

BNP Suction Blast Cabinets

Models 6012 and 7212

O. M. 27723

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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 user to insure that proper training of operators has been performed and a safe work environment is provided.

No representation is intended or made as to: the suitability of the products described here for any purpose or application, or to the efficiency, production rate, or useful life of these products. All estimates regarding production rates or finishes are the responsibility of the user and must be derived solely from the user's experience and expertise, not from information contained in this material.

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This equipment is only one component of a cabinet blasting operation. Other products, such as air compressors, air filters and receivers, abrasives, equipment for ventilating, dehumidifying, or other equipment, even if offered by Clemco, may have been manufactured or supplied by others. The information Clemco provides is intended to support the products Clemco manufactures. Users must contact each manufacturer and supplier of products used in the blast operation for warnings, information, training, and instruction relating to the proper and safe use of their equipment.

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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 BNP 6012 and 7212 series suction blast cabinets. The instructions cover the operation of all pull-thru reclaimers and the installation of the dust collector. One of the following supplemental manuals is provided with the dust collector. Refer to the appropriate manual for operation and maintenance of the collector.

- CDC-1 Dust collectors, manual stock no. ... 28225
- RPC-2 Dust collector, manual stock no. 22788
- RPH Dust collectors, manual stock no. 21449

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 operation must read this entire manual, and all accessory manuals to become familiar with the 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.

1.3 General Description

1.3.1 BNP abrasive blast cabinets enclose the blasting environment to provide efficient blasting while maintaining a clean surrounding work area. Production rates are influenced by size of nozzle, compressor output, working pressure, type and size of media, angle and distance of the nozzle from the blast surface. BNP suction cabinets consist of three major components:

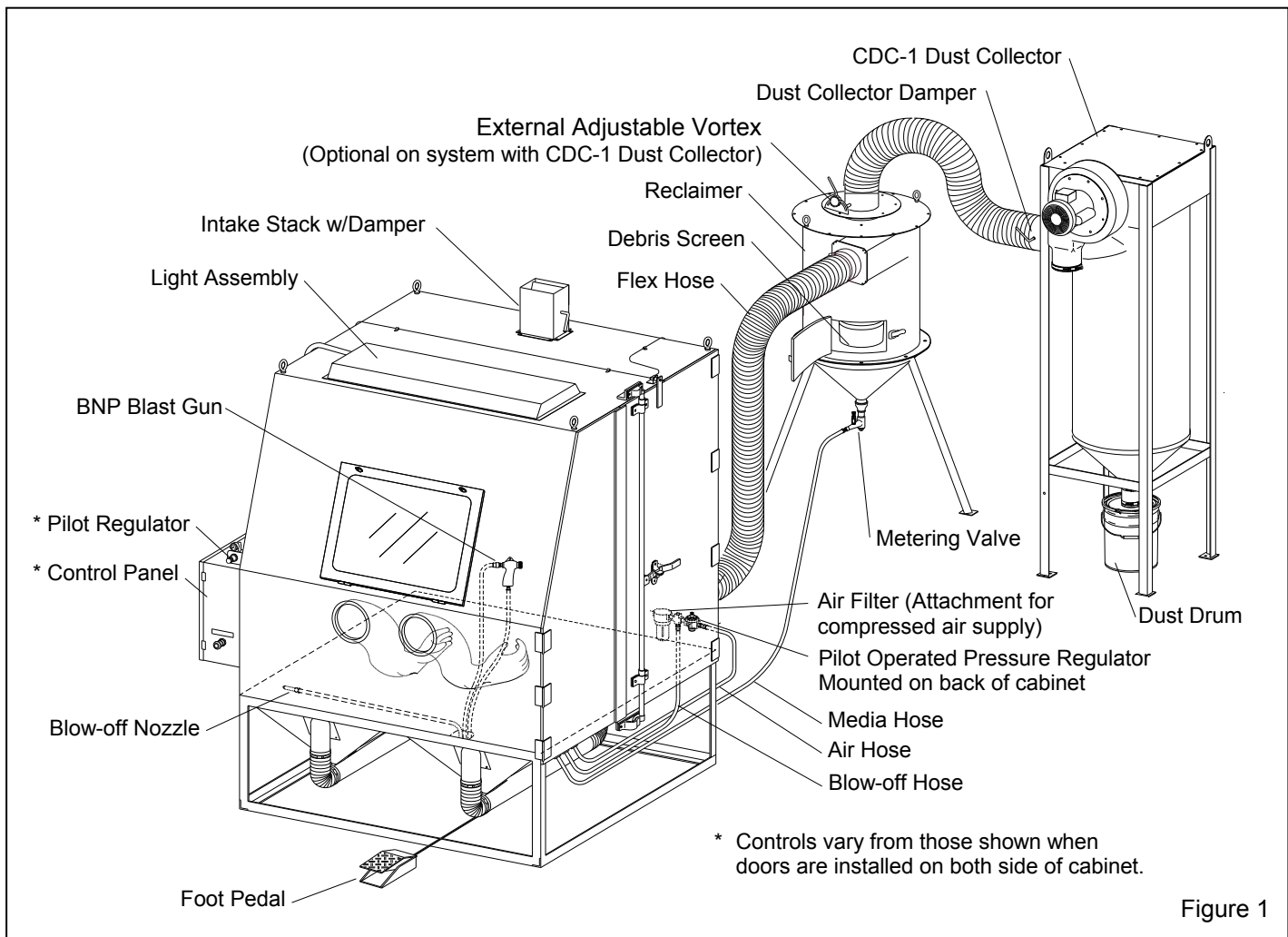
1. Cabinet Enclosure
2. Reclaimer
3. Dust Collector

Refer to Figure 1 for arrangement of components using a CDC-1 dust collector. Figure 2 shows the arrangement with an RPC-2 (900 cfm) reverse-pulse dust collector with dust drawer.

An optional RPH collector is set up the same way but includes a hopper that is easier to empty and has additional storage. Upgrading to an RPH collector may be done at any time. The overall height of the RPH-2 is approximately 10-feet, 4-inches, and increases to 12-ft when the top access door is open. An RPH dust collector is standard with systems requiring 1200 cfm and larger dust collectors.

1.4 Theory of Operation

1.4.1 Once the components are correctly setup and turned on, the cabinet is ready for operation by actuation of the foot pedal. Fully depressing the foot pedal causes air to flow through the blast gun. The 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, fines, dust, and by-products generated by blasting, fall through the mesh work table into the cabinet hoppers. These particles are then drawn into the reclaimer for separation. Lightweight dust and fines remain airborne and are drawn out to the dust collector. Heavier reusable media fall through the screen into the reclaimer hopper for reuse. The dust collector traps dust and fines and discharges clean air. When the foot pedal is released, blasting stops.



1.5 Reverse Pulse Dust Collector Options

⚠ WARNING

Prolonged exposure to any dust could result in serious lung disease and death. Short term ingestion of toxic materials, such as lead dust or dust from other heavy metals and corrosives, could cause serious respiratory injury or death. Identify all materials that are to be removed by blasting. Use reverse-pulse dust collectors with HEPA after-filters if lead coating or any other toxic materials are being removed by the blasting process. Do not use dust collectors with simple cloth filters for those applications.

1.5.1 CDC-1 Dust Collectors: Shown in Figure 1, 900 cfm models. The single filter cartridge is cleaned by using a manually-controlled pulse of compressed air. CDC-1 dust collectors are standard with BNP cabinets unless an optional RPC-2 or RPH dust collector is ordered at time of purchase. Refer to CDC-1 Dust collector manual number 28225.

1.5.2 RPC-2 Dust Collectors: Shown in Figure 2, this collector is available in a 900 cfm model. Dual filter cartridges are automatically cleaned by a timed, periodic pulse of compressed air. Dust collects in the drawer and must be frequently emptied. Refer to RPC manual number 22788.

1.5.3 RPH Dust Collector: The RPH-2 is for use with 900 cfm models and RPH-3 for use with 1200 cfm models. They are set up and operate the same as the RPC-2, as shown in Figure 2, but instead of a dust drawer, the collector sits atop a hopper, which provides additional dust storage, and empties into a drum. Refer to RPH manual number 21449.

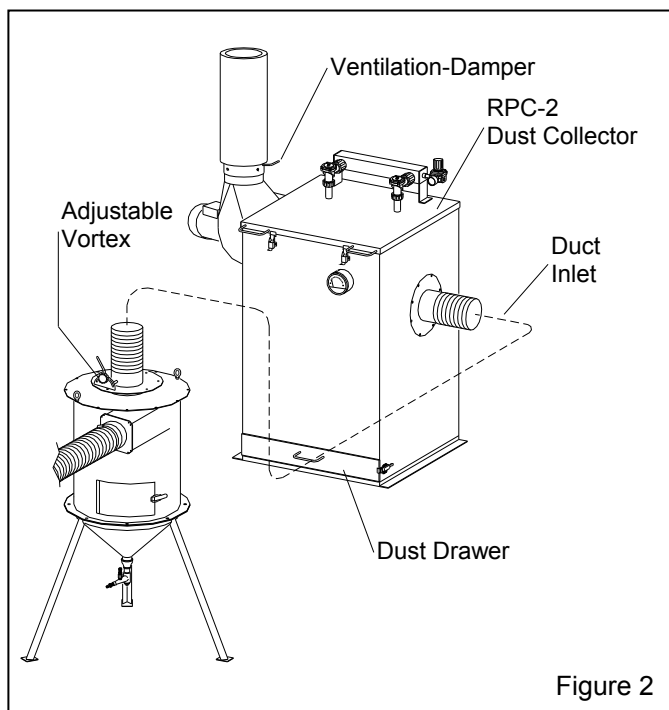


Figure 2

1.5.4 HEPA (high-efficiency particulate air) Filter: HEPA after-filters provide additional filtration and must be used with a reverse-pulse cartridge collectors when removing lead coatings or any other toxic materials.

1.6 Nozzle Options

1.6.1 Unless otherwise specified at the time of purchase, the cabinet is supplied with a No. 5 (5/32" orifice) air jet and 5/16" orifice ceramic nozzle. Optional, more durable tungsten carbide and boron carbide nozzles are available and are shown under Optional Accessories in Section 9.1 and BNP gun parts in Section 9.7. Use a boron carbide nozzles when blasting with aggressive media, as noted in Section 1.8.4.

1.7 Reclaimer Options

1.7.1 A 900 cfm pull-thru reclaimer utilizes a CDC-1 reverse-pulse dust collector or optional RPC-2 or RPH-2 dust collector.

A 1200 cfm reclaimer utilizes a RPH-3 reverse-pulse dust collector.

1800 cfm reclaimers are available by special order. Refer to Figure 3 for 1800 cfm applications.

1.7.2 Replaceable rubber reclaimer liners: 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 1.8.4. The reclaimer must be designed to accept liners and have a removable top. Rubber liners are shown in Section 9.1.

1.8 Blasting Media

⚠ WARNING

Obtain Safety Data Sheets (SDS) for the blast abrasive. Abrasive blasting with sands containing crystalline (free) silica can lead to serious or fatal respiratory disease. As NIOSH recommends, do not use abrasives containing more than trace amounts (more than one percent) free silica.

NOTE: Use only abrasives specifically manufactured for blast cleaning which are compatible with the surface being blasted. Abrasive produced for other applications may be inconsistent in size and shape, contain particles that could jam the abrasive metering valve, or cause irregular wear.

1.8.1 ZERO cabinets utilize most common reusable media specifically manufactured for dry blasting. Media sizes listed under media headings and in Figure 3 are for guidelines only. The guidelines are based on standard nozzle size and average conditions, such as blast pressure, media/air mixture, visibility inside the cabinet, humidity, and reclaimer cleaning rate.

Several factors 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 filter cartridge(s)).

As a rule, larger nozzles deliver more media, requiring higher performance from the reclaimer. When using larger nozzles, the maximum mesh size of media will be smaller than those normally recommended. Using media 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.

1.8.2 Steel: When the recovery hose diameter is suitably sized (usually reduced one size from standard as shown in Figure 3) steel may be used with 1200 cfm and 1800 cfm reclaimers. When using steel media, conveying hose should have a smooth durable lining, and rubber curtains should be used to protect the cabinet walls from peening and rapid wear. Cabinets configured for steel media use can be ordered from the factory with appropriately sized conveying hose and curtains installed. This special requirement must be specified at the time of purchase. They may also be field installed at a later date. NOTE: Steel grit or shot is too heavy to use with cabinets equipped 900 cfm reclaimers.

This guideline to media selection is based on standard 5/16" orifice nozzle (5/32" air jet) and average conditions, (air pressure, media/air mixture, visibility, contamination of parts being cleaned, humidity, media breakdown, reclaimer cleaning rate, etc.) As a rule, larger nozzles deliver more media, requiring higher performance from the reclaimer. Larger nozzles decrease the maximum mesh size of media from those recommended. Media that is 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 to recover from the cabinet hopper.

RECLAIMER SIZE	MEDIA TYPE				
	STEEL GRIT	STEEL SHOT	PLASTIC	GLASS BEAD	ALUM. OXIDE
900 cfm with 6" inlet	Do not use	Do not use	N/A See 1.8.7	No. 6 to No. 12	46 to 180 mesh
1200 cfm with 6" inlet	40 to 120	S230 to S170	Do not use	No. 4 to No. 8	16 to 60 mesh
1200 cfm with 7" inlet	Do not use	Do not use	N/A See 1.8.7	No. 4 to No. 12	46 to 180 mesh
1800 cfm with 7" inlet	25 to 120	S280 to S70	Do not use	No. 4 to No. 8	16 to 60 mesh
1800 cfm with 8" inlet	Do not use	Do not use	N/A See 1.8.7	No. 4 to No. 12	36 to 180 mesh

Figure 3

1.8.3 Sand and Slag: 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 breakdown and are not recyclable, making them unsuitable for cabinet applications.

1.8.4 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 down time, periodically inspect the reclaimer wear plate, flex hoses, blast hose, and nozzle for wear.

When using aggressive media only occasionally, install an optional aluminum oxide kit. The kit 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. NOTE Rubber-lined reclaimers are available as factory-installed items and can be field installed on reclaimers if they have removable tops and designed to accept liners. Nozzles lined with boron carbide extend nozzle wear life. See Optional Accessories in Section 9.1.

1.8.5 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 thorough drying and breaking up any clumps.

1.8.6 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 reclaimer models with bolt-on removable tops, baffle removal and replacement is easily accomplished. Reclaimers with welded-on tops

require grinding to remove the baffle and once it is removed it cannot be replaced.

1.8.7 Plastic Media: Plastic and similar lightweight and/or non-aggressive 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.

1.8.8 Bicarbonate of Soda: Bicarbonate of soda is not recommended for use in standard cabinets. Bicarb is a one-use media usually used and 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.

1.9 Compressed Air Requirements

1.9.1 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 4 to determine air consumption. Consult with a compressor supplier for suggested compressor size based on the air consumption. **NOTE: A separate air line is required for the reverse-pulse dust collector**

1.9.2 The air filter at the air inlet connection reduces condensed water from the compressed air. Its use is especially important in areas of high humidity, or when using fine-mesh media. 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.

Compressed-Air Consumption in CFM				
BNP Gun	Jet	Nozzle	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 1.8.1.

Figure 4

1.10 Electrical Requirements

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

1.10.1 Electrical requirements depend on the size and phase of the dust collector exhaustor motor. NOTE: Full load amps (FLA) shown below are for the motor only; the lights draw less than one amp. Standard cabinets are supplied as follows:

900 cfm: 2 HP, 208/230/460V, 3-PH, 60 HZ

Supplied with 230-volt control panel unless 460-volt is specified at the time the order is placed.
FLA 208/5.5, 230/5.6, 460/2.8.

1200 cfm: 5 HP, 208/230/460V, 3-PH, 60 HZ

Supplied with 230-volt control panel unless 460-volt is specified at the time the order is placed.
FLA 208/12 to 13, 230/12 to 13, 460/6.

1800 cfm: 7.5 HP, 208/230/460V, 3-PH, 60 HZ

Supplied with 230-volt control panel unless 460-volt is specified at the time the order is placed.
FLA 208/17.8 to 19.6, 230/17.8 to 19.6, 460/8.9.

Additional wiring information is in Section 2.5.

2.0 INSTALLATION

2.1 General Installation Notes

2.1.1 To avoid damage, the light assembly and air intake stack, are shipped inside the cabinet. Install the light assembly and intake stack on the outside top of the cabinet (ref Figure 1), using the adhesive-backed gasket and fasteners provided. Install the light conduit and wiring to the control panel, and wire it per the wiring schematic packed in the panel. Refer to Section 2.5.

WARNING

Use an approved ladder or lift and fall protection when installing or servicing the light assembly or air intake stack. Do not climb on top of the cabinet. The cabinet top will not support body weight and could cause injury.

2.1.2 The cabinet must be placed on a flat level surface. If the surface is not flat, the cabinet could flex, causing the door alignment to shift. If the floor is not level, shim the leg(s) as required to align the doors.

2.1.3 Use the eyebolts on the four top corners to lift and maneuver the cabinet. **Do not lift the cabinet from the hopper or lower frame.**

NOTICE

Do not use a forklift to lift the cabinet from the hoppers or lower frame. The cabinet hopper is not designed to support the weight of the cabinet. The lower frame is designed to support distributed weight. Using a forklift on the hoppers or frame may cause damage.

2.1.4 Refer to Figure 1 (and Figure 2 for optional RPC-2 dust collector) for the general arrangement. Place all components in a convenient 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. Provide enough clearance at the dust collector for maintenance and to remove the dust container. Place the reclaimor directly behind the cabinet with flex hose connection and metering valve facing toward the cabinet to allow for as few bends as possible. Determine the best location for all components and position them before making compressed air connections, electrical connections, and attaching flex hose.

2.1.5 Refer to the dust collector owner's manual to set up the dust collector and prepare it for operation.

2.2 Connect Conveying Hose, Figure 5

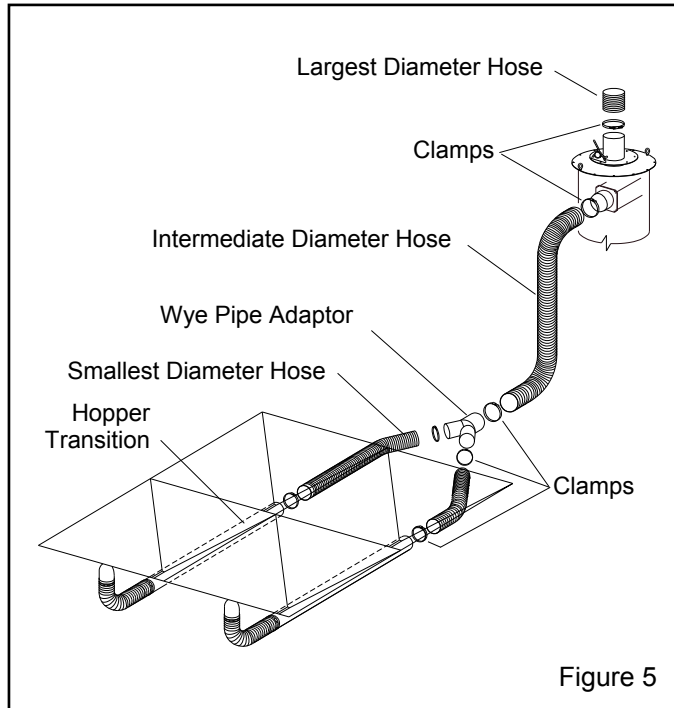


Figure 5

2.2.1 Connect the two smallest diameter flexible conveying hoses between the cabinet hopper transitions and wye pipe adaptor. It is easier to slip the hose over the adaptor and to create a tighter seal if the first two or three inches of wire are removed from the inside of the hose. Use care not to damage the hose. NOTE: The hose wire helps dissipate static electricity in the conveying hose, and also helps ground each segment. In order for the hose wire to dissipate static electricity, the wire must touch the metal of each segment. Clamp the flex hose securely with worm clamps provided.

2.2.2 Connect the intermediate diameter flex hose between the wye pipe and reclaimer inlet adaptor. Clamp the flex hose securely with worm clamps provided.

2.2.3 The largest diameter hose attaches to the reclaimer outlet, which will be connected later.

2.3 Connect Compressed Air Supply Line(s)

⚠ WARNING

Failure to observe the following before connecting the equipment to the compressed air source could cause serious injury or death from the sudden release of 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 depressurization of the compressed-air line before performing maintenance.

2.3.1 Refer to Paragraph 2.3.2 to determine the recommended air supply hose size, then refer to Figure 6 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 under the cabinet hopper. Note that the style of connection shown in Figure 6 is for reference only.

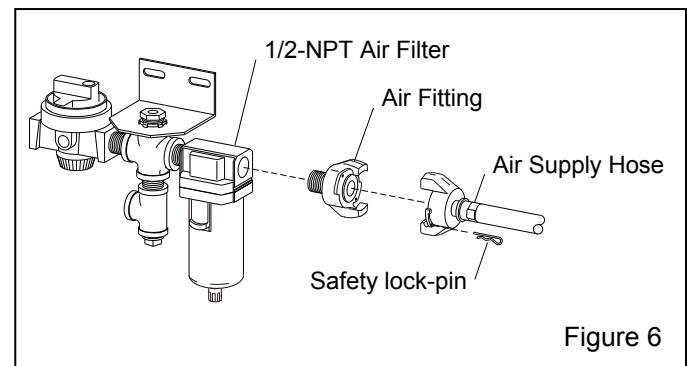


Figure 6

2.3.2 Refer to the table in Figure 7 to determine the minimum ID air supply line to the cabinet air inlet. A smaller diameter hose may reduce blasting efficiency.

MINIMUM COMPRESSED AIR LINE ID			
Air Line Length	Air Jet Size		
	No. 4	No. 5	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 7

2.3.3 Connect the air line from the air source to the air filter inlet.

⚠ WARNING

If twist-on type air hose couplings are used, they must be secured by safety pins or wires to prevent accidental disconnection while under pressure. Hose disconnection while under pressure could cause serious injury.

2.3.4 Refer to the dust collector owner's manual and connect a compressed-air line to the pulse manifold.

2.4 Ground Cabinet

2.4.1 To prevent static electricity build up, attach an external grounded wire from an earth ground to the grounding lug on the left rear of the cabinet.

2.5 Connect Electrical Service

⚠ WARNING

Shorting electrical components could result in serious electrical shocks, 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.

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

NOTE: 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.

2.5.1 Three-Phase Wiring

NOTE: 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.

2.5.1.1 Refer to the wiring schematic stowed inside the control panel mounted on the cabinet and wire from the users disconnect to the panel and from the panel to the dust collector motor, per instruction on the motor data-plate.

2.5.1.2 Check the amperage on initial start up; if the motor draws excessive amperage, gradually close the dust collector damper, located on the inlet on CDC dust collectors, and on the exhaustor outlet on RPC and RPH dust collectors, until the amperage is within the specifications shown on the motor plate.

2.5.3 Check Motor Rotation

2.5.3.1 After wiring is completed, observe the warning that follows and check the 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 motor fan housing where rotation of the fan

can easily be observed. Proper rotation is indicated by the arrow on the exhaustor housing; the fan should rotate toward the exhaustor outlet. If it rotates in reverse, change the wires as noted on the motor plate to reverse rotation.

⚠ WARNING

Do not look into the exhaustor outlet while the paddle wheel is turning. Injury to the eye or face could occur from objects being ejected from the exhaustor.

2.6 Cabinet Air-Inlet Damper, refer to Figure 8

2.6.1 The air-inlet damper is located on the top of the cabinet and must be set to match the cabinet dimensions and reclaimor size. The air-damper was preset prior to shipment; confirm the initial setting as noted below

2.6.2 The label on the damper show the settings in degrees. The initial setting should align the handle as noted below:

900 reclaimor.....align handles to 30 degrees
1200 reclaimor..... align handles to 0 degree (full open)
1800 reclaimor..... align handles to 0 degree (full open)

Loosen the lock nuts and position the damper handles as noted above. When correctly positioned, tighten the lock nuts to maintain the setting. Refer to Section 5.6 for adjustment procedure.

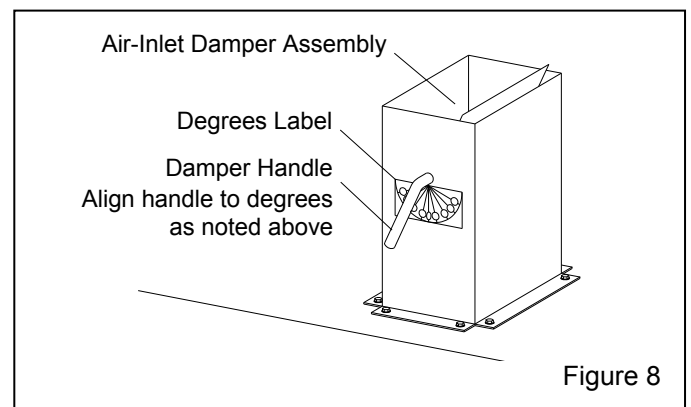


Figure 8

2.7 Final Assembly

2.7.1 Position the foot pedal on the floor in front of cabinet.

2.7.2 A package of five view-window cover-lenses is supplied with the cabinet. Install a cover lens per Section 7.3. When the cover lens becomes pitted or frosted, replace it.

3.0 FIELD INSTALLED ACCESSORIES

3.1 Aluminum Oxide Kit

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

Filed-installed (or replacement factory installed) kits consist of black rubber curtains with grommets, curtain hardware, boron carbide nozzle and heavy-lined flex hose. If the existing flex hose is in good condition, reserve the new hose for future replacement.

3.2 Curtain Installation, Figure 9

3.2.1 Match the curtains to the corresponding wall and door as shown in Figure 9. Hook the curtains to the J-Hooks welded along the top of the front, back, and side walls.

3.2.2 Using protectors against the curtains and outer doors, clamp the door curtains in place. The upper edges of the door curtains should be even with the outer edges of the sound proofing 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 attach the door curtains.

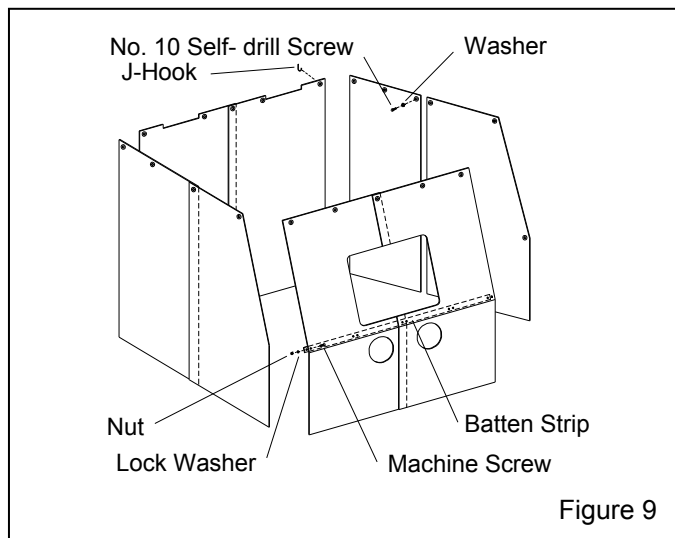


Figure 9

3.2.3 For front walls, place the batten strip over the curtain, and clamp it in position on the front slope above the break as shown in Figure 9. Match drill .187" (3/16") diameter holes through the rubber and cabinet front at each batten hole. To install the batten insert #10-24 x 1" round head machine screws through the cabinet front, curtain and batten. Install lock washers and nuts from inside the cabinet and tighten securely.

3.3 Manometer

The optional manometer kit is listed in Section 9.1.

3.3.1 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. The manometer measures static pressure. Reclaimer static pressure is set by adjusting the dust collector ventilation-damper. Refer to Section 5.4 to adjust static pressure. Refer to Section 5.8 for manometer instructions.

3.4 Armrest

3.4.1 Assemble the armrest and mounting brackets as shown in Figure 10.

3.4.2 Position the assembly so the armrest 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.

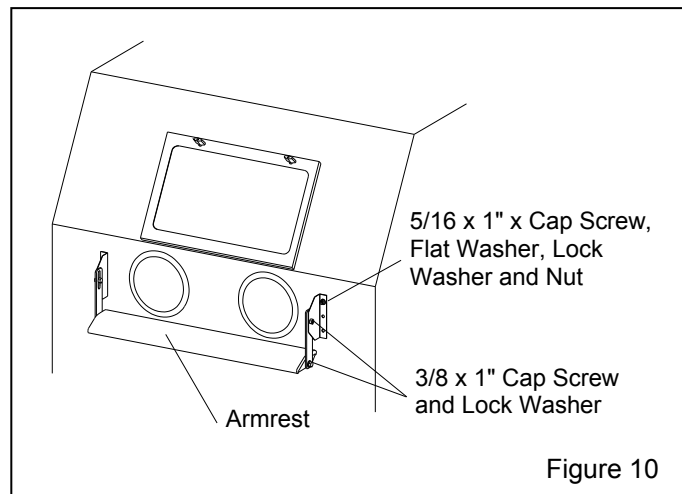


Figure 10

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

3.4.4 Match drill the remaining four bracket holes and install the remaining fasteners.

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

3.5 Track and Extension

3.5.1 These instructions cover field installation of the 2000 lb. capacity track and workcar with turntable. If the track was ordered with the cabinet, it is partially assembled at the factory. Disregard the instructions that do not apply. Refer to Figure 11 for arrangement of the major components.

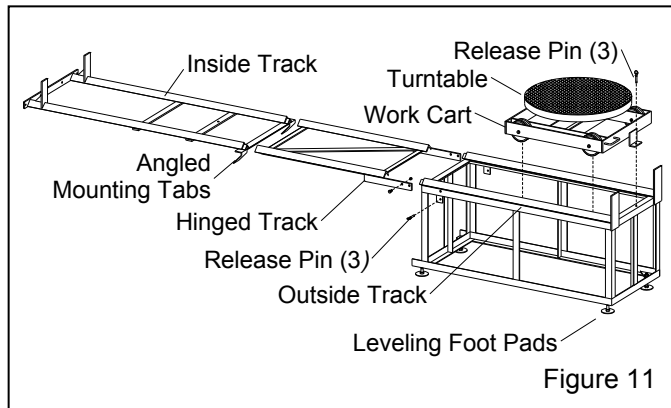


Figure 11

3.5.2 Install inside track, refer to Figure 12

3.5.2.1 Lay the inside track on the cabinet hoppers and above the grate as shown in Figure 12.

3.5.2.2 Push the end support bar against the inside cabinet wall, opposite the door, and insert the angled tabs on the door end of the track into the two sleeves on the hopper as shown.

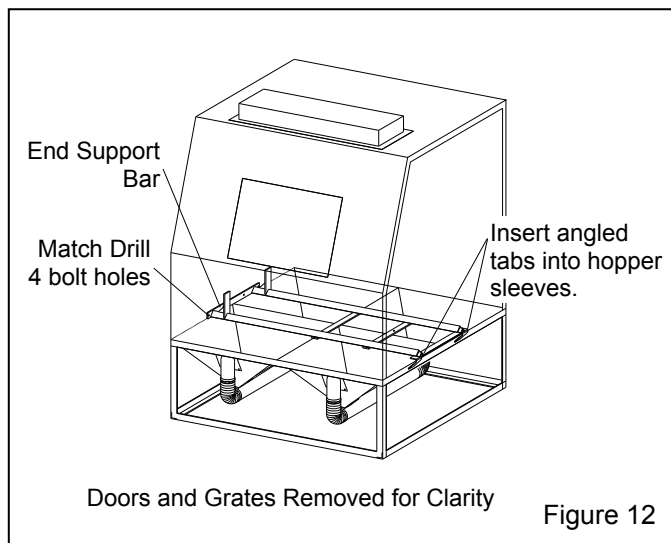


Figure 12

3.5.2.3 Make sure the weight of the track is evenly distributed over the hoppers and match drill for 3/8 fasteners through the cabinet wall, at the four hole locations in the end support bar. If necessary, mark the hole locations and remove the track for drilling.

3.5.2.4 Secure the inside track to the cabinet with four 3/8-NC cap screw, flat washers, lock washers, and nuts provided.

3.5.3 Position outside track, refer to Figure 3

3.5.3.1 Place the outside track so it is in-line with the inside track. Space the track so the top rails (not the smaller support rails) on the hinged end are approximately 42-inches from the top rails on the inside track.

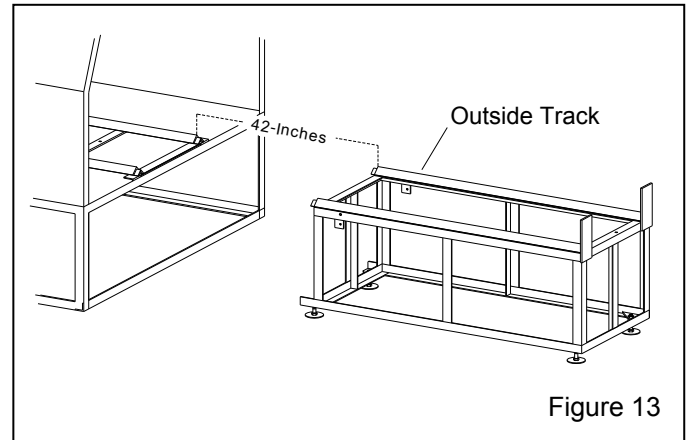


Figure 13

3.5.4 Attach hinged track, refer to Figure 14

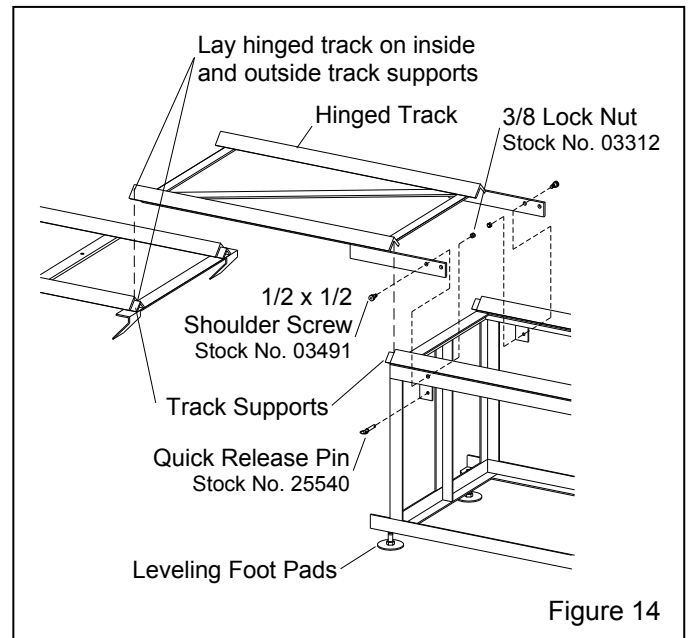


Figure 14

3.5.4.1 With the door open, place the hinged track on the inside and outside track supports, as shown in Figure 14. Maneuver the outside track as needed to align the hinge track bolt holes with the outside track bolt holes, while making sure hinge track is fully resting (with no gaps) on the track supports.

3.5.4.2 Install 1/2" shoulder screws through both hinged track pivot-bars and into the holes in the outside track. Secure with 3/8 lock nuts.

3.5.4.3 Raise or lower the four adjustable foot pads on the outside track as needed to level it to the hinged track and inside track.

3.5.4.4 The quick release pin holds the hinge track when in the raised position, as shown in Figure 14.

3.5.5 Turntable workcar and hinge track operations, refer to Figure 15

3.5.5.1 Set the workcar on the outside track; the grooves in the wheels are designed to ride on the top of the track rails.

3.5.5.2 For shipping purposes, some field installed or replacement turntables may not be installed in the workcar. If shipped separately, slide the turntable shaft through the rubber bearing protector, bearing collar and bearing. When the turntable shaft is fully seated in the bearing, use a hex key to tighten the collar on the shaft.

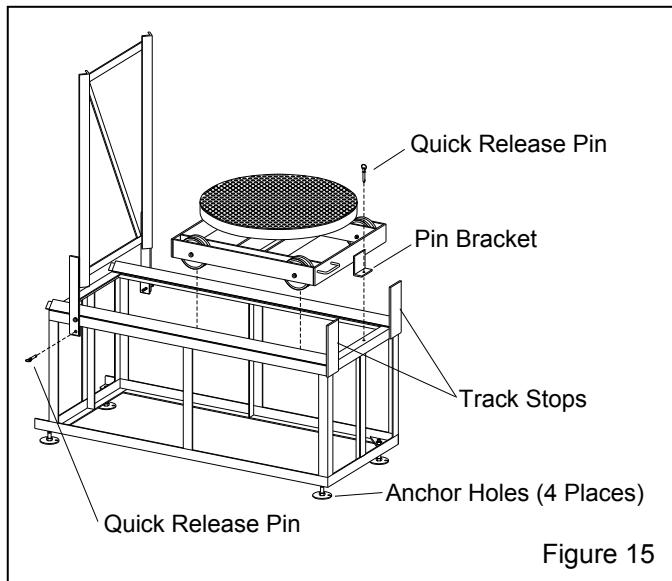


Figure 15

3.5.5.3 Move the workcar toward the track stops until the hole in the pin bracket is aligned with the hole in the outside track cross brace. Insert the release pin through both holes to prevent the workcar from moving. NOTE: A similar hole is in one of the inside track cross braces. Inserting the pin through the workcar and inside track hole prevents the cart from moving when inside the cabinet.

3.5.5.4 When certain the tracks are aligned, level, and the workcar moves smoothly on all tracks, anchor the outside track to the floor through the holes in the foot pads.

3.5.5.5 Raise the hinged track until the locking hole in the pivot-bars is aligned with the hole in the bracket on the bottom side of the outside hinge. Install a quick release pin on both sides of the track to hold it vertical.

⚠ WARNING

Always insert pins in both sides of the hinged track to lock it upright, when it is lifted vertical. The track could fall if left unlocked and cause severe injury.

4.0 OPERATION

4.1 Media Loading and Unloading

4.1.1 Media Loading: With the exhauster OFF, add clean dry media by pouring it into the reclaimer hopper 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.

The minimum amount of media to charge the system is as follows:

Reclaimer Size	Cubic Feet	Glass Bead	Aluminum Oxide	Minimum Charge
900 cfm	1.1	100 lbs.	130 lbs.	40 lbs.
1200 cfm	1.5	135 lbs.	180 lbs.	75 lbs.
1800 cfm	2.4	215 lbs.	285 lbs.	100 lbs.

4.1.3 Media Unloading: 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 container under the reclaimer's metering valve. Unscrew the plastic plug from the metering valve, permitting media to flow into the container. If media doesn't flow, it has caked. Open the fill door and stir media until it starts to flow. Replace the plug when the reclaimer is empty.

4.2 Loading and Unloading Parts

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.

4.2.1 Load and unload parts through the door.

4.2.2 Parts must be free of oil, water, grease, or other contaminants that will clump media or clog filters.

4.2.3 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.

4.2.4 Close door; the door interlock system will prevent blasting if door is open.

4.3 Blasting Operation

CAUTION

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

4.3.1 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.

4.3.2 Turn ON the lights and exhauster. The push-button switch located on the face of the control panel performs both functions. Pull the button to start the exhauster.

4.3.3 Load parts.

4.3.4 Close door; the door interlock system will prevent blasting if the door is open.

4.3.5 Adjust the pilot pressure regulator to the required blast pressure per Section 5.1. The regulator is located on the left side of the cabinet.

4.3.6 Insert hands into gloves.

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

WARNING

Shut down the cabinet immediately if dust discharges from the dust collector or cabinet. Make sure the dust collector filter(s) are correctly seated and not worn or damaged. Prolonged breathing of any dust could result in serious lung disease or death. Short term ingestion of toxic dust such as lead, 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.

NOTE: 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.

4.3.8 If an object should fall through the grate, stop blasting immediately and retrieve it.

4.4 Stop Blasting

4.4.1 To stop blasting, remove pressure from the foot pedal.

4.4.2 Use the blow-off nozzle to blow media off cleaned parts.

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

4.4.3 Unload parts, shut off the air supply valve, and switch OFF the lights and exhauster.

4.5 Blasting Technique

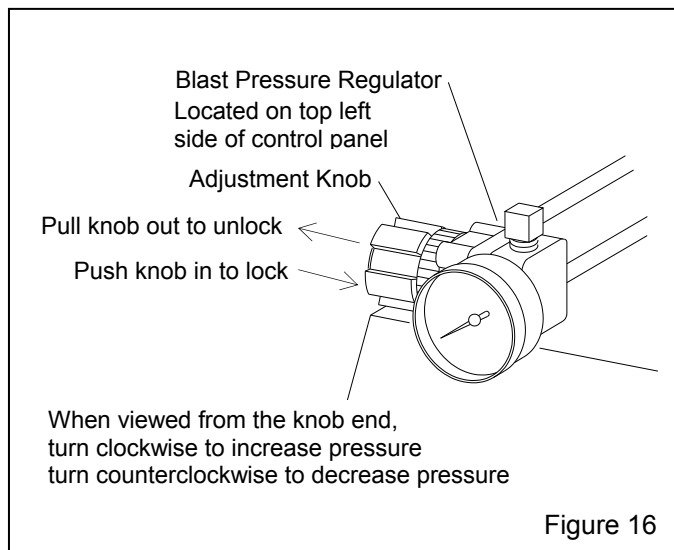
4.5.1 Blasting technique is similar to spray painting technique. Smooth continuous strokes are most effective. The distance from the part affects size of blast pattern. Under normal conditions hold the nozzle approximately 3" to 6" from the surface of the part.

5.0 ADJUSTMENTS

5.1 Blasting Pressure

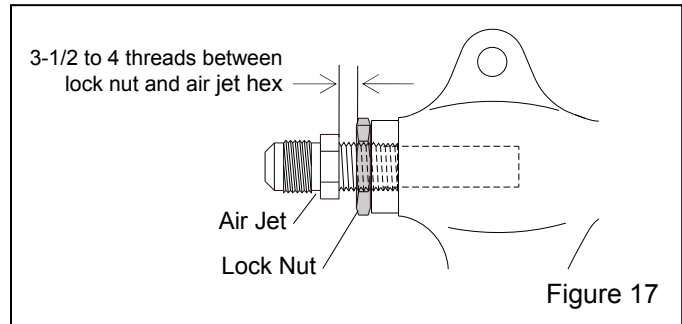
5.1.1 The pilot pressure regulator, located atop the control panel of the left side of the cabinet, enables the user to adjust blasting pressure to suit the application. The suitable pressure for most purposes is about 80 psi. Lower pressures may be required on delicate substrates, and will reduce media 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 16, and turn it clockwise to increase pressure or counter-clockwise to decrease pressure. Pressure will usually drop from closed-line pressure when blasting starts. Once operating pressure is set, push the knob in to lock it and maintain the setting.



5.2 Air Jet Adjustment, Figure 17

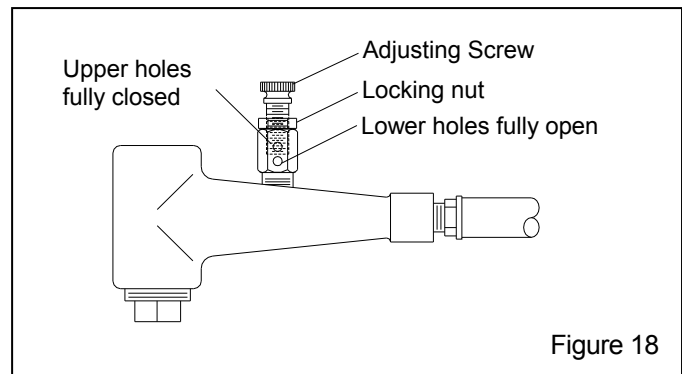
5.2.1 The air jet should be screwed 4-1/2 to 5 full turns into the gun body. Doing so will leave 3-1/2 to 4 threads exposed past the lock nut. Loosen the lock nut to make the adjustment and tighten the lock nut to secure it. Refer to Figure 36, Item 16 for the optional adjusting tool, which correctly positions the jet.



5.3 Media/Air Mixture, Figure 18

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.

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 18. 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 locking nut and slowly turn the adjusting screw out (counterclockwise when viewed from the top) until the media flows smoothly. Tighten the locking 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 locking nut finger-tight to maintain the setting.

5.4 Reclaimer Static Pressure

5.4.1 Correct static pressure varies with size of reclaimer and the size, weight and type of media.

5.4.2 Adjust static pressure by opening (handle inline with air flow) or closing (handle perpendicular to air flow) the dust collector ventilation damper. Refer to the dust collector owner's manual, the damper is located on the inlet on CDC-1 dust collectors, and on the exhaust outlet on RPC and RPH dust collectors. If the damper is not opened far enough, the reclaimer will not remove fines, resulting in dusty media, poor visibility, and possible media blockage in the conveying hose. 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 dust removal without media carryover.

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

Glass Bead No. 4 to 7	3" to 3-1/2"
Glass Bead No. 8 to 13	2-1/2 - 3"
Alox. 60 & coarser	4 - 5"
Alox. 80 & finer	2-1/2 - 3"
Steel Grit	6 - 7"

5.4.4 If the damper has been adjusted and carryover or excessive dust in the media continues, adjusting the vortex cylinder, may help by fine-tuning media separation. Refer to Section 5.5 to adjust the cylinder.

5.5 Optional Externally-Adjustable Vortex Cylinder

NOTE: The externally adjustable vortex is an option when the cabinet is provided with a CDC-1 Dust collector. The vortex is standard with reclaimers when the cabinet is provided from the factory with an RPC or RPH dust collector.

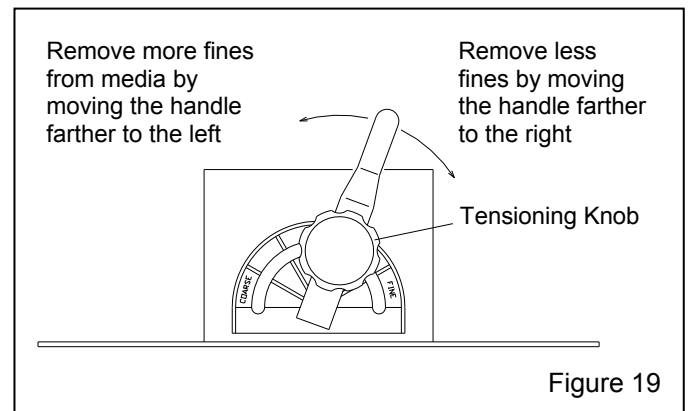
The vortex cylinder fine-tunes media separation. Before adjusting the vortex cylinder, adjust the damper on the dust collector to increase or decrease static pressure per Section 5.4. Once the damper is adjusted, adjust the cylinder.

5.5.1 The vortex cylinder is located atop the reclaimer where the flex hose connects. Adjustments are made by loosening the handle's tensioning knob and moving the

handle to achieve the correct setting. When the correct setting is established, tighten the locking knob to prevent movement. Start with the lever slightly to the right (about one o'clock as shown in Figure 19) of the vertical position.

5.5.2 To Remove More Fines: (Too much dust in media) Raise the cylinder by moving the lever left toward "COARSE", in 1/4" increments at the indicator plate. Allow the media to go through blast several cycles before determining if further adjustment is needed.

5.5.3 To Remove Less Fines: (Too much usable media is carried to the dust collector) Lower the vortex cylinder by moving the lever right toward "FINE", in 1/4" increments at the indicator plate. Run the media through a cycle and check the dust container to determine if further adjustment is required. **NOTE:** If the cylinder is lowered too far, the reclaimer will again begin to allow usable media to be carried over, and cause abnormally high static pressure.



5.5.4 When using media finer than 180-mesh, the reclaimer inlet baffle may need to be removed. Refer to Section 1.8.6.

5.6 Cabinet Air-Inlet Damper

5.6.1 Once the inlet is initially set per Section 2.6, 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 reclaimer static pressure, which is controlled by the dust collector ventilation-damper as noted in Section 5.4. Reclaimer pressure must be set before cabinet pressure.** In rare circumstances, cabinet pressure may need to be slightly higher or lower.

5.6.2 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 cabinet's air-inlet damper. Open the

damper further to decrease static pressure or close it further to increase pressure.

5.6.3 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.

5.7 Door Interlocks, Figure 20

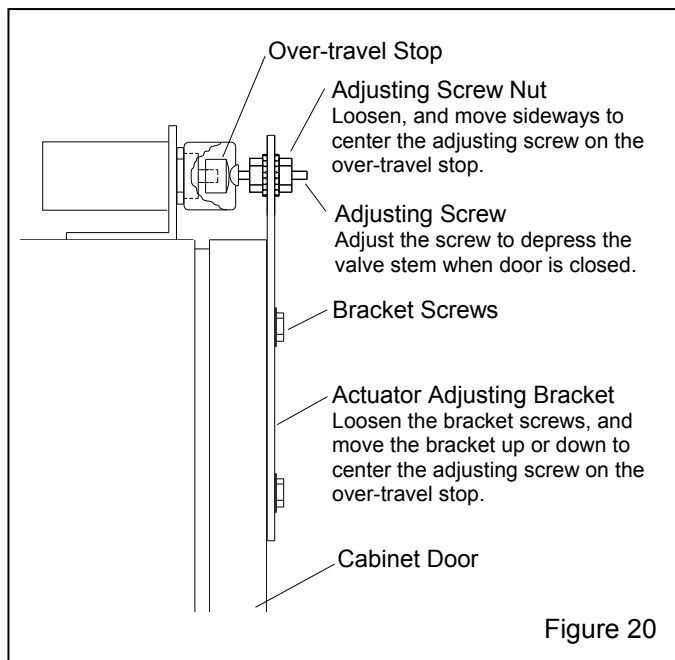
⚠ WARNING

Never attempt to override the interlock system. Doing so could result in injury from unexpected blasting.

5.7.1 The door interlocks disable the blasting control circuit when the door is open. To enable blasting, the door interlock switch must be engaged when the door is closed. The interlocks are set at the factory and do not usually require field adjustment unless parts are replaced. When adjustment is required, proceed as follows.

5.7.2 Close cabinet door.

5.7.3 Loosen the actuator bracket screws and adjusting screw nut. Move the actuator adjusting bracket up or down, and the adjusting screw sideways, to center the adjusting screw on the over-travel stop. Tighten the bracket screws.



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

5.7.5 Test the operation with the door open and then again closed. Point the nozzle away from the door

during the tests, and only open the door enough to disengage the interlock switch. The interlocks should stop the blasting when the doors are opened, and permit blasting when the doors are closed. NOTE: Negative pressure inside the cabinet may cause the doors to flex inward. Tests should be performed with the exhauster running.

5.8 Optional Manometer

NOTE: These instructions show several methods of taking static-pressure readings (negative pressure) on cabinet reclaimers, using a flexible tube manometer. Use the method best suited for the application. The instruction explains the processes for taking periodic readings and shows how to permanently install the manometer for taking frequent readings. Permanent fittings should be installed when rigid ducting is used, or 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. Capping the fitting will prevent leaks that alter the reclaimer's separation efficiency. The readings are reference points so it doesn't matter where the readings are taken as long as they are always taken at the same location. Taking readings at different locations could produce different results. Static-pressure readings at the door are generally .5" to 1" lower than those taken above the reclaimer.

5.8.1 Refer to directions packed with the manometer for preparation and operating instructions for 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 Leave the needle protector on the needle and insert the needle into the other end of the tubing. The ends of the tubing must fit tight on the manometer and needle; leaks will give inaccurate readings.

5.8.4 Open both manometer valves (elbows) per the instructions with the manometer.

5.8.5 Magnets on the manometer hold it in position on the reclaimer body. The manometer must be vertically-plumb so the fluid is level on both sides.

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

5.8.7 Needle placement: Ref. Figure 21.

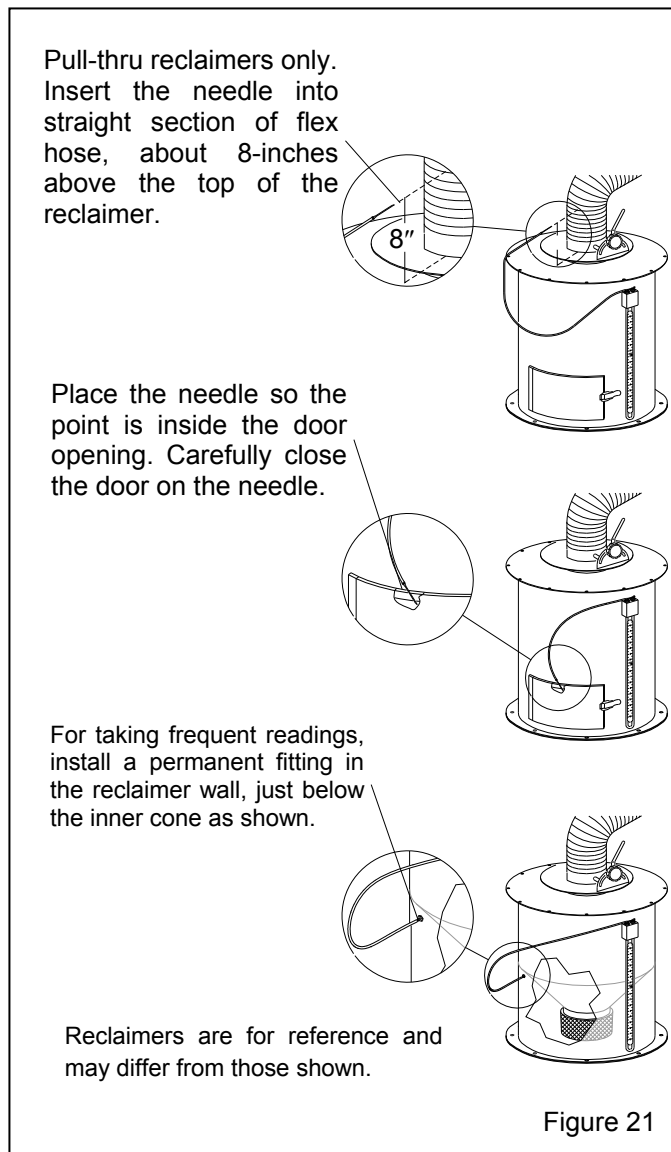
5.8.7.1 Pull-thru systems (reclaimer without exhauster): Remove the needle protector, and insert the needle into the flex hose approximately 8" from the top of the

reclaimer. The method shown for push-thru systems may also be used.

5.8.7.2 Push-thru systems (reclaimer with exhauster): Open the reclaimer 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, creating an airtight seal.

5.8.8 Turn the exhauster ON. The negative (static) pressure will move fluid in the tube.

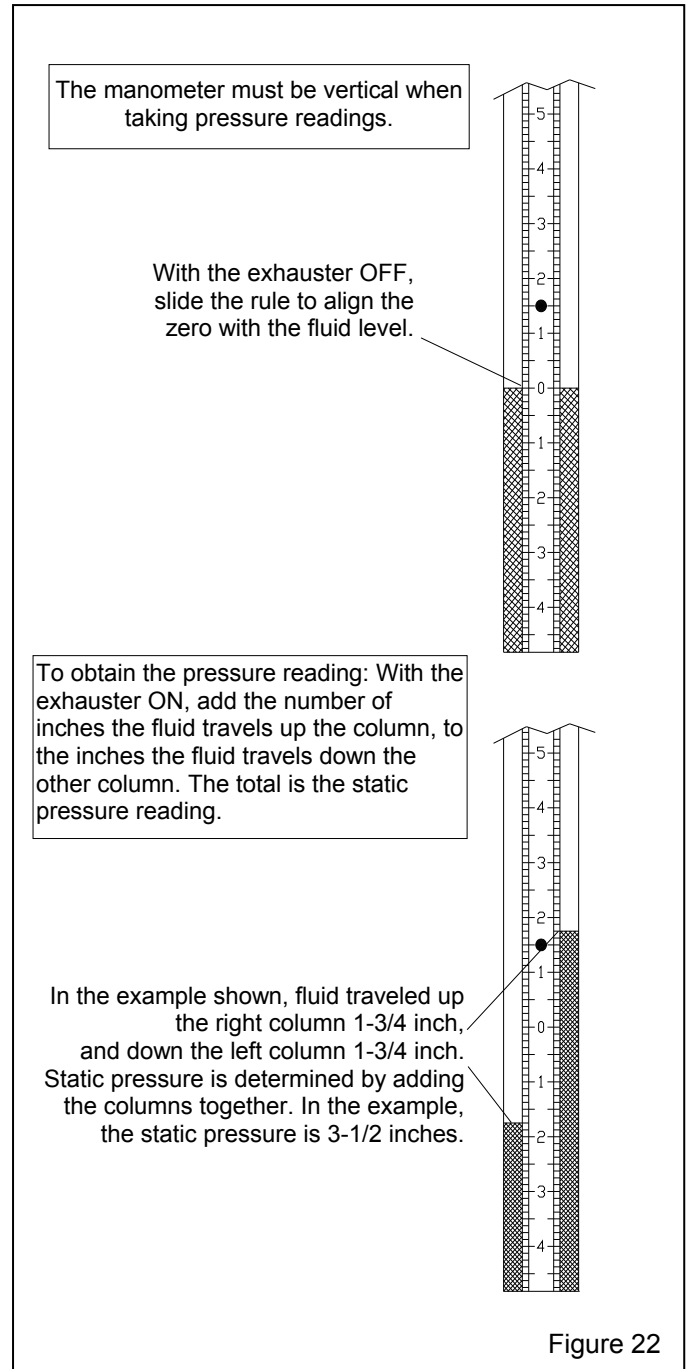
NOTE: Readings must be taken with the cabinet doors open, and with the exhauster running.



5.8.9 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.

5.8.10 After the readings are taken, 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 reclaimer body after the valves are closed.



6.0 PREVENTIVE MAINTENANCE

NOTE: To avoid unscheduled downtime, establish an inspection schedule. Inspect all parts subjected to media contact, including; the gun, nozzle, media hose, flex hose, wear plate, plus all items covered in this section.

6.1 Daily

6.1.1 Check media level in reclaimer and refill as necessary.

6.1.2 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.

6.1.3 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 Refer to the dust collector owner's manual and empty dust containers. Adjust intervals based on filling rate.

6.1.5 Refer to the dust collector owner's manual and drain the pulse manifold at the end of each shift.

6.1.6 Refer to the CDC-1 dust collector manual for pulsing instructions and pulse the cartridge at least every half hour of blasting and before turning OFF the exhauster. Dusty blasting conditions will require more frequent pulsing. RPC and RPH dust collectors are automatically pulsed at timed intervals.

6.2 Weekly

6.2.1 Inspect view window cover lens, Replace as needed per Section 7.3.

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

6.2.3 Inspect internal parts of the BNP gun for wear. Replace parts as needed per Section 7.2.

6.2.4 Inspect flex hoses for wear.

6.2.5 During operation, inspect cabinet door seals for media leaks.

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

6.3 Monthly

6.3.1 Inspect reclaimer wear plate or rubber liners for wear. Replace as necessary per Section 7.7 or 7.8.

6.3.2 Inspect reclaimer door gasket for wear or other damage.

6.4 Dust Collector

Reverse-pulse dust collectors are covered in a separate manual. Refer to Section 1.1.1.

7.0 SERVICE MAINTENANCE

7.1 Gloves

7.1.1 Special static-dissipating gloves are provided for operator comfort. It will be necessary to change gloves 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 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 23

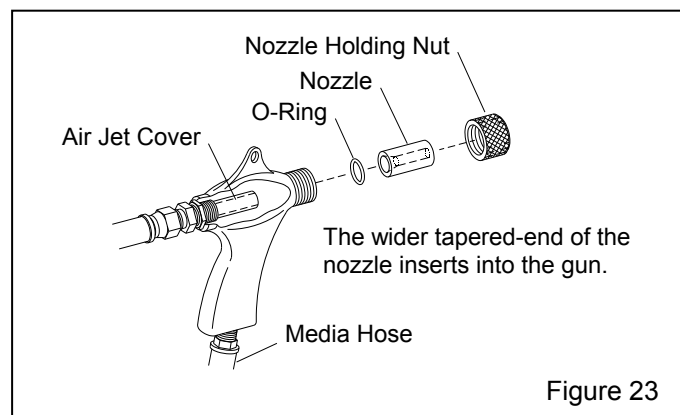


Figure 23

7.2.1 Replace the nozzle when its diameter has increased by 1/16", 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 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 could 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. 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, on both 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.

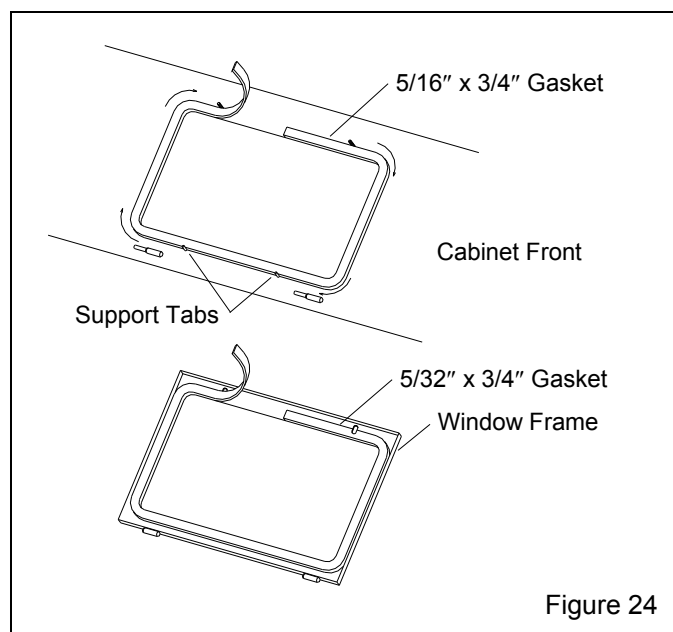
7.5 Window Gasket Replacement, Figure 24

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.

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 24. 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 bolts slots, as needed.

7.6 Window Frame Removal, Figure 25

7.6.1 Remove the two window frame nuts located on the upper edge of the window frame, and swing the window frame open.

7.6.2 Remove the window to prevent breakage.

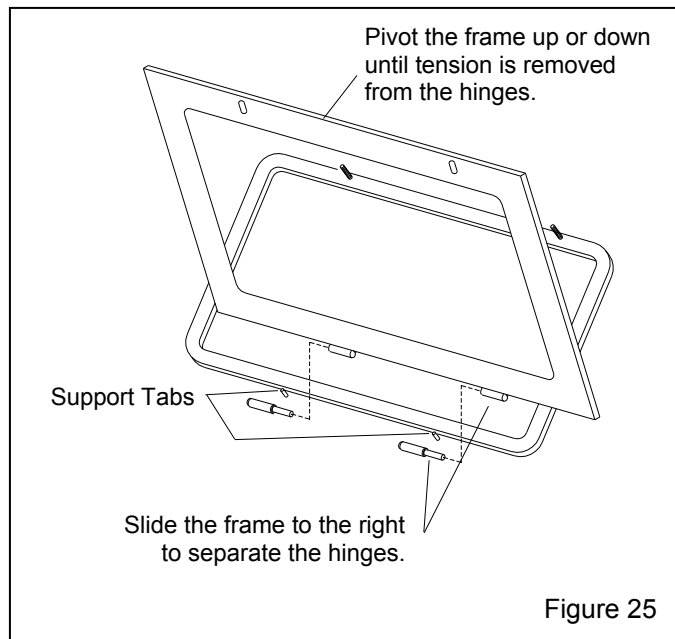
7.6.3 Pivot the window frame up or down until tension is off the frame hinges.

7.6.4 To remove, slide the frame to the right. The hinges separate as shown in Figure 25.

7.6.5 Replace the frame in reverse order. Align the top bolt holes with the bolts; slide the frame as necessary.

7.6.6 Set the window 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.

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



7.7 Reclaimer Wear-Plate Replacement

7.7.1 Remove the reclaimer inlet adaptor 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 from the reclaimer inlet.

7.7.2 Angle the new wear plate into reclaimer inlet until it is in position with the straight end at the reclaimer inlet. Using a board or similar object as leverage, pry the wear plate against the inner wall of the reclaimer. While forcing the wear plate against the reclaimer wall, install sheet metal screws through the old screw holes to secure. Caulk seams between the wear plate and reclaimer to prevent rapid wear in those areas.

7.8 Replacing or Field Installing Optional Reclaimer Rubber Liners, Figure 26. The reclaimer must be designed to accept liners and have a removable top.

7.8.1 Remove the flex hoses from the reclaimer inlet and outlet.

7.8.2 Remove the bolts and nuts securing the reclaimer top, and then remove the top. Note 1800 cfm reclaimers: The baffle and tube liner on 1800 reclaimers are one-piece, work from the reclaimer inlet to remove the baffle bolts, located on the side of the inlet, before removing the top.

7.8.3 If the reclaimer is currently unlined, proceed to the installation note preceding Paragraph 7.8.11.

7.8.4 Grind the tack welds from the bottom of the inner tube that secures the tube liner to the tube, then slide the liner off the inner tube.

7.8.5 Remove the top liner and tube liner.

7.8.6 Remove the bolts located along the side of the inlet, and remove the inlet baffle.

7.8.7 To remove the inlet-top liner, remove the self-drilling screws securing it to the top of the inlet

7.8.8 Wall liner and inlet-side liner are held in place with self-drilling screws. From the outside of the reclaimer, remove the screws, and remove the liner.

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

7.8.10 Remove old caulking and adhesive from the weldment.

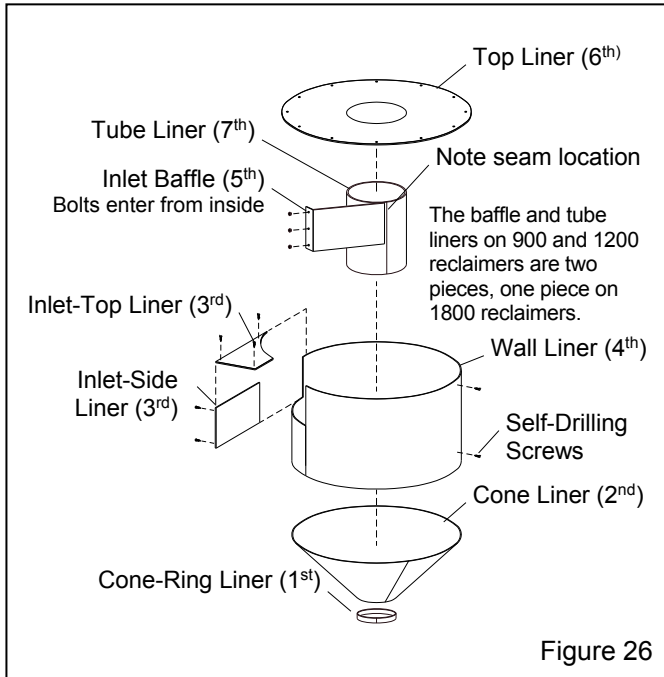
Installation Notes: The numbers in parentheses (-) shown in Figure 26 and the applicable paragraphs, show the recommended order of installation. When installing the liners, make sure that seams are aligned. The final assembly must be smooth and free of protrusions, edges, and gaps. Any edges will disrupt the air flow, causing wear, and affect the reclaimer's media cleaning efficiency.

7.8.11 (1st) Place the cone-ring liner on the inside of the cone-ring; check fit and trim if needed. Apply medium-set contact cement to the fabric side and install the liner. NOTE: Follow the instructions provided with the adhesive. Some adhesives require it to be applied to both contact surfaces. Smooth out the liner to eliminate air pockets.

7.8.12 (2nd) Place the cone liner in the cone with the fabric side down, and check the fit, trim if necessary. Follow the instructions provided with the adhesive and

apply medium-set contact cement to the fabric side, and install the cone liner. Smooth out the liner to eliminate air pockets.

7.8.13 (3rd) Position the inlet-side liner and inlet-top liner to make sure they fit; trimming is occasionally required. Align the inlet-side liner and inlet-top liner and clamp them in place. Use a self-drilling screw at each hole location in the weldment to secure replacement liners. NOTE: To field install new, first-time inlet-side liner and inlet-top liners, after clamping the liners, use self-drilling screws at each liner corner to secure them.



7.8.14 (4th) Clamp the wall liner in place, making sure it is flush with the top of the reclaimer body and that the cutout is aligned with the reclaimer inlet. Mark the wall liner at the three bolt-hole locations for the inlet baffle. Remove the liner and drill the bolt holes. Reinstall the wall liner. Align the three bolt holes and temporarily place bolts through the holes to hold it in place. Clamp the liner, and while pushing the liner against the weldment, secure replacement liners, with self-drilling screws at each existing hole location. NOTE: To field install a new, first-time wall liner, use self-drilling screws to secure it at the seam and an inch or two from the top and bottom at each quadrant. Remove the temporary inlet baffle bolts after the liner is secured.

7.8.15 Apply silicone caulking to seal seams around the inlet-side liner and reclaimer weldment, and between the inlet-top liner and wall liner seam. Apply caulking at the seams of the cone-ring liner and cone liner and between the cone liner and wall liner. Wipe the caulking smooth.

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.

7.8.16 (5th) Apply adhesive-backed strip gasket to the edge of the inlet baffle that will fit against the inner tube. Install the inlet baffle; bolts should be installed from the inside of the reclaimer to attach nuts from the outside. NOTE: Baffle and tube liner on 1800 cfm reclaimers are one piece.

7.8.17 (6th) Slide the top liner over 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 the alignment.

7.8.18 (7th) Place the tube liner over the inner tube, and use worm clamps to temporarily clamp the liner to the tube. NOTE: The tube liner and baffle on 1800 cfm reclaimers are one piece make sure the baffle bolt locations align with those on the side of the reclaimer inlet. Align the tube liner so the seam is on the backside of the baffle, as shown in Figure 26. Make sure the tube liner is tight against the top liner, then tack it to the bottom of the inner tube in three or four places. Remove the clamps when the tube liner is secured.

7.8.19 Apply caulking to the seam on the tube liner, and between the tube liner and top liner.

7.8.20 Apply caulking around the top edge of the wall liner and inlet-top liner.

7.8.21 Align the reclaimer top assembly and lower it into place being careful not to smear the caulking. Secure the top bolts and inlet baffle bolts.

7.8.22 Working through the reclaimer inlet, wipe the caulking seal smooth. Apply additional caulking to the seam between the baffle and wall liner. Re-caulk any voids.

7.8.23 Install flex hoses.

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

7.9 Reverse-Pulse Dust Collector

Reverse-pulse dust collectors are covered in a separate manual.

8.0 TROUBLESHOOTING

WARNING

To avoid serious injury, observe the following when troubleshooting.

- Turn OFF the air, and lockout and tagout the air supply.
 - When checking the controls requires air, always enlist the aid of another person to:
 - Hold the nozzle securely.
 - Operate the foot pedal.
 - Never bypass the foot pedal or wedge it in the operating position.
 - Never override the door interlock system.
-

8.1 Poor visibility

8.1.1 Dirty filter cartridge(s). Pulse cartridge and empty dust container regularly. When using an RPC or RPH, refer to the reverse-pulse dust collector manual to adjust pulse pressure and pulse sequence.

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 the motor leads as shown on the motor plate. Refer to Section 2.5.3.

8.1.4 Using friable media that rapidly breaks down or using media that is too fine or worn out.

8.1.5 Dust collector ventilation-damper closed too far restricting air movement through the cabinet. Adjust static pressure per Section 5.4.

8.1.6 Cabinet air-inlet damper closed too far restricting air movement through the cabinet. Adjust damper per Section 2.6 and 5.6.

8.1.7 Reclaimer door open.

8.1.8 Hole worn in flex hose between cabinet hopper and reclaimer inlet or between the reclaimer and dust collector. Replace hose and route it with as few bends as possible to prevent wear.

8.1.9 Obstruction in hopper pipe flex hose between the pipes and reclaimer inlet.

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. DO NOT operate unless all doors are closed.

8.2.2 Dust collector damper open too far. Adjust static pressure per Section 5.4.

8.2.3 Media may be too fine or worn-out.

8.2.4 Using friable media that rapidly breaks down.

8.2.5 Blast pressure too high for the media, causing media to break down.

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

8.2.7 If using media finer than 180-mesh, the reclaimer inlet baffle may need to be removed. Refer to Section 1.8.6.

8.2.8 Optional externally-adjustable vortex cylinder requires adjustment. Adjust per Section 5.5.

8.3 Reduction in blast cleaning rate

8.3.1 Low media level in reclaimer reducing media flow. Check and fill if low.

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 a malfunctioning regulator, a dirty filter element in air filter, partially-closed air valve, leaking air line, or other air tools in use.

8.3.4 Blockage in media hose or gun. Blockage may occur as a result of damaged or missing reclaimer screen or inaccurate metering valve adjustment permitting heavy media flow. Check metering valve adjustment per Section 5.3.

8.3.5 Worn gun parts such as nozzle or air jet. Inspect gun 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. Inspect screen and replace or re-install 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 by blasting parts that are slightly oily, from moisture in the compressed-air line, 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 an air line permitting moisture to condense on the inside, and from high humidity. Drain air filters 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 area of high humidity. Empty the media and store it in an airtight container when cabinet is not in use.

8.5.5 A vibrator attached to the reclaimer cone or media metering valve may help to prevent bridging of fine-mesh media. NOTE: To avoid the possibility of compressing media, a vibrator should be setup to start only when the foot pedal is pressed.

8.6 Blasting does not begin when the foot pedal is pressed.

8.6.1 Door interlocks not engaging. Check adjustment per Section 5.7.

8.6.2 Foot pedal valve malfunction. Check foot pedal alignment, and check inlet and outlet lines for pressure.

8.6.3 Make sure lines are not reversed on the foot pedal or pilot regulator. Refer to the schematic in Figure 37.

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

8.6.5 Pressure regulator may be set too low or OFF. Check pressure on pilot regulator.

8.6.6 Make sure air compressor is operating and air supply valves are open.

8.6.7 Check nozzle for blockage. Refer to Section 8.4.

8.7 Blasting continues when the foot pedal is released

8.7.1 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.

8.8 Blockage in media hose

8.8.1 Media obstructions. Usually caused when the media mixture is too rich. Adjust media/air mixture per Section 5.3.

8.8.2 Wet or damp media. Refer to Section 8.5.

8.9 Media surge

8.9.1 Heavy media flow. Adjust per Section 5.3.

8.10 Poor suction in media hose

8.10.1 Inadequate air supply. Refer to the tables in Section 1.9. and 2.3.2 and make sure cfm and air hose requirements are met.

8.10.2 Air jet needs adjustment. Adjust per Section 5.2.

8.10.3 Nozzle is worn. Replace if worn 1/16" or more.

8.10.4 Blockage in media hose or nozzle. Refer to Sections 8.4 and 8.8.

8.10.5 Air jet and nozzle combination may be incorrect. Refer to the table in Section 1.9, Figure 4.

8.10.6 Air jet sleeve may extend past end of air jet. Cut the sleeve to align with the air jet.

8.10.7 Blast pressure too high, refer to Section 5.1.

8.10.8 Nozzle inserted backward; the tapered end of the nozzle should face toward the air jet.

8.11 Air only (no abrasive) from nozzle

8.11.1 Low media level in reclaimer. Check media level and replenish as needed.

8.11.2 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 Figure 36.

8.12 Blow-back through media hose

8.12.1 Remove the nozzle and check for blockage.

8.12.2 Air jet may be too large for nozzle. Refer to the table in Section 1.9, Figure 4.

8.12.3 Blast pressure too high, refer to Section 5.1.

8.13 Media buildup in cabinet hopper, 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 Section 2.5.3.

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

8.13.3 Dust collector filter cartridge(s) blinded. Refer to the dust collector owner's manual.

8.13.4 Hole worn in flex hose between cabinet hopper and reclaimer inlet or between the reclaimer outlet and dust collector inlet. Replace hoses and route them with as few bends as possible to prevent wear.

8.13.6 Reclaimer door open. DO NOT operate unless door is closed.

8.13.7 Obstruction 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. Refer to Sections 2.2.1 and 2.4. 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 off the grate. Static will build-up in the part if not dissipated through the metal cabinet.

8.15 Dust Leaking from cabinet

8.15.1 Refer to Section 8.13.

8.16 Dust leaking from dust collector

8.16.1 Damaged or loose filter cartridge(s). Inspect filters, replace as needed.

8.16.2 Refer to the dust collector owner's manual for operation of the dust collector.

9.0 ACCESSORIES AND REPLACEMENT PARTS**9.1 Optional Accessories****Conversion Kits, push-thru reclaimer to pull-thru**

Description	Stock No.
To convert from dry filter to CDC-1 dust collector Kit includes outlet adaptor pipe, gasket, and fasteners. for 900 cfm reclaimer	28964
To convert from dry filter to RPC or RPH dust collector. (optional for CDC-1 for use with fine mesh media) Kit includes pull-thru adjustable vortex, gasket, and fasteners for 900 cfm reclaimer	28630

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 with Bearing, 500 lb. Capacity, Figure 27

Item	Description	Stock No.
(-)	30" diameter	14138
(-)	40" diameter	24042
(-)	48" diameter, for BNP 7212 only	13845
1.	Turntable, replacement	
	30" diameter 500 lb. capacity	21390
	40" diameter 500 lb. capacity	23879
	48" diameter 500 lb. capacity	21400
2.	Bearing, 1-1/2" bore (48" table requires 2)	11517
3.	Protector, bearing	13479
4.	Bolt, 1/2-NC	
	2" long for 30" and 40" turntable	03456
	2-1/2" long for 48" turntable	03457
5.	Lock-washer, 1/2"	03516
6.	Nut, 1/2-NC hex	03511

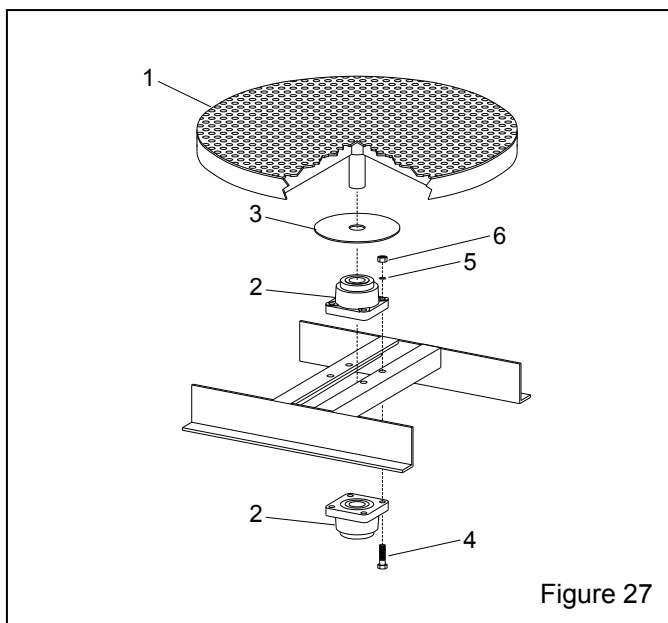


Figure 27

Turntable with Workcar and Track

2000 lb. capacity turntable mounted on workcar with 9 ft. (nominal) track extension

30" diameter for BNP 6012	25550
48" diameter for BNP 6012	27055
48" diameter for BNP 7212	25555

Turntable with Workcar, 2000 Capacity, Figure 28

Item	Description	Stock No.
1.	Turntable, replacement	
	30" diameter for BNP-6012 and 7212	27727
	48" diameter for BNP-7212 only	27728
2.	Bearing, 1-1/2" bore,	
	1 required for 30" table	11517
	2 required with 48" table	11517
3.	Protector, bearing	13479
4.	Wheel, 6" V groove	12220
5.	Bolt, 1/2" shoulder	13477
6.	Washer, 1/2" flat	03515
7.	Nut, 3/8 lock	03312
8.	Bolt, 1/2-NC	
	2" long for 30" turntable	03456
	2-1/2" long for 48" turntable	03457
9.	Washer, 1/2" lock	03516
10.	Nut, 1/2-NC hex	03511
11.	Pin, quick release	25540

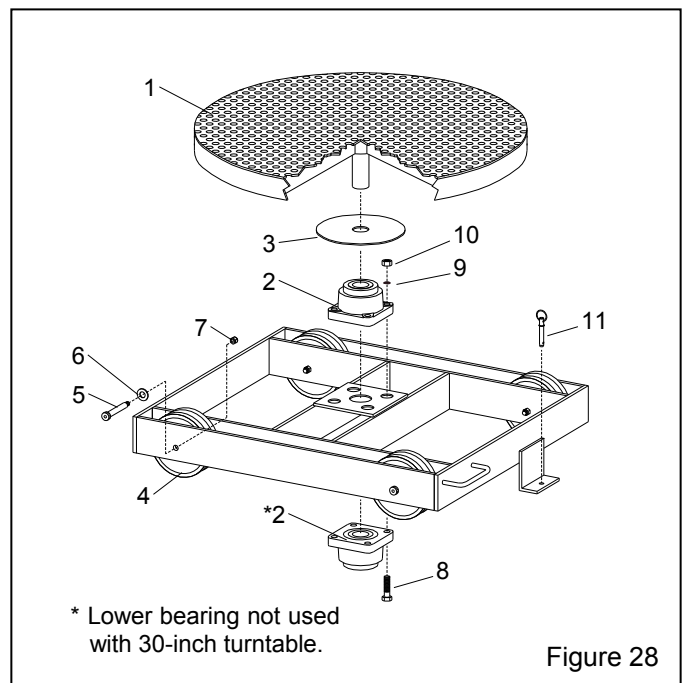


Figure 28

Tungsten carbide nozzle	
No. 5	13118
No. 7	12882
No. 8	11942

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

Rubber curtain set, black	
for 6012	27768
for 7212	27746

Rubber curtain set, white	
for 6012	27767
for 7212	27745

Flex hose, heavy-lined, for heavy usage with aluminum oxide. Available in 15-foot lengths only.

4" ID for 900 cfm	12473
5" ID for 1200 cfm	12465
6" ID for 900 cfm	12457
7" ID for 1200 cfm	12459

Aluminum oxide kit, field installed or replacement kits: Includes No. 5 boron carbide nozzle, heavy-lined flex hose, black rubber curtains with grommets and curtain hardware.

6012 with 900 cfm	25492
6012 with 1200 cfm	25494
7212 with 900 cfm	25517
7212 with 1200 cfm	25519

HEPA Filter kit, for use with reverse-pulse dust collectors	
900 cfm free standing floor mount	23626
1200 cfm free standing floor mount	23627

Time-delay door lock assembly.....	24164
Orifice adjusting tool	19041
Armrest assembly	24900
Manometer kit	12528
Noise-reduction arm port covers, pair	24885
Lock pins (pkg of 25) for twist-on hose couplings...	11203
Anti-fatigue floor-mat, for front of cabinet	24744

Extension Nozzles, Figure 29

Item	Description	Stock No.
1.	3" Straight extension nozzle	
	No. 5, 5/16" orifice	11921
	No. 6, 3/8" orifice	11922
	No. 7, 7/16" orifice	11923
2.	6" Straight extension nozzle	
	No. 5, 5/16" orifice	11927
	No. 6, 3/8" orifice	11928
	No. 7, 7/16" orifice	11929
3.	9" Straight extension nozzle	
	No. 5, 5/16" orifice	11924
	No. 6, 3/8" orifice	11925
	No. 7, 7/16" orifice	11926
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.	Side angle extension nozzle casing	
	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

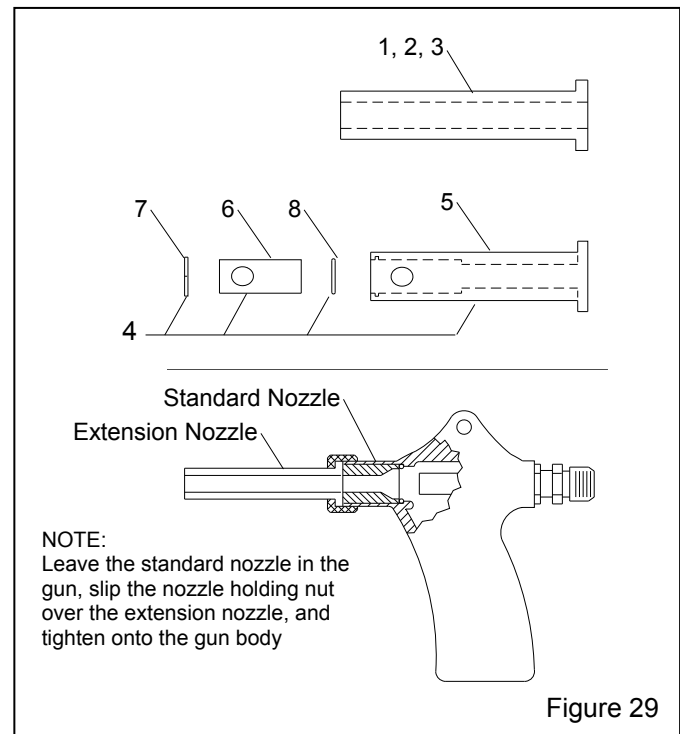


Figure 29

Rubber Liners, Figure 30

Reclaimer must be designed to accept liners and have a removable top.

Item	Description	Stock No.
(-)	Rubber liner sets	
	900 cfm	23151
	1200 cfm	25439
	1800 cfm	23153
1.	Top liner	
	900 cfm	23059
	1200 cfm	22689
	1800 cfm	22695
2.	Baffle/tube, liner	
	900 cfm (2-piece)	23416
	1200 cfm (2-piece)	24654
	1800 cfm (1-piece)	22696
3.	Side liner, reclaimer body	
	900 cfm	17008
	1200 cfm	25436
	1800 cfm	22697
4.	Inlet side liner	
	900 cfm	12830
	1200 cfm	22693
	1800 cfm	22698
5.	Inner cone liner	
	900 cfm	16070
	1200 cfm	22694
	1800 cfm	22699
6.	Inlet top	
	900 cfm	22827
	1200 cfm	24031
	1800 cfm	24032
7.	Screw, self-drilling, 10-16 x 3/4"	12722

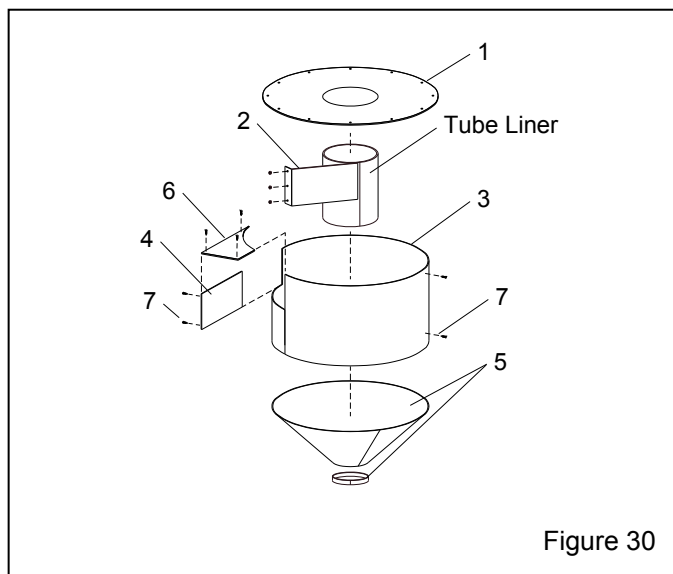


Figure 30

9.2 Suction Inlet Regulator Assembly, Figure 31

Item	Description	Stock No.
(-)	BNP Suction Regulator Assembly	
	Includes all items shown	12763
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.	Nipple, 1/2" x 3	01735
16.	Screw, 1/2-NC x 1/2 set	03471

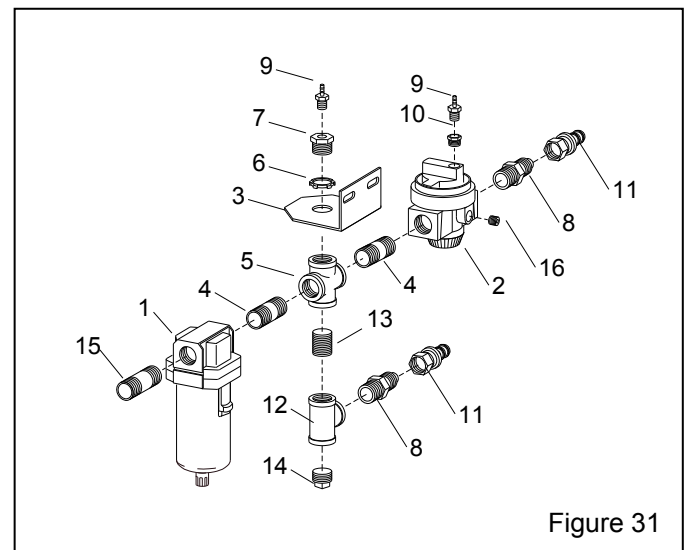


Figure 31

9.3 Cabinet Replacement Parts, Figure 32

Item	Description	Stock No.
1.	Gasket, door, 5/8" x 2-1/2" adhesive-backed 24 ft. for 6012, 28 ft. for 7212	21236
2.	Light assembly, does not include lamps Use 48", T-8, 32 watt lamps	25300
3.	Grate, slotted front for 6012	25155
	for 7212 (3 required)	12971
4.	Grate, unslotted for 6012	25154
	for 7212 (3 required)	12970
5.	Glove set Band-clamp attachment	11215
	Quick-Change (clampless) attachment	28820
6.	Glove, left hand only Band-clamp attachment	12710
	Quick-Change (clampless) attachment	28638
7.	Glove, right hand only Band-clamp attachment	12711
	Quick-Change (clampless) attachment	28639
8.	Clamp, for clamp-attached glove	11576
9.	Grommet, media and air hose	11798
10.	Foot pedal assembly, less tubing	20483
11.	Actuator bracket, door interlock	19152
12.	Over-travel stop, door interlock	20004
13.	Detent sleeve, door interlock	15042
14.	Valve, 1/8", 3-way air, door interlock	12202
15.	Fitting, straight, 1/8" NPT x 1/8" barb	11732
16.	Eyebolt, 5/8"	13421
17.	Regulator 1/4-NPT pilot, with gauge	12050
18.	Gauge, pressure 1/4 cbm	11826
19.	Gasket, 5/16" x 1" adhesive-backed, per foot, 11 ft. required	00187
20.	Glass, w/light frame, replacement	25301
21.	Intake stack w/damper	23156
22.	Baffle, air intake	25912
23.	Bushing 1/4" x 1/8" NPT	02010
24.	Fitting, 1/8" NPT elbow x 1/8" barb	11733
25.	Elbow, 1/4-NPT brass st.	02027

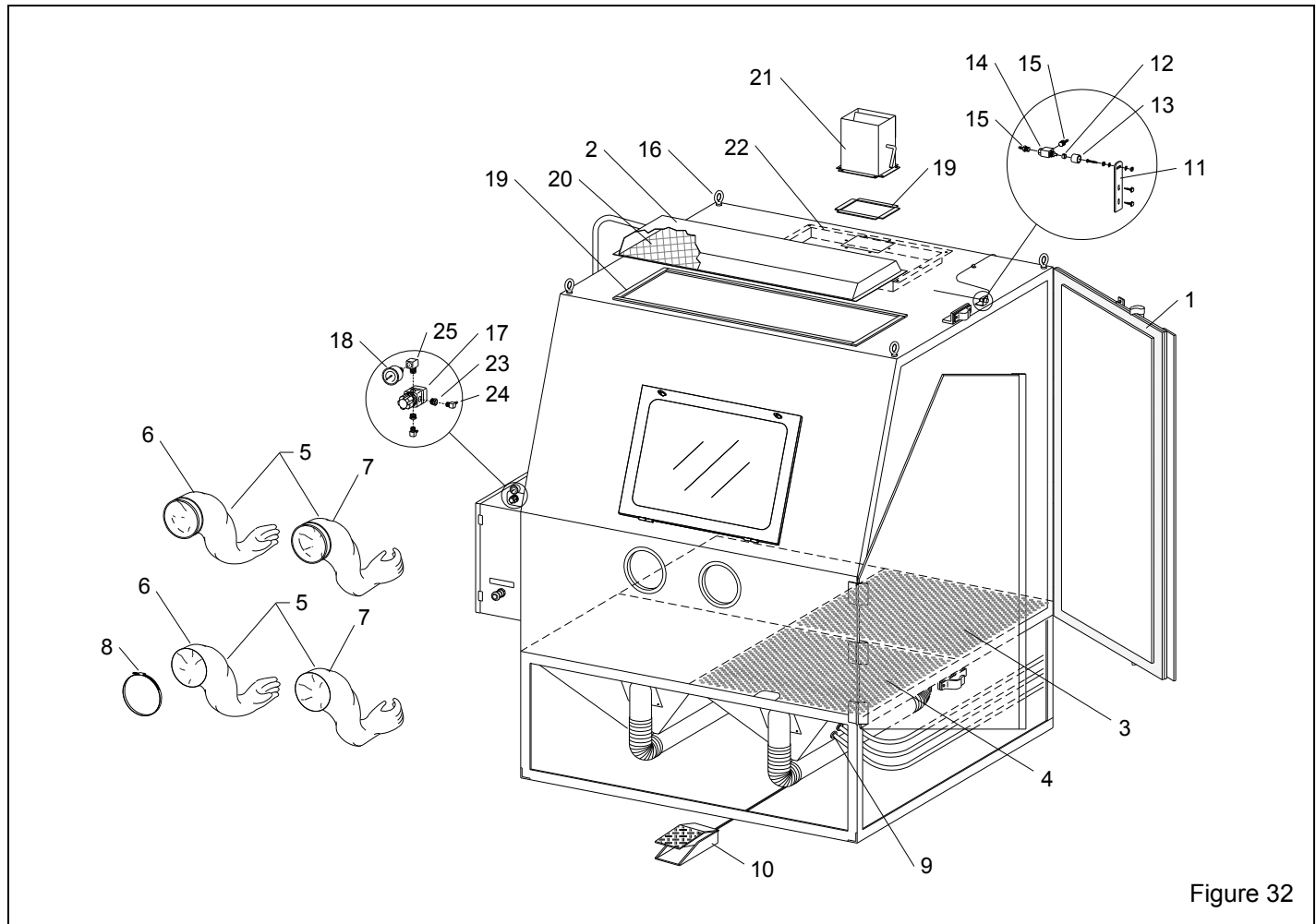


Figure 32

9.4 View Window Assembly, Figure 33

Item	Description	Stock No.
1.	Window glass, 20" x 30" laminated	12213
2.	Gasket, 5/16" x 3/4", applied to cabinet per foot, 9 feet required	00189
3.	Gasket, 5/32" x 3/4", applied to window Frame, per foot, 9 feet required	00192
4.	Cover lens, 20" x 30", pkg. of 5	23232
5.	Nut, plastic, window frame, 2 required	23035

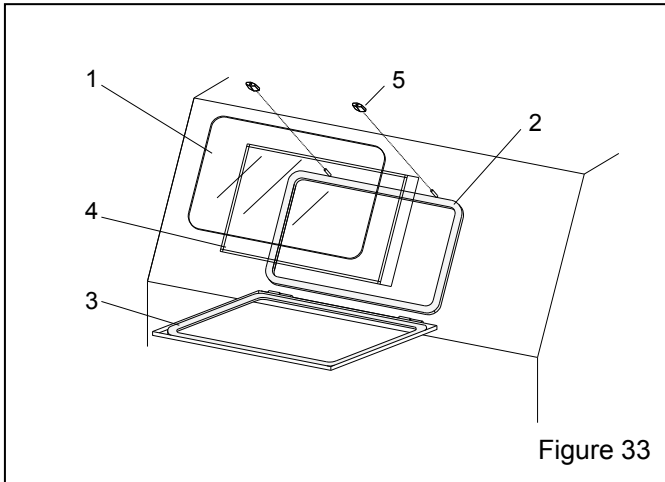


Figure 33

9.6 Foot Pedal Assembly, Figure 35

Item	Description	Stock No.
(-)	Foot pedal assembly, less tubing	20483
1.	Foot pedal casting set, top and base	28379
2.	Valve, 10-32, 3 way n/c	20026
3.	Drive pin, grooved	20109
4.	Screw, sh 1/4 NF x 3/4"	03086
5.	Screw, 10-32 x 1/2" fh	19571
6.	Adaptor, 10-32 thrd. x 1/8 barb	11731
7.	Spring, 1-1/4" x 3-1/2"	20121
8.	Screw, 8-32 x 3/8" thread cutting	11389
9.	Bumper, rubber (feet)	21522

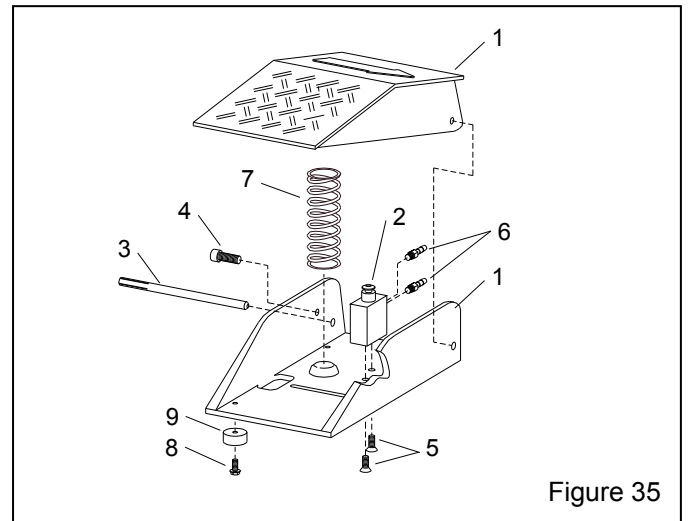


Figure 35

9.5 Metering Valve Assembly, Figure 34

Item	Description	Stock No.
(-)	Metering valve assembly	12417
1.	Metering stem assembly (items 2, 3, & 4) ...	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

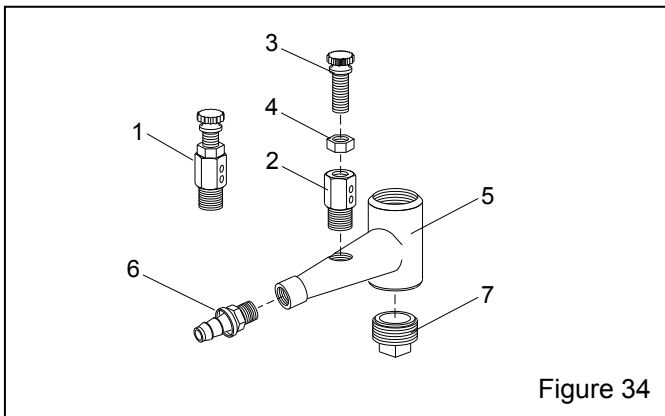


Figure 34

9.7 BNP Gun and Feed Assembly, Figure 36

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, air jet	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	11930
	No. 6	11931
	No. 7	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 feet required	12472
11.	Hose, media, clear urethane, specify feet 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, air jet	19041

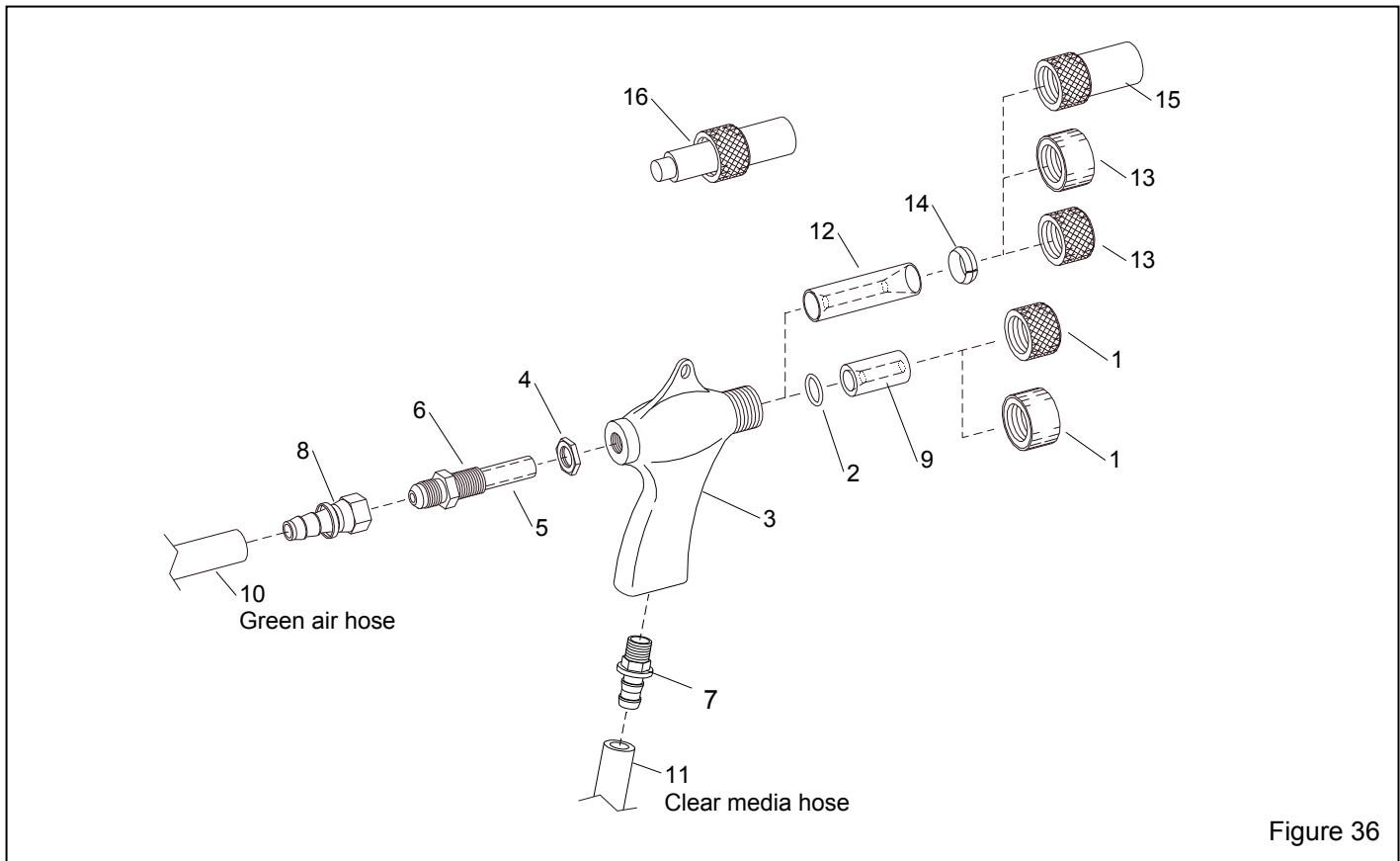


Figure 36

9.8 Cabinet Plumbing assembly, Figure 37

Item	Description	Stock No.
1.	Valve, 3-way	12202
2.	Fitting, straight, 1/8" NPT x 1/8" barb	11732
3.	Tubing, 1/8" urethane, specify ft required	12475
4.	Tubing, urethane twinline, specify ft. reqd.	19577
5.	Foot pedal assembly, less tubing	20483
6.	Filter, 1/2" manual drain	01308
7.	Adaptor, 1/2" NPT x 1/2" flare	11351
8.	Hose end, 1/2" barb x 1/2" female swivel	15002

9.	Hose end, 1/2" barb x 3/8" male NPT	06369
10.	Blow-off nozzle	06368
11.	Hose, 1/2" air, specify feet required	12472
12.	Gun assembly, BNP No. 5	12302
Refer to Section 9.7 for other sizes		
13.	Hose, media, clear urethane, specify feet required.	12476
14.	Regulator, 1/2" pilot operated	11345
15.	Regulator, 1/4" pilot w/gauge	12050
16.	Gauge pressure 1/4 cbm	11826
17.	Fitting, 1/8" NPT elbow x 1/8" barb	11733
18.	Metering valve assembly	12417

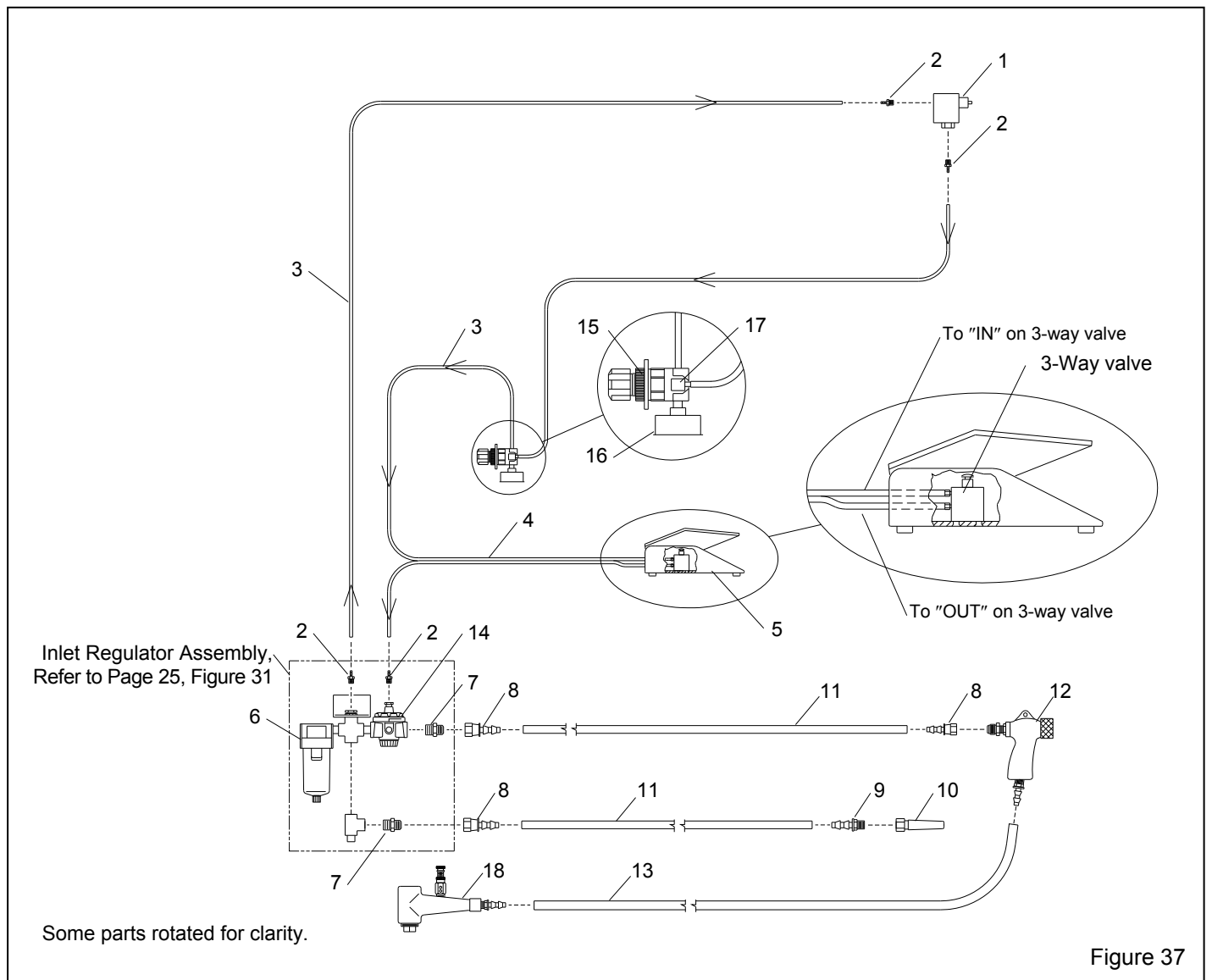


Figure 37

9.9 Flex Hose, Pipe, and Adaptors, Figure 38

All hose is sold per foot unless noted, specify feet required. Some trimming may be necessary.

Item	Description	Stock No.
1.	Hose, light-lined flex, 2-ft required per side 4" ID for 900 cfm conventional use	12466
	4" ID for 1200 cfm w/steel media	12466
	5" ID for 1200 cfm conventional use	12467
	5" ID for 1800 cfm w/steel media	12467
	6" ID for 1800 cfm conventional use	12468
2.	Hose, light-lined flex, 5-ft required per side 4" ID for 900 cfm conventional use	12466
	4" ID for 1200 cfm w/steel media	12466
	5" ID for 1200 cfm conventional use	12467
	5" ID for 1800 cfm w/steel media	12467
	6" ID for 1800 cfm conventional use	12468
3.	Hose, light-lined flex, 9-ft required 6" ID for 900 cfm conventional use	12468
	6" ID for 1200 cfm w/steel media	12468
	7" ID for 1200 cfm conventional use	12469
	7" ID for 1800 cfm w/steel media	12469
	8" ID for 1800 cfm conventional use	12470
4.	Hose, unlined flex, specify feet required 7" ID for 900 cfm.....	12448
	12" ID for 1200 and 1800 cfm w/RPH	12460
5.	Clamp, hose for 4" hose	11577
	for 5" hose	11578
	for 6" hose	00750
	for 7", 8", and two for 12" hose	11576

6.	Wye pipe adaptor, 4" x 4" x 6" 900 conv'l and 1200 cfm w/steel	12379
	5" x 5" x 7" 1200 conv'l and 1800 cfm w/steel	16939
7.	Air intake adaptor, hopper, each 4" for 900 cfm conventional use	24526
	4" for 1200 cfm w/steel media	24526
	5" for 1200 cfm conventional use	24527
	5" for 1800 cfm w/ steel media	24527
	6" for 1800 cfm conventional use	24528
8.	Hopper pipe, bolt on, each 4" for model 6012, 900 conv. and 1200 cfm w/steel	24517
	5" for model 6012, 1200 conv'l and 1800 cfm w/steel	24518
	6" for model 6012, 1800 cfm conv'l	24519
	4" for model 7212, 900 conv'l and 1200 cfm w/steel	24534
	5" for model 7212, 1200 conv'l and 1800 cfm w/steel	24535
	6" for model 7212, 1800 cfm conv'l	24536
9.	Gasket, 5/16" x 1" adhesive-backed, per foot, specify feet required	00187
10.	Hose, heavy lined, 15 foot lengths only Provided with aluminum oxide kits 4" ID for 900 cfm.....	12473
	5" ID for 1200 cfm.....	12465
11.	Hose, heavy lined, 15 foot lengths only Provided with aluminum oxide kits 6" ID for 900 cfm.....	12457
	7" ID for 1200 cfm.....	12459

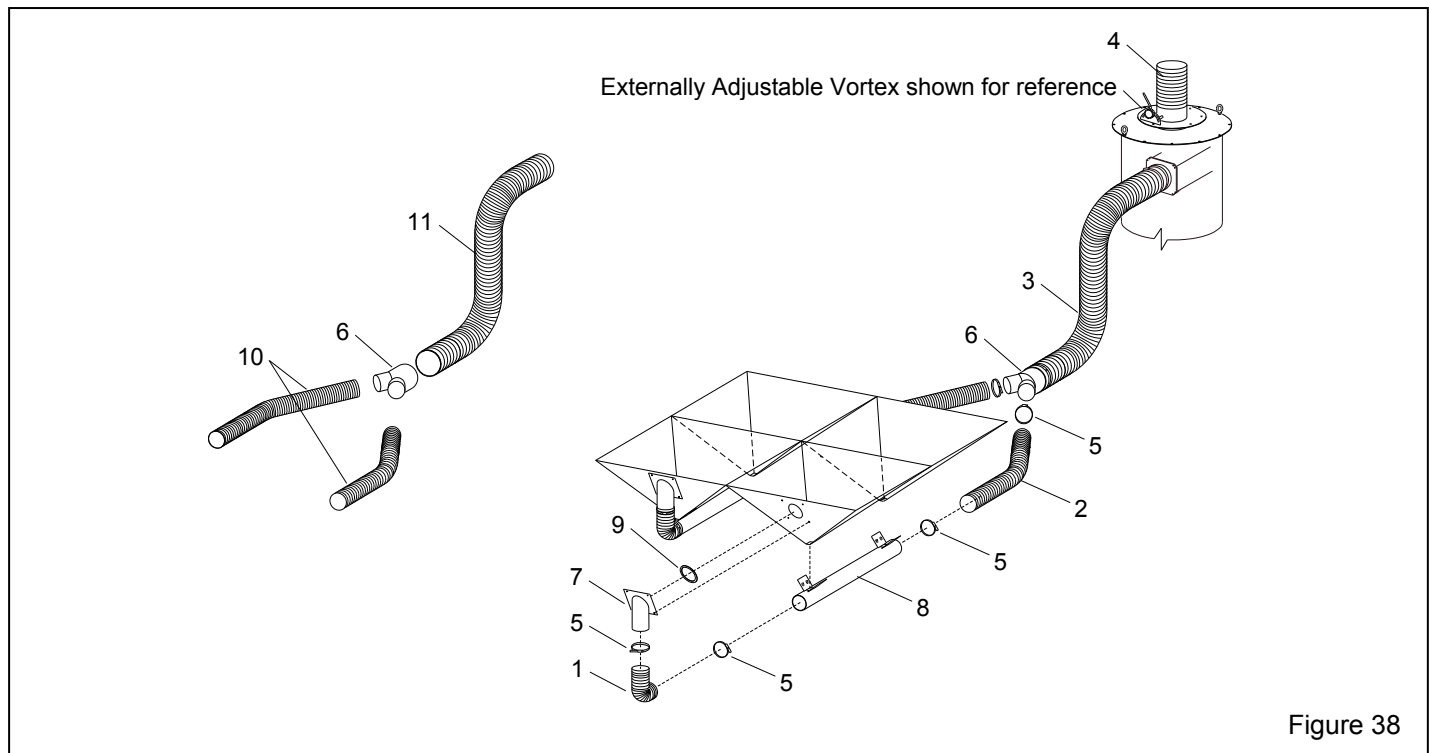


Figure 38

9.10 Reclaimer, Figure 39

Item	Description	Stock No.
(-)	Reclaimer assemblies	
	900 cfm with outlet pipe adaptor	28967
	900 cfm with external vortex	21305
	1200 cfm with external vortex	24060
	1800 cfm with external vortex	21307
1.	Gasket, 5/16" x 1" adhesive-backed, per foot, specify feet required	00187
2.	Inlet pipe adaptor, 900 cfm, 6"	12363
3.	Gasket, inlet adaptor	
	900 cfm	11759
	1200 cfm	11767
	1800 cfm	11765
4.	Wear plate, rubber-lined w/mounting screws 900 cfm	
	reclaimers with solid top	14055
	reclaimers with removable top	25071
	1200 cfm	19223
	1800 cfm	23028
5.	Screen assembly	21265
6.	Gasket, door	
	900 cfm	11745
	1200 cfm and 1800 cfm	11766

7.	Spring latch assembly	12263
8.	Door, 900 cfm w/gasket and latch	14271
9.	Gasket, 2" adhesive-backed, per foot, specify ft. required	13089
10.	Eyebolt 3/8-NC	00430
11.	Hose support, inlet	
	6", 900 cfm, * optional	16887
	6", 1200 cfm for steel grit	22729
	7", 1200 cfm 7" conventional	20596
	8", 1800 cfm, conventional	20597
12.	Vortex cylinder externally adjustable, 900 cfm, optional	23046
	1200 cfm	25432
	1800 cfm, 12"	19090
13.	Top plate assembly, 900 cfm	23040
14.	Adaptor, 7" outlet pipe, 900 cfm	16832
15.	Body section, 900 cfm, w/door & wear plate for reclaimers with bolt-on top	27465
*16.	Body section 900 cfm, with door rubber liners and bolt-on top	27466
17.	Leg and hopper assembly, 900 cfm	23042
*18.	Hose support, outlet, optional	
	7" for 900 cfm	20619
	for 1200 cfm and 1800 cfm	20730

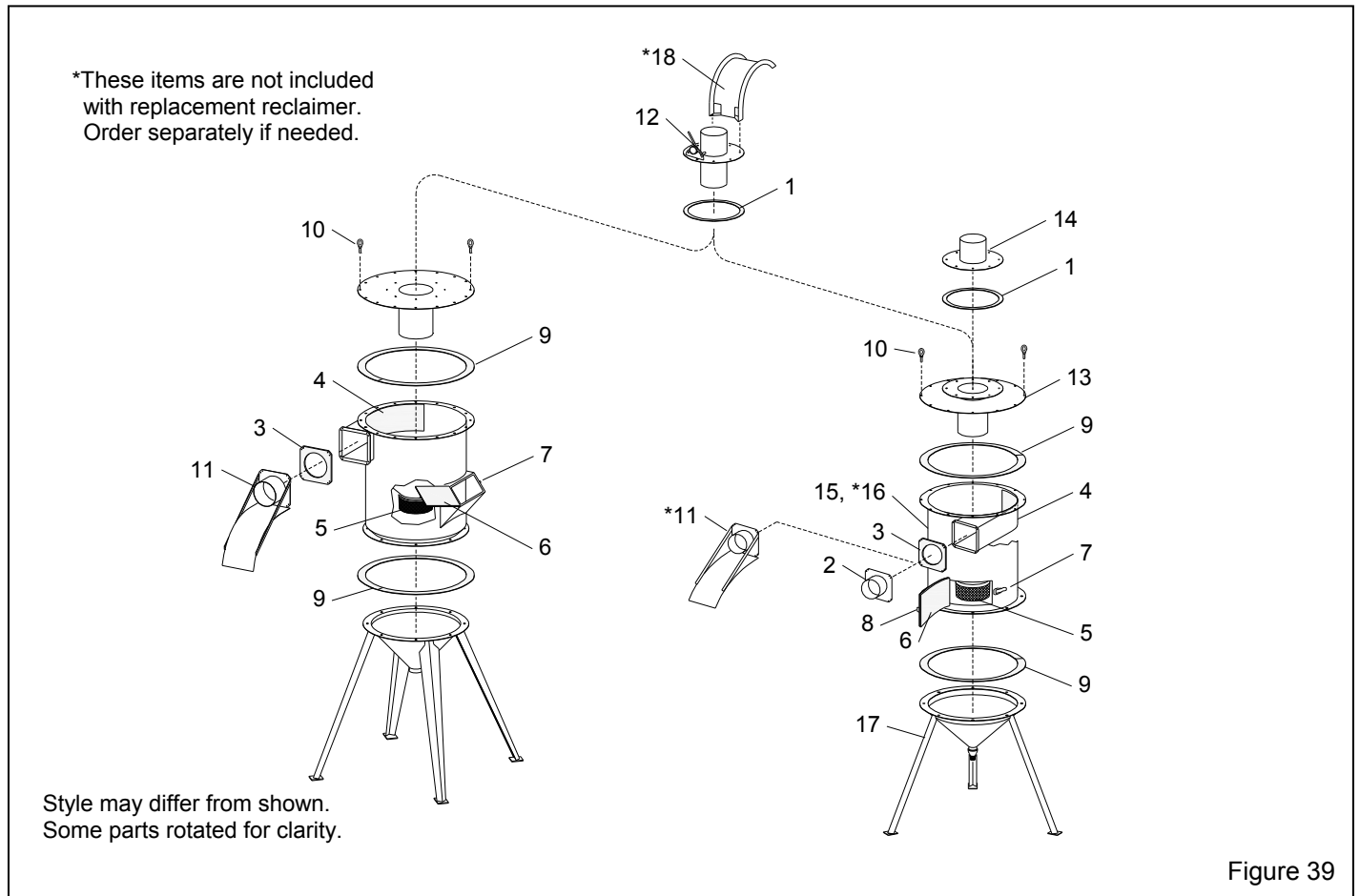


Figure 39