



Automotive Cleaning Equipment

OPERATOR'S BOOKLET HEAVY DUTY PORTABLE DRY SODA BLASTER

MODEL 2-PS



MADE IN USA

ACE MODEL 2-PS QUICK SET UP GUIDE

1. Connect the Model 2-PS to your compressor, using an air supply line of at least ½" I.D (Internal Diameter). If you are using an air supply line longer than 30 ft., or with an air compressor greater than 30 cfm, use a ¾" I.D. air supply line with a reducer to thread into the ½" NPT (National Pipe Thread) air inlet valve on the front of the Model 2-PS.
2. DO NOT USE a plug in male/female type quick disconnect on your air supply line. If you are going to use a quick disconnect, use a "Chicago Style" quick disconnect. If you are not sure what this is, just Google search for "Chicago Style Coupling".
3. Load the Model 2-PS with soda blast media. ALWAYS make sure that the air inlet valve (where your air supply line goes into the Model 2-PS) is in the closed/off position, and that the tank is fully depressurized before attempting to load with soda blast media. You depressurize the tank using the valve on the top of the tank. You can then unscrew the large nut on top of the tank and place in your funnel. The Model 2-PS tank will hold up to 100# of soda blast media. Make sure that you pour the soda blast media thru a screen before loading. This will catch any clumps and help prevent clogging. After loading, replace/tighten nut and close the depressurizing valve.
4. Make sure that the ball valve on the bottom of the tank is in the fully open position
5. Turn on your air compressor and set the compressor to 120 psi (pounds per square inch).
6. Open the air inlet valve on your Model 2-PS (where your air supply line goes into the Model 2-PS).
7. Set your final blasting pressure on the Model 2-PS adjustable pressure regulator by gently pulling up on the black knob (You should hear a slight click). There are arrows on top of the knob indicating which way to turn to increase or decrease the pressure. Watch the pressure gauge on the Model 2-PS and turn the knob to adjust the pressure. When the gauge reaches the pressure you want, push the knob back down. You should hear a slight click.
8. Set the Model 2-PS adjustable pressure regulator within the 80 - 100 psi range to remove paint from hard surfaces like metal or stone. If you are blasting on soft materials like wood or fiberglass always start at a very low final blasting pressure like 30 or 40 psi and slowly increase the pressure until you find the best pressure that cleans and doesn't harm the soft surface.
9. Always wear a respirator and eye protection when soda blasting. The Model 2-PS comes with a bump cap and blasting hood. If you do not use the hood, make sure you wear full goggles to protect your eyes.
10. To blast, just depress the handle at the end of the blast hose and blast at approximately 45 degree angle to the surface.
11. When you complete your work for the day, turn off the air compressor, close the air inlet valve on the Model 2-PS, and depressurize the tank. Empty any soda from the tank if you are not going to use the Model 2-PS again for any length of time more than a week or two. To empty tank, loosen the pipe union between the ball valve on the bottom of the tank and the control box. This will remove the control box. After soda is drained out, replace control box and carefully tighten the pipe union.

ACE MODEL 2-PS QUICK TROUBLE SHOOTING GUIDE

In the event that you encounter an issue with your ACE Model 2-PS, listed below are some quick solutions to get you up and running again.

1. Make sure that you have enough soda blast media in the tank. When the media level gets too low, you may encounter erratic soda spray. Add more soda blast media. Always make sure that you pour your soda blast media through a screen before putting into the machine. This will catch any clumps that sometimes occur even in new unopened bags of media.
2. Make sure the ball valve on the bottom of the tank is fully open.
3. If you get air coming out of the nozzle, but no soda, normally it means that you have a clog or that the control box tubes need to be replaced. Check to see if your restrictor, or the manifold that your blast hose connects to, is clogged. If so, clean it out. Inspect the control box tubes to make sure they do not have a hole/tear in them. If one of the tubes has failed, replace with the proper ACE control box tubes. **DO NOT** use any other type of tube. The ACE tubes are a special rubber composition for maximum tube life and machine performance.
4. If you are getting a lot of water in the bowl of the adjustable pressure regulator, you are probably getting water in the tank. Moisture is the main cause of clogging in any soda blaster. Attach a water filter to the air inlet of the Model 2-PS to catch any excessive moisture that is being pumped by the air compressor.
5. When replacing control box tubes, **ALWAYS** make sure that the ends of the two adjustment bolts are **EXACTLY 1"** from the face of the metal plate they go through. This measurement is critical for proper operation of the machine.
6. Check the entire length of the small diameter red and black tubing that attach to the trigger mechanism for kinks or holes. Replace if necessary.
7. Make sure the plunger on the handle trigger mechanism is operating properly. When the plunger is not pushed down, the hole in the plunger should be fully visible.

IMPORTANT INFORMATION CONCERNING PLANTS & GRASS

The information below is provided courtesy of the ARMEX website:

Will ARMEX® damage plants or grass?

One biological process that can be disturbed by the presence of any free sodium ion, including sodium bicarbonate is the process of photosynthesis. This process uses light in the presence of chlorophyll and water to convert carbon dioxide to sugars, used as nutrients for plant life. Depending on the type of plant, sodium bicarbonate can produce temporary discoloration or cause more serious damage.

The most easily upset plants are flowering shrubs, such as roses, azaleas, or lilac. Trees and grass typically turn brown, then recover in 4-6 months. Some plants are completely unaffected. The speed of any reaction with plant life can vary widely, depending on the type of plant.

To avoid damage to plants from blasting with ARMEX Blast Media:

- Avoid contact between plants and blast media residue. Cover plants and prevent the liquid run-off from soaking the soil around plants.
- If contact is unavoidable, the client should be aware that damage to plants can occur.

To minimize damage:

- Soak the soil and leaves thoroughly before blasting. It is best to use a sprinkler for 4-6 hours to completely soak the soil, leaves, and branches before blasting.
- Continually rinse the leaves and prevent liquid run-off from soaking into the soil around the roots.
- After blasting, continue to soak the leaves and soil to thoroughly flush the sodium bicarbonate away from the root structure. The amount of soaking after blasting depends on the amount of residue in contact with leaves and roots. The goal is to reduce the sodium ion concentration below 0.5 vol% on the leaf surfaces and around the roots so that any damage will be minimized.

ACE SODA BLASTER

MODEL 2-PS HD PORTABLE SODA BLASTER

ESTIMATED CFM REQUIREMENTS

PSI					
90	13	19	29	+36	+50
80	12	18	27	34	+45
60	10	15	23	30	35
40	7	10	18	23	32
	3/32"	1/8"	5/32"	3/16"	1/4"

ESTIMATED MEDIA USAGE (LBS / MINUTE)

PSI	1/8" RESTRICTOR				
90	.51	.92	1.47	2.21	4.04
80	.46	.88	1.38	1.70	3.25
60	.37	.78	1.20	1.57	2.62
40	.28	.55	.97	1.34	2.52
	3/32"	1/8"	5/32"	3/16"	1/4"

PSI	7/64" RESTRICTOR				
90	.32	.58	.93	1.39	2.98
80	.29	.55	.92	1.33	2.40
60	.27	.53	.90	1.26	1.94
40	.26	.50	.88	1.21	1.86
	3/32"	1/8"	5/32"	3/16"	1/4"

PSI	3/32" RESTRICTOR				
90	.29	.53	.84	1.26	2.24
80	.26	.50	.82	1.21	1.80
60	.25	.47	.80	1.12	1.45
40	.23	.45	.79	1.09	1.25
	3/32"	1/8"	5/32"	3/16"	1/4"

NOTES:

- FIGURES USED ARE BASED ON OUR TEST DATA. ACTUAL RESULTS WILL VARY.
- CFM REQUIREMENTS BASED ON "DELIVERED CFM" TO UNIT.
- LBS / MINUTES MEDIA USAGE BASED ON MAINTENANCE GRADE SODA SPRAYED INTO FREE AIR.
- 1/2" ID AIR SUPPLY LINE USED.

ACE SODA BLASTING MODEL 2-PS AND MODEL 2-S PERFORMANCE TIPS

- We have been finding soda “clumps” in new bags of soda blast media from the factory. These clumps will clog the restrictor in the Model 2-PS and 2-S, and the down tubes in the Performance Plus. We recommend that you screen your soda through a piece of 1/16” mesh into a bucket, and then fill your soda blaster. This will save you time in the long run, and also increase the life of the tubes inside of your control box on the Model 2-PS and 2-S.
- Never leave unused soda blast media in your soda blaster overnight. Always empty any unused media into a sealed plastic container between uses. Also, put partially used bags of soda blast media into a plastic garbage or lawn bag and seal the bag. Moisture from the air can otherwise be absorbed by the media and can cause clogging problems in restrictors and tubes.
- The moisture trap is not a moisture filter. If you see an accumulation of water in the trap, chances are the moisture is also getting into the tank and being absorbed by the soda blast media, potentially causing clogging. If you are in a high humidity environment, you may need an in-line moisture filter. In extreme conditions, an air chiller may be necessary. We advise customers to try ARMEX FLOW M or FLOW XL before purchasing a moisture filter or chiller. In some cases, just using the FLOW products is enough to take care of the issue. Some customers report that opening the moisture filter drain stopcock on the unit, and letting the water drip out, has helped.
- Always keep the soda blast delivery hose as straight as possible while using our portable soda blasters. Do not operate your unit with the hose coiled or with sharp radius curves. The soda blast media will wear away the hose from the inside causing premature hose failure.
- Never use a push in male/female quick disconnect coupling with your 2-PS or 2-S soda blaster. The small inside diameter of such couplings will restrict the airflow from your compressor, and will adversely affect the performance of your unit. Such connections can also be potential safety hazards. Always use a “Chicago Style” quick disconnect with the Model 2-PS.
- Always use a minimum 1/2” I.D. (Inside Diameter) air delivery hose from your compressor to the Model 2-PS and 2-S soda blasters. Use a 3/4” I.D. air delivery hose with the Model 2-PS if the delivery hose length will exceed 30 ft in order to minimize pressure drop.
- 2-PS users should follow the nozzle size recommendations found on the “Estimated CFM Requirements” chart. Improper nozzle size and air delivery hose I.D. in relation to your air compressor's delivered CFM will drastically affect the performance of your unit.
- Most customer problems with the Model 2-PS or Model 2-S are either caused by excessive moisture from the compressor, or failure of the control box tubes. The control box tubes are a designed wear item. Check your control box tubes if your unit blasts air with no media, or will not fully shut off when you release the handle. Replacement tubes are \$1 each and take about 15 minutes to replace.
- When removing or re-attaching the control box, be sure to hold the fitting on the top of the control box with a wrench. Then either loosen or tighten the pipe union nut, which attaches the control box to the pipe fitting, using a pipe wrench. This will ensure that the rubber control box tube inside the control box does not twist up. A twisted tube will fail prematurely and affect the performance of your unit.

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1.0 Introduction

This manual will provide you with important information about the Heavy Duty Portable Dry Soda Blaster Model 2-PS and its safe use.

The Model 2-PS is an abrasive blasting system that converts compressed air and dry soda abrasive media particles into an effective cleaning process. The soda blaster unit is a simple design and user-friendly, taking advantage of the unique capabilities of soda blast media shot through a blast nozzle to perform cleaning. It is to be used for the removal of various soils and residue from a variety of parts and surfaces.

Read this entire booklet carefully before you use the Model 2-PS. Keep this booklet, along with the material safety data sheet you should receive with your soda blast media. It is important that you follow all safe-use instructions carefully, as well as all the directions and procedures provided in this manual, and on the machine labels.

1.1 Soda Dry Blast Media

Information about the soda blast material to be used in this machine should be included on the material data safety sheet provided by the supplier of the product. Read the MSDS carefully. Follow all Safe-Use Instructions and other directions and procedures provided in the MSDS.

2.0 The Heavy Duty Portable Dry Soda Blaster Model 2-PS

The Model 2-PS is a pressure driven abrasive blast system that is used in manual cleaning operations. By using dry soda media, the Model 2-PS is a versatile system that can be used for numerous cleaning activities. The operator has precise control of the

abrasive flow rate and velocity for efficient operation. The Model 2-PS is a fully portable system that includes bump hat and operator hood to protect the operator from dust and other contaminants. Air safety lock out, ceramic nozzle assembly, and water nozzle for spray off and dust reduction, provide the operator with clear vision of the abrasive cleaning process.

The unit incorporates an ASME rated pressure vessel that contains the Soda Blast Media, and a Control Unit designed to regulate the flow of compressed air and media to the nozzle.

2.1 Features and Benefits

Standard Features include:

- ASME Code Tank-Certified Quality
- 100 Lb. Blast Media Capacity
- 25 Ft. of Heavy Duty ½" I.D. Abrasive Resistant Hose
- New Control Valve System to Efficiently Regulate the Flow of Compressed Air and Media to the Nozzle

Value Added Features include:

- Water Feed Line with Rinse Off Capability for Dust Control
- Rugged Heavy Duty Steel Frame with Wheels for Easy Mobility
- Interchangeable Nozzle Holder (Ceramic Nozzle Standard)
- Optional blast nozzles and control restrictor combinations available for operational flexibility
- Pressure Regulator and Air Line Moisture Trap with Gauge - Better Control of Finish
- Tall Vertical Tank Design-Better Media Flow

- Remote Blast Control
 - Automatic Shut-off if Handle Pressure is Released
 - Control at Nozzle Handle
 - System Shuts Off at the Tank
- Blast Hood with Bump Cap (included)- Added Safety Protection for the Operator
- Contains Features Usually Available Only on More Expensive Models

- Pressure Vessel: ASME Code
- Working Pressure-Range: 30 to 120 PSI
- Compressed Air Minimum: 80 PSI @ 18 CFM
- Soda Blast Media Capacity: 100 Lbs. Dry Blast

2.2 Site Requirements

Several factors are considered essential when determining an acceptable work site environment for the Model 2-PS. These requirements include:

- The work site should be as smooth and level, as possible, to allow easy movement and adjustment of the equipment.
- The work site must be well ventilated.
- The work site should have sufficient lighting.
- The Model 2-PS should not be placed near open flames, sparks or welding devices.
- A source of compressed air with a minimum pressure of 80 PSI @ 18 CFM.

2.3 Specifications

Basic Design and Requirements

- Dimensions: 48”H x 21”W x 25”D
- Weight: 135 LBS (approx.)
- Water: Standard hose connection (3/4”) and 30-90 PSI clean water
- Material: 14 & 11 gauge Steel
- Abrasive Resistant Hose: 25 ft. long, 1/2”I.D. (optional lengths available to 75 ft.)
- Nozzle: 1/8”Standard (other sizes optional- 3/32” thru 1/4”)
- Restrictor: 1/8”Standard (5/32”optional)

3.0 Assembly

To assemble the Model 2-PS, simply connect and tighten the 1/2”NPT pipe union at the top of the unit with a pipe wrench or channel lock. Make sure the union is secure.

3.1 Start-Up Instructions

1. Connect the Model 2-PS to a source of clean, dry compressed air, capable of delivering a minimum of 80 PSI at 18 CFM. The compressor must produce sufficient air pressure and volume to convey abrasive from the blast unit to the surface. Connect the source of compressed air onto safety lock out valve inlet. NOTE: Connect airline directly to avoid airflow restriction. DO NOT use quick disconnect fittings.



2. Connect unit to a source of clean water 30-90 PSI (optional).



Verify that the System is Operational

Once the system is fully assembled, check to make sure it is operational and ready to use:

1. Make sure that the pressure vessel vent valve is closed.



2. Place the Air Safety Lockout Valve open. (next to regulator) Up position.



3. CHECK FOR ANY AIRLEAKS OR OPEN VALVES. TURN OFF AIR AND CORRECT BEFORE CONTINUING.
4. Make sure that the pressure regulator is set to 90 PSI.

5. WEAR BUMP HAT AND HOOD AT ALL TIMES WHILE OPERATING.
6. WEAR GLOVES AT ALL TIMES WHILE OPERATING.
7. WARNING: ALWAYS POINT NOZZLE AWAY FROM SELF AND OTHERS. Press the hand operated LEVER to start the flow of air. *



8. Release LEVER to make sure air flow stops. *

The Unit is now operational.

*If airflow is incorrect or does not stop see Trouble Shooting Section.

4.0 Operating Procedures

4.1 Safe Use Instructions

Before operating the Model 2-PS, read and understand the Operator's Booklet and the Material Safety Data Sheet for the Soda Blast Media used in this unit. If an operator cannot read or is a poor reader, a qualified person must explain equipment manuals and all warning labels, making sure that the operator knows how to safely use and maintain the equipment.

INCOMPLETE UNDERSTANDING OR IMPROPER TRAINING CAN LEAD TO SERIOUS INJURY. IN ADDITION: NEVER POINT THE NOZZLE AT ANY PERSON, ANIMAL, OR OBJECT OTHER THAN THE INTENDED OBJECT TO BE CLEANED!!!!

SERIOUS INJURY COULD RESULT!!!!

1. Keep this Operator's Booklet with the equipment to allow easy access for reference by operators.
2. **ALWAYS** WEAR PROTECTIVE SAFETY GEAR-SAFETY GLASSES / FACE SHIELD, HOOD, APPROVED GLOVES, RESPIRATOR, EAR PROTECTION AND APPROPRIATE CLOTHING.
3. ARMS, LEGS AND BODY TO BE COVERED WITH PROTECTIVE CLOTHING, INCLUDING STURDY LEATHER BOOTS.
4. **Do NOT** operate any electrical equipment near the unit.
5. **Do NOT** smoke, eat, or drink while blasting.
6. **Do NOT** spray aerosols near the unit.
7. **Do NOT** operate this unit in any manner that will result in the removal of the control unit or hand operated blast gun, hose and/or nozzle.
8. Clean-off residual Soda Blast Media with the water nozzle unit attached to blast gun, if desired.
9. Use only Soda Blast Media (recommend Maintenance Grade Soda).
10. **Do NOT** modify, remove or substitute parts on this unit in any way.
11. **Do NOT** tape down or prevent free movement of the blast gun hand lever switch.
12. Inspect all hoses and safety equipment for damage or wear prior to starting the cleaning operation.
13. Always be sure to have grounding cables on the blast equipment if blast operations are in areas where volatile fumes exist.
14. Wear appropriate filtered mask while loading and unloading soda.

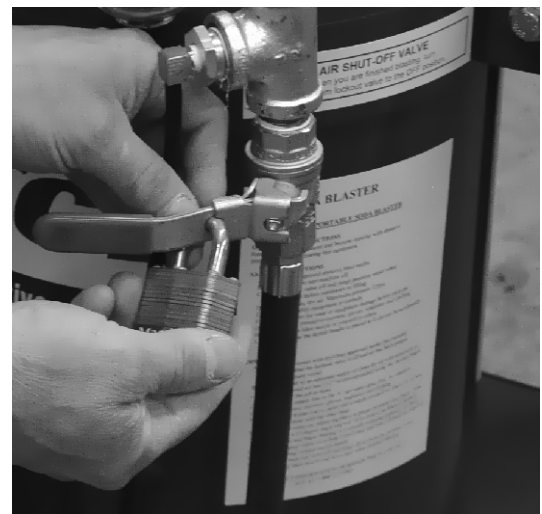
mation contained in the MSDS, and on the media label located on the side of the blast unit.

Use a clean plastic funnel to easily load the delivery unit with the unused Soda Dry Blast Media. The blast machine must be manually depressurized prior to replenishing the media.

SODA MUST BE DRY AND NOT CONTAMINATED. RECOMMENDED TO MOVE UNIT AWAY FROM WORK AREA, ESPECIALLY IF BLASTING OVERHEAD, SO AS NOT TO CONTAMINATE SODA WHILE LOADING. ALSO, DO NOT LOAD IN AREAS WITH HIGH HUMIDITY, AS THIS WILL CAUSE SODA TO CLUMP AND PLUG NOZZLE AND RESTRICTOR.

Wear appropriate filtered mask while loading and unloading soda.

1. Turn off the safety lockout air valve located at the front of the pressure vessel and lock it out. (sideways position)



TURN OFF THE SOURCE OF COMPRESSED AIR TO THE UNIT.

4.2 Loading Soda Blast Media

Before loading the Soda Dry Blast Media, read and become familiar with the infor-

2. Vent the pressurized air from the delivery unit using the vessel valve located on the top of the pressure vessel unit. Turn valve slowly (earplugs recommended) releasing air pressure.



3. CHECK TO MAKE SURE SYSTEM IS TOTALLY DEPRESSURIZED.
4. CAREFULLY remove safety cap from pressure vessel media inlet fitting, MAKING SURE ALL AIR IS DELETED FROM VESSEL.



5. Use clean plastic funnel to slowly pour unused dry soda into unit. Wear appropriate filtered mask while loading and unloading soda.



6. **NOTE: USE SODA BLAST MEDIA ONLY. USE OF OTHER MEDIA TYPES WILL VOID ALL WARRANTIES AND COULD CAUSE PERSONAL INJURY!**
7. Remove funnel and **REPLACE SAFTEY CAP** onto the pressure vessel media inlet fitting. Making sure it is tightly secured.
8. Shut ball valve on vacuum inlet by turning 90 degrees from inlet. (closed)



9. Turn on air supply.
10. Remove shutout lock from Air Safety valve. Move Air Safety valve to on position. (up)

4.3 Operation

This section covers the safe operation of the Model 2-PS.

1. Put on protective equipment before operating the unit.
2. Make sure air and water feed lines are attached and turned on.
3. Unwind blasting feed hose so there are no kinks or coiled portions (as with all blasting, the least amount of sharp bends in the hose the better).

4. Wearing proper safety gloves, hold the nozzle/hose assembly at a 45-degree angle, within 6-18" inches of the surface to be cleaned. Grasp the water ball valve and hose with the other hand. **ALWAYS KEEP TWO HANDS ON THE BLASTING HOSE.**



5. Activate the cleaning nozzle by squeezing the hand lever. If desired, turn on the water spray with the other hand by rotating the ball valve 90 degrees.
6. Adjust the pressure (using the air regulator) to the desired settings of media flow for the specific application. Match the amount of pressure, control unit restrictor, and nozzle, to the size and type of surface to be cleaned. Doing so will ensure the best possible finish, cleaning speed and cost efficiency.
 - For rich media flow (corresponding to gross type cleaning) use large nozzle. Consult estimated CFM requirements chart. (Optional nozzles are available in several sizes)
 - For leaner media flow (corresponding to finer, precision type cleaning) use smaller nozzle. Consult estimated CFM requirements chart. (Optional nozzles are available in several sizes)
7. Continue cleaning, as required. To stop cleaning, release hand lever and turn off water BALL VALVE, if in use. This will

stop the flow of media to the nozzle and water spray. **TURN THE SAFETY LOCK OUT VALVE TO THE OFF POSITION BEFORE SETTING THE BLAST NOZZLE HANDLE ON TO THE PORTABLE SODA BLASTER.**

8. **DO NOT DROP THE NOZZLE HANDLE** END OF THE BLASTER, AS DAMAGE TO THE NOZZLE TIP MAY RESULT.

5.0 Maintenance and Troubleshooting Guide

It is recommended that you spray all pipefittings on the unit with a rust preventative before and after each use of the Model 2-PS.

5.1 Blast Nozzle Replacement

1. Turn off the safety lockout air valve located at the front of the pressure vessel and lock it out. (sideway position)



2. **TURN OFF THE SOURCE OF COMPRESSED AIR TO THE UNIT.**
3. Disconnect unit from compressed air source.

4. Vent the pressurized air from the delivery unit using the vessel valve located on the top of the pressure vessel unit. Turn valve slowly (earplugs recommended) releasing air pressure.



5. Lay nozzle handle on work surface. Remove the first three (3) 2" Velcro straps from the handle, noting the position for replacing.



6. Bend blast hose, and slip the water spray nozzle disc assembly off the end of blast nozzle.



7. Unscrew the blast nozzle hold down nut, making sure not to lose or displace washer.



8. Gently tap the blast nozzle until it separates from the hold down nut.



9. Replace nozzle. Reverse process to reassemble.

5.2 Water Spray Nozzle Replacement

1. Turn off the safety lockout air valve located at the front of the pressure vessel and lock it out. (sideway position)



2. TURN OFF THE SOURCE OF COMPRESSED AIR TO THE UNIT.

3. Disconnect unit from compressed air source.
4. Vent the pressurized air from the delivery unit using the vessel valve located on the top of the pressure vessel unit. Turn valve slowly (earplugs recommended) releasing air pressure.

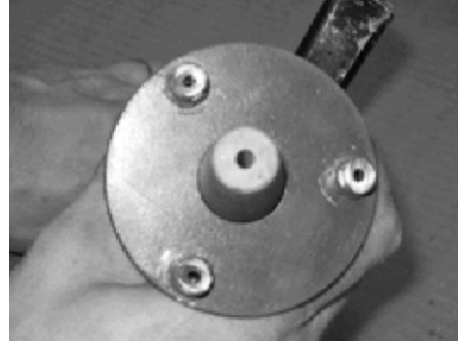


5. Lay nozzle handle on work surface. Use a 1/2" wrench and a 7/16" wrench to loosen the water spray nozzle tip. Note the position and alignment of the tip. This is important to ensure the correct water spray pattern.



6. Replace water spray nozzle tip using small amount of pipe dope. Make sure not to get pipe dope into the I.D. of the nozzle tip. Tighten nozzle into fitting and

nozzle disc. Align nozzle to make a triangular cone pattern.



5.3 Restrictor Replacement

1. Turn off the safety lockout air valve located at the front of the pressure vessel and lock it out. (sideway position)



TURN OFF THE SOURCE OF COMPRESSED AIR TO THE UNIT.

2. Vent the pressurized air from the delivery unit using the vessel valve located on the top of the pressure vessel unit. Turn valve slowly (earplugs recommended) releasing air pressure.



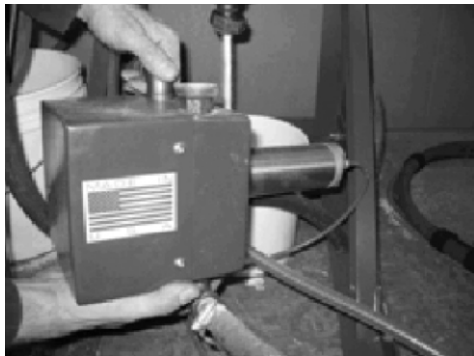
CHECK TO MAKE SURE SYSTEM IS TOTALLY DEPRESSURIZED.

DISCONNECT UNIT FROM
COMPRESSED AIR SUPPLY.

3. Using a medium sized pipe wrench, loosen the union pipefitting that attaches the control unit to the bottom of the pressure vessel.



4. With your free hand placed under the control unit (so as to not let it drop), completely unscrew the union, allowing the control unit to separate from the pressure vessel (place a small container under the pressure vessel to catch any remaining soda).



5. Tip the control unit upside down, to empty any soda that may still be in the inlet fitting. With a pair of needle nose

pliers, remove the factory installed 1/8" restrictor, noting the orientation.



6. Replace restrictor. Reverse steps to reconnect control unit to bottom of the pressure vessel.



5.4 Troubleshooting Guide

PROBLEM	INDICATIONS	REMEDY
No air at nozzle	Air line hook-up	Check compressor, air line, and power.
	Safety lock out off	Turn safety lock out handle to on position
	Hand lever not depressed	Check for obstruction under lever.
	Regulator setting	Adjust regulator setting.
	Cylinder on control unit not working	Check red and black control tubes for leaks or kinks.
	Plugged nozzle	Remove nozzle; clean or replace nozzle.
	Plugged shut off tube	Remove, inspect, clean or replace shut off tube.
	Control unit adjustment	Control unit adjustment. Bolts too tight; loosen bolts evenly.
	Nozzle handle valve	Inspect, clean, or replace valve.
No soda at nozzle	No soda	Add soda to pressure vessel.
	Soda contaminated	Check for foreign matter or clumped soda.
	Air line hook-up	Check compressor, air line, and power.
	Safety lock out off	Turn safety lock out handle to on position
	Hand lever not depressed	Check for obstruction under lever.
	Regulator setting	Adjust regulator setting.
	Cylinder on control unit not working	Check red and black control tubes for leaks or kinks.
	Plugged nozzle	Remove nozzle; clean or replace nozzle.
	Plugged shut off tube	Remove, inspect, clean or replace shut off tube.
	Plugged restrictor	Remove, clean, or replace restrictor.
	Control unit adjustment	Control unit adjustment. Bolts too tight; loosen bolts evenly.
	Nozzle handle valve	Inspect, clean, or replace valve.
No water at nozzles	Water line hook-up	Check feed hose or supply valve.
	Spray nozzles plugged	Check for obstructions, clean or replace.
	Spray feed tubes (red 1/4")	Check for kinks, leaks or bad connection.
	Water ball valve	Lever setting or remove and clean valve.
Slow or weak cleaning	Nozzle angle	Soda works best when sprayed at a 45-degree angle.
	Low pressure	Check regulator setting or settings on compressor. Too many other tools operating off of compressor.
	Low CFM	Check regulator and compressor rating.
	Nozzle or restrictor size	Switch to larger size nozzle and/or restrictor.
Soda/air not shutting completely off	Nozzle handle not working	Check for obstructions. Handle not fully returned to off position.
	Control unit adjustment	Turn adjustment bolts clockwise evenly.
	Obstructed shut-off tube	Remove shut-off tube, clean or replace.
	Handle valve out of adjustment	See detailed diagram and instructions page 23

For further technical assistance, call 1-888-772-3263 and ask for the Soda Blasting Technical Assistance Group.

6.0 Servicing the Soda Blast Unit

This section covers the routine servicing of the Model 2-PS.

6.1 Servicing the Model 2-PS

Turn off the safety lockout air valve located at the front of the pressure vessel and lock it out. (side ways position)



TURN OFF THE SOURCE OF COMPRESSED AIR TO THE UNIT.

Vent the pressurized air from the delivery unit using the vessel valve located on the top of the pressure vessel unit. Turn valve slowly (earplugs recommended) releasing air pressure.



CHECK TO MAKE SURE SYSTEM IS TOTALLY DEPRESSURIZED. DISCONNECT UNIT FROM COMPRESSED AIR SUPPLY.

1. Inspect all components (hoses, nozzles, etc.) for wear and damage. Replace as required.
2. Inspect all controls (tubing, hand operated lever, water ball valve, etc.) for damage and wear.

TEST unit to ensure proper operation.

6.2 Service and Adjustment of Control Unit

Over the course of time the control unit may need to be serviced or adjusted due to the natural wearing of the unit's shut off tubes or from foreign material becoming lodged in one of the shut off tubes. A routine check of the unit's operation should be performed on a regular basis.

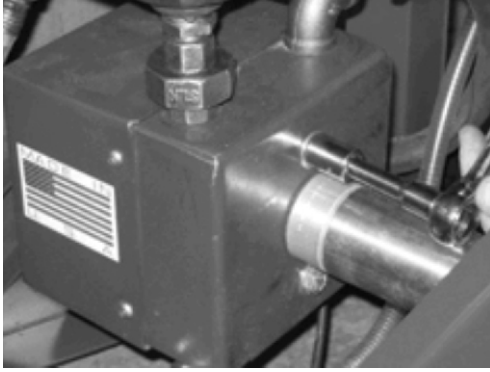
If the flow of media and air from the blast nozzle does not shut off completely after releasing the hand lever try adjusting the control unit before servicing.

WARNING: NEVER OPERATE OR ADJUST THE CONTROL UNIT WITH THE CONTROL UNIT COVER OFF. SHUT OFF TUBES ARE UNDER PRESSURE AND THE CONTROLLER SPRING IS UNDER GREAT COMPRESSION. EXPOSED MOVING COMPONENTS PRESENT PINCH HAZARD.

To adjust the control unit while blasting use a socket wrench with a 2" extension and a 9/16" socket.

1. Turn the two (2) adjusting bolt heads (above and below control unit air cylinder on back of control unit) clockwise MAKING SURE TO TURN EACH BOLT ONE (1) TURN AND THEN THE OTHER SO AS TO ADJUST THEM EVENLY - IT IS CRITICAL THAT THEY ARE ADJUSTED EQUALLY - FAILURE

TO ADJUST EQUALLY WILL DAMAGE THE CONTROL UNIT.



2. After each complete revolution of the two (2) adjustment bolts, test to see if the blast nozzle shuts off completely.
3. If after repeated tightening the media and air flow, at the blast nozzle, will not shut off completely, or the control unit is adjusted so tight as to totally stop the flow of air and media the unit will need to be serviced.

WARNING: NEVER OPERATE OR ADJUST THE CONTROL UNIT WITH THE CONTROL UNIT COVER OFF. SHUT OFF TUBES ARE UNDER PRESSURE AND THE CONTROLLER SPRING IS UNDER GREAT COMPRESSION. EXPOSED MOVING COMPONENTS PRESENT PINCH HAZARD.

To service the control unit:

1. Turn off the safety lockout air valve located at the front of the pressure vessel and lock it out. (sideway position)



TURN OFF THE SOURCE OF COMPRESSED AIR TO THE UNIT.

2. Vent the pressurized air from the delivery unit using the vessel valve located on the top of the pressure vessel unit. Turn valve slowly (earplugs recommended) releasing air pressure.

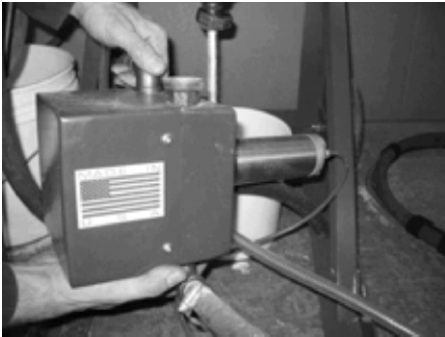


CHECK TO MAKE SURE SYSTEM IS TOTALLY DEPRESSURIZED. DISCONNECT UNIT FROM COMPRESSED AIR SUPPLY.

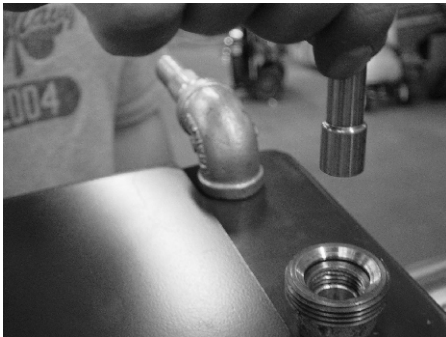
3. Using a medium sized pipe wrench, loosen the union pipe fitting that attaches the control unit to the bottom of the pressure vessel.



4. With your free hand placed under the control unit (so as to not let it drop), completely unscrew the union, allowing the control unit to separate from the pressure vessel (place a small container under the pressure vessel to catch any remaining soda).



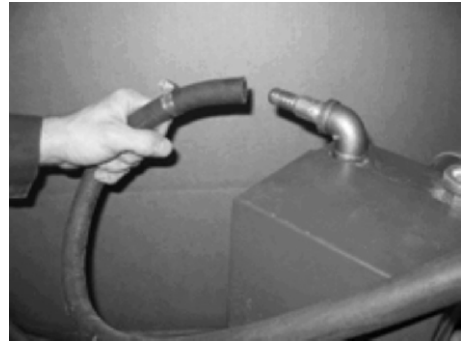
5. Tip the control unit upside down, to empty any soda that may still be in the inlet fitting. With a pair of needle nose pliers, remove the factory installed 1/8" restrictor and place it in a safe place.



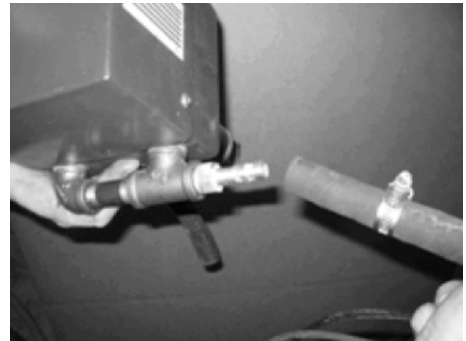
6. Disconnect the 1/8" air feed tube from the control unit air cylinder. Place a small piece of tape over the ends so as not to get dirt or debris into tube or cylinder



7. Disconnect the large air supply hose (top of control unit) by loosening hose clamp (slide clamp up onto hose).



8. Disconnect the large blast nozzle feed hose (bottom of control unit) by loosening hose clamp (slide clamp up onto hose).



9. Place the control unit on a clean and stable work surface, and remove the four (4) Allen head machine screws from the cover. Remove cover.



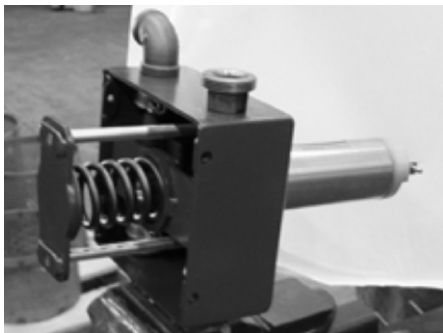
10. With a socket wrench, 2" extension and 9/16" socket, carefully loosen the two (2) controller adjustment bolts (back of control unit above and below the air cylinder), until both bolts are completely loose. Set

bolts and washer aside noting placement.

TURN EACH ADJUSTMENT BOLT EQUALLY COUNTER CLOCKWISE, MAKING SURE TO TURN EACH BOLT ONE (1) TURN AND THEN THE OTHER SO AS TO LOOSEN THEM EVENLY. THIS IS MOST CRITICAL. FAILURE TO LOOSEN EQUALLY WILL DAMAGE THE CONTROL UNIT.



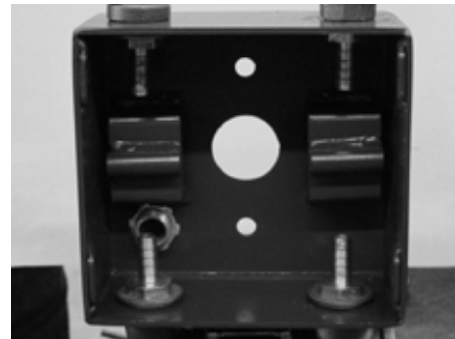
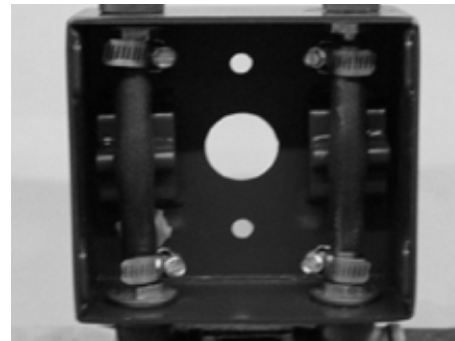
11. Remove the spring plate and spring.



12. Loosen the air cylinder nut that holds the pincher plate with a 3/4" open-end wrench. Set aside pincher plate and nut, noting placement in assembly.



13. Using a 5/16" socket wrench with extension, loosen the (4) hose clamps on the (2) control tubes (note position of hose clamp bolts). Use a flat head screwdriver to gently pry one end of the control tube off of the barbed fitting. Gently rotate, while pulling, to remove the control tube from the other end (repeat for other tube).

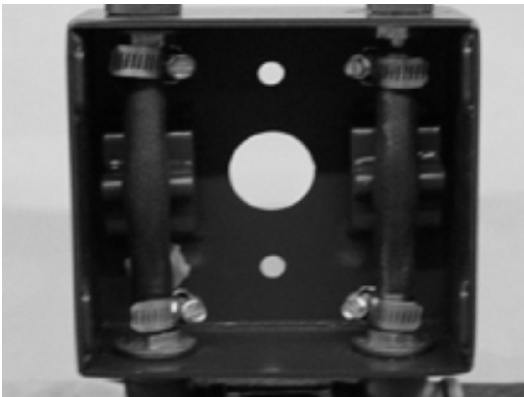


Note: picture shown without cylinder assembly for better viewing.

DO NOT remove cylinder assembly.

14. Check the control tubes for wear, damage, or foreign material that may stop them from being pinched completely closed at the center. (A small round nylon bristle brush or pipe cleaner can be used to clean the inside of the tubes). REPLACE IF NECESSARY. Note: control tubes will need to be replaced as a normal part of routine maintenance. Their life span is dependent on air pressure setting, volume of soda and the number of on/off cycles.

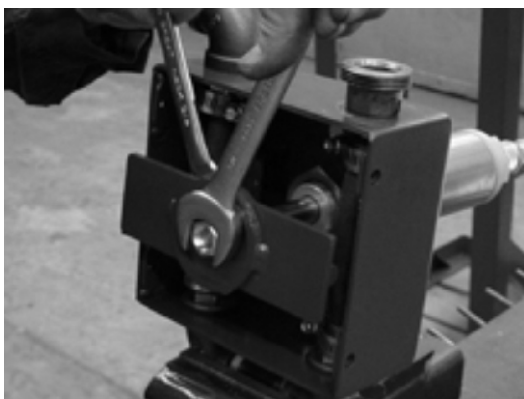
15. Reassemble the control unit, using the following steps. Slide (2) hose clamps onto each control tube. Slide one end onto a barbed nipple in the control housing, and the other end on the barbed nipple directly across from first nipple. **MAKE SURE HOSE CLAMP BOLTS ARE ON THE SIDE CLOSEST TO THE CENTER OF HOUSING.** Repeat for other control tube. Slide clamps to end of each tube and tighten securely with 5/16" socket wrench with extension.



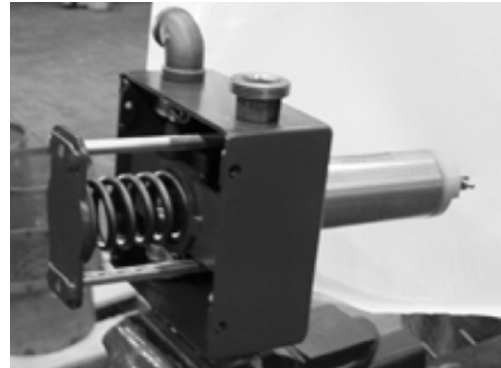
Note: picture shown without cylinder assembly for better viewing.

DO NOT remove cylinder assembly.

16. Slide pincher plate onto cylinder shaft and attach with the shaft nut, making sure pincher bars are directly centered over the control tubes. (Use a flat blade screwdriver or wrench to extend the cylinder shaft for ease of assembly).

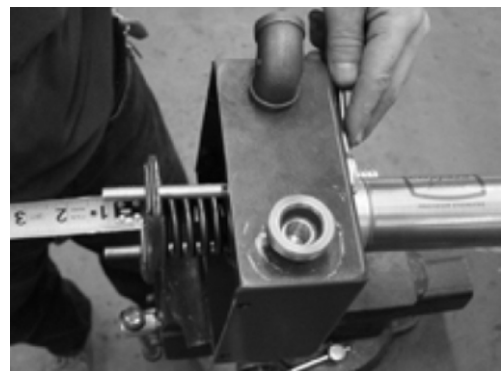


17. Place compression spring and spring plate onto the end of the pincher plate in recessed area, making sure the spring plate is 90 degrees from the control tubes. Using (2) long adjustment bolts (washers next to head of bolt) carefully thread each bolt evenly into the spring plate (spring plate recess area is to be against spring, make sure spring is centered in recess areas on both plates).

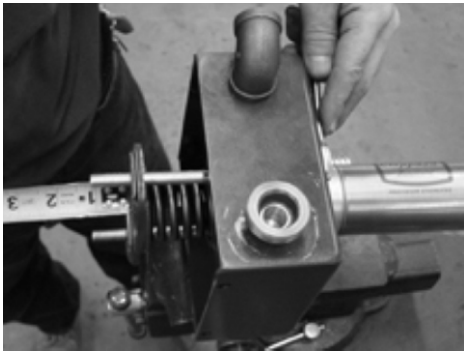


18. Tighten the adjustment bolts evenly. **MAKE SURE TO TURN EACH BOLT ONE (1) TURN AND THEN THE OTHER SO AS TO ADJUST THEM EVENLY - IT IS CRITICAL THAT THEY ARE ADJUSTED EQUALLY - FAILURE TO ADJUST EQUALLY WILL DAMAGE THE CONTROL UNIT.**

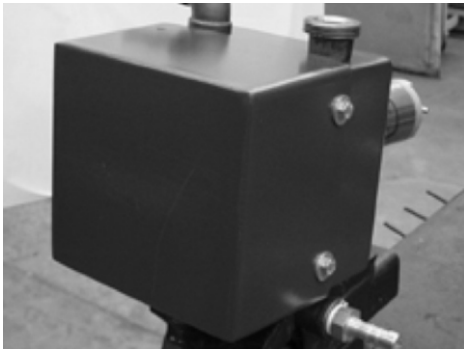
Turn the bolts equally until the end of each bolt is 1" from the surface of the spring plate (note: NOT from the



weld nuts but from the flat top surface of the spring plate. This is the standard factory setting).



19. Replace control unit cover with the (4) hex bolts (washers against bolt heads).



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20. Place the desired sized restrictor into the control inlet.



21. Attach control unit to the bottom of the pressure vessel. **MAKE SURE THAT THE UNION THREADS ARE FREE OF SODA AND SEATED COMPLETELY.**



22. Reconnect all air feed and blast hoses to the proper fittings. Tighten clamps.

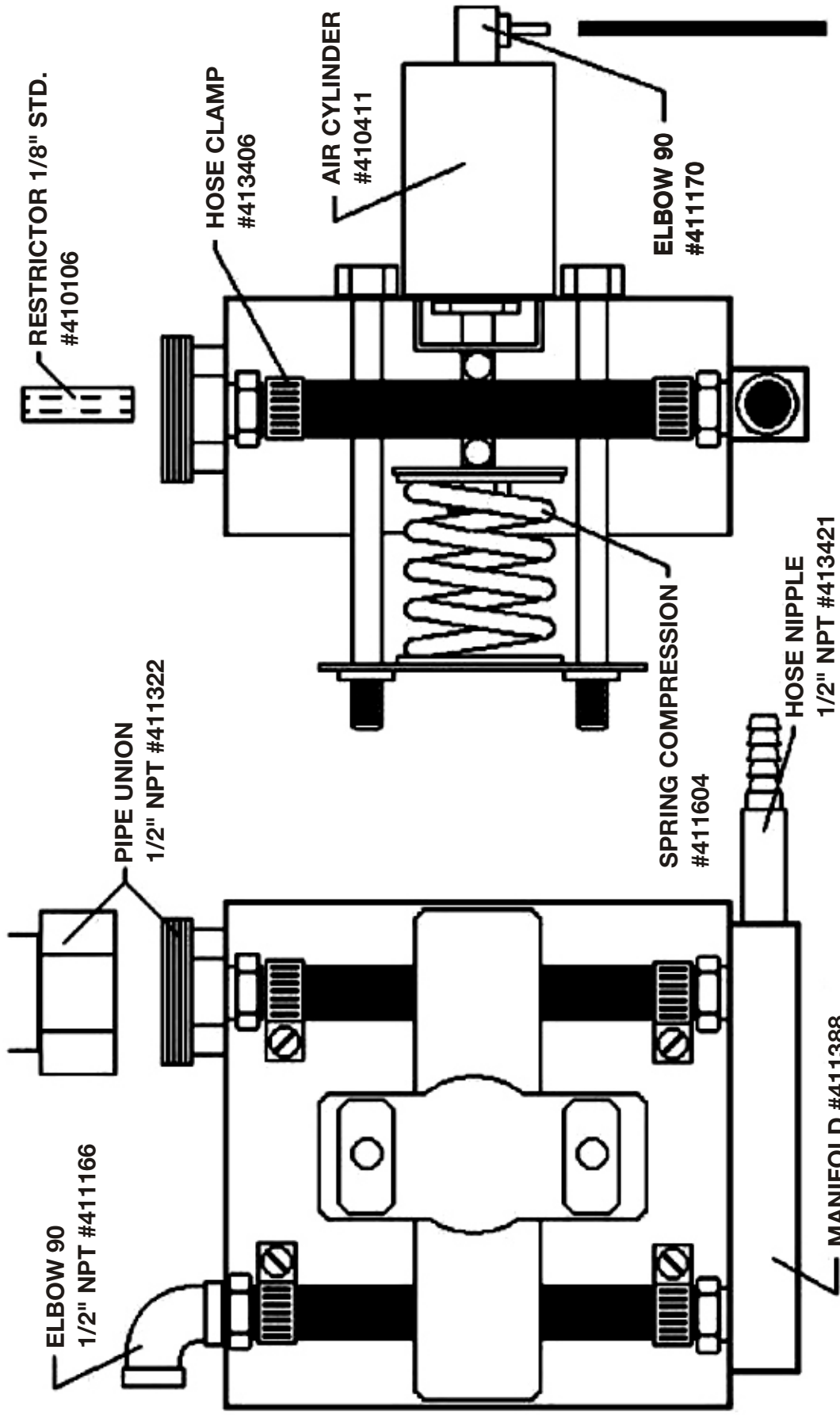
6.3 Replacement Parts and Accessories

PART #	DESCRIPTION	UNITS
411145	FILTER REGULATOR, PIGGYBACK 1/2"	EA.
411116G	GAUGE - (ONLY)	EA.
411141	VALVE, CHECK - 1/2" BRASS POPPET	EA.
411177	BALL VALVE LOCKABLE 1/2"	EA.
413421	HOSE NIPPLE 1/2" NPT X 5/8" ID	EA.
411322	PIPE UNION 1/2" NPT - STD - GALV	EA.
413432	ABRASIVE HOSE, 1/2" ID X 1.06 OD	FT.
413422	TUBING RED, 1/4" OD	FT.
413423	TUBING BLACK, 1/4" OD	FT.
413404	HOSE 3/8", WO/FITTINGS	FT.
411162	VALVE, SAFETY SODA	EA.
411404	O-RING	EA.
411387	COUPLING, 1" NPSC	EA.
411373	AIR EXHAUST 1.625 OD W/MALE 1/2" NPT	EA.
411163	VALVE, 1/2" MALE/FEMALE	EA.
411604	COMPRESSION SPRING	EA.
201255-A	REMOTE HANDLE WO/VALVE	EA.
201238-A	VALVE-REMOTE HANDLE W/BARBS	EA.
201239-A	AIR CYLINDER ASSEMBLY (2")	EA.
313526-A	SHUT OFF HOSE 3/8 I.D. X 4.75" (CONTROL BOX)	EA.
201246-A	CONTROL BOX ASSEMBLY COMPLETE	EA.
201242-A	WHEELS (2), AXLES (2) NUTS/WASHERS (4)	SET
448849	NOZZLE, CERAMIC 3/32" ID LRG.	EA.
448857	NOZZLE, CERAMIC 1/8" ID LRG. (STANDARD)	EA.
448851	NOZZLE, CERAMIC 5/32" ID LRG.	EA.
448848	NOZZLE, CERAMIC 3/16" ID LRG.	EA.
448847	NOZZLE, CERAMIC 1/4" ID LRG.	EA.
410106	RESTRICTOR 1/8" (STANDARD)	EA.
410108	RESTRICTOR 7/64"	EA.
410112	RESTRICTOR 3/32"	EA.
201244-B	NOZZLE AND RESTRICTOR KIT MODEL 2-PS	SET
410451	BUMP CAP	EA.
410452	LIGHT DUTY HOOD	EA.
411113	WATER BALL VALVE	EA.
411174	WATER SPRAY NOZZLE - NF3030	EA.
411171	WATER SPRAY FITTINGS	EA.
302013	WATER NOZZLE HOLDER RING	EA.
401151	VELCRO STRAP 2" (HANDLE)	FT.
401150	VELCRO STRAP 1" (HOSE)	FT.
526025	SODA BLAST MEDIA	LB. *
	SODA BLAST MEDIA - PALLET LOAD	(40)-50 LB. BAGS **

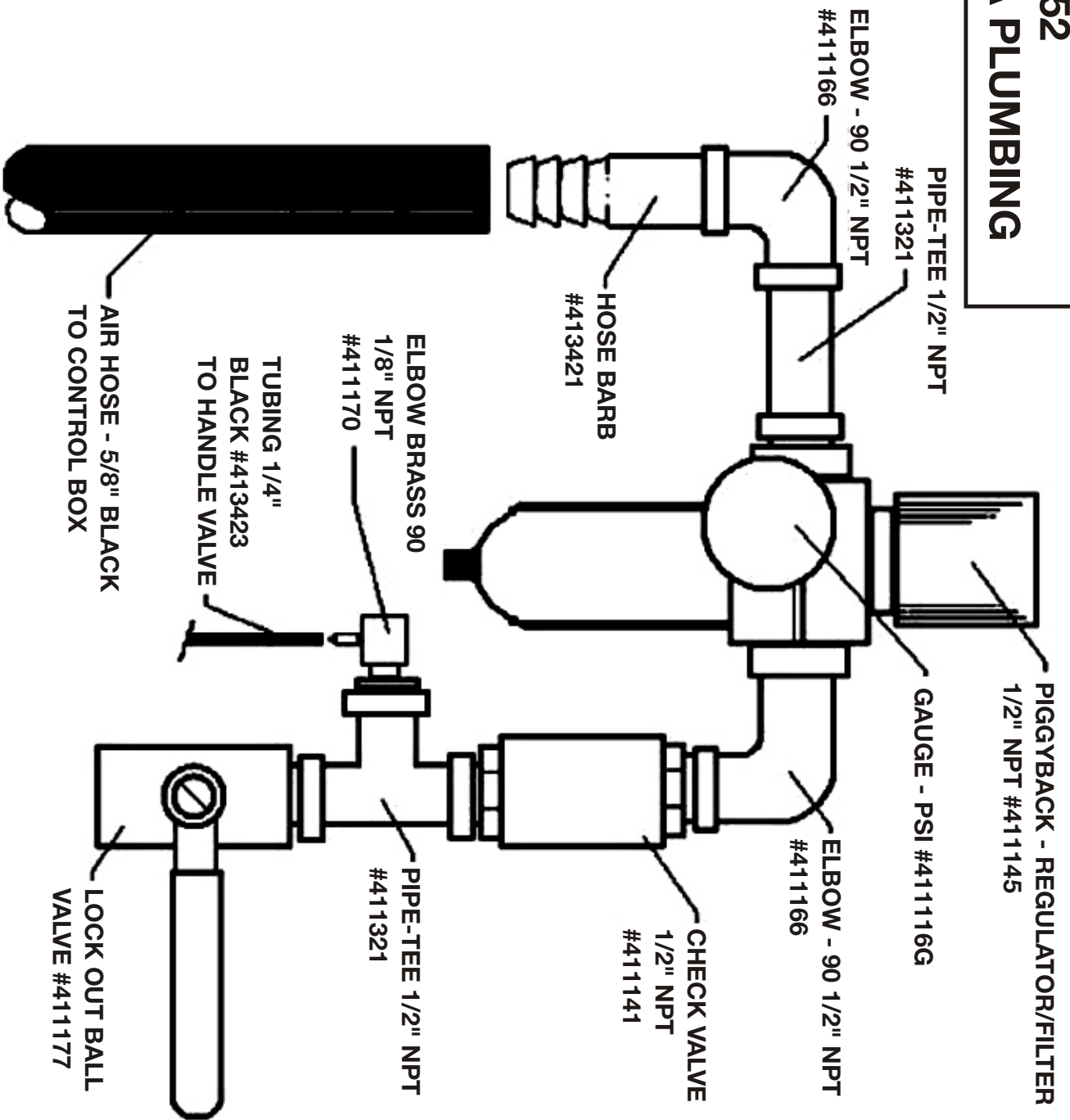
*Sold in 50# bags

**Special Price for Soda-Call for quote

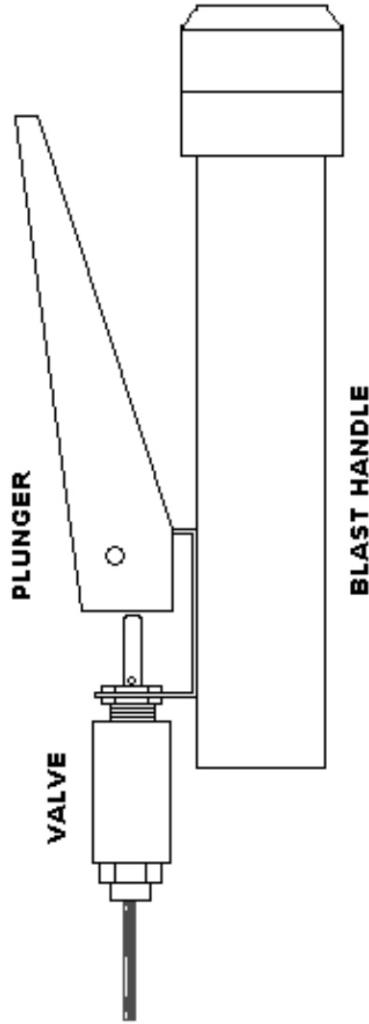
DRW.50 CONTROL BOX SODA BLASTER



DRW.52 SODA PLUMBING

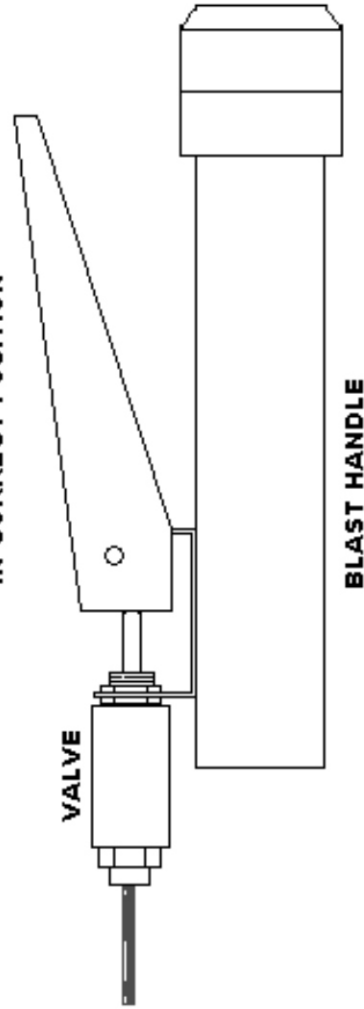


CORRECT POSITION

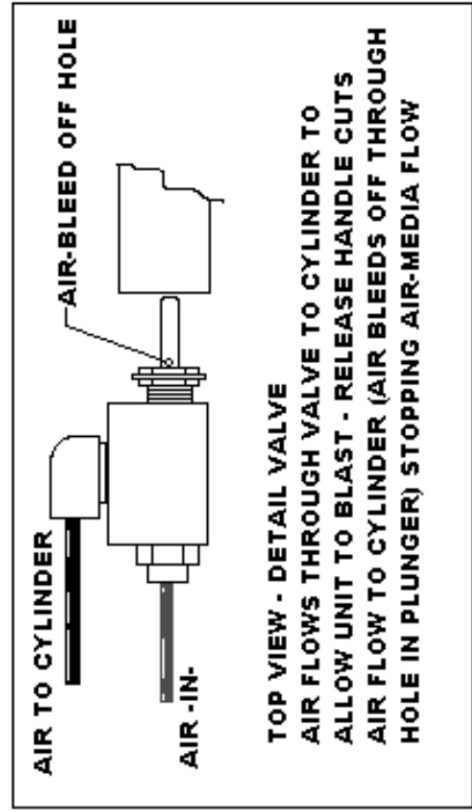


VALVE MUST BE POSITIONED ON BLAST HANDLE IN MANNER THAT ALLOWS VALVE PLUNGER TO EXTEND TO THE FULLY OPEN POSITION - THE AIR BLEED-OFF HOLE SHOULD BE VISIBLE

IN-CORRECT POSITION



IF VALVE POSITIONED ON HANDLE SUCH THAT PLUNGER CANNOT FULLY OPEN - AIR WILL FLOW TO CYLINDER AND UNIT WILL NOT SHUT OFF





401 N. Griffin, Grand Haven, Michigan 49417

888.772.3263 616.844.9243 Fax

ace-sandblasting.com