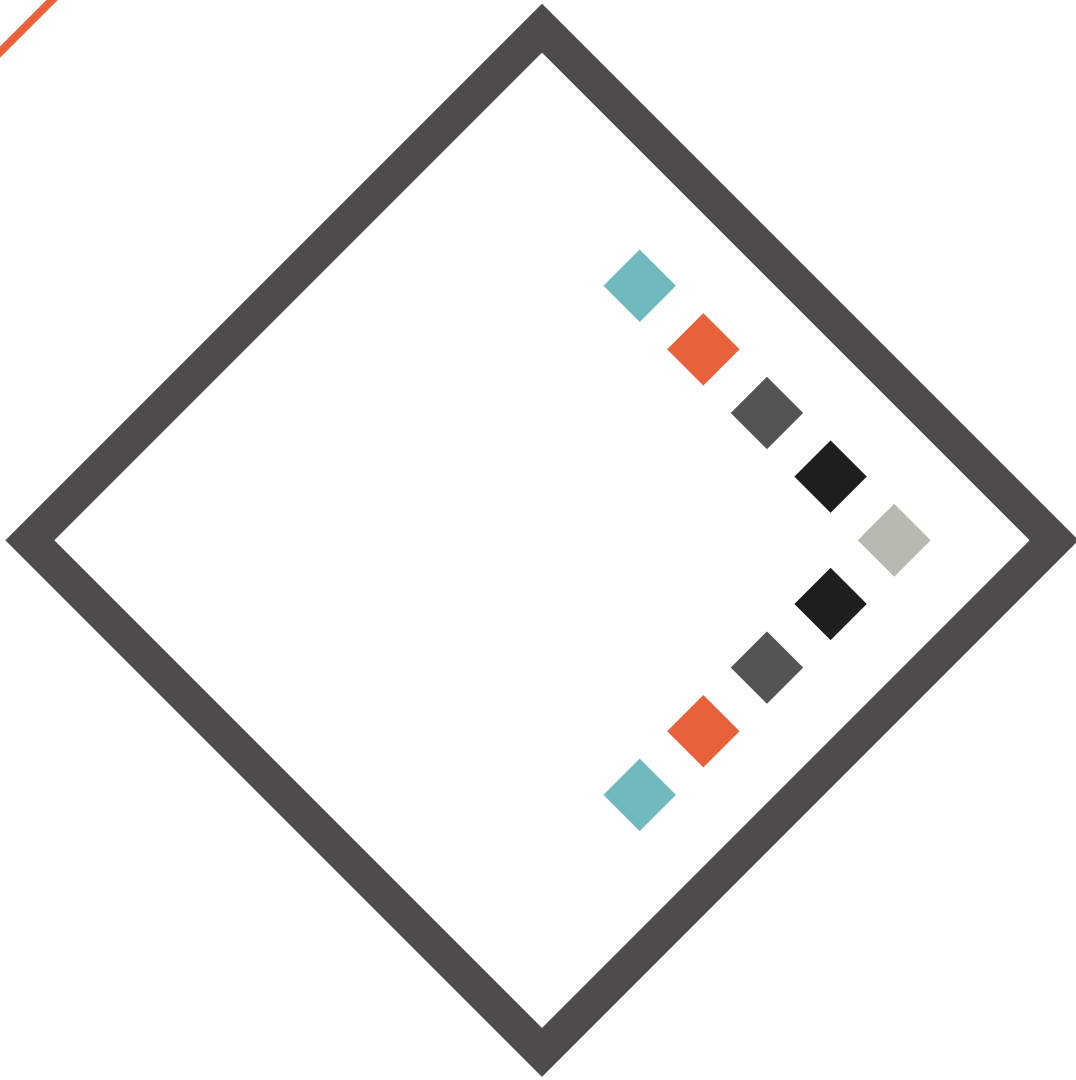


01



100lb Pressure Pot

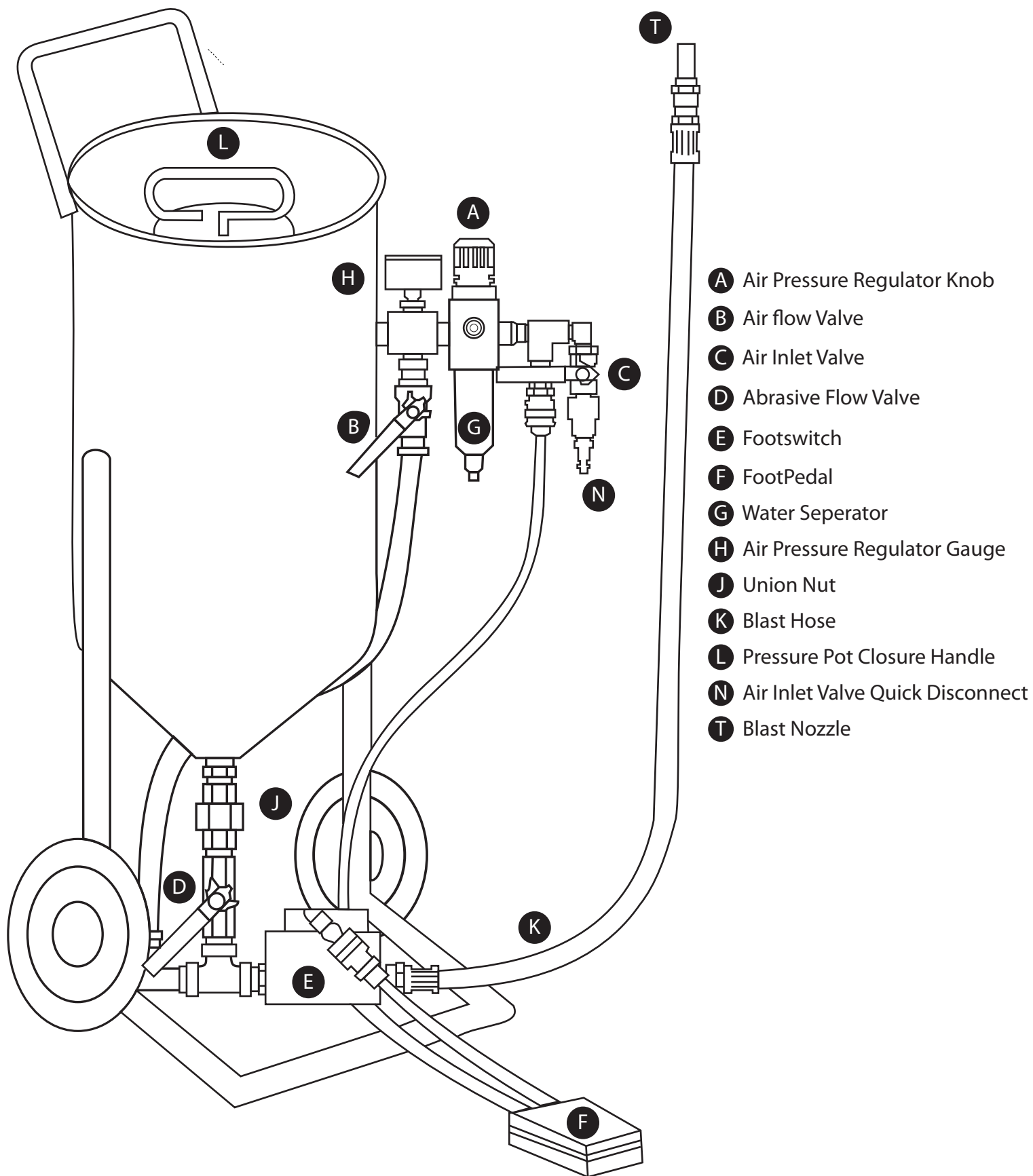
RAYZIST
Photomask, Inc. ®

100lb PORTABLE PRESSURE POT

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SAFETY INFORMATION

! WARNING

DO NOT attempt to operate this equipment until you have read and understand the potential hazards associated with operating this equipment and are able to follow all safety and operating procedures found in this manual.

Potential hazardous situations are identified whenever you see the following alert:

1.0 Potential Hazards

This is a summary of primary hazards, read the entire manual to understand all the potential hazards. This equipment is designed for etching glass with aluminum oxide abrasive media. NEVER use silica sand or abrasive containing silica with this equipment. Breathing dust from silica sand may cause silicosis, a fatal lung disease.

1.1 Blasting

- 1.1.1 When the pressure pot is pressurized the abrasive is under pressure and caution must be used when operating the blast hose.
Do not point the blast nozzle at a person, face, animal or any object that is not intended to be sandcarved.
Operate pressure pot in a blasting cabinet or in an open area with proper protective gear.

- 1.1.2 Always depressurize when doing repairs, maintenance or replacing abrasive.

1.2 Blasting in Open Area

- 1.2.1 If you are using the pressure pot outside a blasting cabinet and in an open area, then a blasting suit must be worn with protective goggles, gloves and air fed hood.
- 1.2.2 NEVER use flammable solvents inside the pressure pot or blasting cabinet.

1.3 Dusts

- 1.3.1 Prolonged breathing of dusts produced by blasting media and materials removed by blasting may result in serious respiratory injury or death. Health risks may vary with type of abrasive media and materials that are removed by blasting. NEVER use this equipment to blast materials that may produce toxic dusts such as lead. ALWAYS wear NIOSH approved respirators for ANY activity where you may be in contact with airborne dusts.

- 1.3.2 Abrasive media and dusts may cause irritation to the skin. Wear rubber or latex gloves when blasting and whenever the abrasive may come in contact with your skin.

- 1.3.3 Abrasive media and dusts may cause irritation to your eyes. Protective eye goggles and a dust mask should be worn whenever handling the abrasive, changing the abrasive.

- 1.3.4 ALWAYS shut off main air supply "lever C" at the end of each day. If the valve is left on and the air compressor supply shuts off at night, the pot will

depressurize and automatically open. When the air compressor comes back on the next day, air will run through the pot and abrasive and dust will blow out through the mouth of the pressure pot creating a hazardous condition of dust in the air.

1.4 Abrasive Blasting Medias

1.4.1 NEVER use silica sand or abrasive containing silica with this equipment.

Breathing dust from silica sand may cause silicosis, a fatal lung disease. We recommend Aluminum Oxide or Silicon Carbide 150grit for standard blasting. Use 120 grit or a 100 grit for stone blasting. Protective wear items should be worn whenever handling the abrasive such as goggles, gloves and a dust mask.

NEVER do maintenance on any component of the pressure pot while the pot is pressurized. NEVER apply more than 100psi of incoming air pressure from the air compressor to the system. Set incoming air pressure from air compressor to 90psi. Set blasting pressure regulator on the pot to desired blasting pressure, normally between 25psi - 35psi.

1.5 Dust Collector

1.5.1 The dust collector should be attached and operating whenever you are using the pressure pot with a blasting cabinet.

1.6 Pressure Pot

1.6.1 Failure to follow the procedures in this manual could result in serious injury or death from the sudden release of compressed air. NEVER attempt to open the pressure pot closure mechanism using the Pressure Pot Closure Lever (L) while the pressure pot is under pressure. This could cause a sudden UNSAFE release of compressed air. To open the Pressure Pot Closure mechanism, first depressurize the pressure pot. Once the blasting gauge reaches 0psi, turn the Pressure Pot Closure Lever counter Clockwise and it will drop into the pressure pot.

SET UP

! WARNING

DO NOT attempt to operate this equipment until you have read and understand the potential hazards associated with operating this equipment and are able to follow all safety and operating procedures found in this manual.

Potential hazardous situations are identified whenever you see the following alert:

2.0 Set-Up Introduction

2.1 Requirements for Set-up

2.1.1 Tools Needed:

- Open end wrench or crescent wrench
- Telfton tape

2.1.2

Blasting abrasive such as aluminum oxide or silicon carbide.

2.1.3 Compressed Air Requirements:

Minimum Required CFM (Cubic Feet per Minute) 5.5 – 6.0 CFM

Average blasting pressure @ 35 PSI = 5.46 CFM

2.2 Delivery & Unpacking Instructions

! WARNING

This equipment can weigh in excess of 100lbs. To avoid injury, use proper lifting and moving equipment.

The pressure pot is shipped on a pallet and should be removed from the truck with a forklift or with the use of a lift gate.

2.2.1 Before removing the pressure pot from the shipping pallet remove the supply box.

2.2.2 Remove all the contents inside the box.

2.3 Inspection

2.3.1 Before removing the pressure pot from

the shipping pallet inspect for the following:

1. External damage to the pressure pot, wheels, regulator, and abrasive.
2. Confirm all parts and any additional items purchased are included on the pallet.

! NOTICE

If there are any external or internal damages to the equipment it must be noted on the carrier's bill of lading. Contact Rayzist customer service at 1-800-729-9478 immediately to process a damage claim. Keep the packaging intact. Take photos of damage. Receiver accepts all responsibility once the bill of lading is signed.

2.4 Parts Inventory

2.4.1 Make sure you have received all the following items with your pressure pot.

- Mask Making Kit (if purchased)
- 2 bags - 50lb 150 grit Aluminum Oxide
- HD Blast Hose with 3/32" Nozzle and holder (K).
- Pressure Regulator
- Footswitch Assembly with hoses.
- Sifting Ring

2.5 Connect Pressure Regulator

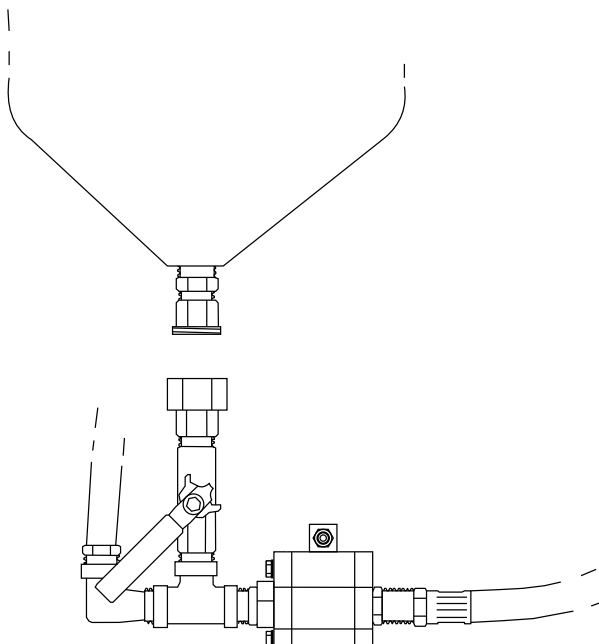
2.5.1 Pressure Regulator must be connected to threaded port on pressure pot. Apply teflon to the threads prioring to installing. Tighten pressure regulator to secure to pressure pot.

2.5.2 Regulator should be facing the front of pressure pot.

2.5.3 Regulator is equipped with a moisture separator and blasting pressure gauge.

2.6 Footswitch Valve and Blast Hose Setup

2.6.1 Locate the footswitch valve (E) and blast hose (K) assembly in box at bottom of cabinet.



2.6.2 On some shipments it is required to attach pipe union nut (J) to fitting at the bottom of the pressure pot. Use wrench to tighten.

2.7 Foot Pedal Connection

2.7.1 The foot pedal (F) has a short hose and a long hose with quick disconnect fittings. Connect the short hose to quick disconnect fitting on footswitch valve (E). Connect the long hose to the quick disconnect fitting located between water separator (G) and the air inlet valve (C).

2.8 Dust Collector

2.8.1 If using pressure pot with existing blasting cabinet, turn on dust collector.

2.10 Adding Abrasive Media

2.10.1 The pressure pot has been shipped without the abrasive media in the pot. Place the sifting ring on top of pressure pot. Slit top of abrasive bag and pour abrasive into the pressure pot through the sifting ring. Do not exceed over 100lbs of abrasive.

! NOTICE

The abrasive media will break down over time causing more dust in the cabinet and slower blasting. New abrasive should never be added to old abrasive. Instructions for removing worn abrasive and adding new abrasive are covered in the Operation Manual. DO NOT over fill the pot with more than 100 lbs of abrasive; this may prevent the pot closure cap from sealing.

2.11 Air Compressor Requirements

NOTE: Customer Supplied and used only for the pressure pot.

The following specs are a minimum requirement for an air compressor. If blasting at higher pressures a larger compressor is required.

1. Air Compressor

- Below are the Minimum Requirements
- 2.0 horsepower, High Performance Cast Iron Air Compressor
- Free Air CFM @ 90 PSI: 5.5
- Free Air CFM @ 135 PSI: 4.9
- Tank Capacity (Gal): 20
- Air hose with 1/4" industrial quick coupler fittings
- Moisture Separator is recommended for high humid climate

The air hose should be a standard size and not exceed 50' in distance. A air hose that exceeds 50' in distance will cause the air compressor to run hard and the minimum air requirements will not apply to an air hose larger than standard size.

The minimum requirement on a tank capacity is 20 gallon, however a larger tank capacity is always recommended.

2.12 Dedicated Air Compressor Set-up

! NOTICE

DO NOT connect air to the pressure pot until you are instructed to do so in the operation manual. Follow all procedures found in compressor manufacturers literature.

2.12.1 In high humid climates install a moisture separator to the compressor. Moisture getting into the abrasive can cause the pressure pot to clog and prevent the flow of abrasive. If you are using a moisture separator, install it to the output connection on the compressor. This connection is generally after the air pressure regulator.

2.12.2 Connect air hose to moisture separator.

2.12.3 The end of the air hose should have a quick disconnect coupling that will connect to the fitting (N) on the pressure pot.

2.12.4 Turn on the compressor and let it fully charge with air but DO NOT connect the air hose to the pressure pot yet.

2.12.5 Air compressors generally have an output regulator and two air pressure gauges. One gauge is to indicate the pressure in the tank and the other is the output pressure the customer sets. Set the output pressure regulator to 90psi.

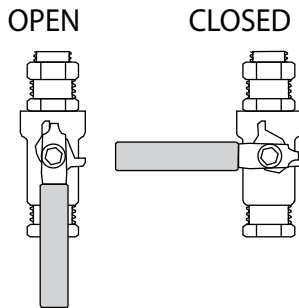
OPERATION

! WARNING

DO NOT attempt to operate this equipment until you have read and understand the potential hazards associated with operating this equipment and are able to follow all safety and operating procedures found in this manual.

Potential hazardous situations are identified whenever you see the following alert:

3.0 Operating Instructions

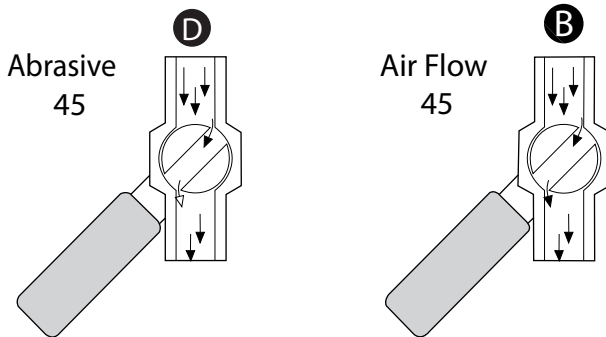


! NOTICE

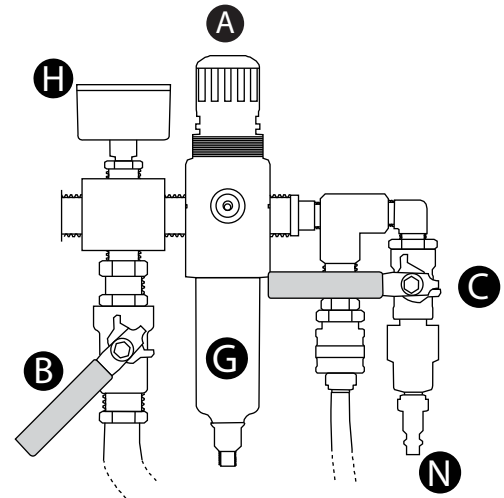
The abrasive media will break down over time causing more dust in the cabinet and slower blasting. New abrasive should never be added to old abrasive. Instructions for removing worn abrasive and adding new abrasive are covered in the Operation Manual. DO NOT over fill the pot with more than 50 lbs of abrasive; this may prevent the pot closure cap from sealing.

3.1 Pressure Pot Settings:

3.1.1 Set Abrasive Flow Valve (D) at approximately half way open or approximately 45° angle.



3.1.2 Set Abrasive Flow Valve (B) at approximately half way open or at 45° angle. Adjustments will need to be made as wear occurs to Blast Hose (K) and Blast Nozzle (T).



3.2 Connecting Air Pressure Pot

3.2.1 Before connecting the air hose from the compressor to the pot, make sure the Air Inlet Valve (C) is in the "OFF" position (horizontal) and the air compressor has been set up according to instructions found in the Rayzist setup guide.

3.2.2 Connect the compressor air hose to the Air Inlet Valve Quick Disconnect Plug (N) but DO NOT turn the air inlet valve (C) to the on position yet.

! NOTICE

The pressure pot is equipped with a safety relief valve (U). If the pressure from the air regulator (A) rises above 100psi the relief valve (U) will pop open and release air. Since your incoming air is to be adjusted to 90psi, this should never happen. This is a safety device and should never be used to drain air from the pressure pot. Draining air from the pot using this valve will cause abrasive to enter and damage the regulator.

! NOTICE

The air pressure regulator (A) sets the blasting pressure, which can be seen in gauge (H) only after the pressure pot has been pressurized. It is factory set at 30psi.

3.3 Pressurizing the Pot

3.3.1 After the abrasive has been sifted, remove the sifting ring, pull up the handle (L) and turn clockwise until it stops and the handle stays in the up position. While holding the handle in the up position, turn on the air inlet valve (C). The pot will fill with air and lock the handle in place. The blasting gauge will read 30psi. The handle pulls up the pressure pot bell and presses the bell against the pressure pot rubber seal that is inside the mouth of the pressure pot.

! WARNING

This pressure pot can weigh in excess of 100 lbs. To avoid injury, use proper lifting and moving pressure pot.

3.3.2 If the handle does not lock in place, then take the handle (L) and move it several times to shake off any abrasive that may be sitting on top of the bell.

3.3.3 Now pull the handle up and turn clockwise and pressure pot bell will press against the rubber seal. With the handle locked in place turn on air inlet valve (C). The Air Pressure Regulator gauge (H) should rise to the factory preset blasting pressure of 30psi.

3.3.4 NOTE: If you hear air escaping from the mouth of the pressure pot, try to pressurize the pot again. Call Rayzist for technical help if you cannot pressurize the pressure pot.

3.4 Adjusting Blasting Pressure

3.4.1 After pressurizing the pot the pressure regulator gauge (H) should read about 30psi. If the gauge has a different reading make an adjustment as follows: Unlock the Air Pressure Regulator Knob (A) by pulling upwards. Twist clockwise to increase blast pressure or counter clockwise decrease blast pressure. Set regulator to desired pressure, and then press down to lock the knob.

3.5 Adjusting Abrasive and Air flow

3.5.1 Turn on the dust collector and lights if using a blasting cabinet.

3.5.2 Put on the rubber blasting gloves and hold the Blast Hose (K) and have the tip pointing downwards away from yourself. Step on the footpedal and watch the flow of abrasive as described above.

! NOTICE

Air Flow Valve (B) adjusts how much air pushes the abrasive through the Blast Hose (K). Less air flow = more abrasive. More air flow = less abrasive.

3.5.3 If necessary adjust Air Flow Valve (B) to achieve the proper balance of abrasive and air. If there is too much abrasive open valve more; if not enough close the valve slightly.

3.6 Sandcarving

3.6.1 If blasting in a cabinet, turn on power. If blasting in an open area, wear eye and protective gear.

3.6.2 Use rubber gloves before blasting. (rubber or latex safety gloves can be purchased from a local hardware store).

3.6.3 Place item to be etched inside cabinet. Hold Blast Hose (K) in hand (like a pencil).

3.6.4 By pressing on the Foot Pedal (F), the air/abrasive flow starts; by letting off the Pedal, the air/abrasive flow stops.

3.6.5 Depress Foot Pedal (F), holding Blast Hose (K) 3" - 4" away from item, use slow sweeping motions across image area to be etched.

! NOTICE

Always depressurize the pressure pot when you are done blasting for the day. It is not necessary to do this if you are intermittently blasting throughout the course of the day but should always be done when you are done blasting for an extended period. Instructions for depressurizing the pot are covered below.

3.7

Depressurizing the Pressure Pot and recycling the abrasive

! NOTICE

Always use the following procedure when you are finished blasting or you run out of abrasive.

! WARNING

NEVER attempt to open the pressure pot closure cap using the Pressure Pot Closure Lever (L). This could cause a sudden UNSAFE release of compressed air. The pressure pot opens automatically when the pot is depressurized.

3.7.1 After you are done blasting, or you run out of abrasive during blasting, keep the dust collector turned on and then turn off the Air Inlet Valve {C}. Then depress the foot pedal until the pot is depressurized. When all the air pressure is exhausted the pot handle will become loose.

Take the handle and turn counter clockwise. The handle will release into the pressure pot. Place sifting ring on top of pressure pot and refill abrasive through sifting ring. If you are done with the pressure pot, depressurize, but pull up the handle (L) and turn clockwise. This will protect the pressure pot from anything entering or falling in the pot. Store pressure pot with handle in lock position when not in use. For best results store pressure pot in a cool dry place.

! NOTICE

If for some reason, the pot closure cap does not open the pot after the Air Pressure Regulator Gauge (H) has reached zero, you can open the closure manually by pulling the Pressure Pot Closure Lever (L) towards you. NOTE: for safety reasons this should never be done unless the Air Pressure Regulator Gauge (H) reads zero and the main air supply is disconnected.

! WARNING

Never leave the pot pressurized over night. If valve (C) is left on and the air compressor supply shuts off at night the pot will depressurize and automatically open. When the air compressor comes back on the next day, air will run through the pressure and abrasive will blow out through the mouth of the pressure pot cabinet creating a hazardous condition of dust in the air.

MAINTENANCE

! WARNING

DO NOT attempt to maintain this equipment until you have read and understand the potential hazards associated with operating this equipment and are able to follow all safety and operating procedures found in this manual.

Potential hazardous situations are identified whenever you see the following alert:

4.0 Maintenance

! WARNING

Never leave pressure pot pressurized when not in use or unattended. Prior to performing any maintenance on pressure pot, disconnect air line from Air Inlet Valve {C}. This will ensure no compressed air will enter the pressure pot during maintenance.

Always wear eye and respiratory protection when performing any maintenance on pressure pot.

4.1 Daily Maintenance

4.1.1 Check to see if excess water is building up in the water separator (G) if necessary drain the water, by pushing button at bottom of bowl. Drain water from air compressor to reduce moisture in the line.

4.2 Abrasive Removal for Disposal

4.2.1 Abrasive will break down and become worn and need replacing. Worn abrasive will have the feel of powder like consistency and appear very dusty. Remove abrasive from Pressure Pot and discard. Replace with new abrasive.

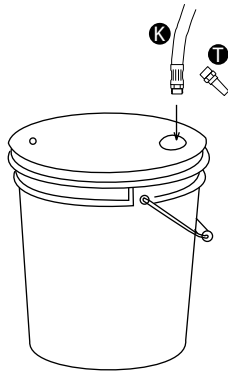
4.3 Abrasive Removal for Disposal

4.3.1 Abrasive life expectancy may be up to 40 hours. Worn abrasive does not cut as fast as new abrasive and will generate more dust during blasting.

! NOTICE

DO NOT add new abrasive to worn abrasive. Always replace worn abrasive with new abrasive using the following procedures. Always wear respiratory protection for this procedure.

4.3.2 Remove the Blast Nozzle (T) from the Blast Hose (K). Place the disposal bucket or disposal trash liner in the cabinet and close the door. Turn on the dust collector. Place the blast hose into the bucket or trash liner. Set the Air Pressure Regulator Gauge (H) to 20 PSI by adjusting Air Pressure Regulator. Knob (A). Turn off the Air Flow Valve (B). Press the Foot Pedal (F) until the bucket is full or the pressure pot is empty. Put worn abrasive in plastic bag and dispose of according to local regulations. Repeat as necessary until abrasive is completely emptied.



4.4 Adding New Abrasive

4.4.1 Abrasive Sifting Screen Cleaning: Place sifting screen on top depressurized Pressure Pot. Pour abrasive through sifting screen and fill Pressure Pot. The Portable Pressure Pot will hold 100lbs of abrasive. Do not exceed 100lbs of abrasive. If abrasive exceeds over 100lbs then the Pressure Pot Closure Handle will not seal.

4.5 Replacing Tube Sleeve

! WARNING

Disconnect air and depressurize pot before replacing the tube sleeve.

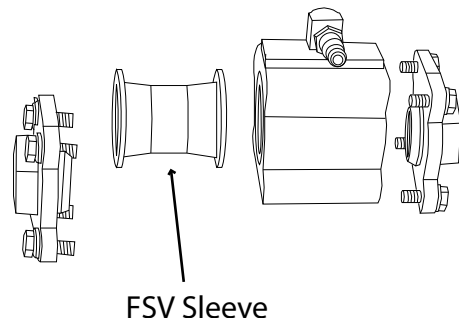
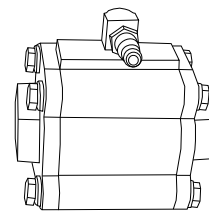
4.5.1 The Foot Switch Valve will fail when a small pin hole is worn through the sleeve. This will occur overtime. A symptom of a worn tube sleeve, the foot pedal will not shut off and air and abrasive will continue to flow through nozzle.

4.5.2 To replace sleeve, Disconnect air and DEPRESSURIZE the pressure pot according to the instructions in operation manual.

4.5.3 Disassemble both sides of Foot Switch Valve (E). Disconnect Foot Pedal from Foot Valve assembly. Set Foot Switch Valve on a table to replace Foot Switch Valve Kit.

4.5.4 Remove 8 bolts from side plates. Remove tube sleeve and metal core. The metal core sits inside the tube sleeve. Place new parts in Foot Switch Valve.

4.5.5 Re-Install plates and replace the 8 bolts. After hand tightening the bolts, tighten them with a wrench to properly the gasket.



4.6 Replacing the Blast Nozzle (T)

4.6.1 Replace when the Blast Nozzle (T) orifice exceeds 1/8". A large orifice may cause damage to the mask, and require a higher rate of CFM demand from the air compressor. Check size of nozzle by place a 3/32 drill bit inside the opening of the nozzle. If the drill bit has wiggle room then the nozzle is worn and needs replacement.

Parts available at www.rayzist.com/store

Keep spare parts on-hand

Part Description	Part #
Pressure Pot Seal	RING
Heavy Duty Blasting Hose (K)	HDHBLK
Carbide Nozzle (T) – 3/32"	NZ32
Aluminum Oxide Abrasive 150 Grit	AO150
Std Foot Pedal w/ hoses	FPRS
Foot Switch Valve Repair Kit	FSVKIT



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