

# Volumetric Blowdown Suppression II (VBS II)

## OPERATION AND CONVERSION INSTRUCTIONS

### MV / COMBOVALVE BLOWDOWN

February 2018



# **SCHMIDT**®

SAVE THIS MANUAL AND MAKE AVAILABLE  
TO ALL USERS OF THIS EQUIPMENT!

Manual Part Number 7200-2011-501-90

(Available for downloading from [SchmidtAbrasiveBlasting.com](http://SchmidtAbrasiveBlasting.com))

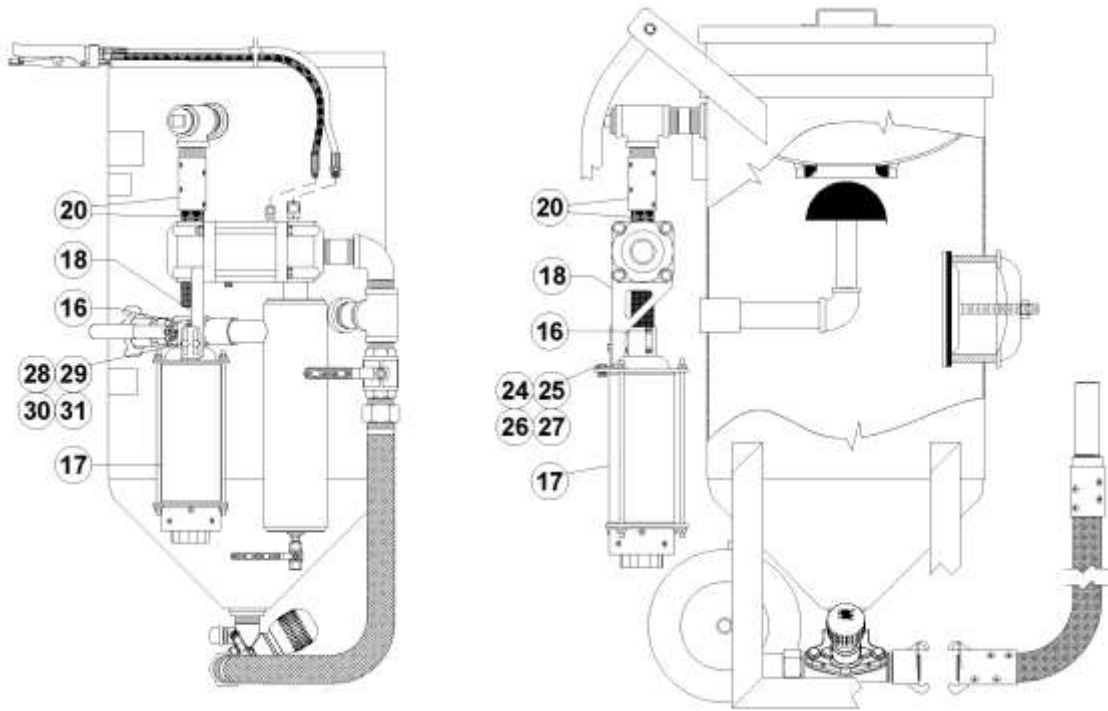


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**Figure 14.1 - Typical Blaster with the VBS II System**

**1.0. RULES FOR SAFER OPERATION**

- 1.1. KNOW YOUR EQUIPMENT.** Do Not operate this equipment in a manner other than its intended application (see Section 2.0). Do Not operate this equipment or any other Schmidt® equipment without following the Rules for Safer Operation and all the operating procedures and instructions. Learn the applications and limitations as well as the specific potential hazards related to this machine. Failure to do so could result in serious injury or death.
- 1.2. RECEIVE PROPER TRAINING.** Do Not operate this equipment unless you have received operational and maintenance training. Begin by thoroughly reading and understanding this operation and maintenance manual and all included information. Consult an authorized Schmidt distributor or Axxiom manufacturing, Inc.
- 1.3. USE PROPER PERSONAL PROTECTIVE EQUIPMENT.** Do Not operate or perform maintenance on this equipment without wearing OSHA approved eye, ear, foot, and lung protection. Reference OSHA 29 CFR 1910.
- 1.4. ADHERE TO ALL REGULATIONS.** Do Not operate this equipment without observing all local, state, and federal safety regulations including, but not limited to, OSHA (Occupational Health and Safety Administration).
- 1.5. USE CORRECT REPLACEMENT PARTS.** Do Not use replacement parts that are not Schmidt© original factory replacement parts furnished by an authorized distributor of Axxiom Manufacturing, Inc. Incorrect replacement parts can result in equipment failure and cause serious injury or death.
- 1.6. SAVE THIS OPERATION AND MAINTENANCE MANUAL.**  
Refer to this operation and maintenance manual as well as any other manufacturers information included for equipment that is used in conjunction with the VBS II System. Never permit anyone to operate this equipment without having him/her first read this manual and receive proper training. Make this manual readily available to all operating and maintenance personnel. If the manual becomes lost or illegible replace it immediately. This operation and maintenance manual should be read periodically to maintain the highest skill level; it may prevent a serious accident.

## 2.0 GENERAL INFORMATION

2.1 The Volumetric Blowdown Suppression II (VBS II) System (#17) is designed to reduce the noise level and eliminate floor damage caused by the blowdown exhaust air. The VBS II (#17) attaches to the end of the blaster blowdown hose assembly (#20) and is supported by a bracket (#18). The VBS II System changes the characteristics of the blowdown exhaust air as it flows through. First, the VBS II reduces the noise level of the blowdown air by internal sound absorption. Secondly, the VBS II system diffuses and reduces the velocity of the blowdown air and abrasive mixture. The VBS II self-cleaning urethane exhaust cap design absorbs the abrasive impact to reduce wear on the internal and surrounding components and prevents clogging.

## 3.0 REMOVAL

(Tools required: 1/2" wrench, 7/16" wrench, channel locks, phillips and flat-head screw driver) (See figure 6.1)



The abrasive blaster is a Pressurized Vessel. Propelled objects will cause serious injury or death. Depressurize vessel before performing any maintenance. Refer to the blaster Operation and Maintenance Manual for depressurization procedure.

3.1 Remove the two 5/16" hex nuts (#32) holding the VBS II to the bracket (#18).

3.2 Use a Phillips screw driver to remove the six #10-16 x 3/4" screws (#23) that attach the VBS to the blowdown hose (#20). It will be necessary to loosen the blowdown hose fitting to allow rotating for access to all the screws.

## 4.0 DISASSEMBLY (refer to drawing on page 6)

4.1 Remove the three 5/16" nuts (#12) on top of the VBS II using a 1/2" wrench.

4.2 Remove the cap (#1) from the casing (#3).

4.3 Remove the baffle (#6) and sound element (#4) from casing (#3). Inspect the target plug (#5), baffle (#6) and sound element (#4) for wear.

4.4 Remove casing (#3) from base (#2) to inspect deflector (#15) for wear.

4.5 Remove exhaust cap (#9) from base (#2) to expose the exhaust sound elements (#13 & #16).

4.6 Rotate the base (#2) to inspect the exhaust sound element (#16) and exhaust sound disc (#13) in place. Remove the elements (#13 & #16) only if wear is present. Otherwise skip to step 4.7.

a) Use a Phillips screw driver to remove screws holding in the sound element (#16) to the base shroud (#10). Then use phillips screw driver to remove screws for the sound element disc (#13) that holds the base shroud (#10) to the base (#2).

b) Use a flat head screw driver to carefully pry the sound element (#16) away from the inner walls of the base shroud (#10). Remove sound element disk (#13). Inspect both elements for wear. (#10).

c) Replace worn or damaged elements (#13 or #16).

4.7 Inspect remaining components for wear or damage. Replace damaged or worn components as required.

## 5.0 REASSEMBLY

5.1 Install the exhaust sound disc (#13) into the base (#2). Fit the shroud (#10) on the base then install four #10-16 x 3/8" lg. screws (#18) to secure disc (#13) and base shroud (#10)

5.2 Gently roll the exhaust sound element strip (#16) and insert into the VBS II vase shroud (#10). Be careful not to crack the sound element when rolling. (Tip: Soak the sound element (#16) in water for 30 minutes to soften it, then Use VBS II internal element (#4) surface to roll the element strip (#16) into a cylinder shape.)

5.3 Firmly push the sound element (#16) into the VBS II base shroud (#10). Reinstall the remaining four #10-16 x 3/8" lg. screws (#18) to hold the exhaust sound element inside the base. Be sure not to use #10-16 x 3/4" screws.

5.4 Reinstall the exhaust cap (#9) to base.

5.5 Reinstall deflector (#15) and casing gasket (#7) into top side of base. Then reinstall casing (#3) onto base (#2).

5.6 Once the casing (#3) has been realigned onto the base, reinstall the internal sound element (#4).

5.7 Reinstall the baffle gasket (#8), the baffle (#6) with the target plate (#5), the second baffle gasket (#8), and the casing gasket (#7).

5.8 Reinstall the cap (#1) on to casing (#3). Be sure to check that the gaskets did not move when replacing the VBS II top cap.

5.9 Reinstall the threaded rods (#11) through the VBS II cap (#1) and base (#2).

5.10 Loosely install the hex nuts (#12).

5.11 Tighten the hex nuts (#12), allow more thread to be exposed at the bottom for manual blowdown setup. This provides the ability to install the mounting bracket (See Fig. 6.1 #18)

5.12 The VBS II is now ready for reinstallation onto the blowdown hose assembly (#20) and install the manual blowdown bracket

## 6.0 INSTALLATION

6.1 Check blowdown hose assembly for wear or damage. Replace blowdown hose assembly if worn or damaged.

### **⚠ WARNING**

Do Not use blowdown assembly that is worn or damaged. Using a worn or damaged blowdown hose assembly may cause VBS II to detach from the hose assembly and may result in serious injury to personnel.

- 6.2 When installing the VBS II combo blowdown bracket (#18), remove the two lower combovalve bolts (#21). Install VBS II combo blowdown bracket (#18). Item (#18) replaces the combo valve flat washers, DO NOT install washers. For easier installation, fasten one combo valve nut (#21) and then swing the combo valve bracket (#18) outward before proceeding (dashed line in Fig. 6.1).
- 6.3 Loosen the blowdown hose fitting (#20) to allow rotation. Then install the six 3/4" lg. screws (#23) through the VBS II cap (#1) and into the blowdown hose (#20). Do not over tighten. The screws must be 3/4" long.
- 6.4 Move the combo blowdown bracket (#18) to its intended position (see Fig. 6.1) and fasten the other combovalve bolt. Retighten the blowdown assembly fitting. Tighten to align the VBS II combo blowdown bracket (#18).
- 6.5 Once the combo blowdown bracket (#18) is installed, use the combo blowdown bracket tab (#28) and align with the VBS II cap (#1) once aligned attach the tab (#28) to the combo blowdown bracket (#18) using 1/4" x 3/4" bolt (#29) 1/4" lock washer (#30) 1/4" hex nut (#31). Once the tab (#28) is installed onto the bracket (#18) attach the tab to the VBS II cap (#1) using 1/4" x 1" bolt (#24) 1/4" flat washer x 2 (#25) 1/4" lock washer (#26) and 1/4" hex nut (#27)
- 6.6 Installation is now complete. Test by several blowdown cycles, and then recheck attachment screws (#23) for secure fit to the blowdown hose assembly (#20).

### **⚠ WARNING**

Loud noise is produced by the blast nozzle and the blowdown operation of this equipment. All operators and personnel in the vicinity must wear OSHA approved hearing protection during the operation of this equipment. See Section 3.10 and refer to OSHA 29 CFR 1910.95.

### **⚠ DANGER**

Do Not obstruct the VBS II base air flow. Obstructing the VBS II flow can cause component failure and result in serious injury or death.

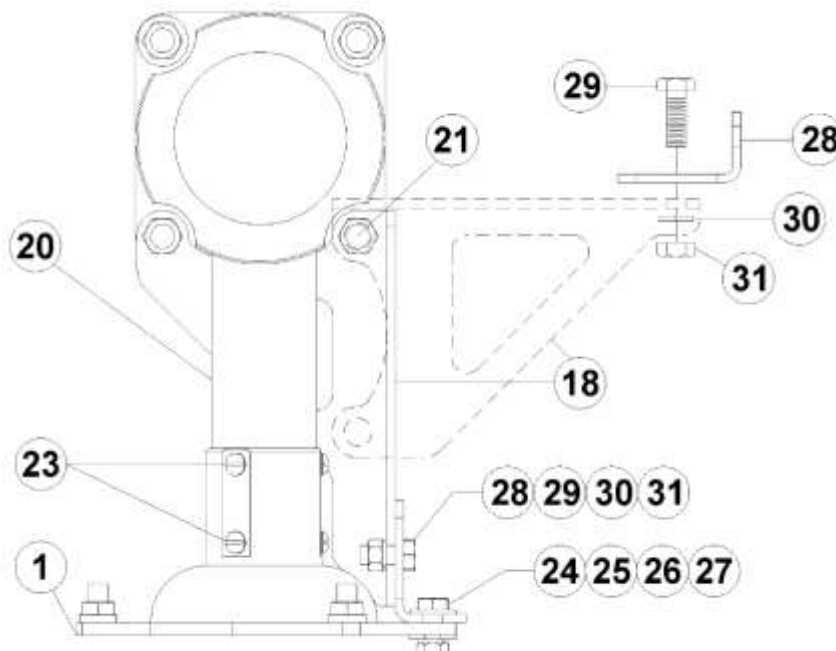


Fig. 6.1

## 7.0 MAINTENANCE AND INSPECTION

7.1 The VBS II should be disassembled and inspected quarterly, or more frequently for heavy usage. Replace parts as needed with Schmidt® original factory replacement parts furnished by an authorized Schmidt distributor.

**Note:** Blasters mounted below abrasive hoppers and with short blast cycles may show increased wear rates and therefore, should be inspected more frequently.



Depressurize vessel before performing any maintenance. Removing the VBS II with the abrasive blaster pressurized could result in serious injury or death.

7.2 Check the blowdown hose assembly weekly for wear or other damage.

## 8.0 Trademarks, Patents, and Proprietary Statements

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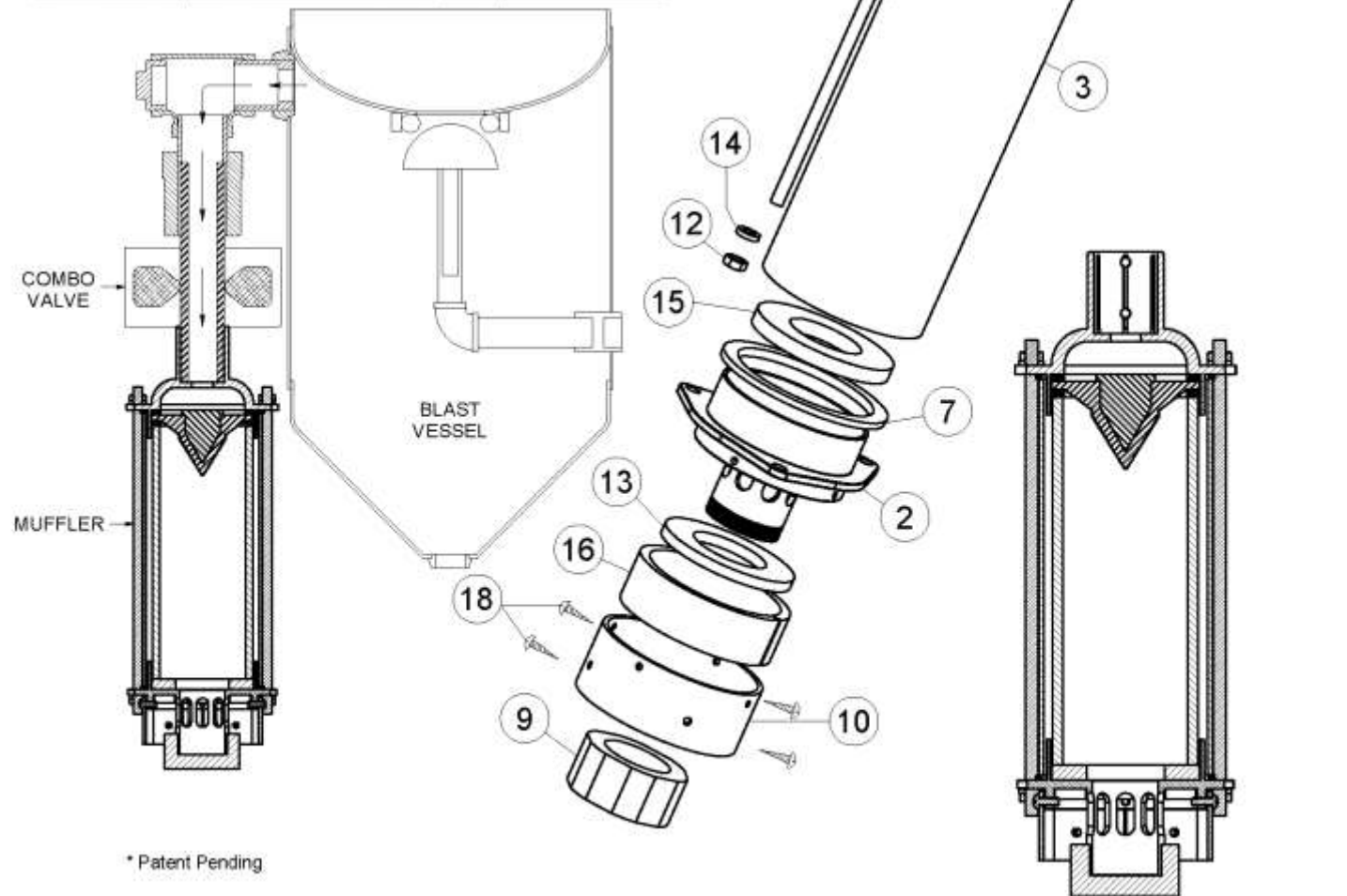
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# Volumetric Blowdown Suppression II\*

No.	Part No.	Description
	2011-501	Volumetric Blowdown Suppression System II
	2011-501-97	VBS II Sounds Element Replacement Parts Kit
	2011-501-98	VBS II Seal Gasket Replacement Parts Kit
	2011-501-99	VBS II Complete Replacement Parts Kit
1.	2011-501-01	VBS II Cap
2.	2011-501-02	VBS II Base
3.	2011-501-03	VBS II Casing
4. *	2011-501-04	VBS II Internal Element
5. *	2011-501-05	VBS II Deflector Target Plug
6. *	2011-501-06	VBS II Baffle Cone
7. *§	2011-501-07	VBS II Casing Gasket
8. *§	2011-501-08	VBS II Baffle Gasket
9.	2011-500-09	VBS Exhaust Cap
10.	2011-501-09	VBS II Base Shroud
11.	2011-501-10	VBS II Stud 5/16"-18 x 11 5/8" Lg.
12.	7017-505	Hex Nut, 5/16" UNC
13. *	2011-501-11	VBS II Exhaust Sound Element Disc
14.	7028-551	Lockwasher, 5/16"
15.	2011-500-06	VBS Deflector
16.	2011-501-12	VBS II Exhaust Sound Element
17.	7024-501-05	Screw #10-16, 3/4" (6 Required)
18.	7024-545-05	Screw #8, 3/4" (8 Required)

+ Included In Replacement Parts Kit For Sound Element replacements  
 § Included In Replacement Parts Kit For Seal Gasket replacements  
 \* Included In Replacement Parts Kit For Complete replacements



## Notes

# WARNING

1. Any person intending to operate this equipment or any person intending to be in the vicinity during its operation must receive proper training from his/her supervisor, employer and/or supplier. If this equipment is to be leased or rented, the supplier must assure that the lessee or renter has received proper training before the lessee or renter takes possession of the equipment. Consult Axxiom Manufacturing, Inc.
2. Any person authorized to operate this equipment or any person intending to be in the vicinity during its operation and who is not capable of reading and understanding this manual must be fully trained regarding the *Rules for Safer Operation* and all operating procedures, and must be made aware of all the Dangers, Warnings, and Cautions identified herein. Consult Axxiom Manufacturing, Inc.
3. Do Not operate any abrasive blaster or blast equipment before reading and completely understanding all the warnings, operating procedures and instructions, and the *Rules for Safer Operation* contained in this manual.
4. Do Not operate any abrasive blaster or blast equipment without following the *Rules for Safer Operation* and all the operating procedures and instructions. Failure to properly use blast equipment could result in serious injury or death.
5. Do Not perform any maintenance on any abrasive blaster or blast equipment while it is pressurized. Always depressurize the abrasive blaster vessel before loading abrasive or performing any maintenance.
6. Do Not use abrasives containing free silica. Silica can cause silicosis or other related respiratory damage. All operators must wear personal protective equipment for all abrasive blasting operations. Observe all applicable local, state and federal safety regulations in conjunction with airline filters and respiratory protection. Reference OSHA 29 CFR 1910.134.
7. Do Not enter areas during abrasive blasting operations without breathing protection. All personnel in the vicinity of abrasive blasting operations should wear NIOSH approved air fed respirators, hoods or helmets.
8. Do Not modify or alter any abrasive blaster, blast equipment or controls thereof without written consent from Axxiom Manufacturing, Inc.
9. Do Not use bleeder type deadman valves on any Schmidt® abrasive blaster. The use of A-BEC, Clemco or a similar bleeder type deadman valve can cause unintentional start-up without warning, which can result in serious personal injury.
10. Do Not sell, rent, or operate abrasive blasters without remote controls. OSHA regulations require remote controls on all blast machines. Failure to use remote controls can cause serious injury or death to the operator(s) or other personnel in the blasting area. Reference OSHA 29 CFR 1910.244(b).
11. Do Not repair or replace any portion of Schmidt® equipment using components that are not Schmidt® original factory replacement parts. Use of replacement components that are not Schmidt® original factory replacement parts may result in equipment failure which can result in serious personal injury and in addition will void all warranties.