

Minuteman[®]
Excellence Meets Clean



Parts and Instruction Manual
EX12 Carpet Extractor

This manual is furnished with each new **MINUTEMAN EX 12** . This provides the necessary operating and preventive maintenance instructions. Operators must read and understand this manual before operating or servicing this machine.

This machine was designed to give you excellent performance and efficiency. For best results and minimal cost, please follow the general guidelines below:

- Operate the machine with reasonable care.
- Follow the manufacturers suggested maintenance instructions as provided in this booklet.
- Use original Minuteman supplied parts.

TECHNICAL SPECIFICATIONS

Model	<i>EX 12</i>	<i>EX12H</i>
Model No.	12115	12115H
Vac Motor	3 Stage 100 cfm	3 Stage 100 cfm
Pump	100 psi	250 psi
Heater	N/A	2000 watt - 210° Max Temp
Capacity	12 gal.	12 gal.
Cord(s)	50' (15m) 12-3	(2) 50' (15m) 12-3
Wheels	12" (30.5cm)	12" (30.5cm)
Casters	5" (13cm)	5" (13cm)
Weight	99 lbs (45kg)	118 lbs (53.5kg)
Length	19" (48cm)	19" (48cm)
Width	30" (76cm)	30" (76cm)
Height	48" (122cm)	48" (122cm)

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Safety Precautions

This machine is intended for commercial use. It is designed to clean carpet and upholstery in an indoor environment and is not constructed for any other use. Use only recommended cleaning solutions and accessory tools.

All operators must read, understand and practice the following safety precautions.

The following safety alerts symbols are used throughout this manual as indicated in their description:

! WARNING: To warn of hazards or unsafe practices which could result in severe personal injury or death.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.

The following information signal potentially dangerous conditions to the operator or equipment:

FOR SAFETY:

- 1. Do not operate machine:**
 - Unless trained and authorized.
 - Unless operator manual has been read and understood.
 - In flammable or explosive areas.
 - Unless cord is properly grounded.
 - With damaged cord or plug.
 - If not in proper operating condition.
 - In outdoor areas.
 - In standing water.
 - With the use of an extension cord.
- 2. Before operating machine:**
 - Make sure all safety devices are in place and operate properly.
- 3. When using machine:**
 - Do not run machine over cord.
 - Do not pull machine by plug or cord.
 - Do not pull cord around sharp edges or corners
 - Do not unplug by pulling on cord.
 - Do not stretch cord.
 - Do not handle plug with wet hands.
 - Keep cord away from heated surfaces.
 - Report machine damage or faulty operation immediately to your distributor.
 - Follow mixing and handling instructions on chemical containers.

- 4. Before leaving or servicing machine:**
 - Turn off machine.
 - Unplug cord from wall outlet.
- 5. When servicing machine:**
 - Unplug cord from wall outlet.
 - Avoid moving parts.
 - Do not wear loose jackets, shirts, or sleeves.
 - Use manufacturer supplied or approved replacement parts.

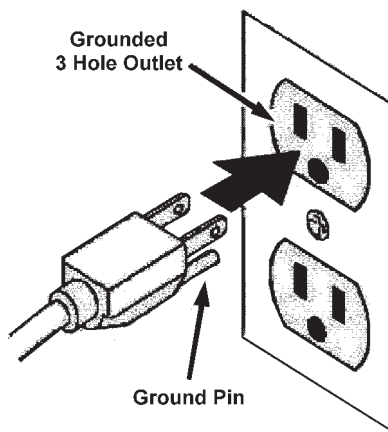
! WARNING: Hazardous Voltage. Shock or electrocution can result. Always unplug machine before servicing.

! WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s).

! WARNING: Flammable materials or reactive metals can cause an explosion or fire.

Grounding Instructions

Machine must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electrical shock. This machine is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed in accordance with all local code and ordinances. Do not remove ground pin; if missing, replace plug before use.



Safety Labels

The safety labels appear on the machine in various locations. Replace labels if they become damaged or cannot be read.

⚠ WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tank(s). Flammable materials or reactive metals can cause explosion or fire.

⚠ WARNING LABEL- Located on back. Label warns operator of safe practices of equipment

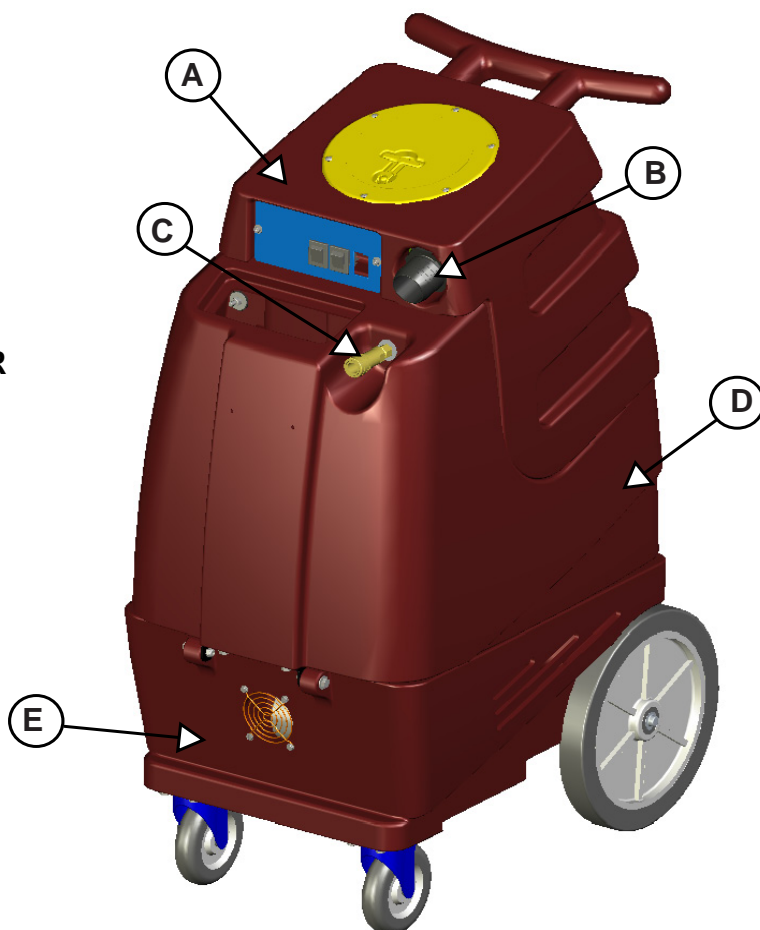
Electrical Requirements

EX 12 Requires (1) 15A – 115V Outlet

EX12H Requires (1) 15A and (1) 20A Outlet

Machine Components

- A RECOVERY TANK
- B VACUUM HOSE CONNECTOR
- C SOLUTION HOSE CONNECTOR
- D SOLUTION TANK
- E MOTOR HOUSING/BASE



Machine Set Up

Pre-Operation

1. Vacuum carpet and remove other debris.
2. Perform MACHINE SETUP procedures.
3. Inspect power cord for damage.

Set Up

1. Carefully check carton for signs of damage. Report damage at once to freight carrier. The machine is shipped fully assembled and is ready for use.
2. Open lid of solution tank. Fill solution tank with water or approved cleaning agent.

⚠ WARNING: Flammable materials can cause an explosion or fire. Do not use flammable solutions or materials in tank(s).

FOR SAFETY: When using machine, follow mixing and handling instructions on chemical containers.

ATTENTION: If using powdered cleaning chemicals, mix prior to adding.

3. Attach solution hose. (Located front of machine.)

NOTE: Make sure the quick disconnects snap together firmly. As you do this, always inspect hoses for cracks or fraying. Do not use if hoses are damaged.

4. Attach other end of solution hose to wand.
5. Attach vacuum hose to recovery tank.
6. Plug machine's cord into a grounded wall outlet.

FOR SAFETY: Do not operate machine unless cord is properly grounded.

FOR SAFETY: Do not operate machine with the use of an extension cord.

7. Connect solution hose and make sure it is firmly secured.

8. Turning machine on:

A. Turn pump switch on.

B. Pull up on wand lever to release air in the line. Hold lever until you have a steady flow of water coming out of the wand.

C. Once pump is primed and you have pressure in the solution line, turn on heater switch(s) and wait a few minutes for water to heat up.

NOTE: For best results leave pump and heater switch on for approximately 10 minutes before using as a pre-heat cycle.

Also, the heater may be run in either 1000W or 2000W mode by rocking the switch up and down.

D. Once water is heated, turn on vacuum motors and begin cleaning.

Operation



WARNING: Flammable materials or reactive metals can cause an explosion or fire. Do not pick up.

1. Work away from outlet and power cord to prevent cord damage.
2. Use a recommended foam control solution in the recovery tank to prevent vacuum motor damage. Periodically check for excessive foam buildup in solution tank.
3. To clean heavily soiled areas, repeat cleaning path from different direction.
4. When ball float shuts off vacuum, it is time to empty the dirty water from the recovery tank, and refill solution tank.

NOTE: When cleaning upholstery, always check cleaning instructions sewn in furniture by manufacturer

5. After cleaning, relieve water pressure from tool before disconnecting hose. Squeeze trigger for five seconds after turning main power switch off.

Draining Recovery Tank

FOR SAFETY: When servicing machine, unplug cord from wall outlet.

1. Turn machine off and unplug power cord.
2. Remove solution & vacuum hose
3. Lift up drain valve lever to empty solution tank.

Machine Maintenance

To keep machine in good working condition, simply follow machine's daily and weekly maintenance procedures.

FOR SAFETY: When servicing machine, unplug cord from wall outlet.

Maintenance

DAILY:

1. Empty and rinse out solution tank thoroughly.
2. Wipe off power cord and check for damage, replace if necessary. Coil cord neatly after use.
3. Clean machine with an all purpose cleaner and damp cloth.

Weekly Maintenance

(EVERY 20 HOURS OF OPERATION)

1. Flush solution system with a system maintainer to dissolve normal chemical buildup.
 - a. Pour 7.5L (2 gal) of hot water 60°C (140°F) into solution tank. Add system maintainer according to mixing instructions on bottle

FOR SAFETY: When using machine, follow mixing and handling instructions on chemical containers.

- b. Operate machine for one minute.
 - c. Shut off machine and allow remaining solution to break down chemical buildup overnight.
 - d. Next day, spray out remaining solution and flush system with 11L (3gal) of clean water.
2. Inspect vacuum hoses for holes and loose cuffs.
 3. Inspect spray pattern for clogging. If clogged, remove spray tips and soak them in a recommended liquid neutralizer for up to six hours. To remove spray tip, twist spray tip body counter-clockwise. Do not use pointed objects to unplug tips, damage will occur.
 4. Lubricate wheels with water resistant oil.
 5. Inspect machine for water leaks and loose hardware.
 6. Remove float shut-off screen from recovery tank and clean.

Storing Machine



1. Before storing machine, be certain to completely drain and rinse tanks of all water and solution.
2. Drain and dry the vacuum hose as well, using the drain hose provided
3. Store machine in a dry area in the upright position.
4. Open recovery tank cover to promote air circulation

Troubleshooting

SYMPTOM: UNIT WILL NOT TURN ON:

PROBLEM: Not plugged in.

SOLUTION: Plug machine in proper outlet.

PROBLEM: Circuit breaker has popped.

SOLUTION: Reset circuit breaker. Make sure no other items are running on the same circuit as machine. Outlet must be a 15-amp circuit.

PROBLEM: Wire from power cord has become disconnected from terminal block.

SOLUTION: Reattach wire to terminal block.

SYMPTOM: PUMP IS NOT RUNNING PROPERLY:

PROBLEM: Quick disconnects are not completely locked together.

SOLUTION: Snap quick disconnects firmly together.

PROBLEM: The solution tank is empty.

SOLUTION: Fill the solution tank up with a premixed detergent.

PROBLEM: Jet on upholstery tool is clogged.

SOLUTION: Clean jet with soft wire brush or remove jet and flush clean.

PROBLEM: Filters are clogged.

SOLUTION: Remove filters and rinse clean with water.

PROBLEM: Heater is blocked with hard water deposits.

SOLUTION: Flush out heaters with system maintainers. If they are still blocked, replace heaters.

PROBLEM: Brass check valve is stuck.

SOLUTION: Replace with new check valve.

PROBLEM: Pump wire has become disconnected.

SOLUTION: Reconnect wire.

PROBLEM: Switch on switch plate is bad.

SOLUTION: Replace switch.

PROBLEM: Pump motor brushes are worn out.

SOLUTION: Replace pump.

SYMPTOM: HEATER IS NOT WORKING PROPERLY:

PROBLEM: The back up sensor, mounted on the heater has popped.

SOLUTION: Reset sensor by pushing in button.

PROBLEM: Heating element is bad.

SOLUTION: Replace element.

SYMPTOM: VACUUM MOTOR IS NOT WORKING PROPERLY:

PROBLEM: Hose not connected tightly to upholstery tool or machine.

SOLUTION: Connect hose tightly.

PROBLEM: Drain valve is not shut completely.

SOLUTION: Close drain valve completely.

PROBLEM: Vacuum tank lid is not on tightly.

SOLUTION: Secure the vacuum tank tightly.

PROBLEM: Ball float is shut off.

SOLUTION: Empty the vacuum tank of all wastewater.

PROBLEM: Water is coming out of vacuum motor.

SOLUTION: Use a low foaming detergent.

PROBLEM: Floor wand or is clogged with hair, carpet fibers and or debris.

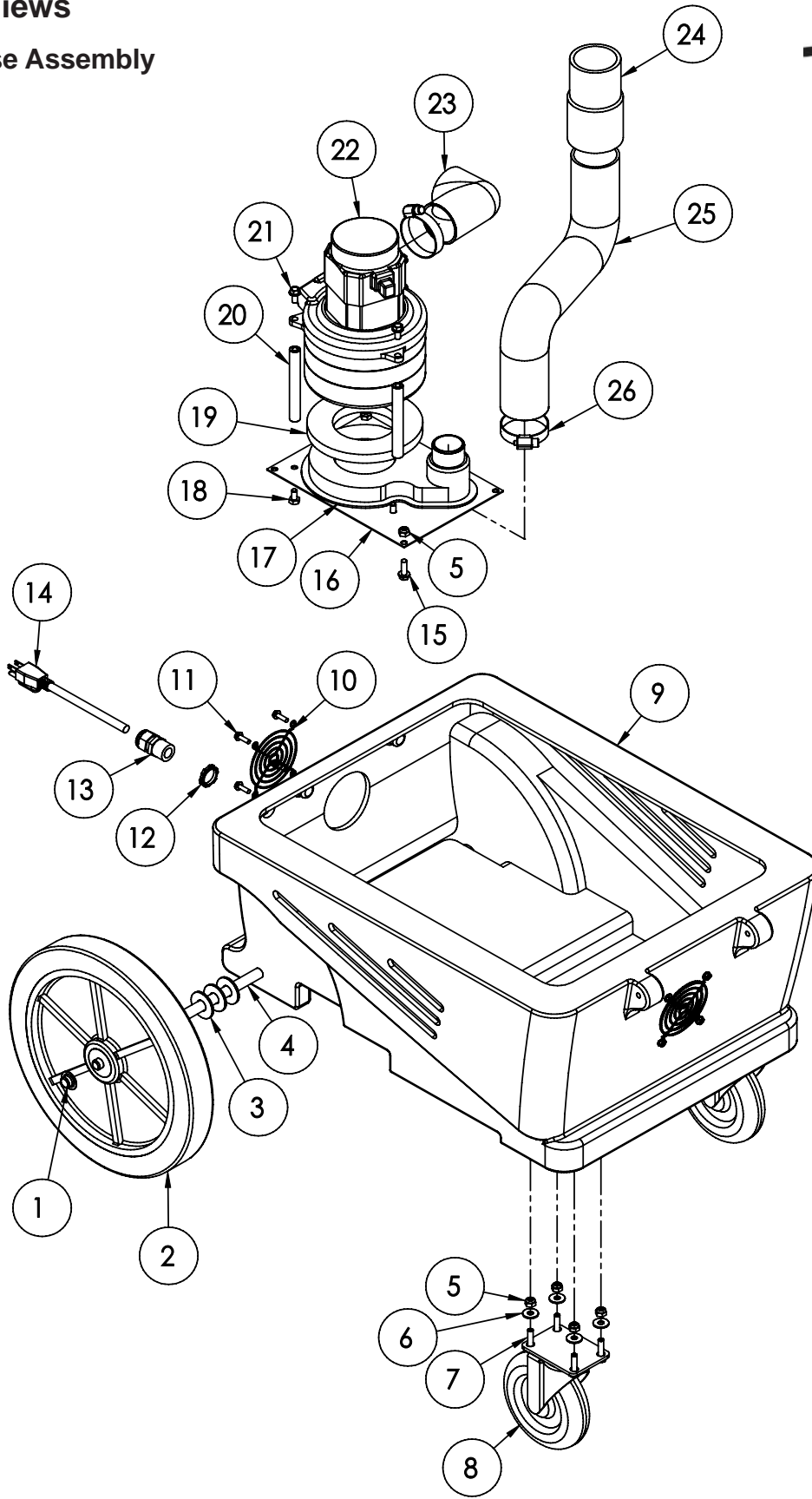
SOLUTION: Clean floor wand.

PROBLEM: Ball float is not installed correctly.

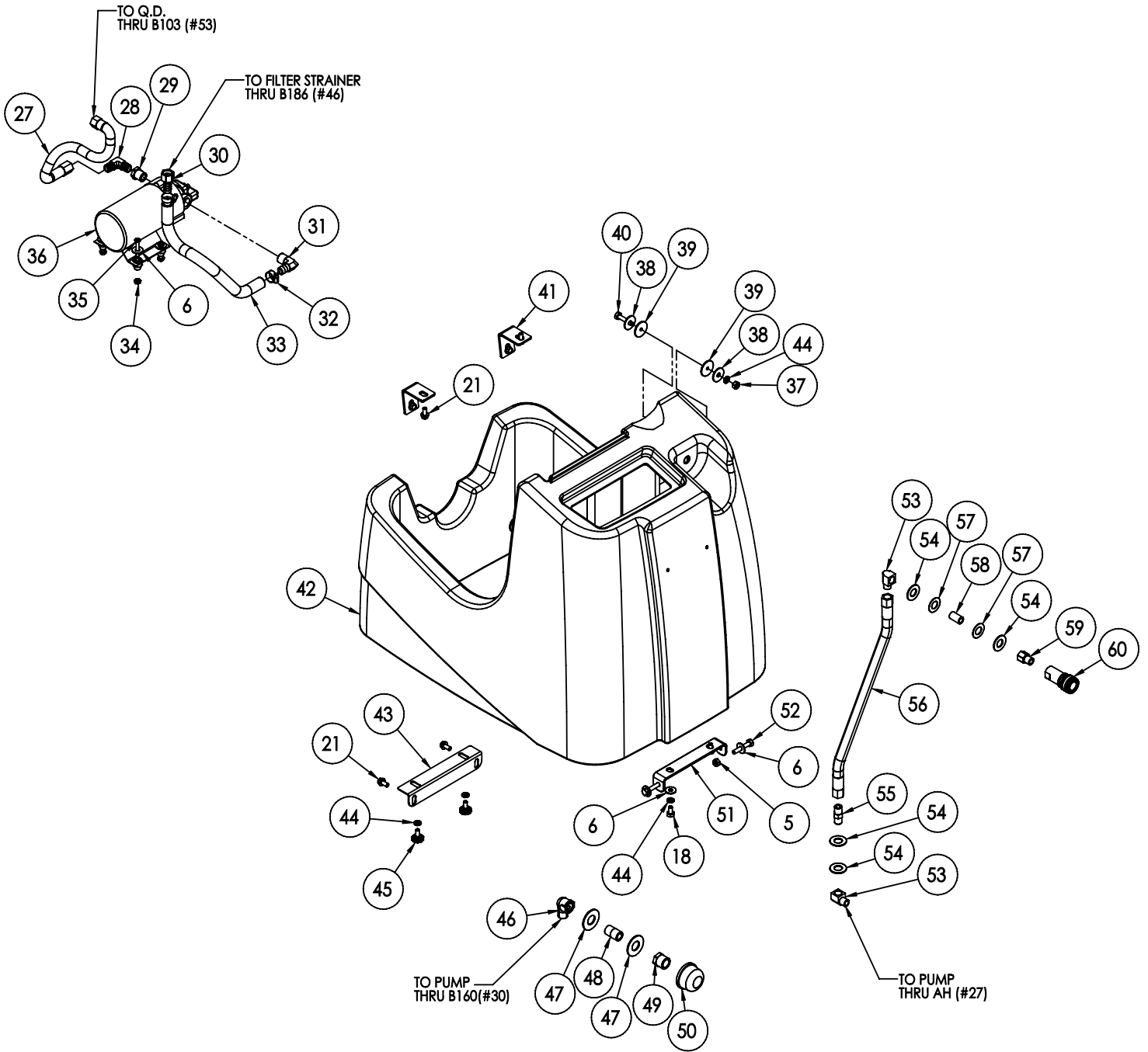
SOLUTION: Make sure that ball float is firmly installed on the elbow.

Exploded Views

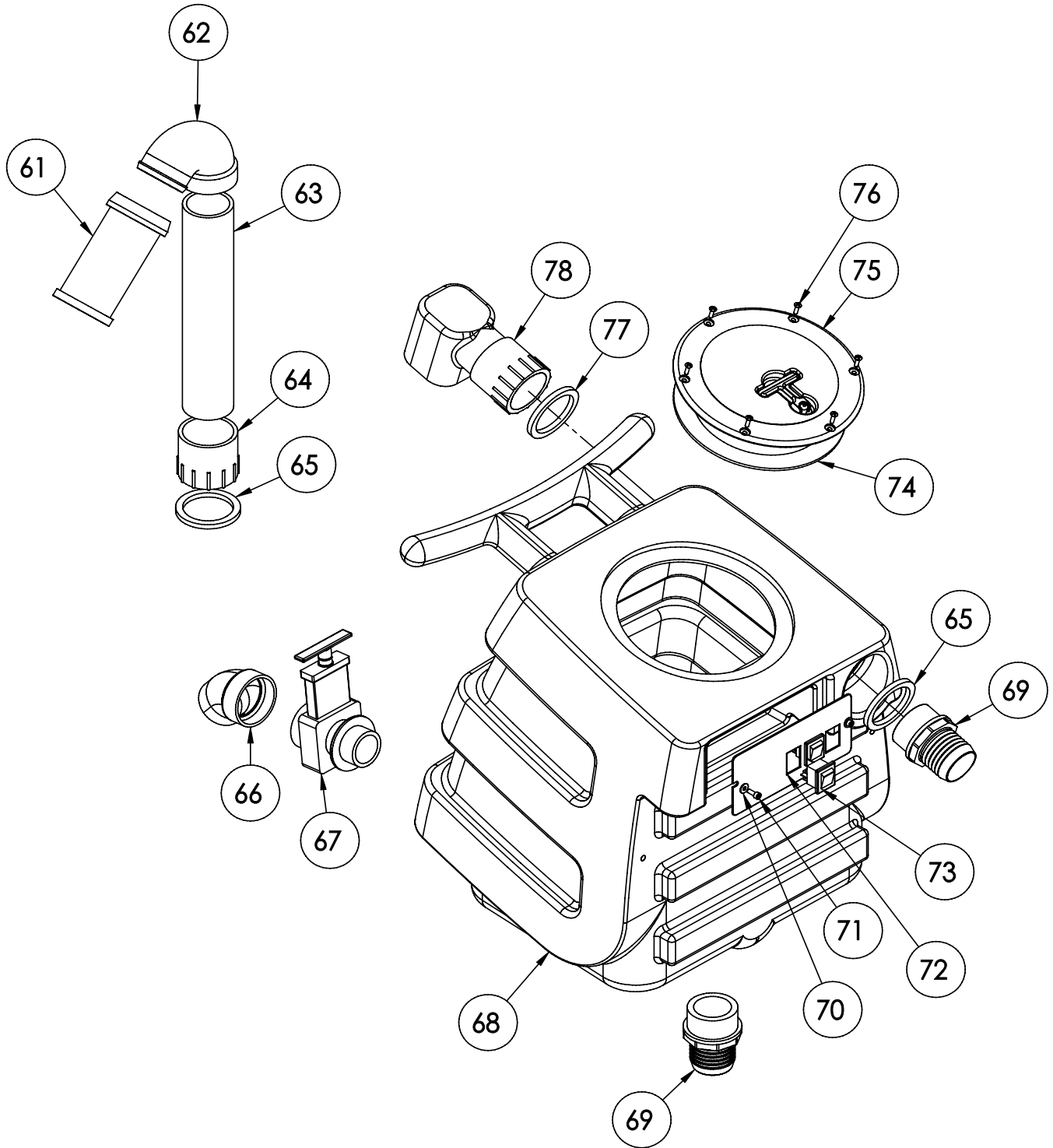
EX12 - Base Assembly



EX12 - Solution Tank Assembly



EX12 - Recovery Tank Assembly



Bill Of Material - EX12

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	121052	2	cap, axle, 1/2"	40	121155	2	bolt, 1/4-20 x 1-1/4" hex head
2	121059	2	wheel, 12"	41	121119	2	Bracket, L 070-036
3	121167	6	washer, axle, cut 1/2" id	42	121209	1	sol tank, speedster
4	121066	1	axle, 1/2" x 18-1/2", sp, breeze	43	121075	1	bracket, rear, fb/spy
5	121162	12	nut, lock, 1/4-20, nylon insert	44	121160	6	washer, 1/4" lock, s/s
6	121157	16	washer, 1/4" flat, s/s	45	121076	2	knob, thumb screw, for bracket
7	121175	8	bolt, 1/4-20 x 1" hex head, s/s	46	121018	1	elbow, brass, 90 deg, 3/8"mpt x 3/8" fmpt
8	121073	2	caster, 5"	47	121173	2	washer, 11/16" id x 1-1/2" od x .075, s/s
9	121208	1	base, speedster	48	121020	1	nipple, brass, 3/8" x close
10	121061	2	guard, cooling fan, wire	49	121019	1	bushing, brass, 1/2"mpt x 3/8" fpt, hex
11	121203	8	screw, #10 x 5/8" hex head, zinc	50	121012	1	filter, strainer, 1/2"
12	121163	1	nut, lock, 1/2" steel	51	121068	1	bracket, front hinge, sp/fb
13	121053	1	fitting, strain relief, cord	52	121202	2	bolt, 1/4-20 x 1-1/2" hex head, s/s
14	121032	1	power cord, end, 25', 14/3 grey	53	121005	2	elbow, brass, 90 deg, 1/4"mpt x 1/4" fpt
15	121181	2	bolt, 1/4-20 x 3/4" serrated hex flange, zinc	54	121159	4	washer, 9/16" id x 1" od, flat, s/s
16	121117	1	plate, single manifold, 6.5" x 9"	55	121008	1	nipple, brass, 1/4"m, hex
17	121211	1	manifold, single vac	56	121149	1	hose, 3/8" x 17-1/2", (OAL), f x -fsw, surge, 1600psi
18	121154	5	bolt, 1/4-20 x 1/2" hex head, zinc	57	121177	2	washer, nylon, 9/16id x 1-1/16od x .031
19	121038	1	gasket, vacuum motor	58	121007	1	nipple, brass, 1/4" x close
20	121125	3	vac support, 3 stage, 4-1/16"	59	121010	1	adapter, brass, extender, 1/4" mpt x 1/4" fpt, hex
21	121182	9	bolt, 1/4-20 x 1/2" serrated hex flange, zinc	60	121004	1	qd, brass, 1/4" f
22	121021	1	vac motor, 3 stage, 115V, tangential	61	121069	1	float, 2", ball style
23	121042	1	exhaust boot, plastisol	62	121077	1	elbow, 2" float
24	121126	1	cuff, 2"	63	121135	1	pipe, pvc, 2"
25	121192	1	vac hose, 2", wire reinforced	64	121137	1	adaptor, pvc 2, fmsl x fnt
26	121051	2	clamp, hose, 2-1/4 DIA	65	121200	2	gasket, 2" inlet polyethylene, 3" OD 2.35" ID
27	121196	1	sol hose, 1/4" x 24 1/2", (OAL), f x fsw, 3000psi	66	121055	1	spout, drain, 45 degree
28	121014	1	elbow, brass, 90 deg, 1/4" mpt x 1/4" mpt	67	121054	1	valve, drain, 1-1/2"
29	121006	1	bushing, brass, 3/8"mpt x 1/4"	68	121210	1	vac tank, speedster
30	121016	1	adapter, brass, 1/2" barb x 3/8" fsw, ball end	69	121138	2	inlet, 2"
31	121017	1	elbow, brass, 90 deg, 1/2" barb x 3/8"mpt	70	121072	2	washer, #8 flat, s/s
32	121064	2	clamp, hose, 5/16-29/32	71	121176	2	screw, #10-32 x 1/2" SHCS, alloy
33	121190	1	sol hose, 1/2" kuri 100psi	72	121063	1	plate, switch, sp, 3 hole
34	121169	4	nut, kep, #10-32 zinc	73	121028	2	switch, rocker, 2 position
35	121164	4	screw, #10-32 x 1-1/4" phil pan head, zinc	74	121217	1	gasket, vac lid, 6.5" i.d 7.5" o.d
36	121022	1	pump, 100psi, demand, 115V	75	121044	1	lid, vac tank, black, 7"
37	121161	2	nut, hex, 1/4-20 s/s	76	121174	6	screw, #8 x 5/8 phil oval, s/s
38	121158	4	washer, 1/4" id x 1" od, flat, s/s	77	121114	1	gasket, 2" inlet
39	121041	4	washer, buna 1-1/8" od x 3/16" id	78	121194	1	elbow, inlet assembly 2"

Minuteman International Made Simple Commercial Limited Warranty

Minuteman International, Inc. warrants to the original purchaser/user that the product is free from defects in workmanship and materials under normal use. Minuteman will, at its option, repair or replace without charge, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals. All warranty claims must be submitted through and approved by factory authorized repair stations.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts not manufactured by Minuteman are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman for procedures in warranty claims against these manufacturers.

Special warning to purchaser -- Use of replacement filters and/or prefilters not manufactured by Minuteman or its designated licensees, will void all warranties expressed or implied. A potential health hazard exists without original equipment replacement.

All warranted items become the sole property of Minuteman or its original manufacturer, whichever the case may be.

Minuteman disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Cord Electric Group..... Three years parts, two years labor, ninety days travel (Not to exceed two hours)
Exceptions..... Port-A-Scrub, one year parts, six months labor
MPV 13, one year parts
MPV 14 and 18, two years parts, one year labor
RapidAir blower, one year parts, one year labor
Explosion-Proof Vacuum, one year parts, one year labor
Pneumatic Vacuums, three years parts, one year labor
EX 12 and EX12H, one year parts, one year labor

Battery Operated Group..... Three years parts, two years labor, ninety days travel
(Not to exceed two hours)
Exceptions..... Sweepers, one year parts, one year labor, ninety days travel
(Not to exceed two hours)

Internal Combustion Group....One year parts, one year labor, ninety day travel
(Not to exceed two hours)

Replacement Parts.....Ninety days
Batteries.....0-3 months replacement, 4-12 months pro-rate
Polypropylene Plastic Tanks...Ten years, no additional labor