



B89025 Vitruvian Ultimate Aspirator

Service Manual

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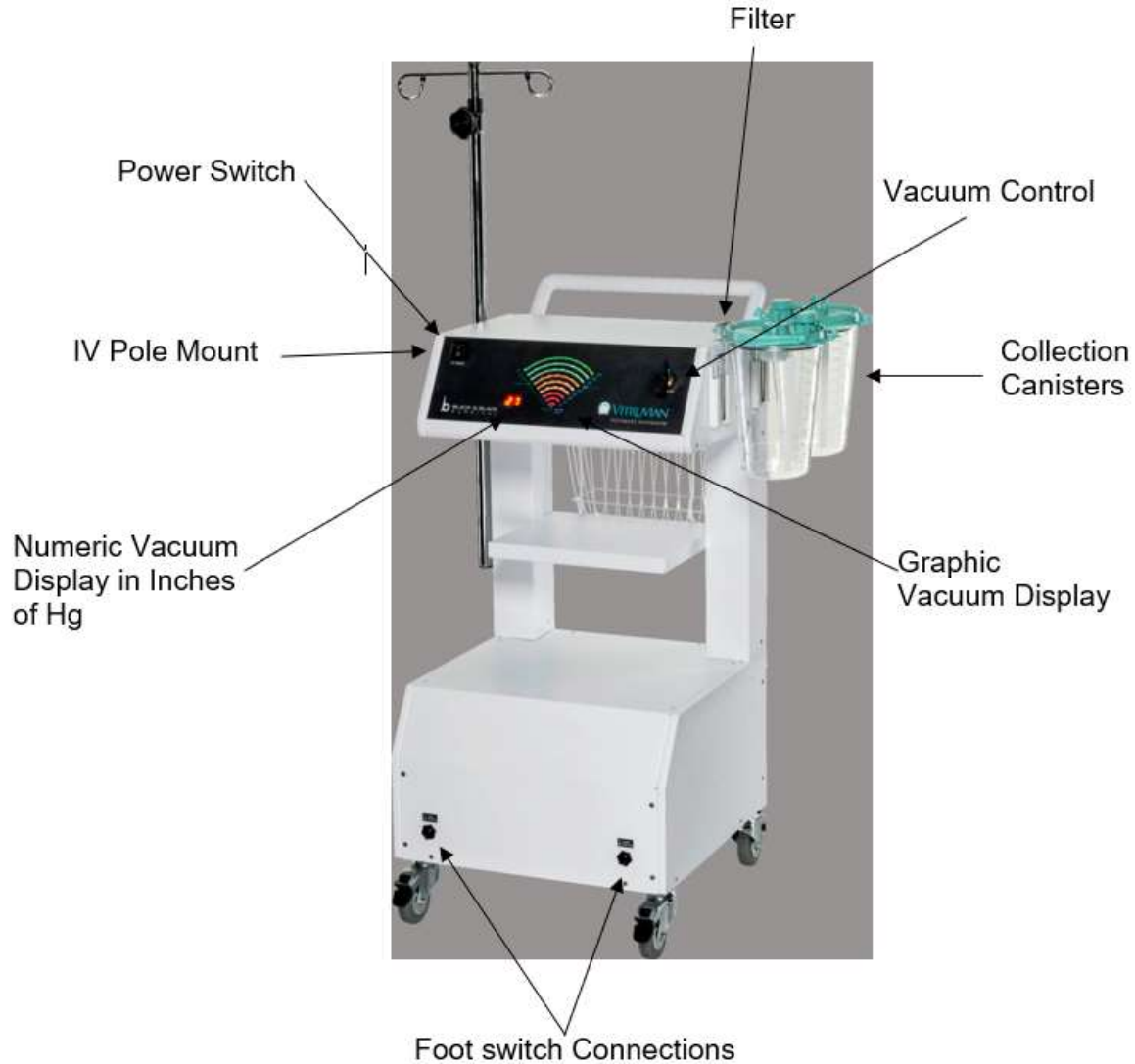
Servicing Your Aspirator

Before servicing your aspirator, please call Black & Black to help troubleshoot your issue and decide, if necessary, what replacement parts you may need. Please have your aspirator serial number on hand when you call in. It is located on the back lower right corner of the aspirator and starts with “Axxxx”. If there are ever any questions about how to service / repair your aspirator – please call customer service!

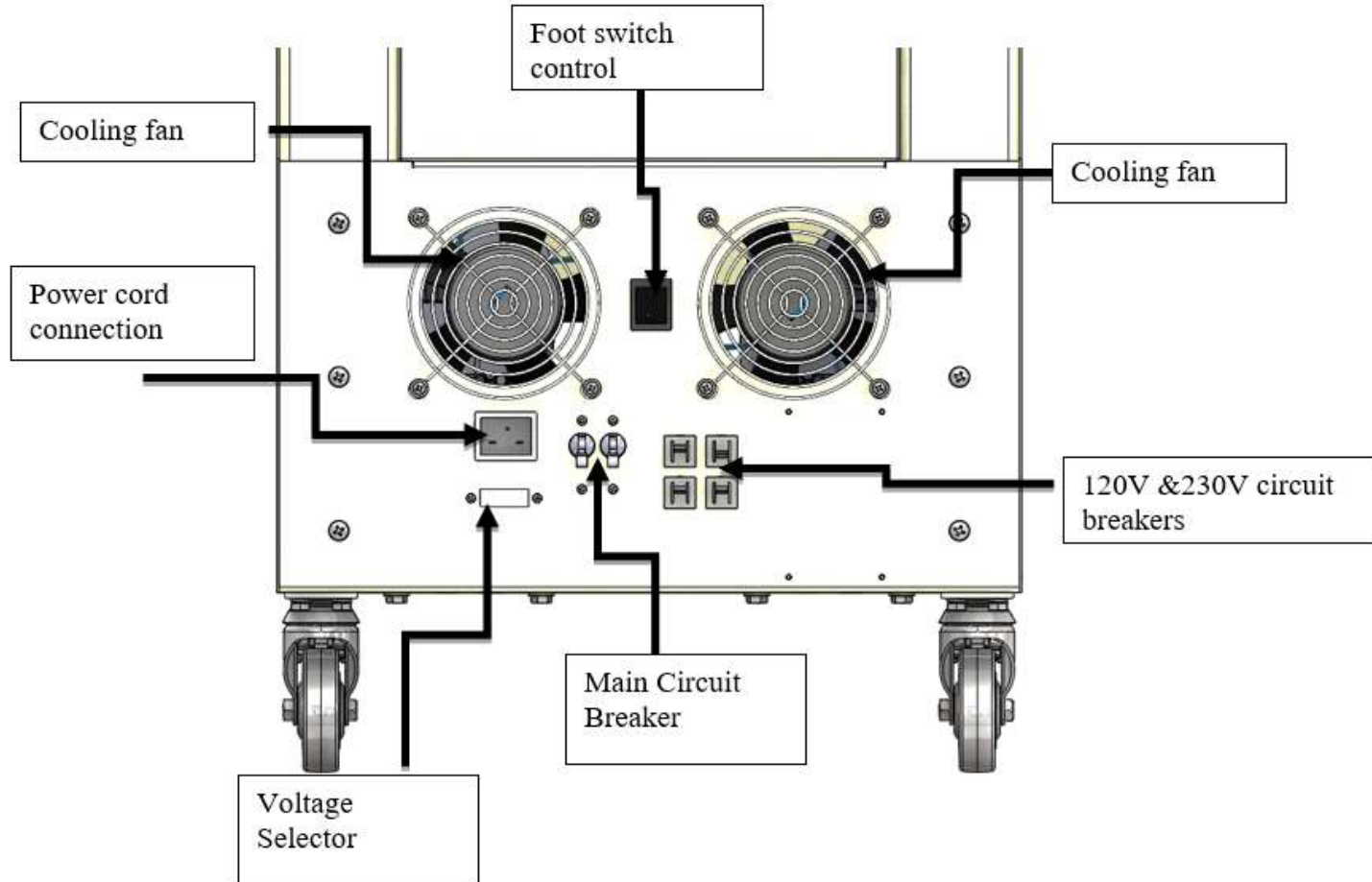
770-414-4880

If any electrical parts inside of the aspirator are replaced at your facility, electrical safety tests must be performed after servicing/repairing and prior to being used in surgery. Safety Tester must comply with IEC 60601-1 standards. If you are unable to perform an electrical safety tests at your facility, please send your aspirator back to Black & Black Surgical for repair and safety testing.

Front of Aspirator



Back of Aspirator



DIN rail Assembly

[1] Marked Terminal Blocks

[2] Ground Terminal Block

[3] 2 Prong Orange Jumper

[4] 4 Prong Orange Jumper

[5] Thin Relays

[6] Larger Relays

[7] End anchor Cover



[9] Terminal Block Cover

[11] Terminal numbers 1-10

[12] 4 and 2 Prong Blue Jumpers

[13] Relay Socket Omron

[14] Black Terminal Blocks

[10] Terminal End Anchor

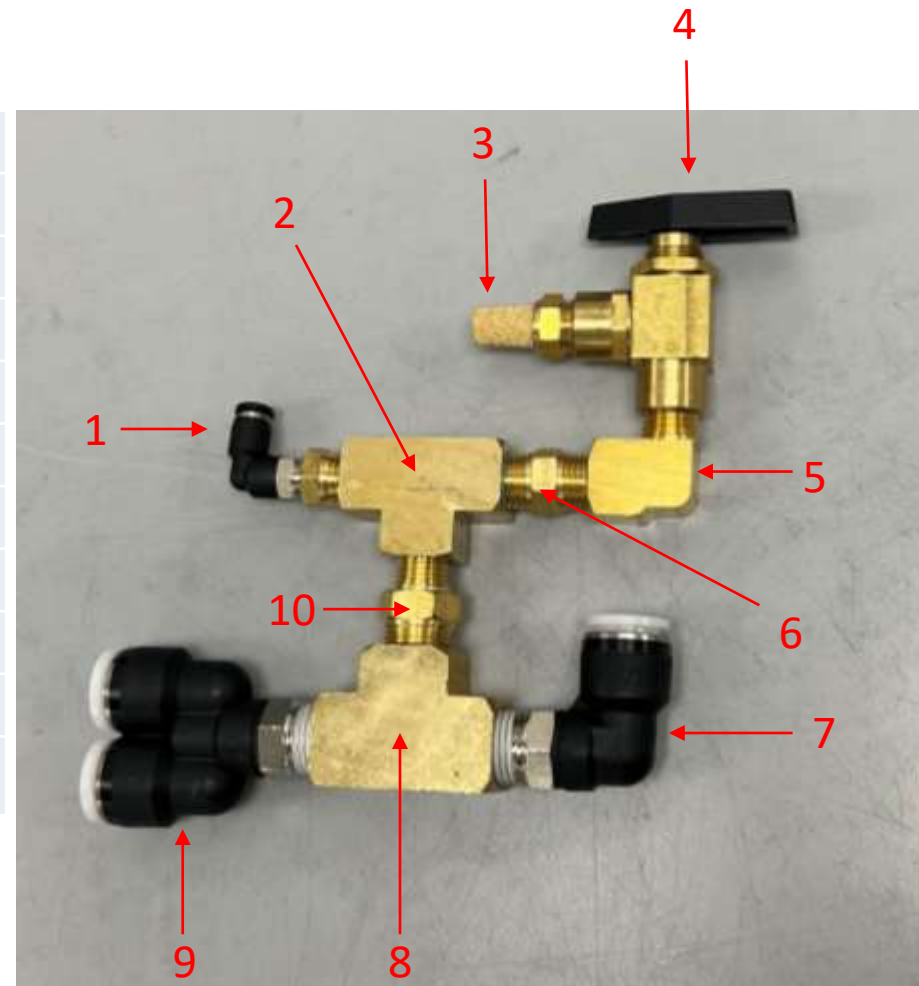
[8] Blank Terminal Blocks

DIN Rail Parts

Picture #	B&B Part #	Description	Quantity
	58-9025016	DIN Rail	1
1	58-9025004	Marked Terminal Blocks	18
2	58-9025006	Ground Terminal Block	1
3	58-9025012	2 Prong Orange Jumper	1
4	58-9025013	4 Prong Orange Jumper	1
5	58-9025007	Thin Relays	4
6	58-9025011	Larger Relays	3
7	58-9025010	End anchor Cover	1
8	58-9025031	Blank Terminal Blocks	2
9	58-9025005	Terminal Block Cover	4
10	58-9025003	Terminal End Anchor	6
11	58-9025029	Terminal numbers 1-10	
12	58-9025121	4 Prong Blue Jumper (24 mm) and 2 Prong Blue jumper (12 mm)	1
13	58-9025008	Relay Socket Omron	3
14	58-9025009	Black Terminal Blocks	6

Plumbing Sub Assembly

Pic. #	B&B Part #	Description	Quantity
1	58-9025094	4MM TUBE X 1/8 PT FEMALE ELBOW	1
2	58-9025077	UNION T 1/4	1
3	58-9025078	1/4 Sintered Bronze Muffler	1
4	58-9025079	1/4FPTX1/4FPT ANGLE BALL VALVE	1
5	58-9025083	1/4" MIP X FIP BS STREET ELBOW	1
6	58-9025076	HEX NIPPLE BRASS FITTING 1/4 NPT	1
7	58-9025087	1/2 TUBE X 3/8 NPT MALE ELBOW	1
8	58-9025080	3/8 UNION TEE	1
9	58-9025086	1/2 TUBE X 3/8 NPT MALE Y	1
10	58-9025081	REDUCING BRASS HEX NIPPLE 3/8 X 1/4	1



Motor Subassembly

[1] Muffler

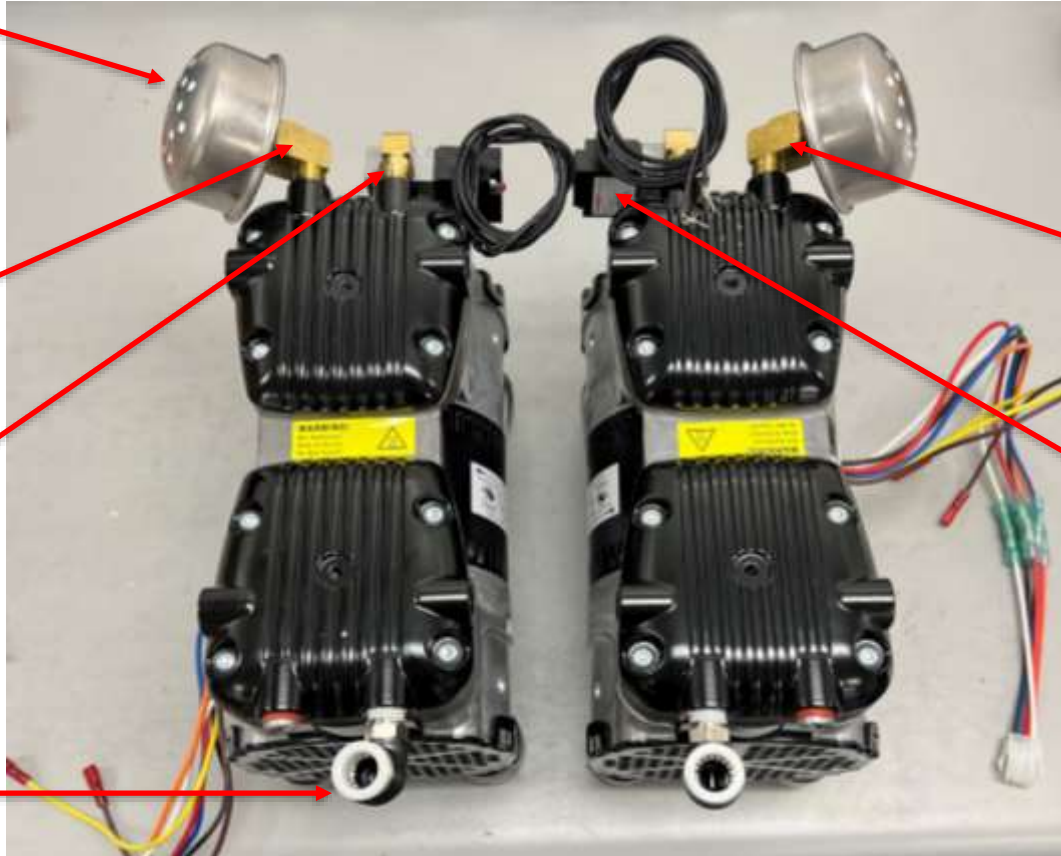
[2] Brass
Muffler
Connector

[3] Brass Valve

[5] Brass Angle
Connector

[4] Solenoid

[6] ½ Tube x ¼
NPT Elbow

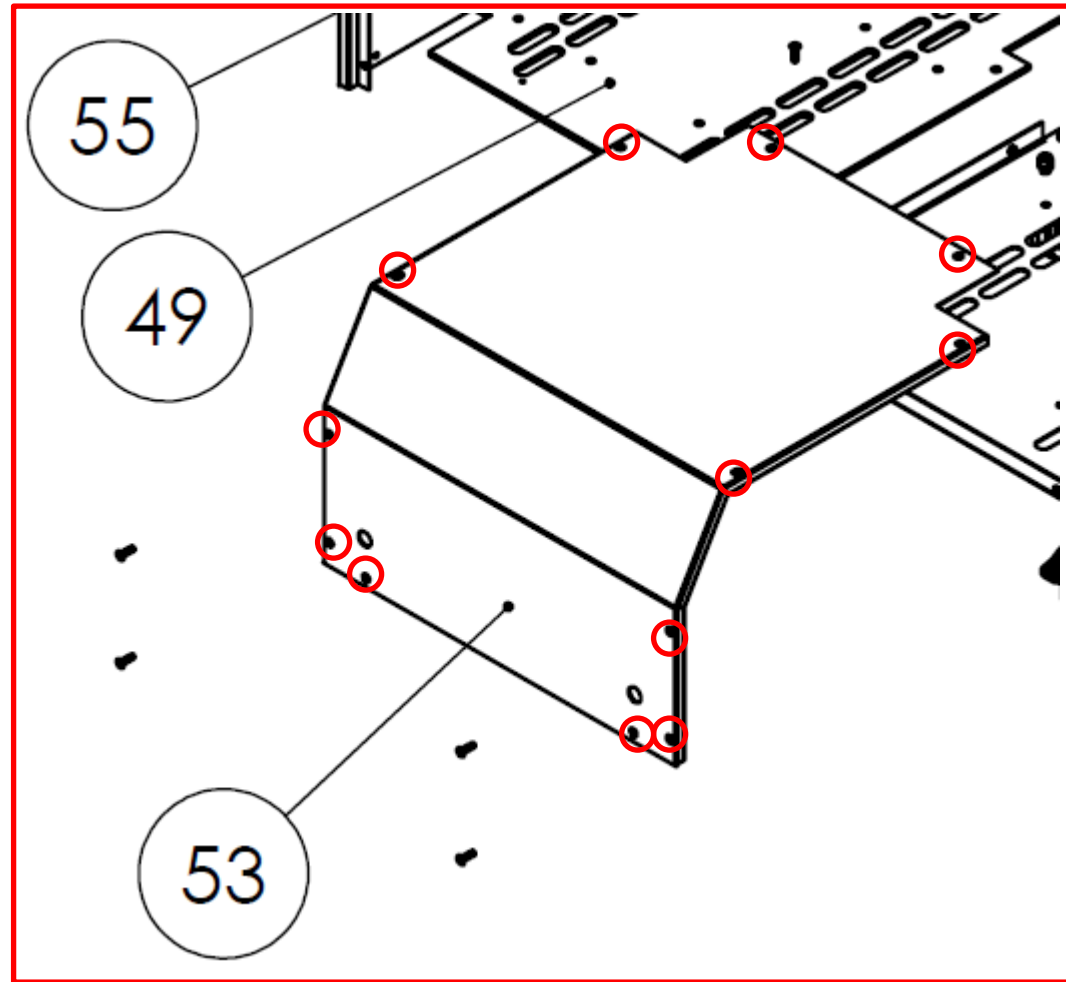


Motor Subassembly Parts

Picture #	B&B Part #	Description	Quantity
1	58-9025069	Muffler	2
2	58-9025083	Brass Muffler Connector	2
3	58-9025084	Brass Valve	2
4	58-9025068	Solenoid	2
5	58-9025085	Brass Angle Connector	2
6	58-9025095	½ Tube x ¼ NPT Elbow	2

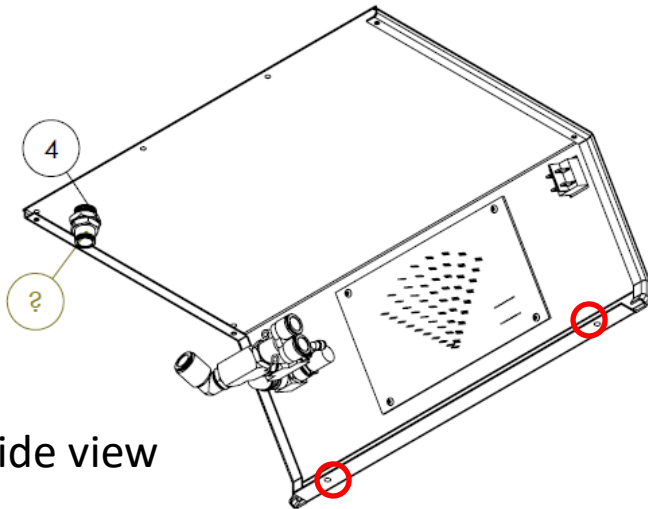
Opening Bottom of Aspirator

To service parts located at base of aspirator, remove cover by removing the 12 screws shown below and sliding the cover away from the aspirator. Use caution as the air switches are connected with wires from the inside. Follow reverse instructions to assemble.



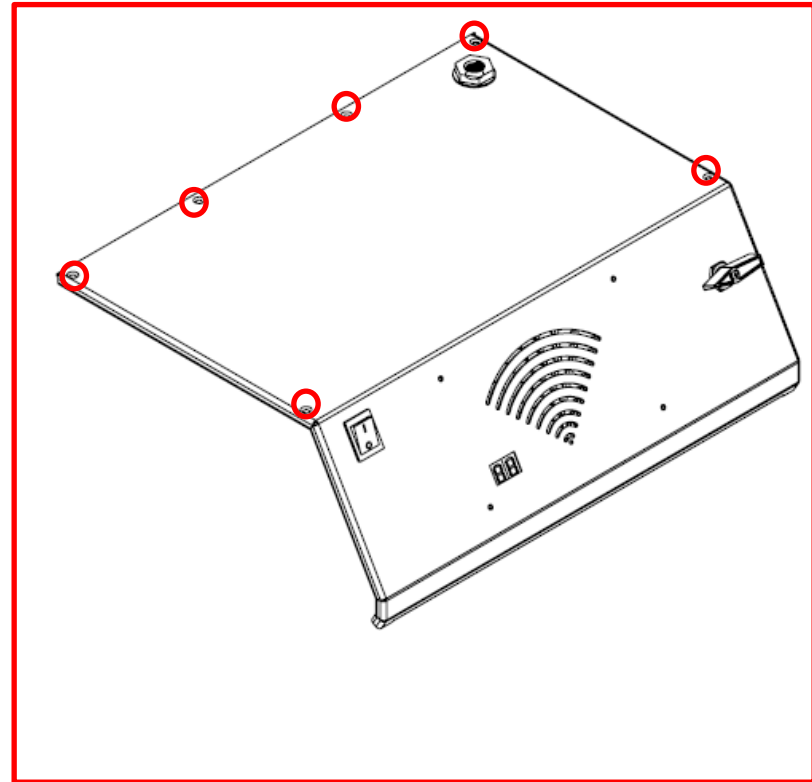
Opening Top of Aspirator

To service parts located in the upper part of aspirator, remove cover by removing the 8 screws circled below and sliding the cover away from the aspirator. Use caution as wires and hosing are connected to it. Follow reverse instructions to assemble.



Inside view

Outside view

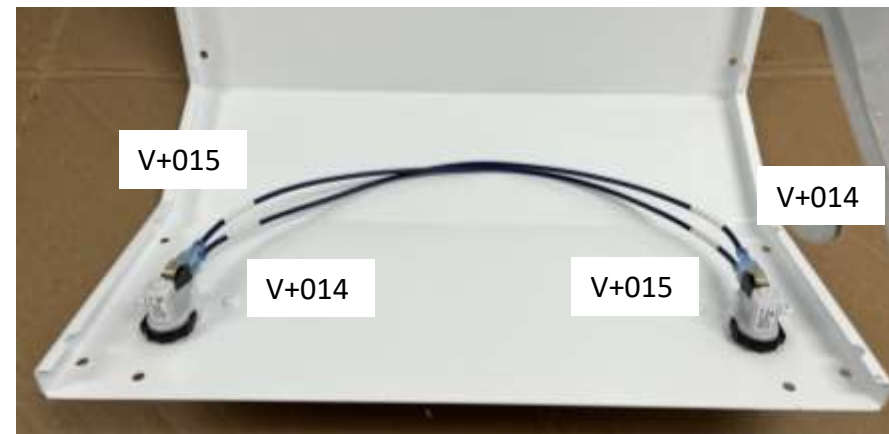
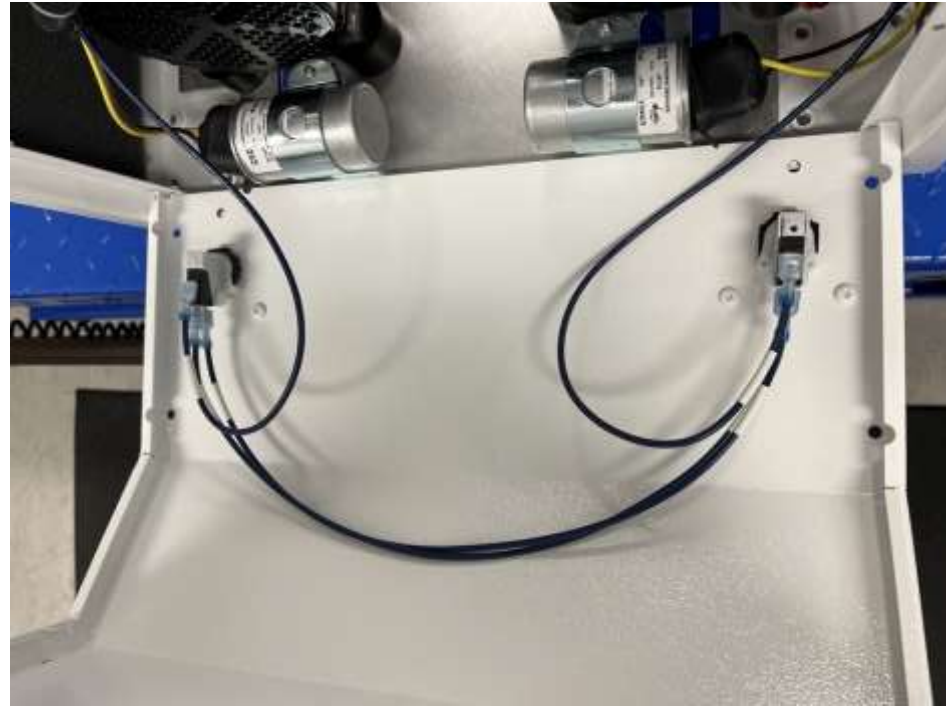


Troubleshooting Guide

Problem	Possible Cause	Solution
No Power	Footswitch not connected.	Connect footswitch and retry
	Power cord loose or not plugged in.	Check to be sure that power cord is plugged into both the aspirator and power outlet
	Power switch in the off (O) position	Move switch to on () position
	Circuit breaker tripped	Check circuit breaker on back of machine. With power cord disconnected switch breaker off and then back on. Plug power cord back in and turn power on. If problem persists call Customer Service.
Low Vacuum	Vacuum adjust knob set on low	Rotate knob to the right for higher vacuum.
	Air Leak	Remove filter from top of machine and occlude the opening. If maximum vacuum is reached replace filter and repeat at all connections.
	Canister lid is not properly sealed	With vacuum "ON" gently push down on lid. Release vacuum by venting with air and restart.
	For customers operating on 115V, the voltage selector is set to 230V	Switch the selector back to 115V. The voltage selector being set to 230V will make the aspirator run at half power on a 115V socket.
Aspirator stalls after quick restart.	Aspiration pumps still under load (vacuum).	Release vacuum by venting with air and restart.
If problems persist contact Black & Black Surgical, (877) 252-2517 or (770) 414-4880.		

Air Switch Replacement

- Remove bottom cover according to pg. 2
- Carefully remove blue wires from metal tabs on air switch. (note: wires must be re-installed the same way)
- Remove damaged / bad air switch



Air Switch Replacement contd.

- Feed new air switch through cutout in cover. Secure with washer provided with air switch
- Re-install wires onto air switch
- Replace cover and secure with screws that were removed
- Test air switch with foot pedal to ensure proper installation was performed.



Picture of air switch assembled onto front of aspirator bottom cover

Contact us

Please contact Black & Black Surgical with any questions!

Email: info@blackandblacksurgical.com

Phone: 770-414-4880