



Hand-Held Scarifiers



Needleguns



Walk-Behind Scarifiers



Impact Tools



Sanders



Industrial Vacuums



RP-VAC

*Radiological Protection Vacuum
with ULPA Filtration*

Lockable Latches



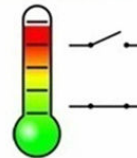
Fire and Spark Resistant Options



Power Plug Lock



Thermal Overload Protection



Inlet Plug



RP-VAC Configurations

Part	Description	Accessories Furnished
340.903	RP-Vac I, 6 Gallon, ULPA, Stainless Steel Tank, and lockable latches.	10' hose, initial filters & bags.
340.904	RP-Vac II, 6 Gallon, ULPA, Stainless Steel Tank, lockable latches, thermal overload protection, power plug lock and inlet plug.	

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1.0 General Information

1.1 Introduction

This manual is furnished with each new DESCO RP-VAC. 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 Desco supplied parts.

1.2 Technical Specifications

Voltage	115V
Tank Size	6 gal (22 ltr)
Dry Capacity	.62 cu. ft (.013 m ³)
Cord	16-3, 50' (3.05 m)
Weight	23.8 lbs (10.79 kg)

1.3 Accessories

Part	Description
300.082	Vacuum hose 1.5" x 10', replacement, complete
340.000001	Vacuum hose 1.5" x 25', replacement, complete
300.039	Vacuum hose 1.5" x 25', extension, coupler required
340.390014	Inlet coupler, 1.5", w/swivel cuff
300.066	Hose cuff, 1.5"
340.490024.1	Tool kit, plastic, 7 piece
340.490025.1	Tool kit, aluminum, 11 piece
340.000	FR – Fire Resistant Assembly. Includes fire retardant hose (10') with inline spark arrestor.
340.000025	FR – Fire Resistant Hose Extension. A 25' fire resistant hose used to extend the range of the Fire Resistant Assembly (340.000).
340.8391	GB – Glove Box Suction Control. A variable speed control allows suction to be dialed down to prevent collapsing a glove box.

1.4 Consumables

Part	Description	Image (Pictured in assembly sequence)
340.110029	ULPA Filter	 <p><i>(Pictured with pre-filter sleeve. Included with ULPA filter.)</i></p>
340.110030PKG	Pre-Filter Sleeve (6 pk)	
340.805041	Cloth Bag Filter	
340.761177PKG	Paper Filter Protector (10 pk)	
340.384003PKG	Collection Bag (10 pk)	
340.802206PKG	Liner/Disposal Bag (10 pk)	 <p><i>(Optional)</i></p>

1.5 Provisioning of Vacuum Consumables

Below are guidelines designed to give an idea of how many consumable items should be on hand to keep a vacuum system running efficiently. Actual consumable requirements vary widely due to the number of variables involved, including: tank size, debris volume, and particle size. As a result, there is no accurate way to predict consumable consumption. Therefore, the guidelines below should be used for initial provisioning. Once you have usage data, you can adjust to suit your actual needs.

Recommended Initial Provisioning

Stage	Item	Vacuum Systems Provisioned								
		1 Vacuum			2 Vacuums			3 Vacuums		
		Qty Rec	Pkg Qty	Order Pkgs	Qty Rec	Pkg Qty	Order Pkgs	Qty Rec	Pkg Qty	Order Pkgs
1	Collection Bag	20	10	2	30	10	3	40	10	4
2	Paper Filter Protector	10	10	1	20	10	2	30	10	3
3	Cloth Bag	2	1	2	3	1	3	4	1	4
4	Pre-Filter Sleeve	2	6	1	3	6	1	4	6	1
5	ULPA Filter	1	1	1	2	1	2	3	1	3

1.6 Critical Filtration and Vacuum Efficiency

- **Efficiency** is a balance of: 1) maintaining effective particle removal as measured by the ULPA specification while, 2) maintaining rated vacuum air flow as measured in cubic feet per minute (CFM).
- **Maintaining air flow** volume is critical to maintain the level of cleanliness required by the process.
- **Air flow declines** as particulate embeds in the filter fabric. As a result, efficiency decreases as filter use increases.
- **Efficiency is maintained** by checking and servicing filters often – before vacuum air flow declines significantly.
- **Multi-stage filtration is sacrificial.** Meaning each filtration stage sacrifices itself to save the next stage. Changing early filtration stages often (such as collection bag & filter protector) will greatly extend the life of the later filtration stages. **Key to understand** is that besides being an efficiency measure, this is also an **economy measure** as the early stages of filtration are far less expensive than the ULPA filter.

1.7 Filtration Stages and Maintenance Steps



- 1) **Collection Bag** – A disposable container where dust particles are accumulated for disposal.
 - *Particle containment efficiency:* 90% at 5 microns, *Typical Life:* Up to 12.5 hours
 - Check space available every 4 hours of operation. More often for heavy volume pickup.
 - Change when ¾ full. Change more frequently when collecting fine dust particles, such as concrete dust.
 - Always change. Never empty and reuse.
 - Always check stages 2-5 when changing collection bag.



- 2) **Paper Filter Protector** – A disposable filter designed to catch particles that pass through the collection bag (Stage 1) and to protect the cloth bag (Stage 3).
 - *Particle containment efficiency:* 97% at 5 microns, *Typical Life:* Up to 25 hours
 - Change when compromised: punctured, visibly contaminated or air flow is restricted.
 - If not visibly compromised, change with every second collection bag.
 - Always change. Never clean and reuse.
 - When replaced, stage 1 should also be replaced.



- 3) **Cloth Bag** – A reusable filter designed to catch particles that pass through the Paper Filter Protector (Stage 2) and to protect the Pre-Filter Sleeve (Stage 4).
 - *Particle containment efficiency:* 95% at 3 microns, *Typical Life:* Up to 125 hours
 - Always change when vacuum has been used with HAZMAT. Never clean and reuse.
 - Reusable only when you are certain the vacuum has not been used for HAZMAT. Clean by vacuuming exterior of the bag with a second vacuum.
 - Change when compromised: punctured, visibly contaminated or air flow is restricted.
 - When replaced, stages 1 and 2 should also be replaced.



- 4) **Pre-Filter Sleeve** – A reusable filter designed to catch particles that pass through the Cloth Bag (Stage 3) and to protect the ULPA filter (Stage 5).
 - *Particle containment efficiency:* 99% at 1-3 microns, *Typical Life:* Up to 250 hours
 - Always change when vacuum has been used with HAZMAT. Never clean and reuse.
 - Reusable only when you are certain the vacuum has not been used for HAZMAT. Clean by vacuuming exterior of the sleeve with a second vacuum.
 - Change when compromised: punctured, visibly contaminated or air flow is restricted.
 - When replaced, stages 1, 2 and 3 should also be replaced.



- 5) **ULPA Filter** – A disposable filter designed to catch particles that pass through the Pre-filter Sleeve (Stage 4).
 - *Particle containment efficiency:* 99.999% at 0.12 microns, *Typical Life:* Up to 1,000 hours
 - Change when compromised: punctured, visibly contaminated or air flow is restricted.
 - Always change. Never clean and reuse.
 - When replaced, stages 1, 2, 3 and 4 should also be replaced.

2.0 Safety



PLEASE READ AND FOLLOW ALL WARNINGS



2.1 Read Operating Instructions

Always become familiar with all the instructions and warnings before operating any machine or power tool.

2.2 Hazardous Material and Safety

Safety is your primary concern when working with or near hazardous material (HAZMAT). This applies to yourself, your co-workers and the environment in which you are working. In this regard, please observe the following:

- **Your Responsibility** – It is your responsibility to understand the risks of the substances being cleaned and other job site hazards. Then put in place safety precautions to address the hazards that are situation appropriate.
- **Situation Appropriate** – Safety practices for HAZMAT handling are *substance dependent* and safety precautions must be *situation appropriate*. For risks and mitigating precautions, consult a qualified *safety professional*.
- **Personal Protection Equipment** – Safety precautions may require use of personal protection equipment. This may include: A. Eye protection (goggles), B. Respiratory protection (mask or respirator), C. Skin protection (gloves and/or other protective clothing), and/or D. Other safety precautions. For risks and mitigating precautions, always consult a qualified *safety professional*.
- **Safety Professional** – For substance and situation appropriate safety handling guidelines, always consult an appropriate safety professional, such as an Industrial Hygienist or Radiological Protection professional.
- **Regulatory Compliance** – Procedures for safe handling and disposal of HAZMAT should conform to EPA and local regulations.
- **Scope of Manual** – The scope of this manual is general safety, use and maintenance required to safely operate the vacuum unit. Health and safety risks directly related to the specific HAZMAT being handled is not covered in this manual.

2.3 Static Electricity Warning

Air operated equipment can generate static electricity during use. Static dissipating arching can be generated and occur if equipment and accessories are not grounded. Risk of explosion is possible if operated near explosive materials or vapors. Do not operate this equipment near flammable materials such as solvents, thinners, fuels or grain dust.

2.4 WARNING – Reduce Risk of fire, Electric Shock, or Injury

- Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing.
- To avoid electrical shock, do not expose to rain, store indoors.

2.5 WARNING – Reduce Risk of Personal Injury

- Use only as described in this manual. Use only manufacturer's recommended attachments.
- 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.
- Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- 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.
- 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.
- Do not use without dustbag and/or filters in place.
- Turn off all controls before unplugging.
- 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.
- Connect to a properly grounded outlet only. See grounding instructions.

SAVE THESE INSTRUCTIONS

3.0 Operating Instructions

3.1 Pre-Operation

3.1.1 Inspection

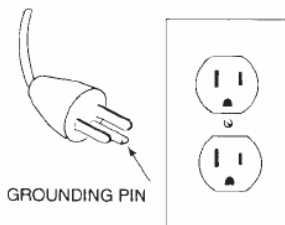
- *Physical Inspection* – Carefully inspect the vacuum head and tank for physical damage that would affect safety or performance. For example, inspect: 1) tank for punctures, 2) head/tank gasket for proper seal, 3) tank latches are securely holding vacuum head on tank. Correct or repair as required.
- *Filtration Consumables* – Inspect filtration components to insure they are properly installed and have remaining life that is sufficient to complete the task at hand. See section 1.7 for inspection and maintenance guidelines.

3.1.2 Jobsite Setup

- *Locate Vacuum* – Position vacuum unit on stable ground within hose reach of work site. Secure vacuum to stationary object if necessary to insure safety.
- *Install Suction Hose* – Attach clasp end of hose to vacuum tank and cuff end of hose to vacuum tool.
- *Attach power cord* – This machine is designed to operate on a standard 15 amp, 115 volt, 60 hz, AC circuit. Voltages below 105 volts AC or above 125 volts AC could cause serious damage to the motor.

3.1.3 Grounding Instructions

This appliance must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. No adapter should be used with this appliance.



Use Grounded Outlet



Adapter NOT Recommended

3.2 Operation

3.2.1 Power On/Off




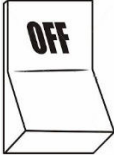
Power to the vacuum is controlled with a rocker type switch. Select the **ON** or **OFF** status by pressing the corresponding part of the switch as illustrated below.



3.2.2 Power Sequence

Note: This paragraph applies only when the vacuum is used in conjunction with a tool with a dust collection system.

The power on/off sequence is **critical** to effective dust containment. The vacuum must be turned on before the tool started and the vacuum must remain on until the tool has come to a complete stop.

Sequence	First Action	Second Action
On	Vacuum On 	Tool On 
Off	Tool Off 	Vacuum Off 

3.2.3 Periodically Check Airflow

Vacuum airflow is vital to maintaining performance and efficiency. Vacuum efficiency is a balance of: 1) maintaining effective particle removal as measured by the HEPA specification while, 2) maintaining rated vacuum air flow as measured in cubic feet per minute (CFM).

The key factor affecting airflow is filter maintenance. Dirty filters reduce air flow. See paragraph 1.7 for filtration stages and maintenance steps.

4.0 Maintenance

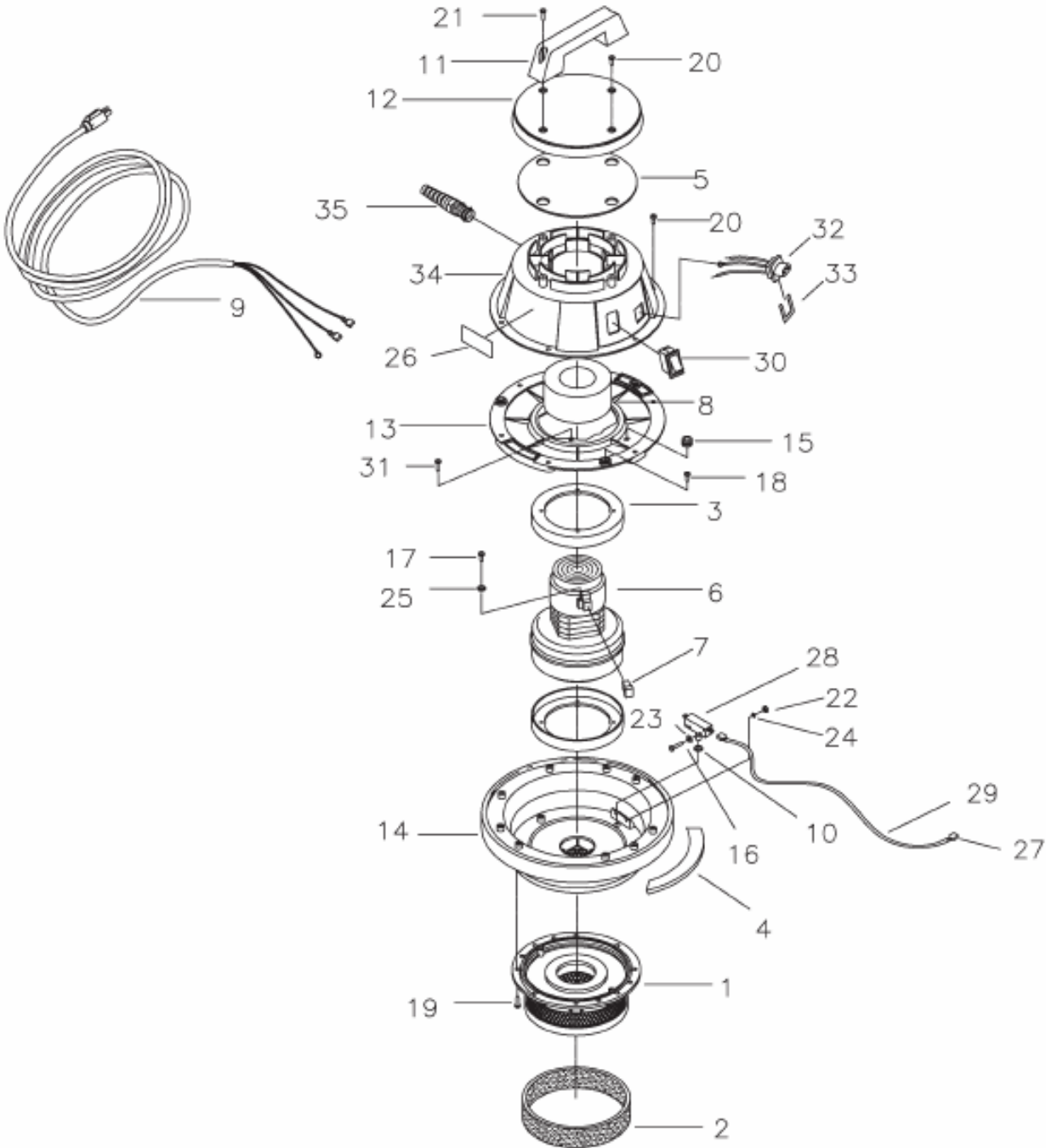
- No user serviceable components are employed in the vacuum lid power head.
- No lubrication of the motor is required.
- All service and repair should be performed by qualified vacuum service representative or technician.

5.0 Troubleshooting

Malfunction	Probable Cause	Solution
Loss of vacuum air flow	Filter(s) clogged	Check & replace filters as needed. See paragraph 1.7 for further information.
	Other malfunction	Contact your Desco representative for evaluation and repair assistance.
Motor will not run	No power	Check power source: 1) insure plug inserted in power receptacle and 2) Insure power present at receptacle by testing with a known good device.
	Overheated motor	A thermal overload protection device cuts power when the motor overheats. The device will automatically reset when the motor cools. Let the motor rest for about 30 minutes and try again.

6.0 Schematics

6.1 Vacuum Head Assembly



Vacuum Head Assembly – Cont'd.

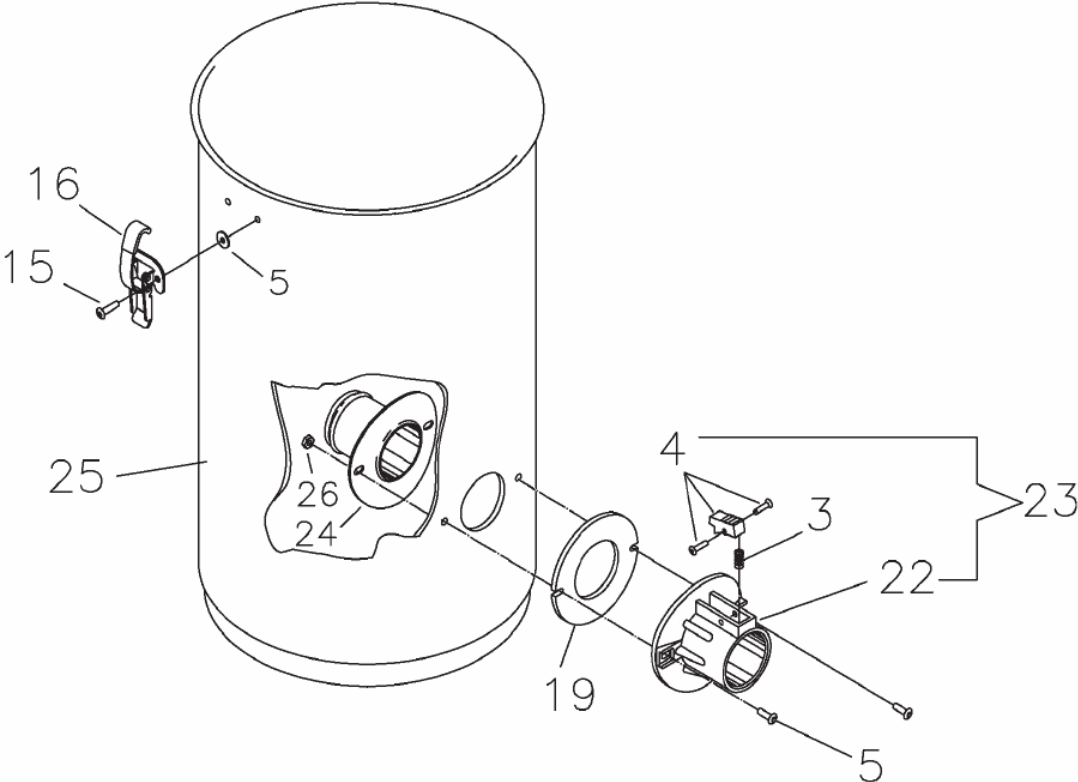
Item	Part No.	Qty.	Description
1	340.110029	1	Filter-ULPA, X829 Series
2	340.110030PKG	1	Prefilter Sleeve, 829/839, Pkg of 6
3	340.290017	2	Molded Vac Mtr Gasket
4	340.290031	1	Lid Gasket 294/6 Diecut
5	340.290032	1	Dome Seal 296
6	340.380001-4	1	Vac Motor 120V (ECM) w/ Wires
6A	340.380054	1	Vac Motor 240V
7	340.380005	2	Carbon Brush Replacement (ECM)
7A	340.380028	2	Carbon Brush Replacement
8	340.380064	1	Foam Ring
9	340.5160	1	Cord, 10', with inline switch
10	340.390062	1	O-Ring-Valve Seat Body
11	340.460001	1	Handle Basic 460 Black
12	340.460101	1	Motor Cap Black
13	340.460104MCH	1	Mtr Holdown 829 Series
14	340.460120	1	Motor Pan Assy 829 Series
15	340.700287	1	Grommet
16	340.710307	2	SCR-MC 6/32 x 1 ZINC
17	340.711124	1	SCR-ST-B 10 x .37 NI
18	340.711125	3	SCR-ST-B 10 x .5 NI
19	340.711160	9	SCR Hi/Lo #10 x 5/8 ZINC
20	340.711161	8	SCR Hi/Lo #10 x 3/4 ZINC
21	340.711162	2	SCR Hi/Lo #10 x 1 1/2 ZINC
22	340.711301	2	Nut-HEX 6/32 ST PL
23	340.711502	2	WSR-Flat #8
24	340.711551	2	WSR-Internal Lock #6
25	340.711553	1	WSR-Internal Lock #10
26	340.715009	1	Decal Warning to Avoid
27	340.740014	4	Term 14-16G 1/4 Full Ins Female
28	340.740029	1	Switch Snap SP ST PB NO/NC
29	340.740938	1	Wire Assy 16G Black 14.00"
30	340.809754	1	Switch Rocker
31	340.828893	1	Rivet-BAP KTR64BX
32	340.831801	1	Receptical
33	340.831801-1	1	Receptical Clip
34	340.832201	1	Motor Lid Cover 294 Dry
35	340.833237	1	Strain Relief w/Nut
***	340.829117	1	Lid Assembly Complete 115V



WARNING

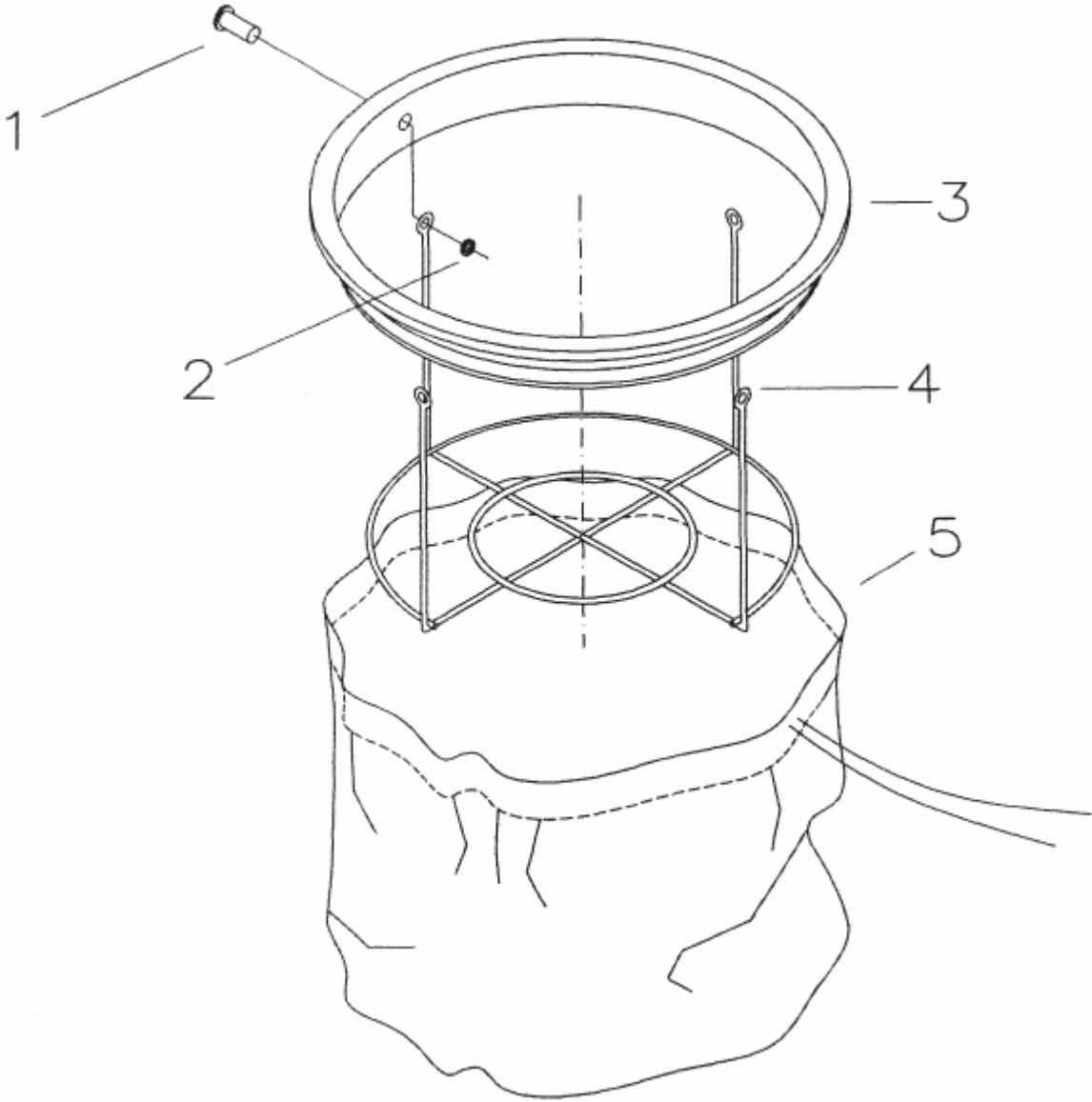
This vacuum may contain potentially hazardous dust depending on its application. Special handling of contaminated disposal bags and filters is recommended. Disposal must be in compliance with local EPA regulations.

6.2 Tank Assembly



Ref	Part	Description
3	550.390002	SPRING-RETURN (390001)
4	550.390001	MLDED TRIGGER W/ 2 PINS
5	550.712824	SCR-MC 10-24 X .75 TRUSS HD STL ZINC
9	550.712638	NUT HEX 10-24 SS NYLOC
10	550.712764	WSR #10 SS
11	550.711503	WSR-FLT #10 (SPECIAL FLAT WASHER)
15	550.711915	RIVET-TUBE .19X.28 NI PL
16	550.761054	LATCH
19	550.390087	GASKET DIECUT VNN
22	550.390101	INTAKE ALUMINUM
23	550.390110	INTAKE ASSEMBLY ALUMINUM
24	550.750118	INTAKE ASSY TUBE 4/6 GAL
25	550.900093	TANK 6 GAL SS LO/INTAKE, COMPLETE

6.3 Bag Assembly



Item	Part Number	Qty	Description
1	340.711909	4	Rivet Pop .19x.44 AL
2	340.712764	4	Washer #10 SS
3	340.760244MCH	1	Plastic Bag Frame w/Hole
4	340.760406PLT	1	Bag Frame 6 gal Plated OPTIONAL
5	340.805040	1	Bag, Cloth Bag Only 6G
***	340.800056	1	Bag Assy. w/Frame 6gal