



TORNADO®

Pro Spotter

Operations and Maintenance Manual
For Commercial Use Only



Model No. TE011-G03-U



NOTES



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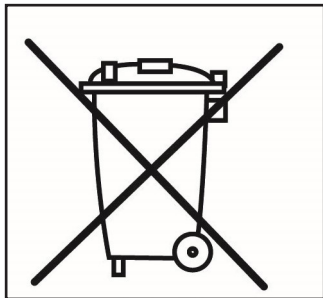
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INTRODUCTION

Your new Tornado unit is a high quality, precision-made product. All parts used in the manufacturing of this unit have passed rigid quality control standards prior to assembly. Please safeguard the original receipt/invoice given at the time of purchase. If you experience any problems with your unit during the warranty period, the original receipt/invoice will act as proof of purchase.

Upon receipt, inspect outer box for exterior damage. Unpack all internal parts, ensure no hidden damage is found.

Each unit is tested and thoroughly inspected prior to shipping. If damage is discovered, immediately notify the transportation company that delivered your machine and request an inspection. As a manufacturer, we are unable to act upon any claim for concealed damage and you must originate the claim. Be sure to keep the carton, packing inserts, and carrier's receipt until the inspector has verified your claim.



Protect the environment
Please dispose of packaging materials in an environmentally safe way according to local waste disposal regulations.



Always remember to recycle.

WARRANTY

	Within 30 days, to activate the warranty, go to; https://tornadovac.com/services/warranty-registration-form.aspx
	For warranty information go to www.tornadovac.com

	Prior to operating the this unit, read and understand completely this owner's manual paying special attention to warning labels. These labels indicate a potentially hazardous situation that could result in death or serious injury if not avoided. Use only as described in this manual.
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	There are no owner serviceable parts inside this machine. Removal of screws and accessing internal components will void all warranty claims.
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	Personal Protection Equipment (PPE) should be worn during the operation of this machine. Chemicals can remain airborne for some time after application and therefore safety glasses and masks are recommended. Gloves should be worn any time chemicals are handled.
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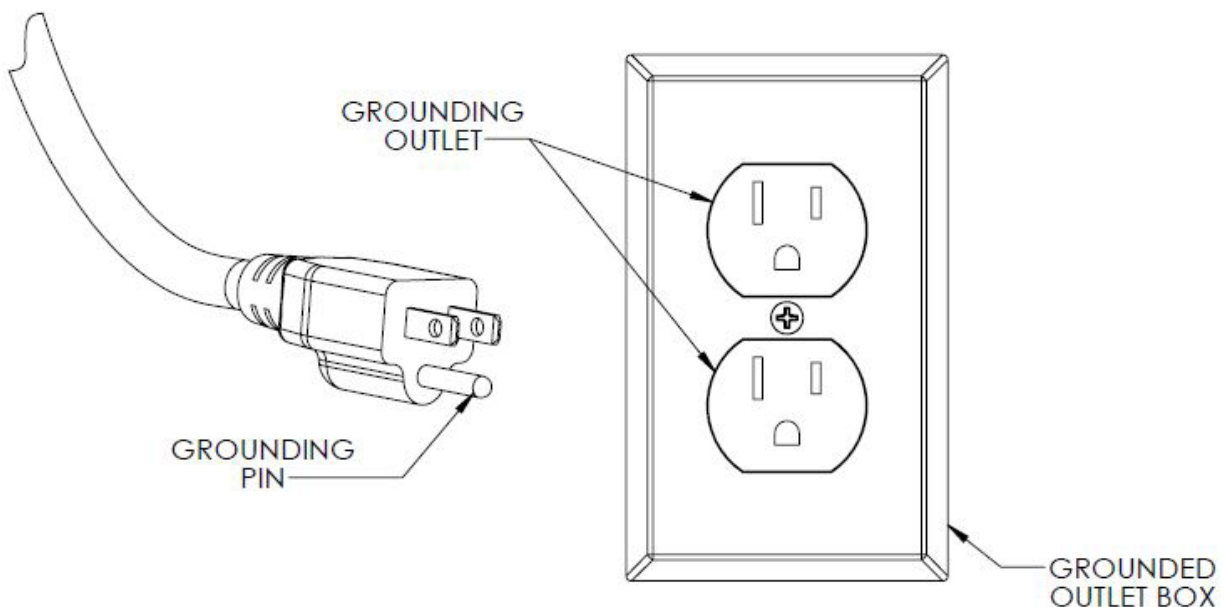
GROUNDING INSTRUCTION

This appliance must be grounded. If it should electrically malfunction, grounding provides a path of least resistance for the current to reduce the risk of electric shock. This machine is equipped with a cord having an 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.



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 the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. **DO NOT REMOVE THE GROUNDING PIN FOR ANY REASON.**

This appliance is for use on a nominal 115-volt circuit and has a grounding plug that appears as shown below.



IMPORTANT SAFETY INSTRUCTIONS

Your new Tornado unit is a high quality, precision-made product. All parts used in the manufacturing of this unit have passed rigid quality control standards prior to assembly. Please safeguard the original receipt / invoice. If you experience any problems with your unit during the warranty period, the original receipt / invoice will act as proof of purchase. Contact Tornado for any warranty inquiries.

IMPORTANT SAFETY INSTRUCTIONS

READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE USING THIS UNIT

Read and understand this owner's manual and all labels on the unit before operating. Safety is a combination of common sense, staying alert and knowing how your unit works. Use this unit only as described in this manual. Use only manufacturer's recommended attachments. To reduce the risk of personal injury or damage to your unit use only Tornado recommended accessories.

WARNING To avoid fire, DO NOT use with a flammable or combustible liquid or floor cleaner.

WARNING To avoid electric shock, DO NOT expose to rain. Store Indoors.

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

- Do not use outdoors or on wet surfaces.
- Do not leave unit unattended when plugged in. Turn off the switch and unplug the electrical cord when not in use and before servicing.
- Do not allow to be used as a toy. Close attention is necessary when used near children.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Do not use with damaged cord or plug. If unit is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center before using.
- Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull a cord around sharp edges or corners. Do not run the unit over cord. Keep cord away from heated surfaces.
- Do not use extension cords or outlets with inadequate current carrying capacity.
- Turn off all controls before unplugging.
- Do not handle plug or unit with wet hands.
- Do not put any objects into openings. Do not use with any opening blocked, keep free of dust, lint, hair, and anything that may reduce airflow.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches or hot ashes.
- Use extra care when cleaning on stairs. Do not use to pick up flammable or combustible liquids such as gasoline, or use in areas where they may be present.
- Store your unit indoors in a cool, dry area.
- Do not unplug by pulling on cord. To unplug, grasp the plug, NOT THE CORD.
- Follow these guidelines to ensure operator safety and to maintain equipment in running order.
- Make sure the machine is plugged into an electrical outlet with the same voltage rating as shown on the nameplate of the machine.
- Do not attempt to plug a 115 volt machine into a 230 volt outlet or a 230 volt machine into a 115 outlet.
- Replace a damaged cord immediately.
- If an extension cord is necessary, use a three conductor grounding cord-12 gauge wire or heavier to prevent motor burnout and over-heating of wires
- Do not expose the machine to freezing temperatures.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

IMPORTANT SAFETY INSTRUCTIONS

	<u>Flammability Warning</u> NEVER fill unit with flammable chemicals. Do NOT use in an area where flammable fumes are present
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	<u>State of California Proposition 65 Warnings</u> WARNING: This product contains one or more chemicals known to the state of California to cause cancer. WARNING: This product contains one or more chemicals known to the state of California to cause birth defects or other reproductive harm.
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	<u>Chemical Warning</u> Straight bleach should never be used solely in this unit. When sodium hypochlorite, a component found in bleach, dissolves in water, two substances form which play a role in both disinfection and oxidation. Manufacturer's recommendations must be followed for the chemical being used to ensure the proper balance is achieved that will disinfect and not oxidize the metal components found in this machine. It is recommended to flush the entire system thoroughly with clean water after use and prior to storage. Store unit dry and empty for prolonged periods following a system flush. Use only water-based chemicals to clean machine.
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	<u>Intended Use</u> Do NOT modify this unit in any way or adapt it for any other use. Modification of this unit in any way will void all warranties and could create safety hazards.
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TECHNICAL SPECIFICATIONS

Model	TE011-G03-U
Input Voltage	115 VAC
Plug Type	US
Cord	15' with on-board storage
GPM	.05 with Atomizer Nozzle/.25 with fan nozzle/.25 Extraction
Amps	Pre Spray Mode 1A/Extraction Mode 8.9A
Solution Tank	3.5 Gal/13.2 l
Recovery Tank	2.5 Gal/9.5 l
Dimensions	23" x 11" x 23" / 58.5cm x 28cm x 58.5 cm
Weight	41 lbs./18.5 kg
Waterlift	89"/226 cm
CFM/CMM	104/3
Solution Pressure	55 p.s.i./3.8 BAR
Pre Spray Hose	35' with quick disconnect
Pre Spray Wand	18"

*Variance dependent on user application method

KEY FEATURES



OPERATION

- Do not break off or pull out the ground prong on the plug.
- Do not attempt to repair a warranted machine unless instructed to do so by an authorized shop or the factory.
- Do not use any replacement parts except those specified on the parts list. Proper performance of the machine could be affected if substitutions are made.
- Use defoamer at all times to prevent damaging the vacuum motor.
- Do not use water in excess of 140° F (60° C).
- Failure to comply with the above warning instructions will void the warranty.

When using as an extractor

- Do not use the machine for totally dry vacuuming. This machine is not fitted with a fine dust filter.
 - Do not use citrus-based cleaners in this machine.
 - Do not use cleaning chemicals in this machine except those recommended for commercial extraction equipment.
 - The use of any chemical with abrasive additives voids the warranty.
 - Use defoamer at all times to prevent damaging the vacuum motor.
 - Do not use water in excess of 140° F (60° C).
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OPERATION

This unit can be used as either a Pre Spray or an Extractor unit to use on upholstery and for detail work.

The brass atomizing nozzle provides lower saturation when spraying while a larger brass fan nozzle is provided for large area coverage.

PRE SPRAY OPERATING INSTRUCTIONS

Filling the unit

- Unplug the unit.
- Disconnect the solution and recovery tanks.
- Remove the upper recovery tank.
- Add water and manufacturer's recommended solution ratio into solution tank. Fill only to the fill line indicated on the label on the inside of the solution tank. The tank will hold up to 3.5 gallons.

Operating the unit

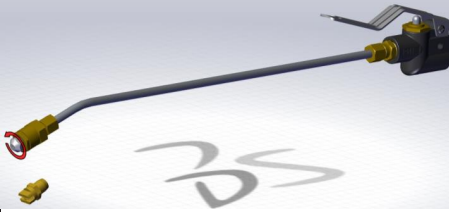
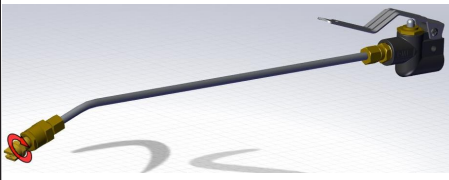
- Attach wand pressure hose to the quick disconnect in the pocket at the front of the machine.
- Turn the 3-way switch to SPRAY setting. (Allow approximately 30 seconds for the pump to prime).
- Use the wand with spray tip to spray the solution. The atomizing nozzle that is pre-installed on the wand applies smallest micron sized droplets and is perfect for most applications, however proper application should still be followed to prevent over-saturation. To apply use a natural up and down or side to side motion, slightly overlapping from one section to the next. Do not dwell on a spot, as this will cause over-saturation.
- Refill solution tank, as recommended above, to resume cleaning.

After use

- Unplug the unit.
- Disconnect the solution line.
- Unlatch the recovery tank from the base of the unit and remove.
- Drain any remaining solution in the tank following EPA and Manufacturer guidelines for the disposal of the chemical being used.
- Rinse the tank after each use.
- Allow it to air dry.

OPERATION

The wand will come with two spray tip options. The lower micron size atomizing spray tip will already be installed on the wand. You will also get a higher micron fan nozzle as an option. This additional nozzle option will be taped onto the wand when you receive the unit. The installed atomizing nozzle is best for cleaning office areas, touch points, etc, as it does not saturate things like paper and boxes that could be found in offices, retail, hospitality, restaurant, educational type of environments. The attached additional fan nozzle spray tip is for application in areas like warehouses, shipping carts, etc., where there is not a worry that the items being sprayed could get oversaturated. This allows for a quicker application of the disinfectant to cover larger areas. Care should be taken when applying disinfectant in food areas. Be sure to read and follow the manufacturers instructions for disinfectant products.

Replacing the Nozzle	
Remove the misting nozzle from the wand by loosening counterclockwise.	
Wrap Teflon tape around the threads on the new nozzle twice as shown. Avoid getting Teflon tape into the fluid path as it can cause clogs.	
Screw the new nozzle on to the wand clockwise until tight.	

OPERATION

EXTRACTOR OPERATING INSTRUCTIONS

Filling the unit

- Unplug the unit.
- Disconnect the solution and recovery tanks.
- Remove the upper recovery tank.
- Add water and/or chemicals to the lower solution tank. Fill only to the fill line indicated on the label on the inside of the solution tank. The tank will hold up to 3.5 gallons.

Operating the unit

- Attach the solution line from the vacuum hose assembly to the quick disconnect in the pocket at the front of the machine.
- Attach the vacuum hose to the vacuum inlet (handle) above the recovery tank lid.
- Turn the 3-way switch to VAC PUMP. (Allow approximately 30 seconds for the pump to prime).
- Attach the wand to the hose end. Use the wand to spray and recover the solution.
- The float shut-off will disable the suction of the unit when the recovery tank is full. The operator will notice a distinctive change in the sound of the vacuum motor when the shut-off is activated. Empty the recovery tank and then fill the solution tank to resume cleaning.

After use

- Unplug the unit.
- Disconnect the solution line and vacuum hose.
- Unlatch the recovery tank from the base of the unit and remove.
- Drain any remaining solution in the tank following EPA and Manufacturer guidelines for the disposal of the chemical being used.
- Remove the drain plug.
- Drain the tank over a suitable outlet for wastewater.
- Rinse the tanks after each use.
- Store the unit with the lid off of the recovery and allow it to air dry.

OPERATION



Solution Hose Connection



3-Way Switch

TRANSPORT AND STORAGE

Transport:

1. Take extreme care when moving the machine up or down steps or stairs.
2. Incorrect lifting techniques may result in personal injury.
3. As stated earlier in this manual, this machine is heavy. Do not attempt to lift the machine without assistance.
4. Carefully wrap the power cord and store in a dry, indoor location.
5. DO NOT expose the machine to rain or moisture.
6. When transporting the machine, ensure that all components, tanks and removable parts are securely fastened and that the power cord and plug are not trailing.
7. DO NOT lift or transport the machine while it contains liquid as this will add considerable weight to the unit.

Storage:

1. Wrap the power cord around the power cord wrap hooks ensuring that the plug is not trailing on the floor.
2. Always unplug, empty, wipe down and dry the machine after use.
3. Both the solution and recovery tanks should be emptied and flushed out with clean water to ensure the seals and pumps are free from any cleaning detergents.



Store machine in a dry, indoor area only.

MAINTENANCE



Prior to performing any maintenance, ensure unit is OFF and disconnected from power supply.

Recommended operator checks prior to use:

1. **BODY OF MACHINE** – Wipe down with a clean, damp cloth.
2. **POWER CORD** – Regularly inspect sheath, plug, and cord anchorage for damage or loose connection. Only replace power cord with OEM specified replacement part.
3. **SOLUTION FEED FILTER** – The filter prevents clogging of the pump and spray nozzle and should be periodically cleaned.
4. **NOZZLE MAINTENANCE** – If the spray jets become clogged, remove and soak them thoroughly for an hour in a 8 to 1 ratio of water to white vinegar or anti-browning solution, and blow-dry. Do not use wire or pins to clean the nozzles as this will cause the spray pattern to become distorted.



Besides those outlined above, all additional servicing and repairs should only be performed by an Authorized Tornado Servicing Agent.



TROUBLESHOOTING



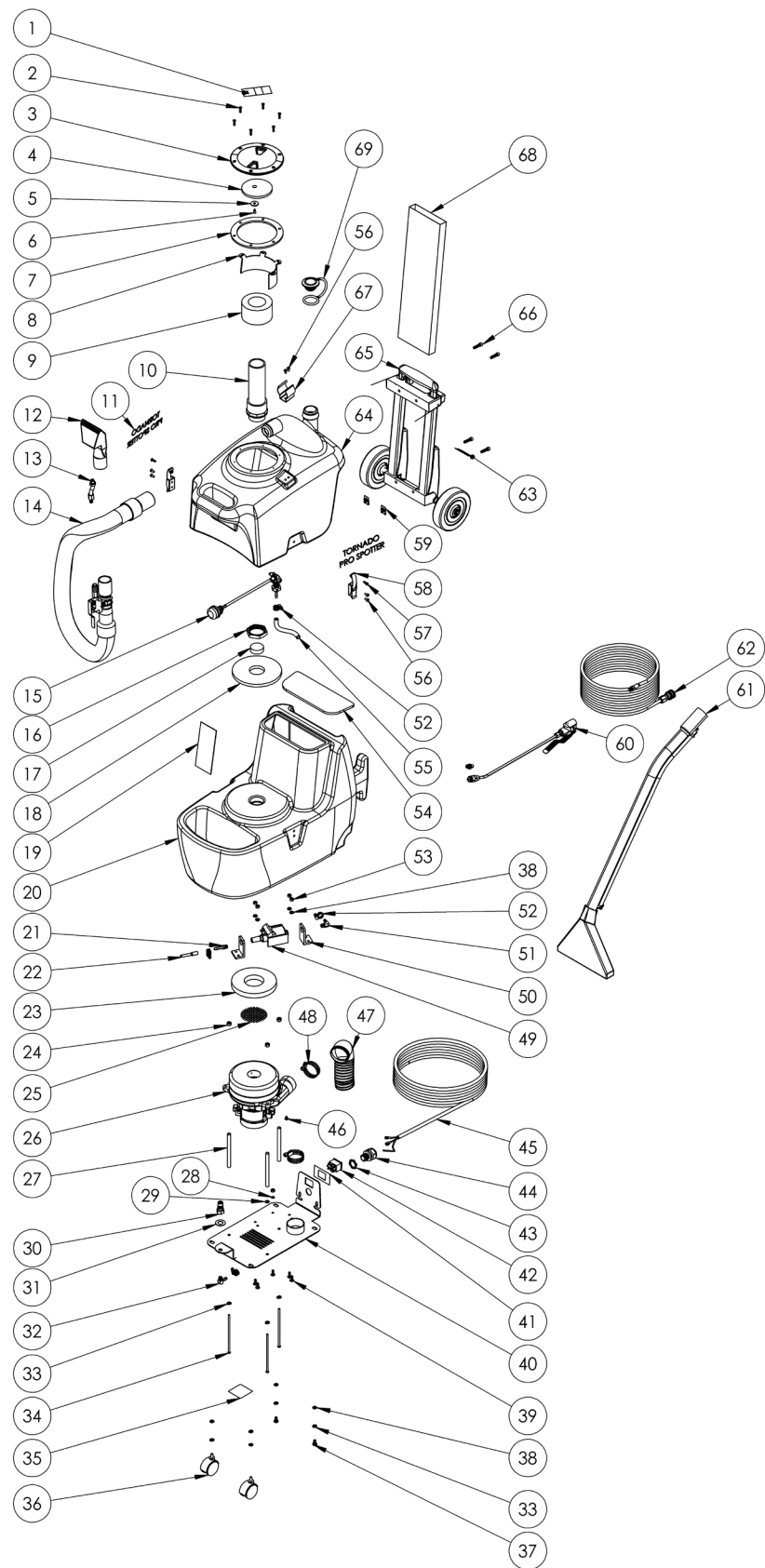
The following checks may be performed by the operator. Any other service or attempt to service by the operator will void the warranty.

Problem	Possible Cause	Solution
No Spray	Pump is not primed.	Depress lever on hand tool to release pressure.
Low Solution Flow	Solution tank level is low. Clogged filter. Clogged Spray jet.	Refill Solution tank.* Clean the screen filter on the hose in the solution tank. Clean the spray jet in the hand tool.
Low Suction	Recovery tank is full. Clogged Hand Tool or hose. Excessive foam.	Empty recovery tank. Clean Hand Tool and hose. Add defoamer to recovery tank.

*Before re-filling the solution tank, always empty the recovery tank.



PARTS DIAGRAM



PARTS LISTING

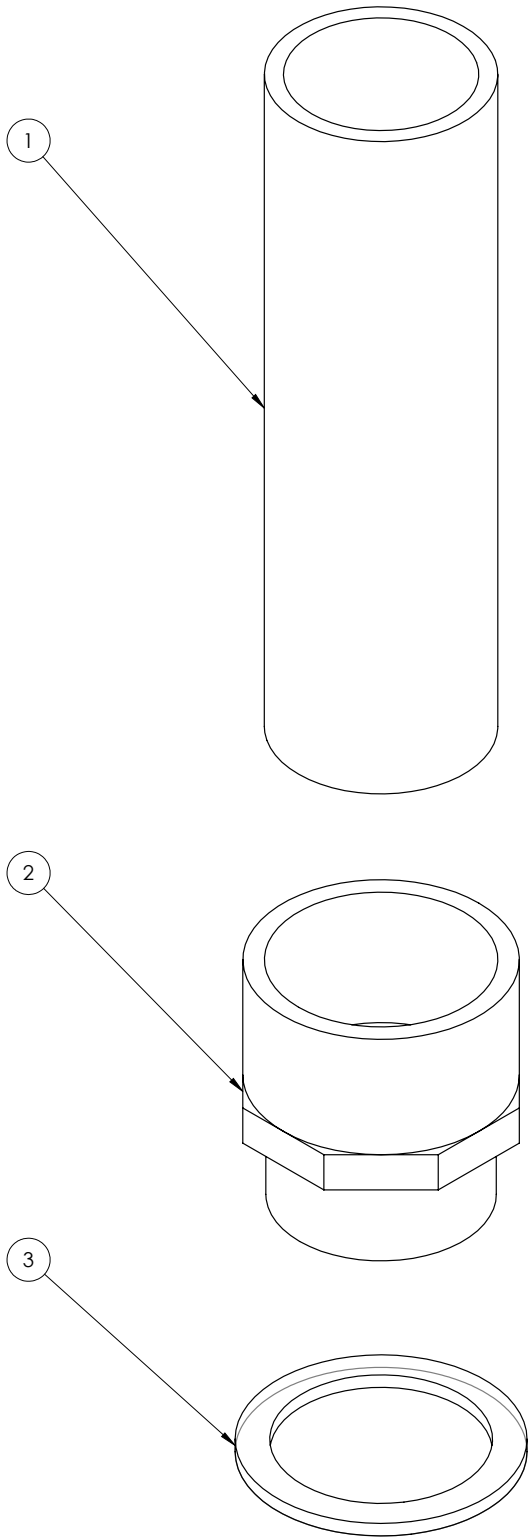
No.	Part No	Description	Qty
1	X9003	Defoamer Warning Label	1
2	X8295	Screw #8 x 3/4"	6
3	PX103A	Clear Lid 4" w/Ring	1
4	X9061	Shut Off Disk	1
5	X9087	Washer	1
6	X9088	Screw 8-18 x 1/2"	1
7	PX103AG	Lid Gasket	1
8	X9518	Deflector	1
9	X9062	Float Ring	1
10	X9082-KIT	Standpipe Sub-Assembly	1
11	X2046-YEL	Label	2
12	72821A	Detailer Tool 1-1/2"	1
13	72764A	Nozzle Adapter	1
14	X2058	Rigid Hose Assembly	1
15	PX30-KIT	Filter and Hose Sub-Assembly	1
16	PX46	Lock Nut	1
17	PX209	Foam Filter	1
18	X9079	Gasket	1
19	X2045	Fill Label	1
20	X1920BLK	Solution Tank	1
21	PC66	Fitting 1/4" HB x 1/8" MPT	1
22	71817A	Braided Hose 1/4" 250 PSI	8"
23	X9740	Gasket	1
24	X8237	Nyloc Nut	3
25	X9060	Vacuum Motor Screen	1
26	1942-B	Vacuum Motor 2 Stage	1
27	X9045	Spacer	3
28	7CY001	Internal Tooth Lock Washer	1
29	X9214	Ground Symbol Label	1
30	PC10	QD Male 1/8" x 1/8" FPT	1
31	X9412	Washer	1
32	7AT006	Brass Fitting 90° 1/4" Barb x 1/8" MPT	1
33	X8212	Lock Washer	7
34	X8291	Screw 1/4-20 x 5-1/2"	3
35	X8459	Serial Number Label	1

PARTS LISTING

No.	Part No	Description	Qty
36	X9047	Swivel Caster 45Mm 1/4-20 x 3/4"	2
37	7BS003	Screw 1/4-20 x 1/2"	2
38	00-0600-0503	Washer	8
39	30676	Screw 10-24 x 5/8"	5
40	X9046	Base Plate Weldment	1
41	X8497B	Switch Label	1
42	X9048	Rocker Switch 3 Position	1
43	X8008N	Lock Nut 1/2" Conduit	1
44	PD8	Strain Relief	1
45	X9719	Power Cord 18 AWG 20'	1
46	19565	Screw #10-16 x 1/2"	1
47	7CZ001	Vacuum Hose Cut Lengths	8"
48	PX215	Hose Clamp	2
49	FJ5082	Pump w/o Mounts No Fittings	1
50	PX204	Pimp Mount	2
51	PX214	Nylon Elbow Fitting 90° 1/4" HB x 1/8" MPT	1
52	7DL003	Hose Clamp	4
53	X8271	Nyloc Nut	5
54	X9064	Gasket	1
55	72697A	Hose	8"
56	X8262	Screw 8-32 x 1/4"	6
57	X8278	Screw 8-32 x 1/2"	2
58	X9059	Latch w/Keeper	2
59	X9106	J Nut	2
60	WAN-PFMS	Pre Spray Wand Assembly	1
61	PFX27	Floor Wand Assembly	1
62	PX35-2-4-100	Pre Spray Hose Assembly	1
63	X8976	Warning Label	1
64	X1921BLK	Recovery Tank	1
65	X8990	Handle Assembly	1
66	X9065	Screw 1/4-20 x 1"	4
67	72173A	Spring Clip	1
68	X2051	Safety Sleeve	1
69	PAS36	Drain Hose Plug w/Strap	1

PARTS LISTING

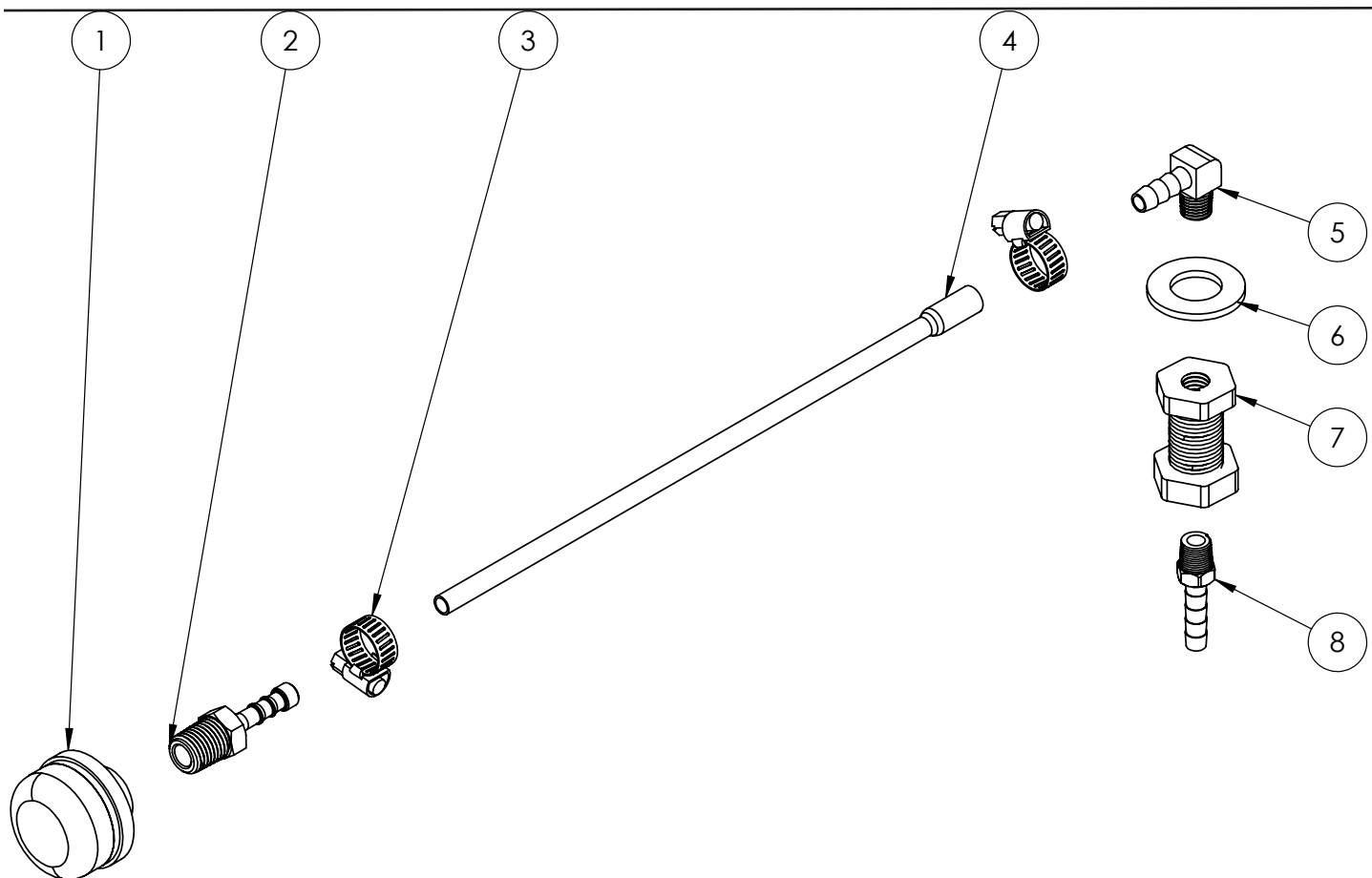
X9082-KIT



No.	Part No.	Qty	Description
1	X9082	1	PVC Pipe 1-1/2" x 6-1/2"
2	X9076	1	Bulkhead Fitting 1-1/2" MPT x 1-1/2" Female Slip
3	PX14A	1	Gasket

PARTS LISTING

PX30-KIT



No.	Part No.	Qty	Description
1	PX30	1	Solution Tank Filter
2	PX213	1	Nylon Fitting 1/4" MPT x 1/4" Hose Barb
3	7DL003	2	Hose Clamp
4	71817A	1	Braided Hose 1/4" 250 P.S.I.
5	7AT006	1	Brass Fitting 90° 1/4" Barb x 1/4" MPT
6	72115A	1	Washer
7	7AJ004	1	Brass Anchor Connector 1/8" FPT x MPT
8	PC66	1	Fitting 1/4" Barb x 1/8" MPT

