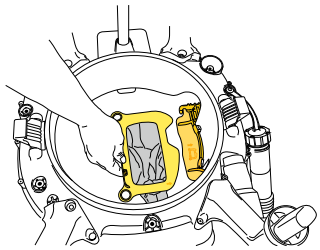


Rinse the Wand brushes to clear any debris, and wipe dry.



Remove debris from float ball and wire mesh Float Cage housing with hot water.

At end of shift or when full, remove Filter Bag, dump any debris out, spray clean, and replace.

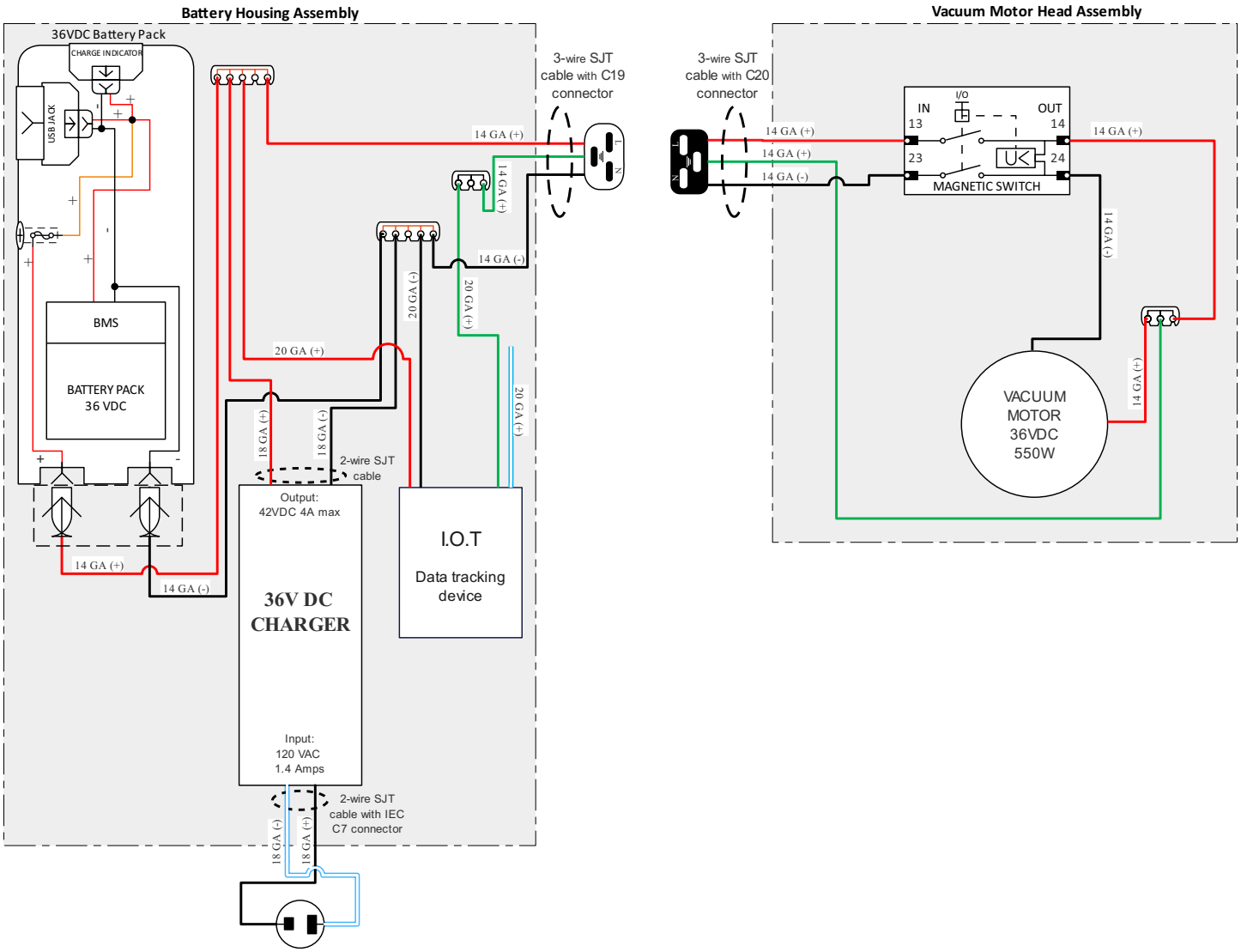


4.2 Machine Maintenance

CAUTION Always unplug machine before accessing electrical component.

ITEM	PROCEDURE
Floor Squeegee	• Check condition of squeegee blades and wheels on the floor tool. • Rough floor surfaces will cause the blades and wheels to wear out more quickly. Replace as necessary.
Spray Gun	• Check spray pattern. If spray pattern will not pinpoint, clean orifice by removing it with an Allen wrench and flushing. Replace if needed. • If nozzle becomes difficult to move from high to low pressure, lubricate nozzle with lithium grease.
Pressure Hose	• Wipe clean after each use. • Check for cuts or frays in the hose jacket, particularly at the end of the fittings. Replace hose if cuts are found.
Water Tank	• Check condition of filter in water tank. Clean as needed. • Empty the water tank to prevent mildew and bacteria growth. Empty tank by dipping the vacuum hose into the water tank and transferring the water to the vacuum tank.
Vacuum Tank	• Empty and flush vacuum tank. • Clean and disinfect. • Check the float shutoff screen to be sure it is not blocked or dirty. A plugged filter screen restricts airflow and results in reduced suction.
Leaks	• Be alert for leaks around hoses, fittings, spray wand, tanks or elsewhere. • Discontinue use until leaks are repaired.
Electrical System	• The ground fault circuit interrupter (GFCI) must be tested before each use. • Electrical cord must be inspected for tears or cuts in the insulation.
Vacuum Wand	• Use a wire or coarse brush with acid cleaner to remove residue from threads on the coupling and coupling nut. Apply grease when done.
HEPA Filter	• Replace every 3-6 months depending on use.
Float Cage	• Ensure cage is sprayed and cleaned daily to remove debris.

4.3 DC Quick Change Power Pack Electrical Diagram



4.4 Troubleshooting

CAUTION Always unplug machine before accessing electrical component

AREA	PROBLEM	POSSIBLE CAUSE	SOLUTION
CAUTION Electrical	No Power to pump or vac motor	Machine not plugged in	Plug machine in
		Switch not “on”	Check switches for “on”
		GFCI tripped	Test and reset GFCI
		Building circuit overloaded	Check and reset circuit
		Switch wires loose	Disconnect power and check for loose wire
		Connections loose	Disconnect power and check for loose wire under panel
	Electrical burning smell **WARNING** TURN MACHINE OFF IMMEDIATELY.	Vac motor brushes worn	Remove vac motor and repair
		Vac motor hung up	Release pressure on hose and jog vac switch, or replace
		Pump motor hung up	Release pressure on hose and jog pump switch, or replace
Vacuum System	No/Weak vacuum	Vac tank full	Empty vac tank
		Squeegee blades or wheels worn	Replace wheels or blades and check periodically
		Float shutoff screen dirty	Spray off float screen to clean
		Float ball stuck	Tap float and release/clean
		Damaged hose	Cut and repair/replace
		Dump hose plug missing	Contact dealer and replace
		Access lid not right	Tighten lid hand tight
		Vacuum hose plugged	Flush hose to remove debris
		Too much liquid in vac hose	Allow air in when vacuuming
		Vac hose still wrapped	Unwrap vac hose fully
		Exhaust plugged	Clean exhaust port and HEPA filter
		Leak in vac tank	If repairable, clean and dry affected area and seal with silicone
		HEPA filter clogged	Remove HEPA filter and clean
	Moisture from exhaust	Vac tank full	Dump vac tank
		Float shutoff missing	Replace
		Excessive foam in vac tank	Use defoamer
Blow Dry System	No air flow	Hose disconnected	Reconnect hose
	Moisture from exhaust	Water in blow hose	Dry blow line
	Suction, not blow action	Vacuum hose connected to vac tank	Reconnect to vac motor exhaust hose

4.4 Troubleshooting

CAUTION Always unplug machine before accessing electrical component.

AREA	PROBLEM	POSSIBLE CAUSE	SOLUTION
High Pressure System	No water from pump or low pressure	Out of water	Fill water tank
		Gun nozzle plugged	Remove orifice with Allen wrench and clean
		Air in pump (vapor lock)	Use power prime technique
		Gun orifice missing	Replace orifice
		Water tank filter plugged	Clean tank and filter
		In-line bowl filter plugged	Remove filter cover and clean
		Bowl filter lid loose	Gently tighten bowl cover
		Pressure hose damaged	Repair or replace
		Quick disconnect leaking	Tighten or replace
		Injector plugged	Remove safety cap from chemical and blow small amounts of compressed air into line
		Pulse hose damaged	Repair or replace
		Regulator failed	Replace
		Hose kinked	Unkink and check for damage
		Seals in pump need replaced	Remove and replace seals
	Bad fan pattern or pinpoint pattern on gun	Debris in nozzle	Remove orifice with Allen wrench and clean
		Orifice damaged	Remove and replace
Chemical Injection System	No chemical flow	Out of chemical	Refill chemical
		Safety cap not secure	Check safety cap/tighten
		Chemical valve “off”	Check on/off valve
		Safety cap plugged	Replace cap
		Spray gun in wrong mode	Make sure gun nozzle is pulled out away from gun chemical mode
		Metering tip plugged	Check metering tip for clog
		Injector plugged	Remove safety cap from chemical and blow small amounts of compressed air into line
		Air entering system	Check for air entering system around chemical lines or injector
		Injector installed backwards	If fluttering or pulsing sound can be heard while spraying or when machine is running, it is possible that your injector is in backwards. Remove; reinstall.
		Kink in chemical line	Replace chemical line

4.4 Troubleshooting

CAUTION Always unplug machine before accessing electrical component.

AREA	PROBLEM	POSSIBLE CAUSE	SOLUTION
Chemical Injection System continued	Not enough chemical	Metering tip plugged	Remove and clean
		Wrong metering tip	Check and replace per chart
	Chemical line blows off safety cap	Debris in injector	Remove safety cap from chemical and blow small amounts of compressed air into line
	Water back flows into chemical bottle	Bad seat on injector check valve	Check injector o-ring or replace
		Bad safety cap	Replace safety cap
Dump System	Dump hose will not empty tank	Dump hose cap not removed	Remove cap
		Clog in bottom of tank	Tip dump contents, remove debris
	Dump hose leaks	Hose cut	If leak is less than 4” from tank side, cut and reattach, or replace
		Clamp loose	Tighten hose clamp
		Dump cap missing	Replace cap
Wheels and Casters	Wheels will not roll; rubbing	Flat tires	Inflate tires to 30 p.s.i.
		Debris wrapped around axle	Check for debris on axle
		Bearings tight	Grease bearings
		Wheels too loose on axle	Remove wheel, add washers to take up slack
		Bearings falling out	Replace bearing assembly
Squeegee Head	Floor streaks	Worn blades or wheels	Replace wheels and/or blades
	Squeegee head does not easily rotate when installed on wand	Brass ring on wand not in groove	Loosen coupling nut and re-position head on groove
		Coupling nut too tight	Loosen 1/2 turn
	Head will not stay on wand	Coupling nut cracked	Replace
		Brass ring worn	Replace
	Premature blade wear	Squeegee wheels worn	Check wheels for wear/ replace
	Sucks to the floor too tightly	Squeegee wheels worn	Check wheels for wear/ replace

4.5 Troubleshooting Tips

- **Poor Vacuum Pickup**
  1. Check Squeegee Blades. If blades are worn or damaged, replace Squeegee Head.
  2. Clean float cage.
  3. Check for leaks in the Vacuum Hose or Gasket.
  4. Check for clogged Vacuum Hose.
  5. Check to see if float ball was tripped.

- **Vacuum Shuts Off Prematurely**
  1. Check Float Cage; clean if dirty.
  2. Cleaning Chemicals may be producing too much foam. Use correct Chemicals.

- **Other Issues? Contact Technical Support**

Phone:

United States and Canada: 1-800-287-1136

International: 1-513-887-4600

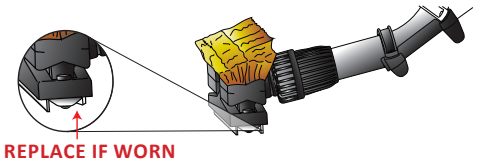
Email:

info@kaivac.com

For Technical Support Contact Form go to: https://www.kaivac.com/contactus.php and choose Technical Support tab.

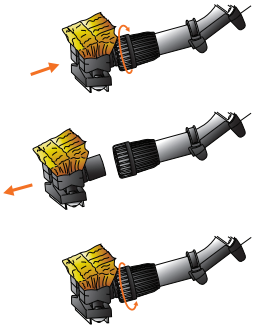
4.6 Replacement (Monthly)

The following tasks should be performed monthly to keep your system operating at peak performance.

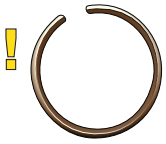


Check for worn squeegee blades. Worn blades cause streaking and loss of vacuum suction.

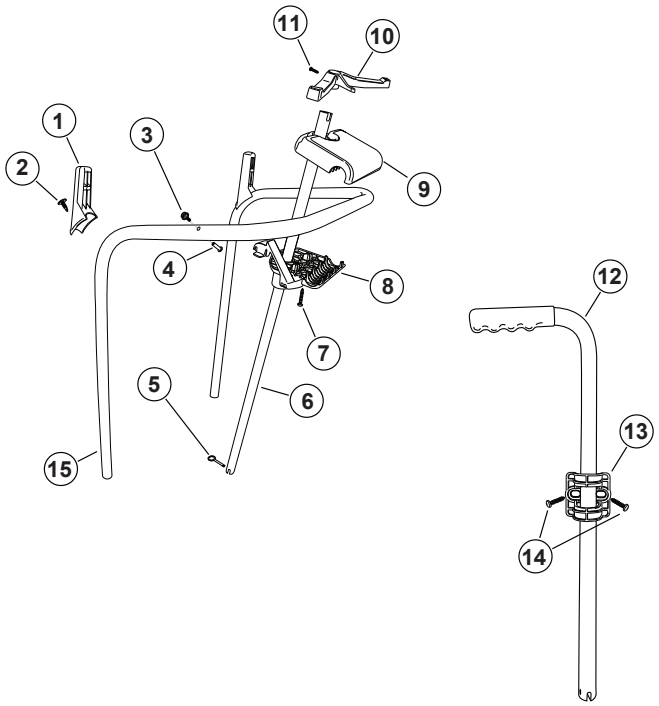
Unscrew cuff at end of Vac Wand, remove old head and replace with new every 6-8 weeks for optimal performance.



IMPORTANT: If cuff is removed, ensure Brass Ring stays in place.



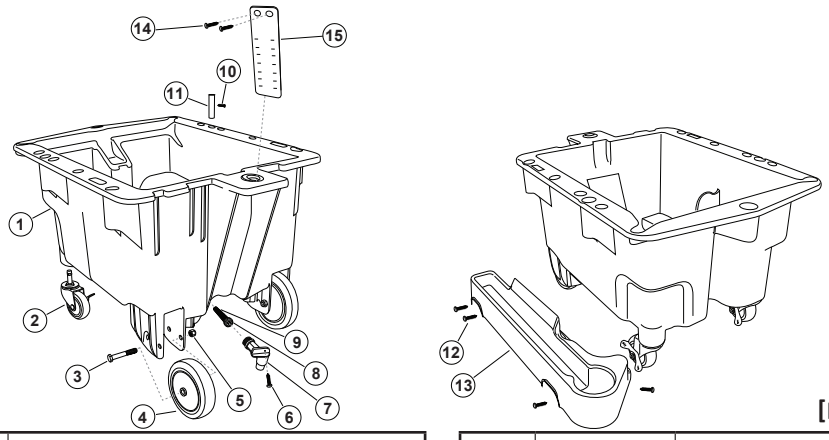
5.1 Handle Assembly Parts Diagram



[P/N: OFUHA]

#	PART NO.	PART DESCRIPTION
1	STOB	PLASTIC HANDLE POST
2	CSS208	HANDLE POST HARDWARE
3	CSS147	MALE SNAP 18-8 SS 8-32 X 1/2
4	CSS335	8-32 FEMALE BINDING POST
5	CSS338	1/4 IN X 1-1/2 IN DETENT RING PIN
6	EXTROD	OMNIFLEX THUMB THROTTLE EXTENSION ROD
7	CSS329	1/4 X 10 X 1 PLASTITE ZINC PAN TORX 30
8	OTTPLATL	OMNIFLEX THUMB THROTTLE LOWER PLATFORM
9	OTTPLAT	OMNIFLEX THUMB THROTTLE PLATFORM
10	OTT	OMNIFLEX THUMB THROTTLE
11	CSS332	8 SST SCREW 7/8
12	PCSH	POWDER COATED SPIGOT HANDLE
13	OVTSHB	OMNIFLEX VAC TANK SPIGOT HANDLE BRACKET
14	CSS329	1/4-10 X 1 PLASTITE ZINC PAN TORX 30
15	OFUHA	HANDLE ASSEMBLY

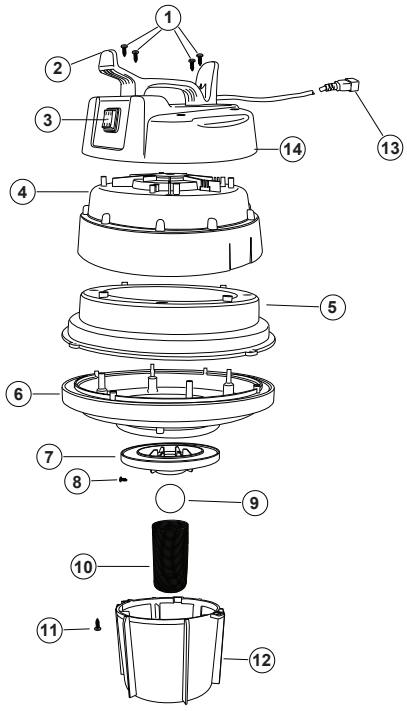
5.2 Trolley-Bucket Assembly Parts Diagram



[P/N: KMF02, KMF04]

#	PART NO.	PART DESCRIPTION
1	KMFBLK	OMNIFLEX TROLLEY BLACK
2	KMFCSTR3	LOCKING CASTER
2	OFCSTR	OMNIFLEX 3 IN CASTER NO BRAKE
3	CSS302	3/18 - 16 X 2 3/4 HEX SCREW WHEEL
4	WH5KMF2	5 IN DIA REAR WHEEL
5	CSS311	3/8 - 16 NYLON LOCK NUT
6	CSS214	10 - 14 X 3/4 SCREW FOR SPIGOT
7	KMB20R	OMNIFLEX SPIGOT BROWN PLASTIC
7	KMB20SR	SUV 2 HOLE BROWN PLASTIC SPIGOT ASSEMBLY
8	CPS39V	VITON O-RING
9	CPS07	PLASTIC FINGER FILTER
10	CSS17A	8 SST SCREW 3/4
11	OTP	OMNIFLEX TROLLEY POST .85 DIA X 3.5 LNG
12	CSS17A	8 SST SCREW 3/4
13	KF013A	SIDE TRAY FOR KAIMOTION FLEX
14	CSS208	8 X 1/2 SS TRUSS SCREW
15	GP0007	FILL GAUGE MARKER FOR TROLLEY

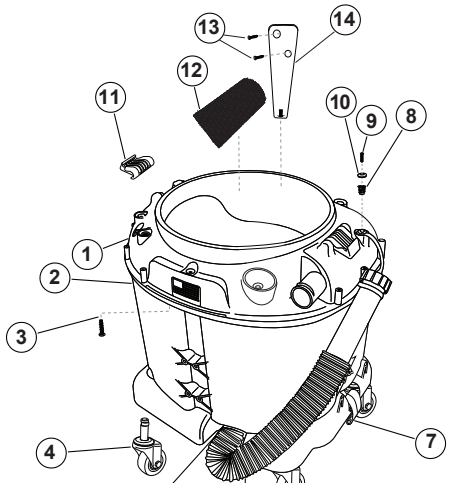
5.3 Vacuum Head Assembly Parts Diagram



[P/N: VM3D04, VMAWDZ, VMAWDZDC2]

#	PART NO.	PART DESCRIPTION
1	CSS17A	8 SST SCREW 3/4 IN
2A	OVMHANY	OMNIFLEX VAC MOTOR HANDLE YELLOW
2B	OVMHAN	OMNIFLEX VAC MOTOR HANDLE BLACK
3	ZD10TC	OMNI VAC MOTOR TOP COVER
4	ZD10MC	OMNI VAC MOTOR MIDDLE COVER
5A	ZD10MR	OMNI VAC MOTOR MIDDLE RING
5B	ZD10MR36	OMNI VAC MOTOR MIDDLE RING — 36V
6	ZD10BC	OMNI VAC MOTOR BOTTOM COVER
7	FCINT	FLOAT CAGE PLASTIC INTERFACE
8	CSS318	5/6" SS PHILLIPS FOR ZD 10/FCINT
9	CVS26	OMNIFLEX FLOAT BALL
10	ZD10	STAINLESS STEEL FLOAT CAGE
11	CSS313	SCREW #7 PANHEAD PHIL SS 1/2 IN
12	ZD10B	OMNI VAC MOTOR BASKET
13	HEPC02	POWER CORD 34 IN - C20 MALE
14	ZD10TC	OMNI VAC MOTOR TOP COVER

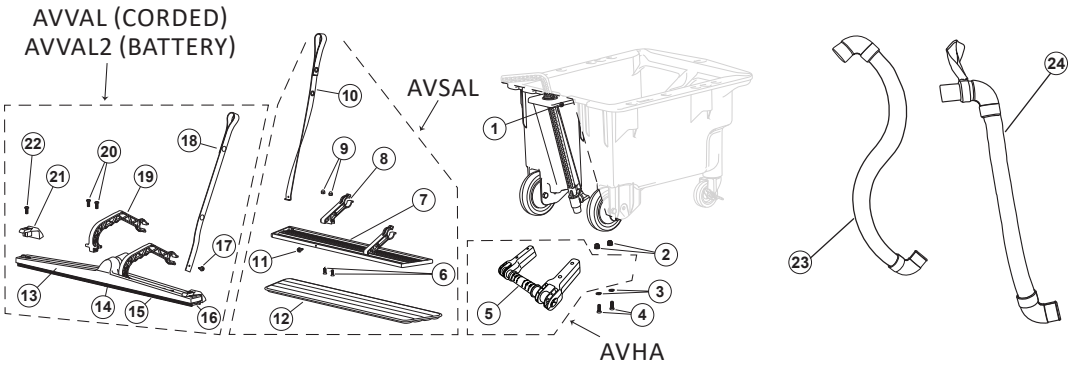
5.4 Vacuum Tank Assembly Parts Diagram



[P/N: VTOF17]

#	PART NO.	PART DESCRIPTION
1	OVTTBLK	OMNIFLEX VAC TANK TOP BLACK
2	OVTBYEL	OMNIFLEX VAC TANK BOTTOM YELLOW
3	CSS325	8 X 3/4 TORX PAN PLAST
4**	VTCSTR	OMNIFLEX VAC TANK CASTER 2 IN
5	CSS03	1 9/16 - 2 1/2 HOSE CLAMP
6	DH25	25" X 1.5" DUMP HOSE 2" CUFF
7	CLASP2Y	OMNIFLEX CLASP LOWER YELLOW
8	CSS211	8/32 IN. FOR MOLDS
9	CSS209	8-32 X 3/4 ROUND HEAD MACHINE SCREW
10	CSS306	WASHER BONDED NEOPRENE 1/4ID X 5/8OD
11	CLASP1Y	OMNIFLEX CLASP UPPER YELLOW
12	RFILTA	RECYCLE FILTER ASSY
13	FGM11	FILL GAUGE MARKER 11IN
14	CSS208	8 X 1/2 SS TRUSS SCREW

5.5 AutoVac Assembly Parts Diagram



#	PART NO.	PART DESCRIPTION
1	CSS20	SNAP STUD
2	KF017	1/4 IN INSERTS FOR HITCH
3	CSS133	5/16 SPLIT WASHER FOR HITCH
4	CSS187	1/4-20 PAN HEAD SCREW FOR HITCH
	AVHA	AUTOVAC HITCH ASSEMBLY
5	AVH	AUTOVAC HITCH
	AVSA	AUTOVAC SPREADER ASSEMBLY
6	CSS190	ARM MOUNTING SCREWS
7	AVMFH	MICROFIBER PAD HOLDER
8	AVMFARM	SPREADER PLASTIC ARM BLACK
9	CSS102	ACORN NUT FOR ARM
10	SUBSSSAL	AUTOVAC ASSEMBLY SNAP & STRAP LONG
11	CSS20	SNAP STUD
12	UWMP-26	AUTOVAC MICROFIBER PAD
	AVVAL(2)	AUTOVAC VACUUM ASSEMBLY
13	CVS12-28	28" SQUEEGEE HEAD ASSEMBLY
14	STEEL	S/S WHEEL ASY FOR SQUEEGEE HEAD
15	CVA03BK	AUTOVAC SQUEEGEE BLADE
16	STEELC	AUTOVAC WHEEL REPLACEMENT
17	CSS20	SNAP STUD
18	SUBSSVAL	VAC ASSEMBLY SNAP STRAP
19	AVVARM	VACUUM PLASTIC ARM
20	CSS191	#12-24 X 5/8 SCREW FOR ARM
21	AVVP	AUTOVAC VAC PLOW
22	CSS191	#12-24 X 5/8 SCREW FOR ARM
23	AVVH	AUTOVAC VAC HOSE
24	AVVH2A	AUTOVAC VAC HOSE 1.5FT ASSY W/BLACK STRAP

5.6 Quick Change Power Pack Assembly Parts Diagram

[P/N: EABT09]

#	PART NO.	PART DESCRIPTION
1	HEPC01	C19 CABLE
2	CSS359	10 X 3/4 FLAT HEAD FORMING SCREW
3	BINTPLUG	BATTERY BASE PLUG
4	GP0008	BATTERY CHARGER HOUSING
5	CES12	3/8 CONDUIT CLAMP
6	HEPC00	CHARGER EXTENSION
7	HETR01	IOT UNIT
8	GP0009	BATTERY CHARGER HOUSING LID
9	GP0010	CORD WRAP/CLEAT
10	CSS322	10 X 3/4 PHL PAN HI-LO
11	HWS00	6 X 3/4 THREAD FORMING SCREW TORX
12	CSS359	10 X 3/4 FLAT HEAD FORMING SCREW
13	HEBT00	GUIDE RAIL FOR BATTERY
14	EACG00	36V BATTERY CHARGER
15	HWM004	OSHAFT COLLAR 3/8
16	HWM006	HERBIE CLAMP
17	BINTBASE	PLUG BASE
18	HWM010	CABLE CLAMP 3/16 BLACK