BLASTONE

INSTALLATION, OPERATION & MAINTENANCE MANUAL

Supa Mega (S-Series) Abrasive Blasting Unit

www.BlastOne.com

MANUAL CONTENTS

⚠ WARNING ⚠

Do not attempt to operate this equipment without first reading and understanding the manual enclosed with this device. Suitability for use of this device lies solely with user.

Fill in your model and serial number in the blank spaces below. These can be used for reference whenever service or maintenance is required.

Unit Serial Number _____

Date Of Issue _____

DESCRIPTION

The function of the abrasive blaster is to provide a controlled mixture of dry abrasive or non-abrasive media and compressed air to a blast nozzle. The abrasive blast stream will prepare the surface being blasted for the application of a protective coating, or is used for simple removal of unwanted surface debris.

The bulk abrasive blaster is one of a group of components used in an abrasive blasting job. The typical components are an air compressor, moisture removal device, an abrasive blaster, blast hose, a blast nozzle, operator personal protective equipment and abrasive media.

The blast media is loaded into the abrasive blaster through a top fill port at atmospheric pressure.

After the abrasive blaster is loaded with blast media, it is filled with compressor air from an air compressor. The use of an "Airprep" moisture separation unit is highly recommended.

The air pressure in the blast vessel is equal to the air pressure in the blast hose where it connects to the Thompson Valve II metering valve. This equal pressure is necessary to allow the blast media to flow downward by gravity. The media flow is controlled by the metering valves at the bottom of the abrasive blaster (this may vary between two and six). At this point, the blast media flows into the blast air stream and through the blast hose.

The blast air and media mixture flow is accelerated by the blast nozzle onto the work surface.

The blast operator controls the operation via the electric deadman control, which is connected to the control valve. The blast operator must use personal protective equipment to perform the blast operation.

SPECIFICATIONS

Maximum Working Pressure	As per vessel nameplate
Minimum Metal Temperature	-20ºF
Blast Hose Size	See Table 3 Page 30
Air Consumption	See Table in Section 4.6
Abrasive Consumption	See Table 2 Page 30
Electrical Requirements	Without remote abrasive cut-off: 28 watts @ 12 volts
	With remote abrasive cut-off: 56 watts @ 12 volts
Trailer axle capacity	Trailer Model 120: 5900 lbs per axle
	Trailer Model 160: 7900 lbs per axle

Pay close attention to the Rules for Safer Operation, and the Dangers, Warnings & Cautions identified in this manual. The purpose of safety symbols and explanations are to attract your attention to possible hazards and how to avoid them. The safety symbols and explanations do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

- Before operating any equipment, READ ALL operating and maintenance instructions. Personal protective equipment is REQUIRED when using this type of equipment. Operators MUST be equipped with heavy canvas or leather gloves, blast overalls. Safety shoes, hearing protection and a blast helmet with built in breathing air supply MUST be worn.
- Whenever servicing the equipment make sure that all power sources and air supplies are disconnected and air pressure fully discharged.
- Keep all equipment in good operating condition.
- Unrestricted air flow through a compressed air hose end will result in a whipping action which can cause severe injury or death. Always attach a ball valve to each hose "at the source of supply or branch line".
- Whip checks or similar hose restraints must be used and attached to a suitably designed attachment point.

DANGER

- Do not remove, repair or replace any item on this vessel while it is under pressure.
- Do not operate above the maximum allowable working pressure or maximum operating temperature as stated on the nameplate.
- Do not weld, grind or sand the vessel. This may make it unsafe to use.
- Do not operate the unit if it has been damaged by fire.
- Any damage to the vessel can make it unsafe. Inspect the outside of the vessel regularly for corrosion and damage (e.g. dents, gouges or bulges). If damaged, take out of service immediately.
- Never attempt to perform maintenance while the unit is under pressure or even capable of being pressurized. This means the inlet ball valve should be closed and the air source should be shut off and disconnected.
- This unit contains high pressure air which can cause severe injury or death from flying parts. ALWAYS relieve pressure before removing covers, plugs, caps, fittings or other parts from the pressurized air system.
- Unrestricted air flow through a compressed air hose end will result in a whipping action which can cause severe injury or death. Always attach a ball valve to each hose "at the source of supply or branch line". Whip check hose restraints must be installed and safety clips fitted to hose connectors.
- This unit has multiple outlets. Care must be taken not to cross connect the controls. Cross connection will result in unintentional blast start up and could result in serious injury or death.

WARNINGS

- Do not operate if there is a leak in the vessel. Immediately take the vessel out of service and repair as necessary.
- Do not exceed the maximum working air pressure as stated on the vessel nameplate.
- After cooler systems operated outdoors must be protected from the weather.
- The interior condition of the vessel should be inspected regularly for corrosion.
- All air hose couplings are provided with holes which must be safety pinned to prevent accidental disconnections.
- Do not transport this bulk blaster on public roads or loaded with abrasive.

CAUTION

The products described and illustrated in this manual are intended for experienced and knowledgeable users of similar equipment used in the blasting industry. The important safety instructions appearing in this manual cover normal conditions and situations. Unusual, unforeseeable use may occur and in these situations it must be understood that common sense, caution and care are to be followed. These factors are not built into the machine, but are supplied by the person(s) maintaining and operating it.

No representations are made or intended as to the useful life, maintenance cycles, efficiency or performance of this product or combination of products. It is the responsibility of the user to ensure that proper and comprehensive training of operators has been performed and all environmental and safety precautions observed.

TERMINOLOGY

This manual contains terminology that is specific to the abrasive blast industry. Understanding this terminology is important to the comprehension of the procedures and instructions described in this manual. Please familiarize yourself with the following terms and refer to them as needed while reading this manual.

Pressure Vessel	A fabricated tank (or reservoir) that is part of the abrasive blaster which is filled with compressed air. Also referred to as a “blast vessel” or “vessel”
Pressurize	To manually or automatically fill the abrasive blast vessel with compressed air
De-pressurize	To manually or automatically release all the compressed air from inside the abrasive blast vessel.
Deadman	A manually operated valve or switch that allows remote starting and stopping of the blast operation. Also known as “deadman valve” (pneumatic blast controls), or “deadman switch” (electric blast controls).
Closure	A manually operated hinged opening at the top of the bulk abrasive blaster used as the media inlet and as an inspection port.
Media	An abrasive or non-abrasive granular substance used in an air blast operation that is the agent for altering the surface of an object.

WARNING LABELS

Listed below are the warning labels and the corresponding hazards encountered with the equipment.

RULES FOR SAFER OPERATION

1. Know your equipment. Do not operate this equipment in a manner other than it's intended application. Do not operate this equipment or any other equipment without following these "Rules For Safer Operation" and all 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.
2. Receive proper training. Do not operate this equipment unless you have received operational maintenance training. Begin by thoroughly reading and understanding this operation and maintenance manual and all included operation.
3. Protect your feet. Do not operate this equipment without wearing approved foot protection. Observe all local, state and federal safety regulations.
4. Protect your eyes. Do not operate this equipment without wearing approved safety glasses. Observe all local, state and federal safety regulations. When filling the abrasive blaster, there is a possibility for some abrasive to be blown back.
5. Protect your lungs. Do not operate this equipment without wearing approved respiratory protection. Breathable silica and lead dust may be generated by the use of some abrasives. Silica can cause severe and permanent lung damage, cancer and other serious diseases. Do not breathe the dust. Do not rely on your sight or smell to determine if dust is in the air. Silica may be in the air without a visible dust cloud. If air monitoring equipment for silica is not provided at the work site, then all personnel must wear appropriate respiratory protection when using or servicing this equipment. Breathing air supplied to respirators must be of an acceptable quality.
6. Protect bystanders. All blast equipment operators and personnel entering the vicinity of the blast operation must use respiratory protective equipment that meets regulations.
7. Protect your hearing. Do not operate this equipment without wearing approved hearing protection. Observe all local, state and federal safety regulations. Loud noise is generated by the blast nozzle and the blowdown operation of this equipment.
8. Stay alert. Do not operate this equipment when you are tired or fatigued. Use caution and common sense while operating and/or performing maintenance on this equipment.
9. Do not use drugs, alcohol or medication. Do not operate this equipment while under the influence of drugs, alcohol or any medication.
10. Keep children & visitors away. Do not let children or visitors contact this equipment or the connecting hoses and cords. Keep children and visitors away from the work area.
11. Avoid dangerous environments. Do not expose this equipment to rain. Do not use this equipment in wet conditions. Keep work areas well lit. when working at an elevated located, pay attention to equipment and personnel below.
12. Fire damage notice. Do not operate if the vessel has been damaged by fire. If damaged, take out of service immediately and have it inspected and/or repaired by a qualified facility.
13. Depressurize vessel before performing maintenance. Do not remove, repair, or replace any item on this equipment while it is pressurized. Do not attempt to perform maintenance or load media while this equipment is pressurized or even capable of being pressurized. This means the inlet ball valve should be closed and the air source disconnected. Any time the manual blowdown valve is closed it should be assumed that the abrasive blast vessel is pressurized.

1. Do not modify vessel. Do not modify or alter any abrasive blaster, blast equipment, or controls thereof without the written consent of the OEM. Do not weld, grind or sand the pressure vessel. It will not be safe to operate. Non-authorized modifications could lead to serious injury or death. Non- authorized modifications will void your warranty and the vessel's pressure certification.
2. Inspect vessel regularly. Do not operate if the vessel has been damaged. It is not safe. Inspect the outside and inside of the pressure vessel regularly for corrosion and damage (i.e. dents, gouges or bulges). If damaged, take out of service immediately and have it inspected and/or repaired by a qualified facility.
3. Check for leaks in vessel. Do not operate this equipment if there is a leak. If leaking, take out of service immediately have it inspected and/or repaired by a qualified facility.
4. Never operate over maximum working pressure. Do not operate this equipment above the maximum allowable working pressure at the maximum operating temperature as marked on the nameplate attached to the vessel.
5. Never modify discharge. Do not connect the air connection on this unit onto a common header with any other unit of any description, or any other source of compressed air, without first making sure a check valve is used between the header and this unit. If this unit is used in parallel with another unit of higher discharge and capacity, a safety hazard could occur in a back flow condition.
6. Always use failsafe remote controls. Do not operate abrasive blasters without failsafe remote controls. Regulations require remote controls on all blast machine. All blast systems must be equipped with automatic deadman type remote controls, either pneumatic or electric. Failure to use remote controls can cause serious injury or death to the operator(s) or other personnel in the blasting area.
7. Check for damaged parts. Do not use this equipment with damaged components. Periodically check all valves, hoses and fittings to see that they are in good condition. Repair any component that shows any sign of wear or leakage.
8. Always use safety pins on hose couplings. Do not use this equipment without safety pins in place. All blast hose couplings and air hose couplings are provided with holes that must be safety pinned to prevent accidental disconnections. Accidental hose disconnection can cause serious injury or death.
9. Always use correct replacement parts. Do not use replacement parts or accessories that are not rated for pressures equal or higher than your abrasive blaster's operating pressure. Improper hoses and/or fittings used on, or connected to your abrasive blaster can rupture and cause serious injury or death.
10. Never aim nozzle towards any person. Do not aim the blast nozzle towards yourself or any person. System malfunction can cause accidental start-up and result in injury to personnel.
11. Never use media not intended for blast equipment. Do not use abrasives containing silica, lead, arsenic, copper, zinc or sharp glass particles - use of abrasives containing these elements could result in serious injury or death.
12. Check abrasive for foreign objects. Do not use blast media that contains trash or other foreign objects. Trash or foreign objects can create a blockage and cause equipment malfunction. Screen recycled media to remove trash.

RULES FOR SAFER OPERATION

1. Stop operation immediately if any abnormality is detected. Do not operate this equipment if any abnormalities are observed during operation. Stop operation immediately for inspection.
2. Inspect closure assembly. Do not operate the closure assembly without first inspecting the cam-lock handle assemblies and all other parts (including closure interlock, if fitted and/or Halok) for proper working condition.
3. Do not climb on top head. Do not climb on the top head of the abrasive blast vessel. All parts of the top head, including the closure for abrasive filling, are fully accessible from the ladders and/or platform that are provided for that purpose. Under no circumstances should the top head be climbed on, stood on or walked on. The curved surface of the top head required to hold pressure is not a work surface.
4. Tighten wheel nuts periodically (if a tow able unit). Do not reload the bulk abrasive blaster before re tightening the wheel lug nuts. On new units, the lugs must be re tightened after each load and before reloading. This is most important after the first load when the lug nuts are establishing a seat. On new units transported on public roads, it is recommended that the lug nuts be re-torqued after the first thirty miles and periodically thereafter.
5. Do not side load the bulk abrasive blaster trailer. Do not exert side loads on the trailer wheels, especially when loaded with abrasive. An example of side loading would be pushing the trailer mounted bulk abrasive blaster on it's side with a forklift or other heavy equipment. Move the bulk abrasive blaster only by pushing or pulling at the hitch.
6. Do not tow the vessel loaded. Do not tow the vessel on public roads with abrasive loaded inside. If towing, keep below 25 kph.
7. Maintain warning labels. Do not remove, cover, obstruct, deface or paint over any warnings, cautions or instructional material attached. Warning labels (decals) must be provided, maintained and conspicuously located with enough light for legibility.
8. Save this operation and maintenance manual. Refer to this operation and maintenance manual as well as any additional information included from other manufacturers as needed. Never permit anyone to operate this equipment without having him/her first read this manual and receiving proper training. Provisions should be made to have this manual readily available to the operating and maintenance personnel. If for any reason the manual becomes lost or illegible, have it replaced immediately. This operation and maintenance manual should be read periodically to maintain the highest skill level; it may prevent a serious accident.

COMPRESSED AIR REQUIREMENTS - BLAST NOZZLE

The primary air consumption is by the blast nozzle(s). This expenditure can vary greatly, depending on the number of blast outlets, nozzle size of each outlet, and the blast pressure.

AIR COMPRESSOR SIZE

The air compressor must be large enough to supply:

- The sum of blast air requirements for each nozzle at the highest pressure that will be used, plus 50% (refer table in Section 4.6)
- An allowance of 20 to 30 c.f.m. per operator for their breathing air filter/respirator and cool air tube;
- An additional 50 c.f.m. is required for the Airrep cooling fan (if supplied as part of the package).

AIR SUPPLY LINE

The air supply hose from the air compressor to the blast unit should be at least the same diameter as the air inlet piping. This size hose will supply the necessary air flow to simultaneously operate the blast unit controls and each blast nozzle. Note:- if other equipment will be using the same source of air as the abrasive blaster, then install a check valve at the air inlet. This will prevent back flow, which will carry abrasive into the control system.

SYSTEM AIR QUALITY

Moisture condensation in a blast system causes abrasive flow problems. Condensation occurs when the hot vapor filled compressed air cools as it reaches the abrasive blaster. An Airprep moisture separation unit can eliminate the moisture with negligible pressure loss.

ELECTRICAL REQUIREMENTS

The unit has 12 volt DC powered electric deadman controls powered from the supplied lead acid battery. This will require charging from time to time. Alternatively, the system can be powered from a vehicle battery using an optional power supply lead.

AIR CONSUMPTION (C.F.M.) PER BLAST NOZZLE

NOZZLE SIZE		50 P.S.I.	60 P.S.I.	70 P.S.I.	80 P.S.I.	90 P.S.I.	100 P.S.I	120 P.S.I.
No. 2	1/8"	14	17	19	21	24	26	30
No. 3	3/16"	32	37	42	47	52	57	67
No. 4	¼"	57	66	75	84	93	103	119
No. 5	5/16"	89	103	117	131	145	158	186
No. 6	3/8"	129	149	169	189	209	229	269
No. 7	7/16"	176	203	230	258	285	312	367
No. 8	½"	229	265	300	336	371	407	478
No. 10	5/8"	356	412	468	524	580	632	744
No. 12	¾"	516	596	676	756	836	916	1076
Efficiency		**47%**	**55%**	**64%**	**74%**	**86%**	**100%**	**130%**

Example: Four operators using breathing air filters & cool air tubes (4 x 30 c.f.m.), using No. 6 nozzles (4 x 229 c.f.m. + 50%), plus an Airprep cooling fan will require over 1500 c.f.m.

⚠ WARNING ⚠

Failure to follow the procedures below could result in serious injury or death. Fully read and understand all sections of this Operation & Maintenance Manual.

SETUP PROCEDURE

1. Make certain that the bulk abrasive blaster is not pressurized. Follow the depressurizing procedure given on Page 13.

⚠ WARNING ⚠

Airborne particles and loud noise hazard from exhaust air can cause serious injury and loss of hearing. Stay clear of the blow down path. DO NOT place hands or other body parts in the blow down air path. Make sure no personnel are in the blow down air path. Wear approved eye and ear protection.

2. Properly install (or check the fitting of) the manway cover and gasket.
3. Verify the presence and good operating condition of all required personal protective equipment for each operator (safety glasses, safety shoes, ear plugs, gloves, airline filter, blast helmet respirator and carbon monoxide monitor). Adhere to all local, state and federal regulations.

⚠ WARNING ⚠

Failure to wear personal protective equipment could result in serious injury or death

4. Hose clamp the deadman to the blast hose assembly in a comfortable position behind the nozzle holder. Cable tie the electric deadman extension cords to the blast hose. The deadman cables and handles may be shipped inside the vessel.
5. Screw the nozzle into the nozzle holder at the end of the blast hose assembly.
6. Connect the blast hose coupling to the hose coupling on the metering valve. Install safety pins and whip checks to prevent accidental disconnections during operation.

⚠ WARNING ⚠

Failure to install safety pins and whip checks on all blast hose couplings could result in serious injury or death.

7. Connect the electric deadman plug(s) to the respective socket(s). i.e. if using the Red metering valve then connect the deadman cable to the Red socket, the Blue to Blue and so on.

⚠ WARNING ⚠

This unit has multiple outlets. Care must be taken not to cross connect. Cross connection will result in unintentional blast start up and could result in serious injury or death.

8. Connect an air supply hose to the air inlet on the moisture separator. Install a safety pin and whip check to prevent accidental disconnection

9. Close all choke ball valves and test each nozzle individually to ensure the deadman is connected to the correct nozzle. Open the choke valve of the nozzle being tested. Hold the nozzle tightly and actuate the deadman, ensure the nozzle operates. Now close the choke valve and repeat for each nozzle.

DE-PRESSURISATION PROCEDURE

1. Turn off the air supply at the source; preferably at the compressor. Note that if the supply hose is still connected to an Airprep, the entire Airprep unit may still be holding pressure. This can be confirmed by (a) the cooling fan still operating, and (b) observing the gauge on the Airprep tank. Depressurize the Airprep unit, if used.
2. A ball valve is closed when the handle is fully turned to a position where the handle is perpendicular to the body. The handle tab will bottom against the ball valve body in the closed position.

⚠ WARNING ⚠

Do not turn off the air compressor and allow the bulk abrasive blaster to back flow through the system. Back flow will carry abrasive into the manifold and contaminate the controls.

3. Completely depressurize the bulk abrasive blaster by slowly opening the blow down ball valve, located above the manway.

⚠ WARNING ⚠

Airborne particles and loud noise hazard from exhaust air can cause serious injury and loss of hearing. Stay clear of the blow down path. DO NOT place hands or other body parts in the blow down air path. Make sure no personnel are in the blow down air path. Wear approved eye and ear protection.

4. For extended periods of no usage close all ball valves and the manway to prevent contamination of any remaining blast media.

The bulk abrasive blast vessel and Airprep are completely de-pressurized when all ball valves are open (exhaust air ball valve, Airprep drain ball valve, air inlet ball valve and filter ball valve) and no air flows from any of them.

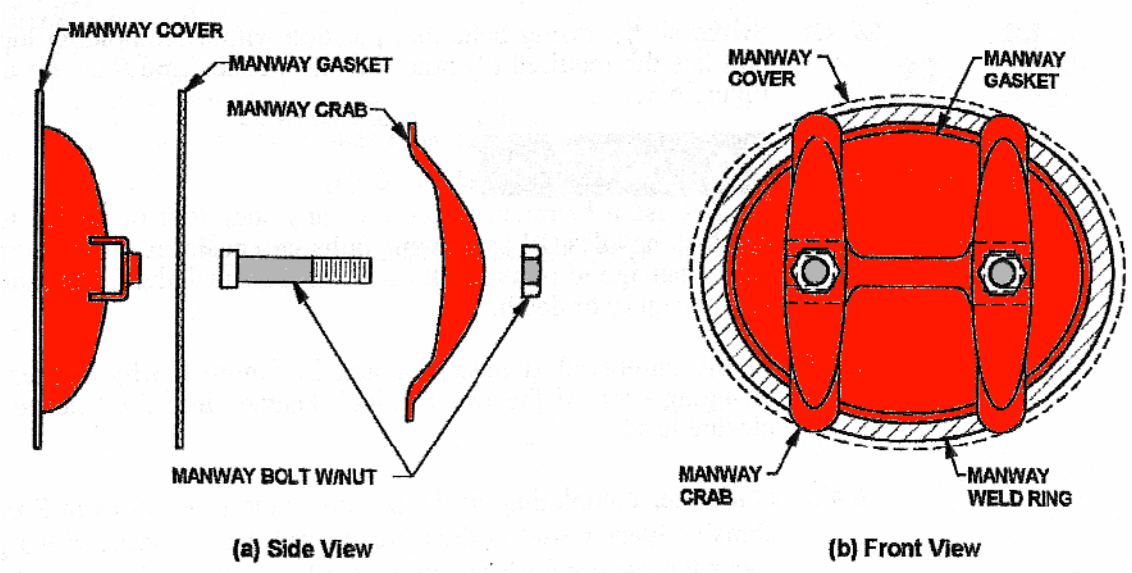
MANWAY COVER INSTALLATION

1. Inspect the manway gasket for tears, cracks or other wear. Replace if necessary.
2. Inspect the manway weld ring sealing surface inside the vessel. Inspect the manway cover sealing surface. Both surfaces must be smooth.
3. Place the gasket on the manway cover, then fit both through the opening.
4. Place the cover and gasket in position against the inside edge of the manway weld ring. Apply a pulling force to hold in position, then proceed.
5. Centre the gasket on the manway weld ring.
6. Centre the manway cover on the gasket.
7. Centre the manway crabs on the outside weld ring.
8. Slide the manway crab bolts to the inside edge of the slot before tightening.
9. When all components are centered and the crab bolts are bottomed in the slots, tighten the nuts and bolts until they are snug.
10. After completing all the pre-operation procedures (Page 12), and having pressurized and de-pressurized the bulk abrasive blaster, retighten the nuts and bolts again.

⚠ WARNING ⚠

Do not over tighten the crab nuts and bolts. Over tightening could bend the crab out of shape resulting in a malfunction of the assembly.

11. Periodically check for leaks.

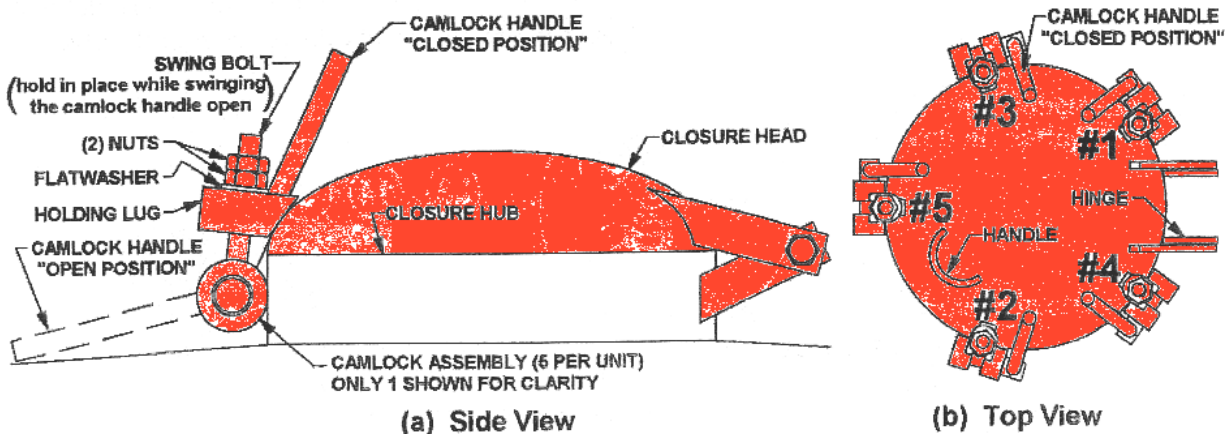


FILLING THE BULK ABRASIVE BLASTER

The bulk abrasive blaster must be completely depressurised before filling can begin. Follow the procedure on Page 13.
The unit will have a yellow *MegaBlaster Safety Ring Kit* ***OR*** *a Halok Safety System* fitted installed, which will prevent the opening of the closure lid while under pressure.

MegaBlaster Safety Ring kit

1. The air actuated cylinder takes air from the vessel itself, and any air pressure (even down to 1 - 2 p.s.i.) will extend the cylinder's locking ram into the extended position. Only when there is zero pressure will the ram be able to be manually pushed back, and the yellow ring swung over, allowing the five cam locks to be opened.
2. The vessel must be completely depressurised before attempting to open the closure lid. The installed safety locking ring should have provided this safety interlock, but double check by ensuring the depressurisation ball valves on the back of the vessel are fully open.
3. If any air leakage occurs, **DO NOT CONTINUE.** Go back and follow the de-pressurisation procedures.

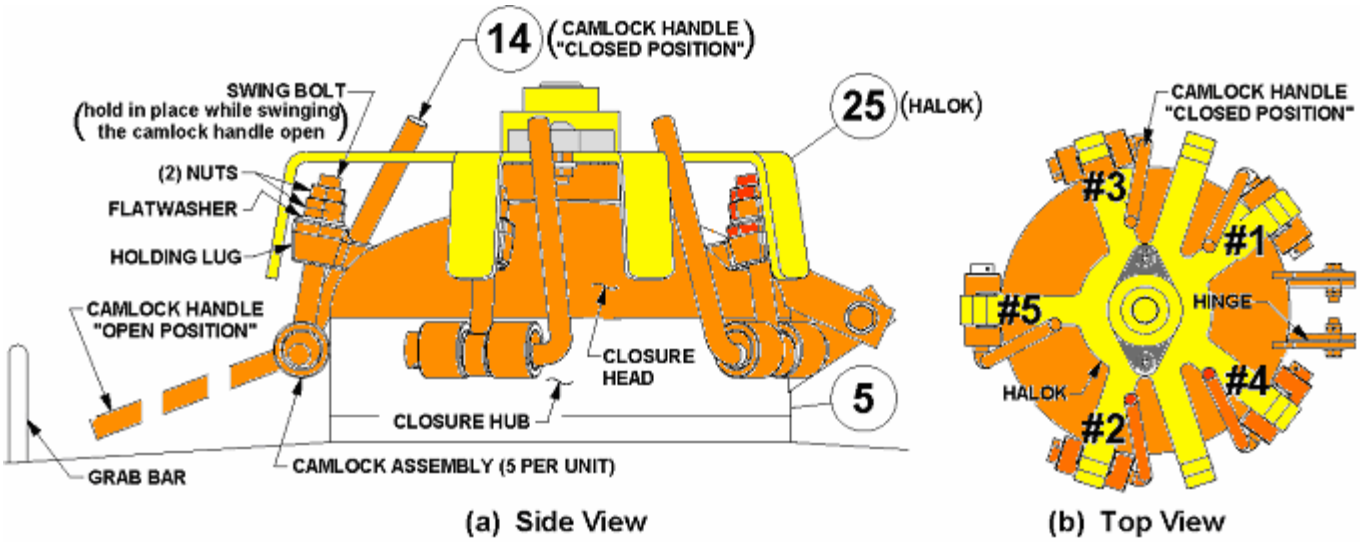


4. In the numbered sequence shown above, swing each of the camlock handles into the 'open position'. DO NOT swing any swing bolts out of the holding lugs. Hold the swing bolt within the holding lug with one hand, and swing each cam-lock handle down with the other hand.
5. If there is difficulty swinging any camlock handle to the 'open position', DO NOT CONTINUE. Difficulty in swinging the cam-lock handles may indicate the presence of air pressure inside the vessel.
6. DO NOT swing any of the swing bolts out of the holding lugs at this time. Swinging any swing bolts at this time will over-ride the pressure alerting capability of the closure.

7. If there is any compressed air present in the vessel, the swinging of the cam-lock handles to the open position while keeping the swing bolts in the holding lugs allows the closure head to lift slightly. The contained air pressure will then escape around the closure head alerting the operator of danger. Further movement of the head is restrained since the swing bolts are confined within the holding lugs.
8. If no air leakage is observed after swinging over all five cam-lock handles, continue with the closure opening procedure. Manually swing each swing bolt out over the holding lug.
9. After all the swing bolts are swung out of each holding lug, the closure head can be opened. The closure assembly must be inspected at each opening for wear or damage.
10. Fill the blaster to the desired level.

Halok Safety System

The closure is part of a Pressurized Vessel. Propelled objects will cause serious injury or death. Depressurize vessel before opening closure. See Page 13.
Taking the proper fall protection measures, access the closure (#5) using the bulk abrasive blaster ladder. See the drawing below.
The bulk abrasive blaster MUST be completely depressurized before attempting to open the closure. Verify that the abrasive blaster is completely depressurized by opening the pressure indication ball valve next to the closure. If any air leakage occurs, DO NOT CONTINUE. Follow the depressurizing procedure on Page 13. DO NOT depressurize the bulk abrasive blaster through the pressure indication ball valve.



Halok Safety system continued

1. In the numbered sequence shown on the previous page, swing each of the camlock handles (#14) of the closure (#5) into the "open position." DO NOT swing any swing bolts out of the holding lugs. Hold the swing bolt within the holding lug with one hand, and swing each camlock handle down with the other hand. **Note:** The Halok Assembly (#25) prevents the swing bolts from swinging out of the holding lugs until all camlock handles are in "open" position.
2. DO NOT use a hammer, wrench, or any such tool or device to strike the camlock handles (#14) into position. Use of such tools or devices can cause damage to parts resulting in component failure. If necessary a piece 1/2" pipe 12 inches long can be slipped over the end of the camlock handle to increase leverage.
3. If there is difficulty in swinging any camlock handle to the "open position" DO NOT CONTINUE. Difficulty in swinging the camlock handles may be a sign of air pressure inside the bulk abrasive blast vessel. Opening the closure with air pressure inside the bulk abrasive blast vessel will cause serious injury or death. Swing all the camlock handles back into the "closed position", then follow the depressurizing procedure on Page 13 and check for faulty ball valves.
4. DO NOT swing any of the swing bolts (#14) out of the holding lugs at this time. Swinging any swing bolts at this time will disable the safety feature of the closure.
5. When all the camlock handles are in the open position the closure head can move up slightly. However, the closure head cannot swing open since the swing bolts hold it down. Therefore, if there is air pressure in the abrasive vessel the closure head will move up slightly and air will leak. This air leak will alert the operator of danger. This is the safety feature of the closure that only works if all the swing bolts stay in the holding lugs.
6. If no air leakage is observed after swinging over all five camlock handles, continue with the closure opening procedure per the steps below.
7. With all the camlock handles (#14) in the "open" position the *Halok* can be rotated counter-clockwise to allow access to the swing bolts. Manually swing each swing bolt out over the holding lug.
8. After all the swing bolts are swung out of each holding lug the closure head can be opened. The closure assembly must be inspected at each opening for wear or damage as described in the maintenance section at the rear.

Halok Safety System Continued

9. Each time the closure is opened all the camlock assemblies and hinge assemblies must be inspected for damage, including but not limited to, corrosion, cracks, and deformations. Make sure all the swing bolts, nuts, washers, cams, spring pins, and handles are in place. Inspect the threads of each swing bolt and nuts for corrosion or wear. Each camlock assembly and hinge must be tested for ease of operation. Any camlock, swing bolt, nut, or hinge that show signs of damage, corrosion, wear, or does not swing freely must be repaired or replaced *before* re-pressurizing the blast vessel. The camlock handles must be installed into the cam lugs as shown so there is no interference with closure head handle or hinges and to insure proper operation of the closure Halok (#25). The torque on the camlock assembly nuts must be properly adjusted.

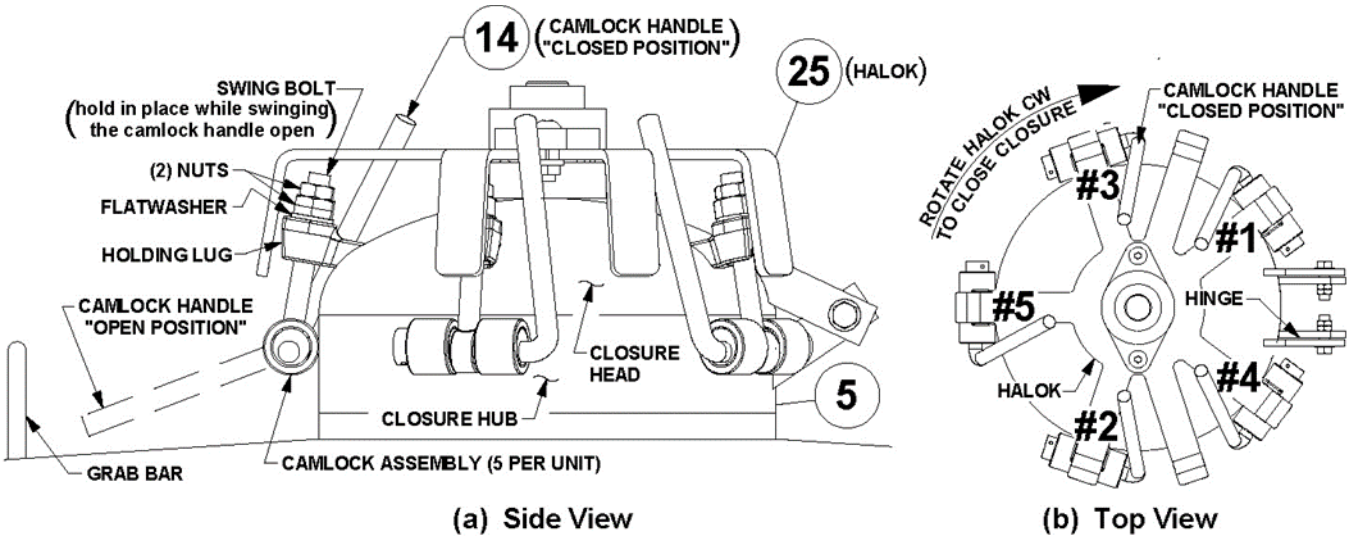
Closure Closing Procedure

1. Inspect the closure head and sealing surface for damage including, but not limited to, corrosion, cracks, or deformations. Check that the 10" o-ring is fitted in the groove at the bottom of the closure head. Remove and inspect the closure o-ring for cuts or tears. Replace if necessary. Replace the o- ring and adjust to remove kinks or twists.
2. Close the closure head and check for alignment with closure hub. If the closure head does not close properly, do not attempt to pressurize the bulk abrasive blaster. Take the bulk abrasive blaster out of service and have it inspected and/or repaired by a qualified facility. Contact Blastmaster for technical support.
3. Do not operate the bulk abrasive blaster with a closure head that does not close properly. Component failure will result. Component failure will cause serious injury or death.
4. After all the swing bolts are in position within the holding lugs rotate the Halok (#25) clockwise to allow access to the camlock handles (#14). In the numbered sequence shown in the drawing, tighten each swing bolt by swinging each of the five camlock handles into the "closed position" against the closure head. If necessary a 1/2" pipe 12 inches long can be slipped over the end of the camlock handle to increase leverage.

Halok Safety System Continued

Closure Closing Procedure (Contd.)

5. Complete all the pre-operation procedures, then pressurize the bulk abrasive blast vessel per the instructions. After pressurizing check the closure for leaks. Periodically check the closure for leaks thereafter.



(a) Side View (b) Top View

Halok Safety System in closed Lock position

BEGINNING THE BLASTING OPERATION

The bulk abrasive blaster must be properly prepared and all operating personnel must be thoroughly trained before beginning the blast operation.

1. Connect the unit to the air supply. Do not pressurize yet.

⚠ WARNING ⚠

The bulk abrasive blaster and Airprep unit (if used) are pressurized vessels. Propelled objects will cause serious injury or death. Depressurize vessel before performing any maintenance.

2. Open the media shutoff valves. Wind the knobs all the way in (clockwise).
3. Open the manual choke valves on each hose leading to the metering valves. Leave these valves completely open at all times while blasting, except to choke out obstructions. Even then, close it only long enough to clear away any obstruction in the metering valve. Extended operation with the choke valve partially closed will cause excessive or premature wear in the metering valve.
4. Close the blow down ball valve.
5. If an electric system, connect the battery. Connect the deadman lead(s) to their respective socket(s), depending on the number of operators and test as per the pre operation procedure section 7-9.

⚠ WARNING ⚠

This unit has multiple outlets. Care must be taken not to cross connect. Cross connection of electric or pneumatic controls will result in unintentional blast start up & could result in serious injury or death

6. The vessel may now be pressurized. Open any air supply ball valves. Air will flow into the bulk abrasive blaster.
7. Check the manway & all hoses for leaks after pressurizing. Periodically check for leaks thereafter.
8. Push in the safety button and depress the lever on the deadman. Air and blast media will flow into the blast hose. Release the deadman lever to stop blasting.

⚠ WARNING ⚠

Do not aim the blast nozzle towards yourself or any person. System malfunction can cause accidental start up and result in injury to personnel

9. The media flow can be adjusted with the knob on the metering valve. Turn clockwise for less media flow and counter-clockwise for more media. Depending on the length of the blast hose, there will be a delay in control of the media flow at the nozzle. Therefore allow a few seconds before adjusting further.

ENDING THE BLASTING OPERATION

1. Close the air supply ball valves. The ball valve is closed when the handle is fully turned to a position where the handle is perpendicular to the body. The handle tab will bottom against the ball valve body in the closed position.

⚠ WARNING ⚠

Do not turn off the air compressor and allow the bulk abrasive blaster to back flow through the system. Back flow will carry abrasive into the manifold and contaminate the controls.

2. Completely depressurize the bulk abrasive blaster by slowly opening the blow down ball valve.

⚠ WARNING ⚠

Airborne particles and loud noise hazard from exhaust air can cause serious injury & loss of hearing. Stay clear of the blow down path. DO NOT place hands or other body parts in the blow down air path. Make sure no personnel are in the blow down air path. Wear approved eye and ear protection.

3. Depressurize the Airprep unit, if desired.
4. For extended periods of no usage, close all ball valves and the manway to prevent contamination of any remaining blast media.

⚠ WARNING ⚠

The bulk abrasive blaster and Airprep unit are pressurized vessels. Propelled objects will cause serious injury or death. Depressurize vessel before performing any maintenance.

1. The Australian Standards 1210 and 4037 are standards covering welding and testing. Vessel integrity subsequent to purchase is the responsibility of the owner and/or user. At intervals required by state laws or the owner's discretion, the vessel should be subjected to a hydrostatic test as described within the standards. Do not subject the bulk abrasive blaster vessel to a pneumatic proof test exceeding the maximum allowable working pressure. In no case should the test pressure exceed 1.5 times the maximum allowable working pressure (M.A.W.P.) shown on the nameplate. Thoroughly clean and dry the vessel before re-assembly. Moisture or debris left in the vessel can cause equipment malfunction.
2. Any damage to an abrasive blaster can make it unsafe. Inspect the exterior of the vessel weekly for corrosion, pitting or other damage (i.e. Dents, gouges or bulges). If damaged, take out of service immediately and have it inspected and/or repaired by a qualified facility.
3. The interior condition of the abrasive blast vessel should be inspected quarterly. Pitting caused by corrosion will reduce the wall thickness of the vessel. If excessive corrosion is found, have the abrasive blast vessel inspected by a qualified facility.
4. All hoses and cables (particularly remote control hoses and cables) should be inspected daily for wear and leakage. Repair any hoses or cables that show any sign of wear, leakage or other damage. Damaged cables can cause system malfunctions and can result in serious injury or death to operating personnel.
5. All blast hose couplings and air hose couplings are provided with holes that must be safety pinned to prevent accidental disconnections. Replace any missing pins.
6. Periodically check if air is leaking from the end of the blast nozzle when the blast operation is off. A worn Thompson valve seat usually causes this. It is replaced by removing the four bolts in the base of the valve. Refer to drawings at the end of this manual.

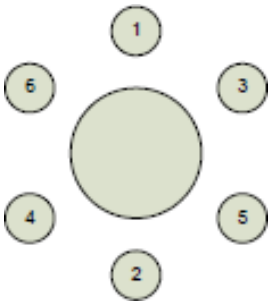
⚠ WARNING ⚠

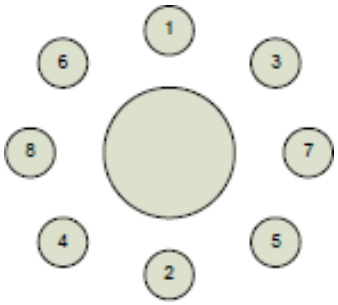
Be sure the abrasive blaster is completely de-pressurized vessels. Removing the bolts from the Thompson valve while the bulk abrasive blaster is pressurized will result in serious injury or death.

7. Valves should be disassembled, inspected and lubricated quarterly or more frequently if dictated by use. Lubricate with an anti-seize compound.
8. Check the trailer wheel lug nuts torque monthly. After mounting a wheel, re-torque after the first 30 miles of use. Torque to the specifications and sequence shown on page 19.
9. Check tire pressures. The maximum pressure is 75 p.s.i.

WHEEL NUT TORQUE

MODEL	BOLT PATTERN	WHEEL TYPE	THREAD SIZE	TORQUE
12,000 lbs	6 on 5.5” circle	Single	½” - 20	80-90 ft.lbs.
16,000 lbs	8 on 6.5” circle	Single	9/16” - 18	130-150 ft.lbs.





TRAILER AXLE MAINTENANCE

Axle Hub Removal

Remove wheel. Remove dust cap. Remove split (cotter) pin. Unscrew the spindle nut counter clockwise. Remove spindle washer, then remove hub from spindle.

Axle Seal Inspection

The seal should be replaced each time the hub is removed. Pry the seal out of the hub with a screwdriver. Tap the new seal into place.

Axle Bearing Maintenance

Inspect for corrosion and wear. If any rust or wear exists on the bearing, remove and replace it. If bearings are found to be in good condition, then cleaning and repacking with grease may be all that is required. If cleaning and drying with air, DO NOT spin the bearing with compressed air. Hand pack each bearing using premium water resistant wheel bearing grease. Reinstall the hub, reversing the procedure above, then use the bearing adjustment procedure below.

Axle Bearing Adjustment

Recommended setting:- the typical trailer hub uses a hardened washer and slotted hex nut for bearing adjustment. Hubs are usually set with a free running clearance (or endplay) of 0.001” to 0.010. The use of a dial indicator is the only satisfactory method of checking adjustment.

Feel & drag method:- tighten the slotted nut until the hub drags slightly when turned. Rotating the hub while tightening the nut seats the bearing. Loosen the slotted nut 1/6th of a turn (1 hex) to align the slot nut with the split pin hole. The wheel should turn freely. Insert a new split pin through the nut & spindle. If necessary, loosen (never tighten) the nut to align the slot with the hole in the spindle. Bend one leg of the split pin over the end of the spindle and the other leg over the nut. Tap legs slightly to set. Split pin must be tight.

SCHEDULE

INSPECTION	DAILY	WEEKLY	QUARTERLY	AS REQUIRED
Check deadman handles, hoses and/or cables for wear or damage	X			
Check pilot valve hoses for leakage	X			
Check that all hoses are pinned & have whip checks	X			
Check tire condition (if applicable)	X			
Check tire pressures (if applicable)	X			
Inspect blast hoses for wear, missing gaskets etc.	X			
Check Thompson valves for leakage (air bleeding through blast nozzle when off)		X		
Inspect exterior for dents, gouges or bulges		X		
Check wheel nuts (if applicable)			X	
Disassemble, inspect, lubricate valves			X	
Inspect interior for pitting or corrosion			X	
Inspect wheel bearings and cups (if applicable)				12 months
Hydrostatic test				X
Check battery, re-charge as necessary (if applicable)	X			
Halok & closure system (see separate page)	X			

SCHEDULE AIRPREP (IS USED.)

INSPECTION	DAILY	WEEKLY	QUARTERLY	AS REQUIRED
Check lubricator oil level	X			
Check moisture trap (if manual drain fitted)	X			
Open pre-filter and main separator ball valves	X			
All fasteners & pipe fittings for tightness		X		
Remove dirt & grease from fan shroud, fan & motor			X	
Ensure rubber gaskets are in place & locking pins are available for Surelock connectors			X	
Clean the heat transfer coil of any dirt or debris using compressed air, or hot water rinse			X	
Remove hand-way crab and wash out internal demister pad with hot water pressure cleaner				X
Remove inlet & outlet pipe work at flanges, & wash out heat transfer coil with hot water pressure cleaner				X

MAINTENANCE INTERVAL SCHEDULE - CLOSURE ASSEMBLY

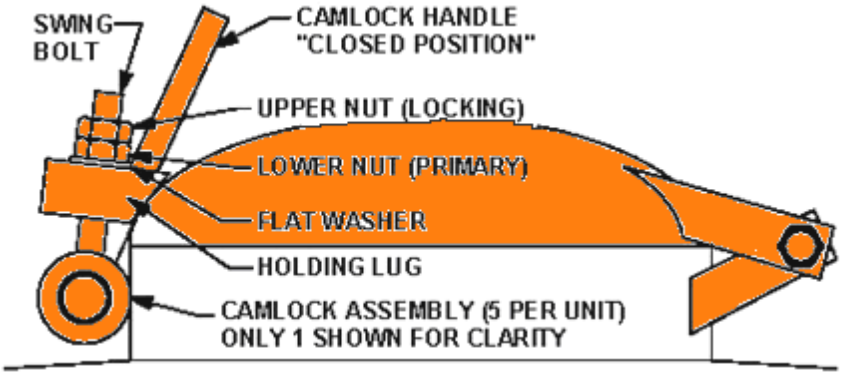
Before pressurizing the bulk abrasive blaster the camlock handle assemblies (#14) and all other closure (#5) components must be closely inspected for defects as follows:

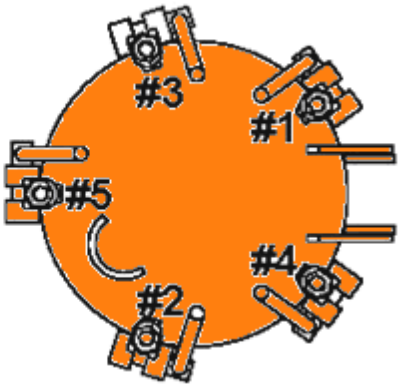
a) Inspect closure "O"-ring for shrinkage, swelling, cuts, or tears.
b) Inspect o-ring sealing surfaces for corrosion, cracks, deformations, paint, or other trash.
c) Inspect for presence of swing bolt nuts and washers.
d) Inspect swing bolts for corrosion, wear, cracks, deformations, paint, or other trash.
e) Inspect (2) nuts for corrosion, wear, cracks, or deformations.
f) Inspect threads on swing bolts and nuts for corrosion or wear.
g) Inspect cams for presence of spring pins.
h) Inspect closure hinges for ease of operation.
i) Inspect camlock handle assemblies for ease of operation.
j) Periodically lubricate swing bolts with a hydrocarbon-base lubricant.

Clean debris off all components. Replace all missing and defective components. Any camlock, swing bolt, nut, or hinge that show signs of damage, corrosion, wear, or does not swing freely must be repaired or replaced prior to re-pressurizing the blast vessel. The camlock handles must be installed into the cam lugs as shown in the drawing so there is no interference with closure head handle or hinges, and to insure proper operation of the closure Halok. The torque on the camlock assembly nuts must be properly adjusted, as detailed below.

ADJUSTMENT PROCEDURE

a) Inspect all closure components as listed above.
b) Remove the upper camlock assembly lock nuts.
c) Swing all the bolts into place within the holding lugs. Confirm presence of flat washers.
d) Following the numbered sequence shown in Figure 8.1 tighten each bolt in three steps.
e) Final torque of each bolt should be 20 ft lb.
f) After tightening all primary nuts re-install all the upper lock nuts.
g) While wrench holding the lower primary nut tighten each upper locking nut against it.
h) Check all camlock assemblies for ease of operation.





Automatic Air Valve (normally closed)

	2123-106	1" Valve
No.	Part No.	Description
	2123-006-99	Repair Kit
1.*	2123-006-01	Gasket
2.*	2123-006-02	Diaphragm
3.*	2123-006-03	O-ring
4.	2123-006-04	Retainer Bushing
5.*	2123-006-05	O-ring
6.	2123-006-06	Disk Retainer
7.*	2123-006-07	O-ring
8.	2123-006-08	Seat
9.	2123-006-09	Disc Plate
10.	"Deleted"	Lock Washer, Internal
11.*	2123-006-11	Lock Nut
12.	2123-106-12	Cap
13.*	2123-006-13	Hex Nut (w/Locktite)
14.	2123-006-14	Cap Screw
15.	2123-006-15	Diaphragm Plate
17.	2123-006-17	Lock Nut
18.	2123-006-18	Body, 1"
19.	2123-006-19	Shaft
20.*	2123-006-20	Gasket
21.*	2123-006-21	Disc
22.	2123-106-22	O-ring
23.	2123-106-23	Spring Retainer
24.	2123-106-24	Spring
25.	2014-300	Vent, 1/8" (not included)

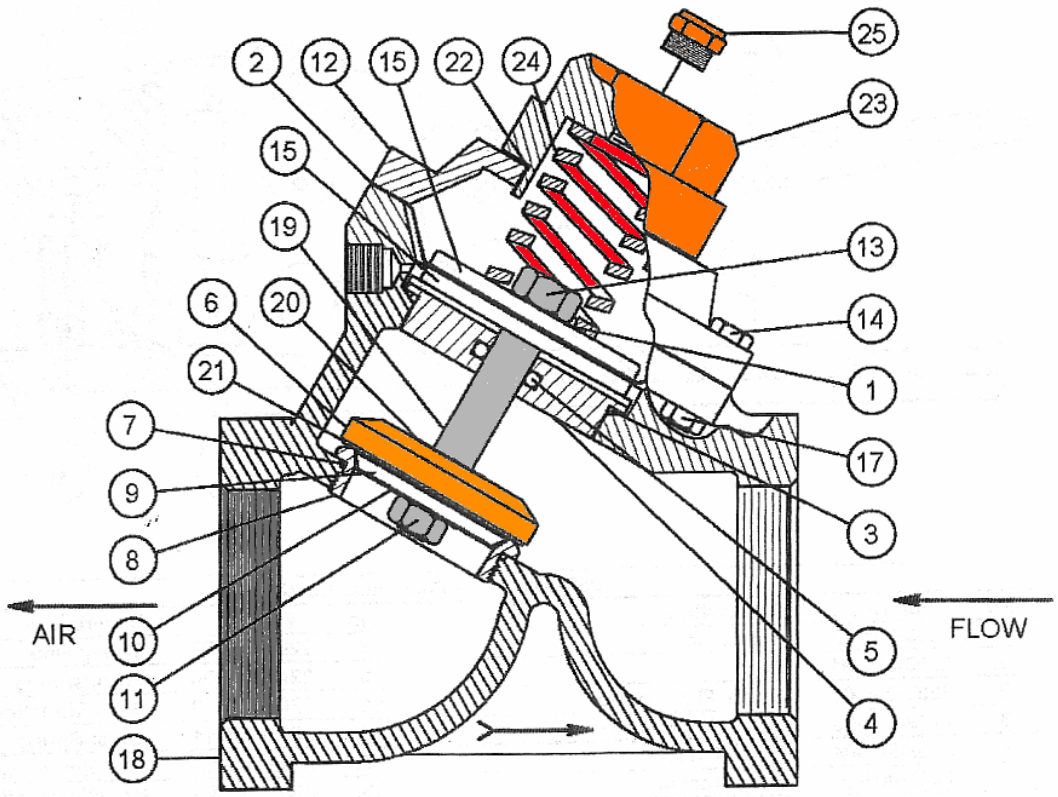
* Included In Repair Kit

	2123-107	1 1/4" Valve
	2123-108	1 1/2" Valve
No.	Part No.	Description
	2123-007-99	Repair Kit
1.*	2123-007-01	Gasket
2.*	2123-007-02	Diaphragm
3.*	2123-007-03	O-ring
4.	2123-007-04	Retainer Bushing
5.*	2123-007-05	O-ring
6.	2123-007-06	Disk Retainer
7.*	2123-007-07	O-ring
8.	2123-007-08	Seat
9.	2123-007-09	Disc Plate
10.	"Deleted"	Lock Washer, Internal
11.*	2123-007-11	Lock Nut
12.	2123-107-12	Cap
13.*	2123-007-13	Hex Nut (w/Locktite)
14.	2123-007-14	Cap Screw
15.	2123-007-15	Diaphragm Plate
17.	2123-007-17	Lock Nut
18.	2123-007-18	Body, 1 1/4"
	2123-008-18	Body, 1 1/2"
19.	2123-007-19	Shaft
20.*	2123-007-20	Gasket
21.*	2123-007-21	Disc
22.	2123-107-22	O-ring
23.	2123-107-23	Spring Retainer
24.	2123-107-24	Spring
25.	2014-300	Vent, 1/8" (not included)

* Included In Repair Kit

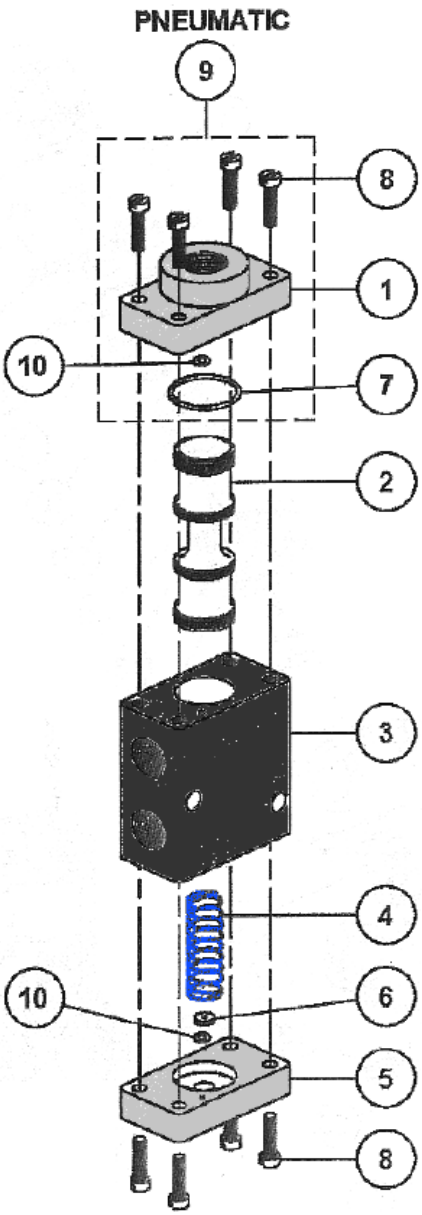
	2123-109	2" Valve
No.	Part No.	Description
	2123-009-99	Repair Kit
1.*	2123-009-01	Gasket
2.*	2123-009-02	Diaphragm
3.*	2123-009-03	O-ring
4.	2123-009-04	Retainer Bushing
5.*	2123-009-05	O-ring
6.	2123-009-06	Disk Retainer
7.*	2123-009-07	O-ring
8.	2123-009-08	Seat
9.	2123-009-09	Disc Plate
10.	"Deleted"	Lock Washer, Internal
11.*	2123-009-11	Lock Nut
12.	2123-109-12	Cap
13.*	2123-009-13	Hex Nut (w/Locktite)
14.	2123-009-14	Cap Screw
15.	2123-009-15	Diaphragm Plate
17.	2123-009-17	Lock Nut
18.	2123-009-18	Body, 2"
19.	2123-009-19	Shaft
20.*	2123-009-20	Gasket
21.*	2123-009-21	Disc
22.		Not Needed
23.	2123-109-23	Spring Retainer
24.	2123-109-24	Spring
25.	2014-300	Vent, 1/8" (not included)

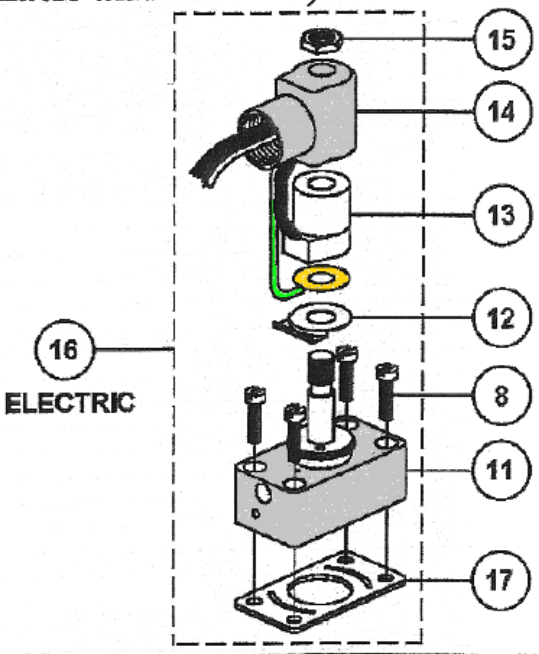
* Included In Repair Kit



NOTE: With spring closed valve air flow is in opposite direction from arrow on valve body.

Control Valves (pneumatic and electric)





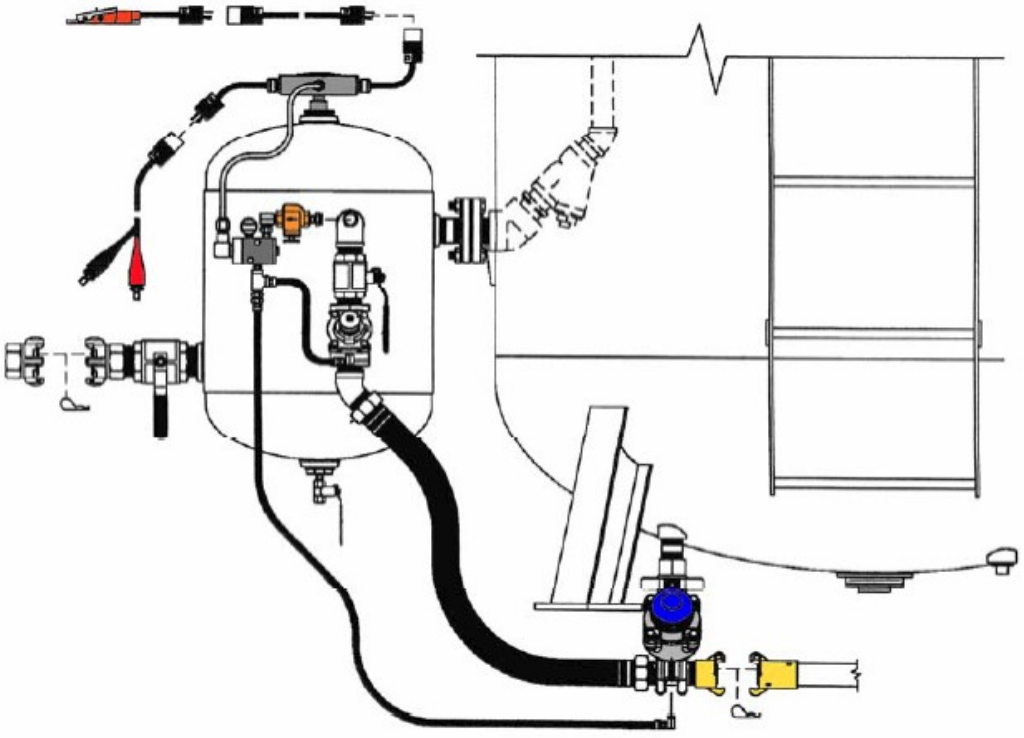
2229-000	Pneumatic Control Valve
2229-100	Electric Control Valve, 12 Volt D.C.
2229-101	Electric Control Valve, 12 Volt A.C.
2229-102	Electric Control Valve, 24 Volt D.C.

No.	Part No.	Description
	2229-000-99	Repair Kit (Pneumatic)
	2229-100-99	Repair Kit (Electric)
1.	Not Available	Air Operator Cap
2.*+	2229-000-02	Plunger w/O-Rings
3.	Not Available	Valve Body
4.*+	2229-000-04	Spring
5.	Not Available	Spring Retainer
6.*+	2229-000-06	Filter Disk
7.*	2229-000-07	O-Ring (Large)
8.	Not Available	Screw (8)
9.	2229-000-09	Air Operator Assembly
10.*+	2229-000-10	O-Ring (2 ea)
11.	Not Available	Electric Operator Cap
12.	Not Available	Coil Cover Bottom
13.	2229-100-03	Coil 12 Volt D.C.
	2229-101-03	Coil 12 Volt A.C.
	2229-102-03	Coil 24 Volt D.C.
	2229-100-03	Coil 24 Volt A.C.
14.	Not Available	Coil Cover
15.	Not Available	Nut
16.	2229-100-06	Solenoid Pilot Assembly, 12 Volt D.C.
	2229-101-06	Solenoid Pilot Assembly, 12 Volt A.C.
	2229-102-06	Solenoid Pilot Assembly, 24 Volt D.C.
	2229-100-06	Solenoid Pilot Assembly, 24 Volt A.C.
17. +	2229-100-07	Gasket (Electric Only)

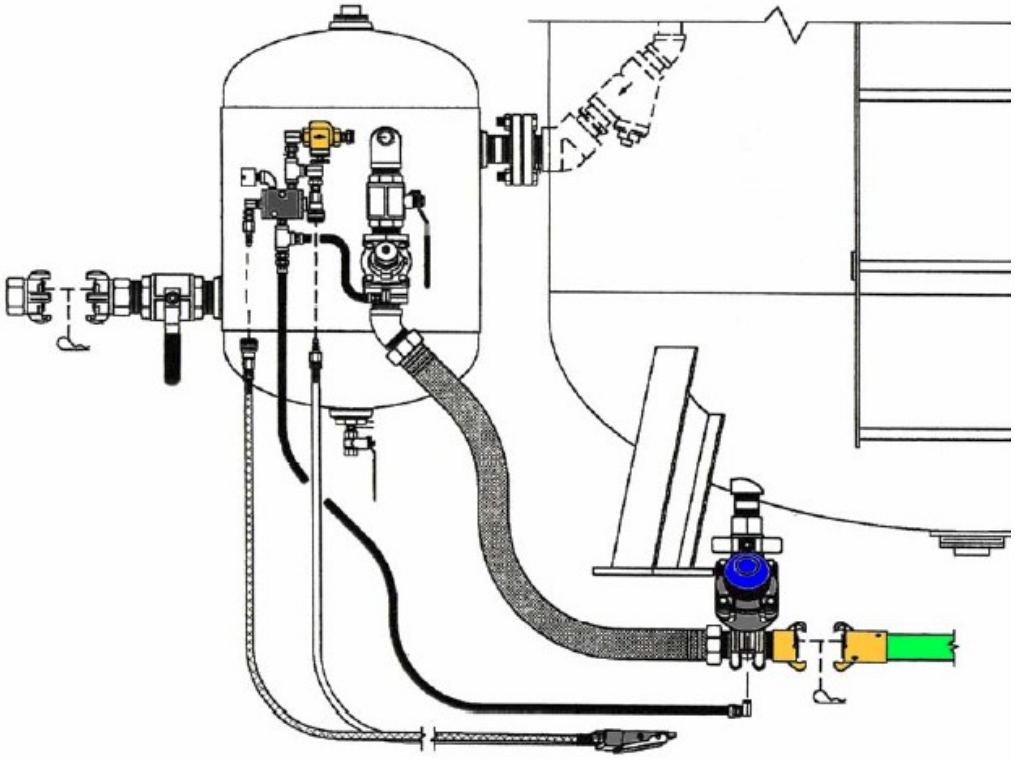
* Included in repair kit-pneumatic
+ Included in repair kit-electric

Control Valve Illustration

ELECTRIC CONTROL SYSTEM LAYOUT



PNEUMATIC CONTROL SYSTEM LAYOUT



ADDITIONAL ILLUSTRATIONS

Figure 1 Blow down ball valve.

This unit has two mufflers installed.

Figure 2 Typical media valve.

Note: The media isolation valve above it.

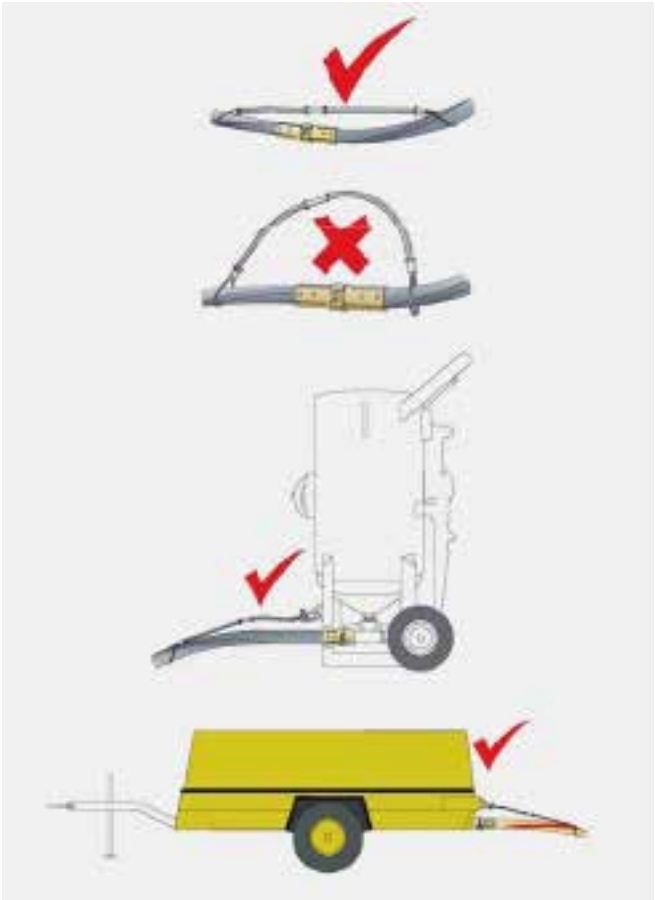


Figure 3 Whip check installation

Figure 4 Whip check installation

FINDING FAULTS

SYMPTOM	POSSIBLE PROBLEM	POSSIBLE SOLUTION
Air Blast but No Abrasive (one or all outlets)	Plunger in metering valve stuck in closed condition	Dismantle & repair
	The vessel is empty	Refill
	The abrasive in the vessel is wet (Moisture can enter in vapour form with the compressed air - this is not uncommon depending on air quality) *	De-pressurize the pot & remove the man-way over to inspect the interior. Remove & damp or wet abrasive. This may necessitate removing all the metering valves for inspection as well.
	Foreign matter is plugging the abrasive metering valve	Try closing the choke valve & opening the abrasive metering valve momentarily to see if that will blow the obstruction out. If this does not work then it will be necessary to de-pressurize the pot & remove the obstruction by hand
Reduced Pressure at the Nozzle (with or without abrasive flow)	Under sized air compressor (see air requirements chart)	Use a larger compressor or a smaller nozzle
	Air hose is too small	The air hose diameter should be at least 3 times the nozzle diameter.
	Abrasive metering valve adjustment open too far	Start off with no abrasive (fully closed) then open slowly, whilst observing air stream existing the nozzle, until a slight colour change can be seen
	Choke valve partially closed	Open fully
	Blast nozzle orifice partially blocked with trash	Unscrew from nozzle holder and clean out Under sized air compressor See above
Unit is Slow to Turn On or Will Not Turn On	Under sized air compressor	See above
	Control hoses are leaking	Check and repair
	The control valve is faulty	Inspect for dirt jamming the internal shuttle valve
	Control hoses are plugged or kinked (pneumatic system))	Repair as necessary
	Flat battery or battery not connected (electric system)	Recharge battery; check connections
Unit turns on accidentally	The deadman is faulty	Repair or replace
	The lever on the deadman is worn out	Replace the lever.
	The safety button on the deadman is missing	Replace

SYMPTOM	POSSIBLE PROBLEM	POSSIBLE SOLUTION
Unit is Slow to Turn Off or Will Not Turn Off	A bleeder type deadman has been installed. These are unsafe because a piece of dirt from the air hose can plug the hole in the deadman and cause the blast unit to turn on (pneumatic system)	Dismantle & repair
	The deadman is faulty	Refill
	Deadman connected back to front	De-pressurize the pot & remove the man-way over to inspect the interior. Remove & damp or wet abrasive. This may necessitate removing all the metering valves for inspection as well.
Blast air stops but abrasive will not shut off	Foreign object stuck between plunger & seat in metering valve	Dismantle & inspect
	Defective valve plunger, spring or sleeve in metering valve	
	Blocked air hose to metering valve	
Abrasive stops but blast air will shut off	Defective spring, seat or shaft "O"-ring in automatic air valve	Dismantle & inspect
	Blocked hose to auto air valve	

* Use dry air. Contact Blast-One for an air dryer to suit your application.

NOTES ON MEDIA FLOW PROBLEMS

Thompson Valve operation

If abrasive flow is a problem, remember the Thompson Valve does nothing more than open or close. The total travel to full open is ¾" of an inch. This can be quickly checked with the adjustment knob on the abrasive valve. This procedure requires the choke valve and the media shut-off valve to be closed to prevent blasting. This test is to verify that the Thompson Valve is opening; however the blast air & abrasive must be manually shut off.

With the deadman off, screw the Thompson Valve knob down until it stops. Notice that the knob turns easily when the deadman is off. Next, back the knob out ¾" of an inch or slightly less, then depress the deadman lever to activate the Thompson Valve. The knob should get tight or more difficult to turn because the valve has opened against the adjustment. This guarantees that the valve is fully open. If the material will not flow with the valve fully open, you have an abrasive flow problem, not a problem with the Thompson Valve. The abrasive may be wet, or there may be a foreign object blocking the opening. Try choking the blast outlet to clear the opening.

Choking the Blast Outlet

The function of the choke valve is to aid in the removal of any obstruction that may find it's way into the blast pot. Whenever a large particle (paint chip, cigarette butt, etc) obstructs the Thompson Valve the procedure is to open the valve to the fully open position and then close the choke valve completely for about one second while the deadman lever is depressed. The media shut-off valve must be opened for this procedure. This should be sufficient to dislodge whatever foreign material that may have obstructed media flow through the Thompson Valve. The choke valve should be left in the full open position on all other occasions.

⚠ NOTE ⚠

The Thompson Valve has a clean out port to use for this procedure. If the valve does not have the clean out fittings they can be added. See the Thompson Valve drawing on page 25.

Remember, the unit is normally closed. There-fore, control hoses are depressurized to turn the unit off and pressurized to turn it on. If a needle gauge is available, it is the quickest way to check to seeif there is pressure or not. If no needle gauge is available, disconnect the control hose fittings, one at a time, until the problem is located.

ABRASIVE CONSUMPTION (LBS PER HOUR) PER BLAST NOZZLE

NOZZLE SIZE		60 P.S.I.	70 P.S.I.	80 P.S.I.	90 P.S.I.	100 P.S.I	120 P.S.I.
2	1/8"	90	105	115	130	140	165
3	3/16"	205	230	260	290	320	375
4	¼"	365	420	460	500	560	660
5	5/16"	575	650	725	825	900	1050
6	3/8"	840	945	1050	1155	1260	1475
7	7/16"	1150	1300	1450	1600	1750	2050
8	½"	1460	1660	1850	2000	2250	2650
10	5/8"	2290	2600	2900	3125	3520	4100
12	¾"	3300	3750	4180	4500	5060	5950

HOSE SELECTION GUIDE (BLASTING AT 100 P.S.I.)

NOZZLE SIZE	NO. 4 (1/4")	NO. 5 (5/16")	NO. 6 (3/8")	NO. 7 (7/16")	NO. 8 (1/2")
C.F.M. @ 100 p.s.i.	90	140	200	270	350
Air Hose	1-1/4"	1-1/4"	1-1/2"	1-1/2"	2"
Blast Hose	1"	1-1/4"	1-1/4"	1-1/2"	1-1/2"
Media Rate (lbs per hr)	560	900	1260	1750	2250

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Revision: 2

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