

# Pulsar<sup>®</sup> III-S & III-SE Pulsar<sup>®</sup> VI-S & VI-SE Suction Blast Cabinets O. M. 20239

DATE OF ISSUE: 03/93

REVISION: G, 02/19

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The products described in this material and the information relating to these products are intended for knowledgeable, experienced users. It is the responsibility of the employer to ensure that proper training of operators has been performed and a safe work environment is provided.

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**1.0 INTRODUCTION**

**1.1 Scope of Manual**


1.1.1 These instructions cover set up, operation, maintenance, troubleshooting, optional accessories, and replacement parts for the following Pulsar® Suction Blast Cabinets.

- Pulsar® III ..... Conventional (stand-up model)
- Pulsar® III-E .....Ergonomic (sit-down model)
- Pulsar® VI ..... Conventional (stand-up model)
- Pulsar® VI-E .....Ergonomic (sit-down model)

1.1.2 The instructions contain important information required for safe operation of the cabinet. Before using this equipment, all personnel associated with the blast cabinet’s operation must read this entire manual, and all accessory manuals to become familiar with their operation, parts and terminology.

**1.2 Safety Alerts**

1.2.1 Clemco uses safety alert signal words, based on ANSI Z535.4-2011, to alert the user of a potentially hazardous situation that may be encountered while operating this equipment. ANSI's definitions of the signal words are as follows:



**This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**

**NOTICE**

**Notice indicates information that is considered important, but not hazard-related, if not avoided, could result in property damage.**

**CAUTION**

**Caution indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.**

**WARNING**

**Warning indicates a hazardous situation that, if not avoided, could result in death or serious injury.**

**⚠ DANGER**

**Danger indicates a hazardous situation that, if not avoided, will result in death or serious injury.**

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**1.4 General Description**

**1.4.1** Refer to Figure 1 for arrangement of components. The Pulsar cabinet encloses the blasting environment to provide efficient blasting while maintaining a clean surrounding work area. Production rates are influenced by size of air jet and nozzle, compressor output, working pressure, type and size of media, and angle and distance of the nozzle from the blast surface. All Pulsar Suction Cabinets consist of two major components.

1. Cabinet Enclosure
2. 300 cfm or 600 cfm Power Module

**1.4.2 Cabinet Enclosure:** This manual covers two Pulsar® cabinet sizes. Each is available in a conventional stand stand-up style) and ergonomic (sit-down) style, representing four separate cabinet configurations.

**Pulsar-III** Approximate work chamber dimensions:  
 36" wide x 35" deep x 37" high.

**Pulsar-VI** Approximate work chamber dimensions:  
 50" wide x 39" deep x 43" high.

The extended front on ergonomic models provides approximately 12 inches additional depth from the arm port and above, and is approximately 3 inches narrower than the widths shown above.

**1.4.3 Power Module:** The power module is attached to the back of the cabinet and houses the reclaimer and reverse-pulse dust collector.

- Pulsar-III has a 300 cfm reclaimer and dust collector.
- Pulsar-VI has a 600 cfm reclaimer and dust collector.
- Pulsar-VI Suction Cabinets are easily converted to pressure systems, using the conversion kit listed in *Section 9.1: Optional Accessories*.

1.5 Theory of Operation

1.5.1 Once the cabinet is correctly set up and turned on, the cabinet is then ready for operation by actuation of the foot pedal. Fully depressing down on the foot pedal causes air to flow through the blast gun. The partial vacuum created by air moving through the gun draws media into the blast-gun mixing chamber. The media mixes with the air stream and is propelled out the nozzle. After striking the object being blasted, the blast media,

finer, dust, and byproducts generated by blasting fall through the grate into the cabinet hopper. These particles are then drawn into the reclaimer for separation. Dust and fines are first separated from reusable media and pass into the dust collector. Next, the media is screened for oversize particles and returned to the reclaimer hopper for reuse. Dust and fines entering the dust collector are removed from the air stream as they pass through the filters, discharging clean air. When the foot pedal is released, blasting stops.

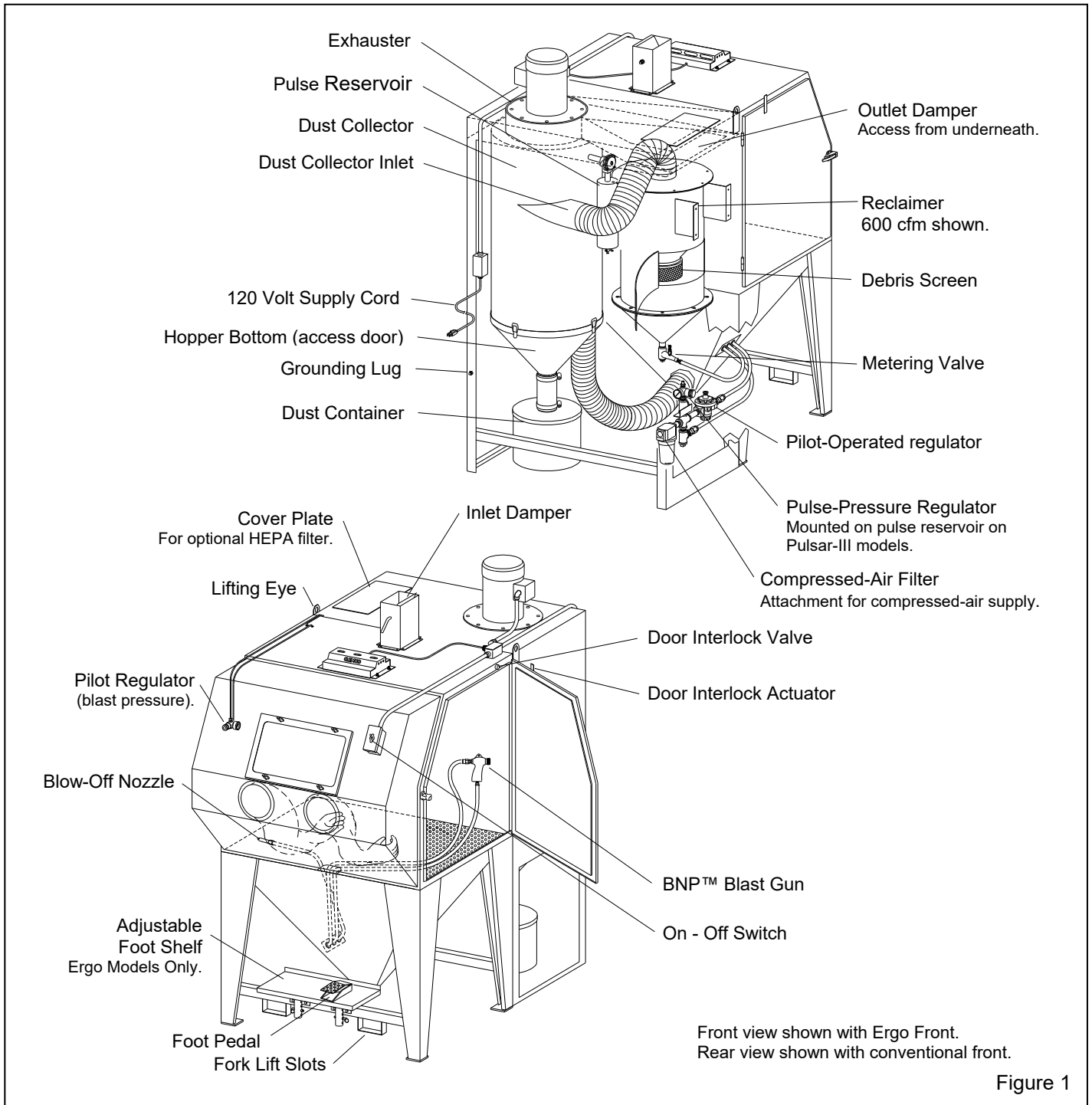


Figure 1

**1.5.2** The dust-collector filter cartridge is cleaned by a pulse of high velocity compressed air expanding against the inner surface of the cartridge. The expanding air momentarily reverses air flow through the cartridge to release dust accumulated on the outer surface. The dust particles fall away from the cartridge and into the hopper for removal. The pulse occurs each time the foot pedal is pressed or released. An optional automatic pulse kit can be added to pulse the cartridge at timed intervals during blasting. See *Section 9.1: Optional Accessories*.

## 1.6 Nozzle Options

**1.6.1** Unless otherwise specified at the time of purchase, the cabinet is provided with a No. 5 (5/16" orifice) ceramic nozzle and No. 5 (5/32" orifice) air jet. Optional, more durable tungsten carbide and boron carbide nozzle are available and are shown in *Section 9.1: Optional Accessories and BNP Gun and Feed Assembly in Section 9.10*. Use boron carbide nozzles when blasting with aggressive media, as noted in *Section 1.9.4*.

## 1.7 HEPA (high-efficiency particulate air) Filter

**1.7.1** Optional HEPA afterfilter provides additional filtration. A HEPA filter must be used when removing toxic coatings, heavy metals, or any other toxic materials. HEPA filter is listed in *Section 9.1: Optional Accessories*.

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## WARNING

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**All dust is hazardous to breath. Emissions can occur from the dust collection system. Identify all materials that are to be removed by blasting; if any toxic materials such as lead dust or dust from other heavy metals and corrosives, or any other toxic materials are being removed, use a HEPA afterfilter to assist in maintaining inhalation hazards below the permissible exposure limits (PELs). Prolonged exposure to any dust can result in serious lung disease and death. Short-term ingestion of toxic materials, can cause serious respiratory injury or death. Filtration may not be adequate in reducing all inhalation hazards. It remains the employer's or user's responsibility to ensure all emissions are safe to breath.**

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## 1.8 Reclaimer Options

**1.8.1 Replaceable rubber reclaimer liners:** Rubber liners are available for Pulsar VI 600 cfm reclaimers that have a removable top and are designed to accept liners. Liners are not available for Pulsar-III with 300 cfm reclaimer. The liners prolong service life of the reclaimer and should be installed when using silicon carbide, aluminum oxide, or other aggressive media, as noted in *Section 1.9.4*. *Rubber liners are shown on Page 35, Figure 41*.

## 1.9 Blasting Media

**1.9.1** Always use media specifically manufactured for blasting and those that are compatible with the surface being blasted. Media produced for other applications may be inconsistent in size and shape, contain particles that could plug the nozzle or media metering valve, or cause irregular wear. Always obtain the safety data sheet (SDS) for the blasting media prior to blasting and identify material being removed by blasting, paying particular attention to worker health risks and presence of any hazardous/toxic substances.

Most common reusable media specifically manufactured for blasting can be used in Pulsar® cabinets. The listing of media sizes shown in this section and in *Figure 2* are provided as a guideline only. The guideline is based on standard 5/32" orifice air jet with 5/16" nozzle and average conditions, with variables such as blast pressure, media-air mixture, visibility inside the cabinet, humidity, and reclaimer cleaning rate.

Several variables affecting the reclaimer cleaning rate include reclaimer size (cfm), contamination of parts being blasted, media friability, damper setting (static pressure), and dust-collector filter loading (differential pressure across the dust filters).

As a rule, larger orifice air jets and nozzles deliver more media, requiring higher performance from the reclaimer. When using larger nozzles, the maximum mesh size of media will be smaller than normally recommended. Using media finer than those recommended may decrease visibility and, at some point, carryover to the dust collector. Media coarser than those recommended may be too dense for the reclaimer to recover from the cabinet hopper.

This guideline to media type and selection is based on standard 5/32" orifice air jet with 5/16" nozzle and average conditions, such as air pressure, media-air mixture, visibility, contamination of parts being cleaned, humidity, media friability, reclaimer cleaning rate, etc. As a rule, larger nozzles deliver more media, requiring higher performance from the reclaimer. Larger air jets and nozzles decrease the maximum mesh size of media from those recommended. Media that is finer than those recommended may decrease visibility and increase carryover to the dust collector. Media coarser than those recommended may be too dense for the reclaimer to recover from the cabinet hopper.

RECLAIMER SIZE	MEDIA TYPE					
	STEEL GRIT	STEEL SHOT	GLASS BEAD	ALUM. OXIDE	FINE MESH	PLASTIC
300 cfm w/4" inlet	Do not use	Do not use	No. 6 to No. 12	54 to 180-mesh	See 1.9.6	See 1.9.7
*600 cfm w/5" inlet	Do not use	Do not use	No. 8 to No. 12	54 to 180-mesh	See 1.9.6	See 1.9.7
600 cfm w/4" inlet	80 to 120	S-110 to S-70	Do not use	46 to 100-mesh	Do not use	Do not use

\* Standard reclaimer inlet

Figure 2

**1.9.2 Steel shot and steel grit:** Steel shot S-110 to S-70 and steel grit 80-mesh to 120-mesh, may be used in a Pulsar cabinet with 600 cfm power module configured for using steel media and with a 1/4" or smaller nozzle.

Using steel media requires a smaller diameter conveying hose (usually reduced one size from standard), as shown in Figure 2 Rubber curtains should be used to protect the cabinet walls from peening, warping, and rapid wear. For these applications, cabinets can be ordered with reduced-size flex hose appropriately sized for steel grit, and with rubber curtains installed. They may also be field installed later. NOTE: Steel grit or shot is too heavy to use with cabinets equipped this 300 cfm reclaimers.

**1.9.3 Sand and slag:** Sand and slag media are not suitable for cabinet use. Sand should NEVER be used for abrasive blasting because of the respiratory hazards associated with media containing free silica. Slags are not recommended because they rapidly break down and are not recyclable.

**1.9.4 Silicon carbide, aluminum oxide, and garnet:** These are the most aggressive of the commonly used media. Aggressive media may be used, but the service life of any components exposed to the media will be reduced. To avoid unscheduled downtime and maximize cabinet life, periodically inspect the reclaimer wear plate, blast hose, and nozzle for wear and replace parts as needed.

When using aggressive media only occasionally, install an optional aluminum oxide kit, which includes rubber curtains for the cabinet interior and a boron carbide-lined nozzle. When using aggressive media on a regular basis, install the aluminum oxide kit and a fully-rubber-lined reclaimer. (available for Pulsar cabinet with 600 cfm power module only). Rubber-lined reclaimers are available as factory-installed items, or field-installed

liners can be installed later on a 600 cfm reclaimer if it has a removable top and designed to accept liners. Nozzles lined with boron carbide extend nozzle wear life. Refer to *BNP Gun and Feed Assembly in Section 9.10*.

**1.9.5 Glass bead:** Most beads are treated to ensure free-flow operation even in environments of moderately high humidity. Glass beads subjected to excessive moisture may be reused only after thoroughly drying and breaking up any clumps.

**1.9.6 Lightweight and fine-mesh media:** When using lightweight (such as agricultural) media or fine mesh (180-mesh and finer) media, the reclaimer inlet baffle may need to be removed to retain media and avoid carryover. On 600 cfm reclaimer models with bolt-on removable tops, baffle removal and replacement is easily accomplished, as explained in Section 7.10. Reclaimers with welded-on tops require grinding to remove the baffle and once it is removed it cannot be replaced.

**1.9.7 Plastic media:** Plastic and similar lightweight and/or nonaggressive media are generally not recommended for suction-style cabinets because the lower blast velocity of suction blasting combined with the softer and lighter weight media do not provide the media impact for productive blasting. Best performance from plastic media is achieved with pressure blasting, requiring a pressure vessel with a 60-degree conical bottom. Refer to Clemco's Aerolyte cabinet line.

**1.9.8 Bicarbonate of soda:** Bicarbonate of soda is not recommended for use in standard cabinets. Bicarb is a one-use media, which will quickly saturate the filter cartridge(s). Best performance from bicarb media is achieved with pressure blasting, requiring a pressure vessel. Refer to Clemco's Aerolyte cabinet line for cabinets that are specifically designed for use with bicarbonate of soda.

**1.10 Compressed-Air Requirements**

**1.10.1** The size of the compressor required to operate the cabinet depends on the size of the air jet and blasting pressure. Unless otherwise specified, cabinets are supplied with a No. 5 (5/32" orifice) jet. Refer to the table in Figure 3 to determine air consumption. Consult with a compressor supplier for a suggested compressor size based on the air consumption.

COMPRESSED-AIR CONSUMPTION IN CFM				
BNP Gun	Jet Orifice	Nozzle Orifice	CFM	PSI
No. 4	1/8"	5/16"	21	80
No. 5	5/32"	5/16"	32	80
No. 6	3/16"	3/8"	47	80
* No. 7	7/32"	7/16"	62	80
* No. 8	1/4"	1/2"	86	80

\* Using this combination could affect usable media size, refer to Section 1.9.

Figure 3

**1.10.2** The air filter at the air-inlet connection, removes condensed water from the compressed air. Its use is especially important in areas of high humidity or when fine-mesh media are used. Moisture causes media to clump and inhibits free flow through the feed assembly. If the filter does not remove enough moisture to keep media dry and flowing, it may be necessary to install an air dryer or aftercooler in the air-supply line.

**1.11 Electrical Requirements**

**1.11.1** Electrical requirements depend on the size and phase of the exhaustor motor. Standard cabinets are supplied as follows:

Pulsar-III, 1/2 HP, 120/230V, 1-PH, 60 HZ (wired 120) 120, FLA 120/7, 208/3.4, 230/3.5.

Pulsar VI, 1 HP, 120/230V, 1-PH, 60 HZ (wired 120) 120, FLA 120/12, 208/6.6, 230/6.2.

**1.11.2** If the motor is 120-volt, 1-phase, a power cord is supplied. Additional wiring information is in Section 2.4.

**2.0 INSTALLATION**

**2.1 General Installation Notes**

**2.1.1** Select a location where compressed air and electrical service are available. The cabinet location must comply with OSHA and local safety codes. Allow

for full access to all doors and service areas and for efficient handling of large parts.

**2.2 Connect Compressed-Air Supply Line**

**⚠ WARNING**

**Failure to observe the following before connecting the equipment to the compressed-air source can cause serious injury from the sudden release of trapped compressed air:**

- Lockout and tagout the compressed-air supply.
- Bleed the compressed-air supply line.

**⚠ WARNING**

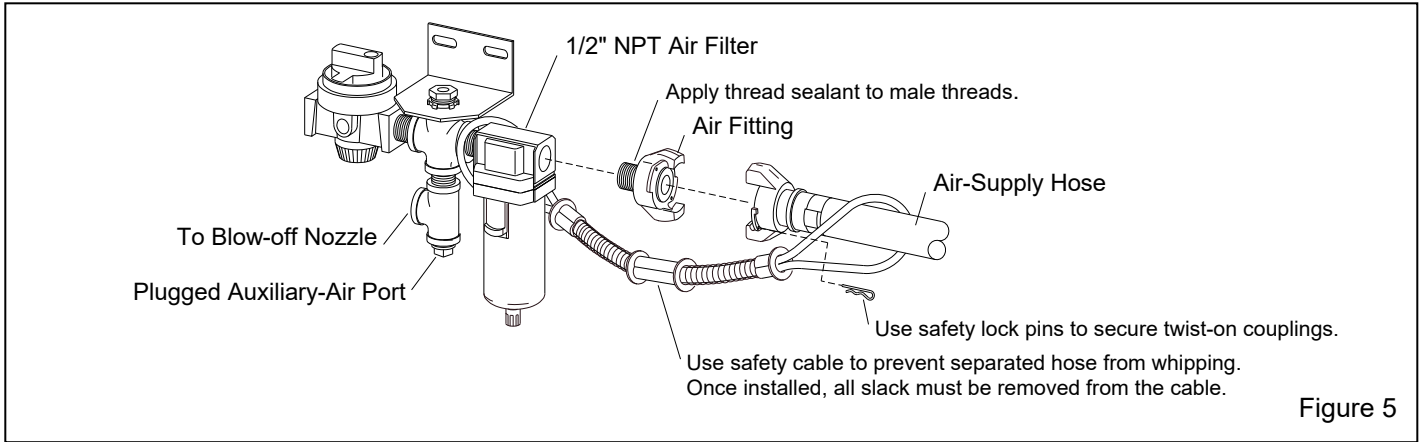
**To avoid the risk of injury from compressed air, install an isolation valve and bleed-off valve where the air supply is tapped into the compressed-air system. This enables a lockout and tagout procedure and depressurization of the compressed-air line before performing maintenance.**

**2.2.1** Refer to Paragraph 2.2.2 to determine the recommended air-supply hose size, then refer to Figure 5 and apply thread sealant to the male threads of an air fitting that is compatible with the air-supply hose fitting, and install it onto the 1/2-NPT air filter located within the power module. The style of connection shown in Figure 5 is for reference only.

**2.2.2** Refer to the table in Figure 4 to determine the minimum ID of air-supply line to the cabinet. A smaller diameter hose may reduce blasting efficiency.

MINIMUM COMPRESSED-AIR LINE ID			
Air Line Length	Jet Size		
	1/8" No. 4	5/32" No. 5	3/16" No. 6
25 feet	3/4"	3/4"	1"
50 feet	3/4"	3/4"	1"
75 feet	3/4"	1"	1"
100 feet	3/4"	1"	1"

Figure 4



**2.2.3** Install an isolation valve at the air source to enable depressurization for service, and connect an air line from the air source to the filter inlet located within the power module.

**⚠ WARNING**

Hose disconnection while under pressure can cause serious injury or death. Use safety lock pins or safety wire to lock twist-on couplings together and prevent accidental separation, and also use safety cables to prevent hose from whipping should separation occur. Safety lock pins and safety cables are listed in *Section 9.1: Optional Accessories*.

**2.3 Ground the Cabinet**

**2.3.1** To prevent static electricity buildup, attach an external grounded wire from an earth ground to the grounding lug on the left rear of the power module.

**2.4 Connect Electrical Service**

**⚠ WARNING**

Shorting electrical components can result in serious injury or death from electrical shock or equipment damage. Electrical power must be locked out and tagged out before performing any electrical work. All electrical work or any work done inside a control panel or junction box must be performed by a qualified electrician and comply with applicable codes.

**2.4.1 Standard single-phase wiring**

**2.4.1.1** Standard Pulsar cabinets are 120-volt single phase. Power is supplied by a U-ground plug; plug it into a 120-volt outlet. No additional wiring is needed; the wiring schematic shown in Figure 6 is for reference.

**⚠ WARNING**

Do not use electrical adaptors that eliminate the ground prong on 120-volt plugs. Doing so can cause electric shock and equipment damage.

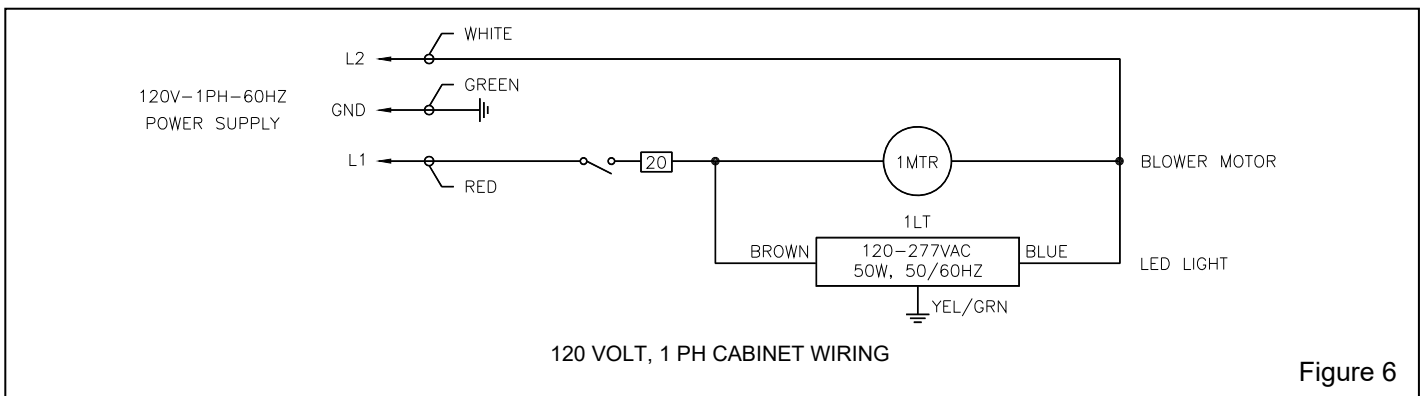


Figure 6



### 2.4.2 Optional three-phase wiring

All wiring external of the cabinet is provided by the user to comply with local electrical codes.

A wiring schematic is packed inside the cabinet's control panel. After wiring is completed, keep a copy of the schematic with the manual for future reference and for electrical replacement parts.

**2.4.2.1** If the exhauster motor is optional 3-phase, a magnetic starter is located in the electrical panel. User supplied wiring will need to be run from a disconnect to the panel. As much wiring as possible has been completed at the factory. The user needs only to provide power to the motor starter, mounted in the panel.

**2.4.2.2** After wiring is completed, observe the warning below, and check motor rotation. To check rotation, turn the On-Off switch ON and quickly turn it OFF, causing the motor to rotate slowly. Look through the slots in the fan housing on top of the motor where rotation of the fan can easily be observed. Proper rotation is indicated by the arrow on the top section (exhauster housing) of the power module. The fan should rotate clockwise when viewed from the fan end of the motor. To reverse rotation, change the wires as noted on the motor plate.

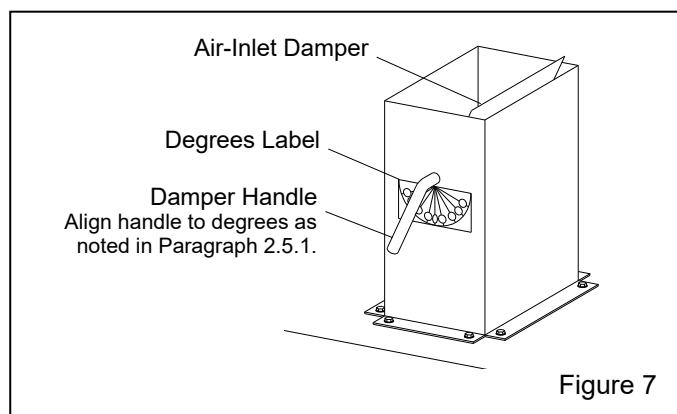
## ⚠ WARNING

**Do not look into the reclaimers exhauster outlet while the paddle wheel is turning. Injury to the eye or face can occur from objects ejected from the exhauster.**

### 2.5 Set Air-Inlet Damper – Figure 7

**2.5.1** The inlet damper must be set to match the cabinet dimensions and reclaimers size. The decal on the damper shows the settings in degrees. For the initial setting, align the handle as follows:

Pulsar-III.....align handle to 30 degrees  
Pulsar VI .....align handle to 0 degree (full open)



**2.5.2** Loosen the lock nuts and position the damper handle as noted. When correctly positioned, tighten the lock nuts to maintain the setting. Refer to Section 5.7 for adjustment procedure.

### 2.6 Final Assembly

**2.6.1** Position the foot pedal on the floor at the front of the cabinet or on the foot shelf on ergonomic models.

**2.6.2** A package of five cover lenses is supplied with the cabinet. Install a cover lens to the clean, dry, inner surface of the view window, per Section 7.3.

## 3.0 FIELD INSTALLED ACCESSORIES

### 3.1 Aluminum Oxide (aggressive media) Kit

**3.1.1** An optional aluminum oxide kit is available factory installed or may be field installed later.

Factory-installed kits consist of black rubber cabinet curtains with grommets, curtain hardware, and a boron carbide nozzle.

Field-installed (or replacement factory installed) kits consist of black rubber cabinet curtains (refer to Section 3.2 for curtain installation) a boron carbide nozzle, and light-lined flex hose. If the existing flex hose is in good condition, reserve the new hose for future replacement.

### 3.2 Cabinet Curtains Installation

**3.2.1** Match curtains to corresponding wall and doors.

**3.2.2 Front and rear walls:** Position the curtain on the wall to be protected. Using the curtains as templates, mark each mounting point through the grommet holes along the upper edge of the curtain. NOTE: When laying out the attachment points, the upper edge of the rear curtain should be below the bottom edge of the air-duct partition. Remove the curtains and drill a .187" (3/16") diameter hole at each point marked. Install the curtains using the fasteners provided (machine screw, 11/16" OD flat washer, lock washer and nut) at each grommet. The flat washer is used between the screw head and the rubber curtain grommet on all curtains.

**3.2.3 Doors:** Using protectors against the curtains and outer doors; clamp the door curtains in place. NOTE: When laying out the attachment points, the upper edges of the door curtains should be even with the outer edges of the door's soundproofing panel. Insert a #10 self-drilling screw with an 11/16" OD flat washer through the grommet holes. Use a screw gun with a 5/16" socket to drill and thread the screws through the door's inner wall at each grommet.

**3.2.4 Ergo Side Extensions:** Position the curtain on the wall to be protected. Use the curtain as a template and mark the top mounting point through the grommet. Remove the curtain and drill a .187" (3/16") diameter hole at each point marked. Install the curtains using the fasteners provided (machine screw, 11/16" OD flat washer, lock washer and nut) at each grommet. The flat washer is used between the screw head and the rubber curtain grommet on all curtains. After the curtain is hung, mark and drill the cabinet and attach the lower grommets in like manner.

### 3.3 Manometer

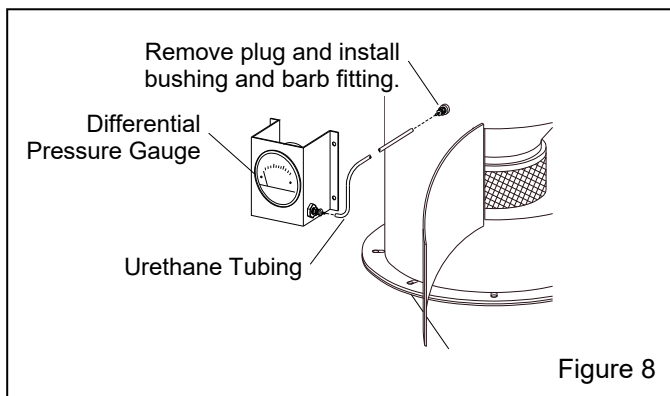
The optional manometer kit is listed in Section 9.1.

**3.3.1** The manometer measures static pressure. Consistent static pressure is necessary for precise media separation, as the reclaimer's efficiency is achieved by a centrifugal balance of air flow, particle weight, and size. Reclaimer static pressure is set by adjusting the outlet damper; refer to Section 5.4 to adjust static pressure. Refer to Section 5.8 for manometer instructions.

### 3.4 Reclaimer Differential Pressure Gauge Monitors reclaimer static pressure. – Figure 8

**3.4.1** The reclaimer differential pressure gauge continually measures reclaimer static pressure, similar to a manometer slack tube but it uses a differential pressure gauge.

**3.4.2** The gauge panel, gauge, filter, and panel fittings come fully assembled; the bushings, snubber fittings, and tubing are loose. Mount the panel at a location where it can be easily monitored. A 10-foot length of tubing is included with the kit, allowing the panel to be mounted within ten feet of the connections. One suggestion is to mount it on an accessible side of the power module.



**3.4.3** Mounting holes are on the left and right sides of the gauge panel. After selecting the location, match drill holes, and use nuts and cap screws to secure the panel.

**3.4.4** Remove the 1/4" pipe plug from the reclaimer body and install 1/4" x 1/8" bushing and barb fitting, as shown in Figure 8.

**3.4.5** Push the tubing onto the barb fittings on the gauge and reclaimer, as shown. Cut the tubing to length.

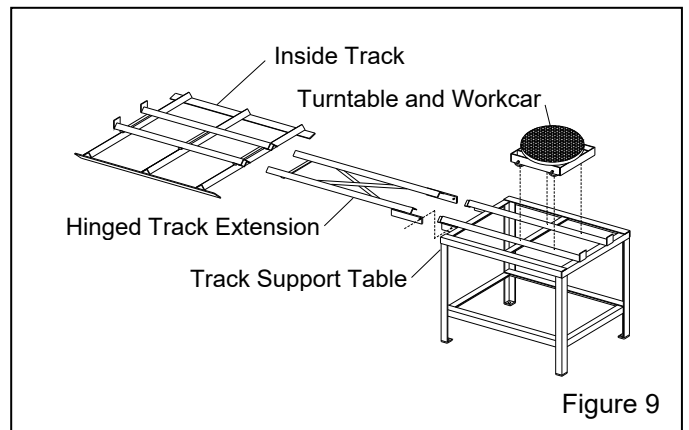
**3.4.6** Refer to the differential pressure gauge manual provided for operation of the gauge.

### 3.5 Turntable with Workcar and Track

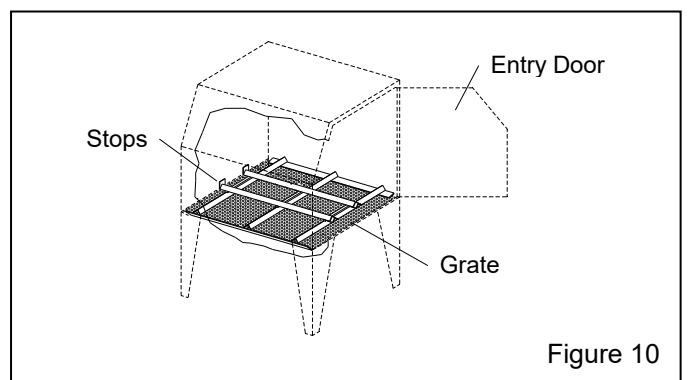
**Installation note:** The track may be placed on either side of the cabinet, allowing entry through either the right side or left side door; the right side is shown in the illustrations. When installing the inside track, place it so the stops are opposite the entry door, as shown in Figure 10.

**3.5.1** Components of the turntable and track assembly are shown in Figure 9. The assembly consists of:

1. The inside track assembly, placed inside the cabinet.
2. The hinged track extension attaches to the support table and swings up to clear the door.
3. The track support table.
4. Turntable and workcar assembly.



**3.5.2** Place the inside track in the cabinet over the existing grate, as shown in Figure 10.



**3.5.3** Position the track support table and extension, as shown in Figure 11. When the hinged extension is lowered, the extension tracks must rest on the angled locating supports welded to the bottom of the inside tracks, and butt against the inside tracks.

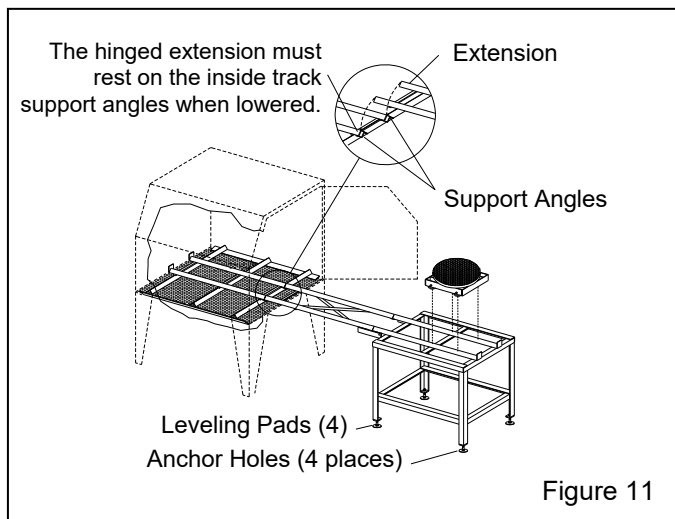


Figure 11

**3.5.4** Loosen the leveling-pad lock nuts and raise or lower the pads, as needed to adjust the height of the table, to make sure that the inside and outside tracks are aligned, that the hinged extension rest evenly on the support angles when the extension is lowered, and that the table is level.

**3.5.5** Raise the track extension, and then open and close the door to make sure they function correctly.

When certain the table and tracks are aligned and level, and that the workcar moves smoothly on all tracks, tighten the leveling-pad lock nuts and anchor the support table to the floor through the holes in the leveling pads.

**3.6 Dust-Collector Differential Pressure Gauge**

**3.6.1** The differential pressure gauge measures pressure drop across the filter cartridge. The gauge is the best way to monitor cleaning efficiency and dust buildup on the cartridge.

**3.6.2** The gauge panel, gauge, filter, and panel fittings come fully assembled; the bushings, snubber fittings, and tubing are loose. Mount the panel on the cabinet or power module at a location where it can be easily monitored. One suggestion is to mount it on top of the cabinet at either side of the light assembly, or choose another convenient location. A 20-foot length of tubing is included with the kit, allowing the panel to be mounted within 10 feet of the dust collector connections, as shown in Figure 11.

**3.6.3** Mounting holes are on left side and at the bottom of the gauge panel. After selecting the location, match drill holes and use nuts and cap screws to secure the panel. NOTE: Make sure the panel is close enough to the dust collector for 10 feet of tubing to reach.

**3.6.4** Remove 1/4" pipe plugs from the dust collector body and install 1/4" x 1/8" bushings and snubber fittings, as shown in Figure 12.

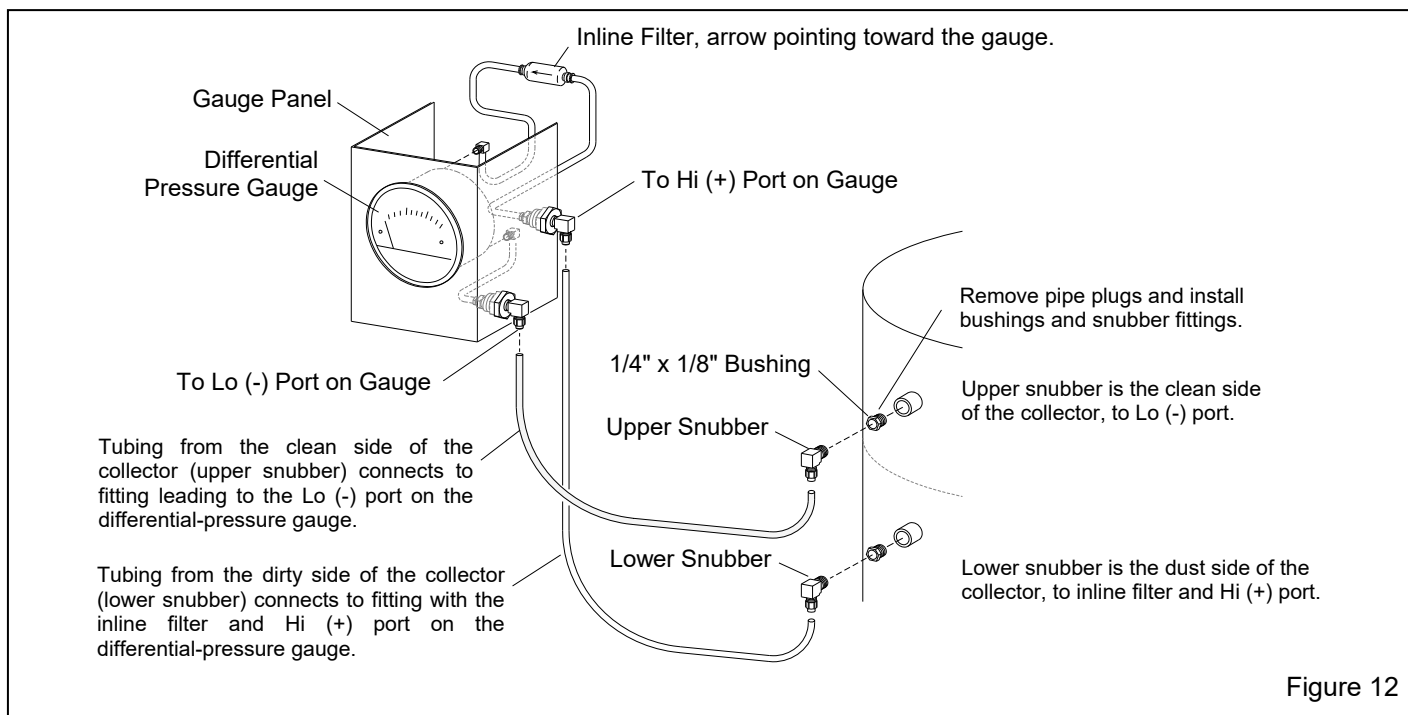


Figure 12

**3.6.5** Connect the 1/4" tubing to the snubber fittings and gauge, as shown by removing the fitting's compression nut; sliding it over the end of the tubing, inserting the tubing into the fitting, and tightening the nut onto the fitting.

**3.6.6** Refer to the differential pressure gauge manual provided for operation of the gauge.

**3.7 Armrest – Figure 13**

**3.7.1** Position the armrest so it is about even with the bottom of the arm port opening. Mark one hole location on the front of the cabinet at each mounting bracket.

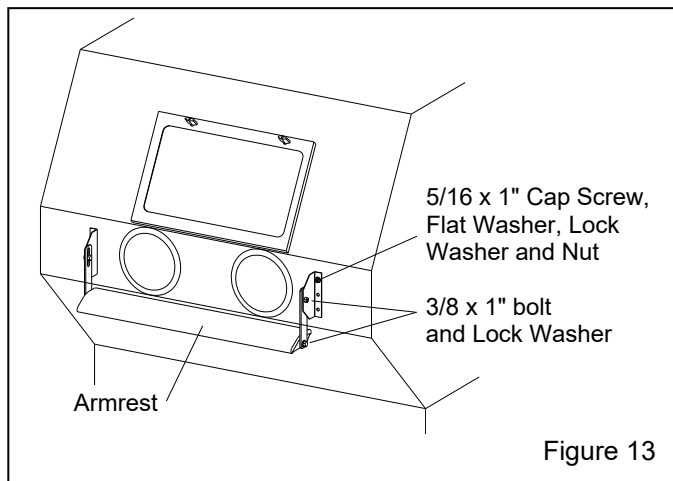


Figure 13

**3.7.2** Drill a 3/8" hole at both locations and mount the armrest using 5/16 bolts, washers and nuts. Install the bolts from inside the cabinet to protect the threads from abrasion, should the armrest need to be removed later.

**3.7.3** Match drill the remaining four bracket holes and install the remaining fasteners.

**3.7.4** Loosen the fasteners on the slotted bracket and raise or lower the armrest to a comfortable position.

**4.0 OPERATION**

**4.1 Season Filter Cartridge**

**NOTICE**

**Do not pulse a new dust collector or replacement filter cartridge until the cartridge is properly seasoned, per Section 7.12. Pulsing unseasoned cartridges can decrease the efficiency of dust collector and cause premature cartridge failure.**

**4.2 Media Loading**

**4.2.1 Media capacity:** The approximate capacity and minimum media amount is shown in the table in below.

Reclaimer Size	Minimum Wt.	Capacity
300 cfm	10 lbs	50 lbs (0.5 cuft)
600 cfm	20 lbs	75 lbs (0.75 cuft)

**4.2.2 Media loading:** With the exhauster OFF, add clean, dry media by pouring it through the reclaimer door. Do not fill above the cone on the reclaimer. **Do not pour media directly into the cabinet hopper, as overfilling may occur.** Overfilling will result in media carryover to the dust collector and possible blockage in the conveying hose. Refill only after all media has been recovered from the cabinet.

**4.3 Media Unloading – Figure 14**

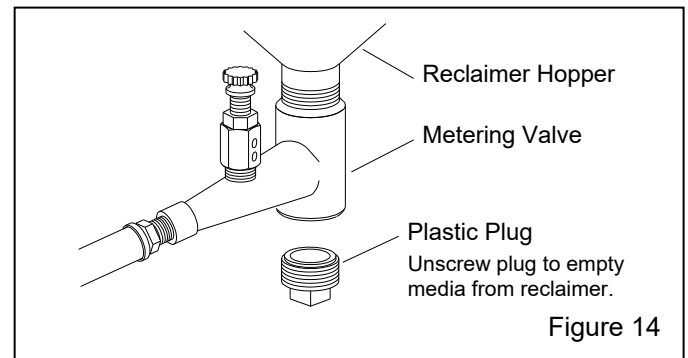


Figure 14

**4.3.1** To empty the cabinet and reclaimer of media, blow off the cabinet interior and run the exhauster until all media is recovered from the cabinet. Turn OFF the exhauster, and place an empty bucket or other suitable container under the metering valve. Unscrew the plastic plug from the metering valve, permitting media to flow into the bucket. If media does not flow, it has caked; open the fill door and stir media until it starts to flow. Before the container becomes too heavy to easily manage, replace the plug and empty the container. Replace the plug when the reclaimer is empty, or, if changing media type, purge the media hose, as noted below.

**4.3.2** To purge the media hose, before replacing the plug turn ON the exhauster, grasp the gun, and press the foot pedal using the gun to blow off the cabinet interior until the air from the gun and the cabinet are clear. Turn OFF the exhauster and replace the plug.

---

#### 4.4 Loading and Unloading Parts

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### WARNING

**Use solid fixturing to hold heavy parts in place. Do not remove lift equipment until the part is adequately supported to prevent movement. Moving heavy, unsupported parts may cause them to shift or topple, and cause severe injury. This is especially important with the use of turntables and turntables with tracks.**

---

**NOTE: Parts must be free of oil, water, grease, or other contaminants that will clump media or clog filter cartridge.**

**4.4.1** Load and unload parts through either door.

**4.4.2** When blasting small parts or objects having small pieces that could become dislodged and fall off, place an appropriately sized screen over the grate (or under the grate when frequently blasting small parts) to prevent parts from falling into the hopper. If an object should fall through the grate, stop blasting immediately and retrieve it.

**4.4.3** Close door; the door interlock system will prevent blasting if either door is open.

#### 4.5 Blasting Operation

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### WARNING

**To avoid the inhalation of dust, which can cause respiratory illness from short-term ingestion or death from long-term ingestion.**

- **Use the blow-off nozzle to blow media off parts before opening doors.**
  - **After blasting, keep doors closed and exhauster running until the cabinet is clear of all airborne dust.**
  - **Always close cabinet, reclaimer, and dust collector doors before blasting. Keep all doors closed during blasting.**
  - **Always wear blast gloves.**
  - **Stop blasting immediately if dust leaks are detected.**
- 

**4.5.1** Slowly open the air valve on the air-supply hose to the cabinet. Check for air leaks on the initial start up and periodically thereafter.

**4.5.2** After the filter cartridge is seasoned, per Section 7.12, adjust the pulse pressure regulator to 60 psi. Refer to Section 5.6 for adjustment procedure.

**4.5.3** Turn ON lights and exhauster. The ON/OFF toggle switch performs both functions.

**4.5.4** Load parts.

**4.5.5** Close door; the door interlock system will prevent blasting if either door is open.

**4.5.6** Adjust the pilot pressure regulator to the required blast pressure, per Section 5.1. The regulator is located on the top-left side of the cabinet.

**4.5.7** Insert hands into rubber gloves.

**4.5.8** To blast, hold the gun firmly, point the gun toward the object to be blasted, and apply pressure to the top of the foot pedal; blasting will begin almost immediately.

---

### WARNING

**Shut down the cabinet immediately if dust discharges from the dust collector or cabinet. Check to make sure the dust-collector filter cartridge is correctly seated and that it is not worn or otherwise damaged. Prolonged breathing of any dust can result in serious lung disease. Short-term ingestion of toxic dust, such as lead or heavy metals, poses an immediate danger to health. Toxicity and health risk vary with type of media and dust generated by blasting. Identify all material being removed by blasting and obtain a safety data sheet (SDS) for the blast media.**

---

**4.5.9** When blasting small parts, place an appropriately sized screen over the grate to prevent parts from falling into the hopper. If an object should fall through the grate, stop blasting immediately and retrieve it.

---

### **NOTICE**

**To prevent rapid frosting of the view window, install a view-window cover lens, per Section 7.3, and avoid pointing the blast nozzle toward the view window**

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**4.5.10** When blasting parts off the grate, use a solid conductive back rest to support the part. Without this assist, especially with longer blasting operations, the operator will tire easily from resisting blast pressure, and static electricity could build up in the ungrounded part and cause static shocks. Whenever possible avoid holding small parts that require blasting into the glove.

## 4.6 Blasting Technique

**4.6.1** Blasting technique is similar to spray painting technique. Smooth continuous strokes are usually most effective. The distance from the part affects size of blast pattern. Under normal conditions, hold the gun approximately 3" to 6" from the surface of the part.

## 4.7 Stop Blasting

**4.7.1** To stop blasting, remove foot pressure from the top of the foot pedal.

**4.7.2** Use the blow-off nozzle to blow media off cleaned parts.

**4.7.3** Keep doors closed and exhauster running until the cabinet is clear of all airborne dust.

**4.7.4** Unload parts.

## 4.8 Pulsing (cleaning) Dust Collector Cartridge

**4.8.1** The dust-collector filter cartridge is pulsed each time the foot pedal is pressed or released. Prolonged periods of blasting or dusty conditions may require the cartridge to be pulsed during the blasting process, per Section 6.2.4, or upgrade to an automatic pulse kit. See Section 9.1.

## 4.9 Shutdown

**4.9.1** Shut off the air-supply valve, bleed the air-supply line, and drain the compressed-air filter and dust-collector pulse reservoir.

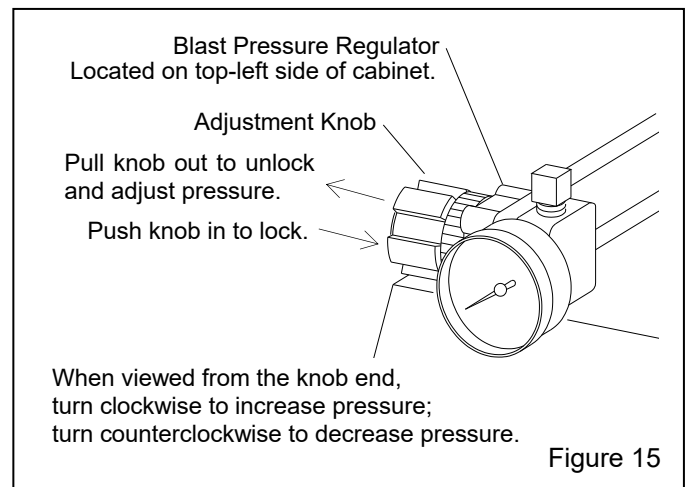
**4.9.2** Switch OFF the lights and exhauster.

## 5.0 ADJUSTMENTS

### 5.1 Blasting Pressure (pilot regulator) – Figure 15

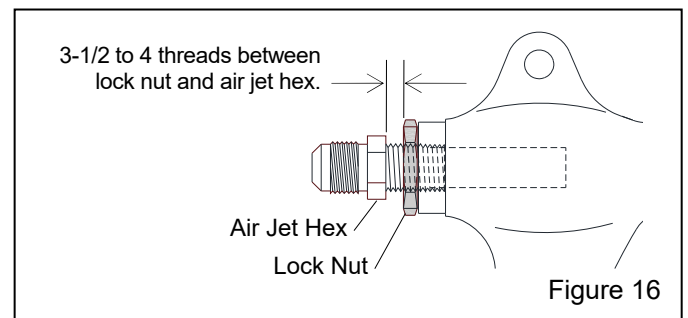
**5.1.1** The pilot regulator, located on the top-left side of the cabinet, enables the user to adjust blasting pressure while blasting, to suit the application. The suitable pressure for most purposes is about 80 psi. Lower pressures may be required on delicate substrates, and will reduce media breakdown. Higher pressure may be required for difficult blasting jobs on durable substrates, but will increase media break down. If pressure is too high, suction in media hose will decrease, and if high enough cause blow-back in the hose. Optimal production can only be achieved when pressure is carefully monitored.

**5.1.2** To adjust pressure, unlock the knob by pulling it out, as shown in Figure 15, and turn it clockwise to increase pressure or counterclockwise to decrease pressure. Pressure may drop slightly from closed-line pressure when blasting starts. Once operating pressure is set, push the knob to lock it and maintain the setting.



### 5.2 Air Jet Adjustment – Figure 16

**5.2.1** Thread the air jet 4-1/2 to 5 full turns into the gun body. Doing so leaves 3-1/2 to 4 threads exposed past the lock nut. Tighten the lock nut to maintain the setting. Refer to Section 9.10 for optional adjusting tool, which correctly positions the jet. Instructions are provided with the tool.



**5.3 Media-Air Mixture, Figure 17**

**5.3.1** Check the media stream for correct media-air mixture; media flow should be smooth and appear as a light mist coming from the nozzle.

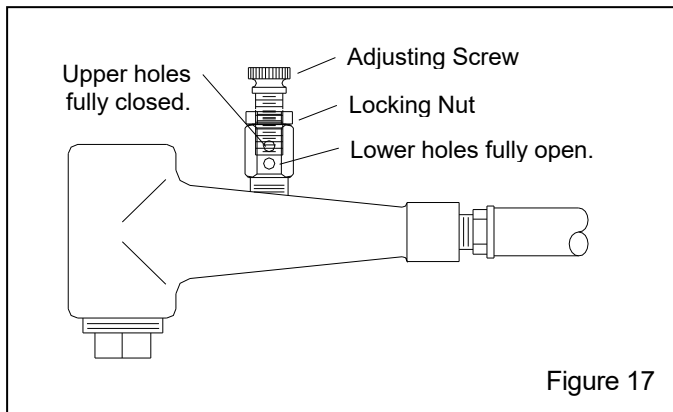


Figure 17

**5.3.2** If media does not flow smoothly, loosen the locking nut, and adjust the metering screw until the upper holes in the metering stem are closed off and the lower holes are fully open, as shown in Figure 17. This adjustment is a starting point.

**5.3.3** If pulsation occurs in the media hose, either media is damp and caked, or not enough air is entering the media stream. While blasting, loosen the lock nut and slowly turn the adjusting screw out (counterclockwise when viewed from the top) until the media flows smoothly. Tighten the lock nut finger-tight to maintain the setting.

**5.3.4** If media flow is too light, decrease air in the mixture by turning the metering screw in (clockwise when viewed from the top) covering more of the holes so less air enters the media hose. Tighten the lock nut finger-tight to maintain the setting.

**5.4 Reclaimer Static Pressure (outlet damper)**

**5.4.1** Static pressure requirements vary with size of reclaimer, size, weight, and type of media.

**5.4.2** Adjust static pressure by opening or closing the outlet damper located above the reclaimer on the underside of the underside of the power module top, as shown in Figure 18. If the damper is not opened far enough, the reclaimer will not remove fines, resulting in dusty media and poor visibility, or will not convey media, causing media buildup in the hose between the cabinet hopper and reclaimer. If the damper is opened too far, it may cause carryover (usable media carried into the dust collector) and result in excessive media consumption. Open only as far as necessary to obtain a balance of maximum dust removal without media carryover.

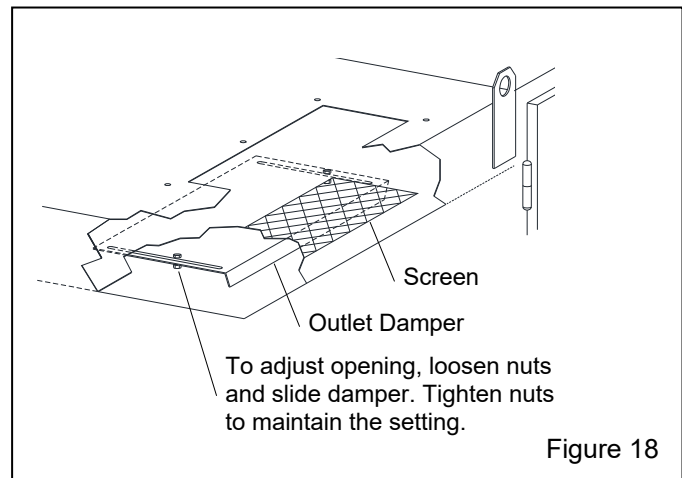


Figure 18

**5.4.3** A manometer is useful for adjusting and monitoring static pressure. The manometer kit is listed in *Section 9.1: Optional Accessories*. Refer to Section 5.8 for manometer operations. The following are static pressure starting points for given media. Static pressure may need to be lower with finer media, higher with coarser media. Run the media through several blast cycles, allowing the reclaimer to function with these settings. Inspect media in the reclaimer and fines in the dust collector, as noted in Paragraph 5.4.2. Continue adjusting static pressure until optimum dust and fines removal without carryover is attained.

Glass Bead No. 6 and 7 .....	3-1/2" – 4"
Glass Bead No. 8 to 12 .....	3" – 3-1/2"
Aluminum oxide 60-mesh to 80-mesh .....	4" – 5"
Aluminum oxide 80-mesh to 180-mesh .....	3" – 4"
Steel shot S-110 to S-70 .....	6" – 7"
Steel grit 80-mesh to 120-mesh .....	6" – 7"

**5.4.4** As dust accumulates on the outer surface of the cartridge, static pressure drops, requiring additional pulsing of the cartridge as described in Section 6.2.4, or an increase in pulse pressure, per Section 5.6. When pulsing no longer maintains the necessary static pressure, readjust the damper.

**5.5 Door Interlocks – Figure 19**

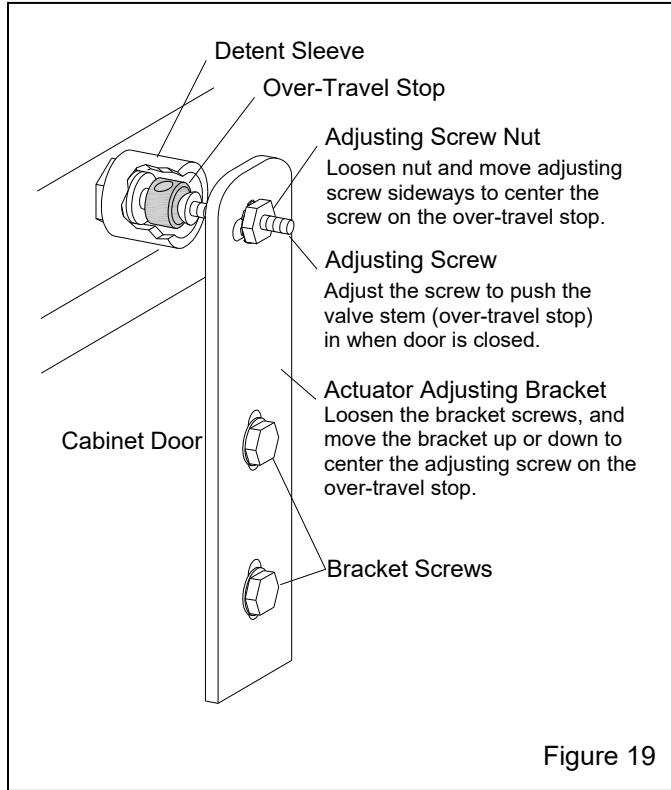
**⚠ WARNING**

**Never bypass the door interlock system. Doing so can result in serious injury from unexpected blasting.**

**5.5.1** The door interlocks disable the blasting control circuit when doors are open. To enable blasting, the door-interlock switches must be engaged when doors are closed. The interlocks are set at the factory and do

not normally require field adjustment unless parts are replaced. When adjustment is required, proceed as follows.

**5.5.2** Close cabinet doors.



**5.5.3** Loosen the actuator bracket screws and adjusting screw nut. Move the actuator bracket up or down, and the adjusting screw sideways, as needed to center the adjusting screw on the over-travel stop (in center of detent sleeve). Tighten the bracket screws.

**5.5.4** Turn the adjusting screw in or out as required to engage the switch without applying excessive pressure on it. Tighten the adjusting screw nuts.

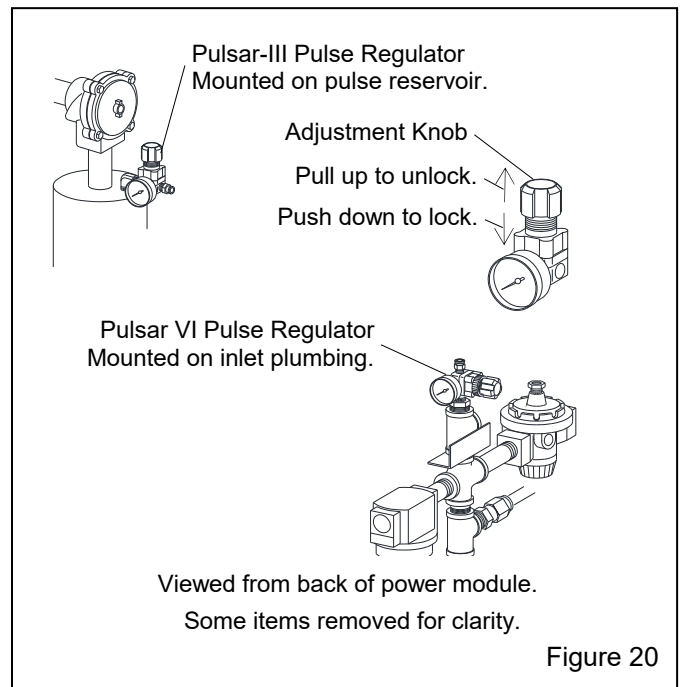
**5.5.5** Test the operation with the doors open and then again closed. Negative pressure inside the cabinet may cause the doors to flex inward. Tests should be performed with the exhauster running. Point the nozzle away from the door during the tests, and open the door only enough to disengage the interlock switch. The interlocks should stop the blasting when either door is open and permit blasting when the doors are closed.

**5.6 Pulse Pressure – Figure 20**

**NOTICE**

**Do not pulse new dust collectors or replacement cartridge until the cartridge is properly seasoned, per Section 7.12. Pulsing unseasoned cartridges can cause premature cartridge failure and decrease efficiency of the dust collector.**

**5.6.1** Adjust pulse pressure using the regulator mounted on the pulse reservoir on Pulsar-III models and on the pulse inlet plumbing on Pulsar VI models (refer to Figure 20). Begin pulse at 60 psi. To adjust pressure, pull the knob to unlock it, as shown in Figure 20, and then turn clockwise to increase pressure or counterclockwise to decrease pressure. Once operating pressure is set, push the knob to lock it and maintain the setting.



**5.6.2** As the filter cartridge cakes with dust, it may be necessary to pulse between blasting, per Section 6.2.4.

**5.6.3** When pulsing alone does not adequately clean the cartridge, increase pulse pressure by 5 psi increments until the maximum of 90 psi is reached. As dust cakes on the cartridge, the differential pressure increases. Using a gauge to measure the differential pressure is a good way to tell if the cartridge is heavily caked.



**5.6.4** When the maximum pulse pressure of 90 psi is attained, and additional pulsing as described in Section 6.2.4 does not increase visibility or decrease differential pressure, replace the cartridge, per Section 7.11.

## 5.7 Cabinet Air-Inlet Damper

**5.7.1** Once the damper is initially set, per Section 2.5, it seldom requires readjustment. The initial setting produces approximately .5" to .75" of static pressure in the cabinet enclosure. **Do not confuse cabinet static pressure with reclaimers static pressure, which is controlled by the outlet damper, as noted in Section 5.4. Reclaimer pressure must be set before cabinet pressure.**

**5.7.2** Using a manometer (as noted in Section 5.8 and listed in Section 9.1) is the most accurate method of monitoring and adjusting cabinet pressure. Following the instructions packed with the manometer, start the exhauster and insert the needle into a glove, and adjust pressure using the inlet damper. Open the damper further to decrease static pressure or close it further to increase pressure.

**5.7.3** If a manometer is not available, use the gloves as an indicator. With the exhauster ON, the gloves should be inflated, but not elevated off the grate.

## 5.8 Optional Manometer

**NOTE:** These instructions show several methods of taking static pressure readings (negative pressure) on Pulsar Reclaimers by using a flexible-tube manometer. Use the method best suited for the application. The instructions explain the processes for taking periodic readings and show how to permanently install the manometer for taking frequent readings. Permanent fittings should be installed when the manometer installation is permanent. Use silicone sealer or other sealant to seal around the fitting to prevent leaks. The fitting should be capable of being capped when the manometer tube is removed. This will prevent leaks that alter the reclaimer's separation efficiency. Taking readings at different locations could produce different readings. Static pressure readings at the door are generally 0.5" to 1" lower than readings taken above the reclaimer. The readings are reference points, so readings should be taken using the same method each time the reading is taken.

**5.8.1** Refer to instructions packed with the manometer for preparing and operating the manometer.

**5.8.2** Connect one end of the 3/16" ID tubing to one of the tubing connectors (elbow) at the top of the manometer by pushing it over the barbed adaptor.

**5.8.3** Open both manometer valves (elbows), per the instructions with the manometer.

**5.8.4** Magnets on the manometer hold it in position on the reclaimer body or dust-collector body. The manometer must be vertical so the fluid is level on both sides.

**5.8.5** Adjust the slide rule to align the zero with the fluid level. Refer to Figure 22

**5.8.6 Needle placement:** Figure 21 shows the manometer setup for taking both periodic and frequent static pressure readings.

**5.8.6.1 Taking frequent readings using a permanent fitting:** A permanent fitting may be installed in the reclaimer wall, as shown in Figure 21, for taking frequent static pressure readings. Permanent fittings must have a barb to accommodate the 3/16" ID tubing and have a means of sealing the fitting when the manometer is not in use. Use silicone sealer or other sealant to seal around the fitting to prevent leaks. The fitting should be capable of being capped when the manometer tube is removed. Sealing the fitting will prevent leaks that alter the reclaimer's separation efficiency. Air drawn into the reclaimer will cause carryover of good media to the dust collector.

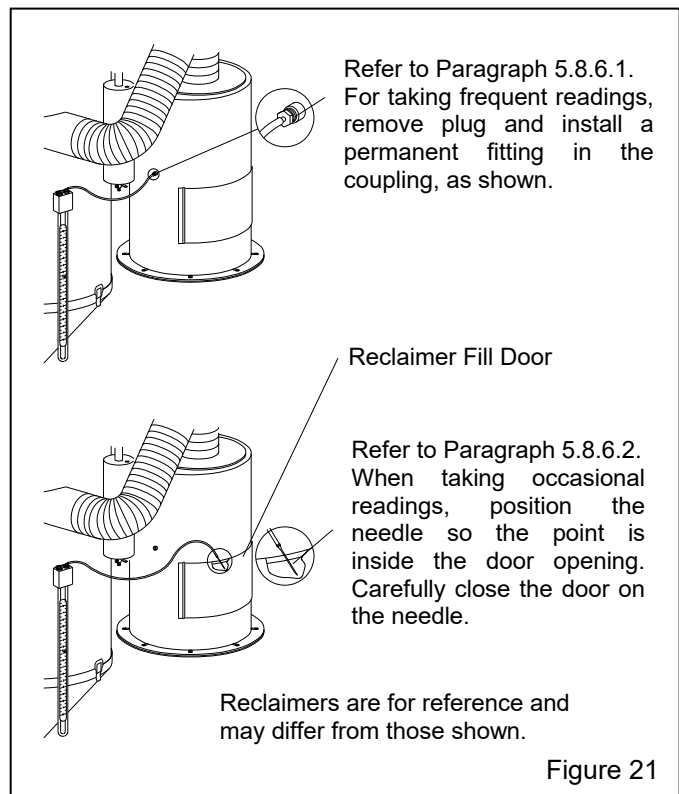
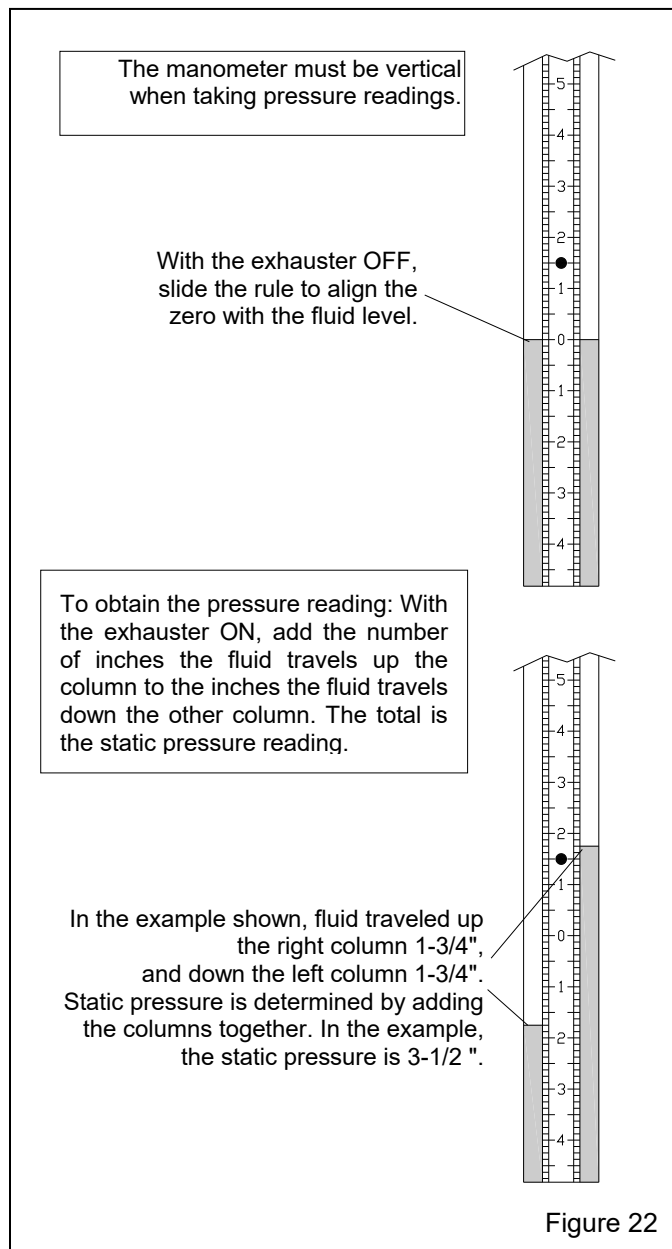


Figure 21

**5.8.6.2 To take occasional readings:** Leave the needle protector on the needle and insert the needle into the unused end of the tubing. The ends of the tubing must fit tight on the manometer and needle; leaks will give inaccurate readings. Open the reclaimers fill door, remove the needle protector, and place the needle so the point is inside the door opening. Carefully close the door on the needle. The side of the needle will embed into the rubber door gasket, creating an airtight seal

**5.8.7** Open cabinet doors and turn the exhauster ON. The negative (static) pressure will move fluid in the tube. **NOTE: Readings must be taken with the cabinet doors open and with the exhauster running.**



**5.8.8** To find the static pressure, add the number of inches the fluid travels up one column to the inches the

fluid travels down the other column. Refer to the example in Figure 22.

**5.8.9** After taking the readings, replace the needle protector. Close the manometer valves and store the manometer in the original container in a clean area. **NOTE:** If the manometer installation is permanent, the manometer may remain on the reclaimers body after the valves are closed.

## 5.9 Foot Shelf, Ergonomic Models Only

**5.9.1** Raise the shelf to remove pressure from the locating pins and remove the pins. Adjust the shelf height and insert the pins.

## 6.0 PREVENTIVE MAINTENANCE

### **⚠ WARNING**

**Failure to wear an approved respirator and personal protection when servicing dust-laden areas of the cabinet and dust collector, as well as when emptying the container, could result in lung disease, serious skin or eye irritation, or other health issues. Toxicity and health risk vary with type of media and dust generated by blasting. The respirator must be approved for the type of dust generated. Identify all material being removed by blasting and obtain a safety data sheet (SDS) for the blast media.**

To avoid unscheduled downtime and to improve safety, establish an inspection schedule. Inspect all parts subjected to media contact, including the gun and nozzle, media hose, flex hose, wear plate, and all items covered in this section. Adjust frequency of inspections as needed, based on the following:

- **Usage:** Cabinets often used require more maintenance and inspections than those occasionally used.
- **Type of media:** Aggressive media wears parts faster than nonaggressive media.
- **Condition of parts being blasted:** Heavily contaminated parts require more maintenance to the cabinet's media recovery system.
- **Friability of media:** Media that rapidly breaks down require more maintenance to the cabinet's media recovery system and dust collector.

## 6.1 Daily Inspection and Maintenance Before Blasting with the Air OFF

**6.1.1 Check media level:** Check media level in reclaimer and refill as necessary.

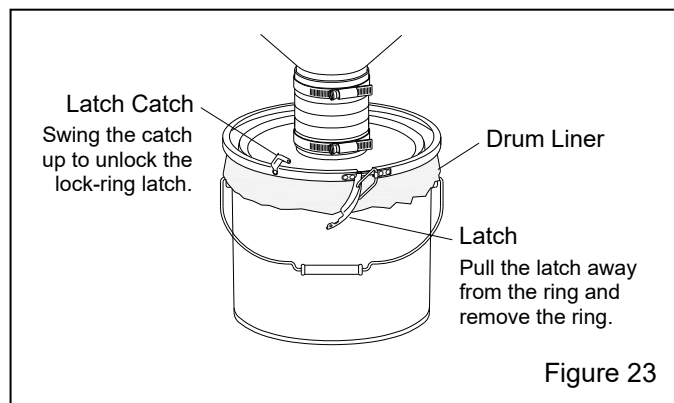
**6.1.2 Inspect reclaimer debris screen and door gasket:** Check reclaimer debris screen for debris. The screen is accessible through the reclaimer door. With the exhauster OFF, remove the screen and empty it daily or when loading media. Empty the screen more often if part blasted causes excessive debris. Do not operate the machine without the screen in place; oversized byproduct from blasting could plug the nozzle. While the door is open, inspect the door gasket for wear or damage. Replace the gasket at the first sign of wear.

**6.1.3 Drain compressed-air filter:** The cabinet is equipped with a manual-drain air filter. Drain the filter at least once a day, and more often if water is present. Moist air inhibits the flow of media. Drain the air line and receiver tank regularly. If the filter does not remove enough moisture to keep media dry and flowing, it may be necessary to install an air dryer or aftercooler in the compressed-air supply line.

**6.1.4 Inspect dust container:** Empty the dust container regularly. Start by checking the container at least daily and when adding media, then adjust frequency based on usage, contamination, and friability of the media.

1. Turn off the exhauster and unlatch the lid lock ring from the dust container, as shown in Figure 23.

2. Pry off the lid from the container (the lid's flexible inlet hose allows easy removal) and remove the container.



3. Tie off or otherwise seal the top of the liner and remove it from the container. Dispose of the sealed liner into a suitable disposal receptacle.

**NOTE:** Blasting media is usually nontoxic; however, some materials being removed by the blast process may be toxic. Obtain SDS sheets for the media and identify all material removed by the blast process. Check with proper authorities for disposal restrictions.

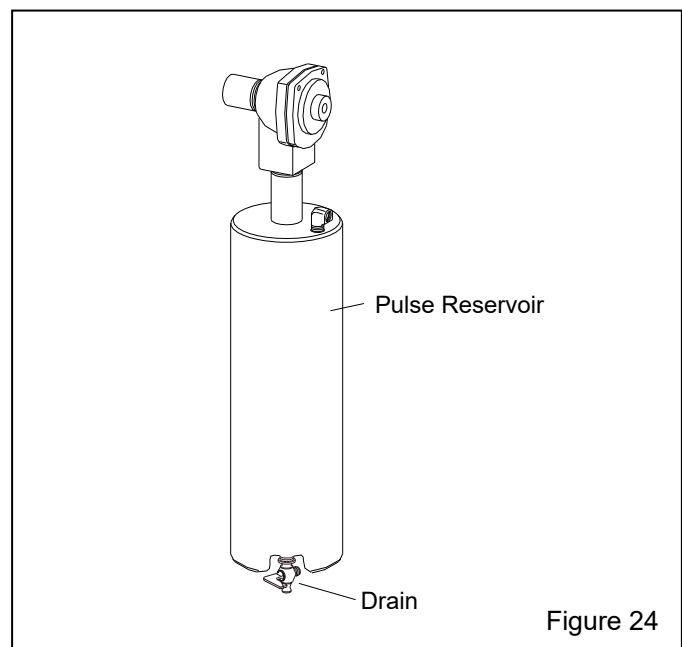
4. Place a new liner inside the container and drape it over the top edge. Reattach the container to the lid and latch the lock ring, making sure the lid and clamp are secure. Replacement liners are shown in Sections 9.13 (300 cfm dust collection) and 9.14 (600 cfm dust collector).

## 6.2 Daily Inspection During Blasting – Have Someone Do the Following:

**6.2.1 Inspect cabinet for dust leaks:** During operation, inspect cabinet door seals for media leaks. Dust leaking from the inlet damper or other places on the cabinet indicates saturated filter cartridge. Refer to Section 6.2.4 for additional pulsing.

**6.2.2 Check exhaust air for dust:** Dust discharge at the outlet indicates a leaking or damaged filter cartridge. Check immediately. Note that a small amount of dust egress is normal for a short time before a new cartridge is seasoned.

**6.2.3 Drain pulse reservoir – Figure 24:** Open the petcock to drain water from the pulse reservoir before and after each use.



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**6.2.4 Additional cartridge pulsing:** The cartridge is pulsed each time the foot pedal is pressed or released. Additional pulsing should be performed per the following instructions every eight hours, or more often under dusty conditions, to prevent clogging of the cartridge.

1. Turn OFF exhauster.
2. Hold the blast gun and rapidly press and release the foot pedal three times. Activating the foot pedal more than three times may cause dust to escape from the enclosure.
3. Start the exhauster and let it run for 10 seconds or until all airborne dust is cleared from the cabinet.
4. Repeat the process several times.

### **6.3 Weekly Inspection and Maintenance Before Blasting with Air OFF**

**6.3.1 Inspect view-window cover lens:** Inspect the window cover lens. Replace as needed, per Section 7.3.

**6.3.2 Inspect gloves:** Inspect gloves for wear. The first sign of deterioration may be excessive static shocks. Replace as needed, per Section 7.1.

**6.3.3 Inspect BNP® gun assembly:** Inspect internal parts of the BNP gun for wear. Inspection and replacement of the air jet cover before it wears through will prolong the life of the jet. Replace parts as needed, per Section 7.2.

**6.3.4 Inspect media hose:** Inspect media hose for thin spots by pinching it every 6 to 12 inches. Replace the hose when it becomes soft.

### **6.4 Weekly Inspection During Blasting – Have Someone do the Following:**

**6.4.1 Inspect flex hoses:** Inspect flex hoses for leaks and wear.

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## **7.0 SERVICE MAINTENANCE**

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### **⚠ WARNING**

**Prior to doing any maintenance or opening the dust collector, the employer must meet required OSHA standards, including but not limited to 29 CFR 1910 for:**

- **Appropriate Respirator**
- **Protective Clothing**
- **Toxic and Hazardous Substances**
- **Fall Protection Lockout and Tagout**
- **Lockout and Tagout**

**All dust is hazardous to breath; toxicity and health risk vary with type of dust generated by blasting. Prolonged exposure to any dust can result in serious lung disease and death. Short-term exposure to toxic materials, such as lead dust or dust from other heavy metals and corrosives, can cause serious injury or death. Identify all material that is being removed by blasting and obtain a Safety Data Sheet (SDS) for the blast media. Waste dust in the collector can cause serious injury or death through inhalation, absorption, or ingestion. The employer shall meet all OSHA requirements, including but not limited to those for confined space, combustible dust, fall protection, hazard communication, and lockout and tagout procedure for electrical and pneumatic supply.**

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### **7.1 Gloves**

**7.1.1** Special static-dissipating gloves are provided for operator comfort. Gloves need to be replaced periodically as they wear. The first sign of deterioration may be excessive static shocks.

**7.1.2 Band-clamp type:** Band-clamp type gloves are held in place by metal band clamps on the inside of the cabinet. To replace, loosen the clamps with a screwdriver, replace the gloves, and tighten the clamps.

**7.1.3 Quick-change type, clampless installation:** Quick-change gloves are held in place using spring rings sewn into to the attachment end of the glove. To install, insert the glove into the arm port so that one spring is on the inside of the port and the other is on the outside, sandwiching the arm port between both spring rings.

## 7.2 BNP® Gun Assembly – Figure 25

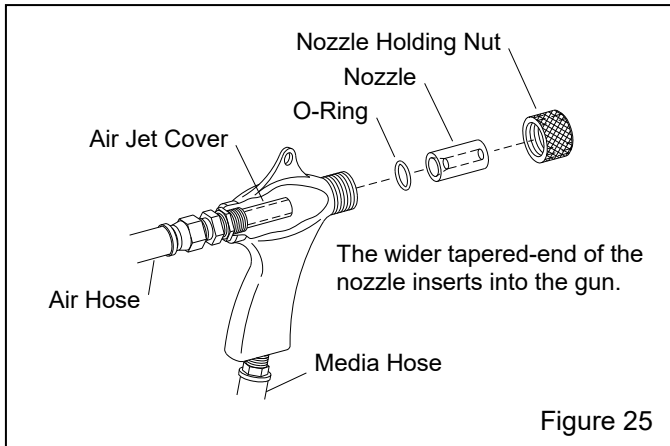


Figure 25

**7.2.1** Replace the nozzle when its orifice diameter has worn 1/16" larger than its original size or when suction diminishes noticeably. To change the nozzle, unscrew the holding nut from the gun end, and pull the nozzle from the gun. Inspect the nozzle O-ring and replace if worn or damaged. Insert a new O-ring and nozzle, placing the tapered end toward the jet. Screw the holding nut onto the gun.

## 7.3 View-Window Cover Lens

**7.3.1** Rapid frosting of the view window can be avoided by directing ricocheting media away from the window and by installing a cover lens on the inside surface of the window. Using cover lenses prolongs the life of the view window.

**7.3.2** The best way to install a cover lens is to remove the window from the cabinet. If, for some reason, it is not practical to remove the window, the lens may be applied with the window glass in place.

**7.3.3** To install a cover lens, carefully remove the adhesive backing making sure the adhesive remains on the lens, and apply the lens to the clean, dry, inner surface of the view window. When the cover lens becomes pitted or frosted, replace it.

## 7.4 View-Window Replacement

### **⚠ WARNING**

**Do not use plate glass for replacement view windows. Plate glass shatters on impact and can cause severe injury. Use only genuine ZERO® laminated replacement glass.**

**7.4.1** Remove the two window-frame nuts located on the upper edge of the window frame and swing the window frame open. **NOTE: The window frame in Ergo models is not hinged; it is held by four frame nuts.** If the frame is to remain open, for cleaning or other reasons, remove it, per Section 7.6.

**7.4.2** Remove the old window.

**7.4.3** Inspect the window-frame gaskets, both on the window frame and on the cabinet. If either gasket is damaged, replace it, per section 7.5.

**7.4.4** Install a view-window cover lens, per Section 7.3.

**7.4.5** Set the new window (cover lens down) squarely over the window opening, making sure that all edges of the window are centered and overlapping the window gasket, and that the window is resting on the window support tabs.

**7.4.6** Swing the window frame into place and tighten the frame nuts.

## 7.5 Window-Gasket Replacement – Figure 26

**7.5.1** Inspect the gaskets when changing the view window. Replace the window-frame gasket and cabinet window-opening gasket at the first sign of media leakage around the view window, or if gaskets are worn or otherwise damaged.

**7.5.2** Remove the window and window frame, per Section 7.6.

**7.5.3** Remove all the old gasket material and clean the surfaces of the cabinet and window frame.

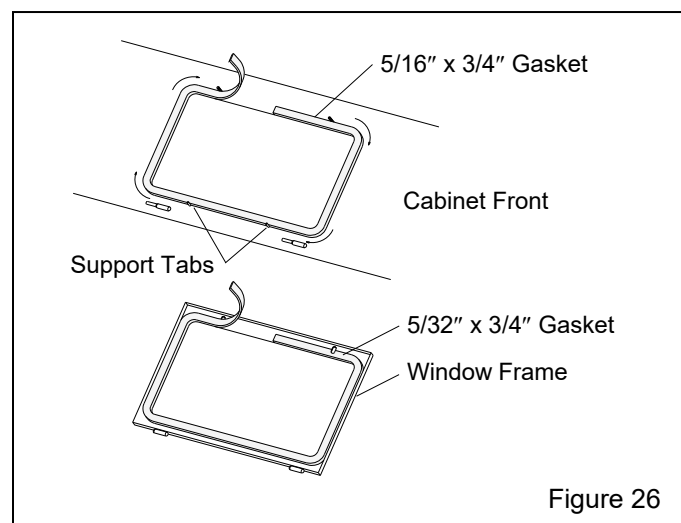


Figure 26

**7.5.4** Peel a short section of adhesive backing from the 5/16"-thick strip gasket and adhere the gasket to the center of the top edge of the window opening, as shown in Figure 26. Peel additional backing as needed and work the strip around the radius of each corner, pressing it firmly to bond. Trim the gasket to fit and compress the ends to seal.

**7.5.5** Using 5/32"-thick strip gasket, repeat the process on the underside of the window frame.

**7.5.6** Trim around the window-frame bolt slots, as needed.

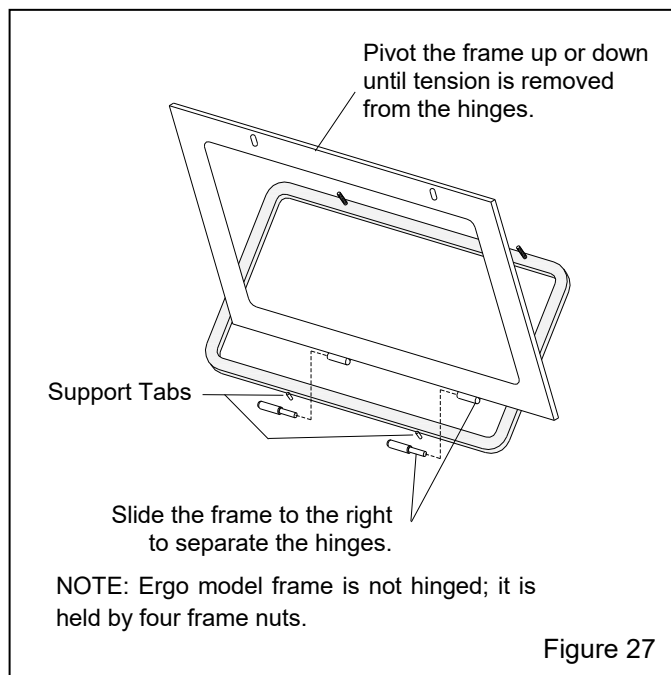
## 7.6 Window-Frame Removal – Figure 27

**7.6.1** Remove the two window-frame nuts located on the upper edge of the window frame and swing the window frame open. **NOTE: The window frame in Ergo models is not hinged; it is held by four frame nuts.**

**7.6.2** Remove the window to prevent breakage.

**7.6.3** Pivot the window frame up or down until tension is off the frame hinges.

**7.6.4** Slide the frame to the right to remove. The hinges separate, as shown in Figure 27.



**7.6.5** Replace the frame in reverse order. Slide the frame as necessary to align the top bolt holes with the bolts.

**7.6.6** Set the window squarely over the window opening. Make sure that all edges of the window are centered, overlapping the window gasket, and that the window is resting on the window support tabs.

**7.6.7** Swing the window frame into place and tighten the frame nuts.

## 7.7 LED Light Assembly – Figure 28

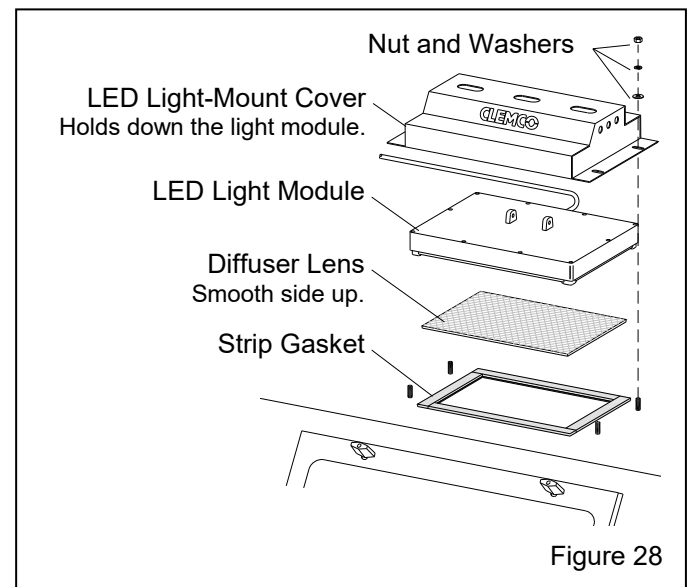
### **⚠ WARNING**

**Use an approved stepladder when servicing the light assembly. Do not climb on top of the cabinet. The cabinet top will not support the weight of a person. Failure can result in injury and property damage.**

### 7.7.1 Remove light-mount cover

**7.7.1.1** Turn OFF electrical power.

**7.7.1.2** Remove the four nuts and washers that attach the light-mount cover to the cabinet and remove the cover, as shown in Figure 28.



### 7.7.2 Gasket replacement

**7.7.2.1** Remove the four nuts and washers that attach the light-mount cover to the cabinet and remove the cover, as noted in Section 7.7.1. Move the light module off the diffuser lens and remove the lens.

**7.7.2.2** Remove all the old gasket material and clean the surface of the cabinet.

**7.7.2.3** Lay a section of strip gasket along the edge of the opening and cut to length, allowing 3/4" overlap on each end. Peel a short section of adhesive backing and adhere the strip gasket to the top edge of the light opening, as shown in Figure 28. Press the gasket to bond. Repeat the process for each side, compressing the ends to seal.

### 7.7.3 Diffuser lens replacement

**7.7.3.1** Remove the four nuts and washers that attach the light-mount cover to the cabinet and remove the cover, as noted in Section 7.7.1. Move the light module off the diffuser lens and remove the lens. Inspect the gasket and replace it, per Section 7.7.2, if it is compressed or otherwise damaged, before centering the new diffuser (smooth side up) over the gasket.

**7.7.3.2** Set the light module on the diffuser and reattach the cover.

### 7.7.4 LED light module replacement

**7.7.4.1** Turn OFF electrical power and perform lockout and tagout procedure to power supply.

**7.7.4.2** Remove the light-mount cover, per Section 7.7.1.

**7.7.4.3** Remove the junction-box cover and note the wire connections. Current connections are as follows:

- Brown wire .....Hot
- Blue wire .....Neutral
- Yellow w/green stripe .....Ground

If color coding is different from that shown above, make note of the color code before disconnecting the wires.

**7.7.4.4** Loosen the strain-relief compression nut and remove the cord from the junction box.

**7.7.4.5** Place the new module in position on the cabinet and route the cord through the strain relief and into the junction box.

**7.7.4.6** Cut the cord to length and wire as follows:

- Brown wire .....Hot
- Blue wire .....Neutral
- Yellow w/green stripe .....Ground

**7.7.4.7** Apply power to test the light.

**7.7.4.8** Tighten the strain-relief compression nut, set the light module on the diffuser, and reattach the cover.

## 7.8 Replacing Reclaimer Wear Plate

### **⚠ WARNING**

**To access wear-plate mounting screws, the reclaimer must be removed from the power module. Pulsar reclaimers weigh about 100 lbs. When removing and installing the reclaimer, it must be adequately supported and secured to appropriate lift equipment. Failure to secure and use proper lift device can result in injury.**

### 7.8.1 Pulsar III reclaimer with welded-on, non-removable top (300 cfm reclaimer) – Figure 29

Refer to Section 7.8.2 to replace the wear plate in Pulsar-VI (600 cfm) reclaimer with bolt-on, removable top.

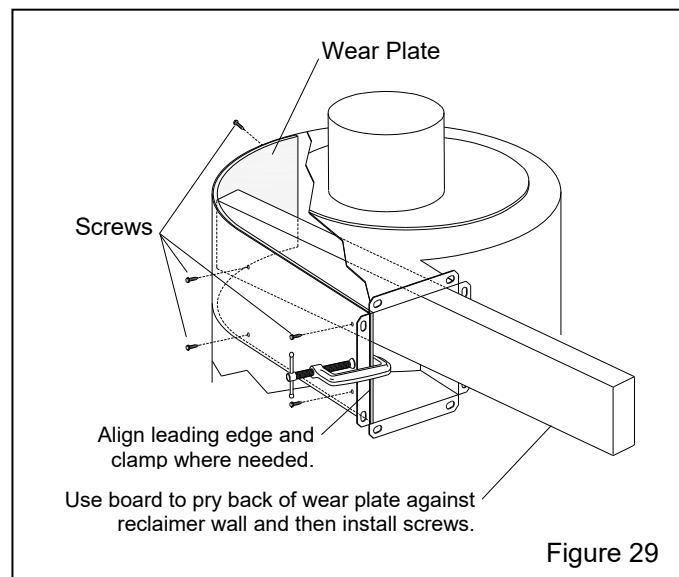
**7.8.1.1** Remove the flex hose from the reclaimer inlet.

**7.8.1.2** Remove the media hose or metering valve, whichever is easier.

**7.8.1.3** Remove the reclaimer mounting bolts and remove the reclaimer from the power module.

**7.8.1.4** Remove the reclaimer inlet-pipe adaptor, adaptor gasket, and old wear plate. The wear plate is held in place by screws attached from the outside of the reclaimer. Remove the screws and pull out the wear plate through the reclaimer inlet.

**7.8.1.5** Remove remnants of old caulk that will prevent the new wear plate from seating against the reclaimer wall and top.



**7.8.1.6** Angle the new wear plate into the reclaimer inlet and position it so the straight end is flush with the inlet. Use locking pliers, clamps or other means to hold the wear plate in position, making sure the leading edge of the wear plate is aligned with the reclaimer inlet and that the top edge is even with the top of the reclaimer.

**7.8.1.7** Install the front two sheet metal screws through the old screw holes to secure.

**7.8.1.8** Use a board or similar object as leverage to pry the wear plate against the inner wall of the reclaimer.

**7.8.1.9** New self-drilling sheet metal screws are provided with the wear plate; while forcing the wear plate against the reclaimer wall, install the screws through the remaining screw holes to secure. Rearrange the pry board as needed to press the wear plate against the reclaimer wall when installing screws.

**7.8.1.10** To avoid rapid wear, apply RTV caulk to fill gaps at the seams on the top and bottom of the wear plate

**7.8.1.11** Reattach the inlet-pipe adaptor, replacing the gasket if worn, compressed, or otherwise damaged.

**7.8.1.12** Reinstall the reclaimer.

**7.8.1.13** Connect the flex hose and media hose.

**7.8.1.14** Allow time for the caulking to cure before putting the reclaimer into service.

## 7.8.2 Reclaimer with bolt-on, removable top (600 cfm reclaimer) – Figure 30

Refer to Section 7.8.1 to replace the wear plate in 300 cfm reclaimer with welded-on, non-removable top.

### Installation Notes:

Make sure at least 12 feet of 13089 - 2" adhesive-backed gasket is available to replace compressed or damaged gaskets on the reclaimer upper and lower flanges.

**7.8.2.1** Remove the flex hose from the reclaimer inlet.

**7.8.2.2** Remove the media hose or metering valve, whichever is easier.

**7.8.2.3** Remove the reclaimer mounting bolts and remove the reclaimer from the power module.

**7.8.2.4** Unbolt the reclaimer top and remove the top, the inlet-pipe adaptor, adaptor gasket, and old wear plate. The wear plate is held in place by screws attached from

the outside of the reclaimer. Remove the screws and pull out the wear plate.

**7.8.2.5** Remove remnants of old caulk that will prevent the new wear plate from seating against the reclaimer wall or top.

**7.8.2.6** Angle the new wear plate into the reclaimer inlet and position it so the straight end is flush with the inlet. Use locking pliers, clamps or other means where needed to pry the wear plate against the side of the inlet and inner wall. Make sure the leading edge of the wear plate is aligned with the reclaimer inlet and that the top edge is even with the top of the reclaimer.

**7.8.2.7** New self-drilling sheet metal screws are provided with the wear plate; match drill through each old screw hole into the wear plate to secure. Rearrange the clamp(s) as needed to press the wear plate against the reclaimer wall when installing screws. **NOTE: The wear plate can also be installed by prying it against the wall as explained in Section 7.8.1**

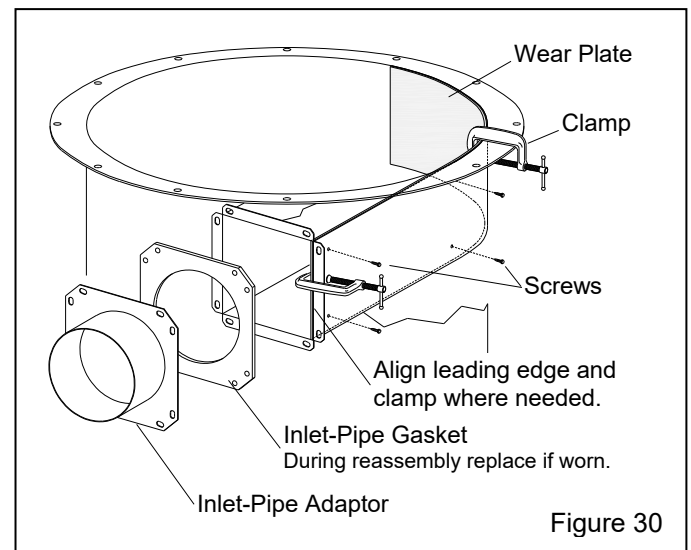


Figure 30

**7.8.2.8** Replace the upper flange gasket as needed and reattach the reclaimer top.

**7.8.2.9** To avoid rapid wear, apply RTV caulk to fill gaps at the seams on the top and bottom of the wear plate.

**7.8.2.10** Reattach the inlet-pipe adaptor, replacing the gasket if worn, compressed, or otherwise damaged.

**7.8.2.11** Replace the lower flange gasket as needed, reinstall the reclaimer, and connect the flex hose and media hose.

**7.8.2.12** Allow time for the caulking to cure before putting the reclaimer into service.



## 7.9 Replacing or Field Installing Optional Rubber Reclaimer Liners in a Pulsar-VI Modular Reclaimer

Not available for Pulsar-III (300 cfm reclaimers).

The reclaimer must be designed to accept liners and have a removable top, as shown in Figure 31.

### **WARNING**

**To access liner-mounting screws, the reclaimer must be removed from the power module. Pulsar-VI reclaimers weigh about 100 lbs. When removing and installing the reclaimer, it must be adequately supported and secured to appropriate lift equipment. Failure to secure and use proper lift device can result in injury.**

#### Installation Notes:

Make sure at least 6 feet of 13089 - 2" adhesive-backed gasket is available to replace compressed or damaged gasket on the reclaimer lower flanges.

The inner cone and cone ring are glued in place. Make sure a multi-purpose contact adhesive, such as 3M® no. 10 neoprene contact adhesive or equal, is available.

**7.9.1** Remove the flex hoses from the reclaimer inlet and outlet.

**7.9.2** Remove the fasteners securing the hopper and support from the bottom of the reclaimer.

**7.9.3** Remove the reclaimer side-mount bolts and remove the reclaimer from the power module.

**7.9.4** Set the reclaimer top-side-up on a clean, flat, and level surface.

**7.9.5** Remove the reclaimer inlet-pipe adaptor.

**7.9.6** Remove the bolts and nuts, securing the reclaimer top, and then remove the top (and top liner if the reclaimer is currently lined).

**7.9.7** If the reclaimer is currently unlined, begin at the installation note preceding Paragraph 7.9.14.

**7.9.8** Remove the top liner and cylinder liner: Grind the tack welds from the bottom of the cylinder liner that secure the liner to the tube, and then slide the cylinder liner and top liner off the inner tube.

**7.9.9** Remove the nuts and washers located along the right side of the inlet and remove the inlet baffle through the top of the reclaimer.

**7.9.10** Remove the screws holding the inlet-side liner and inlet-top liner and remove both liners from the reclaimer inlet.

**7.9.11** The wall liner is held in place with self-drill/tap screws; from the outside of the reclaimer, remove the screws and lift the wall liner from the top of the reclaimer.

**7.9.12** Inner cone liner and cone-ring liner are glued onto the inner cone. Pull off the liners to remove them.

**7.9.13** Remove all old caulking and adhesive from the weldment.

**Installation Note:** The numbers in parentheses (-) shown in Figure 31 and their applicable paragraphs show the recommended order of installation. When installing the liners, make sure that seams are aligned. The final assembly must be smooth and free of protrusions, edges, and gaps. Any edges will disrupt the air flow, causing wear, and affect the reclaimer's media cleaning efficiency.

**7.9.14** (1st) Place the cone-ring liner on the inside of the cone-ring; check fit and trim if needed. Refer to the instructions provided with the adhesive: some adhesives require it to be applied to both contact surfaces. Apply a multi-purpose contact adhesive, such as 3M® no. 10 neoprene contact adhesive or equal, to the fabric side of the liner and install the liner. Smooth out the liner to eliminate air pockets.

**7.9.15** (2nd) Place the cone liner in the cone with the fabric side down, and check the fit and trim if necessary. Apply contact adhesive to the fabric side of the liner and install the cone liner. Smooth out the liner to eliminate air pockets.

**7.9.16** (3rd) Place the inlet-side liner (metal side toward the side wall) against the side of the inlet housing; center the side-liner and align the front edge of the liner with the front of the housing. Temporarily clamp the sideliner in place.

**7.9.17** (4th) Align the wall liner cutout with the reclaimer inlet housing and lower the liner into the reclaimer. Temporarily insert the baffle bolts through the liner and reclaimer holes to position that side of the wall liner. Clamp the wall liner in place, making adjustments to make sure it is flush with the top of the reclaimer body and that the inlet-side liner is aligned with the side-liner cutout. Reposition the inlet-side liner as needed.

While pushing or clamping the liner against the weldment, secure the wall liner with self-drill/tap screws at each existing hole location. **NOTE: To field install a new, first-time wall liner, use self-drill/tap screws to secure it at the seam and an inch or two from the top and bottom at each quadrant.**

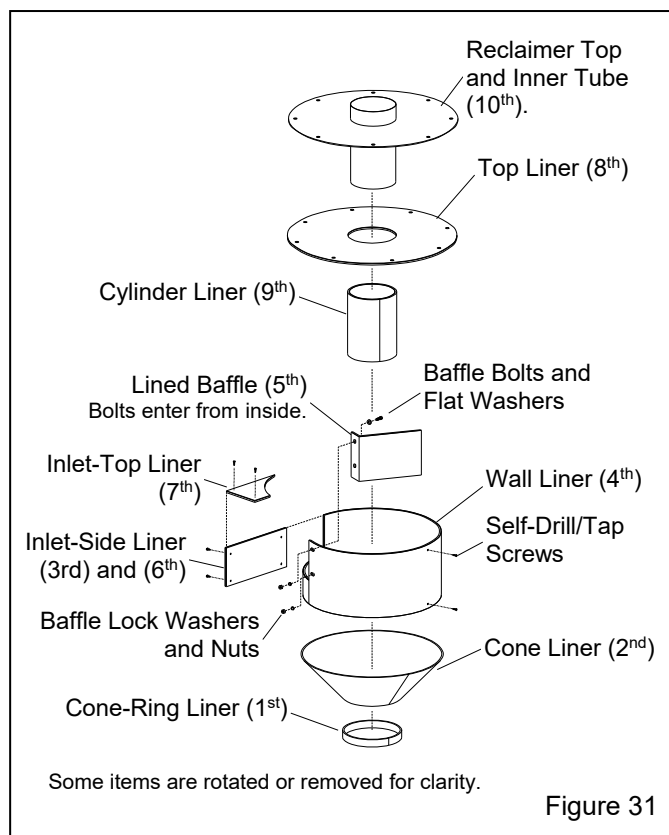
**7.9.18** (5th) Remove the temporary baffle bolts and install the inlet baffle by inserting bolts and flat washers from the inside of the reclaimer and attach lock washers and nuts from the outside, leaving the baffle slightly loose.

**7.9.19** Apply silicone caulking on seams between the cone ring and cone liner to the seams on the cone ring and cone, between the cone liner and wall liner, and the seam on the wall liner. Wipe caulking to even with the liners. Voids will cause premature wear.

## NOTICE

**All seams between each liner must be sealed, and all seams between the liners and reclaimer weldment must be sealed. Voids will cause premature wear.**

**7.9.20** (6th) Use self-drilling screws to secure the inlet-side liner to the side of the inlet housing. NOTE: To field install new, first-time inlet-side liners, use self-drilling screws at each liner corner to secure. Remove the clamps after the liner is secured.



**7.9.21** (7th) Align the front edge of the inlet-top liner to the front of the inlet housing and use self-drilling screws to secure. NOTE: To field install new, first-time inlet-top liners, after clamping the liners, use self-drilling screws

at each liner corner to secure. Remove the clamps after the liner is secured.

**7.9.22** (8th) Slide the top liner onto the inner tube and align the holes in the liner with those in the top. Note that the holes around the inlet are spaced differently from the others. Temporarily install a couple of bolts to keep it in alignment.

**7.9.23** (9th) Place the cylinder liner over the inner tube. Make sure the liner is tight against the top liner and use worm clamps to temporarily clamp the liner to the tube. Tack weld the bottom of the cylinder liner to the inner tube in three or four places. Remove the clamps when the cylinder liner is secured.

**7.9.24** Apply caulking to the seam on the cylinder liner and between the cylinder liner and top liner.

**7.9.25** Apply caulking around the top edge of the wall liner and top inner edge on the inlet housing.

**7.9.26** (10th) Align the reclaimer top assembly over the top of the reclaimer and lower it into place to match the mating holes in the flange, being careful not to smear the caulking. Secure the top bolts and inlet baffle bolts.

**7.9.27** Working through the reclaimer inlet, wipe the caulking seal smooth. Re-caulk any voids.

**7.9.28** Working through the reclaimer inlet, apply silicone caulking to seal seams around the inlet-side liner, inlet-top liner, and reclaimer weldment. Wipe the caulking smooth.

**7.9.29** If the lower flange gasket is worn, compressed, or otherwise damaged, clean old gasket material from the flange and install new 2" strip gasket to the reclaimer or hopper flange.

**7.9.30** Reattach the inlet-pipe adaptor, replacing the gasket if worn, compressed, or otherwise damaged.

**7.9.31** Reinstall the reclaimer and connect the flex hoses.

**7.9.32** Allow time for the caulking to cure before putting the reclaimer in service

### 7.10 Removing or Replacing Reclaimer Inlet Baffle In Pulsar-VI Reclaimer with Bolt-On Tops – Figure 32

Pulsar III (300 cfm) baffle cannot be removed.

When using lightweight media such as agricultural media or very fine media (180 and finer), as noted in Paragraph 1.9.6, good media may be carried over to the

dust collector. To prevent lightweight-media carryover, the inlet baffle of the reclaimer can be removed. Review the following process before beginning to make sure all parts are available:

#### Installation Notes:

Make sure at least six feet of 13089 - 2" adhesive-backed gasket is available to replace compressed or damaged gasket on the reclaimer upper flange.

**7.10.1** Remove the flex hose from the reclaimer top.

**7.10.2** Remove the fasteners securing the reclaimer top and remove the top.

**7.10.3** Remove the two bolts securing the baffle to the side of the reclaimer inlet and remove the baffle through the top.

**7.10.4** Remove all caulking residue.

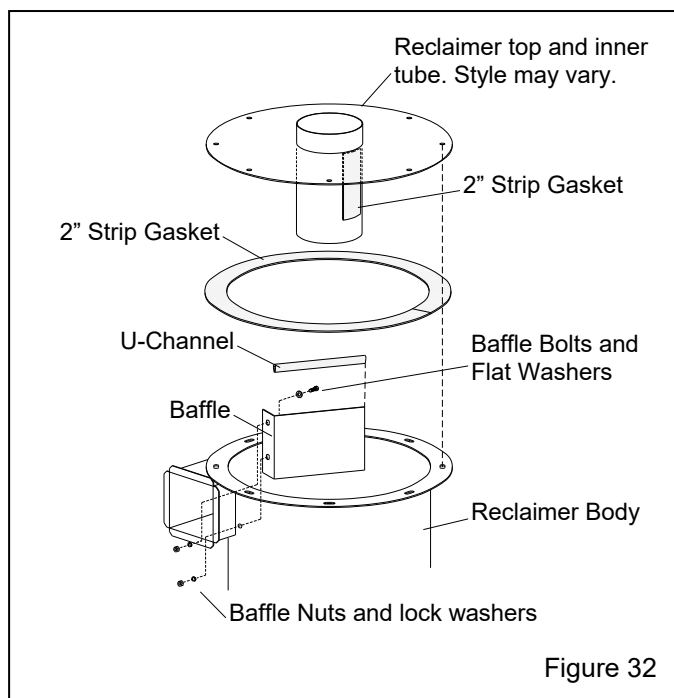


Figure 32

**7.10.5** If removing (not replacing) the baffle, remove the strip gasket from the inner tube and install the baffle bolts and reclaimer top. If replacing the baffle, skip to Paragraph 7.10.6.

**7.10.6** When replacing the baffle, make sure the strip gasket on the inner tube is in good condition and install the new baffle in reverse order. Apply silicone caulk to the seam (opposite side of the mounting bolts) between the baffle and reclaimer body. Wipe the caulk smooth.

**7.10.7** Inspect the strip gasket on the reclaimer upper flange; replace it if damaged or compressed.

**7.10.8** Install the reclaimer top and allow the caulking to cure before putting the reclaimer into service.

#### 7.11 Replacing Filter Cartridge – Figures 33 and 34

## **⚠ WARNING**

### **NO DUST IS SAFE TO BREATHE.**

**The inhalation of airborne dust can lead to serious respiratory illness and death, serious skin or eye irritation, or other health issues. Always wear approved respiratory protection when servicing the dust collector, while handling filter bags and cartridges, and when emptying the dust container. Toxicity and health risk vary with type of media and dust generated by blasting. The respirator must be approved for the type of dust generated. Identify all material being removed by blasting and obtain a safety data sheet (SDS) for the blast media.**

**7.11.1** Close the air-supply valve and open the drain to bleed air from the pulse reservoir.

**7.11.2** Refer to Figure 33 and unlatch the dust container lid, pry off the lid from the container (the lid's flexible inlet hose allows easy removal), and remove the container.

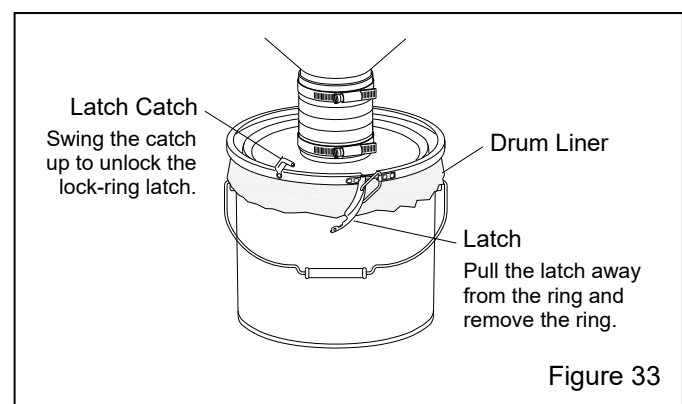


Figure 33

**7.11.3** Tie off or otherwise seal the top of the liner and remove it from the container. Dispose of the sealed liner into a suitable disposal receptacle.

**7.11.4** Refer to Figure 34 and unlatch the dust-collector hopper bottom and remove it from under the collector.

**7.11.5** Remove the cartridge retaining nut, washer, and gasket from the support bracket.

**7.11.6** Slide the cartridge straight down until it clears the support bracket. A small amount of rocking may be necessary to loosen the gasket seal from the sealing surface.

**7.11.7** Clean all reusable parts, especially around the cartridge sealing area. Scrape off any residual gasket material from the sealing surface.

**7.11.8** Install the new cartridge. Tighten the retaining nut until the cartridge cannot be moved by hand. Tighten the nut one additional full turn.

**7.11.9** Check the hopper gasket for any condition that will prevent the gasket from sealing. Replace the gasket as required.

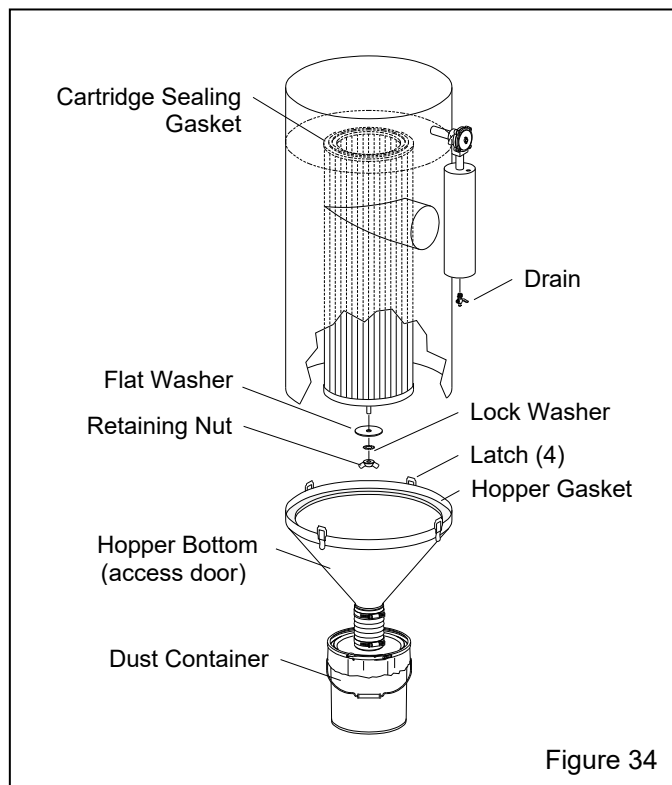


Figure 34

**7.11.10** Attach the hopper bottom and latch in place.

**7.11.11** Refer to Figure 33 and place a new liner inside the container and drape it over the top edge. Reattach the container to the lid and latch the lock ring, making sure the lid and clamp are secure. Replacement liners are shown in Sections 9.13 and 9.14.

**7.11.12** Season cartridge, per Section 7.12.

## 7.12 Seasoning Filter Cartridges

### NOTICE

**Do not pulse a new dust collector or replacement filter cartridge until the cartridge is properly seasoned. Pulsing unseasoned cartridges can cause premature cartridge failure and decrease the efficiency of the dust collector.**

**7.12.1** New cartridges must be seasoned before starting pulsing. The cartridge is seasoned by letting a layer of dust (dust cake) develop on the outer surface of the filter media. The dust cake protects the filter cartridge and enhances the filtering efficiency; it is the dust cake that actually does the filtering.

**7.12.2** To prevent the cartridge from pulsing, turn the pulse regulator OFF (to 0 psi). Refer to Section 5.6 to adjust pulse pressure.

**7.12.3** Operate the cabinet without pulsing for about two hours or until visibility decreases, whichever comes first. At that time turn the pulse regulator to 60 psi to start the pulsing cycle.

## 8.0 TROUBLESHOOTING

### ⚠ WARNING

**To avoid serious injury, observe the following when troubleshooting:**

- **Turn OFF the compressed-air supply, bleed the supply line, lockout, and tagout the air supply.**
- **If checking the controls requires air, always enlist the aid of another person to:**
  - **Hold the blast gun securely.**
  - **Operate the foot pedal.**
- **Never bypass the foot pedal or wedge it in the operating position.**
- **Never bypass the door interlock system.**
- **Follow all OSHA regulations, including lockout and tagout procedures.**

### 8.1 Poor visibility

**8.1.1** Dirty filter cartridge. Empty the dust container. Pulse cartridge several times, per Section 6.2.4. Inspect cartridge and replace when necessary.

**8.1.2** Exhauster motor not operating. Check voltage to motor and motor wiring.

**8.1.3** Check rotation of exhauster motor; the motor should rotate as indicated by the arrow on the housing. If it does not rotate in the proper direction, **lockout and tagout electrical power** and switch motor leads, as shown on the motor plate. See Section 2.4.2.

**8.1.4** Using friable media that rapidly breaks down, or using media that is too fine or worn out. Check condition of media.

**8.1.5** Outlet damper closed too far restricting air movement through the cabinet. Adjust static pressure, per Section 5.4.

**8.1.6** Inlet damper closed too far restricting air movement into the cabinet. Adjust damper, per Section 2.5 and 5.7.

**8.1.7** Reclaimer door open. Check door.

**8.1.8** Hole worn in flex hose between cabinet hopper and reclaimer inlet, or reclaimer outlet and dust collector inlet. Replace hose.

**8.1.9** Obstruction in flex hose between the cabinet hopper and reclaimer inlet. Inspect hose for blockage.

**8.1.10** Paddle wheel worn. Check wheel for wear.

## **8.2 Abnormally high media consumption**

**8.2.1** Door on reclaimer open or worn door gasket. Air entering the reclaimer around the door will cause media carryover to the dust collector. Inspect door gasket. DO NOT operate unless all doors are closed.

**8.2.2** Outlet damper open too far. Adjust static pressure, per Section 5.4.

**8.2.3** Media may be too fine or worn out. Check condition of media.

**8.2.4** Using friable media that rapidly breaks down. Check condition of media.

**8.2.5** Blast pressure too high for the media, causing media to break down. Check blast pressure and adjust as needed.

**8.2.6** Hole worn in reclaimer, or leak in reclaimer seams. Check entire reclaimer for negative-pressure leaks.

**8.2.7** When using media finer than 180-mesh., the inlet baffle of the reclaimer (Pulsar VI only) may need to be removed. Refer to Section 1.9.6.

## **8.3 Reduction in blast cleaning rate**

**8.3.1** Low media level reducing media flow. Check media level and replenish or replace as needed.

**8.3.2** Media-air mixture out of adjustment. Adjust metering valve, per Section 5.3.

**8.3.3** Reduced air pressure. This may be caused by the pressure regulator set too low, a malfunctioning regulator, a dirty filter element in the air filter, partially-closed air valve, leaking air line, or other air tools in use. Inspect all items.

**8.3.4** Blockage in media hose or gun. Blockage may occur as a result of

- A damaged or missing reclaimer screen, inspect screen.
- Heavy media flow. Adjust media flow, per Section 5.3.

**8.3.5** Worn gun parts such as nozzle or air jet. Inspect and replace all worn parts.

**8.3.6** Worn media hose. Check hose for leaks and soft spots. Replace if worn or damaged.

**8.3.7** Air jet in gun out of adjustment. Check adjustment, per Section 5.2.

**8.3.8** Moist media. Frequent bridging or blockage in the area of the metering valve can be caused by moisture. Refer to Section 8.5.

## **8.4 Plugged nozzle**

**8.4.1** A damaged or missing reclaimer screen will allow large particles to pass and block the nozzle. Replace or reinstall as necessary.

**8.4.2** Media mixture too rich. Adjust media-air mixture, per Section 5.3.

## **8.5 Media bridging**

**8.5.1** Frequent bridging or blockage in the media metering valve can be caused by damp media. Media becomes damp from blasting parts that are slightly oily, from moisture in the compressed air, or from absorption from ambient air.

**8.5.2** To avoid contaminating media from the workpiece, all parts put into the cabinet should be clean and dry. If parts are oily or greasy, degrease and dry them prior to blasting.

**8.5.3** Moist compressed air may be due to a faulty compressor that overheats, or pumps oil or moisture into the air line, too long of an air line permitting moisture to condense on the inside, or from high humidity. Drain the air filter and receiver tank regularly. Ongoing problems with moist air may require the installation of an air dryer or aftercooler in the air-supply line.

**8.5.4** Absorption. Some media types tend to absorb moisture from the air, especially fine-mesh media in areas of high humidity. Empty the media and store it in an airtight container when cabinet is not in use.

**8.5.5** A vibrator mounted either on the reclaimer mounting bolt may help to prevent bridging of fine-mesh media. **NOTE: To avoid the possibility of compressing media, a vibrator should be set up to start when the foot pedal is pressed and stop when the pedal is released.**

## **8.6 Media surge**

**8.6.1** Heavy media flow. Adjust media-air mixture, per Section 5.3.

## **8.7 Blockage in media hose**

**8.7.1** Media obstructions. Usually caused when the media mixture is too rich, adjust media-air mixture, per Section 5.3.

**8.7.2** Wet or damp media. See Section 8.5.

## **8.8 Poor suction in media hose**

**8.8.1** Inadequate air supply. Refer to Sections 1.10 and 2.3.2, and make sure cfm and air hose requirements are met.

**8.8.2** Air jet needs adjustment. Check adjustment, per Section 5.2.

**8.8.3** Nozzle is worn. Replace if orifice diameter is worn 1/16" or more from original size.

**8.8.4** Blockage in media hose or nozzle. Refer to Sections 8.4 and 8.7.

**8.8.5** Air jet and nozzle combination may be wrong. Refer to the table in Paragraph 1.10.1, Figure 3.

**8.8.6** Air jet sleeve extends past end of air jet. Cut the sleeve to align with the air jet.

**8.8.7** Blast pressure too high; adjust pressure, per Section 5.1.

**8.8.8** Nozzle inserted backward. The wider tapered end of the nozzle inserts into the gun toward the air jet.

## **8.9 Air only (no media) from nozzle**

**8.9.1** Low media level in reclaimer. Check media level and replenish as needed.

**8.9.2** Check media hose for blockage. Media obstructions is usually caused when the media mixture is too rich, adjust media-air mixture, per Section 5.3.

**8.9.3** Make sure the air hose and media hose are not reversed on the BNP gun; the green air hose attaches to the back of the gun and the clear media hose attaches to the bottom of the gun's grip. Refer to Page 39, Figure 50.

## **8.10 Blow-back through media hose**

**8.10.1** Blockage in nozzle. Remove the nozzle and check for blockage.

**8.10.2** Air jet may be too large for nozzle. Refer to the table in Paragraph 1.10.1, Figure 3.

## **8.11 Blasting does not begin when the foot pedal is pressed.**

**8.11.1** Door interlocks not engaging. Check adjustment, per Section 5.5.

**8.11.2** Blocked or leaking control lines. Check all urethane tubing for blockage or leaks.

**8.11.3** Foot pedal valve malfunction. Check foot pedal alignment, and inlet and outlet lines for pressure.

**8.11.4** Make sure lines are not reversed on the foot pedal or pilot regulator. Refer to the schematic on Page 36, Figure 44.

**8.11.5** Pressure regulator may be set to low or OFF. Adjust blast pressure, per Section 5.1.

**8.11.6** Make sure the air compressor is operating and air-supply valves are open.

**8.11.7** Check the nozzle to see if it is plugged. Refer to Section 8.4.

## **8.12 Blasting continues after releasing foot pedal**

**8.12.1** Make sure the 3-way valve in the foot pedal exhausts air when the pedal is released. If it does not exhaust, check the inbound air line for blockage, if no blockage, replace the valve.

## **8.13 Media buildup in cabinet hopper; media does not convey to reclaimer**

**NOTE: Do not pour media directly into the cabinet hopper, as overfilling may occur.** Overfilling will result in media carryover to the dust collector and possible blockage in the conveying hose.

**8.13.1** Exhauster motor rotating backwards. The motor should rotate as indicated by the arrow on the exhauster housing. If it does not rotate in the proper direction, **lockout** and **tagout** electrical power and switch the motor leads, as shown on the motor plate. Refer to the system's wiring schematic. Refer to Sections 2.4.1 and 2.4.2.

**8.13.2** Dust-collector damper closed too far, restricting air movement through cabinet. Adjust static pressure, per Section 5.4.

**8.13.3** Dust-collector filter cartridge clogged. Refer to Section 5.6 to adjust pulse pressure; refer to Section 6.2.4 for additional cartridge pulsing.

**8.13.4** Hole worn in flex hose between cabinet hopper and reclaimer inlet or between the reclaimer outlet and dust-collector inlet. Inspect hoses and replace them as needed.

**8.13.5** Reclaimer door open. DO NOT operate unless door is closed.

**8.13.6** Obstruction in flex hose. Remove hoses and check for blockage.

## **8.14 Static shocks**

**8.14.1** Cabinet and/or operator not grounded. Abrasive blasting generates static electricity. The cabinet must be earth-grounded to prevent static

buildup. See Section 2.3. If shocks persist, the operator may be building up static. Attach a small ground wire, such as a wrist strap, from the operator to the cabinet.

**8.14.2** Gloves wearing thin. Inspect gloves and replace them as needed.

**8.14.3** Avoid holding parts and blasting off the grate. Static will build in the part if not dissipated through the metal cabinet. If blasting parts off the grate cannot be avoided, attach a ground wire between the cabinet and the part.

## **8.15 Dust leaking from cabinet**

**8.15.1** Refer to Section 8.13.

## **8.16 Dust leaking from dust collector**

**8.16.1** Cartridge not seasoned; season cartridge, per Section 7.12.

**8.16.2** Damaged or loose cartridge. Inspect filter cartridge and tighten or replace as needed.

**8.16.3** Faulty seal on the dust collector cone. Inspect seal and replace if damaged.

## **8.17 Dust collector does not pulse when foot pedal is pressed or released**

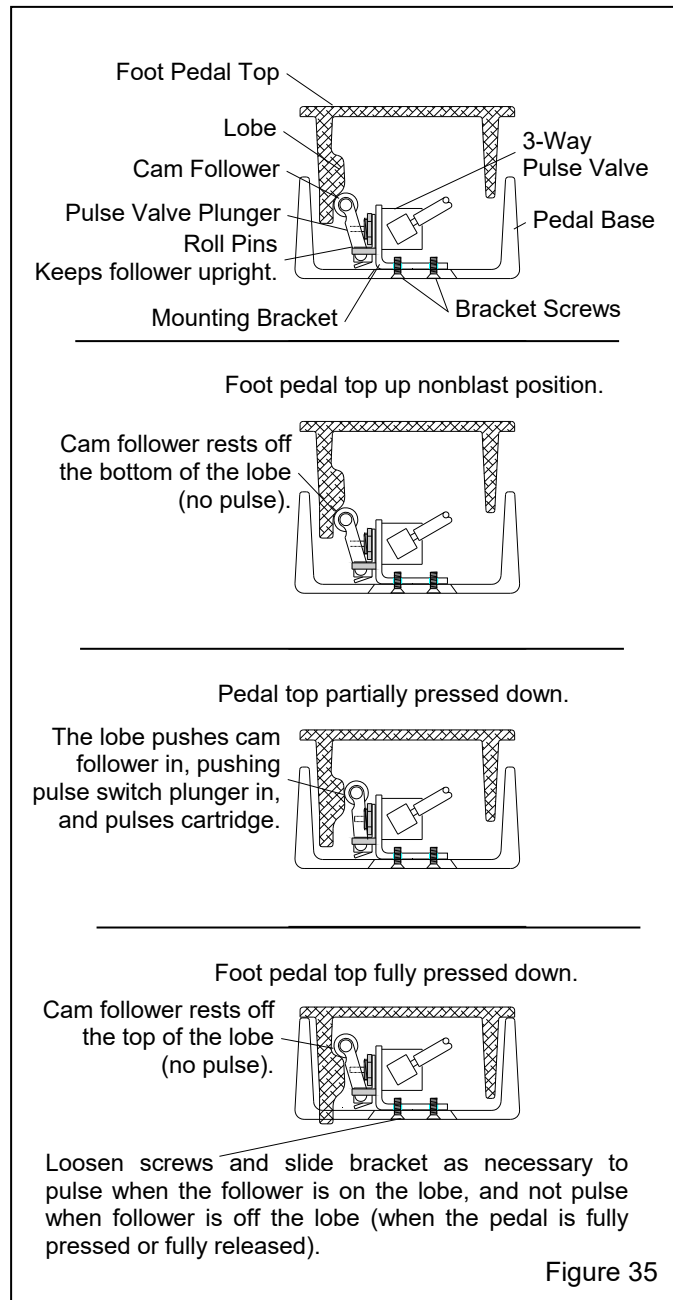
**8.17.1** Check pressure on dust-collector pulse-pressure gauge. If low, adjust pulse pressure, per Section 5.6.

**8.17.2** Refer to Figure 35 and make sure the 3-way pulse valve has not come loose from the mounting bracket. Tighten the retaining nut as needed to secure.

**8.17.3** If the cam follower tilts to one side, one or both roll pins are bent or missing. Remove the two screws on the bottom of the pedal and remove the switch and cam follower assembly. Center the cam follower and replace roll pins as needed to hold the cam follower in place. Refer to Figure 35.

**8.17.4** Check alignment of pulse-valve cam follower: With the exhauster running and with blast pressure adjusted to 0 psi, hold the foot pedal in hand and fully press the pedal top. The collector should pulse as the cam follower rides over the lobe on the pedal top when the pedal is pressed, and again when the pedal is

released, as shown in Figure 35. NOTE: The pedal should be rapidly pressed and released so the cam follower quickly rides over the lobe; prolonged engagement of the pulse valve will lengthen the pulse, which does not clean the cartridge and wastes compressed air.



The lobe on the pedal top should press the cam follower IN to engage the 3-way pulse valve, and disengage the switch when the pedal is fully pressed and again when the pedal is released. If the switch is not aligned to function as described, align as follows:

- If the switch does not disengage the pulse when the cam follower rides off the lobe, the switch

assembly is too close to the lobe. Loosen the two screws on the bottom of the pedal, slide the switch away from the lobe as needed, and recheck alignment.

- If the switch does not engage the pulse when the cam follower rides onto the lobe, the switch assembly is too far from the lobe. Loosen the two screws on the bottom of the pedal, slide the switch toward the lobe as needed, and recheck alignment.

When the alignment is set correctly, tighten the screws to prevent movement.

When the pedal is operating correctly, a spurt of air should be heard as the cam follower rides off the lobe when the pedal is pressed and again when it is released. If the cam follower is working correctly, and there is no spurt of air when the pedal is pressed and released, it is likely a problem with the 3-way valve; replace the 3-way valve.

**8.17.5** Check the diaphragm pulse valve and actuator assembly. Refer to Figure 36.

**8.17.5.1** Remove the pilot actuator from the 3-way pulse valve. With the exhauster running and with blast pressure adjusted to 0 psi, press in on the 3-way valve plunger; the cartridge should pulse when the plunger is pressed and stop when it is released.

- If the cartridge does pulse, the diaphragm pulse valve and 3-way valve are functioning; proceed to Section 8.17.5.2.
- If it does not pulse, listen for a spurt of air coming from the 3-way exhaust port when the plunger is pressed.
  - If it does spurt air, the problem is likely in the diaphragm pulse valve. Inspect the diaphragm for wear or damage.
  - If it does not spurt air, the 3-way valve is not functioning. Replace the 3-way valve.

NOTE: The 3-way valve at the foot pedal and the 3-way on the diaphragm pulse valve are identical. If there is doubt as to whether either 3-way valve is functional, the valves may be tested by swapping one with the other.

**8.17.5.2** Hold the pilot actuator and press and release the foot pedal. Observe the piston through the open end of the actuator; the piston should snap to the disc toward the end of the actuator each time the pedal is pressed, and return each time the pedal is released.

- If the actuator piston operates as noted, the problem is not in the foot pedal or actuator. Inspect the 3-way and diaphragm valve, per Section 8.17.5.1.
- If the actuator does not operate as noted, remove the urethane tubing from the actuator and press and release the foot pedal.



- If air escapes from the tubing when the pedal is pressed and released, the problem is in the actuator. Replace the actuator.
- If no air escapes from the tubing when the pedal is pressed and released, there is a blockage in the tubing or the problem is in the foot pedal. Inspect the tubing for a blockage and inspect the foot pedal, per Sections 8.17.2, 8.17.3, and 8.17.4.

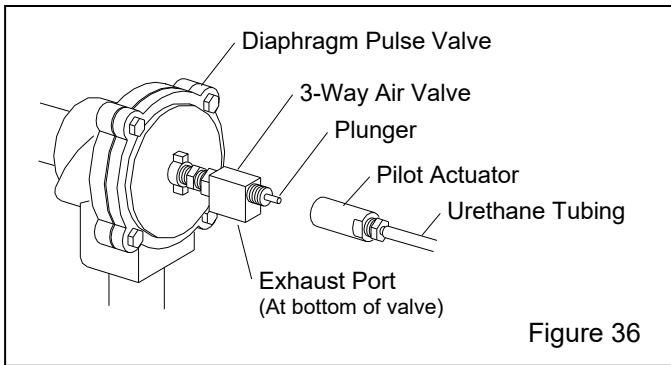


Figure 36

**8.18 A steady stream of air is heard within the dust collector when the foot pedal is not pressed**

**8.18.1** Cam follower does not ride off the foot-pedal lobe. Inspect alignment, per Section 8.17.

**8.18.2** Diaphragm in the diaphragm pulse valve may be ruptured. Inspect the diaphragm.

**8.18.3** The 3-way valve on the diaphragm pulse valve is stuck in the pulse (plunger in) position; inspect 3-way valve.

**9.0 ACCESSORIES and REPLACEMENT PARTS**

**9.1 Optional Accessories (field installed)**

**Turntables and Turntables with Tracks**

**⚠ WARNING**

**Turntable capacities are based on concentric loading. Use solid fixturing to hold heavy parts in place. Do not remove lift equipment until the part is adequately supported to prevent movement. Moving or rotating heavy, unsupported, or off-centered parts may cause them to shift or topple, and cause severe injury.**

**Fixed-Base Turntable Without Bearing**

Description	Stock No.
20" diameter, 25 lb capacity .....	12412

**Fixed-base Turntable with Bearing, 500 lb Capacity  
Figure 37**

Item Description	Stock No.
(-) 20" diameter assembly .....	12411
(-) 30" diameter, assembly .....	14138
1. Turntable replacement	
20" diameter .....	18329
30" diameter .....	21390
2. Bearing, 1-1/2" bore .....	11517
3. Protector, bearing .....	13479
4. Screw, 1/2-NC x 1-1/2" cap .....	03454
5. Washer, 1/2" lock .....	03516
6. Nut, 1/2-NC hex .....	03511

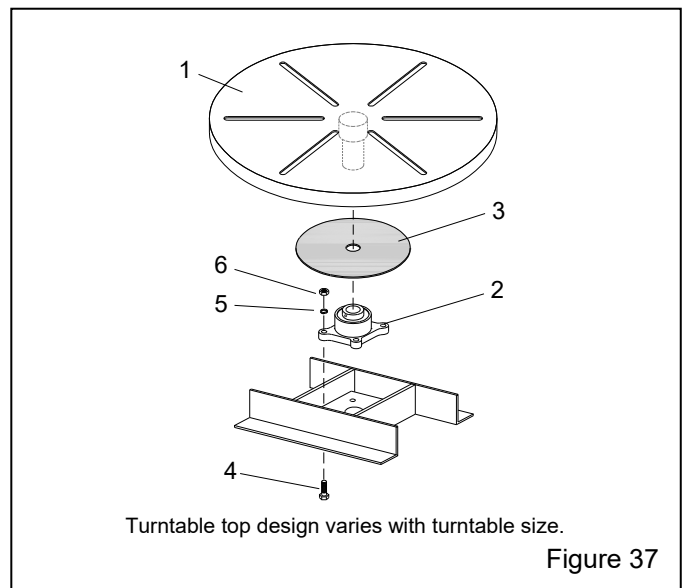
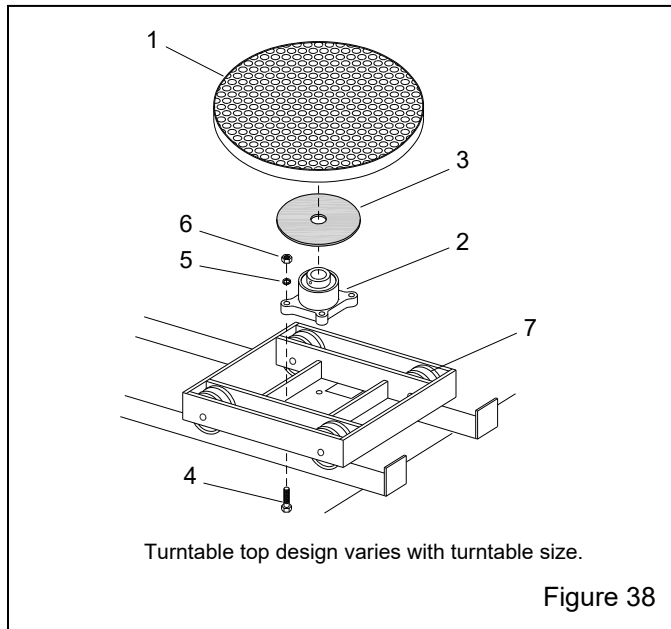


Figure 37

**Turntable with Workcar and Track, 500 lb Capacity, Figure 38**

Item	Description	Stock No.
(-)	20" diameter turntable and track assembly for Pulsar-III models .....	13530
	for Pulsar VI models .....	12835
(-)	30" dia. turntable and track assembly for Pulsar VI models only .....	24045
(-)	20" dia. turntable / workcar replacement .....	24205
(-)	30" dia. turntable / work car replacement .....	24086
1.	Turntable replacement	
	20" diameter .....	18329
	30" diameter .....	21390
2.	Bearing, 1-1/2" bore .....	11517
3.	Protector, bearing .....	13479
4.	Screw, 1/2-NC x 1-1/2" cap .....	03454
5.	Washer, 1/2" lock .....	03516
6.	Nut, 1/2-NC hex .....	03511
7.	Caster, 4" V groove .....	11594

All other track items are special order. Contact distributor for price and availability.



Description	Stock No.
Pass-thru door, with 15 inch-square cutout	
Right door	
for Pulsar-III .....	23610
for Pulsar VI .....	23612
Left door	
for Pulsar-III .....	23611
for Pulsar-VI .....	23613
Conversion kit, for Pulsar VI only. Includes all accessories to convert suction (venturi) feed system to pressure system .....	21660

Steel media kit, for use with steel grit or shot, Pulsar VI conventional	
Factory installed .....	21797
Field installed, *included with field installed kits..	21798
Includes the following plus mounting hardware:	
4" Cabinet hopper outlet adaptor .....	23295
*Gasket, hopper outlet adaptor .....	23258
4" Reclaimer inlet-pipe adaptor .....	12350
*Gasket, inlet-pipe adaptor .....	11779
4" light-lined hose, 7 ft required .....	12466
Rubber curtains, black .....	23532

Rubber curtains, black	
Rubber curtain set	
for Pulsar-III .....	23531
for Pulsar VI .....	23532
for Ergo Pulsar-III-E .....	25086
for Ergo Pulsar VI-E .....	25087
Rubber curtain, back,	
for Pulsar-III .....	14243
for Pulsar VI .....	14247
Rubber curtain, front,	
for Pulsar-III .....	14242
for Pulsar VI .....	14246
Rubber curtain, door 2 required	
for Pulsar-III .....	14244
for Pulsar VI .....	14245
Ergo side extension curtain, each (2 required)	
for Ergo Pulsar-III-E .....	24682
for Ergo Pulsar VI-E .....	24683
Rubber curtains, white	
Rubber curtain set	
for Pulsar-III .....	23541
for Pulsar VI .....	23542
for Ergo Pulsar-III-E .....	25088
for Ergo Pulsar VI-E .....	25089

Rubber hopper-liner set, black	
for III .....	special order
for VI .....	23499

Aluminum oxide kit, field-installed, includes: light-lined flex hose, #5 boron carbide nozzle, black rubber cabinet curtains with grommets and curtain hardware. Does not include rubber reclaimer liners.

for Pulsar-III, field installed replacement .....	14241
for Pulsar VI, field installed replacement .....	14133

Aluminum oxide kit, factory-installed, includes: #5 boron carbide nozzle, black rubber cabinet curtains with grommets and curtain hardware. Does not include rubber reclaimer liners.

for Pulsar-III, factory installed .....	13310
for Pulsar VI, factory installed .....	12942

Differential pressure gauge assemblies	
for reclaimer static pressure .....	23355
for dust collector drop across cartridge .....	23356

Boron carbide nozzle	
No. 5 .....	11935
No. 6 .....	11936
No. 7 .....	11937
No. 8 .....	12894

Wide-spray nozzle	
Tungsten carbide, No. 6 .....	11947
Boron carbide	
No. 6 .....	11934
No. 8 .....	11944

NOTE: Wide-spray nozzles require the following accessories:

Nozzle nut, wide-spray .....	11916
Retaining ring, wide-spray .....	12038
Nozzle guard, wide-spray .....	12295

Time delay door locks, for both doors .....	24163
HEPA filter assembly, Pulsar top mount .....	22807
Tumble basket, 2-gallon .....	12227
Automatic pulse kit .....	21773
Manometer kit (flexible u-tube) .....	12528
Noise-reduction arm port covers, pair .....	24885
Lock pins (pkg of 25) for twist-on hose couplings .....	11203
Safety cable, for 1/2" to 1-1/4" OD hose .....	15012
Anti-fatigue floor-mat, 2 ft x 3 ft for front of cab. ....	24744
Window cover lens, pack of 5 .....	06190

**Optional Extension Nozzles – Figure 39**

Item	Description	Stock No.
1.	3" Straight extension nozzle	
	No. 5, 5/16" orifice .....	11921
	No. 6, 3/8" orifice .....	11922
2.	6" Straight extension nozzle	
	No. 5, 5/16" orifice .....	11927
	No. 6, 3/8" orifice .....	11928
3.	9" Straight extension nozzle	
	No. 5, 5/16" orifice .....	11924
	No. 6, 3/8" orifice .....	11925
4.	Side-angle extension nozzle assemblies with No. 5 orifice, includes 5, 6, 7, and 8	
	4" long assembly .....	21311
	6" long assembly .....	12374
	9" long assembly .....	12373
5.	Casing, side-angle extension nozzle	
	4" long casing .....	11943
	6" long casing .....	11940
	9" long casing .....	11939
6.	Tip, side-angle extension .....	12173
7.	Snap ring, side-angle extension .....	12040
8.	O-ring, side-angle extension .....	08977

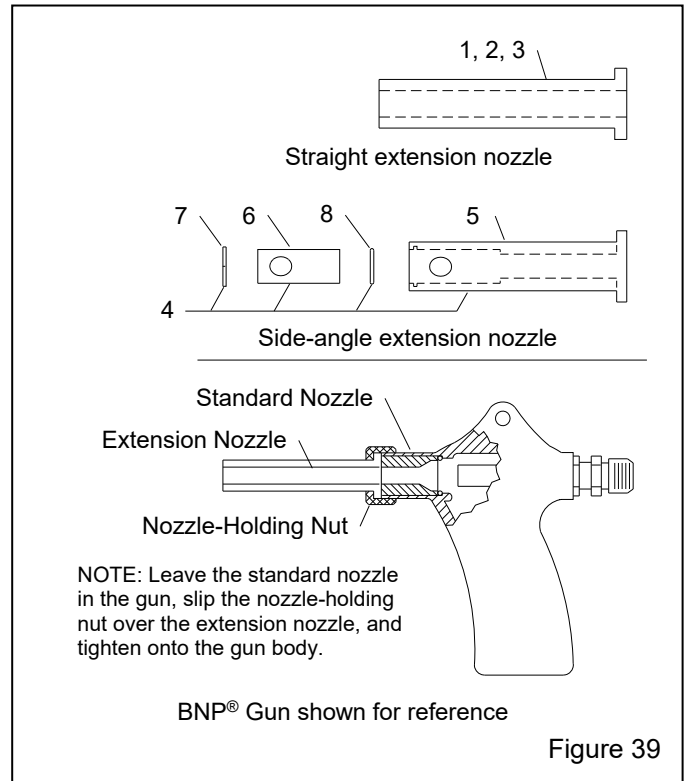


Figure 39

**Armrest – Figure 40**

Item	Description	Stock No.
(-)	Armrest assembly .....	24900
1.	Armrest, replacement .....	24899
2.	Bracket, armrest cabinet, each .....	24896
3.	Support bar, adjustable, each .....	24895
4.	Cap screw, 3/8-NC x 1" .....	03252
5.	Washer, 3/8 lock .....	03318
6.	Cap screw, 5/16-NC x 1" .....	03152
7.	Nut, 5/16-NC hex .....	03211
8.	Washer, 5/16 flat .....	03216
9.	Washer, 5/16 lock .....	03217

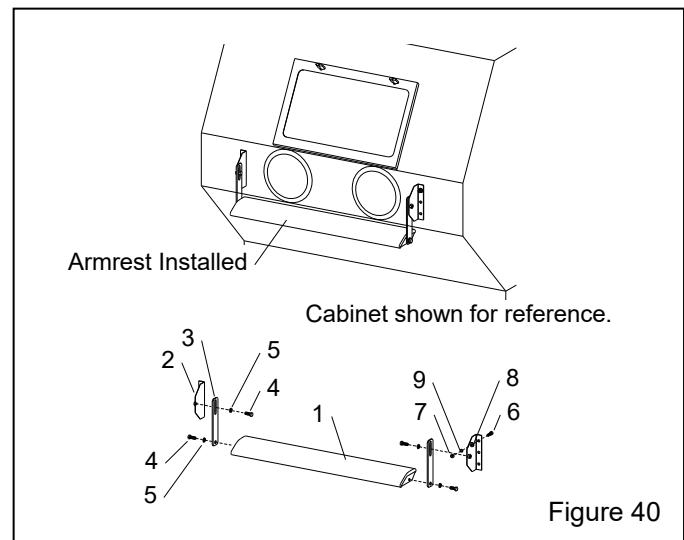


Figure 40

**Reclaimer Liners, 600 cfm only – Figure 41**  
 For modular style reclaimers sold on or after 09/01/2018

Item	Description	Stock No.
(-)	Rubber liner sets, 600 cfm .....	29541
1.	Top liner .....	29535
2.	Baffle, lined .....	29531
3.	Inner cylinder .....	29530
4.	Wall liner .....	29533
5.	Inlet-side liner .....	29532
6.	Cone liner .....	29707
7.	Inlet-top liner .....	29536
8.	Screw, 10-16 x 3/4" self-drill/tap .....	12722

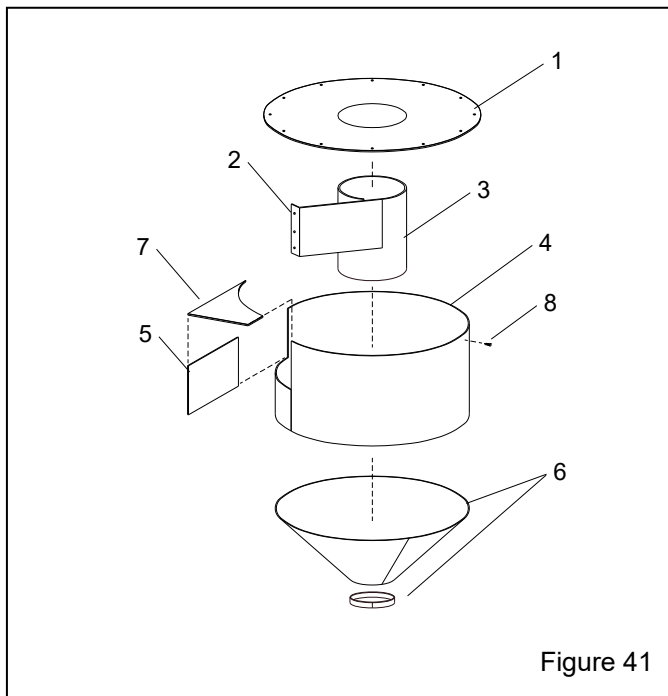


Figure 41

**9.2 LED Light Assembly – Figure 42**

Item	Description	Stock No.
1.	Cover, LED light mount .....	29712
2.	LED light module, 50 w .....	29711
3.	Diffuser lens .....	29713
4.	Gasket, 5/32" x 3/4", 3 ft required .....	00192
5.	Strain relief connector .....	11631
6.	Nut, 1/2" conduit .....	12713
7.	Nut, 1/4-20 hex .....	03111
8.	Washer, 1/4 lock .....	03117
9.	Washer, 1/4 flat .....	03116

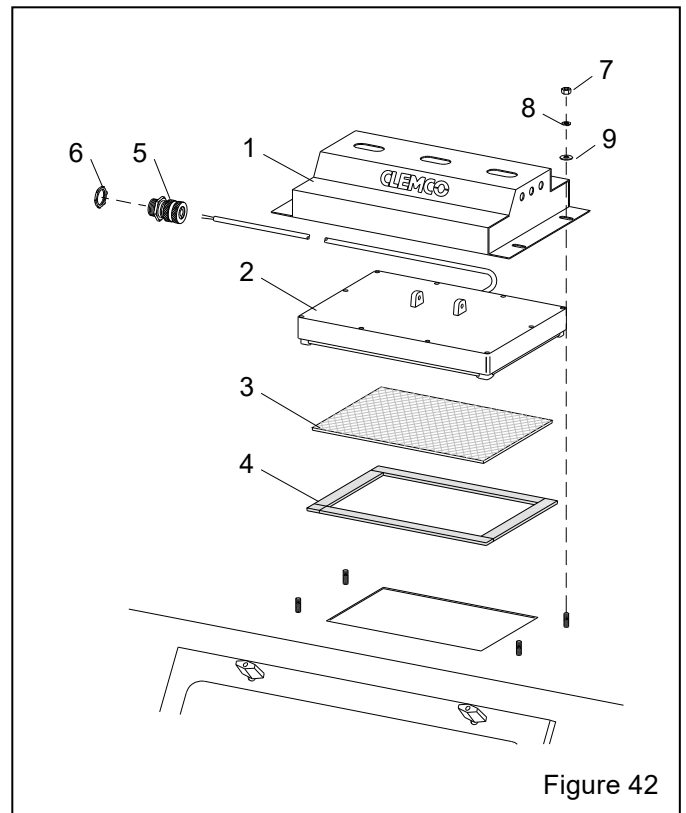


Figure 42

**9.3 Metering Valve – Figure 43**

Item	Description	Stock No.
(-)	Metering valve assembly, BNP .....	12417
1.	Metering stem assembly, items 1, 2, & 3 ....	23889
2.	Stem, metering adjusting .....	23097
3.	Screw, adjusting .....	23098
4.	Nut, adjusting stem lock .....	23099
5.	Body, metering valve .....	11532
6.	Fitting, hose, 3/8" NPT x 1/2" barb .....	06369
7.	Plug, metering valve .....	12011

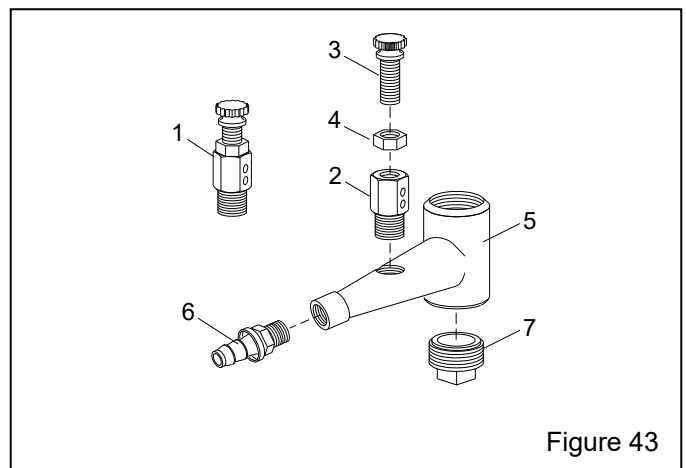


Figure 43

9.4 Cabinet Controls and Plumbing – Figure 44

Item	Description	Stock No.
1.	Valve, 3 way	12202
2.	Fitting, 1/8" NPT straight x 1/8" barb	11732
3.	Tubing, 1/8" urethane, specify ft required	12475
4.	Tubing, 1/8" urethane twinline, specify ft required	19577
5.	Adaptor, elbow 1/4" male NPT x 3/8 tube	11685
6.	Tubing, 3/8" OD poly, 5 ft required	12478
7.	Tee, 1/8" barb	11734
8.	Regulator w/ gauge, 1/4"	12050
9.	Nipple, 1/8" NPT hex	01962
10.	Actuator, air pilot	19123
11.	Bushing, 1/2"x 1/4" NPT	01801
12.	Fitting, 1/8" barb bulkhead	19570
13.	Metering valve assembly	12417

14.	Foot pedal with tubing	20194
15.	Bushing, 1/2" NPT x 1/8"	11350
16.	Nipple, 1/4" brass hex	02808
17.	Filter, 1/2" manual drain	01308
18.	Fitting, 1/2" NPT x 1/2" flare	11351
19.	Hose end, 1/2" barb x 1/2" female swivel	15002
20.	Hose end, 1/2" barb x 3/8" male NPT	06369
21.	Blow-off nozzle	13116
22.	Air hose, 1/2" specify ft required	12472
23.	Gun assembly, BNP No. 5	12302
24.	Hose, media, clear urethane, specify feet required, 10 ft standard	12476
25.	Regulator, 1/2" pilot operated	11345
26.	Valve, diaphragm pulse	19578
27.	Regulator, 1/8" pilot pressure	12715
28.	Gauge, pressure	01908
29.	Fitting, 1/8" NPT elbow x 1/8" barb	11733
30.	Tee, 1/2" NPT	01787
31.	Nipple, 1/2" x close	01733

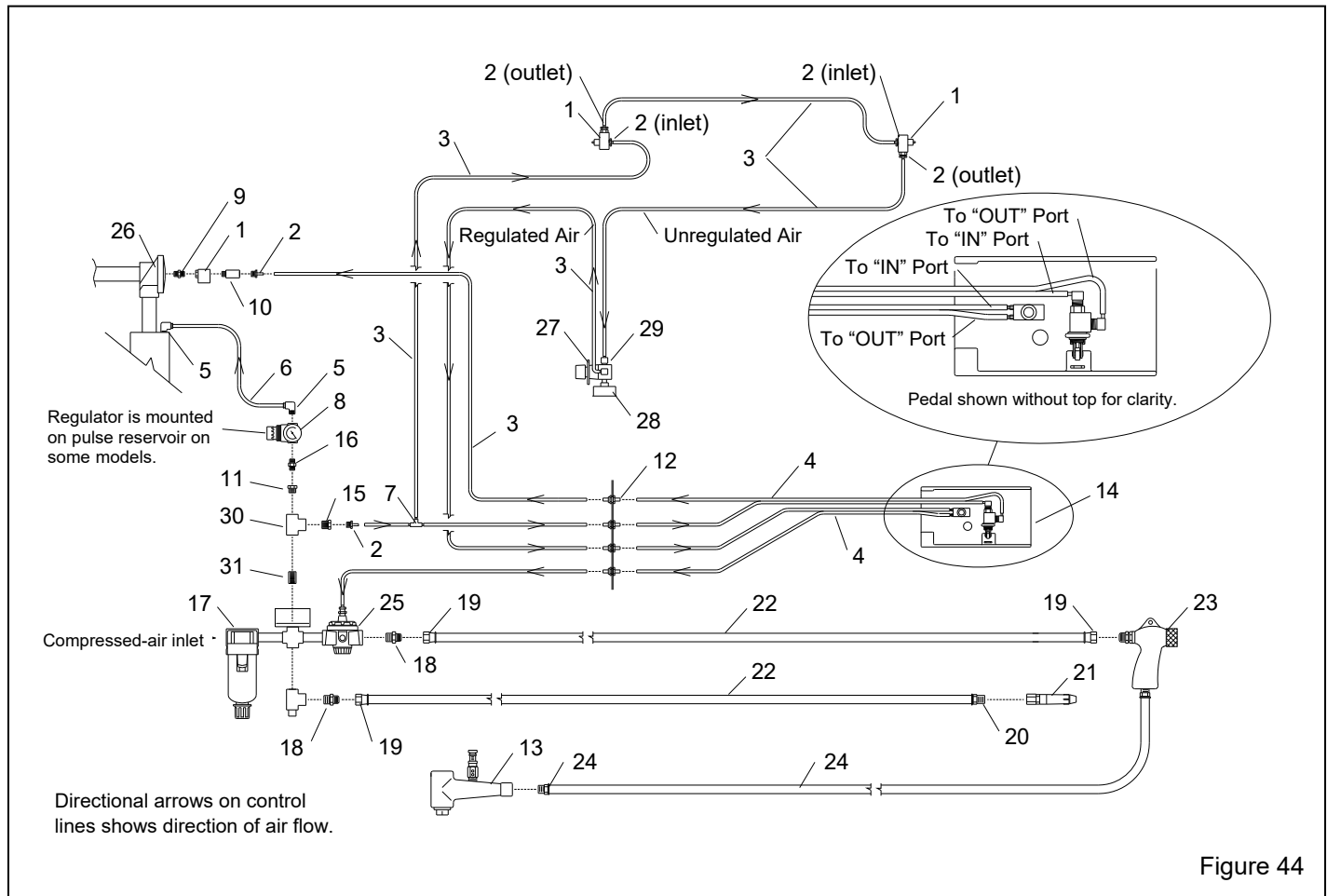


Figure 44

9.5 Cabinet Assembly – Figure 45

Item	Description	Stock No.
1.	Gasket, 5/16" x 1", adhesive-backed, per foot, specify feet required	
	Door, Pulsar III - 11 ft per door .....	00187
	Door, Pulsar VI - 13 ft per door .....	00187
	Air-inlet damper, 3 ft required .....	00187
	Motor plate, 4 ft required .....	00187
	Pulsar III Ergo front, 13 ft required .....	00187
	Pulsar VI Ergo front, 16 ft required .....	00187
2.	Left door assembly	
	for Pulsar-III .....	20070
	for Pulsar VI .....	20074
3.	Right door assembly	
	for Pulsar-III .....	20071
	for Pulsar VI .....	20075
4.	Grate	
	for Pulsar-III .....	11811
	for Pulsar VI .....	11810
5.	Adaptor pipe, flex hose	
	4" for Pulsar-III, Pulsar VI w/ Steel .....	23295
	5" for Pulsar VI .....	23296
6.	Gasket, flex hose adaptor pipe	
	4" for Pulsar-III Pulsar VI w/ steel .....	23258
	4" for Pulsar VI w/ steel media .....	11780
	5" for Pulsar VI .....	23259
7.	Grommet, media-air hose, 3/4" ID .....	11798
8.	Door latch assembly .....	20064
9.	Grommet, 1/4" ID x 1/2" OD .....	12762
10.	Gasket, 5/32" x 3/4", 3 ft required .....	00192
11.	Glove set	
	Band-clamp attachment .....	11215
	Quick-Change (clampless) attachment ...	28820
12.	Glove, left hand only	
	Band-clamp attachment .....	12710
	Quick-Change (clampless) attachment ..	28638
13.	Glove, right hand only	
	Band-clamp attachment .....	12711
	Quick-Change (clampless) attachment ...	28639
14.	Clamp, for clamp-attached glove .....	11576
15.	Motor, exhauster	
	for Pulsar-III, 1/2 hp .....	12308
	for Pulsar VI, 1 hp, 1-ph, standard .....	12314
	for Pulsar VI, 1 hp, 3-ph, optional .....	12310
16.	Paddle wheel	
	for Pulsar-III .....	19232
	for Pulsar VI .....	19234
17.	Motor plate	
	for Pulsar-III .....	20229
	for Pulsar VI .....	20224
18.	Air valve, 3 way, door interlock.....	12202
19.	Over-travel stop, door interlock .....	20004
20.	Detent sleeve, door interlock .....	15042
21.	Bracket, door interlock actuator.....	19152
22.	Clamp, flex hose	
	4" for Pulsar-III .....	11577
	5" for Pulsar VI .....	11578
23.	Hose, light-lined flex, specify feet required	
	4" ID, Puls III 6 ft req, Puls VI w/steel, 7 ft... ..	12466
	5" ID, Pulsar VI 7 ft required .....	12467
24.	Switch, toggle .....	12127
25.	Gasket, hopper hose plate .....	20247
26.	Plate, hopper hose .....	21656
27.	Gasket, HEPA cover plate .....	22808
28.	Regulator, 1/8" NPT pilot pressure.....	12715
29.	Gauge, 1/8" cbm pressure .....	01908
30.	Fitting, 1/8" NPT elbow x 1/8" barb .....	11733

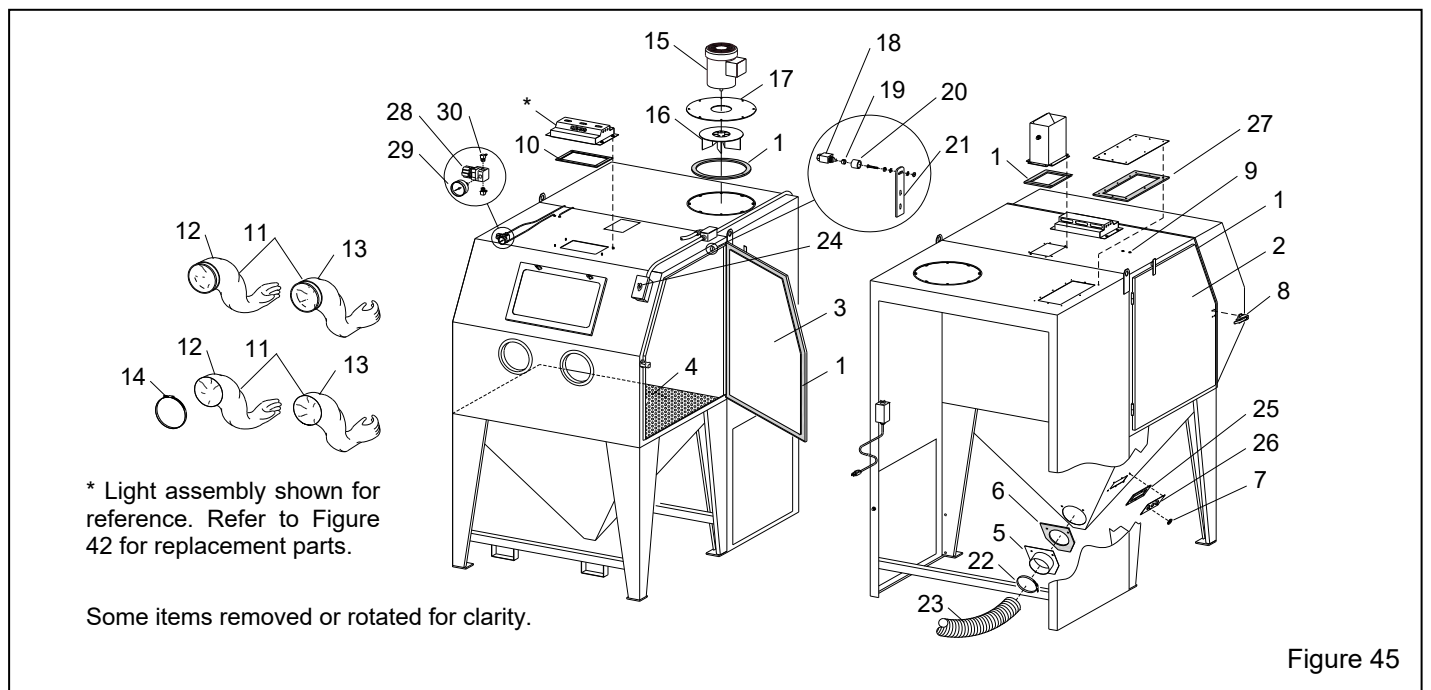
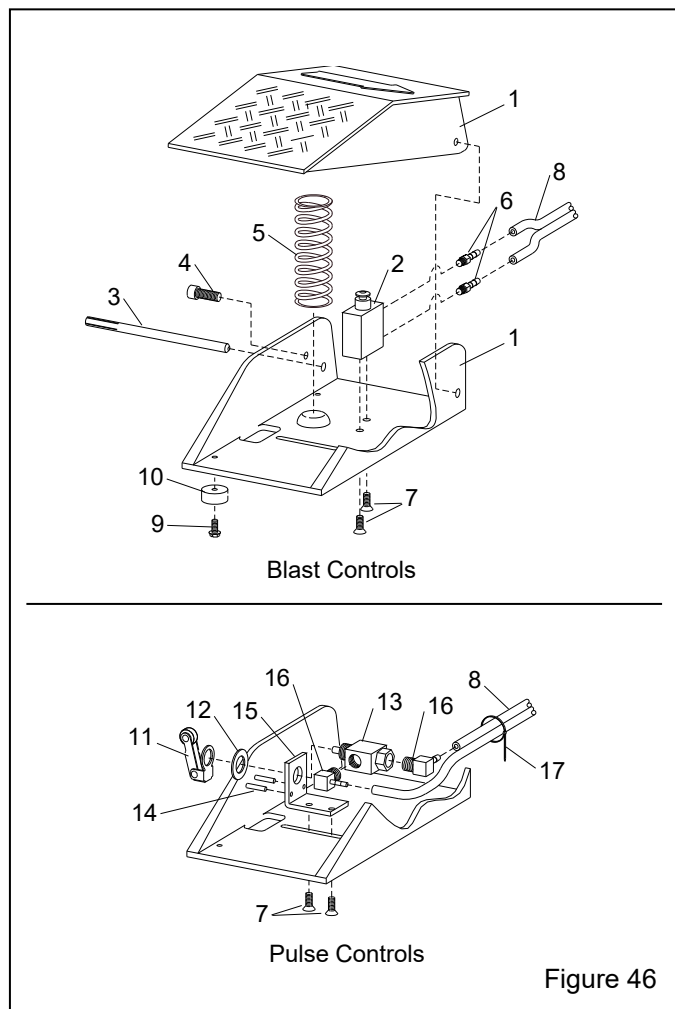


Figure 45

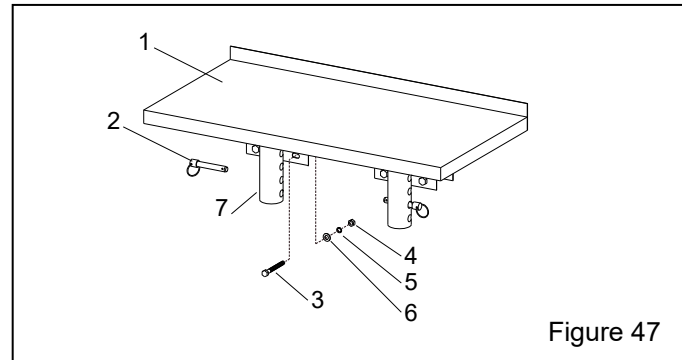
9.6 Foot Pedal – Figure 46

Item	Description	Stock No.
(-)	Foot pedal with tubing .....	20194
1.	Foot pedal casting set, top and base .....	28379
2.	Air valve, 3-way, n/c (blast valve) .....	20026
3.	Drive pin, grooved .....	20109
4.	Screw, socket head, 1/4 nf x 3/4" .....	03086
5.	Spring, 1-1/4" OD x 3-1/2" .....	20121
6.	Adaptor, 10-32 thread x 1/8" barb .....	11731
7.	Screw, fh, 10-32 x 1/2" .....	19571
8.	Tubing, 1/8" ID twin, per foot, 12 ft req. ....	19577
9.	Screw, 8-32 x 3/8" .....	11389
10.	Bumper, neoprene .....	21522
11.	Cam follower .....	19576
12.	Spacer .....	19258
13.	Valve, 3-way (pulse valve) .....	12202
14.	Roll pin, 1/8" .....	20479
15.	Bracket, valve mount .....	22858
16.	Fitting, 1/8" NPT elbow x 1/8" barb .....	11733
17.	Tie, nylon wire .....	12139



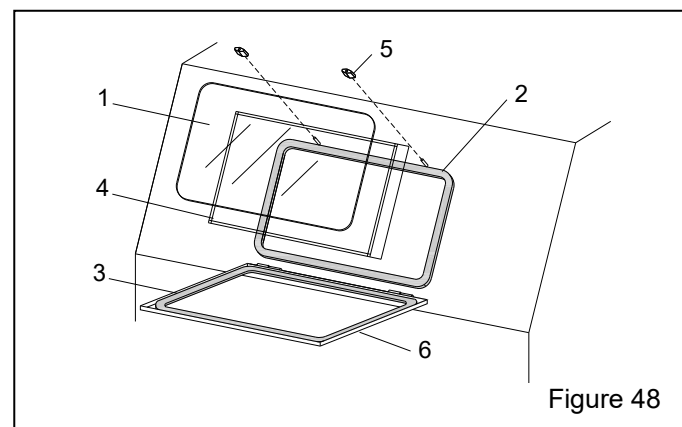
9.7 Foot-Shelf – Figure 47  
Used on ergonomic models only

Item	Description	Stock No.
(-)	Shelf assembly .....	24835
1.	Shelf, foot .....	27599
2.	Pin, quick release .....	24838
3.	Screw, 1/4-NC x 3" hex head cap .....	24434
4.	Nut, 1/4-NC Hex .....	03111
5.	Washer, 1/4 lock .....	03117
6.	Washer, 1/4 flat .....	03116
7.	Bracket, foot-shelf mount, each .....	27600



9.8 View-Window Assembly – Figure 48

Item	Description	Stock No.
1.	Window glass, 12.5" x 19.5" laminated .....	12212
2.	Gasket, 5/16" x 3/4", applied to cabinet per foot, 6-feet required .....	00189
3.	Gasket, 5/32" x 3/4", applied to window frame per foot, 6-feet required .....	00192
4.	Cover lens, pkg. of 5 .....	06190
5.	Nut, plastic, window frame, 2 required on conventional, 4 on ergo ....	23035
6.	Window frame, quick change for conventional model cabinet .....	22826
	for ergo model cabinet .....	25429



**9.9 Inlet-Air Regulator Assembly – Figure 49**

Item	Description	Stock No.
(-)	Pulsar Suction Regulator Assembly Includes all items shown	21524
1.	Filter, 1/2" manual drain air	01308
2.	Regulator, 1/2" pilot-operated pressure	11345
3.	Bracket, 1/2" regulator assembly	19231
4.	Nipple, 1/2" x 2	01734
5.	Cross, 1/2" NPT	10254
6.	Lock nut, 1/2"	12713
7.	Bushing, 1/2" NPT x 1/8"	11350
8.	Adaptor, 1/2" NPT x 1/2" flare	11351
9.	Fitting, straight, 1/8" NPT x 1/8" barb	11732
10.	Bushing, 1/4" NPT x 1/8" brass	02010
11.	Hose end, 1/2" barb x 1/2" female swivel	15002
12.	Tee, 1/2" NPT	01787
13.	Nipple, 1/2" x close	01733
14.	Plug 1/2" NPT	01759
15.	Bushing, 1/2" NPT x 1/4"	01801
16.	Screw, 1/2-NC x 1/2 set	03471
17.	Fitting, Straight, 1/4" NPT x 3/8 tube	11736

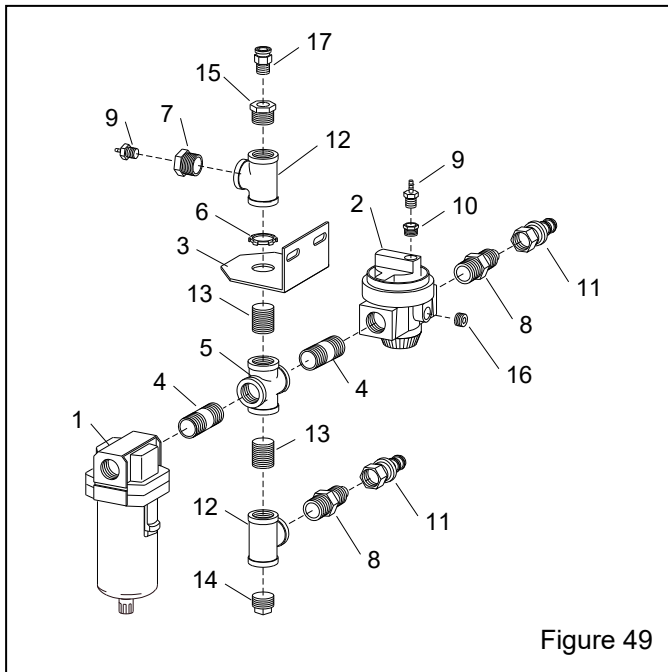


Figure 49

**9.10 BNP® Gun and Feed Assembly – Figure 50**

Item	Description	Stock No.
(-)	BNP Gun assemblies less nozzle, includes items 1 (brass) through 7	
	No. 4 Gun	12301
	No. 5 Gun	12302
	No. 6 Gun	12303
	No. 7 Gun	12304
	No. 8 Gun	12305
1.	Nut, nozzle holding Standard, knurled brass	11914
	Urethane covered,	11574

2.	O-ring	08975
3.	Gun body	11802
4.	Lock nut, air jet	11913
5.	Rubber sleeve	12097
6.	Air jet assembly w/ Item 5	
	No. 4	12342
	No. 5	12343
	No. 6	12344
	No. 7	12345
	No. 8	12346
7.	Fitting, hose, 3/8" NPT x 1/2" barb	06369
8.	Hose end, 1/2" barb x 1/2" fem. swivel	15002
9.	Nozzle, ceramic	
	No. 5, green tip	11930
	No. 6, blue tip	11931
	No. 7, red tip	11932
	Nozzle, boron carbide	
	No. 5	11935
	No. 6	11936
	No. 7	11937
	No. 8	12894
	Nozzle, tungsten carbide	
	No. 5	13118
	No. 7	12882
	No. 8	11942
10.	Hose, 1/2" air, specify ft required	12472
11.	Hose, media, clear, specify ft required	12476
12.	Wide-spray nozzle	
	Tungsten carbide, No. 6	11947
	Boron carbide	
	No. 6	11934
	No. 8	11944
13.	Wide-spray nozzle nut	
	Knurled brass	11916
	Urethane covered	12906
14.	Wide-spray retaining ring	12038
15.	Wide-spray nozzle guard	12295
16.	Adjusting tool, correctly positions air jet	19041

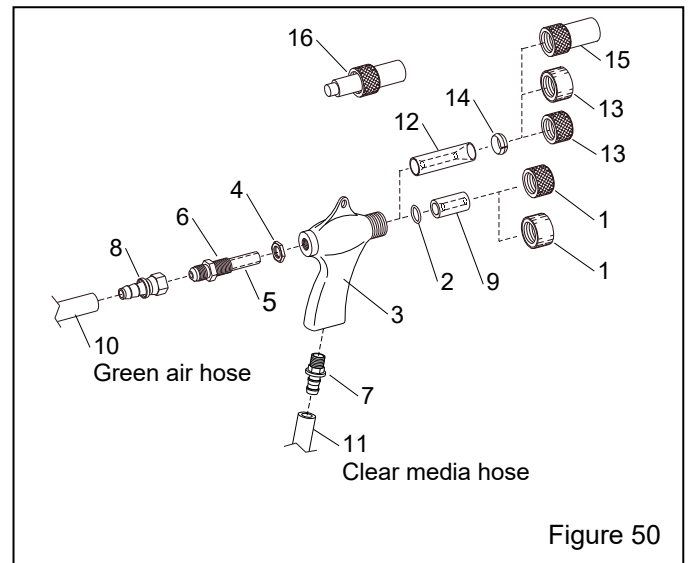
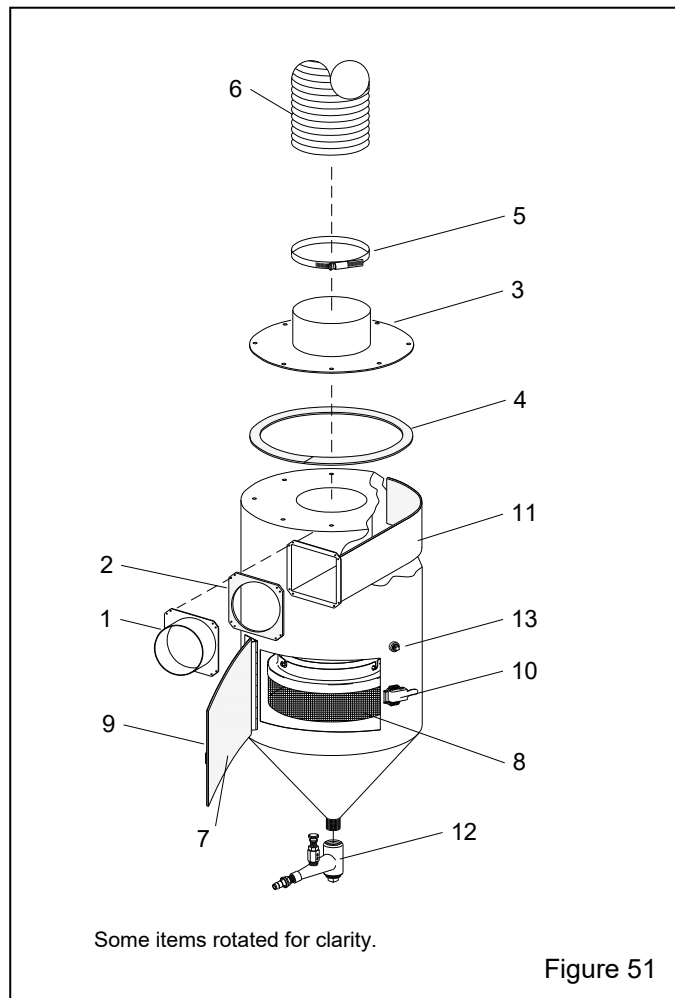


Figure 50



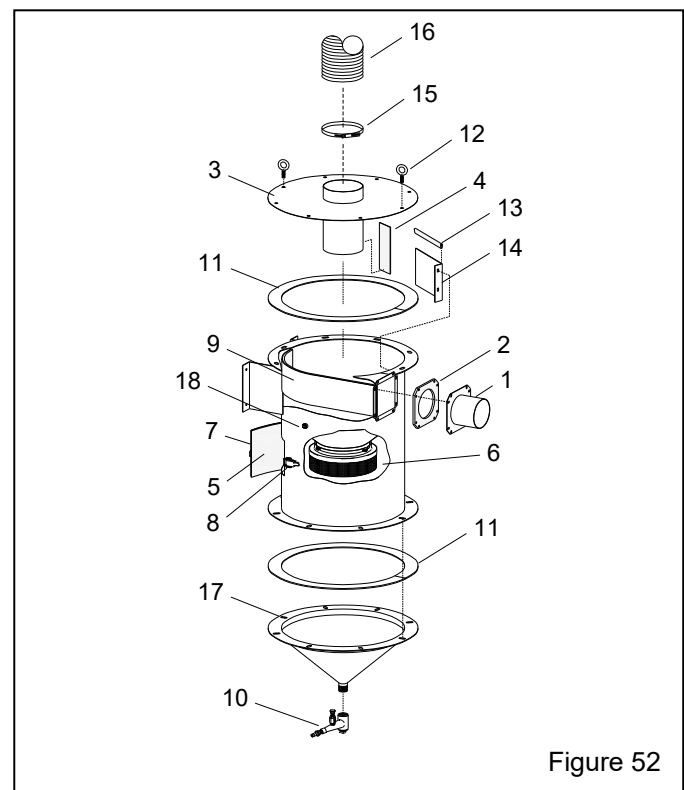
9.11 Reclaimer, Pulsar-III, 300 CFM – Figure 51

Item	Description	Stock No.
(-)	Reclaimer assembly, Pulsar III Includes all items shown in Figure 51	....20340
1.	Inlet-pipe adaptor, 4" - 300 cfm	.....12365
2.	Gasket, inlet pipe, 4" - 300 cfm	.....11746
3.	Outlet plate with 6" pipe - 300 cfm	.....20343
4.	Gasket, 5/16" x 1" adhesive-backed, per foot, 4-feet required	.....00187
5.	Clamp, 6" hose	.....00750
6.	Hose, 6" unlined flex, 2 feet required	.....12452
7.	Gasket, door	.....11745
8.	Debris screen, 8-mesh	.....21265
9.	Door assembly, access	.....14271
10.	Latch assembly, door	.....12263
11.	Wear plate w/mounting screws	.....14060
12.	Metering valve	.....12417
13.	Plug, 1/4-NPT pipe	.....01950



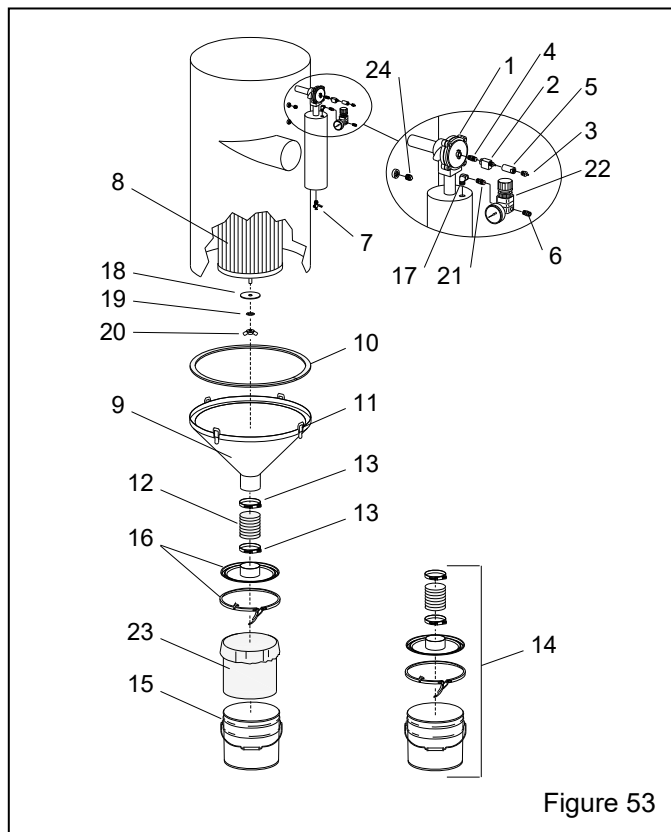
9.12 Reclaimer, Pulsar VI, 600 CFM Modular, Figure 52

Item	Description	Stock No.
(-)	Reclaimer assembly, Pulsar VI, Includes all items in Figure 52 except those marked with an asterisk (*)	.....29503
1.	Inlet-pipe adaptor 5" for standard 600 cfm	.....12361
	*4" for 600 cfm w/steel media	.....12350
2.	Gasket, inlet-pipe adaptor 5", standard, all modular models	.....11779
	*5" rubber-lined recl. prior to 09/2018	....29631
3.	Top plate, 600 cfm modular, w/6" pipe	.....29538
4.	Gasket, adhesive-backed 1/8" x 2," per foot 1 foot required at this location	.....13089
5.	Gasket, door	.....11745
6.	Debris screen, 8-mesh	.....21265
7.	Door assembly, access	.....14271
8.	Latch assembly, door	.....12263
9.	Wear plate w/mounting screws	.....29542
10.	Metering valve	.....12417
11.	Gasket, adhesive-backed 1/8" x 2," per foot 6 feet required at each location	.....13089
12.	Eyebolt 3/8-NC	.....00430
13.	U-channel, 3/8, 1-foot required	.....04076
14.	Baffle, 600 modular	.....29524
15.	Clamp, 6" hose	.....00750
16.	Hose, 6" unlined flex, 4 ft required	.....12452
17.	Hopper, for Pulsar VI	.....21650
18.	Plug, 1/4-NPT pipe	.....01950



9.13 Dust Collector, Pulsar-III – Figure 53

Item	Description	Stock No.
(-)	Repair kit, diaphragm pulse valve	21600
1.	Valve, 1" diaphragm pulse	19578
2.	Valve, 3 way	12202
3.	Fitting, 1/8" NPT straight x 1/8" barb	11732
4.	Nipple, 1/8" NPT hex	01962
5.	Actuator, air pilot	19123
6.	Fitting, 1/4" NPT straight x 3/8" tube	11736
7.	Petcock	01993
8.	Filter cartridge, 9" x 26"	19122
9.	Hopper assembly, incl. items 10 & 11	27047
10.	Gasket, 5/16" x 1" adhesive-backed, per foot, 7-feet required	00187
11.	Latch assembly	11876
12.	Hose, 4" flex, (1 ft minimum order)	12447
13.	Clamp, 4" hose	11577
14.	Dust container, includes 12, 13, 15, & 16	23411
15.	Pail, 3.5 gallon	23417
16.	Lid and lock ring, dust container	23419
17.	Elbow, 1/4" brass st.	02027
18.	Washer, 1/2" ID x 1-1/16" OD	03515
19.	Washer, 1/2" lock	03516
20.	Nut, 1/2"-NC wing	20108
21.	Nipple, 1/4" brass hex	02808
22.	Regulator w/ gauge, 1/4"	12050
23.	Liners, dust container, pack of 5	28621
24.	Plug, 1/4-NPT pipe	01950



9.14 Dust Collector, Pulsar VI – Figure 54

Item	Description	Stock No.
(-)	Repair kit, diaphragm pulse valve	21600
1.	Valve, 1" diaphragm pulse	19578
2.	Valve, 3 way	12202
3.	Fitting, 1/8" NPT straight x 1/8" barb	11732
4.	Nipple, 1/8" NPT hex	01962
5.	Actuator, air pilot	19123
6.	Fitting, 1/4" NPT straight x 3/8" tube	11736
7.	Petcock	01993
8.	Filter cartridge, 13" x 30"	19121
9.	Hopper assembly, incl. items 10 & 11	24029
10.	Gasket, 5/16" x 1" adhesive-backed, per foot, 7-feet required	00187
11.	Latch assembly	11876
12.	Hose, 4" flex, 2 ft required	12447
13.	Clamp, 4" hose	11577
14.	Dust container, includes 12, 13, 15, & 16	23411
15.	Pail, 3.5 gallon	23417
16.	Lid and lock ring, dust container	23419
17.	Elbow, 1/4" brass st.	02027
18.	Washer, 1/2" ID x 1-1/16" OD	03515
19.	Washer, 1/2" lock	03516
20.	Nut, 1/2"-NC wing	20108
21.	Liners, dust container, pack of 5	28621
22.	Plug, 1/4-NPT pipe	01950

