

TSUNAMI

OPERATING & MAINTENANCE INSTRUCTIONS

INTRODUCTION

READ THIS BOOK

This operator's book has important information for the use and safe operation of this machine. Read this book carefully before starting the machine. Keep this book and tell all operators to read the book. If you do not follow the instructions, you can cause an injury or damage equipment, furniture or buildings.

For new books, write to:

Pacific Steamex Cleaning Systems, Inc.
2259 S. Sheridan
Muskegon, Michigan 49442-6252.

Carefully inspect all components to ensure that there is no concealed freight damage. If such damage is discovered, file a "CONCEALED DAMAGE REPORT" immediately with the delivering carrier.

The contents of this manual are based on the latest product information available at the time of publication. Pacific Steamex reserves the right to make changes or improvements to its machines without notice.

**FOR YOUR CONVENIENCE,
RECORD THE MACHINE MODEL
AND SERIAL NUMBER HERE.**

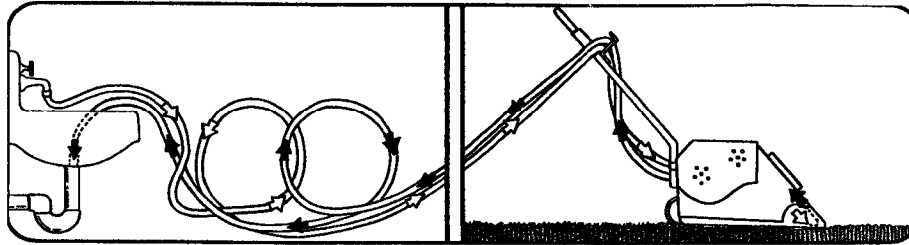
MODEL _____

SERIAL _____

INTRODUCTION

The TSUNAMI "High Flow" hot water extractor is intended for commercial use. It features direct hook-up to your faucet, thus saves time because the operator doesn't have to stop and refill a solution tank or empty a recovery tank. The TSUNAMI has a high flow rate of over 3 gallons per minute and a 94% water recovery rate. This high recovery rate reduces drying time substantially.

Here's How it Works:



1. The white arrow indicates the flow of hot water to the machine.
2. The black arrow indicates the return of filtered, dirty water down the drain.
3. It's all automatic, and so easy.

WARNING! Electrical Grounding Instructions

GROUNDING INSTRUCTIONS

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 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.

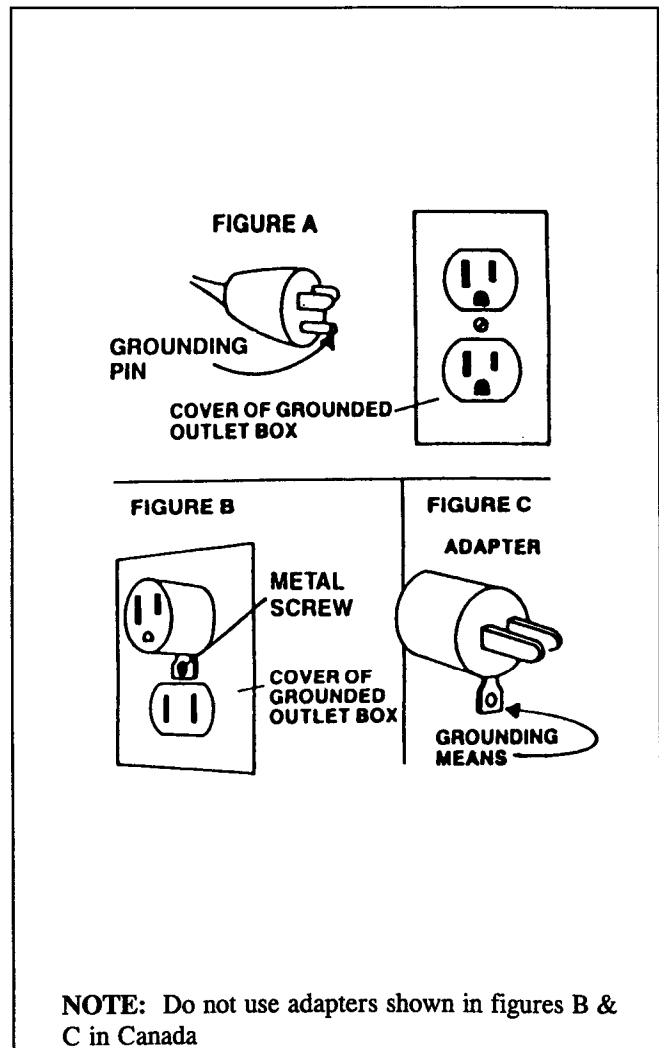
If the machine is provided with an attachment plug as shown in Figure A, it is intended for use on a nominal 120 volt circuit. If a properly grounded receptacle as shown in figure A is not available, an adapter as shown in Figure C should be installed as shown in Figure B if the outlet box that houses the receptacle is grounded. Be sure to fasten the grounding tab with a metal face plate screw.

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

EXTENSION CORDS

Use only three-wire 14/3 or larger gauge approved extension cords that have three-prong grounding type plugs and three-pole receptacles that accept the appliance's plug. Replace or repair any damaged cords or plugs.

When servicing, refer to authorized person only. Use only identical replacement parts.



IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THIS MACHINE

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

1. You must have training in the operation of this machine before using it.
2. Machines can cause an explosion when near flammable materials and vapors. Do not use this machine with or near fuels, grain dust, solvents, thinners, or other flammable materials.
3. Do not operate this machine unless it is completely assembled.
4. Do not use this unit for dry pick-up of dust or dry debris.
5. To prevent electric shock, always remove the electrical plug from the electrical outlet before doing any repairs or maintenance to this machine.
6. To prevent injury, always remove the electrical plug from the electrical outlet before leaving the machine.
7. Maintenance and repairs must be done by authorized personnel only.
8. Do not immerse. To reduce risk of electric shock, use only on carpet moistened by cleaning process. Protect the machine from rain. Keep the machine in a dry building. Always clean the machine with a clean dry cloth.
9. Always use a three-wire electrical system connected to the electrical ground. For maximum protection against electric shock, use a circuit that is protected by a ground fault circuit interrupter. Consult your electrical contractor.
10. To prevent damage to the power cord, do not move this machine over the power cord. Always lift the power cord over the machine. Do not pull or carry cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Keep cord away from heated surfaces.
11. Make sure all switches are turned off before plugging or unplugging the power cord into/from a wall receptacle.
12. To prevent damage to the solution system components do not store in freezing temperatures without proper maintenance.
13. Do not allow to be used as a toy. Close attention is necessary when used near children.
14. Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center.
15. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
16. Do not handle plug or appliance with wet hands.
17. Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
18. Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
19. Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
20. Use extra care when cleaning on stairs.

SAVE THESE INSTRUCTIONS

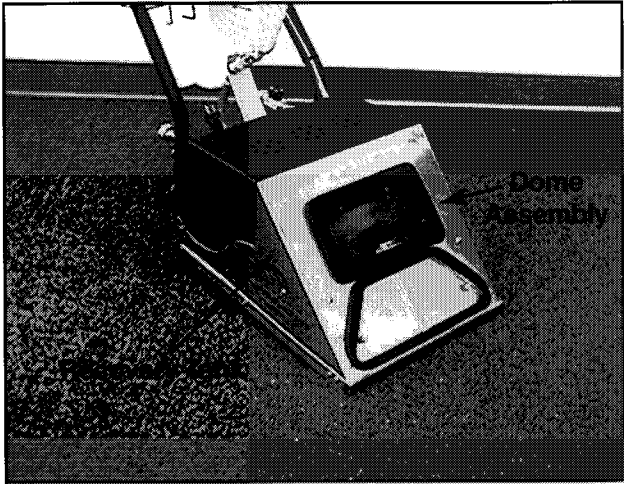


FIG.1-Dome Assembly

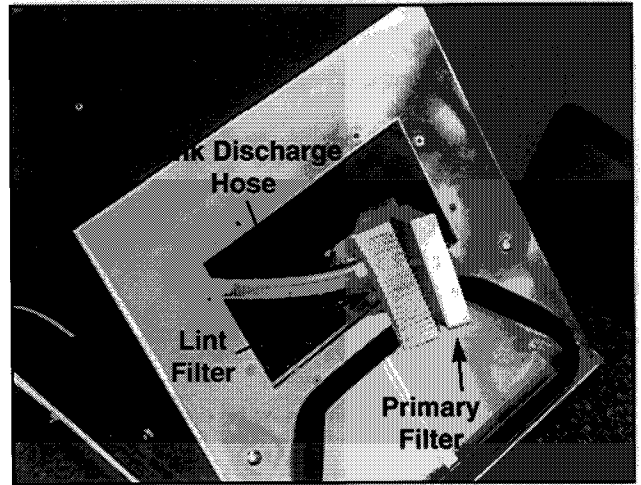


FIG.2-Water Filter Cleaning

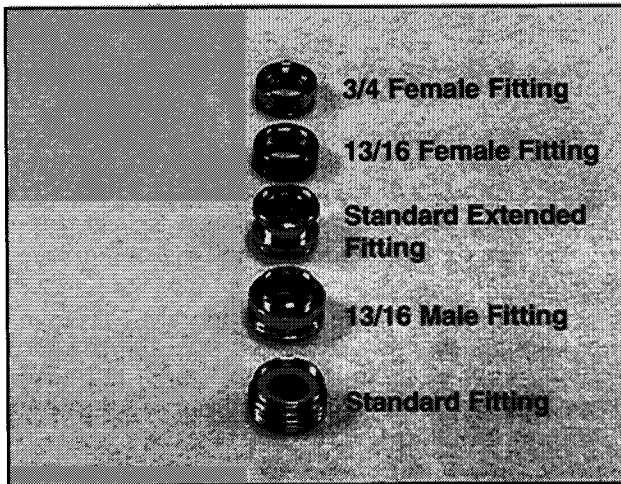


FIG.3-Sink Fittings

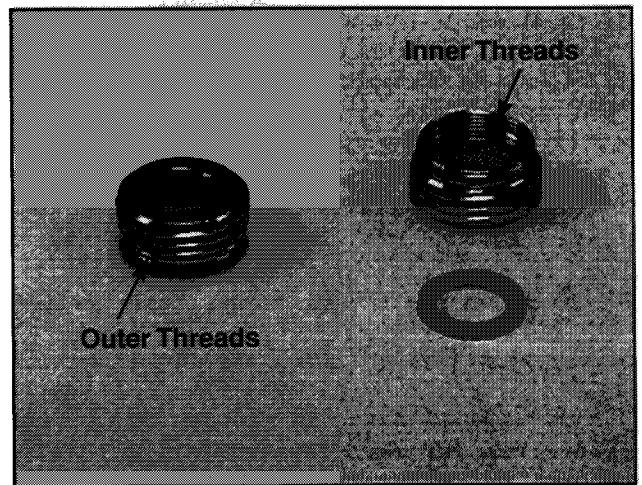


FIG.4-Standard Fitting

OPERATIONS

PRESTART-UP CHECKS:

The TSUNAMI is very simple and easy to operate. Very little maintenance and service are required to keep your machine in top operating condition.

The following procedures are recommended to maintain the high level of performance expected from your machine. They are also intended to identify potential safety hazards and problems which could reduce the service life of the machine.

READ BEFORE OPERATING YOUR MACHINE:

1. Check the **power cord, plug and strain relief** for worn or damaged insulation. Repair or replace if necessary.
2. Inspect the **water pick-up/vacuum head** by tilting the machine backwards and allowing it to balance on the wheels and handle.
 - a) Check the edge of the vacuum head for damage. Burrs on the contact surface may snag carpet fibers. Gouges, scratches and chipped areas can reduce vacuum performance.
 - b) Clean any hair or lint from the vacuum head. Clogs can cause over-wetting of the carpet or streaking. They can be removed with a thin wire.
3. Check the **fresh water filter** in the solution hose (item 16 in the hose parts list) for damage or debris. Holes in the screen can allow contaminants to enter the solenoid resulting in costly repairs. A clogged filter will reduce performance and may cause permanent damage.
4. Check for hair and lint build-up between the **wheels and axle**. Remove with needle nose pliers.
5. Remove the clear **dome assembly (figure1)** which is located on the recovery tank .
 - a) Inspect for damage to the **dome and gasket**. Dirt or debris on the gasket or sealing surface of the tank can cause a vacuum leak and reduce vacuum performance.
 - b) The **air filter screen** (item 71) should be clean of debris and checked periodically for any damage, replace if necessary.

- c) Clean the **water filter (figure 2)**. It is a dual stainless steel filter with an **outer lint filter** (item 68) and an **inner primary filter** (item 69). Swing them out of the recovery tank. By sliding the lint filter up the recovery tank discharge hose, both the top and bottom of the primary filter can be cleaned. Also check for any damage, replace if necessary.

Return the dome assembly to its original position.

TRANSPORTING:

1. **Walking-** The machine is designed to be tilted back on the wheels and pushed or pulled.
2. **Carrying Machine-** The best way to carry your machine is with one hand on the handle and the other hand on the front lips.
3. **Walking Up Steps-** External wheel on the back of the machine allow you to walk up and down steps.

OPERATING THE TSUNAMI:

1. **SINK FITTINGS:** Each machine comes with an **adaptor tray** containing 5 different **Sink Fittings** (see **figure 3**). **To install:**
 - a) Use your hand or a pair of pliers and **remove the aerator** from the faucet (avoid using plastic faucets or spickets).
 - b) Install the corresponding Sink Fitting on faucet.
 - i. The **Standard Fitting (figure 4)** is used 80-90% of the time. It has both inner and outer threads.
 - ii. The **13/16 Male Fitting (figure 3)** is the next most used fitting.
 - iii. The **Standard Extended Fitting (figure 3)** is used for recessed faucets.
 - iv. The **3/4 and 3/16 Female Fittings (figure 3)** are rarely used. They would be used as reducers on the Standard Fitting.

Note: Sink Fittings are not necessary on garden hose type spickets.

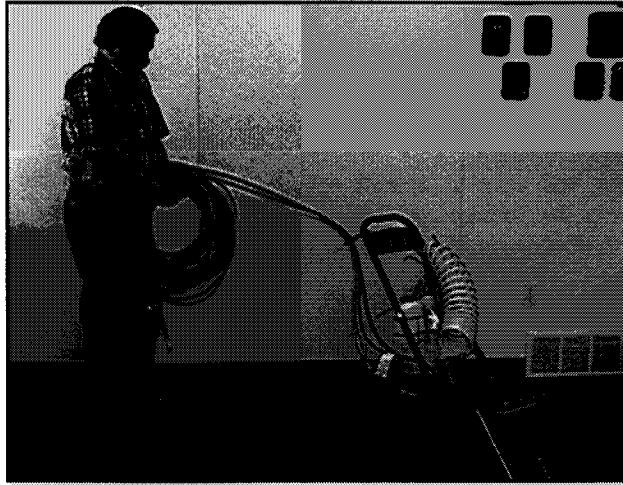


FIG.5-Rolling out hoses

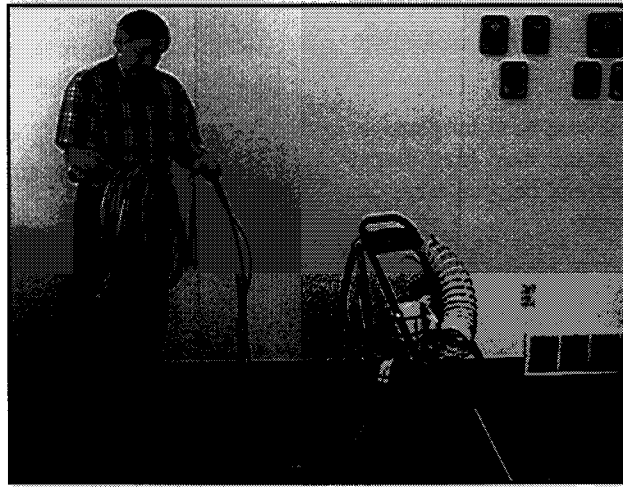


FIG.6-Feed & Uncoil Technique

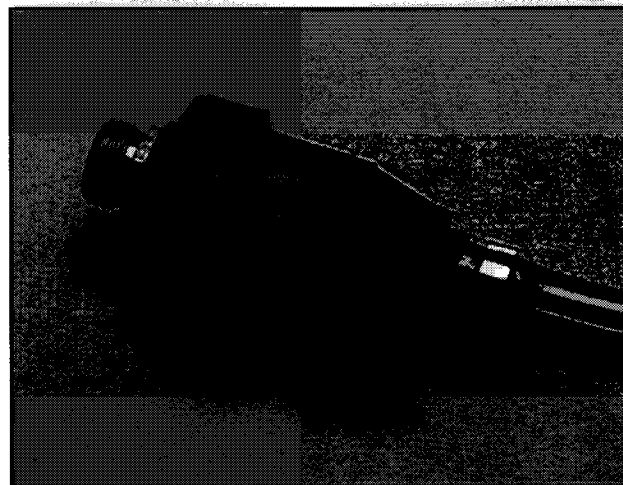


FIG.7-Drain Valve Open

OPERATING CONTINUED:

2. **UNROLLING HOSES:** There are two different ways to unroll the hoses.
- Rolling Out (figure 5):** This is when you use your arms like a hose reel.
 - Feed & Uncoil (figure 6):** This is when you place one arm through the middle opening of the hoses and feed hose out as you walk toward the sink. To prevent kinking of hoses during operation, uncoil any loops before hooking hoses to the faucet.

Hint: New hoses take a few weeks to break in. If you roll and unroll them the same way each time they break in faster and are easier to use.

3. **HOOKING MACHINE UP TO SINK:** After the hoses are unrolled it's time to hook them up to the faucet. Follow these steps:
- Insert the **drain hose** in the sink, toilet or other disposal and make sure you **OPEN THE DRAIN VALVE** located near the end of the drain hose. The adapter tray can be used to secure drain hose in sink. **Figure 7** shows the drain valve in the open position.
 - Attach the **garden hose end** to the **Sink Fitting** and **turn on the hot water**.

IMPORTANT: The two most common mistakes made when hooking up are forgetting to open the drain valve and forgetting to turn on the water.

4. **PRESPRAYING CARPET:** For your convenience each machine comes with a **25 feet of coiled prespray hose**. To use the prespray hose follow these steps:
- Fill the quart **chemical bottle** (bottle with hose running into the machine) with liquid extraction detergent.
 - Attach the **prespray hose** to the **prespray extension** (item 39-quick connect).
 - Prespray the carpet** and allow it to penetrate for a brief period.

HINT: To keep the prespray hose out of the way when extracting, hang it on the holster hook with 4-5 coils and hang the trigger behind the handle. When the prespray hose is hung like this, it places the spray wand behind the handle and out of the way.

Occasionally the prespray hose will become tangled. To untangle, detach from the prespray extension and hold it in the air to determine where to untangle.

5. **SOLUTION CHEMICAL INJECTOR (OPTIONAL):** If desired, chemical can be automatically injected into the solution water. To use:

- Connect the **injector assembly** between the solution hose and the machine.
- Fill the **extra quart bottle** with quality concentrated liquid extraction detergent.

6. **EXTRACTING:**

- Prespray carpet** (see section 4) or use optional **solution injector** (see section 5).
- IMPORTANT:** To ensure a long life for the vacuum motor **always apply defoamer** to the carpet before extracting. Apply the defoamer with a hand trigger sprayer or defoamer crystals.
- Turn the vacuum rocker switch ON** and place **both hands on the handle**.
- Depress the solution spray switch** and **pull the machine backwards**. Apply a small amount of upward force on the handle while extracting.
- Release the solution spray switch** just before completing each pass.
- Tilt the machine back on its rear wheels and walk forward** to position the machine along side the previous pass (slightly overlapping).

7. **EXTRACTION TECHNIQUES:** There are several techniques that will aid you while extracting.

- Always try to **work away from the hoses**.
- Use the **Hose Retainer "O" Ring** to move the hoses from one side of the handle to the other.
- Keep both hands on the handle**, using your feet to keep the hoses out of the way.
- While exerting **upward force on the handle**, do not exceed the point where the bottom of the wheels lose contact with the carpet. This upward lift ensures that both lips remain firmly on the carpet while extracting. Thus, the machine will generate a high rate of water recovery, which means faster drying times.

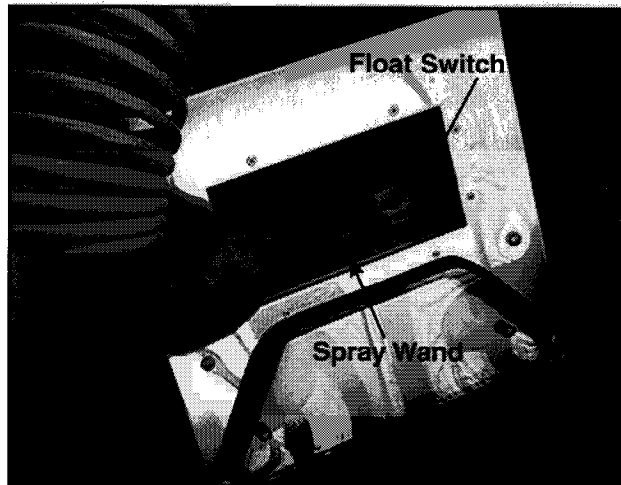


FIG.8-Cleaning the Float Switch



FIG.9-Draining recovery tank



FIG.10-Rolling up the hoses

OPERATING CONTINUED:

8. PERIODIC CHECKS WHILE EXTRACTING:

Depending upon the condition of your carpet, these things must be watched for when extracting.

- a) **Add defoamer if the machine is spitting out foam** from the bottom of the machine. The soap-suds are caused by too much detergent residue in the carpet. This may be harmful to the vacuum motor.
- b) Remove the clear dome assembly and **clean the air filter screen and water filter if necessary** (reference section "Prestart-Up Checks" #5).
- c) **Clean the float switch if it becomes obstructed (figure 8)**. The float switch tells the pump when it's time to discharge dirty water. It moves up and down with the water level in the recovery tank. Sometimes gritty dirt and hair obstruct the floats ability to freely swing up and down. To clean the float, take your prespray wand and spray the float, especially in the hinged area. When clean, the float should freely move up and down. If this doesn't work, remove the brass nut to lift clear inside the float switch and spray again.
- d) **The water pick-up/vacuum head may become clogged** because of hair and lint from the carpet. When clogged, over-wetting of the carpet or streaking may result. **Clogs can be removed with a thin wire** (i.e. coat hanger).

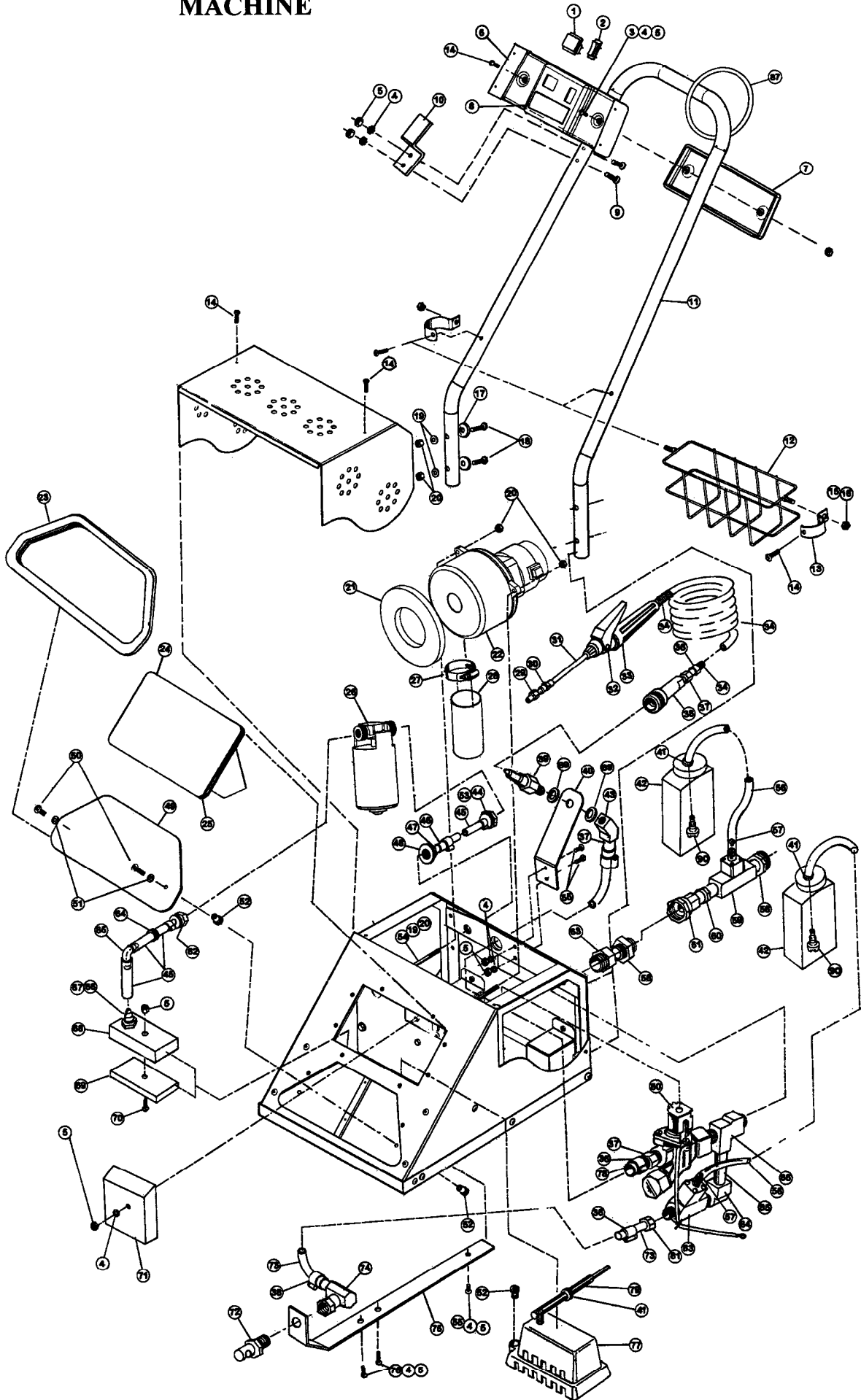
9. ATTACHING EXTRA HOSES:

Your machine comes with 50 feet of power cord and 50feet of pressure and drain hoses. You can attach up to 250 feet of hoses to the machine. Extra supply and drain hoses come in 50 foot lengths. When attaching extra hoses make sure you open all the drain valves.

10. AFTER EXTRACTING:

- a) **Turn the vacuum switch OFF.**
- b) **Drain the recovery tank** by tilting the machine to the right (**figure 9**). This will manually activate the discharge pump. Do not try to drain the hose of water by running the pump dry, this may cause damage to the pump.
- c) **Clean the dome, air filter screen, water filters and gasket.** Do not reinstall the dome until the next use, this will allow the recovery tank to dry out.
- d) **Unhook the prespray hose** from the prespray extension and hang it on the hose retainer hook.
- e) **Turn the hot water off at the sink.**
- f) **Close the Ball valve** on the solution line at the sink end **and remove the solution hose end from the sink fitting.** Then reopen the ball valve while the solution hose is still in the sink. This releases the water pressure in the solution hose. Reclose the ball valve before removing the hose from the sink.
- g) **Remove the sink fitting from the faucet and replace the aerator.**
- h) **Roll up the hoses (figure 10).** Start at the machine, roll the hoses clockwise onto the top of the solution tank. The "O" Ring should be on the right side of the handle.
- i) **To clean the exterior** regular window cleaner works well. Keep solvents away from the exterior of the machine.

MACHINE

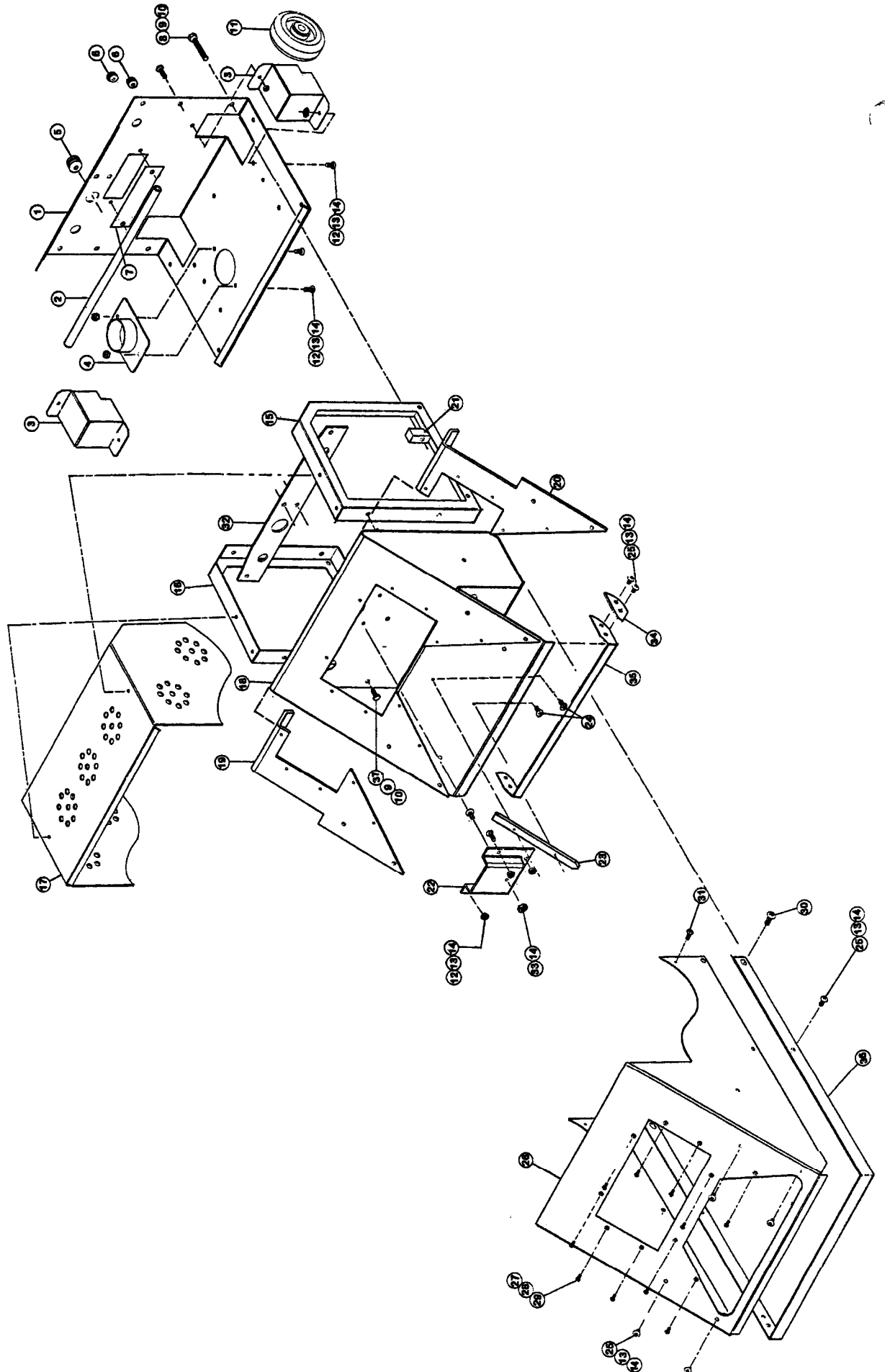


MACHINE PARTS LIST

ITEM #	PART #	DESCRIPTION	QTY
01	3704	Switch - Solution	1
02	911089	Switch - Vacuum	1
03	W351D	Screw #10-24 x ½ THPMS	2
04	980015	Washer #10 Ext Lock	10
05	W106D	Nut #10-24 Hex SS	11
06	227031	Control Panel - Top	1
07	227032	Control Panel - Bottom	1
08	225130	Label - Control Panel	1
09	W384D	Screw - 10-24x 1 ½ RHPMS	2
10	223932	Hook - Hose Retainer	1
11	223930	Handle - Main	1
12	229231	Tray - Bottle	1
13	222031	Clamp - Tray	2
14	W358D	Screw - #6x ½ PHPSMS	8
15	980002	Washer - ¼ Lock	2
16	920004	Nut - ¼ - 20 Hex	2
17	W311D	Washer - ¼ Fender	4
18	W184D	Bolt - ¼ -20 X 1 ¾ HHCS	4
19	W104D	Washer - ¼ Flat	13
20	920011	Nut - ¼ - 20 ESNA	13
21	603473	Gasket - Vac Motor	1
22	205250	Motor - Vacuum	1
23	223433	Gasket - Vac Window	1
24	222731	Dome ASM	1
25	223432	Gasket - Dome	1
26	227030	Pump - Discharge	1
27	S611A	Clamp	1
28	224160	Hose - Exhaust	6in
29	225730	Jet 4010 1/8 MPT	1
30	S830P	Fitting - 1/8 Union	1
31	229830	Wand 6"	1
32	221333	Body - Wand Valve	1
33	223931	Handle - Prespray	1
34	228331	Hose - Prespray	2
35	224132	Hose - 25' Prespray	1
36	S453P	Clamp Hose	5
37	203359	Fitting - 3/8H x ¼ MPT	3
38	203308	Quick Connect - Female	1
39	203302	Quick Connect - Male	1
40	220830	Bracket - Hose	1
41	223830	Grommet - 3/8 I.D.	2
42	221331	Bottle - Quart	2
43	T4055	Fitting- Street EL-¼ NPT	1
44	223345	Nut - Swivel ¾ FGH	1
45	224131	Hose - ½" Clear	6 in

ITEM #	PART #	DESCRIPTION	QTY
47	223339	Fitting - 3/8 MPT x ½H	1
48	980628	Washer - SS	1
49	222331	Cover - Vac Window	1
50	962136	Screw #10 - 32 x 1 THSS	2
51	980629	Washer #10 Nylon	4
52	920627	Nut - Knurl #10 - 32	5
53	223334	Fitting - ½ H x Flat	1
54	W362D	Bolt - ¼-20 x 4 ½ HH Tap	3
55	W153D1	Screw #10-24x¾ THPMSSS	3
56	204179	Hose - ¼" Clear	4 FT
57	229232	Tip - Injector Insert	2
58	223340	Fitting - 3/8MPT X ¾ MGH	2
59	224831	Injector - Main	1
60	T4062	Bushing - 3/8 FPT X ½ MPT	1
61	223346	Fitting - ¾ FGH x ½ FPT	1
62	T4012A	Fitting - ½ H x 3/8 MPT	1
63	S908P	Adapter - 3/8 FPT x ¼ MPT	1
64	223831	Grommet - 5/8 I.D.	2
65	223350	Elbow - ½ H X ½ H	1
66	T4012A	Fitting - ½ Barb x 3/8 NPT	1
67	W166D	Nut Brass Jam	1
68	223351	Lint Screen	1
69	223353	Primary Filter - Inner	1
	223352	Primary Filter - Outer	1
70	W153D1	Screw -#10-24X3/4 THMSSS	1
71	228531	Screen - Air Filter	1
72	225732	Jet - Spray	1
73	S250P	Hose - 3/8 Solution	16 in
74	223348	Fitting - Swivel ¼ NPT	1
75	220831	Bracket - Jet MTG	1
76	W167D	Screw #10- 32 x ½ FHMSSS	2
77	223331	Switch - float	1
78	S250P	Hose - 3/8 Solution	27 in
79	204179	Hose - ¼ Clear	6 in
80	229432	Valve - Solenoid	1
81	S342P	Bushing - 1/8 FPT x ¼ MPT	1
82	223333	Fitting - ¼ FPT x 3/8 H	1
83	224830	Injector - Prespray	1
84	223337	Elbow - 90 ¼ FPTx1/8 MPT	1
85	205751	Nipple - 1/4MPT x 2"	1
86	T4004R	Tee-Street ¼ FPT x ¼ MPT	1
87	227330	"O" Ring - Hose Retainer	1
88	225131	Label - Tsunami Side	2
89	980030	Washer, SS 7/16 flat	2
90	S764P2	Strainer-Suction	2

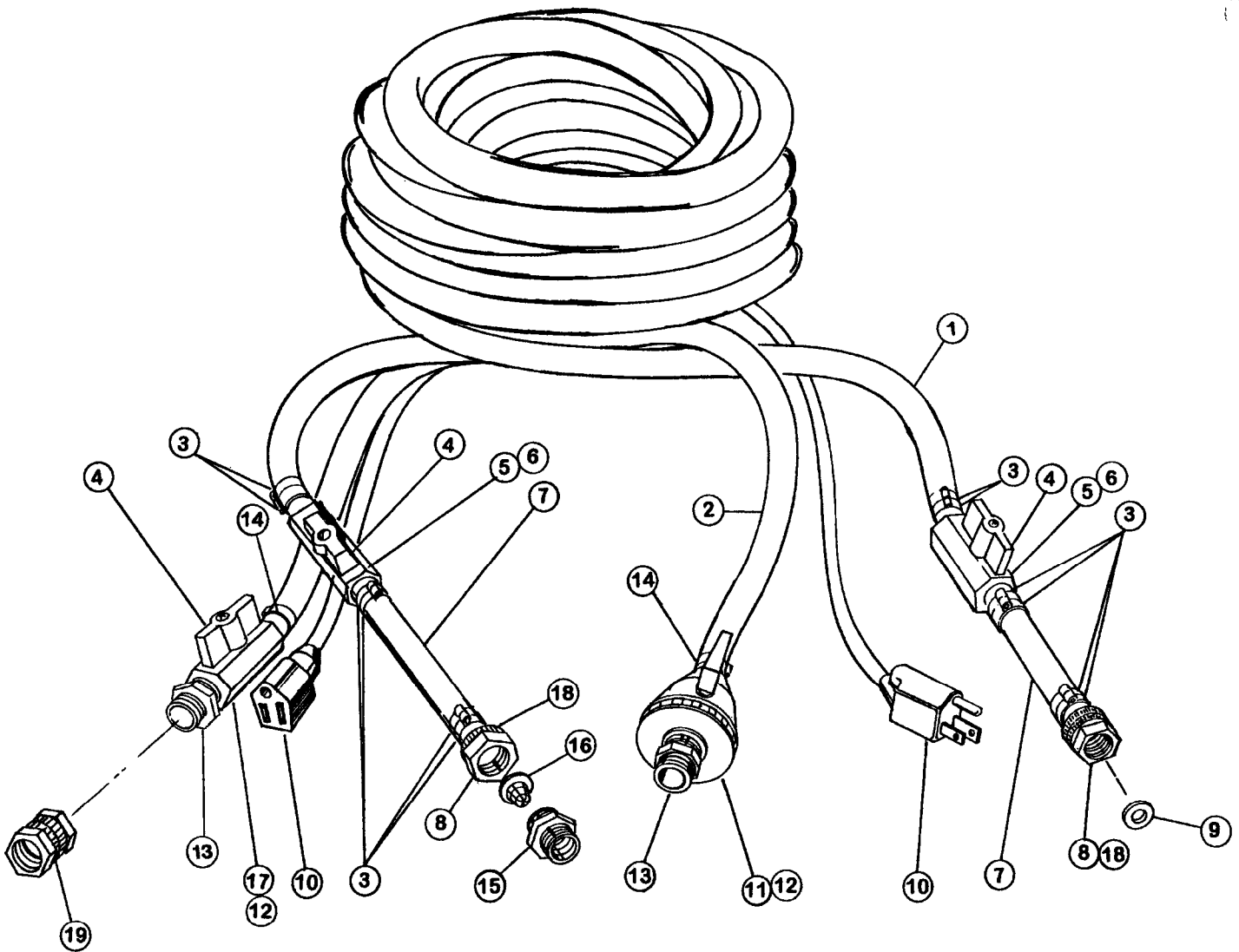
BODY



BODY PART LIST

ITEM #	PART #	DESCRIPTION	QTY
01	222332	Cover - Motor Rear	1
02	227730	Shaft - Wheel Axle	1
03	223347	Fender	2
04	229031	Exhaust Tube ASM	1
05	223831	Grommet - 5/8 I.D.	1
06	223830	Grommet - 3/8 I.D.	2
07	228535	Vac Intake Screen	1
08	W130D	Screw - ¼ - 20 x 1 ¼	2
09	980002	Washer - Lock	6
10	920004	Nut - ¼ Hex	6
11	229730	Wheel	2
12	W153D1	Screw #10-24 x ¾ THPMS	16
13	980022	Washer #10 Lock	29
14	W106D	Nut #10-24 Hex	29
15	228534	Support - Motor HSG L.H.	1
16	228533	Support - Motor HSG R.H.	1
17	222334	Cover - Motor HSG Top	1
18	228630	Tank ASM - Recovery	1
19	228230	Spacer - Tank R.H.	1
20	228233	Spacer - Tank L.H.	1
21	221334	Support Block	2
22	222732	Duct - Vac Inlet	1
23	228530	Support - Window	1
24	962135	Screw #6 X ¼ Tapping	2
25	W153D1	Screw #10-24 x ¾ THPMS	12
26	222333	Cover - Front Shell	1
27	962134	Screw #6-32 x 5/8 FHPMS	10
28	980016	Washer #6 Lock	10
29	920016	Nut #6 - 32 Hex	10
30	962006	Screw # ¼-20 x ½ PHPMSSS	2
31	W137D	Screw #6 x ½ SMS	2
32	228532	Strap - Handle Support	1
33	W153D1	Screw #10-24 x ¾ THPMS	1
34	228231	Spacer Lip	2
35	225134	Inner Lip	1
36	225135	Outer Lip	1
37	W189D	Screw - ¼ 20 x ¾ HHMS	4

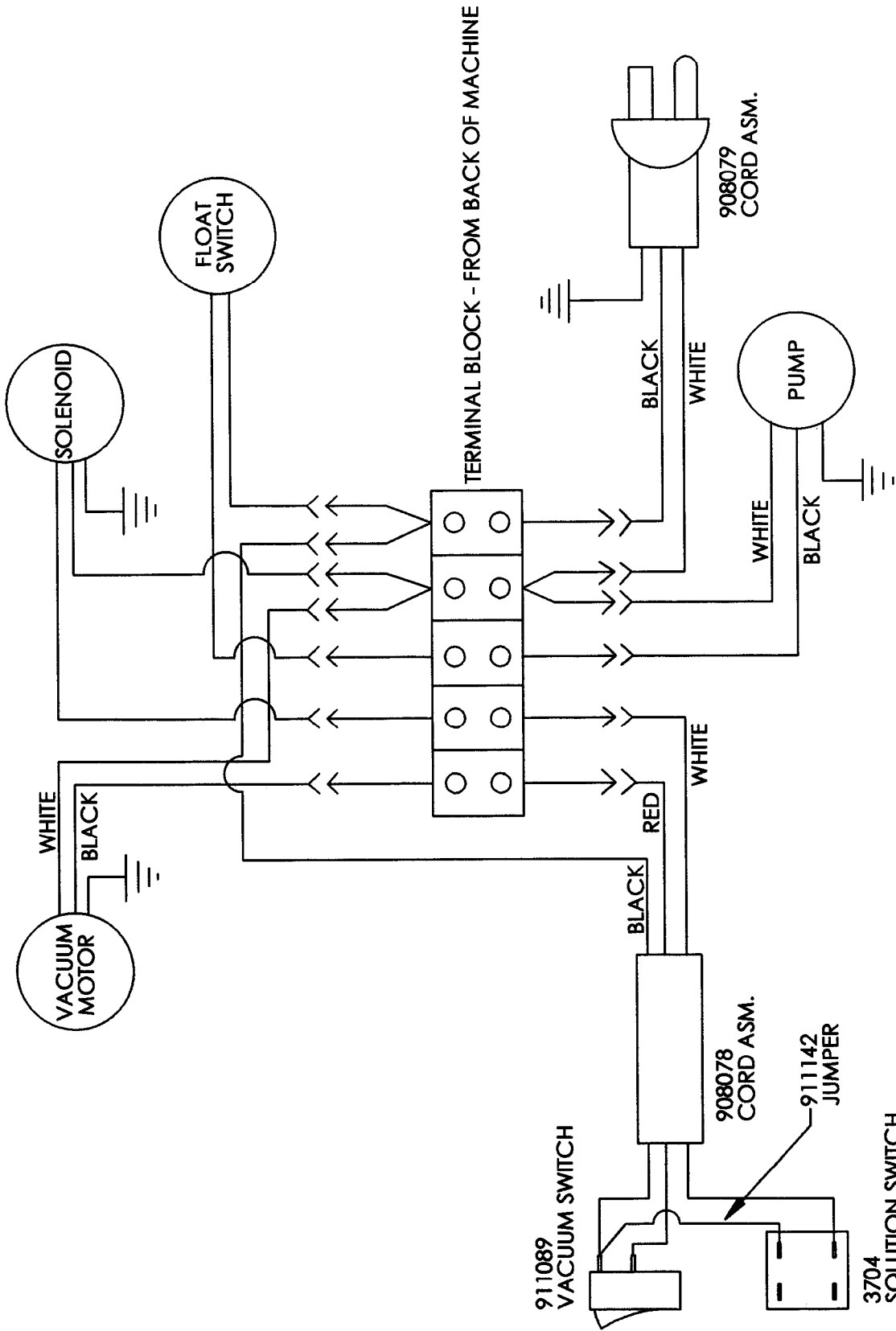
HOSE



HOSE PART LIST

ITEM #	PART #	DESCRIPTION	QTY
01	S250P	Hose - Solution	49Ft
02	224130	Hose - Clear	49Ft
03	S453P	Clamp	12
04	A13151	Knob	3
05	T8008	Valve - Shutoff	2
06	203359	Fitting - 3/8 H X 1/4 MPT	4
07	S250P	Hose - Solution	6 in
08	223345	Swivel Nut	2
09	223344	Washer - Garden Hose	1
10	908077	Cord ASM - 14 -3 x 50 Ft	1

ITEM #	PART #	DESCRIPTION	QTY
11	229430	Valve - Drain	1
12	223343	Fitting - 1/2 MPT X 1/2 H	2
13	223332	Fitting - 3/4 MGH x 1/2 MPT	2
14	222070	Clamp	2
15	220231	Adapter - Male to Male	1
16	S820N	Filter - Fresh Water	1
17	229431	Valve - 1/2 NPT Ball	1
18	223335	Fitting - 3/8 H x Flat	2
19	220230	Adapter - Female to Female	1



WIRING DIAGRAM
TSUNAMI

WARRANTY POLICY

PACIFIC STEAMEX CLEANING SYSTEMS INC. LIMITED WARRANTY

This **Pacific Steamex** Cleaning Systems Inc. Industrial Maintenance Machine has been manufactured, tested and inspected in accordance with specific engineering requirements and is **WARRANTED** to be free from defects in workmanship and materials for a period of (1) year from the date of purchase.

This warranty extends to the original user/purchaser and only when used, operated and maintained in accordance with **Pacific Steamex** Cleaning Systems Inc. Operating and Maintenance instructions.

This warranty does not apply to certain wear parts and accessories of the machine such as electrical cords, carbon motor brushes, floor brushes, hoses, tools, etc., nor does it apply to damage or failure caused by improper use, abuse or neglect. Warranty credit or replacement of return parts including motors, pumps, etc., is subject to incoming inspection of those items.

To secure repair under this warranty, the following procedure should be taken:

1. The inoperative machine or warranted parts must be delivered to the authorized dealer with shipping and delivery charges prepaid. If unable to locate the Dealer, you may contact **Pacific Steamex** Cleaning Systems Inc. at the address listed herein for the location of the nearest **Pacific Steamex** Cleaning Systems Inc. repair center or agent or for other instructions pertaining to your warranty difficulty.
2. Upon compliance with the above warranty procedure, all warranted repairs will be completed at no additional charge or cost to the user.
3. Only **Pacific Steamex** Cleaning Systems Inc. or its authorized dealers and agents may make no charge warranty repairs on this product. All others do so at their own risk.

This warranty limits **Pacific Steamex** Cleaning Systems Inc. liability to the repair of the product and/or warranted parts replacement and does not include incidental or consequential damages arising from the use of a **Pacific Steamex** Cleaning Systems Inc. machine whether defective or not.

This warranty is in lieu of all other expressed or implied warranties and is extended to the original purchaser/user.



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