

NAUTILUS
PORTABLE EXTRACTOR
EXTREME



**Nautilus MXE-200
Operating Manual**

HF HYDRO-FORCE™
Innovating since 1974

LMANN20 Revised: 03/12/2019

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Introduction

Congratulations on your purchase of the Hydro-Force Nautilus Extreme MXE-200. The Nautilus Extreme MXE-200 is designed to give truck mount-level performance in a portable machine that combines versatility with ease of transport. Years of experience, engineering, and planning have gone into the design and manufacturing of the Nautilus Extreme MXE-200. We take a great deal of pride in the Nautilus Extreme MXE-200; our goal is no less than your complete satisfaction.

The Hydro-Force Nautilus Extreme MXE-200 is intended for commercial use only.

This manual will provide users with the knowledge required to operate the Nautilus Extreme MXE-200 safely, to understand how to properly operate and maintain the machine, and to ensure that the equipment operates at its maximum performance level.

WARNING

All users must read and understand this manual completely before operating the machine.

Always maintain this manual in legible condition adjacent to the Nautilus Extreme MXE-200, or place in a secure location for future reference.

Any questions pertaining to the operating or servicing of this unit should be directed to your nearest Hydro-Force distributor.

This manual is written specifically for the Nautilus Extreme MXE-200 portable extractor units manufactured by:

Aramsco
4282 South 590 West
Salt Lake City, UT 84123
801-268-2673
801-268-3856 FAX

Information in this manual is subject to change without notice and does not represent a commitment on the part of Hydro-Force or its parent or affiliated companies.

Technical Specifications

Nautilus Extreme MXE-200 High Pressure Extractor

Height: 42-1/4"

Length: 34-3/8"

Width: 23-3/8"

Weight: 119 lbs.

Solution Tank Capacity: 12 gallon

Recovery Tank Capacity: 12 gallon

Solution Pump: Pump-Tec #114 pump with 1.4amp Motor
0-200 psi - 0.89 gpm

Vacuum Motors: Two AMETEK Lamb 8.4" diameter 2-Stage - tangential discharge
Can be operated in series or parallel configuration

Pump-out Pump: Little Giant 120VAC 8-20 gpm
(Optional) Maximum psi 11.4 - Maximum pumping height 26 ft.

Power Draw: Cord #1 - 15.32 amp wide open / 9.02 amp full load
Cord #2 - 13.70 amp wide open / 7.40 amp full load
(Add 5.00amps to Cord #2 for units with optional Pump-Out Pump)

Standard Equipment

Vacuum Connection: 2" Barb or 2"Male Flash Cuff with 2" Male NPT

Vacuum Hose: 25' X 1-1/2" with 1-1/2" cuff & 2" cuff

2" Female Flash Cuff x 1-1/2" hose adapter

Carpet Wand: 1-1/2" SS Dual Jet S-Bend Wand - AW29

Accessory Mount Hardware: Four 1/4-20 x 5/8" SS Screws and Washers

HP Solution Hose: 25' x 1/4" with 1/4" male & female quick connects

Pump Priming Hose: 12" x 1/4" with 1/4" male quick connect

Power Cords: 2 - 25' x 12gauge with male & female plug ends

Electrical: Dual Circuit Indicator

3amp Pump Circuit Breaker

Two Internal Component Cooling Fans

Optional Features:

Auto Fill System with chemical draw:

Metering Tip Kit: 14 different tips for changing chemical dilution rate

Water Supply Hose: 50' x 3/8" with 1/4" female quick connect &
Female garden hose fitting

Auto Pump-out System:

Pump-out Hose: 50' x 3/4" with male & female garden hose fittings

Additional / Optional Equipment

| | |
|--|-----------|
| Wand Glide – Delrin | AW529D |
| Wand Glide – Teflon | AW529T |
| 18" Bottom Velcro Strap for Wand Holder | NM5841 |
| Hy-Dry Deluxe Upholstery Tool | AW54D |
| Flash Xtractor II: | AC002 |
| 1-1/2" Vacuum Hose: (Sold per foot – No cuffs) | AH36 |
| 2" cuff for 1-1/2" Vac Hose: | AH46 |
| 1-1/2" cuff for 1-1/2" Vac Hose: | AH42 |
| 1-1/2" Hose Connector PVC: | AH74 |
| HP Solution Hose 1/4" X 25' w/M-F Quick Connects | AH79D |
| 1/4" Male Quick Connect: | AH102B |
| 1/4" Female Quick Connect: | AH101B |
| Pump-out Hose: | AH65 |
| Hydro Filter II: | AC10 |
| Replacement Screen for Hydro-Filter II: | AC10C |
| Metering Tip Kit: | PDE001 |
| 10/3 X 25' Power Cord: | 1696-6412 |
| 12/3 X 50' GPCI Power Cord: | NM4407A |
| Belt Pack | AX108 |



AX108

AC10



AC10C



AC002



NM4407A



1696-6412



AW50D

Safety

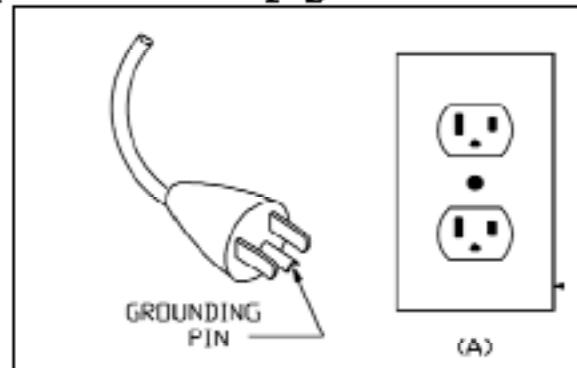
WARNING

This machine is an electrical appliance.

Care must be taken to reduce the risk of electrical shock.

READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE OPERATING THE MXE-200.

- To reduce the risk of property damage or injury, repairs to electrical systems should only be performed by experienced technicians. Contact your distributor for assistance. Unplug machine power cord from outlet before performing any repairs on the extractor.
- This machine shall be grounded while in use to protect the operator from electric shock. The machine is provided with a three-conductor cord and a three-contact grounding type attachment plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect this wire to other than the grounding pin of the attachment plug.
- This machine is for use on a nominal 120-volt circuit and has a grounding plug that resembles the plug illustrated in the sketch to the right. Make sure that the machine is connected to an outlet having the same configuration as the plug. No plug adapter should be used with this machine.
- The power cords supplied with this machine are properly sized to handle the electrical load of this machine and properly grounded as described above. Any extension cords used with this machine must be similarly sized with an equal or greater load rating and grounded to assure safe operation. A properly sized or rated GFCI protected cord can be used for additional protection.
- The two power cords must be plugged into separate circuits during operation. The Dual Circuit Indicator will ensure that the two cords are operating on different circuits (see Page 9 for details.)
- Do not use the MXE-200 outdoors, in standing water or on wet surfaces. Do not store the MXE-200 in wet conditions. If extractor is leaking, unplug machine power cords from outlets before approaching or touching machine.
- Do not unplug power cord by pulling on the cord. Grasp the plug end when unplugging the cord. Do not pull the extractor by the cord. If cord or plug is damaged, do not use cord. Replace with new cord or repair as needed before use.
- Overloaded circuit may not always trip circuit breaker. Reduced voltage to a machine on an overloaded circuit will prevent components from operating properly.



NOTICE

This machine must be protected from conditions

which may damage the pump, tank, hoses and other components.

- Freezing of water in this machine will cause serious damage. The MXE-200, solution hoses, and tools must be protected from freezing temperature. Store, transport, and use this equipment only in temperatures well above freezing (32°F or 0°C). If you suspect the MXE-200 has been frozen, do not plug in or turn on machine until you are sure it has thawed completely.
- If the equipment cannot be stored or transported in a warm environment, it can be guarded from freezing by running an anti-freeze solution through the incoming water lines, chemical feed system, solution pump, solution lines, tools and pump-out pump. The machine is filled at the factory with anti-freeze to eliminate damage during shipment in cold weather.
 - o The anti-freeze solution must be completely flushed from the machine before it is returned to service.
- The MXE-200 must not be used to pick up flammable or combustible materials or used in areas where these materials may be present.
- Solvent-based or water-based solutions containing solvents may damage the pump, hoses, and other components. Do not assume chemical compatibility. Contact your distributor or Hydro-Force if you have questions regarding the compatibility of your chemicals with the machine.
- Do not clean with solutions that are at temperatures above 130°F.
- Rinse the solution tank, chemical system, and pump with fresh water after each day's use.
- Do not allow pump to run dry. Always maintain adequate solution level to supply solution pump.
- HP hoses may rupture if worn or damaged. Do not use HP solution hoses if hose covering is cut, bulging, or otherwise damaged. Examine HP solution hoses daily and replace or repair hoses as needed.
- Use a Hydro-Filter II and clean the recovery tank daily to keep pump-out filter and pump from becoming clogged. Store the MXE-200 with the recovery tank lid open.
- Keep Vacuum Inlet Filter clean and check float for proper operation. Do not operate the MXE-200 without the Vacuum Inlet Filter in place. Use defoamer to eliminate foam build-up during cleaning and prevent foam/misture from entering vacuum.

WARNING

Use common sense to protect yourself and others while using this equipment.

- Keep pets and children away from the machine when in use.
- Keep all body parts, hair, and loose clothing away from openings and moving parts. Always wear appropriate work clothing and safety equipment when operating unit.
- Use extra care when cleaning on stairs. Wet carpet on stairs can be slippery.
- Do not move the MXE-200 up or down stairs when tanks are full of water. Drain solution and recovery tanks, and secure base latches before moving unit up or down stairs. Lift using only the machine handles designed & designated for moving and lifting.
- Water may be spilled, drip, or be exhausted from vacuum during operation. Place unit in area where water will not cause damage or use drop cloth to protect surfaces.

Vacuum Connections

The MXE-200 has a unique vacuum system which allows you to connect your vacuums in either parallel or in series. Vacuum connections can be changed quickly, without tools. While there is debate on which vacuum alignment provides the best extraction, this much is true:

- Two vacuums in series: The vacuum lift is increased by 1.6 times the rating of a single vacuum, while the air flow stays the same as a single vacuum.
- Two vacuums in parallel: The vacuum air flow is increased by 2.0 times the rating of a single vacuum, while the lift stays the same.

Air flow is usually measured in cubic feet per minute, indicated as CPM. Lift is usually measured in inches of water column, indicated as "H₂O or "WC.

To connect vacuums in parallel:

1. Connect the discharge / exhaust hose from vacuum #1 to the exhaust pipe on machine base.
2. Place the rubber stopper into the vacuum inlet port of vacuum manifold number two.
3. Open vacuum gate valve and attach the Gatekeeper to prevent accidental valve closure.

When connected in parallel, both vacuums must be running during cleaning. Vacuums cannot be operated individually.

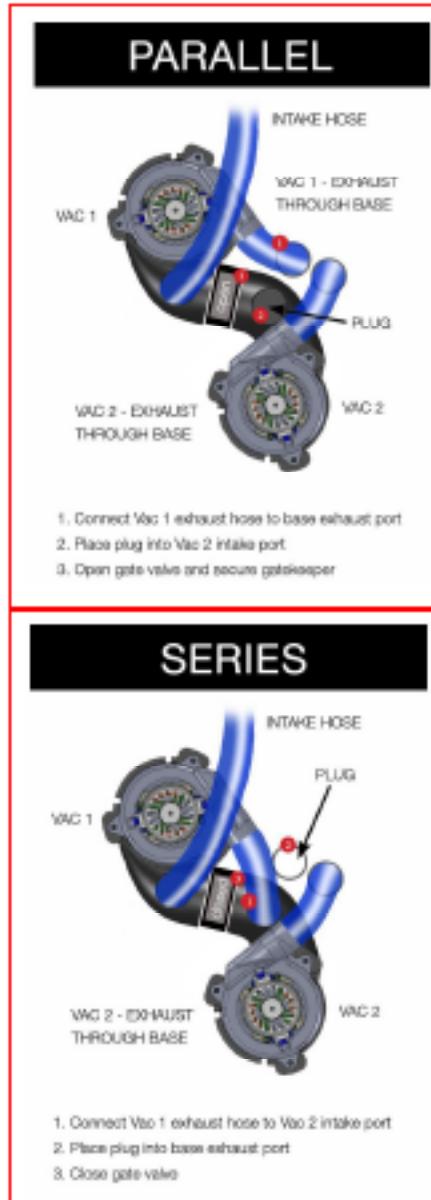
To connect vacuums in series:

1. Connect the discharge / exhaust hose from vacuum #1 to the vacuum inlet port of vacuum manifold number two.
2. Place rubber stopper into the exhaust pipe on machine base.
3. Remove Gatekeeper and close vacuum gate valve.

When connected in series vacuums can be operated individually if desired during cleaning.

NOTICE Always secure the Gate Valve Open with the Gatekeeper when connecting the vacuums in Parallel. Closing the Vacuum Gate Valve with the hoses connected in the Parallel configuration may cause damage to Vacuum #2.

GATEKEEPER



Operation Procedures

Knowledge of the proper operation of the MXE-200 is required to ensure user safety and efficient performance of the extraction.

SET UP AND OPERATION

1. Electrical Circuits

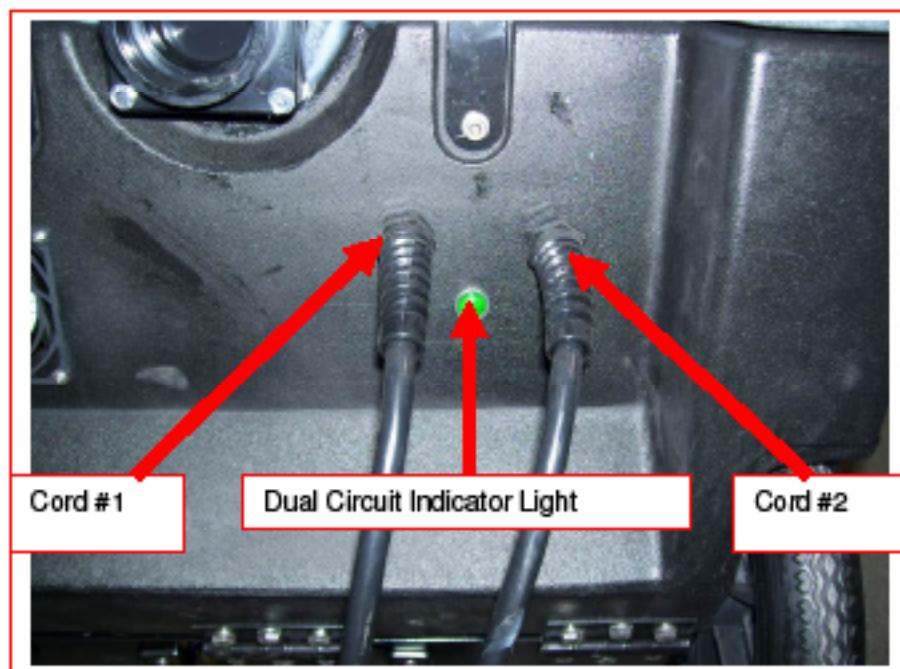
Two 25' power cords are supplied with the Nautilus Extreme MXE-200. Cord #1 powers vacuum #1, the Solution Pump and the cooling fan; Cord #2 powers vacuum #2 and the waste pump if so equipped. The amperage required by each cord requires that the two cords be plugged into separate circuits:

- Cord #1 (Left side) will supply power to Vacuum #1, the Solvent Pump & Cooling Fan.
 - Cord #2 (Right side) will supply power to the Vacuum #2 and Pump-out Pump.

This machine is able to run when both cords are connected to separate 15amp circuits. If other electrical equipment is connected to the circuit during operation, 20amp circuits may be required. 20amp circuits are usually found in kitchens and bathrooms. An overloaded circuit will not always trip the circuit breaker immediately, but may not provide sufficient voltage for proper operation and the breaker may trip eventually.

Plug the two power cards into two outlets from different circuits. If the Dual Circuit Indicator green light fails to light, you may be on the same circuit and may need to select a different plug for one of the cards. If the Dual Circuit Indicator green light comes on, you are plugged into two different circuits. Proceed with your set-up procedure.

(Dual Circuit Indicator light may take up to 30 seconds to recognize the two circuits and turn ON.)
If a circuit breaker trips or the pump circuit breaker trips during operation, reset the breakers and move the lead to another outlet as needed.



Power Cord – 1696-6412
25' – 10 gauge M-F Plugs

2A. Water Supply & Chemical Mixing—Manual Fill:

- Pour up to 12 gallons of hot water into the solution tank at the front of the machine. The water temperature cannot exceed 130°F.
- Measure and add the appropriate amount of the desired liquid chemical to the water in the solution tank. The amount of chemical will vary depending on the type of chemical used, the amount of water in the tank, and the material being cleaned; consult the chemical packaging for specific mixture ratios.
- Powdered chemicals should be dissolved in water before adding to the water in the solution tank.

NOTICE

DO NOT RUN OUT OF WATER WHILE USING THE MACHINE! Ensure that the tank contains enough water to complete each job. If the water level is low, stop cleaning, turn off the pump, and refill the tank. Running the pump dry will damage the pump and void the warranty.



Pour appropriate amount of hot water into solution tank



Add appropriate amount of chemical to water in solution tank

2B. Optional Auto-Fill System - Water Supply & Chemical Dilution:

- The chemical dilution rate is controlled by the metering tip, and the dilution rate can only be changed by changing the metering tip (See "How to Change the Metering Tip" on Page 11 for instructions.)

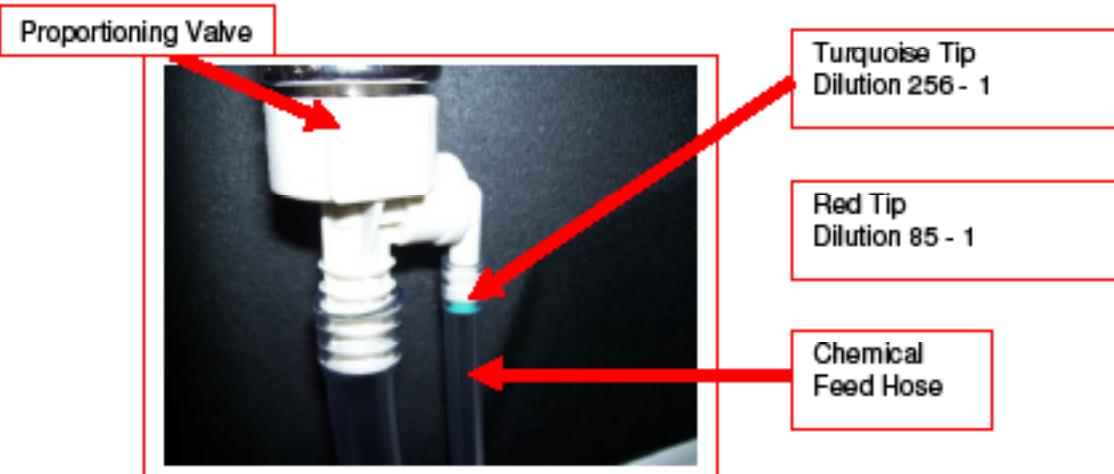
Chemical Feed Setup:

- Remove the chemical feed hose from the solution tank. Make sure float is attached to valve and hanging freely, above the bottom of the solution tank. Adjust float height to maintain adequate water level.
- Place the end of the chemical feed hose into a container of liquid chemical.
- If the tip is removed, and the proportioning system operated with no tip, the dilution rate will be 8:1 (the equivalent to adding 16-1/4oz of chemical to each gallon of water.)
- The recommended tip for use with the MXE-200 is the turquoise tip with a dilution rate of 256:1. This means that for each gallon of water flowing into the machine, 1/2 ounce of chemical will be added.
- If a fresh water rinse with no chemical is desired, simply leave the chemical feed hose inside the solution tank.



How to Change the Metering Tip:

- Remove the chemical feed hose from the barb on the side of the proportioning valve.
- Unscrew and remove the old tip.
- Screw in the proper tip for your chemical tip and place the hose back on the barb.



Metering Tip Kit (Hydro-Fuse Item# PDE001) contains 14 different colored metering tips, allowing dilution rates from 11:1 up to 427:1. Refer to the chart below to select the tip that meets the dilution rate for your chemical application.

- For example: if you require 1-1/2 ounces of chemical per gallon of water, change to the red metering tip with the dilution rate of 85:1.
- The dilution rates are based on chemicals with water-like viscosity. Thicker (more viscous) chemicals will dilute at a different rate.
- For powdered chemicals, a liquid concentrate must be made. Mix the concentrate according to the manufacturer's directions, and then select the appropriate metering tip.
- Contact your distributor or Hydro-Fuse if you have questions about your chemical.

Metering Tip Application Chart:



Metering Tip Kit – PDE001

| TIP COLOR | CHEMICAL DILUTION RATES OZ / GAL (RATIO) |
|------------|---|
| TAN | 0.30 (427:1) |
| ORANGE | 0.40 (320:1) |
| TURQUOISE | 0.50 (256:1) |
| PINK | 0.75 (170:1) |
| LIGHT BLUE | 1.00 (128:1) |
| BROWN | 1.12 (114:1) |
| RED | 1.50 (85:1) |
| WHITE | 1.75 (73:1) |
| GREEN | 2.00 (64:1) |
| BLUE | 2.50 (51:1) |
| YELLOW | 3.75 (34:1) |
| BLACK | 5.00 (26:1) |
| PURPLE | 8.50 (15:1) |
| GRAY | 11.50 (11:1) |
| NO TIP | 16.25 (8:1) |

Water Supply:

- Once the correct metering tip is in place:
 - Connect the Auto-Fill Water Supply Hose to the water inlet (the male quick-connect on the front of the machine.)
 - Connect the other end of the hose to a water faucet, and then turn on the water.
- Hot water can be used as long as the temperature does not exceed 130°F.
- Faucet adapter kits (Hydro-Force item #AX21 & AX22) are available that allow connection to different types of faucets if needed.



Connect the Auto-Fill Water Supply Hose to a faucet and turn on the water



Connect the Auto-Fill Water Supply Hose to Solution Inlet
(Male quick connect on the front of the machine.)

3/8" id X 25' with F Quick Connect & F Garden Hose Fitting

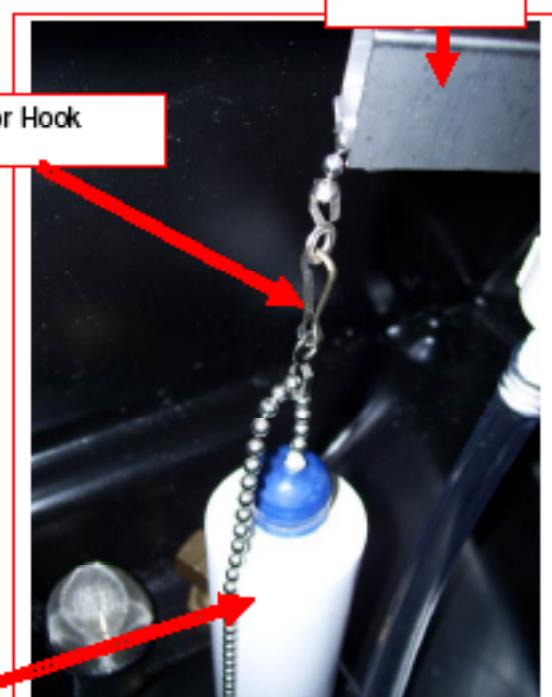


To adjust the water level in the solution tank:

- Turn off the water supply.
- Adjust the length of the chain connecting the float bottle to the float valve. Unhook the float from the beaded chain on the valve. Unsnap the hook from the beaded chain on the float.
 - Move the bottle down to decrease the water level.
 - Move the bottle up to increase the water level.
- Snap the hook onto the float chain & hook the float back onto the valve chain.
- Turn the water supply back on.

If the chemical is not drawing, or if the tank is not filling or is overflowing, refer to the trouble shooting guide, or contact your distributor for assistance.

Float Bottle



3. Priming the High-Pressure Pump:

Once water is in the solution tank, the solution pump must be primed:

- There is a priming hose included with the machine. Connect the priming hose to the solution outlet – female quick connect on the front of the machine.
- Turn on both vacuums and the solution pump. Insert the end of the priming hose into the vacuum inlet port on the front of the machine and cup your hand around the hose to block off the vacuum inlet with your hand. The vacuum will pull solution through the pump and priming hose into the vacuum tank.
- Turn off the pump and vacuums. Disconnect the priming hose. You can now continue your set-up. As long as there is solution in the tank, the pump should remain primed.

If the pump still does not prime, or if flow is low or unsteady, check the hose from the solution tank to the pump (as well as the filter) for clogging, kinks, or restrictions. Clean or replace hose and/or filter and repeat the priming procedure.

If you are having trouble with the pump, refer to the trouble shooting guide or contact your distributor for advice or assistance.



PUMP PRIMING HOSE – NM5080



4. Connection of Solution Hose:

Connect the high pressure solution hose to the solution outlet (female quick connect on the front of the machine). Connect the other end of the hose to the male quick connect on the cleaning tool. When you are ready to start cleaning, turn the solution pump switch to the ON position. The pressure is preset, there is no pressure adjustment to be made.



HP Solution Hose Assembly – AH79D
1/4" id X 25' with M-F Quick Connects



Connect the male end of the HP Solution Hose Assembly to the female solution outlet fitting on the machine. Connect the female end to the cleaning tool.

5. Connection of Vacuum Hoses:

The vacuum connection port on the machine can be either a 2" hose barb or 2" male Flash Cuff. Both are included with your MXE-200. The desired connector can be threaded into the vacuum port on the front of the machine.

A 2" female Flash Cuff 1-1/2" hose adapter is also included to connect the 1-1/2" vacuum hose to the 2" male Flash Cuff on the machine.

A 2" hose cuff for 1-1/2" vacuum hose is included to connect the 1-1/2" vacuum hose to the 2" hose barb on the machine.

With the proper cuff attached to the 25' Vacuum Hose, the 25' vacuum hose is then connected to the vacuum connection port on the MXE-200. The other end with the 1-1/2" cuff is connected to the cleaning tool.

When ready to begin cleaning, turn both vacuum switches to the ON position. If connected in series, the MXE-200 can be operated with only one vacuum for cleaning delicate fabrics. (See Vacuum Connection instructions on Page 8) In most situations you will turn both vacuum switches ON.



Vacuum Hose Connection with Flash Cuffs



Vacuum Hose Connection with standard barb and vinyl cuff

7. Connection of Pump-Out Hose:

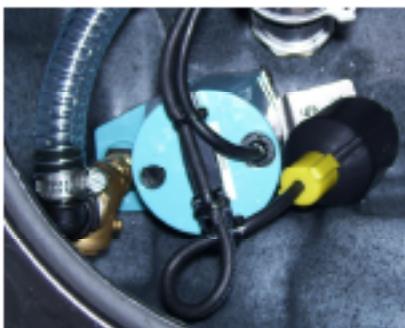
The pump-out hose is a 50' section of 3/4" garden hose. (Use of smaller diameter hose may reduce flow.)

- Remove the cap from the pump-out outlet fitting on the back of the machine.
- Connect the pump-out hose to the outlet fitting.
- Place the other end of the hose in a commode or drain connected to the sanitary sewer system.
- Secure hose end to prevent movement during pumping.

NOTICE

- Use defoamer to prevent foam build-up in recovery tank during cleaning and to keep foam/moisture from entering vacuums.
- Use Hydro Filter II inline filter to trap and remove debris from the waste water before it enters the recovery tank. Excess debris in recovery tank may clog Pump-Out filter. Clean Filter as needed during use.
- Do not turn the Waste Pump switch ON unless pump-out hose is connected and has been routed to a proper drain.
- The Waste Pump uses a float switch and does not start pumping until the water level in the tank is high enough to lift the float switch. The pump will turn ON & OFF during normal operation. Pump will be damaged if allowed to run dry.

When ready to begin cleaning, turn the Waste Pump switch to the ON position.



Connect the Female Garden Hose Fitting end of the Pump-out Hose to the outlet fitting on the back of the recovery tank. Place the other end of the pump-out hose in a sanitary drain.



If not using the waste pump-out, the pump-out hose does not need to be connected. When the recovery tank fills during cleaning, the float assembly in the vacuum inlet filter will rise and will automatically shut off the vacuum air flow to prevent the recovery tank from overfilling and waste water from getting into the vacuums. When this occurs:

- Immediately shut off the vacuum switches.
- Drain the recovery tank.
 - Turn off the pump switch while draining the tank.
 - Turn pump switch back on upon resumption of cleaning.
- Close the drain valve and turn the vacuum switches back on when ready to resume cleaning.

If the pump-out or vacuum shutoff is not working properly, refer to the trouble shooting guide or contact your distributor for advice or assistance.



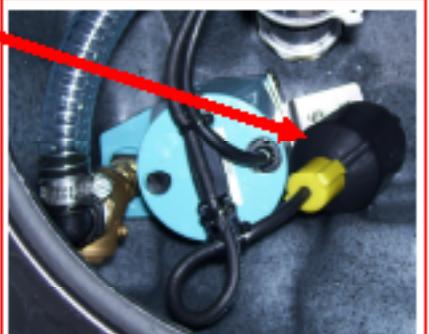
Float Shutoff Assembly



Draining the Recovery Tank

Shutdown Procedures:

- If using the optional auto-fill system, turn the water supply off before finishing each job. This will allow use of the water and chemical already in the tank, and will reduce the amount of excess water to be disposed of later.
- When finished cleaning, turn off all switches.
- If the optional auto-fill system was used and there is still water in the solution tank, push the float down to release the water inlet hose pressure before disconnecting the hose from the faucet. Disconnect the water inlet hose from the quick-connect on the front of the machine.
- Disconnect the solution hose and vacuum hose from the cleaning tool. Pull valve trigger to release pressure from the hose before disconnecting solution hose from cleaning tool.
- If a Hydro Filter II inline filter was used, disconnect the Hydro-Filter II from the vacuum hoses and clean the filter as needed. Replacement filter screens are available (AC10C.)
- Disconnect the vacuum hose and solution hose from the machine.
- If water remains in the solution tank, use the vacuum hose and vacuum the excess water from the tank.
- If the optional auto-fill system was utilized, place the chemical feed hose back into the solution tank.
- If the optional Auto waste pump-out system was used:
 - Turn the waste pump switch "on" & lift float switch to pump out any remaining water from the recovery tank.
 - Turn switch off, remove the pump-out hose from the outlet fitting and replace the cap.
 - Roll up hose toward drain to remove remaining water from hose.
 - Connect ends of hose together to prevent dirty water from dripping from hose during transport.
- Disconnect the power cords from the outlets and from the machine.
- Remove the float shutoff assembly from the recovery tank and clean vacuum shutoff filter as needed.
- Clean Pump-Out Pump and Float Switch. Replace shutoff assembly and tank lid.
- Drain any remaining water from the recovery tank and dispose in sanitary drain. Do not use the same bucket to drain the tank that you use to fill the tank.
- Roll up all hoses and cords. Collect and store extractor, all tools, and accessories.



Storage Options:

The MXE-200 is designed to make it easier for the operator to transport the machine and the most common cleaning accessories.

Bucket & Sprayer Storage

The top of the MXE-200 is sized and recessed to hold a five gallon bucket or two one-gallon chemical bottles as well as two 2QT sprayers.



Power Cord Storage

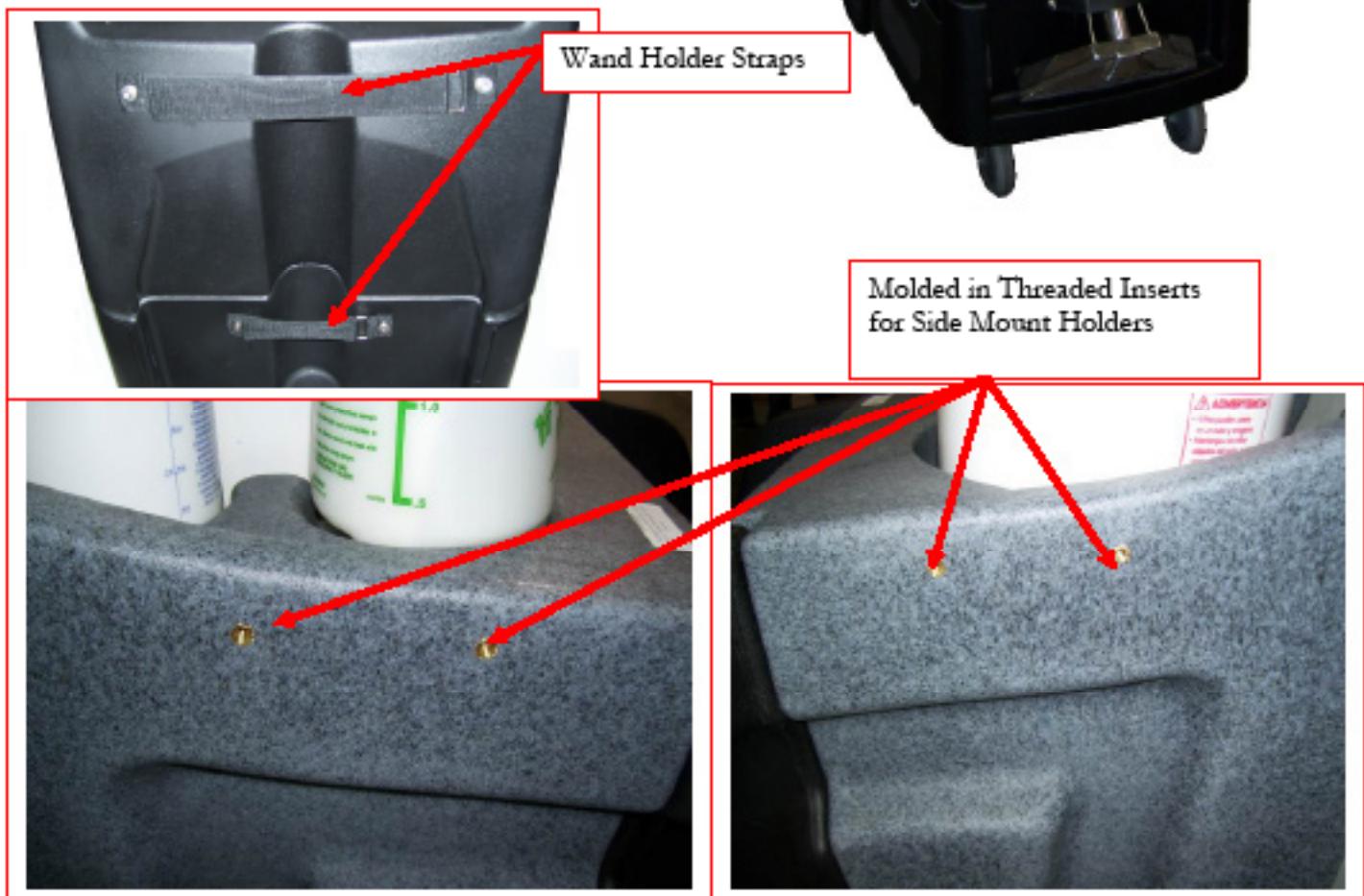
The back of the MXE-200 has two sets of cord wraps to hold two 12 2/3 x 50' power cords.

Carpet Wand Storage

The front of the MXE-200 is designed to hold a S-Bend Carpet wand and has two straps to hold it securely. Optional strap for larger wands available.

Other Tool & Hose Storage

Each side of the MXE-200 has a set of molded in threaded inserts to which holders can be attached to hold other accessories or supplies making it much easier to move around. Four 1/4-20 x 5/8" mounting screws & washers included.



Troubleshooting

Troubleshooting – Nautilus Extreme MXE-200

| Problem | Cause | Solution |
|--|---|---|
| Machine not turning on - No power | Building circuit breaker tripped. Faulty power cord Faulty switches or internal wiring | Reset breakers or move cords to other outlets Replace cord (1628-6412) Check wiring & test switches - Repair as needed * |
| Pump not running | Building circuit breaker tripped. Pump circuit breaker tripped Faulty power cord Faulty switches or internal wiring Pump motor breaker tripped Pump motor faulty Pump seized - trips breaker | Reset breakers or move cords to other outlets Reset breaker - Check available circuit power & pump Replace cord (1628-6412) Check wiring & test switches - Repair as needed * Push in reset button on pump motor &/or external breaker Replace pump motor (PT081) Repair or replace pump head (PT047) or bearing (PT090) - Check motor and/or replace complete pump & motor assembly (AP01) |
| Low Solution Pressure and/or Pulsation | Jets too large for pressure desired Jets worn allowing too much flow Solution inlet filter plugged Hose from solution tank restricted Pump intake hose or fittings leaking Pressure regulator sticking Pressure regulator faulty Filter screen or jets plugged on tool Solution tank empty Pump not primed Pump faulty Tool valve faulty Quick connects or hoses restricted | Check jets size & flow rates use smaller jets or lower pressure Replace jets Clean or replace filter Repair or replace hose Repair or replace hose. Tighten clamps or replace fittings Lube seal on regulator piston Repair or replace pressure regulator (1603-5656) Clean out filter or jets Add water to tank - Check & repair auto fill assembly Perform pump priming procedure Repair or replace pump (PT047 or AP01) Repair or replace valve Clean out or replace quick connects and/or hoses |
| Can't connect solution hose to machine | Pressure in lines Quick connects faulty Wrong style/size quick connects | Release pressure Replace quick connects (AH101B, AH102B) Replace quick connects to match connects on machine |
| WARNING: To reduce the risk of fire electrical shock or injury repairs to wiring should only be performed by experienced service technicians. If you are not experienced in checking electrical wiring contact your nearest authorized service center to perform tests and repairs to wiring and switches. | | |

| Problem | Cause | Solution |
|------------------------------------|--|---|
| Dual Circuit Indicator Not Lit/ked | Cords on the same circuit | Move one cord to outlet on different circuit |
| | No voltage from one/ both outlets | Check circuit breakers – Reset breakers or move cords |
| | Light Bad | Replace Light |
| | Dual Circuit Indicator Bad | Replace indicator |
| | One/Both Outlets Wired wrong | If hot & neutral sides switched on outlet, machine will work, but light will not turn ON. |
| Pump-out not working | Building circuit breaker tripped. | Reset breakers or move cords to other outlets |
| | Faulty power cord | Replace cord (1898-8412) |
| | Faulty switches or internal wiring | Check wiring & test switches - Repair as needed " (NM0714) |
| | Pump-out pump faulty | Replace pump-out pump – NM0603 |
| | Pump-out float switch faulty | Replace float Switch |
| | Float Switch movement restricted | Clean debris off of Float Switch or adjust float |
| | Discharge hose restricted | Un-kink, clean out or replace hose |
| | Pump-out pump clogged | Remove and clean out pump |
| Vacuum Motor not running | Building circuit breaker tripped. | Reset breakers or move cords to other outlets |
| | Faulty power cord | Replace cord (1898-8412) |
| | Faulty switches or internal wiring | Check wiring & test switches - Repair as needed " |
| | Vacuum motor overheated | Unplug machine and allow vacuum motor to cool down |
| | Vacuum motor faulty | Replace vacuum motor (AV20) |
| Loss of Vacuum | Vacuum motor faulty | Replace vacuum motor (AV20) |
| | Vacuum motor gasket damaged | Replace gasket (PA016A) |
| | Recovery tank lid gasket damaged | Replace lid or gasket (1890-5626 or 1893-5397) |
| | Drain valve open | Close valve |
| | Drain valve leaking | Repair or replace drain valve (PEA11) |
| | Vacuum motor hoses loose / leaking | Reconnect or replace vacuum motor hoses |
| | Vacuum Valve in wrong Position | Check Vacuum Gate Valve Position. – PAGE 8 |
| | Vacuum not connected properly | See vacuum connection instructions – PAGE 8 |
| | Vacuum hose or tool clogged | Clean out vacuum hoses and tool |
| | Vacuum hoses or tools leaking | Replace vacuum hoses, tools & connectors as needed |
| | Recovery tank full | Drain tank |
| | Float shutoff filter clogged | Clean float shutoff filter |
| | Float stuck in float shutoff | Repair or replace float shutoff |
| | Pump-out Pump faulty | Repair or replace pump out pump NM0603 |
| | Recovery tank damaged | Replace recovery tank |
| Chemical not feeding | Solution tank not filling | Check & repair auto fill assembly |
| | Chemical hose restricted | Un-kink, shorten, clean out or replace hose |
| | Filter screen plugged | Clean or replace filter (PDE100-11P) |
| | Low Incoming Water Pressure | Move bottle & shorten chemical hose to improve draw – Find other water source. |
| | Wrong size metering tip | Change metering tip |
| | Chemical proportioner faulty | Replace chemical proportioner (PDEB1-22-8) |
| | Check valve in filter faulty | Replace filter (PDE100-11P) |
| | WARNING: To reduce the risk of fire electrical shock or injury repairs to wiring should only be performed by experienced service technicians. If you are not experienced in checking electrical wiring contact your nearest authorized service center to perform tests and repairs to wiring and switches. | |

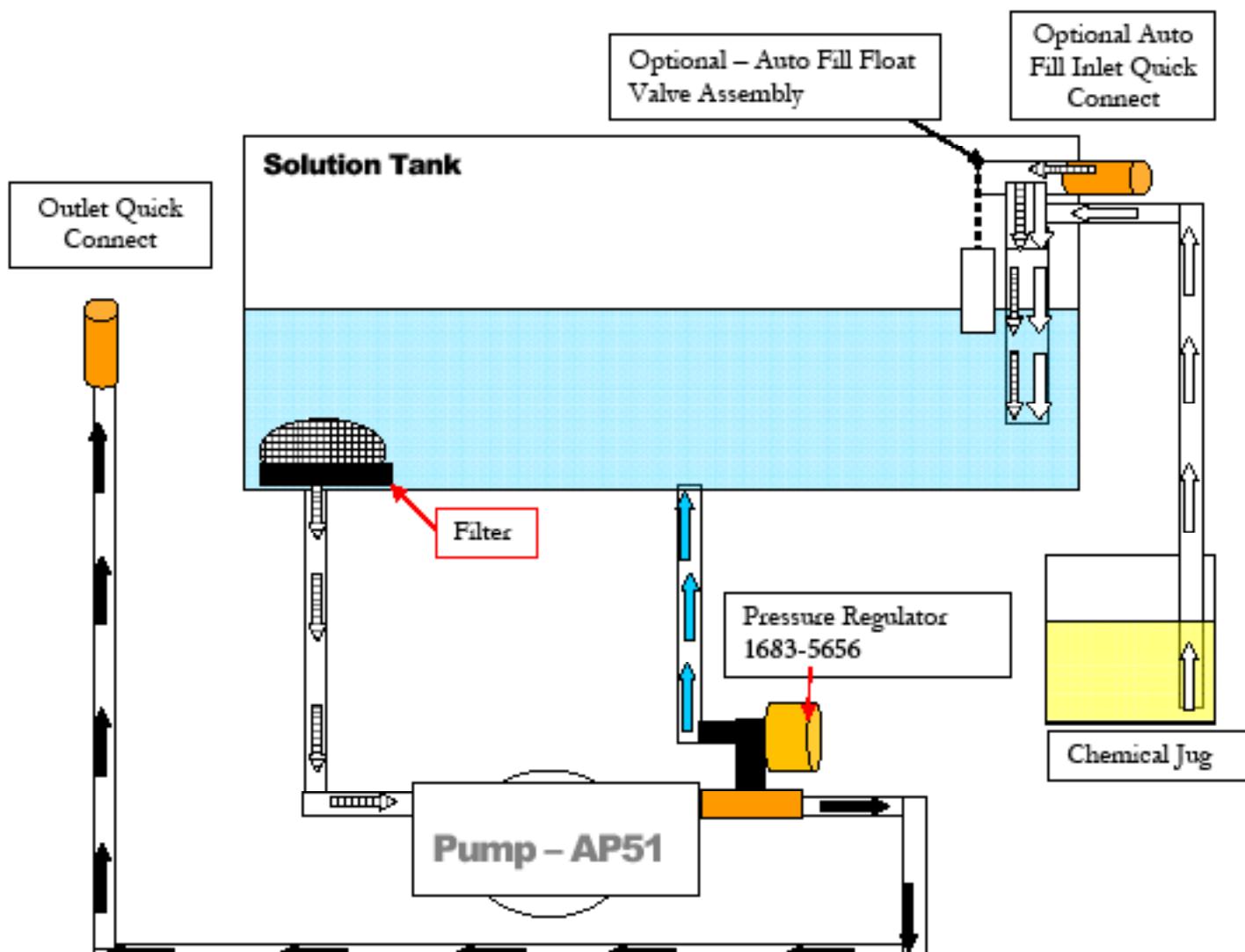
| Problem | Cause | Solution |
|---|------------------------------------|--|
| Tool won't spray - low or uneven spray | Jets clogged | Clean out or replace jets |
| | Inline filter clogged | Clean out or replace filter |
| | Jets worn | Replace jets |
| | Jets not aligned properly | Re-align jets |
| | Tool valve faulty | Repair or replace valve |
| | Quick connects or hoses restricted | Clean out or replace quick connects and/or hoses |
| Solution Tank not filling | Water source turned off | Turn on faucet or find other water source |
| | Float not on valve arm | Reconnect float to valve arm - Adjust to proper height/level |
| | Float valve faulty | Repair or replace float valve |
| | Water hose restricted | Un-kink, clean out or replace hose |
| | Water Pressure too high | Use pressure regulator on auto-fill hose |
| | Quick connects faulty | Clean out or replace quick connects (AH101B, AH102B) |
| Solution tank overflowing | Float too heavy/ Filled with water | Replace float |
| | Float & chain tangled | Make sure float chain free & hanging properly |
| | Float too high | Adjust chain to set float at proper level |
| | Water Pressure too high | Use pressure regulator on auto-fill hose |
| | Float valve faulty | Repair or replace float valve |
| Chemical Jug Filling with water - Overflowing | Foot valve in Filter stuck | Clean out foot valve and filter |
| | Foot valve in Filter faulty | Replace foot valve and filter (PDE100-11P) |
| | | |
| | | |

WARNING: To reduce the risk of fire electrical shock or injury repairs to wiring should only be performed by experienced service technicians.
If you are not experienced in checking electrical wiring contact your nearest authorized service center to perform tests and repairs to wiring and switches.

- Contact your distributor for additional troubleshooting assistance, to order parts, or for advice and assistance in performing necessary repairs.

MXE-200

Solution Flow Path



Denotes incoming water flow



Denotes Water flow in high pressure hose



Denotes by-pass water flow from pressure regulator

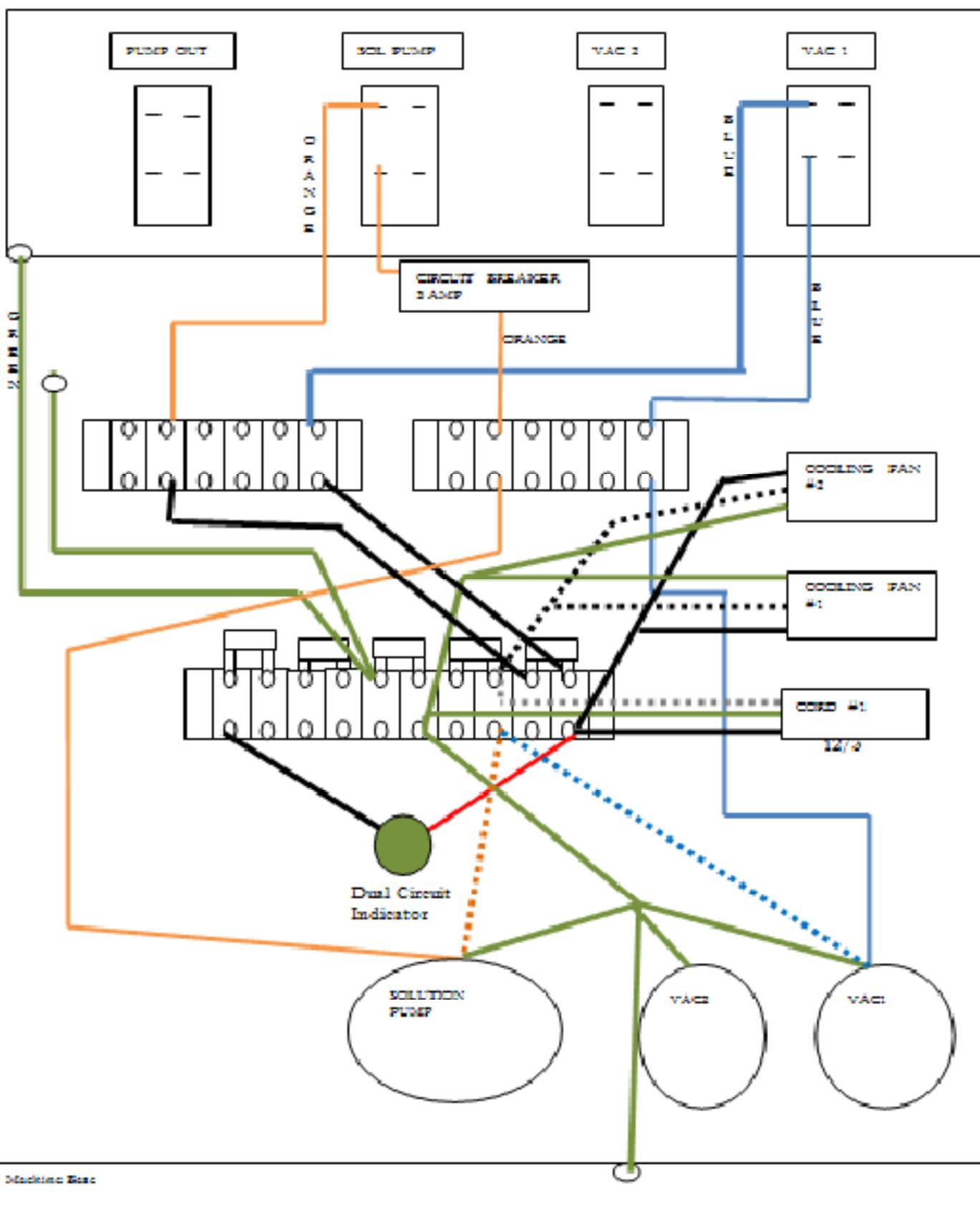


Denotes Chemical flow



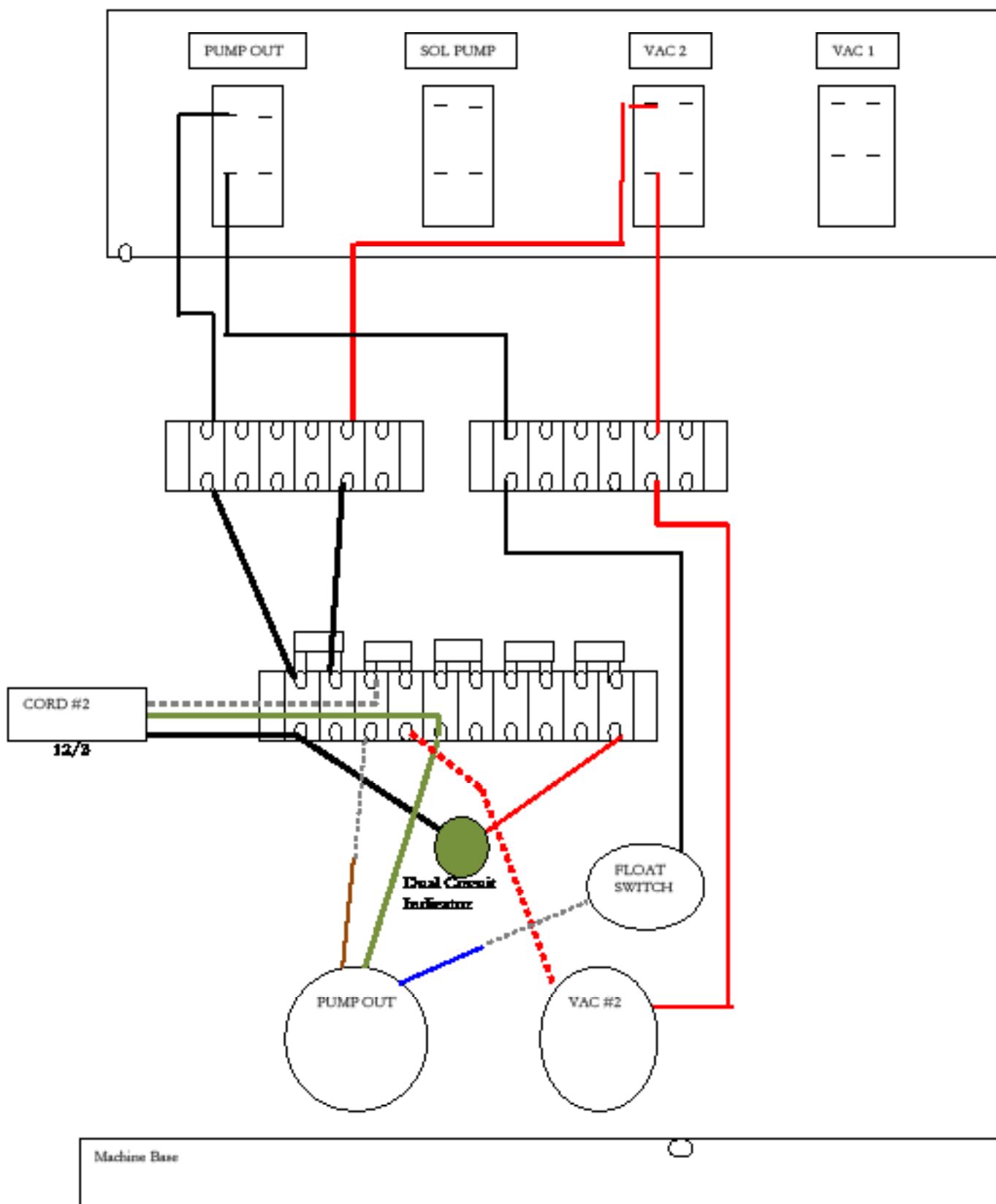
Nautilus MXE-200

Wiring Diagram – Cord #1



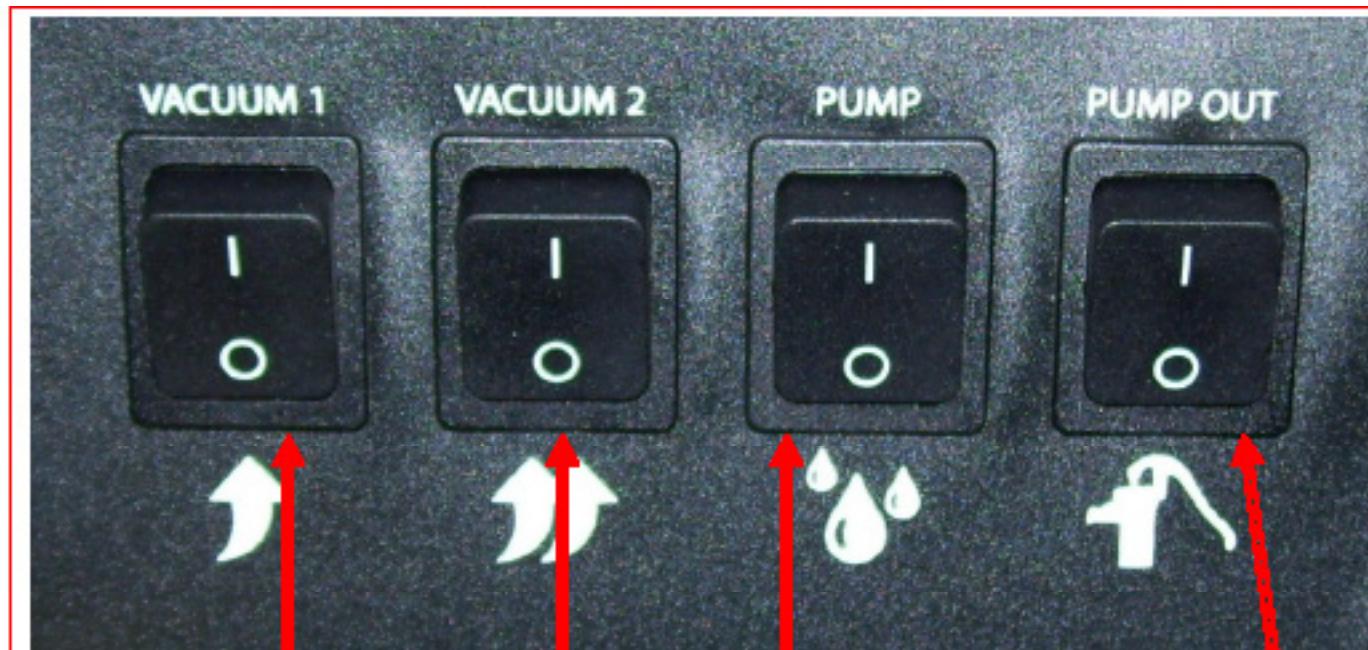
Nautilus MXE-200

Wiring Diagram – Cord #2



NAUTILUS EXTREME MXE-200 SWITCH PANEL:

(Shown with optional Pump-Out)



Vacuum #1 – Power from Cord #1.
When the switch is turned to the ON position power is supplied to the vacuum motor. (3-Stage Vacuum)

Solution Pump Switch – Power from Cord #1.
When the switch is turned to the ON position power is supplied to the solution pump motor.
When not using solution (Extracting Only) do not turn this switch ON.

Vacuum #2 – Power from Cord #2.
When the switch is turned to the ON position power is supplied to the vacuum motor.
(3-Stage Vacuum)

Cooling Fans – Power from Cord #1.
The two cooling fans are not controlled by any switch.
As soon as Cord #1 is plugged in the cooling fans will turn on to exhaust air from the base.

OPTIONAL - Waste Pump Switch
Power from Cord #2.

NOTICE

Do not turn Waste Pump Switch ON unless a hose is connected to the Pump-out Outlet port.
If the Float switch is down the pump will not turn on when the switch is turned on. When the water level gets high enough the Float switch will turn the waste pump on and off again when the level drops.

Section 3

Maintenance

Proper maintenance is required to keep the MXE-200 operating properly, prevent downtime and to extend the life of your equipment.

⚠ WARNING *This machine is an electrical appliance. Care must be taken to reduce the risk of electrical shock.*

⚠ WARNING Disconnect electrical power before performing any service or maintenance inside machine base or before testing or repairing switches or power cords. Failure to do so may result in severe personal injury or death.

| OPERATION | INTERVAL | Page # |
|---|------------------------|--------|
| CLEAN CHEMICAL FEED FILTER & FOOT VALVE | Daily – After Each Job | 27 |
| CLEAN VACUUM SHUTOFF ASSEMBLY SCREEN | Daily – After Each Job | 27 |
| CLEAN HYDRO-FILTER II | Daily – After Each Job | 28 |
| RINSE OUT RECOVERY TANK | Daily | 28 |
| CLEAN WASTE PUMP-OUT PUMP | Daily | 29 |
| FLUSH SOLUTION TANK AND PUMP | Daily | 29 |
| CLEAN PUMP-INLET FILTER | Weekly – As needed | 30 |
| FLUSH CHEMICAL SYSTEM | Monthly | 31 |
| CLEAN DRAIN VALVE | As needed | 32 |
| STORAGE PREP – FREEZE PROTECTION | As needed | 33 |

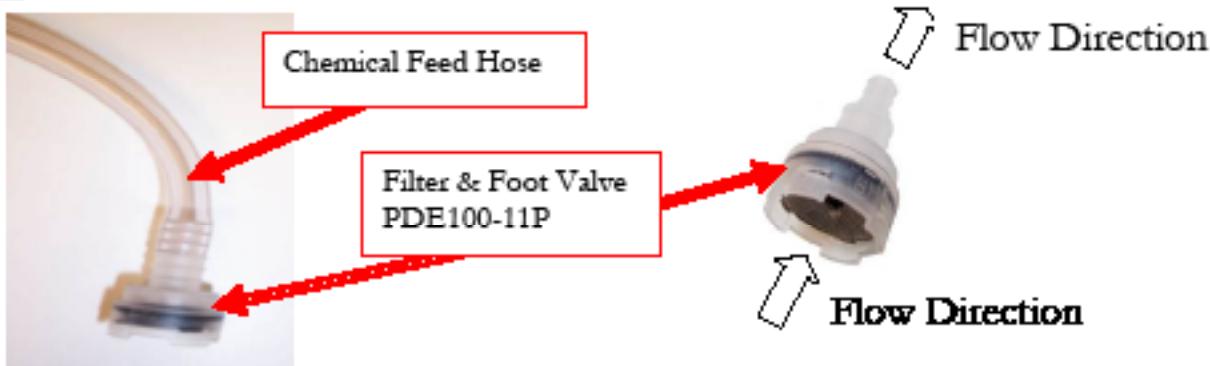
CLEAN CHEMICAL FEED FILTER & FOOT VALVE: (If so equipped)

Part of the optional Auto Fill & Chemical Feed system, the Filter & Foot Valve is on the end of the chemical feed hose that is placed in the chemical jug as part of the chemical feed system. Regularly examine the filter and clean as needed.

To test the Foot Valve:

- Remove the Filter & Foot Valve from the end of the chemical feed hose and rinse in fresh water.
- Blow through the valve from the filter side of the barb.
 - If the Foot Valve is functioning, air should move freely from the filter side, but will not flow from the barb side of the filter.
 - If valve is not functional, clean or replace as needed.

Heavy chemical build-up can be removed with a cold acid rinse and/or the use of a brush and compressed air.



CLEAN VACUUM SHUTOFF ASSEMBLY SCREEN:

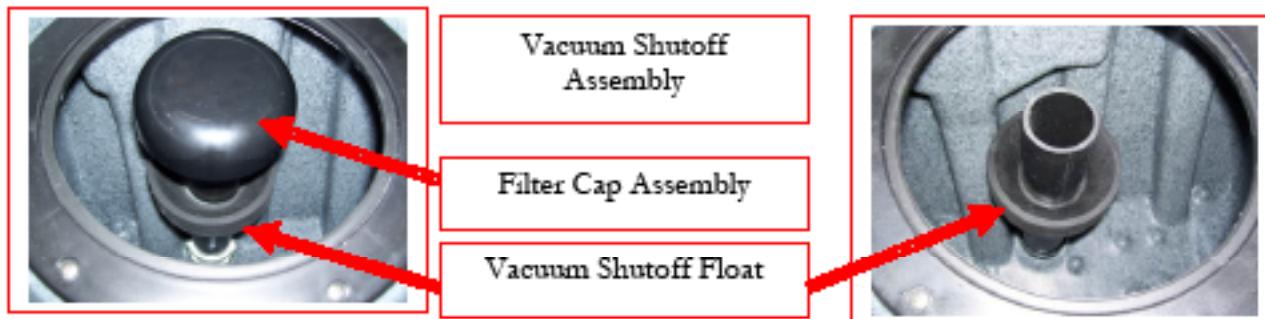
Inside the recovery tank, on top of the stand pipe, is the Vacuum Shutoff Assembly. It functions to prevent debris and water from being sucked into the vacuum motors. Operating the MXE-200 without the Vacuum Shutoff Assembly or with a poorly maintained assembly will greatly decrease the life of the vacuum motors and will void the warranty.

If debris builds up on this filter, it will reduce the vacuum air flow and may cause a significant decrease in the rate of water recovery. If debris prevents the float from moving or seating against the Filter Cap Assembly, it may not stop the airflow when the tank fills with water, and the water will be sucked into the vacuum and blown out the exhaust.

Use defoamer to prevent foam or moisture from entering vacuums (See Page 15).

To clean:

- Do not pull up on top of cap. Carefully pull up from the bottom of filter cap assembly to pull the assembly off of the stand pipe. Then pull float off of riser pipe.
- Pull fibers and lint off and rinse filter cap assembly and float with clean water.
- Place the float back on the riser pipe then push the filter cap assembly back onto the stand pipe and replace the recovery tank lid.



CLEAN THE HYDRO-FILTER II: (If so equipped)

When used with the MXE-200, build-up of debris in the filter screen of the optional Hydro-Filter II will reduce the vacuum air flow and may cause a significant decrease in water recovery. A torn filter screen will allow debris past the filter and into the recovery tank. This debris can clog the Waste Pump and the Vacuum Shut-off Assembly. The Hydro-Filter II must be examined and cleaned regularly to keep the MXE-200 functioning properly.

- Grasp and turn the lid counterclockwise to open the Hydro-Filter II lid.
- Remove the filter screen. Examine the screen and clean or replace as needed.
- Rinse the body of the Hydro-Filter II with clean water.
- Examine the o-ring lid seal and replace as needed.
- Re-install the new or cleaned screen.
- Screw the lid back onto the body and turn clockwise to tighten.



RINSE OUT RECOVERY TANK:

Build-up of fine silt, sand and other debris in the recovery tank can damage the Drain Valve (and Waste Pump if so equipped). Hair and fibers in the recovery tank can clog the vacuum filter (and Pump-out filter if so equipped). Clean out the tank on a regular basis to extend the life of these components and to keep the tank and machine smelling better.

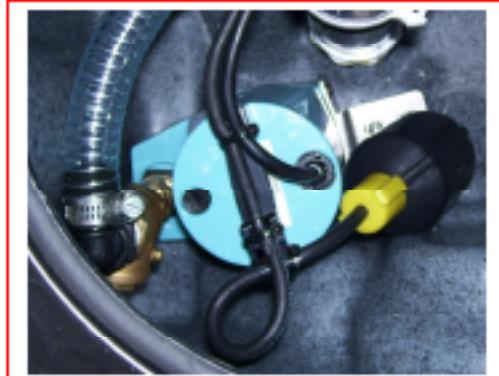
- Remove the recovery tank lid and open the drain valve.
- Place a bucket under the drain valve.
- Use a hose to rinse the dirt and debris out of the recovery tank.
- Close the drain valve and spray the tank with a deodorizer or disinfectant.
- Proceed to Waste Pump Cleaning and replace the recovery tank lid.
- Dispose of the dirty water and debris.



CLEAN WASTE PUMP-OUT PUMP: (if so equipped)

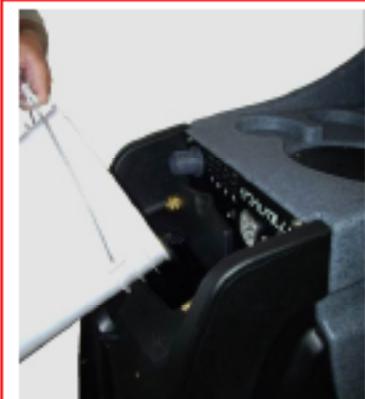
Build-up of fine silt inside the optional Waste Pump can clog the pump even if the pump is not used, so this maintenance procedure should be performed regardless of whether the Waste Pump has been used.

- After cleaning out the recovery tank, remove the cap and connect the Pump-Out hose to the Waste Pump outlet fitting on the back of the machine; run the hose to a drain.
- Open the drain valve and use a hose to rinse off the Pump-Out pump and Float Switch.
- Close the drain valve and fill the recovery tank approximately 1/2 full with clean water.
- With Cord #2 plugged in, turn the Waste Pump switch to the ON position. Lift up and hold the float switch to activate the pump.
- Let the pump run until it pumps the level down to the point below close to the bottom of the pump.
- Unplug the cord and turn the Waste Pump switch OFF.
- Open the drain valve and drain out the remaining water.
- Close the drain valve, replace the recovery tank lid, and dispose of the dirty water and debris.



FLUSH SOLUTION TANK AND PUMP:

- Pour two or three gallons of clean water into the solution tank.
- With Cords #1 & #2 plugged in, connect the pump prime hose to the solution outlet female quick connect.
- Direct the end of the pump priming hose into the recovery tank vacuum bath.
- Turn one or both of the vacuums ON and turn the solution pump ON.
- Let the pump run until most of the water has been pumped out of the solution tank.



NOTICE Do not let the pump run dry. Turn the pump OFF before the water gets to the bottom of the tank.

Pour 2 or 3 gallons of clean water into Solution Tank

- Turn the vacuums OFF and disconnect the prime hose.
- Place a bucket under the drain valve; open the drain valve to drain the water out of the recovery tank.
- Close the drain valve and dispose of the water.

If there is a heavy chemical build-up in the machine, hoses, or tools, a mild acid can be added to the rinse water in the previous procedure (REFER TO PHOTOS ON FOLLOWING PAGE.)

- After the pump has been primed, turn the solution pump switch OFF and turn the vacuums OFF.
- Remove the pump priming hose and connect the solution hose and tools.
 - Turn the solution pump ON and direct the tool spray into a bucket. Let the pump run until most of the water has been pumped out of the solution tank.

NOTICE Do not let the pump run dry.
Turn the pump OFF before the water gets to the bottom of the tank.

FLUSH SOLUTION TANK AND PUMP: (continued from previous page)

- Disconnect the solution hose and tool.
- Use the vacuum hose to vacuum the remaining acid solution out of the solution tank.
- Pour two or three gallons of clean water into the solution tank.
- Connect the pump priming hose to the solution outlet female quick connect.
- Direct the end of the prime hose into the recovery tank vacuum barb.
- Turn one or both of the vacuums ON and turn the solution pump ON. Let the pump run until most of the water has been pumped out of the solution tank.

NOTICE

Do not let the pump run dry. Turn the pump OFF before the water gets to the bottom of the tank.

- Turn the vacuums OFF and disconnect the prime hose.
- Place a bucket under the drain valve and open the drain valve to drain the water out of the recovery tank.
- Close the drain valve and dispose of the water.



Vacuum acid solution out of Solution Tank



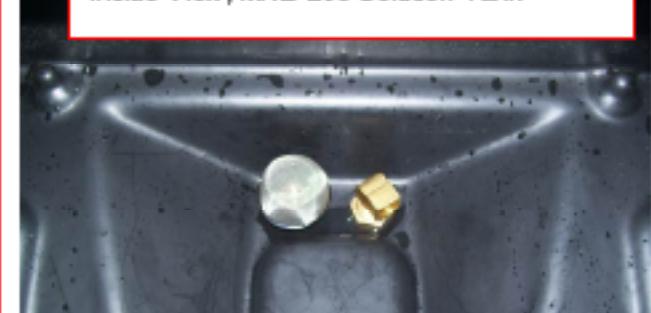
Drain Recovery Tank

CLEAN PUMP INLET FILTER

A restricted Pump Inlet Filter can prevent the solution pump from providing adequate pressure for cleaning. A restriction or air leak on the pump inlet hose can also damage the solution pump check valves and plunger seals.

- To examine the filter, open the solution tank lid on the front of the machine. The filter is in the bottom of the solution tank.
- Grasp the filter cap and unscrew the filter from the brass nipple by turning counter-clockwise. Clean or replace the filter as needed (PP14-806504).

Inside View; MXE-200 Solution Tank



WARNING

Before proceeding with this

procedure, drain the solution tank & recovery tank. Make sure both power cords are disconnected.

- To examine the pump inlet hose, release the latches on the front/bottom of the machine and tilt the tanks off of the base assembly.
- Examine the hose for kinks, clogs or holes and repair or replace the hose as needed. (Replacement Hose: NM5086 – sold per foot)
- Tilt the tanks back onto the base and secure the latches.

SOLUTION FILTER
PP14-806504



FLUSH CHEMICAL SYSTEM: (If so equipped)

Chemical build-up in the optional Auto Fill chemical system can prevent the system from drawing chemical.

- Rinse the chemical system with fresh water (For heavy chemical build-up, a mild acid can be added to the rinse water.)
- Remove the chemical feed hose from the solution tank and place the end of the hose in a bucket of fresh water or mild acid solution.
- Connect the Auto-Fill Water Supply Hose to the water inlet (male quick connect) on the front of the machine.
- Connect the other end of the hose to a water faucet and turn on the water. Let the water flow into the tank until you are sure the rinse solution has been drawn through the proportioner and mixed with the incoming water. The metering tip can be removed from the proportioner to speed up the process.
- Once the rinse solution has been drawn through the proportioner, turn off the water faucet and disconnect the Auto-Fill Water Supply Hose.
- Plug in Cord #1, connect the vacuum hose to the vacuum barb, turn on one or both vacuums, and use the vacuum hose to remove the water from the solution tank.
- When the solution tank has been emptied, turn off the vacuums and unplug the power cord.
- Place a bucket under the drain valve and open the drain valve to drain the water from the recovery tank.
- Close the drain valve and dispose of the water.



Place Chemical Feed Hose into
Rinse Solution



Connect Auto-Fill Water Supply
Hose to machine and faucet



Vacuum water out of Solution
Tank



Drain water from Recovery
Tank

CLEAN RECOVERY TANK DRAIN

Debris and sand accumulation in the drain valve can damage the valve or prevent it from closing completely. This will result in dirty water leaking from the valve. Use of the Hydro-Filter and regular cleaning of the recovery tank will help prevent this, but occasionally the drain valve will require cleaning or replacement.

WARNING

Unplug both power cords and drain the recovery tank before attempting to service the drain valve.

- Unscrew the nuts and remove the four bolts holding the valve assembly to the flange attached to the recovery tank. Unless the flange is damaged, it does not have to be removed from the tank, even when replacing the drain valve.
- Separate the valve body, outlet adapter and gaskets from the flange.



Remove four bolts holding valve assembly to flange fitting



Unless damaged or leaking between tank and flange, the flange fitting does not have to be removed



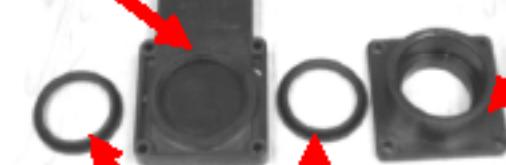
DRAIN VALVE – PEA11

VALVE BODY



GASKET – NM3019

OUTLET ADAPTER



- Examine the valve body for wear. Check the valve slide for deep scratches. Deep scratches will allow water to flow past gaskets and leak from valve. Replace valve if needed.
- Examine the gaskets and replace if cut, torn or deformed.
- Raised, rounded side of gasket goes toward valve slide. Larger flat sides seat on ring on flange and outlet adapter. Sand and debris will collect in the bottom of the valve body and prevent the slide from going down and seating properly.
- Clean debris out as needed so slide can move to bottom.
- Rinse valve body and reassemble valve body, gaskets and outlet adapter, and place assembly back onto flange fitting.
- Replace four bolts and tighten evenly to secure assembly to flange. Do not over-tighten bolts.



Clean debris from slot in bottom of valve body. Valve slide must be able to slide to bottom.

Storage Prep and Freeze Protection Procedures:

Your Nautilus Extreme MXE-200 must be protected from freezing. Freezing can cause serious damage to the pump, pump-out, auto-fill float valve, and any other component containing water. If the MXE-200 is transported or stored in freezing temperatures, the following procedures should be performed. ALSO, if the MXE-200 is stored for an extended period of time, the following procedure should be performed to prevent the pump seals from drying out.

1. In a separate container mix 1/2 gallon of water with 1/2 gallon of automotive radiator Ethylene Glycol anti-freeze. (Propylene glycol can be used as a non-toxic alternative anti-freeze.). Mix well and pour into the solution tank. If needed perform the pump priming procedure. When the pump is primed, connect the solution hose to the solution outlet (female quick connect).
2. If not equipped with the optional Auto Fill System, snap an open quick connect onto the other end of the hose and place the hose end back into the solution tank.
If equipped with the Auto Fill system, connect the opposite end of the HP solution hose to the Auto-Fill inlet (male quick connect.) Leave the chemical feed hose in the solution tank and ensure the check valve filter is submerged in the anti-freeze solution. To speed the process the metering tip can be removed.
3. Turn the solution pump switch to the ON position and allow the anti-freeze to circulate for 5-10 minutes. Mix and add more anti-freeze solution as needed. For machines with the optional Auto Fill System, make sure end of chemical feed hose stays submerged in the anti-freeze solution. This will assure that the anti-freeze will be drawn into the proportioning valve.
4. Connect any cleaning tools and solution hoses that will be stored with the MXE-200. Direct tool spray back into the solution tank or into a bucket. Repeat for all tools to be protected.
5. Turn the solution pump switch to the OFF position.
6. Use the vacuum hose to vacuum the remaining anti-freeze solution out of the solution tank and bucket.
7. If so equipped, remove the cap from the waste-pump out outlet fitting on the back of the machine. Connect a hose to a drain or hold a bucket up to the fitting to catch the pump-out flow. Remove the lid from the recovery tank. Turn the Waste Pump switch to the ON position to engage the pump-out. Turn off the Waste Pump Switch as soon as you see anti-freeze flowing from the outlet fitting or hose.
8. Drain the remaining anti-freeze solution from the recovery tank and the machine is ready for storage.

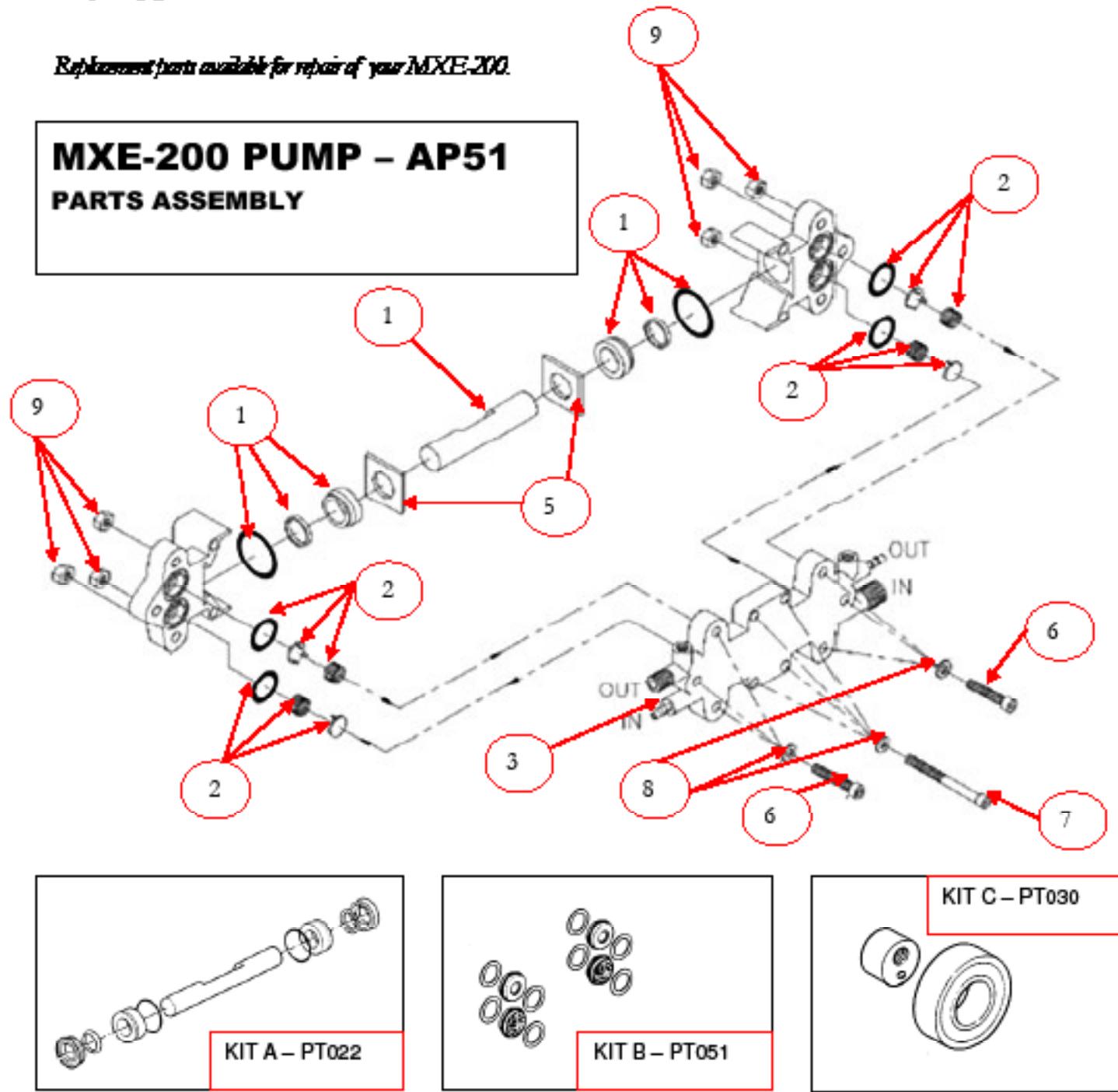
RETURNING THE MXE-200 TO SERVICE AFTER STORAGE OR FREEZE PROTECTION:

To return the MXE-200 to service, the anti-freeze must be flushed from the machine. Flush the anti-freeze out of the machine by repeating the procedures above using fresh water in place of anti-freeze.

Parts

Replacement parts available for repair of your MXE-200.

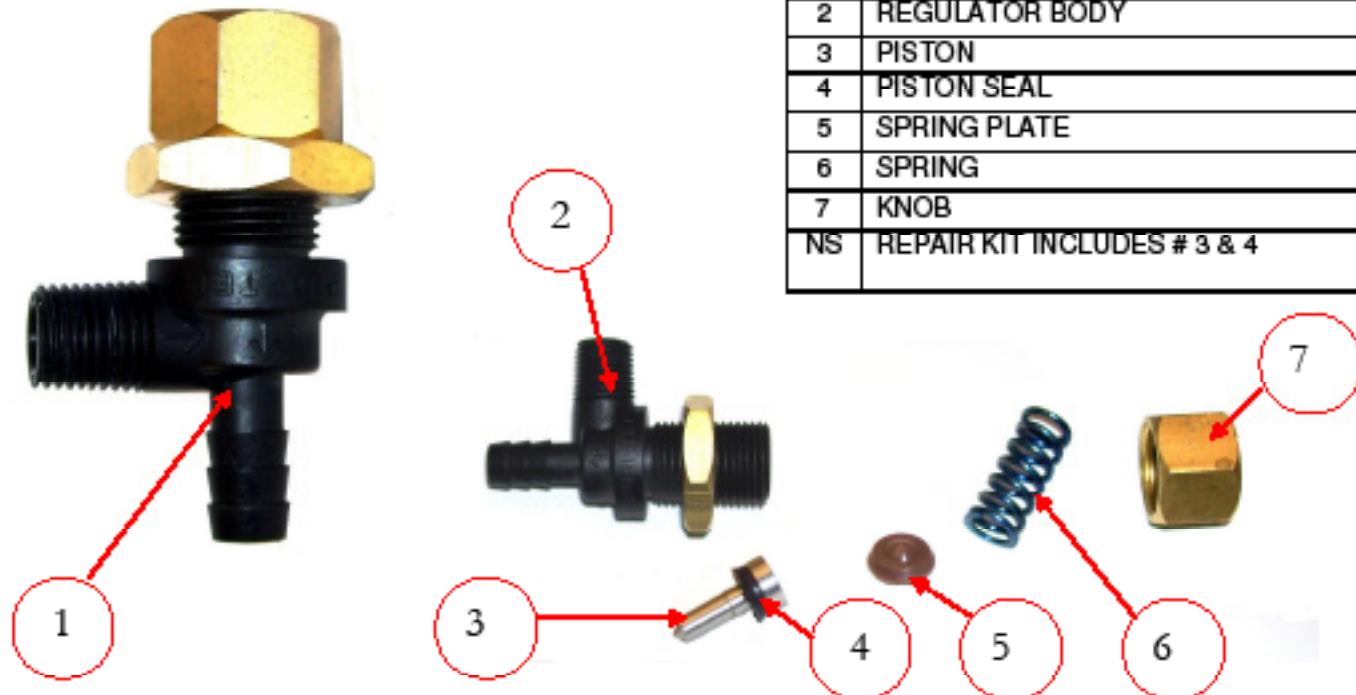
MXE-200 PUMP – AP51 PARTS ASSEMBLY



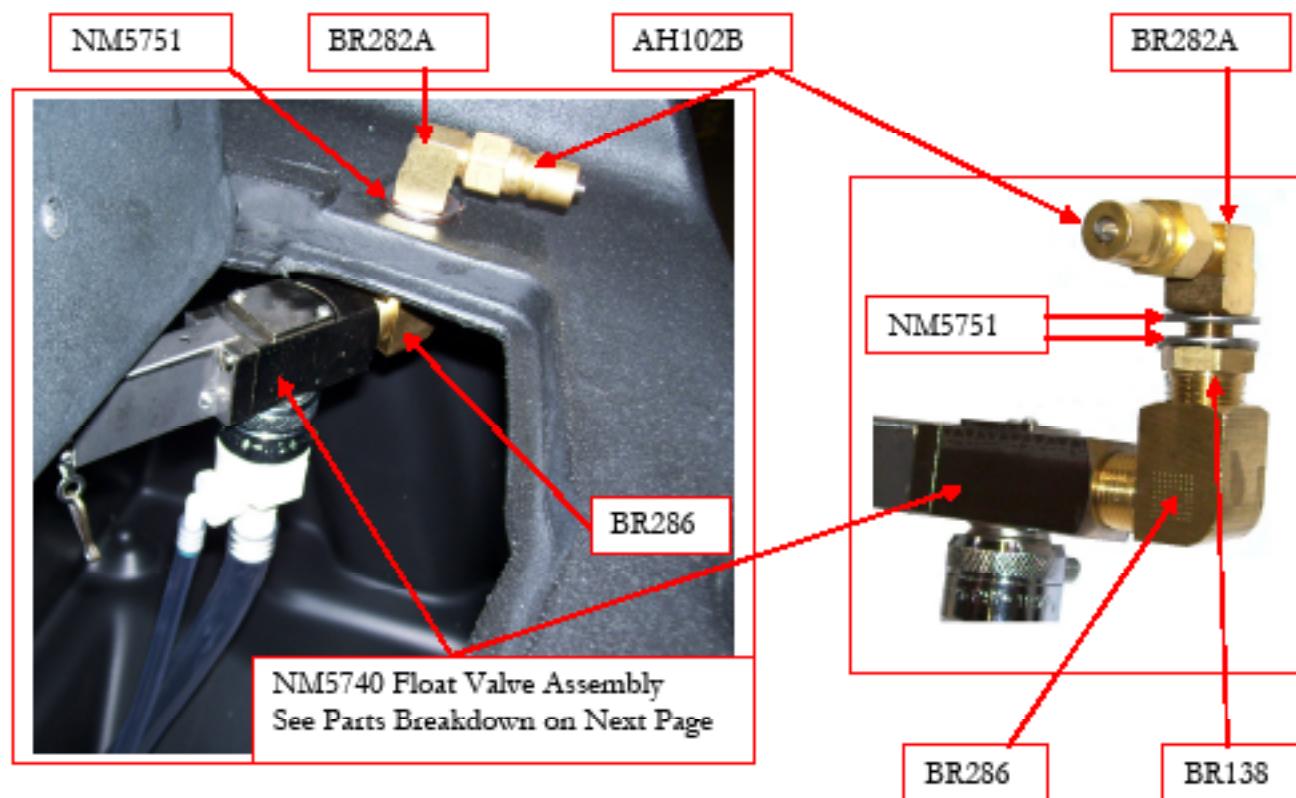
PUMPTEC #114 PUMP – AP51

| ITEM | DESCRIPTION | QTY | PART NUMBER |
|------|--------------------------------|-----|---------------------------|
| 1 | KIT A PLUNGER & SEALS | 1 | PT052 |
| 2 | KIT B VALVES & O-RINGS | 1 | PT051 |
| NS | KIT C CAM & BEARING | 1 | PT030 |
| 3 | MANIFOLD & PORT | 1 | 0114-0004-3110 |
| 4 | PUMP HEAD | 2 | 0114-0002-0111 |
| 5 | RETAINER PLATE | 2 | 0111-0014-0001 |
| 6 | HEAD BOLT | 6 | BOLT-1/4-20X1 1/4-BHCS-SS |
| 7 | MOUNT BOLT | 4 | BOLT-1/4-20X2 1/2-BHCS-SS |
| 8 | WASHER FLAT M6 STAINLESS STEEL | 10 | WSH-FLAT-M6-SS |
| 9 | NUT 1/4-20 NYLOCK HEAD BOLT | 6 | NUT-1/4-20-NYLOCK-ZP |
| NS | PUMP COMPLETE WITH MOTOR | 1 | AP51 |
| NS | PUMP WITHOUT MOTOR | 1 | PT047 |
| NS | MOTOR | 1 | PT004 |

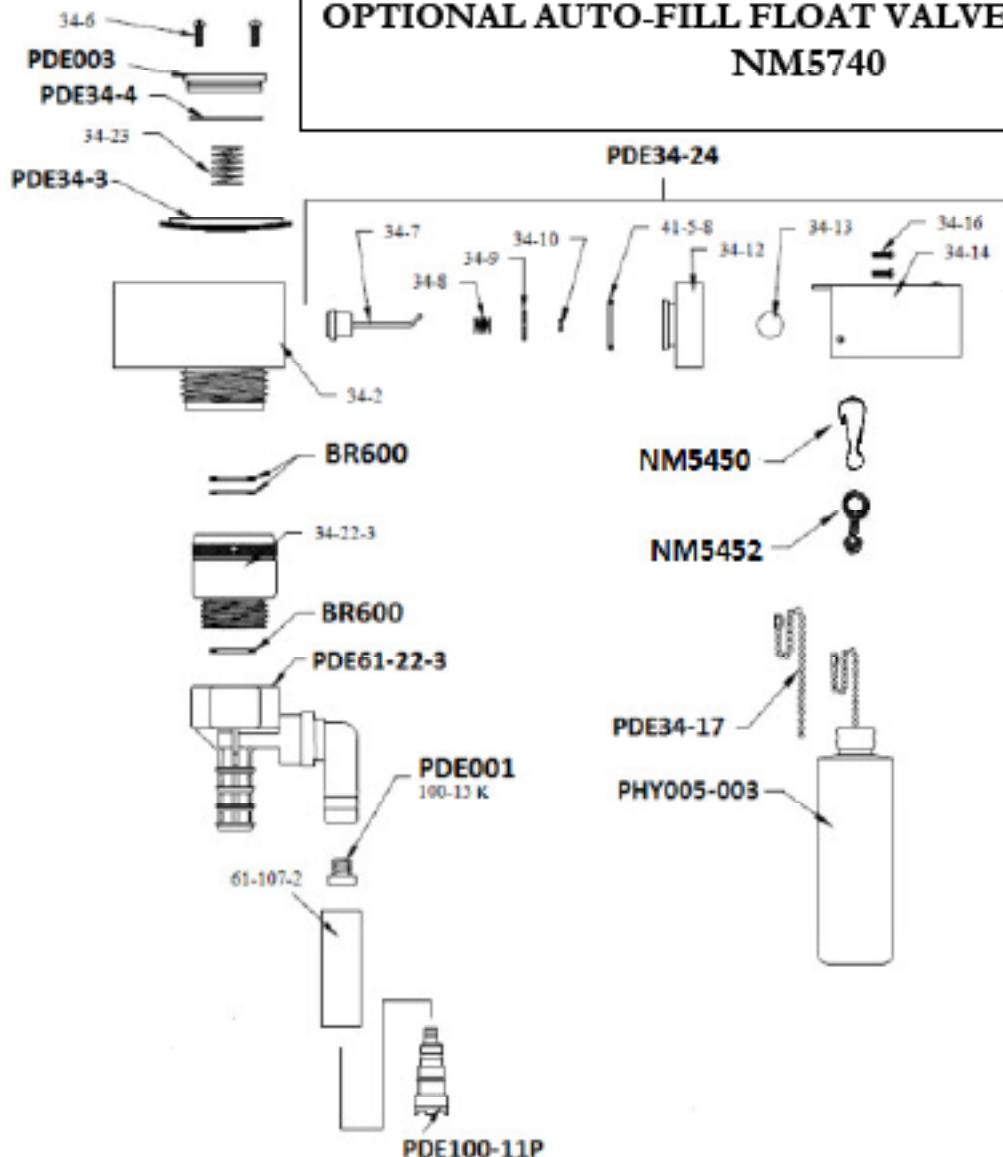
PRESSURE REGULATOR – 1683-5656



OPTIONAL AUTO-FILL ASSEMBLY – M013

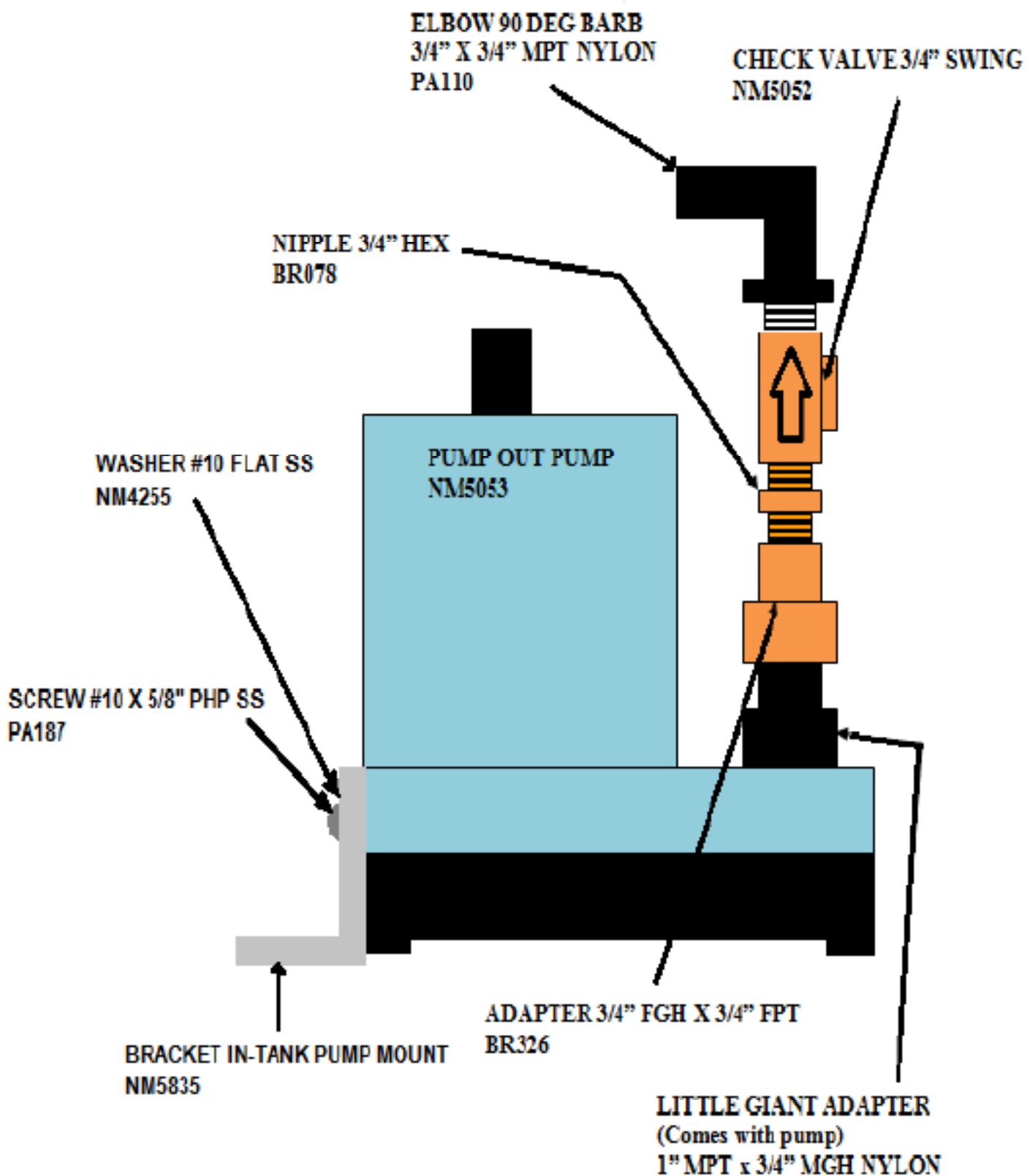


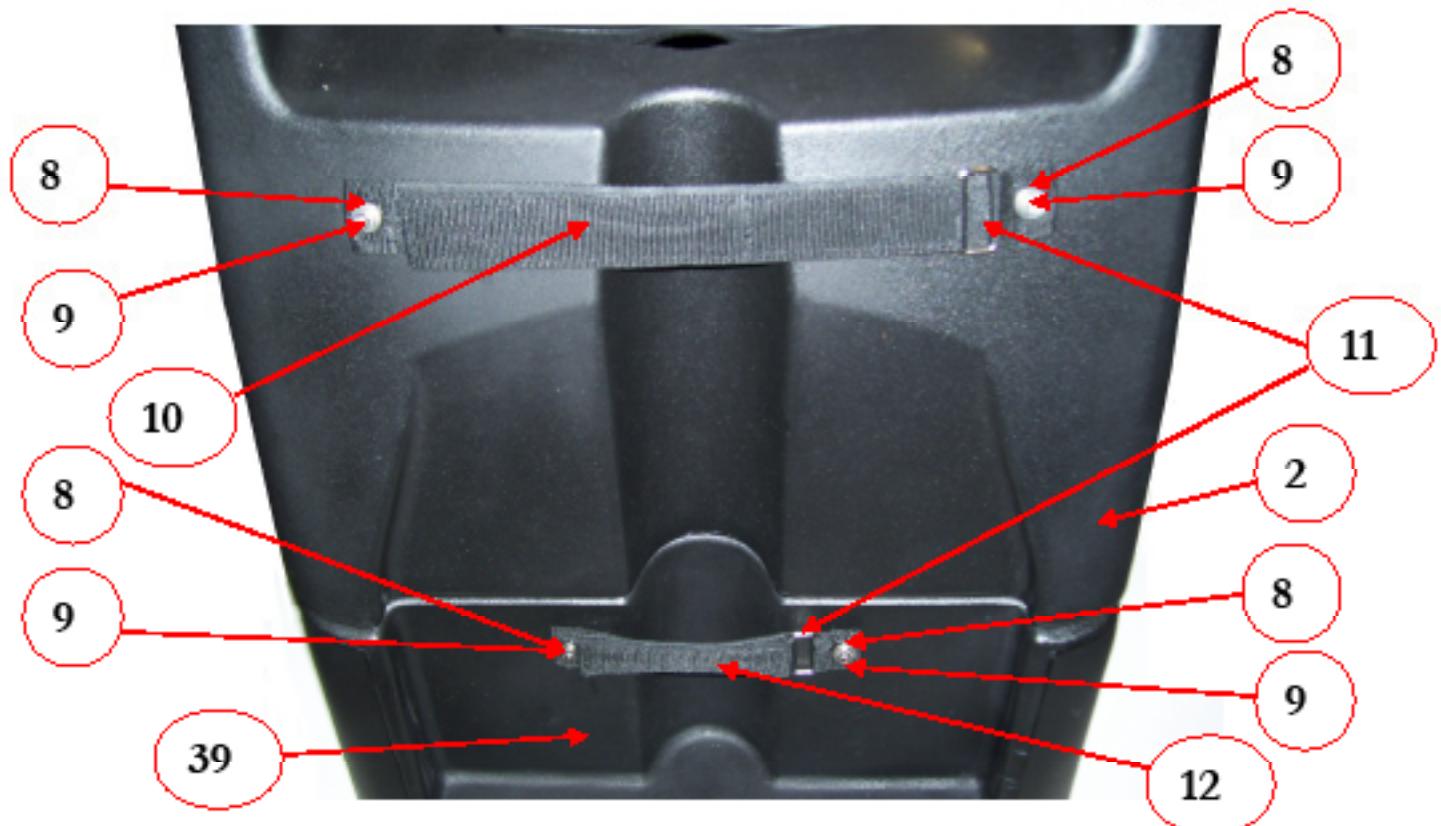
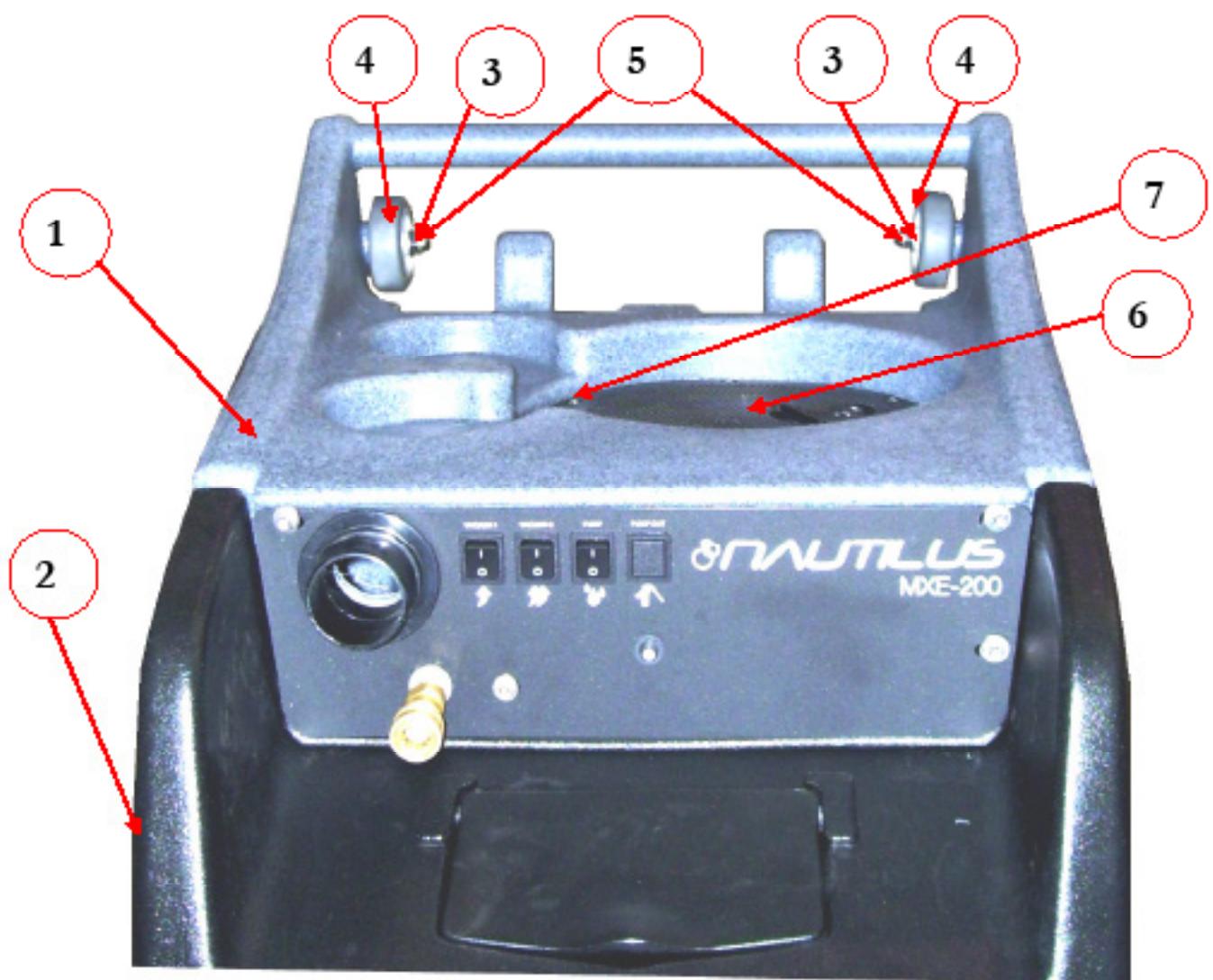
OPTIONAL AUTO-FILL FLOAT VALVE ASSEMBLY
NM5740

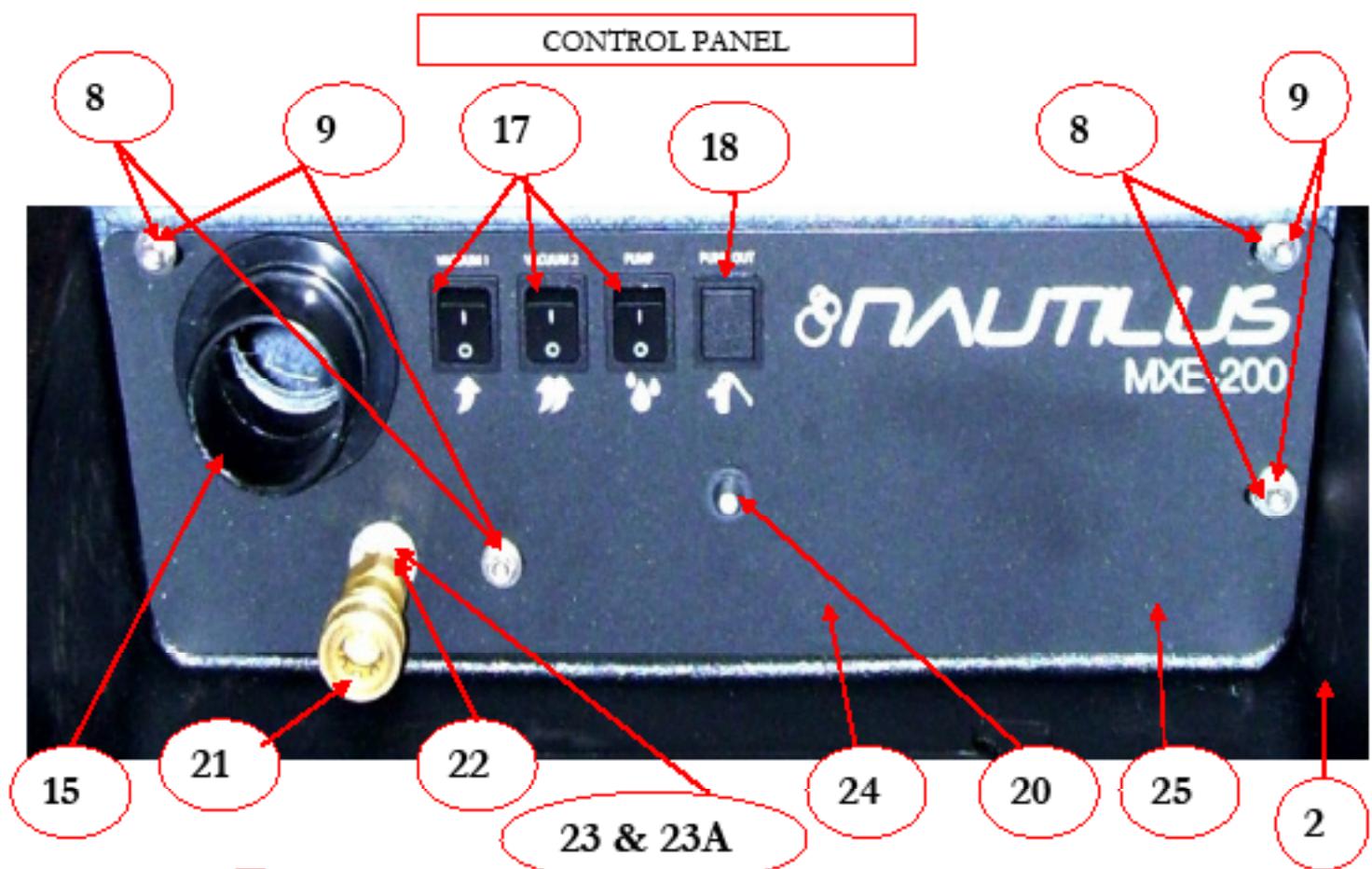


| PART NO. | DESCRIPTION | PART NO. | DESCRIPTION |
|-----------------|------------------------------------|-------------------|--------------------------------------|
| 16-3 | 3' DISCHARGE TUBING | PHY005-003 | FLOAT ASSEMBLY |
| 34-1 | INLET HOSE ADAPTER | PDE34-17 | CHAIN WITH CONNECTOR |
| 34-2 | BODY ASSEMBLY | PDE61-22-3 | PROPORTIONER ASSY |
| PDE34-3 | DIAPHRAGM ASSEMBLY | 61-107-2 | CERAMIC WEIGHT |
| PDE34-4 | VALVE COVER O-RING | NM5450 | SNAP CLIP |
| PDE003 | VALVE COVER | NM5452 | CONNECTOR |
| 34-6 | VALVE COVER SCREWS (2) | BR600 | RUBBER WASHER |
| 34-7 | PILOT VALVE DISC AND STEM ASSEMBLY | PDE001 | METERING TIP KIT 14 TIPS |
| 34-8 | PILOT VALVE SPRING | 100-15 | METERING TIP SPECIFY SIZE |
| 34-9 | PILOT VALVE PLATE | 100-12 | 8' PLASTIC SUPPLY TUBING 1/4" ID |
| 34-10 | PILOT VALVE STEM O-RING | PDE100-11P | FOOT VALVE |
| 34-12 | PILOT VALVE COVER | AH102B | QUICK CONNECT 1/4" MALE |
| 34-13 | STEM NUT WITH SET SCREW | BR282A | ELBOW 90DEG 1/4" STREET LONG PROFILE |
| 34-14 | LEVER ASSEMBLY | NM5751 | WASHER 1/4" PLAT SS (2) |
| 34-16 | LEVER ASSEMBLY SCREWS (2) | BR138 | NIPPLE 1/2" X 1/4" HEX |
| 34-22-3 | BACKFLOW PREVENTER | BR286 | ELBOW 90 DEG 1/2" STREET |
| 34-23 | CLOSING SPRING | M013 | NAUTILUS AUTO FILL KIT - COMPLETE |
| PDE34-24 | PILOT VALVE ASSEMBLY | | |
| 41-5-8 | PILOT VALVE COVER O-RING | | |

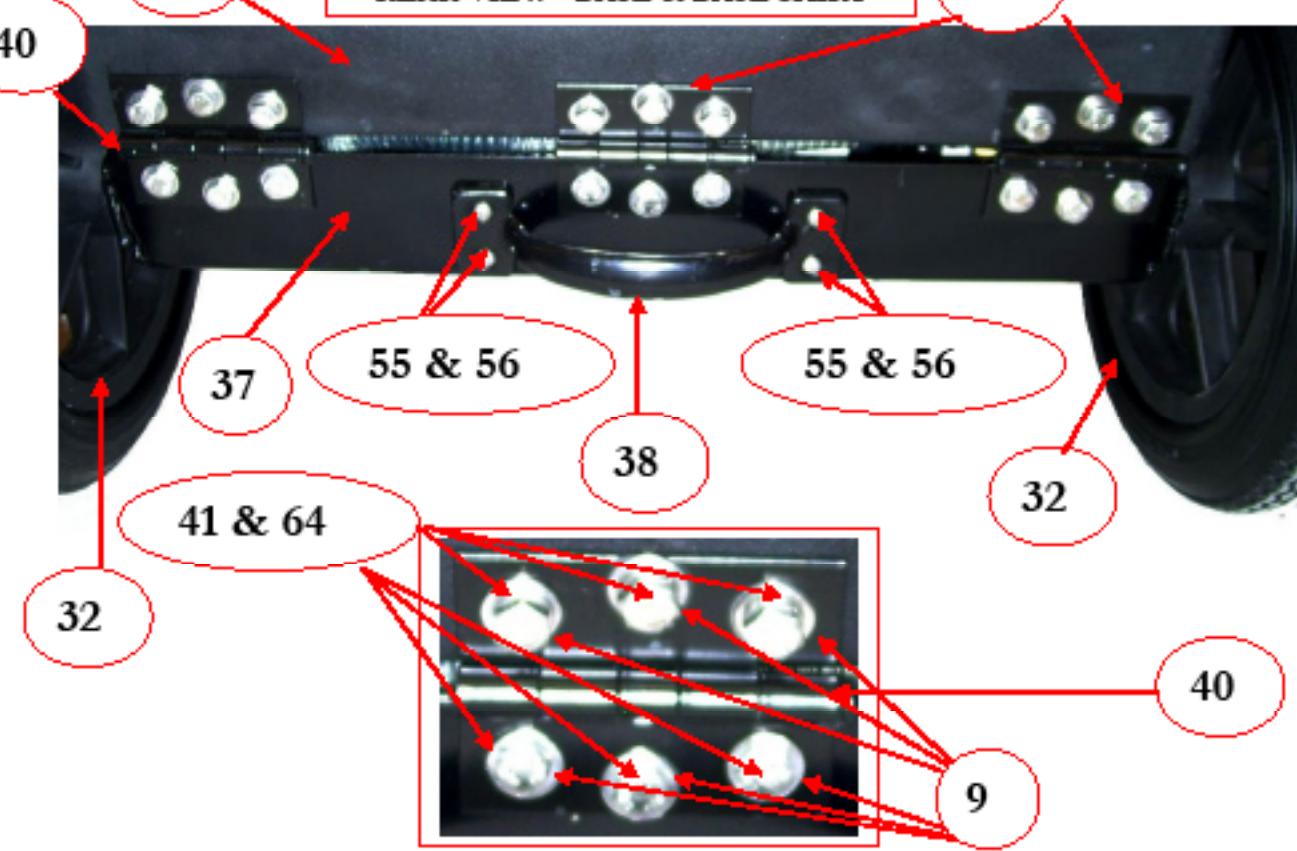
Pump-Out Pump PARTS ASSEMBLY



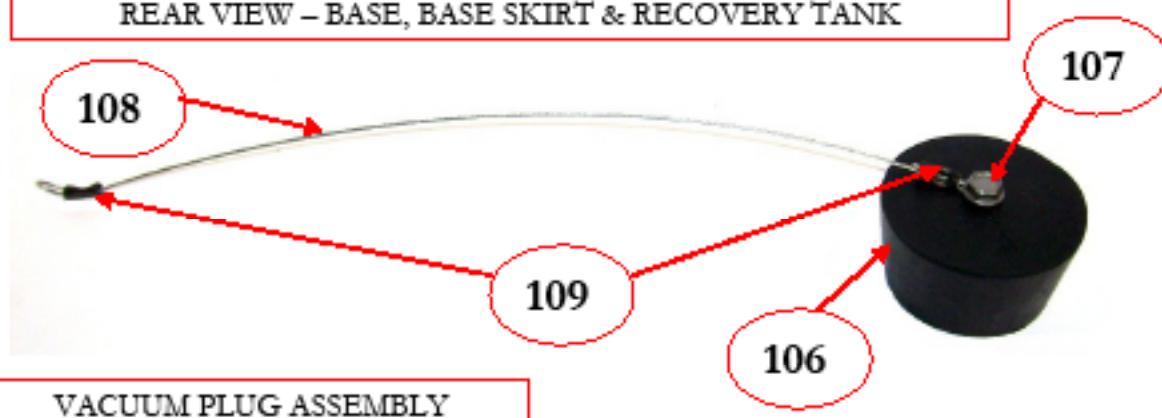
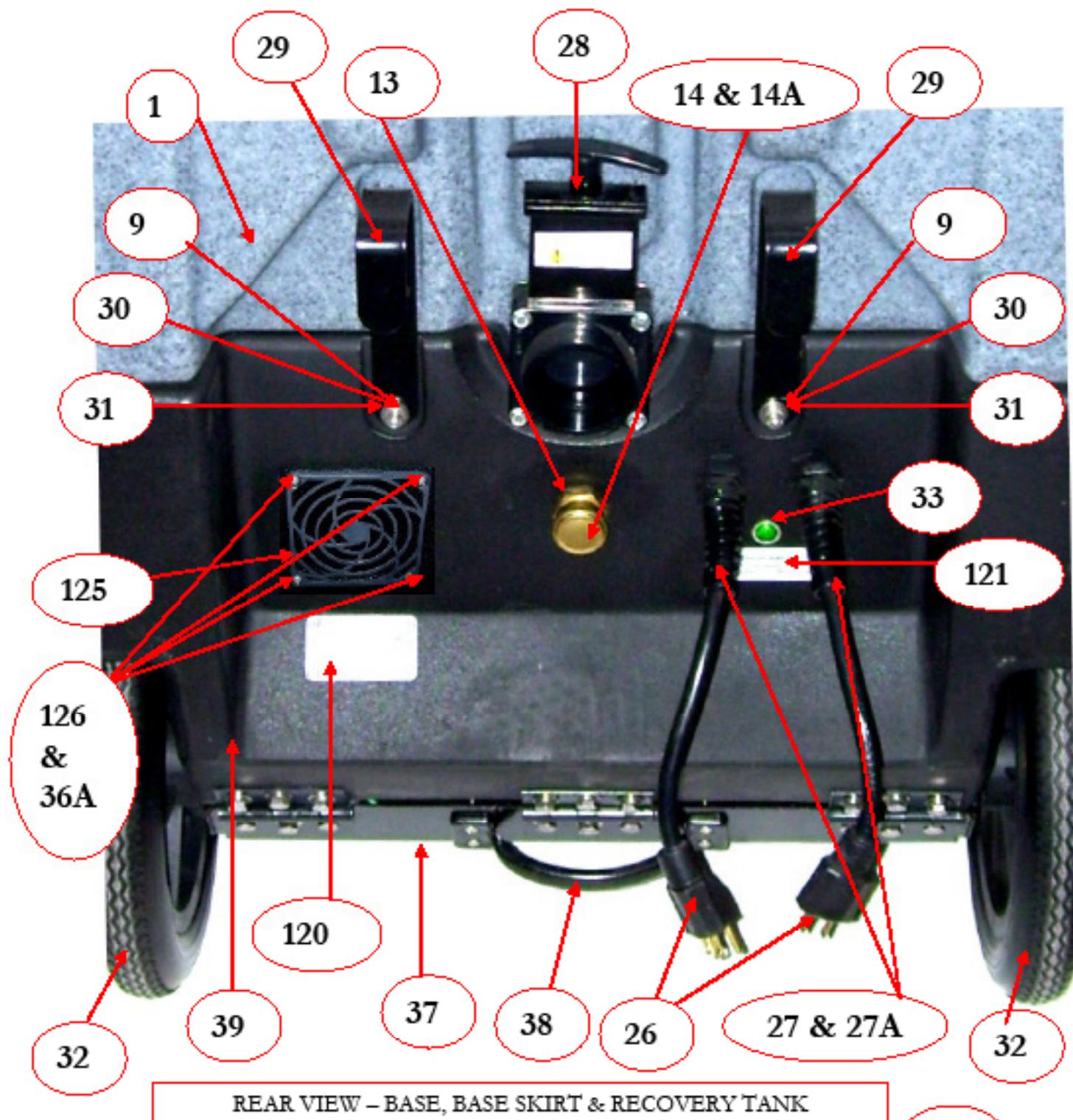


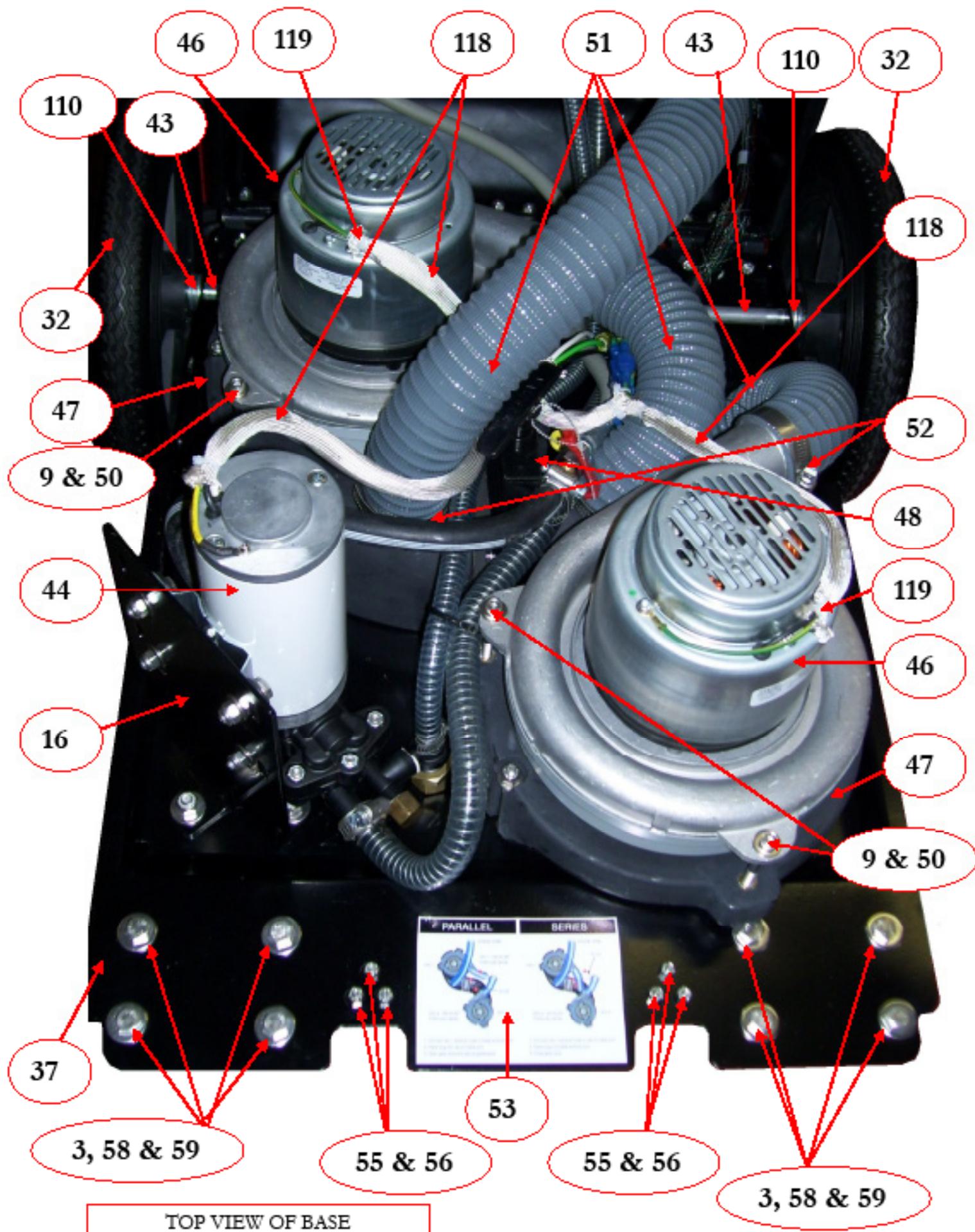


REAR VIEW - BASE & BASE SKIRT

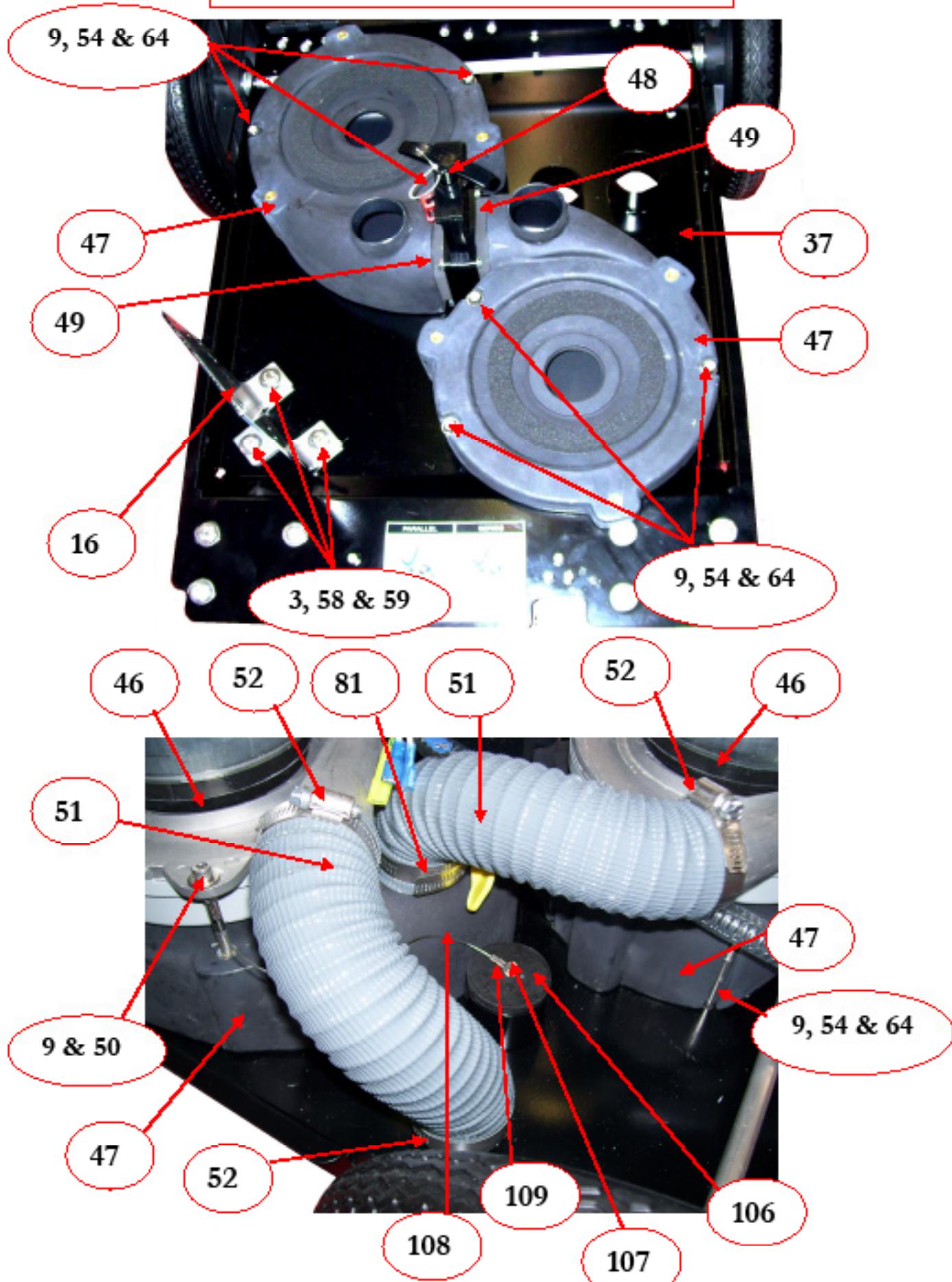


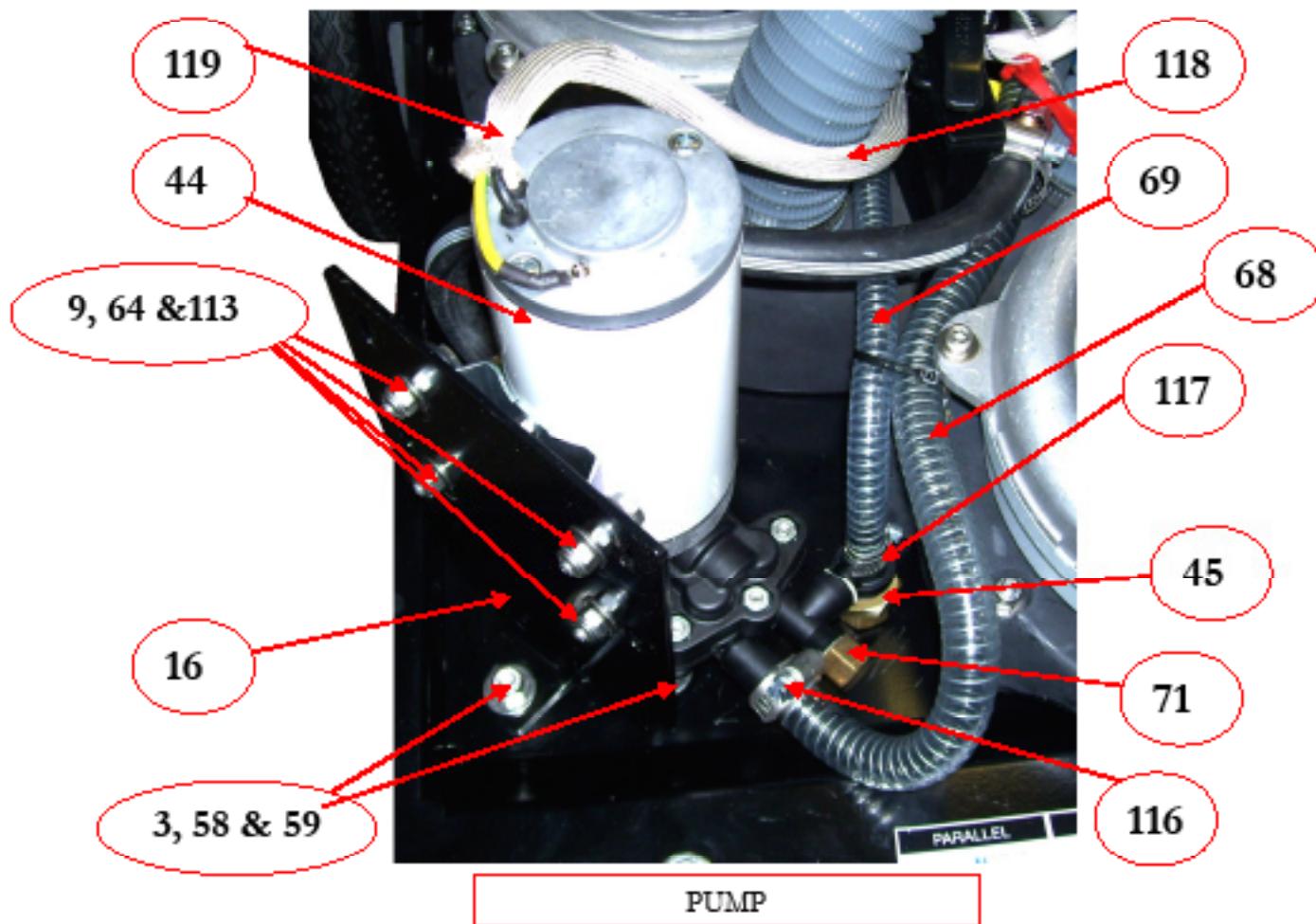
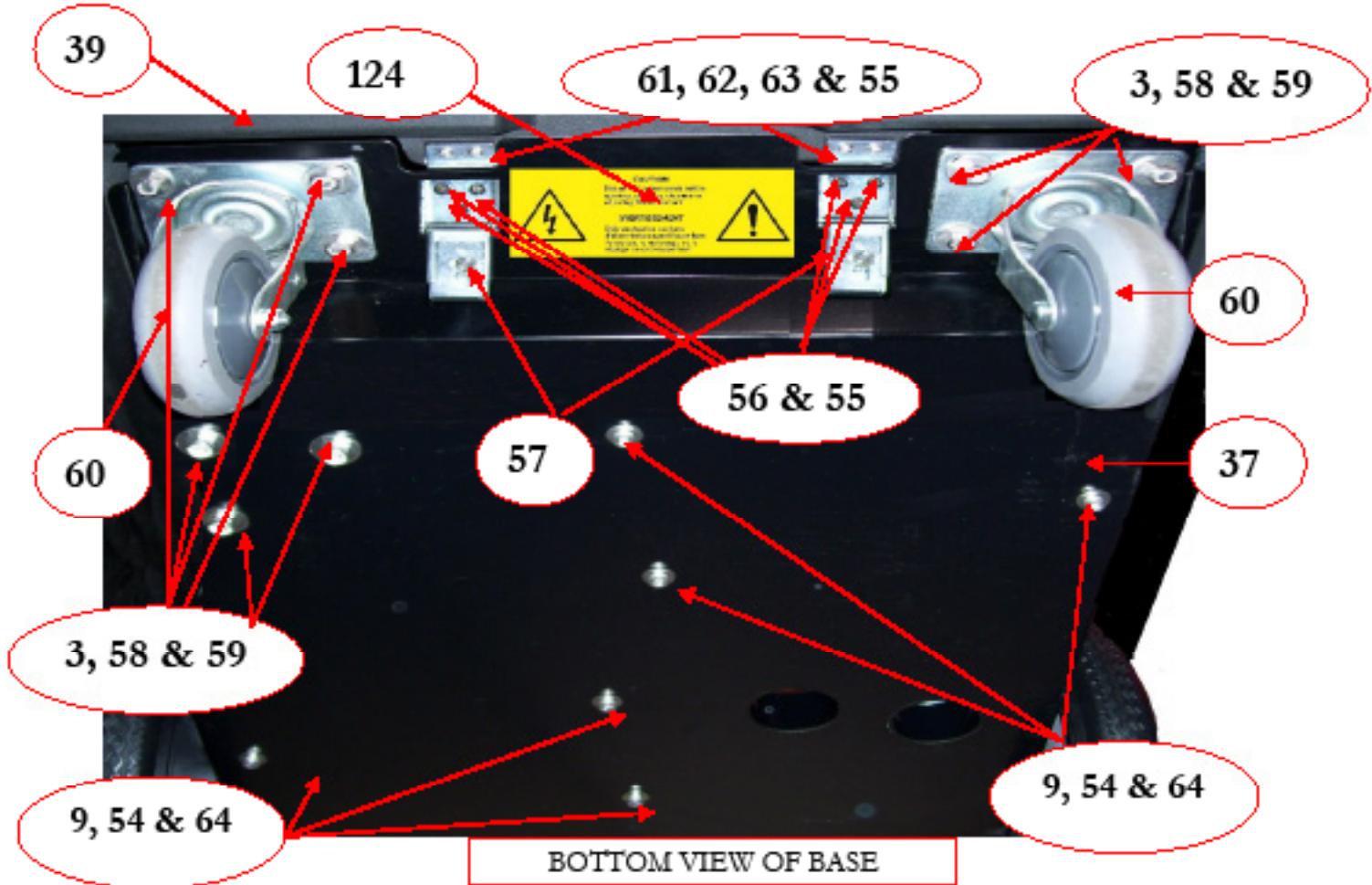
HINGE SCREWS

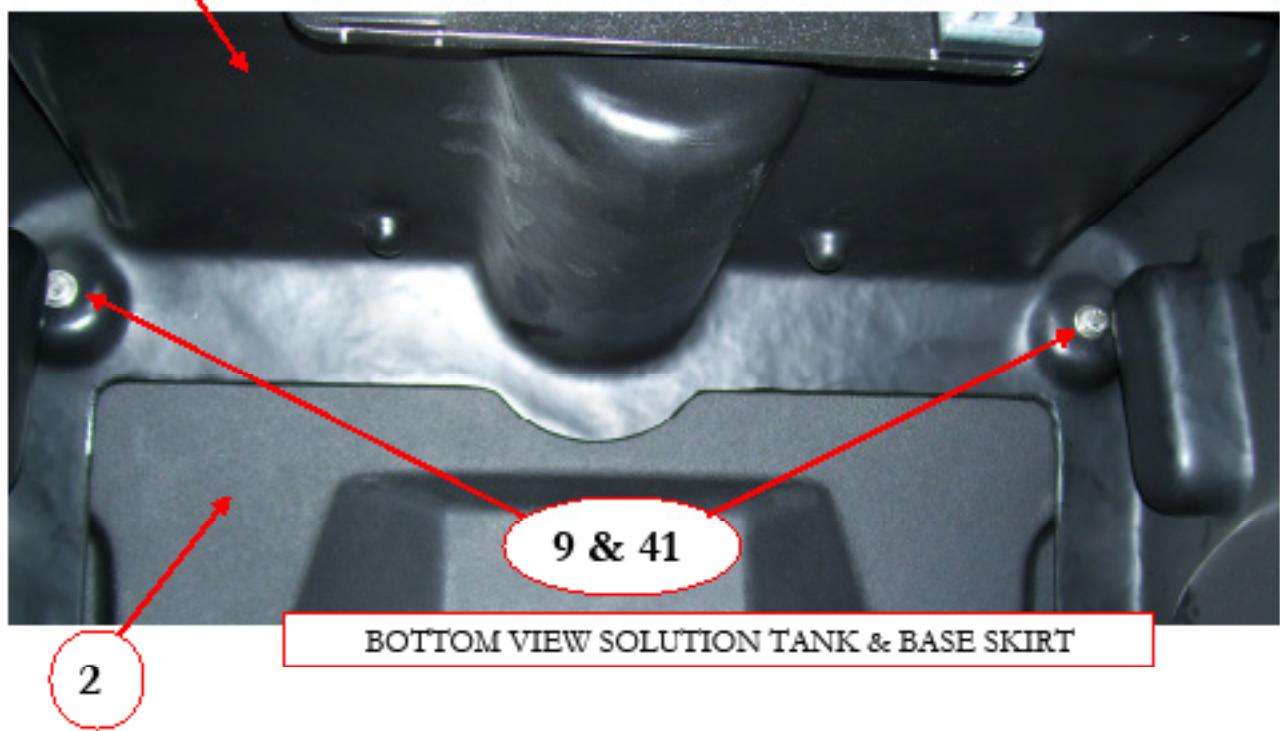
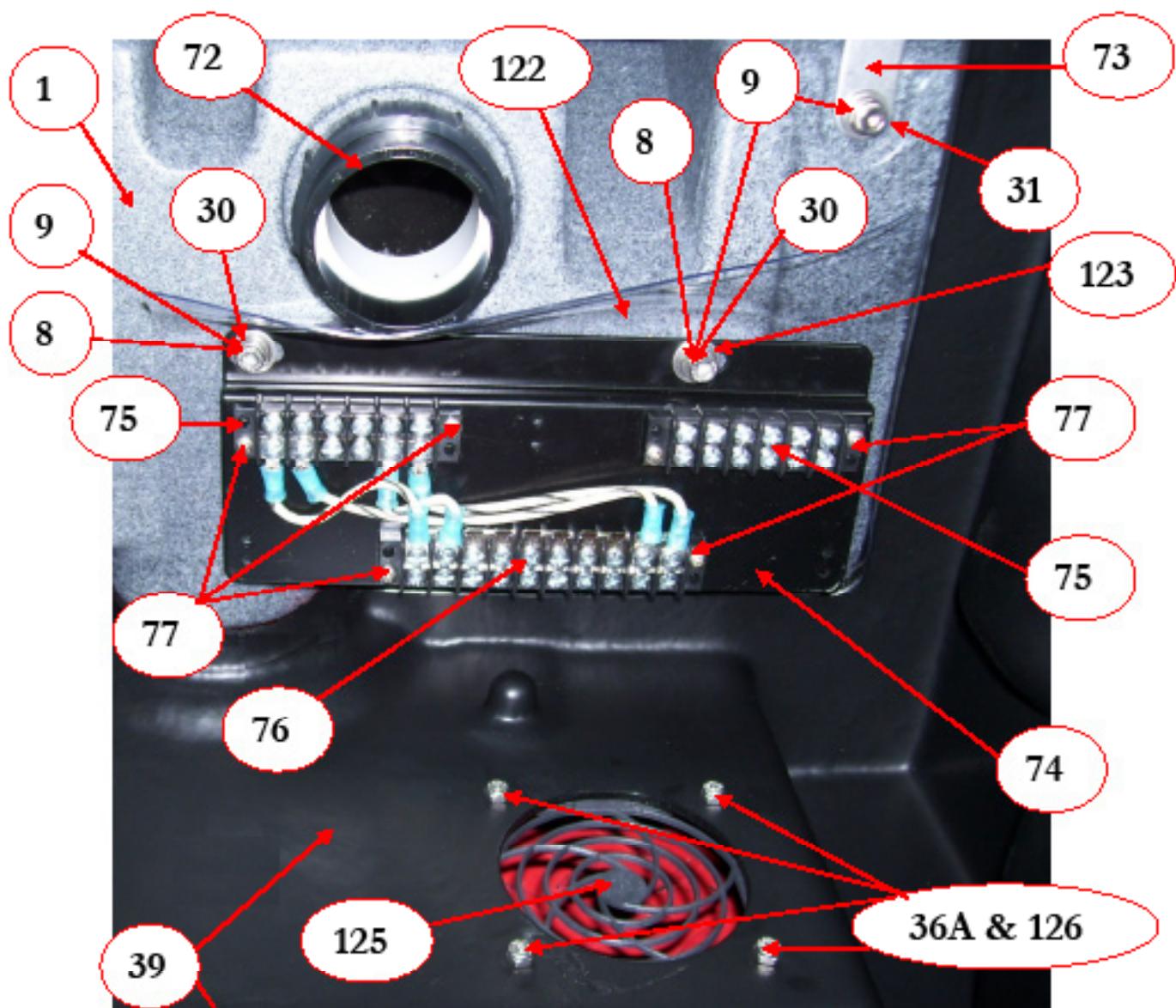


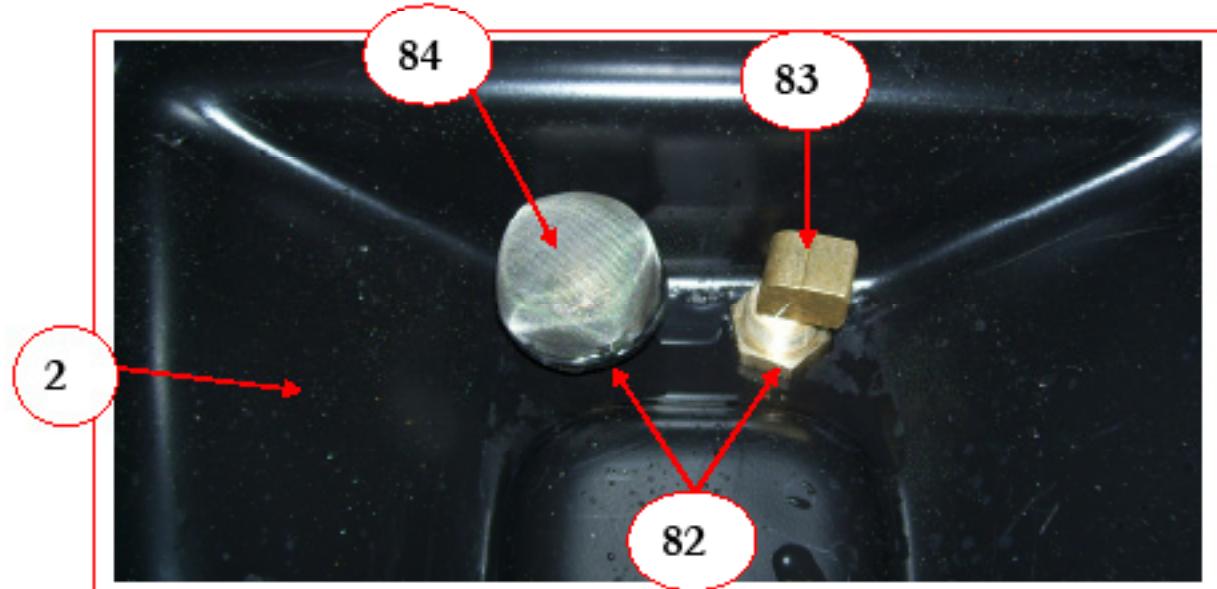
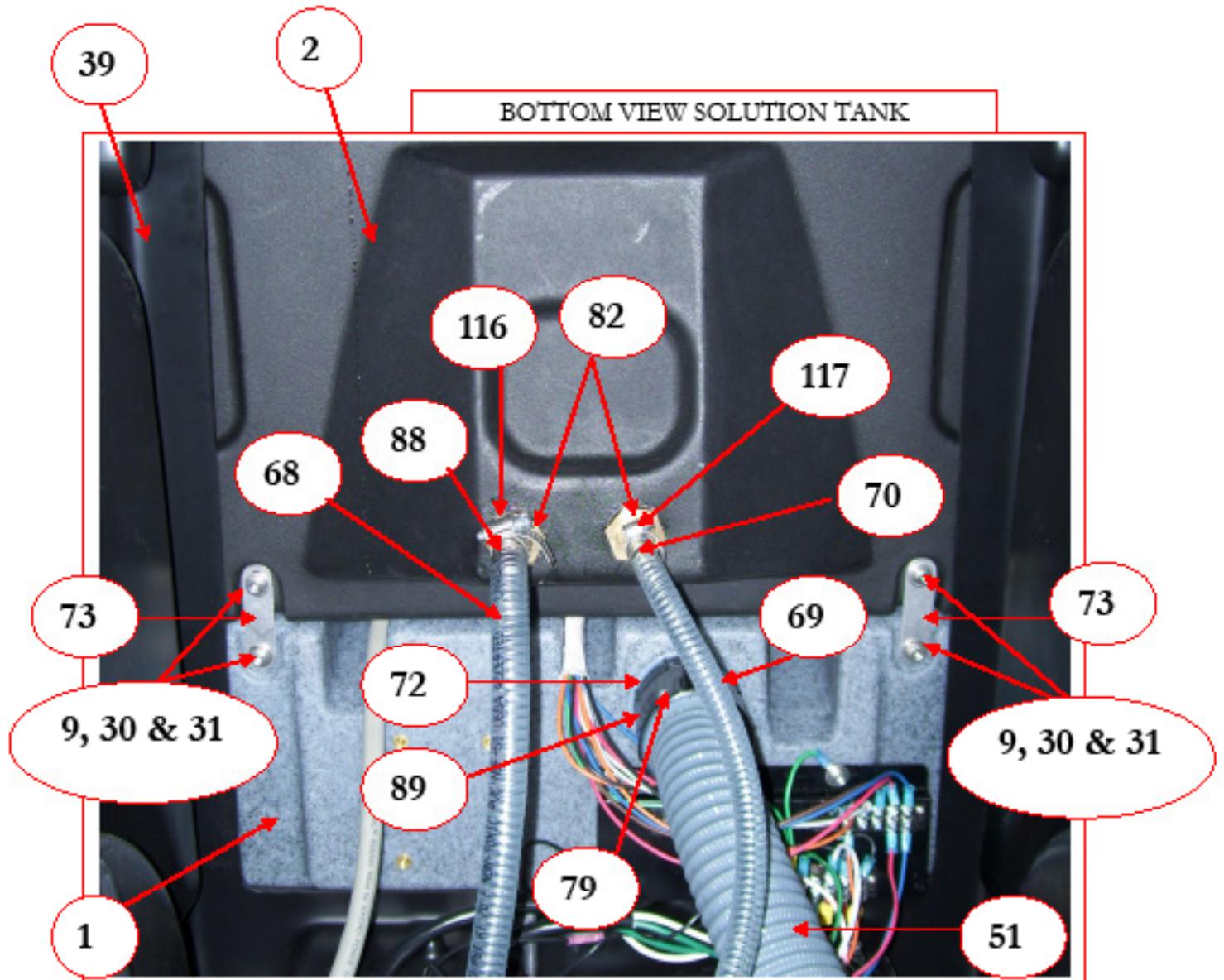


VACUUM MOUNTS & CONNECTIONS

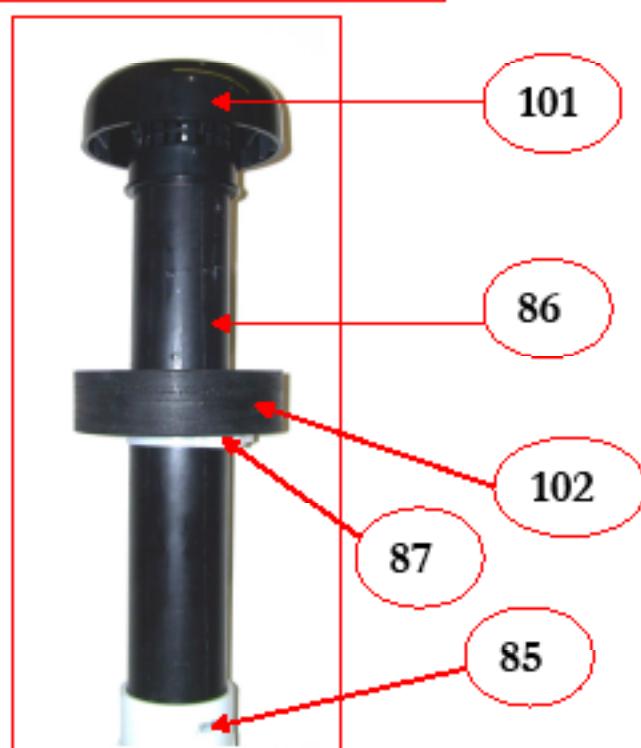
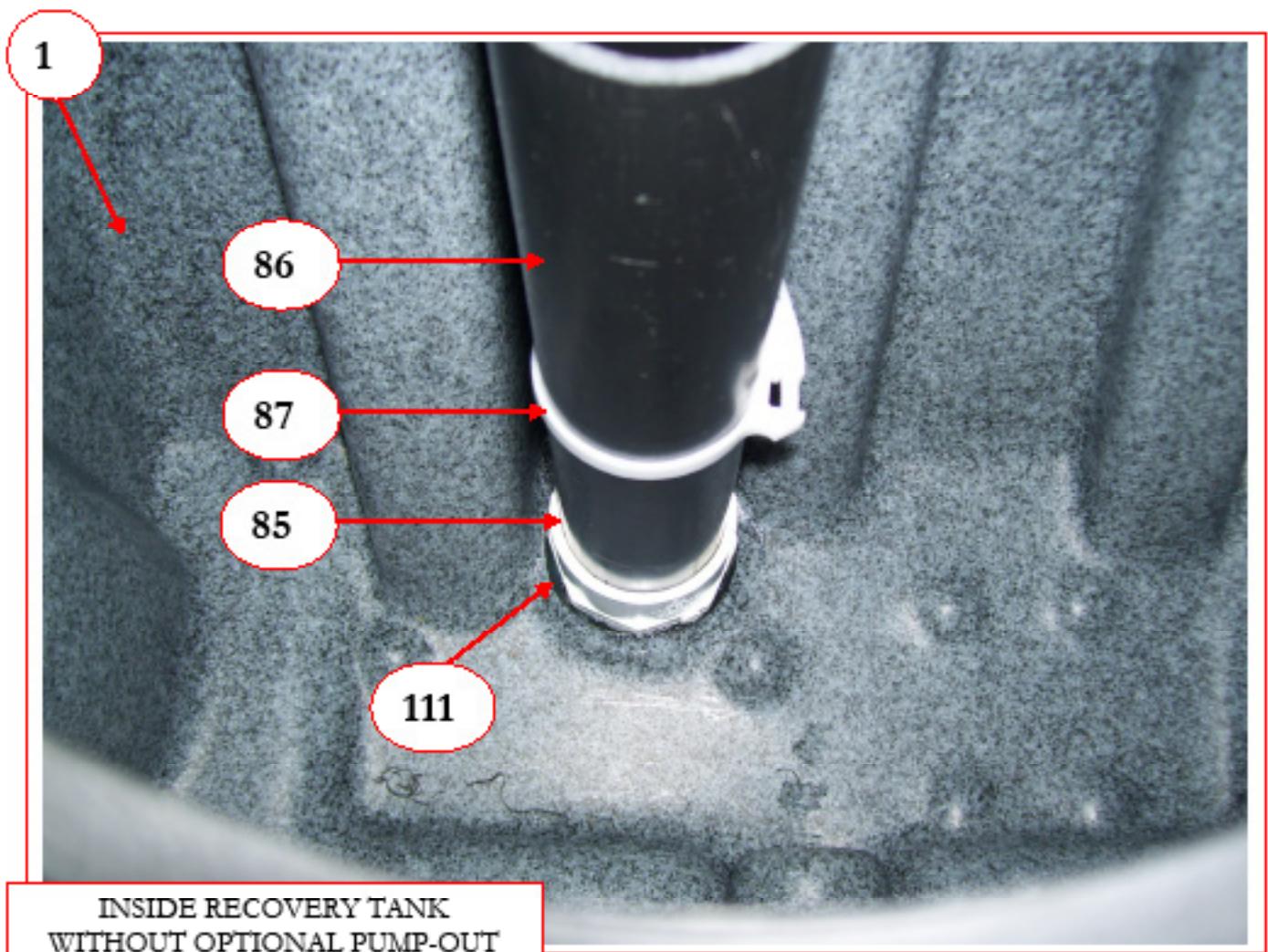




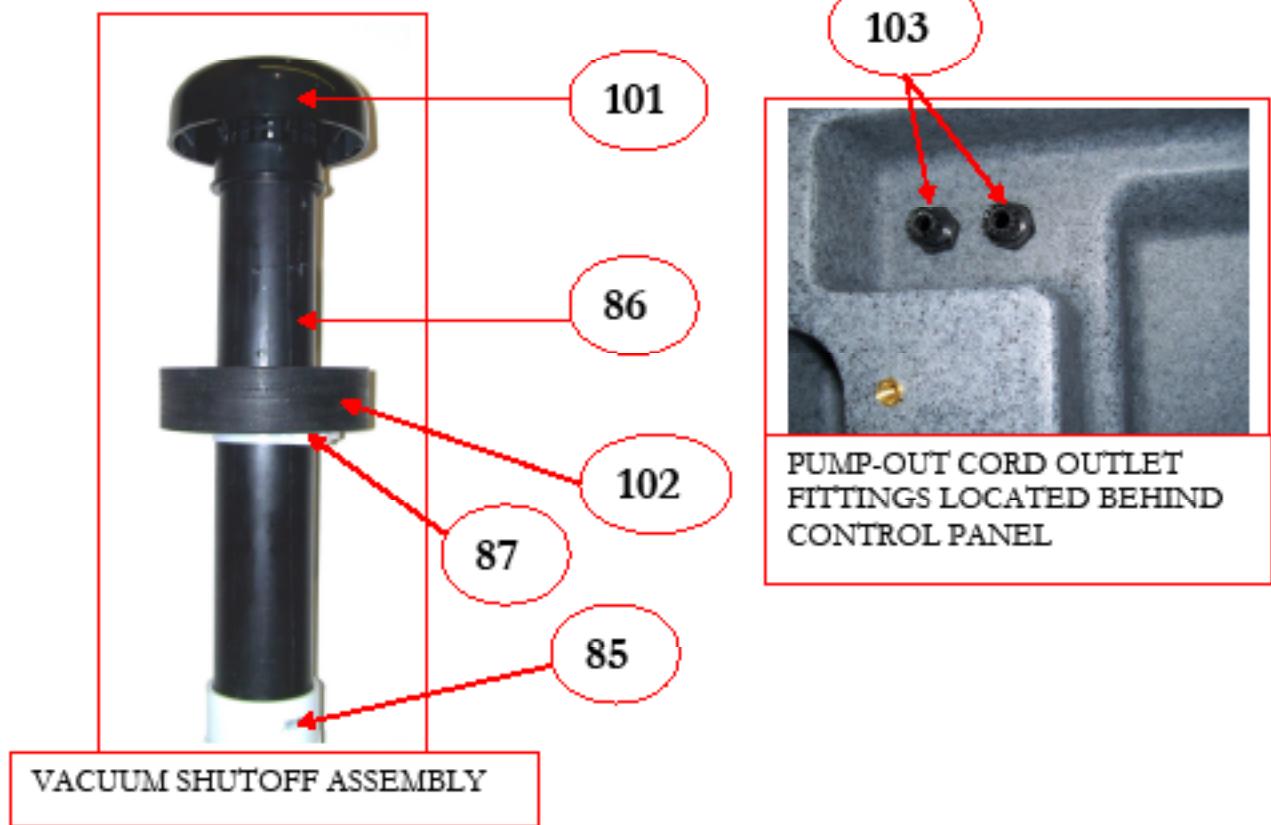
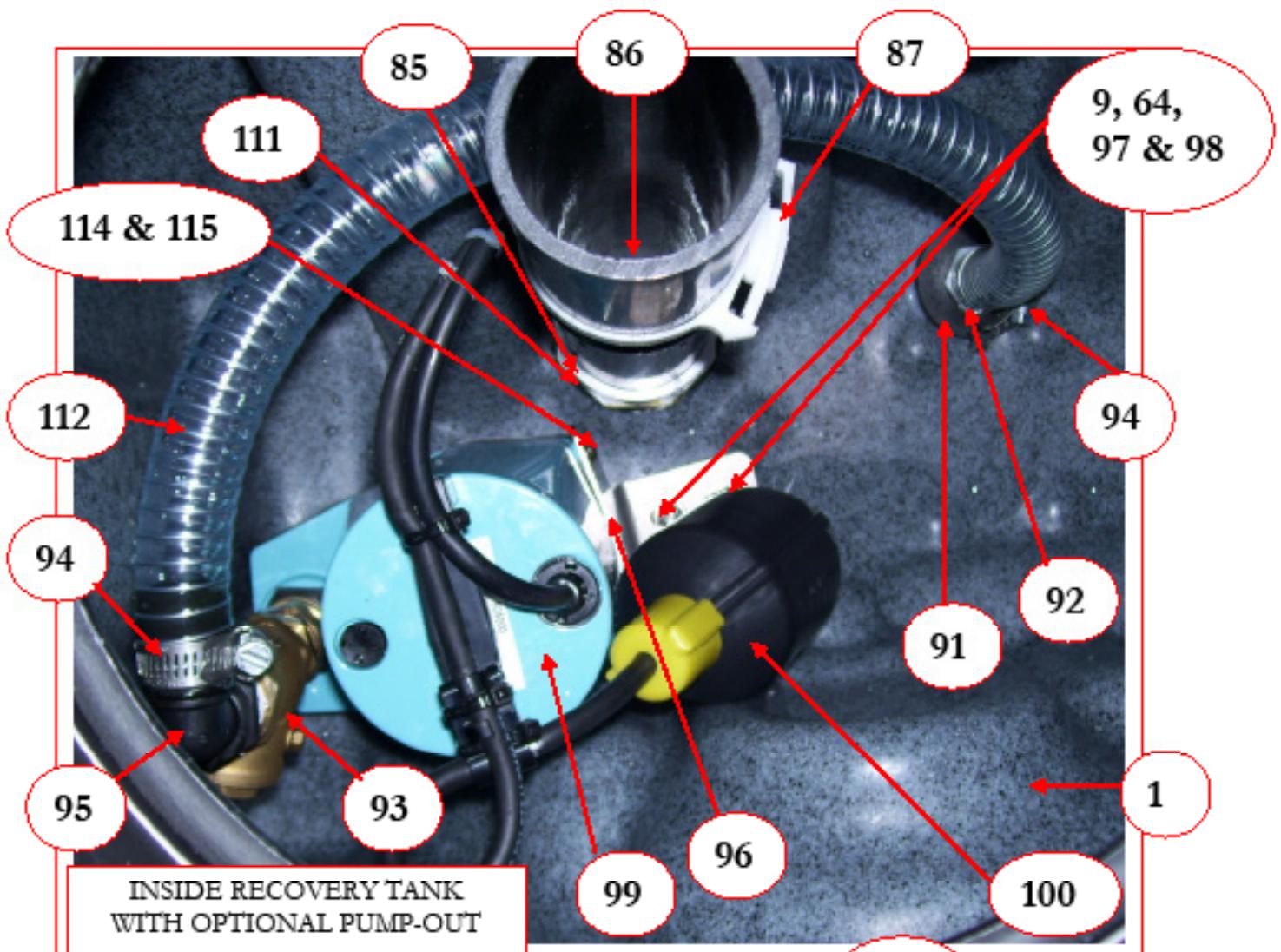


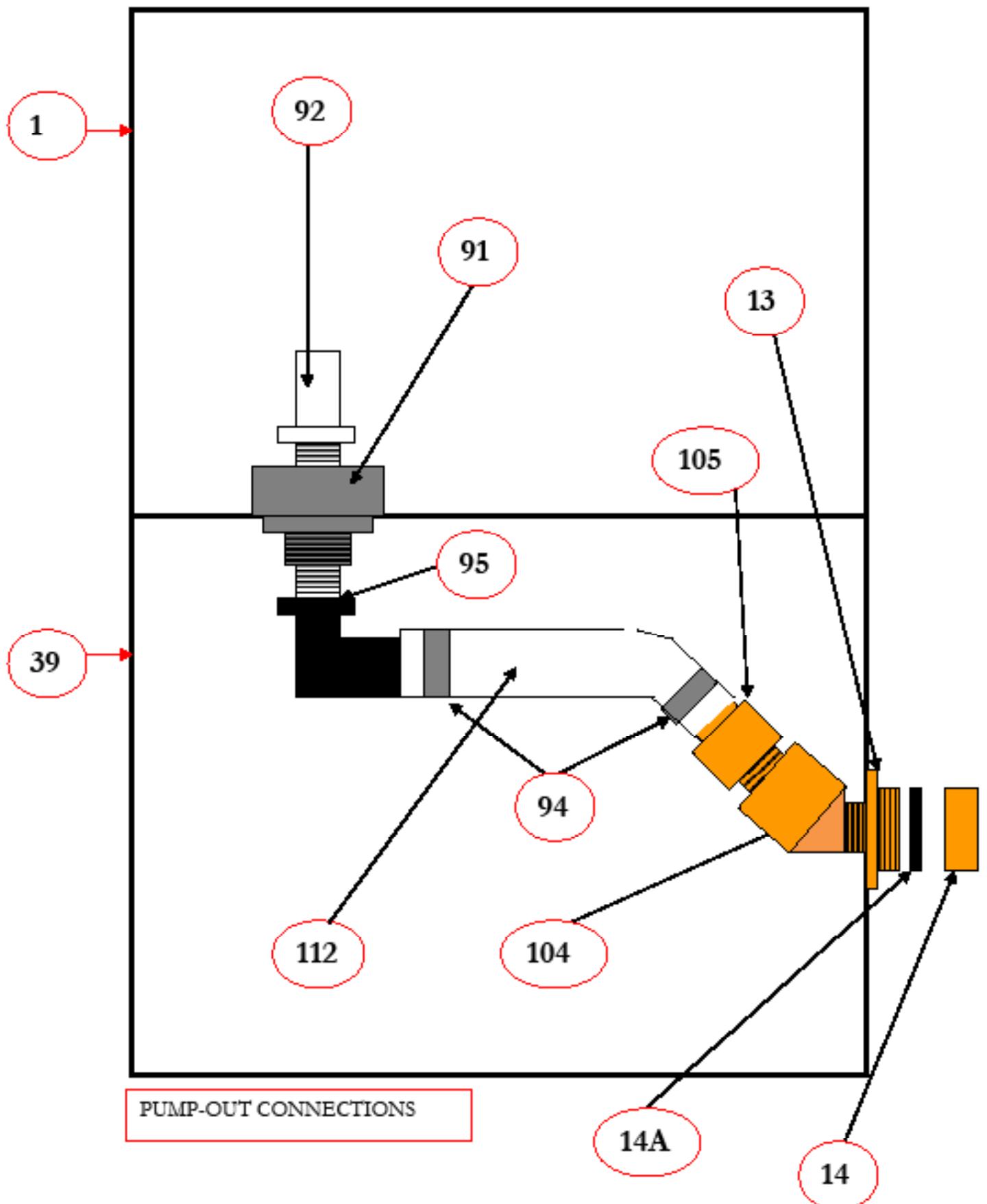


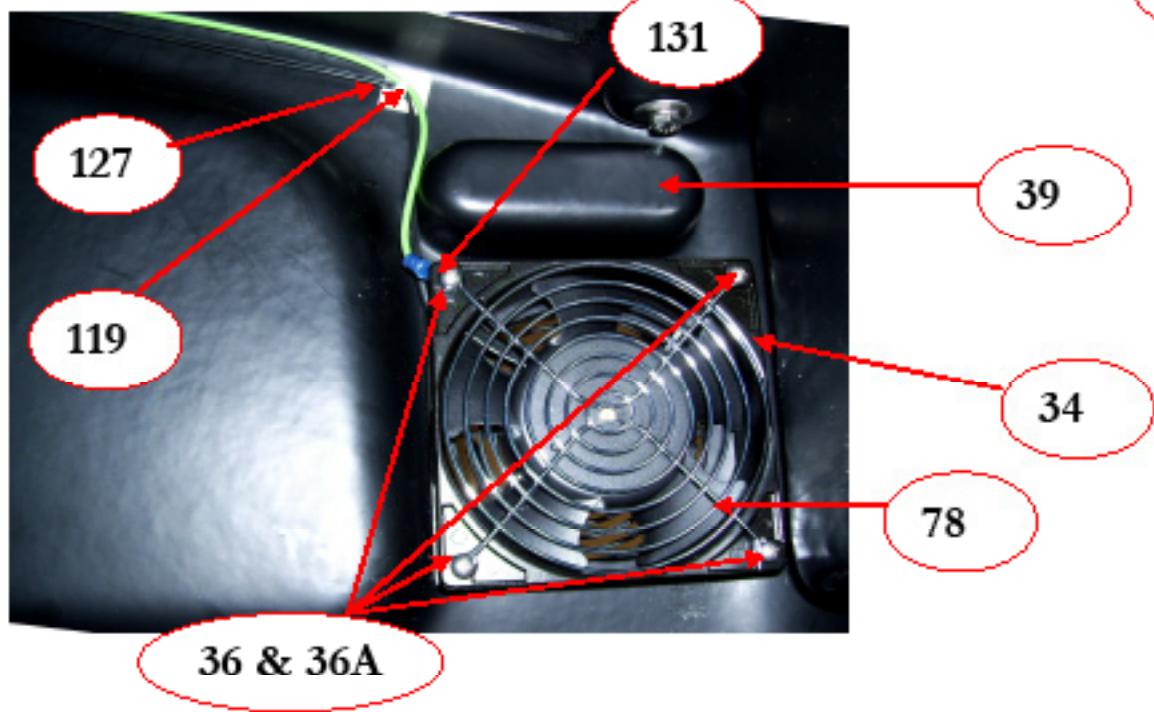
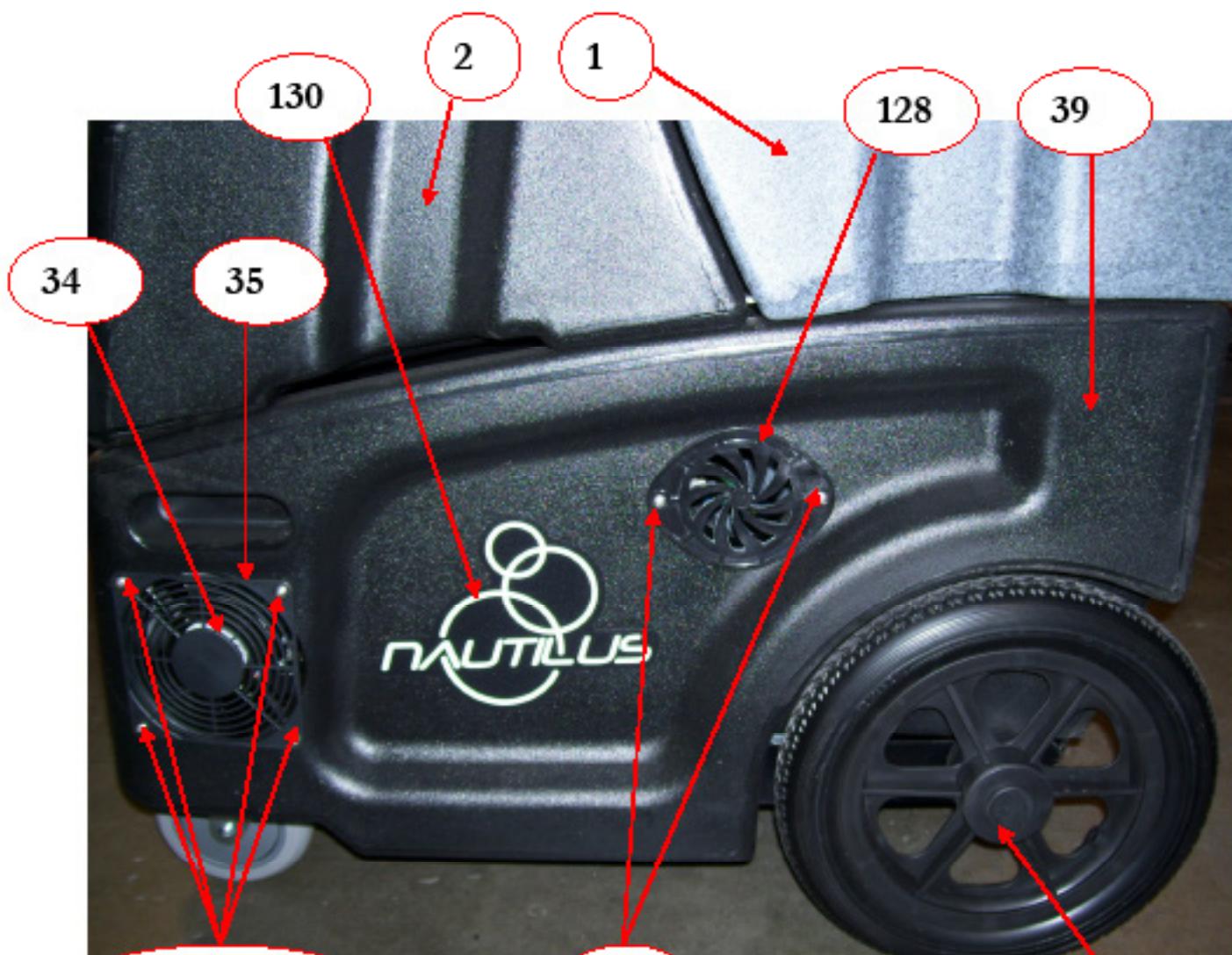
INSIDE SOLUTION TANK



VACUUM SHUTOFF ASSEMBLY







| KEY | PART # | DESCRIPTION | KEY | PART # | DESCRIPTION |
|-----|-----------|--|-----|------------|---|
| 1 | NM5704 | RECOVERY TANK | 22 | BR174 | ADAPTER 1/2" M-F |
| 2 | NM5702 | SOLUTION TANK | 23 | NM5751 | WASHER 1/8" FLAT SS (Behind control panel) |
| 3 | PEA11 | WASHER 5/16" FLAT SS | 23A | NM5751A | WASHER 1/8" FLAT SS with sequence locking |
| 4 | NM5724 | WHEEL 2-1/2" GRAY | 24 | NM5706 | CONTROL PANEL PLATE |
| 5 | NM5143 | ACORN NUT CAP 5/16-18 | 25 | NM5706C | MXE-300 PANEL DECAL |
| NS | NM5137 | SCREW 5/16-18 X 2.75" HX SS | 26 | NM5009 | CORD 12GA W/ PLUG (QTY 2) |
| 6 | 1650-5695 | LID ASSY WASTE TANK | 27 | NM5038 | CORD STRAIN RELIEF (QTY 2) |
| 7 | PA187 | SCREW #10 X 5/8" PH SS (QTY 6) (Attach lid to tank) | 27A | NM5039 | NUT CORD STRAIN RELIEF |
| NS | 1663-5397 | GASKET WASTE TANK DECK | 28 | PEA11 | GATE VALVE 1-1/2" MPT |
| 8 | NM5028 | SCREW 1/4-20 X 1/2" SOCHD SS | 29 | NM5759 | COLD WRAP BRACKET (QTY 2) |
| 9 | NM5066 | WASHER 1/8" FLAT SS | 30 | NM5014 | WASHER 1/8" LOCK SS |
| 10 | NM5840 | WAND HOLDER STRAP LONG TOP STRAP | 31 | NM4063 | SCREW 1/4-20 X 3/8" SOCHD SS |
| 11 | NM5844 | WAND HOLDER BUCKLE | 32 | NM5722 | WHEEL 12" with RIDE CAP |
| 12 | NM5842 | WAND HOLDER STRAP SHORT BOT TOM STRAP | NS | NM5010 | AXLE CAP - PUSH NUT (Secure wheel to axle) |
| 13 | BR319 | ADAPTER 1/2" MPT X 1/2" MGH | 33 | NM4447 | GREEN NEON LIGHT 12V |
| 14 | BR325 | GARDEN HOSE CAP | 34 | NM6120 | COOLING FAN - 120MM |
| 14A | BR600 | GARDEN HOSE WASHER | 35 | NM6122 | PLASTIC FAN COVER - 120MM |
| NS | AH68 | BARB 2" X 2" MPT PVC | 36 | NM6125 | SCREW 6-32 X 2.50" PPH SS |
| 15 | AH224 | FLASH CUFF 2" MALE - MPT | 36A | NM4031 | NUT 6-32 NYLOCK SS |
| NS | AH201 | FLASH CUFF 2" FEMALE 1.5" | 37 | NM5710B | BASE PLATE - EXTREME |
| 16 | NM5834 | BRACKET PUMP MOUNT | 38 | NA041 | HANDLE |
| 17 | NM5714 | ROCKER SWITCH DEST | 39 | NM5700 | BASE SKIRT |
| 18 | NM5715 | PANEL PLUG | 40 | NM5750 | HINGE (QTY 2) |
| 19 | NM4472 | HOSE CLAMP W/ THUMB SCREW | 41 | NM5017 | SCREW 1/4-20 X 3/8" HXHD SS |
| 20 | NM5104 | CIRCUIT BREAKER AMP | 42 | NM5947 | SCREW 10-24 X 1/2" PPH SS (QTY 4) |
| 21 | AH101B | QUICK CONNECT FEMALE 1/2" | 42A | PHY094-024 | NUT 10-24 NYLOCK SS (QTY 4) |

| KEY | PART # | DESCRIPTION | KEY | PART # | DESCRIPTION |
|-----|-----------|---------------------------------------|-----|-------------|--------------------------------|
| 43 | NM5748 | AXLE REAR WHEELS - 22.5" | 68 | NM5086 | HOSE 1/2" ID CLEAR COIL |
| 44 | AP51 | 200PSI PUMP WITH MOTOR | 69 | NM5082 | HOSE 3/8" ID CLEAR COIL |
| 45 | 16R3-5656 | PRESSURE REGULATOR 200PSI | 70 | BR022 | BARB 3/8" X 3/8" MPT |
| 46 | AV20 | VACUUM MOTOR 1/4" 2-STAGE | 71 | | CAP 3/8" FPT HEX BLASS |
| 47 | NM5699 | VACUUM MANIFOLD 1/4" | 72 | NM5712 | ADAPTER 2" FPT X SPG |
| | | | 73 | NM5027 | BRACKET SOL/REC TANK |
| 48 | NM5728 | GATE VALVE 2" W/ KEEPER | 74 | NM5738 | BRACKET TERMINAL BLOCKS |
| 49 | NM5728A | GASKET VACUUM VALVE | 75 | NM5730 | TERMINAL BLOCK 6 SPACE |
| 50 | NM5144 | SCREW 1/4-20 X 2.50" SOCHE SS (QTY 6) | 76 | NM5732 | TERMINAL BLOCK 10 SPACE |
| 51 | NM5726 | VACUUM HOSE 2" - PER INCH | 77 | NM5142 | SCREW #6 X 3/8" PPH SS (QTY 6) |
| 52 | PA051 | HOSE CLAMP 2-2.75" | 78 | NM6123 | FAN GUARD - WIRE 120MM |
| 53 | NM5705X | DECAL VAC CONNECTION | 79 | NM5025 | RIVET - VAC HOSE END |
| 54 | NM5141 | SCREW 1/4-20 X 2.25" SOCHE SS | 80 | NM5124 | SCREW B-32 X 1/2" PPH SS |
| 55 | NM5793 | NUT B-32 NYLOCK SS | 81 | NM4472 | CLAMP W/ THUMB SCREW |
| 56 | NM5124 | SCREW B-32 X 1/2" PPH SS | 82 | NM5098 | BULKHEAD FITTING 3/8" |
| 57 | NM5752C | LATCH - SLIDE (QTY 2) | 83 | BR284 | ELBOW 90DEG 3/8" STREET |
| 58 | NM5120 | SCREW 5/16-18 X 3 3/4" HEXHD SS | 84 | PP14-806504 | ACORN STRAINER 1/2" FPT |
| 59 | PFA10 | NUT 5/16-18 NYLOCK SS | 85 | NM5727 | ADAPTER 2" MPT X PVC |
| 60 | NM5720 | CASTER 5" (QTY 2) | 86 | PA029 | PIPE 2" ABS (10.5") |
| 61 | NM5752B | LATCH HOOK - KEEPER | 87 | NM5741E | CLAMP NYLON 2-2.5" |
| 62 | NM5752A | SPACEIL - LATCH HOOK | 88 | BR030 | BARB 3/8" X 3/8" MPT |
| 63 | NM5128 | SCREW B-32 X 1/2" PTH SS (QTY 4) | 89 | NM5713 | ADAPTER 2" FPT X HSPLIT ABS |
| 64 | NM4261 | NUT 1/4-20 NYLOCK SS | 90 | BR282 | ELBOW 90DEG 1/2" STREET |
| 65 | NM5721 | SPACEIL BLOCK - PUMP MOUNT | 91 | NM5742 | BULKHEAD FITTING 1/2" PVC |
| 66 | NM5058 | SCREW 1/4-20 X 2.25" HEXHD SS | 92 | BR048P | BARB 3/8" X 3/8" MFT NYLON |
| 67 | BR222 | PLUG 3/8" MPT HEX BLASS | 93 | NM5052 | CHECK VALVE 3/4" |

| KEY | PART # | DESCRIPTION | KEY | PART # | DESCRIPTION |
|-----|------------|---|-----|---------|--|
| 94 | PH09 | HOSE CLAMP FOIL 3/4" HOSE | 119 | NM5418 | WIRE TIE 4" |
| 95 | PA110 | ELBOW 90DEG 3/4" MPT & BARB | 120 | | SERIAL NUMBER PLATE WITH FOUR RIVETS |
| 96 | NM5835 | BRACKET APO PUMP MOUNT | 121 | NM5705B | DECAL DUAL CIRCUIT INDICATOR |
| 97 | NM5836 | WASHER FLAT RUBBER 1/4" | 122 | NM5737 | MOISTURE BARRIER |
| 98 | NM5790 | SCREW 1/4-20 X 1.25" SOC HD SS | 123 | NM5433 | 1/4" INTERNAL STAR WASHER SS |
| 99 | NM5053 | PUMP OUT PUMP | 124 | NM5705C | DECAL CSA WARNING |
| 100 | NM5749 | FLOAT SWITCH | 125 | NM5756 | PLASTIC FAN GUARD - 80MM |
| 101 | NM5735 | FILTER CAP ASSEMBLY | 126 | NM4123 | SCREW 6-32 X 1/2" PHH SS |
| 102 | NM5741F | FLOAT VACUUM SHUTOFF | 127 | NM6126 | WIRE MOUNT BASE 3/4" |
| 103 | NM5051 | STRAIN RELIEF WATER TIGHT | 128 | NM6126 | OVAL VENT GRATE |
| 104 | BR278 | ELBOW 45DEG 3/4" STREET | 129 | PA184 | SCREW #8 X 3/8" SELF TAP PHH SS |
| 105 | BR049 | BARB 3/4" X 3/4" FFT | 130 | NM5711 | DECAL NAUTILUS SIDE (QTY 2) |
| 106 | PHY106-02B | RUBBER VACUUM PLUG | 131 | NM5933 | 3/16" INT STAR WASHER SS Control Fan Ground |
| 107 | NM4263 | SCREW TEK #10 X 5/8" SS | NS | NM5703 | WIRING HARNESS - UPPER |
| 108 | NM4460 | CABLE | NS | NM5701 | WIRING HARNESS - LOWER |
| 109 | NM4462 | SLEEVE #7 CABLE CLAMP | NS | BR020 | BARB 3/8" X 3/8" MPT |
| 110 | NM5125 | WASHER 3/8" FLAT ZINC PL | NS | NM5756 | KIT DUAL CIRCUIT WIRING |
| 111 | NM5725 | GASKET VACUUM RISER PIPE | NS | NM4087 | SCREW 1/4-20 X 5/8" SOC BRASS |
| 112 | NM5093 | HOSE 3/4" ID CLEAR COHL | NS | NM5434 | #6 INTERNAL STAR WASHER SS Control Panel Ground lug |
| 113 | NM5031 | SCREW 1/4-20 X 1" SOC HD SS | NS | PA010A | VACUUM GASKET (On bottom of vac motor AV20) |
| 114 | PA187 | SCREW #10 X 5/8" PHP SS | | | |
| 115 | NM4255 | WASHER #10 FLAT SS | | | |
| 116 | PH07 | HOSE CLAMP FOIL 1/2" HOSE | | | |
| 117 | NA2250 | HOSE CLAMP FOIL 3/8" HOSE | | | |
| 118 | NM5412 | 7/16" FIBREGLASS WIRE SLEEVE Sold per inch | | | |

| DESCRIPTION | HOSE TYPE | LENGTH | NOTES |
|---|---|---------|--|
| VAC HOSE REC TANK TO MANIFOLD | 2" VAC - NM5726 SOLD PER FT' | 29" | TANK END: 1 - NM5713 2 - NM5025 VAC END: HOSE CLAMP PA051 |
| VAC HOSE VAC 1 TO MANIFOLD | 2" VAC - NM5726 SOLD PER FT' | 9.5" | VAC END: HOSE CLAMP PA051 MANIFOLD END: HOSE CLAMP NM4472 |
| VAC HOSE VAC 2 TO BASE | 2" VAC - NM5726 SOLD PER FT' | 9.5" | BOTH ENDS: HOSE CLAMP PA051 |
| SOLUTION HOSE #1 SOLUTION TANK TO PUMP | 1/2" ID CLEAR COIL NM5086 SOLD PER INCH | 42" | BOTH ENDS: HOSE CLAMP PH07 |
| SOLUTION HOSE #2 REGULATOR TO SOLUTION TANK | 3/8" ID CLEAR COIL NM5082 SOLD PER INCH | 35" | BOTH ENDS: HOSE CLAMP NA2250 |
| SOLUTION HOSE #3 PUMP TO HP SOLUTION HOSE | 3/8" ID LP HOSE NM4340 SOLD PER INCH | 33" | BOTH ENDS: HOSE CLAMP NA2250 |
| HP SOLUTION HOSE OUTLET QC TO HOSE #3 | 1/2" HP HYDROCOIL AH79CF SOLD PER FT' | 19.2" | QC END: XAF1 (M) * JOINT END: XAF2 (FM) |
| DRAIN HOSE REC TANK TO PUMP-OUT OUTLET | 3/4" CLEAR COIL NM5093 SOLD PER INCH | 5-1/2" | BOTH ENDS: HOSE CLAMP PH09 |
| DRAIN HOSE PUMP-OUT PUMP TO REC TANK OUTLET | 3/4" CLEAR COIL NM5093 SOLD PER INCH | 14-1/2" | BOTH ENDS: HOSE CLAMP PH09 |

- * FITTINGS ADDED BETWEEN HOSE #4 AND CONTROL PANEL:
(1) NM5751, (2) BR174 & (1) BR282

Limited Warranty

Your Nautilus Extreme MXE-200 is designed to give you years of reliable service. If a problem should arise use the troubleshooting section in the operation manual to diagnose and correct the problem if possible.

If you are unable to determine the cause or solution to the problem contact your distributor or Hydro-Force for assistance.

Hydro-Force warrants the roto-molded tanks and base of the Nautilus Extreme MXE-200 to be free from defects in material or workmanship for five years from the date of purchase.

All other components of the Nautilus Extreme MXE-200 are warranted to be free of defects in material and workmanship for one year from the date of purchase.

During the warranty period, Hydro-Force will, at its option, repair or replace components which prove to be defective. This warranty does not provide for replacement of complete units due to defective components. Any costs for transportation or related service labor are not covered in this warranty. Replacement parts are warranted only for the remainder of the original warranty period.

This warranty shall not apply to defects resulting from improper operation, lack of maintenance, unauthorized modification, chemical incompatibility, misuse, abuse or exposure to freezing temperature conditions. It does not cover normal wear items such as o-rings, valve seals, pump seals, hoses, jets, cords, batteries, or other items which require replacement as a result of ordinary usage.

To obtain warranty service for the Nautilus Extreme MXE-200, contact your distributor or Hydro-Force. If the extractor must be returned to Hydro-Force or an authorized service center, the purchaser shall prepay shipping charges for products returned for warranty service. No returned items will be accepted by Hydro-Force without prior authorization. All returns must have a return authorization number, issued by Hydro-Force, clearly marked on the exterior of the package.

Hydro-Force makes no other warranty either expressed or implied with respect to this product.

The remedies provided herein are the purchaser's sole and exclusive remedies. In no event shall Hydro-Force be liable for any direct, indirect, special, incidental or consequential damages.

This warranty gives you specific legal rights. You may also have other rights which vary from jurisdiction to jurisdiction.