Sponge-Jet® Sponge Blasting System

Sponge-Jet B-VAC™ User Manual

Model:

B-VAC Pro 3

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7. **Lifting Eye**
8. **50-P Sponge-Jet Recycler**
9. **Vacuum**
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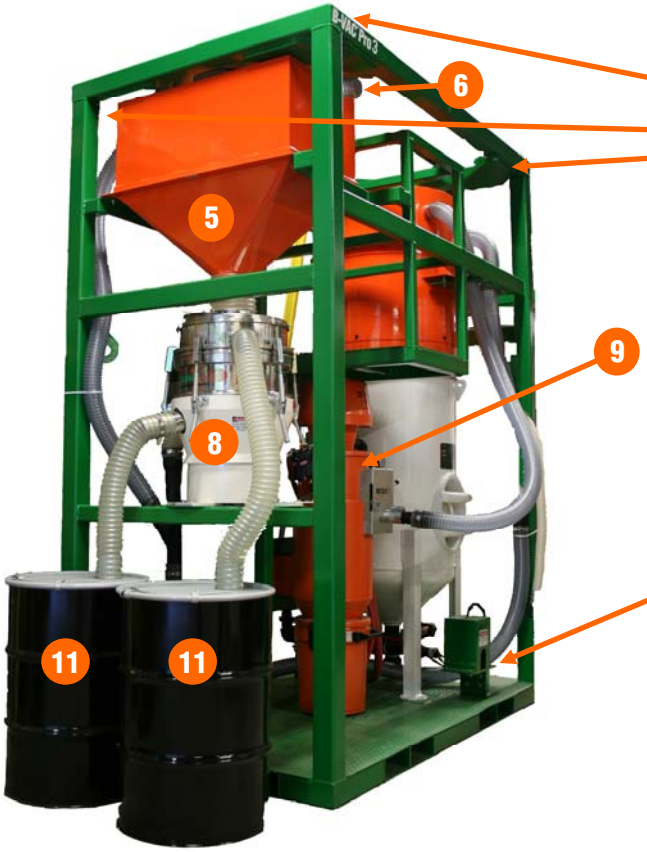
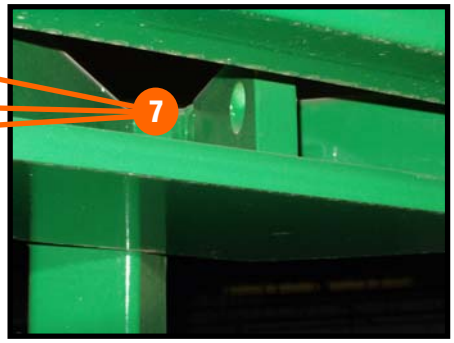
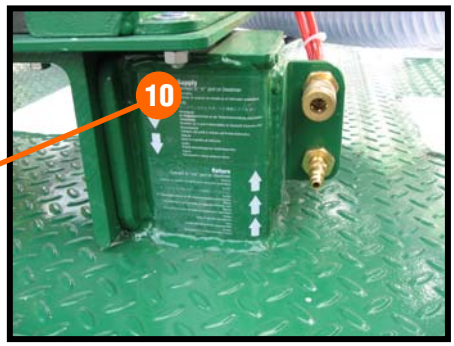
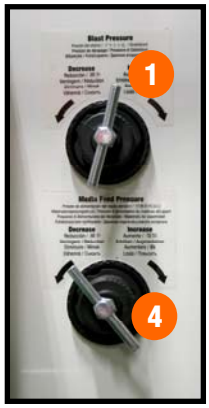
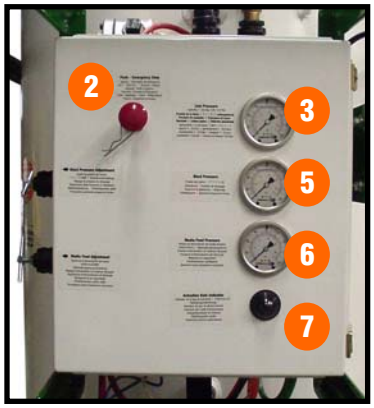
11. **Waste Drums**

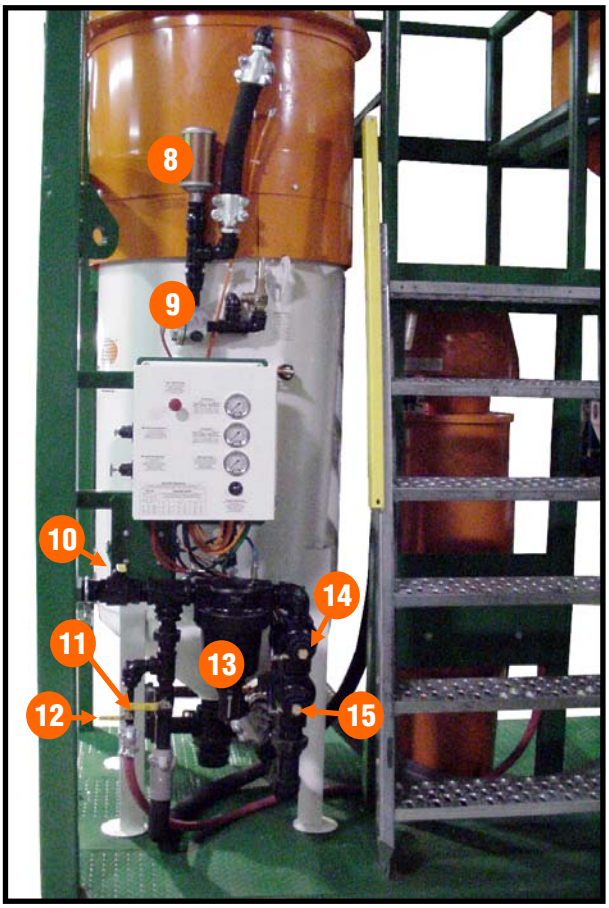


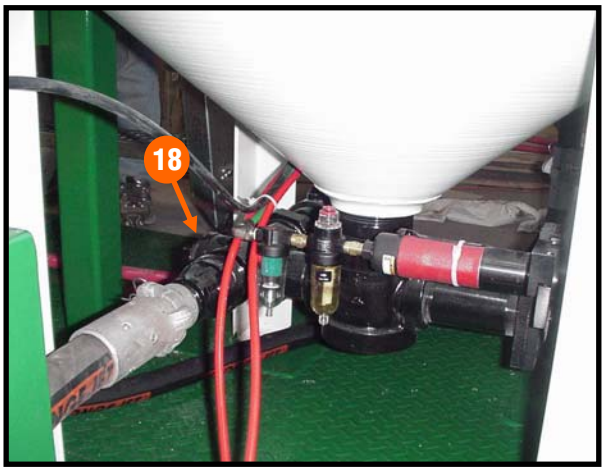






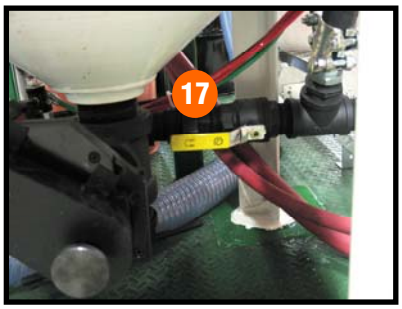






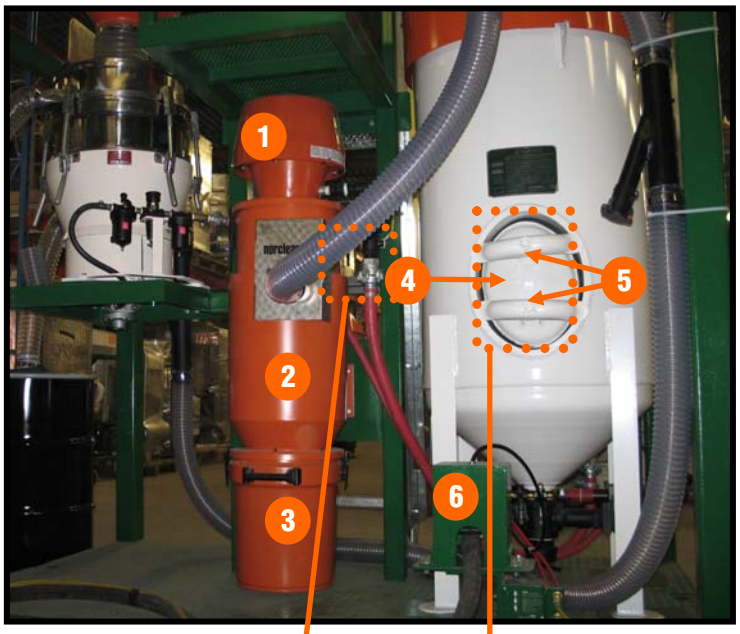
Sub-Components

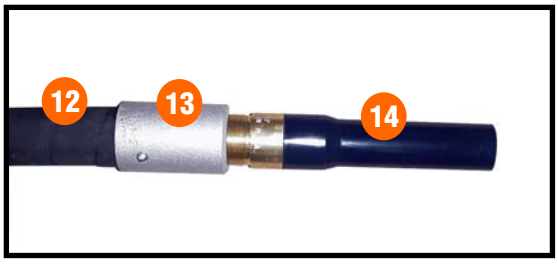
1. **Blast Pressure** Regulator Handle
2. **Emergency Stop** Button
3. **Line Pressure** Gauge
4. **Media Feed Pressure** Regulator Handle
5. **Blast Pressure** Gauge
6. **Media Feed Pressure** Gauge
7. **Actuation Rate Indicator** Eye
8. **Exhaust Muffler**
9. **Exhaust Valve**
10. **Main Air Ball Valve**
11. **Primary Vacuum Air Ball Valve**
12. **Primary Recycler Air Ball Valve**
13. **Secondary Water Separator**
14. **On/Off Control Valve**
15. **Blast Pressure Regulator**
16. **Control Panel Moisture Separator**
17. **Choke Valve**
18. **Auger Tunnel End Cap**
19. **Air Motor Moisture Separator**
20. **Air Motor Lubricator**
21. **Clean Out Trap**
22. **Blast Hose Connection**

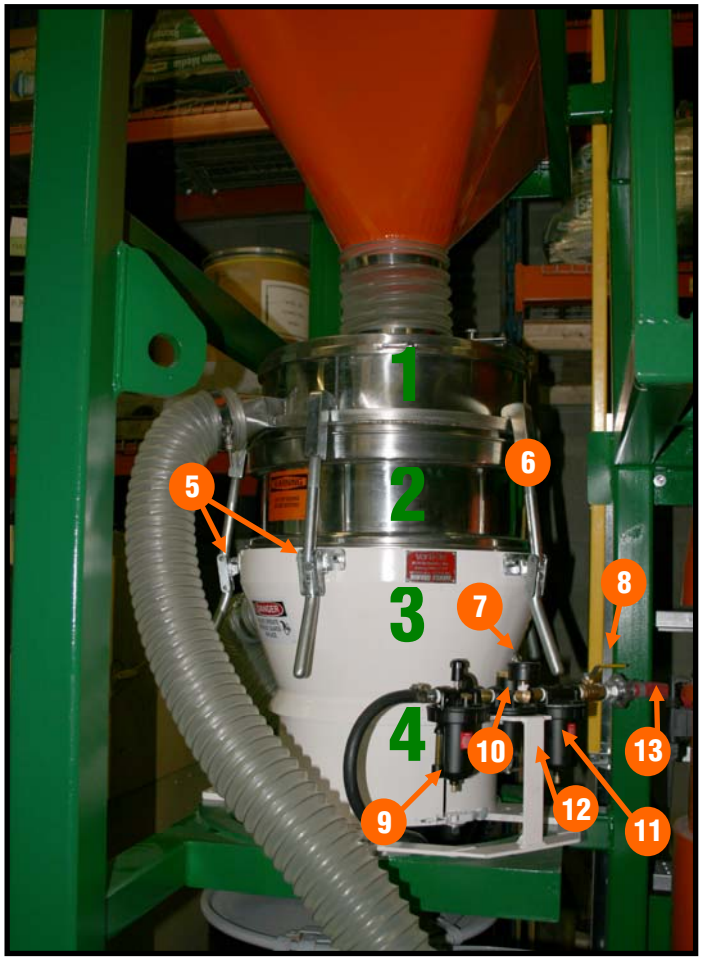


Sub-Components *(continued)*

1. **Vacuum Ejector**
2. **Vacuum Filter Silo**
3. **Vacuum Dust Bin**
4. **Handhole Cover**
5. **Crab Assembly**
6. **Pinch Valve and Cover**
7. **Filter Cleaning Lever**
8. **Media Actuator**
9. **Pop-up**
10. **Actuator Tree and Chain**
11. **Twinline**
12. **Blast Hose**
13. **Nozzle Holder**
14. **Nozzle**
15. **Deadman Handle**

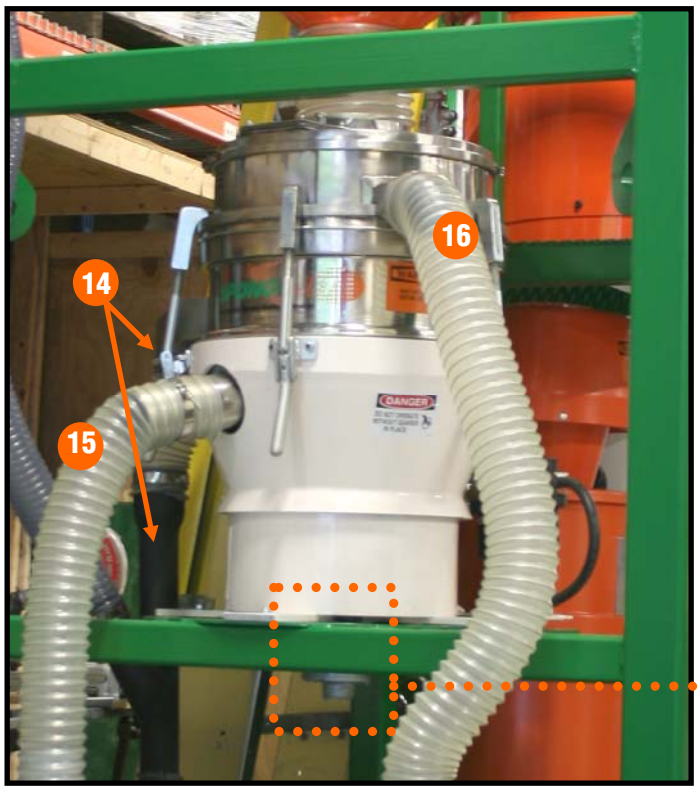






Recycler Sub-Components

1. Dome Lid & Upper Main Rim
2. Lower Main Rim
3. Vibratory Section
4. Safety Skirt
5. Pan Clamp
6. Pan Clamp Hook
7. Pressure Gauge
8. Secondary Recycler Air Ball Valve
9. Lubricator
10. Regulator
11. Air Filter
12. Bracket
13. Supply Line Connection
14. Reusable Media Downspout
15. Fine Particle Downspout
16. Large Particle Downspout
17. Muffler
18. Motor



2.0 Safety Checklist

- The Sponge-Jet Inc. Feed Unit is a pressurized system. Only trained operators should adjust, maintain and repair this equipment.
- Inbound pressure should never exceed 8.6bar (125psi).
- To prevent electrostatic buildup and possible electric discharge, the unit and work piece must be properly grounded / bonded.
- Operators and people in proximity to blasting should always wear eye and hearing protection with the appropriate respiratory equipment and clothing, which may depend on the type of coating or contaminant being removed.
- Never point the **Blast Nozzle** towards yourself or others.
- The use of non-Sponge-Jet **Deadman** handles may cause unintentional start-up and can result in personal injury.

Before Feed Unit Pressurization and Operation:

- Verify the Feed Unit is secure and stable.
- All pneumatic lines should be inspected for holes, wear and proper fit.
- The **Handhole Cover** must be in place and secure prior to and during operation.
- Safety pins and restraints should be fitted at all Air Supply Hose and **Blast Hose** couplings to prevent accidental disconnection.
- Do not operate without the **Auger Chain Guard, Recycler Safety Skirt, and Pinch Valve Guard** in place.

Before all activities (other than normal operation), ensure the entire system is depressurized.

3.0 Requirements

3.1 Air Supply / Compressor

Clean, dry compressed air must be supplied in adequate volume and pressure to accommodate the nozzle size at the desired pressure.

Inbound pressure is typically **8.6bar (125psi), minimum 6bar (85psi)**

Note: High humidity environments require additional moisture separators.

(Metric) m^3/min Requirements

Nozzle Size		4.1bar	4.8bar	5.5bar	6.2bar	6.9bar	8.3bar
No. 6 9.5mm 3/8 in	Nozzle	3.6	4.0	4.6	4.9	5.5	6.2
	B-VAC	8.1	8.1	8.1	8.1	8.1	8.1
	Reserve	2.3	2.4	2.5	2.6	2.7	2.9
	Total	**14.0**	**14.5**	**15.1**	**15.6**	**16.3**	**17.1**
No. 7 11mm 7/16 in	Nozzle	4.8	5.5	6.1	6.8	7.2	8.5
	B-VAC	8.1	8.1	8.1	8.1	8.1	8.1
	Reserve	2.6	2.7	2.8	3.0	3.1	3.3
	Total	**15.5**	**16.3**	**17.0**	**17.8**	**18.3**	**19.9**
No. 8 12.5mm 1/2 in	Nozzle	6.3	7.1	7.9	8.7	9.6	11.1
	B-VAC	8.1	8.1	8.1	8.1	8.1	8.1
	Reserve	2.9	3.0	3.2	3.4	3.5	3.8
	Total	**17.3**	**18.2**	**19.2**	**20.2**	**21.2**	**23.0**
No. 10 15mm 5/8 in	Nozzle	10.1	11.4	12.8	14.3	15.5	17.3
	B-VAC	8.1	8.1	8.1	8.1	8.1	8.1
	Reserve	3.6	3.9	4.2	4.5	4.7	5.1
	Total	**21.8**	**23.4**	**25.0**	**26.8**	**28.3**	**30.4**
No. 12 18mm 3/4 in	Nozzle	14.2	16.3	18.4	19.8	22.6	28.6
	B-VAC	8.1	8.1	8.1	8.1	8.1	8.1
	Reserve	4.4	4.9	5.3	5.6	6.1	7.3
	Total	**26.7**	**29.2**	**31.8**	**33.5**	**36.8**	**44.0**

(Imperial) CFM Requirements

Nozzle Size		60psi 4.1bar	70psi 4.8bar	80psi 5.5bar	90psi 6.2bar	100psi 6.9bar	120psi 8.3bar
No. 6 9.5mm 3/8in	Nozzle	126	143	161	173	196	220
	B-VAC	285	285	285	285	285	285
	Reserve	82	86	89	92	96	101
	Total	**493**	**514**	**535**	**550**	**577**	**606**
No. 7 11mm 7/16in	Nozzle	170	194	217	240	254	300
	B-VAC	285	285	285	285	285	285
	Reserve	91	96	100	105	108	117
	Total	**546**	**575**	**602**	**678**	**713**	**702**
No. 8 12.5mm 1/2in	Nozzle	224	252	280	309	338	392
	B-VAC	285	285	285	285	285	285
	Reserve	102	107	113	119	125	135
	Total	**611**	**644**	**678**	**713**	**748**	**812**
No. 10 15mm 5/8in	Nozzle	356	404	452	504	548	611
	B-VAC	285	285	285	285	285	40
	Reserve	128	138	147	158	167	179
	Total	**769**	**827**	**884**	**947**	**1,000**	**1,075**
No. 12 18mm 3/4in	Nozzle	500	575	650	700	800	1,010
	B-VAC	285	285	285	285	285	285
	Reserve	157	172	187	197	197	259
	Total	**942**	**1,032**	**1,122**	**1,182**	**1,302**	**1,554**

3.2 Air Supply Requirements

Sponge-Jet Feed Units have a 50mm (2in) standard pipe typically fitted with a 50mm (2in) universal 4 lug coupling. The air supply hose should be fitted with a mating connector or replace both connectors as desired.

For supply hose up to 50m (150ft) use a Minimum Air Line Internal Diameter (I.D.) as listed below. For lengths 50 to 90m (150 to 300ft) use a minimum of one diameter size greater than listed below. Larger hoses decrease pressure loss.

NOTE: Occasionally a compressor is equipped with undersized outlets. The compressor air outlet should be no smaller than the recommended Supply diameters below.

Nozzle Number/Orifice	Minimum Air Line I.D.
#6 - 9.5mm (3/8in)	50mm (2in)
#7 - 11mm (7/16in)	50mm (2in)
#8 - 12.5mm (1/2in)	64mm (2 ½ in)
#10 - 16mm (5/8in)	76mm (3in)
#12 - 19mm (3/4in)	76mm (3in)

3.3 Hoses

Blast Hose

Sponge Media abrasive has been successfully blasted through 90m (300ft) of **Blast Hose**. However, when choosing between long Air Supply Line and long Blast Hoses, keep the Blast Hoses as short as practical. Below are recommended maximum lengths of blast hoses:

- Up to 15m (50ft) use 32mm (1.25in) I.D. Whipline connected to the machine or to a blast hose extension.
- Extensions up to 30m (100ft) must have a minimum 32mm (1.25in) I.D.
- Extensions over 30m (100ft) shall use a minimum 38mm (1.5in) I.D. Blast Hose Extension. Larger hoses decrease pressure loss.

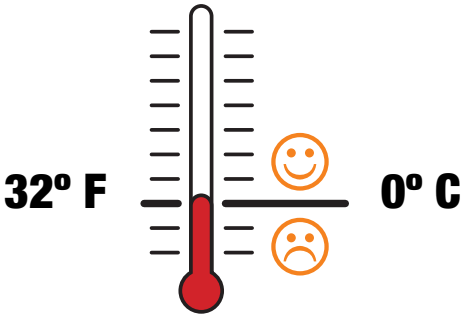
Vacuum Hose

B-VAC's have successfully recovered Sponge Media at distances in excess of 100m (330ft). When operating at these distances, optimum performance is achieved by having the largest diameter vacuum hose closest to the B-VAC and smaller diameter hose near the pick up location. Long runs of small hose may result in reduced pick up pressures and high wear in the hose. Optimum hose configuration starting at the B-VAC is:

- 20 meters (65ft) of 88mm (3.5in) diameter hose connected to
  40 meters (130ft) of 76mm (3in) hose connected to
  40 meters (130ft) of 63mm (2.5in) hose.

NOTE: Vacuum hoses operate best when running horizontally and or vertically – gradual slopes (like stairs) should be avoided.

3.4 Ambient Temperature



Ambient temperature should be above 0° Celsius (32° Fahrenheit).

Otherwise:

a) Use winter grade pneumatic tool oil in lubricator.

b) Minimize moisture in supply air.

c) Ice build-up in the controls or vessel may require thawing prior to restarting machine. Bearing grease will thicken in cold environments requiring use of low temperature grease. Warming the unit prior to operation may be required. Minimize down time that might result in freezing.

3.5 Containment

Containment is an integral part of the Sponge-Jet process, as Sponge-Jet Sponge Media is recyclable. To take advantage of this property, containment must be used to capture and recycle Sponge Media.

Sponge-Jet is easily containable with light plastic sheeting or mesh. Projects involving hazardous materials, high wind load or other conditions may require more complex containment and negative air dust collection.

Pre-cleaning of the area will minimize both dust and debris which can also cause equipment malfunctions.

Always follow local, state and federal guidelines concerning proper containment, containment ventilation and monitoring procedures.

4.0 Operation

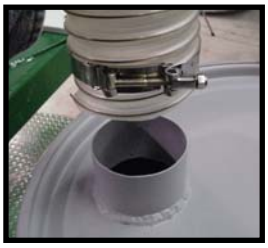
Before Pressurization and Operation:

- o All pneumatic lines should be inspected for holes, wear and proper fit.
- o The **Handhole Cover** must be in place and secure prior to and during operation.
- o Safety pins and restraints should be fitted at all Air Supply Hose and **Blast Hose** couplings to prevent accidental disconnection.
- o Do not operate without the **Auger Chain Guard**, **Recycler Safety Skirt**, and **Pinch Valve Guard** in place.
- o Before all activities (other than normal operation), ensure the entire system is depressurized.

Attach **Handhole Cover** with gasket in place.



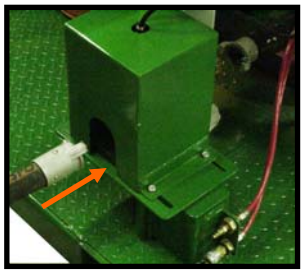
Connect Vacuum Hose from the **Large Particle Downspout** and the **Fine Particle Downspout** to each Waste Drum. Check contents of Waste Drums, remove stored items. Replace or empty drums when 2/3's full.

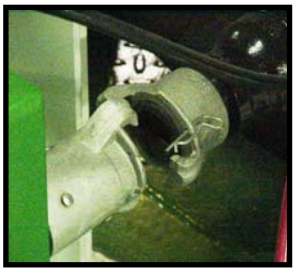




Connect outbound Vacuum Hose to **Recycler Cyclone Storage Silo**

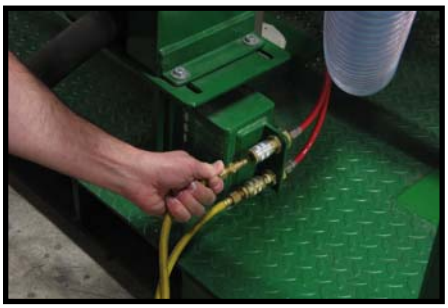

Check **Pan Clamps** for tightness. They should not exceed 14kg (30lbs.) each at the end of the lever handle. Adjust by turning the **Pan Clamp Hook**.

Insert Whipline through **Pinch Valve**; connect **Blast Hose** and secure with safety pins.



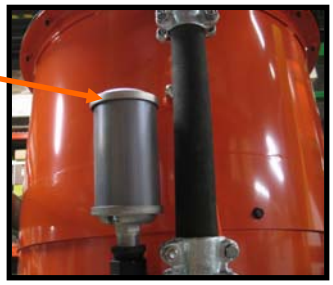


Connect Return and Supply **Twinline Quick Connect Fittings**.



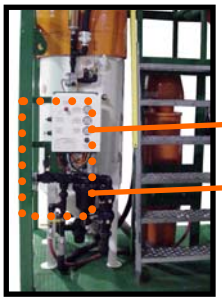
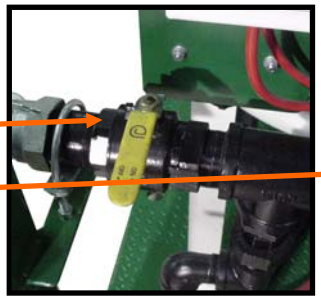
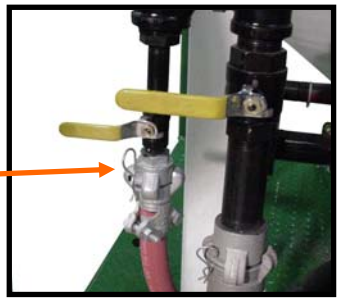
Ensure the **Emergency Stop Button** is pushed in (off).

Inspect and clean **Exhaust Muffler**.


Ensure adequate tool oil is visible in the **Recycler Lubricator** as well as the **Auger Air Motor Lubricator** (bottom of pressure vessel).

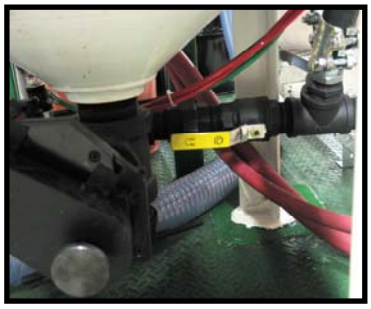

Check **Main Air Ball Valve, Primary Vacuum Air Ball Valve** and **Primary Recycler Air Ball Valve** are closed.

Check **Secondary Vacuum Air Ball Valve, Secondary Recycler Air Ball Valve, and Choke Valve** are open.

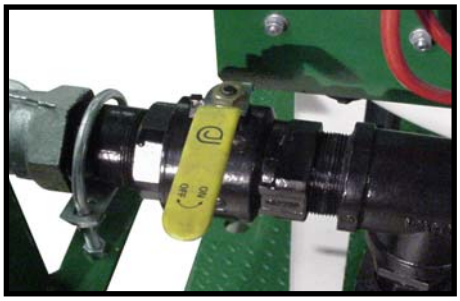
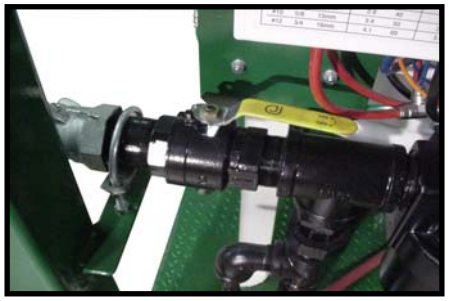






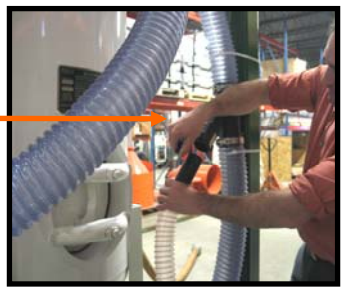
Connect the **Supply Line** and secure with safety pins and restraints.


Charge Supply Line. Open **Main Air Ball Valve**

Open **Primary Vacuum Air Ball Valve** and **Primary Recycler Air Ball Valve**


Attach vacuum hose to **Recycler By-Pass Inlet**.

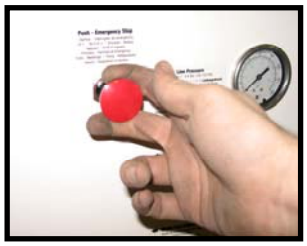

Load by vacuuming new or recycled Sponge Media as required, remove hose from **By-Pass Valve** and secure Inlet.

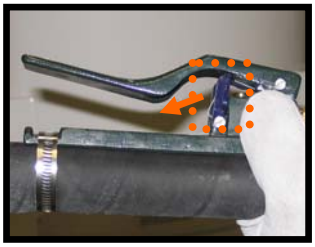
NOTE: A typical full charge fills the **400 HP Pressure Vessel** and the **Feed Unit Cyclone Storage Silo** to 2/3 full (the top of the **Silo Actuator**, approximately 15 bags of media total).

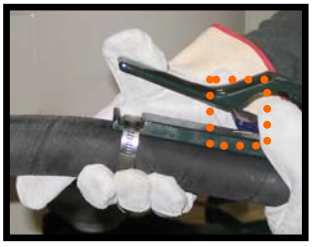
During operation add approximately 1 bag per hour.

DO NOT OVERFILL.

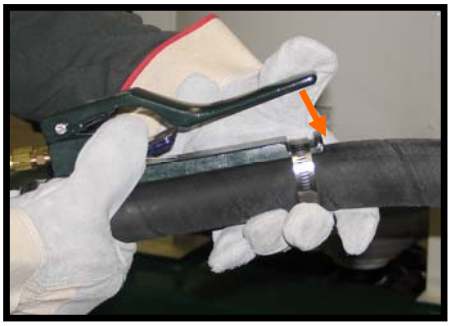
To begin blasting, pull out the **Emergency Stop** Button (on) and unlock **Deadman Handle** by depressing safety flap.



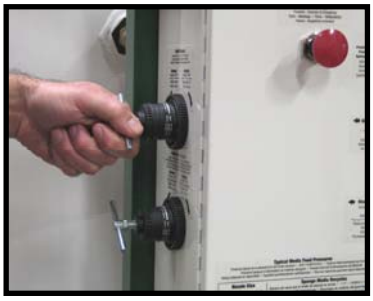




Depress **Deadman Handle** and wait 5 to 10 seconds for Sponge Media to flow. Do not cycle the handle on and off as it will create a plug in the hose.

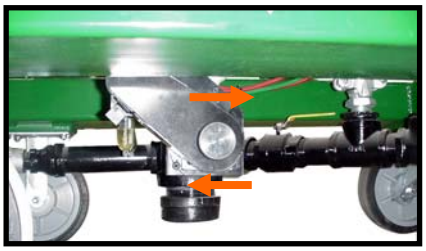


Allow pressure gauges to stabilize then adjust **Blast Pressure** and **Media Feed Pressure** to the desired levels.

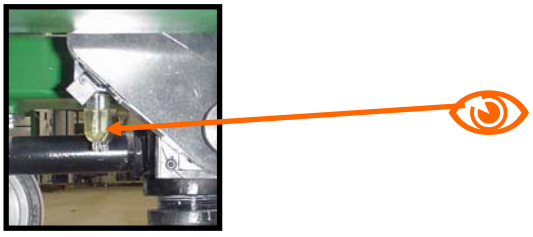




Typical Media Feed Pressures								
Nozzle Size			**Sponge Media Recycles**					
			1 – 3		**4 – 6**		**7-12**	
			Bar	PSI	Bar	PSI	Bar	PSI
#7	10mm	7/16in	2.0	30	1.5	20	0.7	10
#8	12mm	1/2in	2.8	40	2.0	30	1.5	20
#10	15mm	5/8in	3.4	50	2.8	40	2.0	30
#12	18mm	3/4in	4.1	60	3.4	50	2.8	40

Confirm **Manual Rotation Knob** is rotating.



Confirm **Air Motor Lubricator** rate is 1-2 drops per minute.



Confirm **Actuation Rate Indicator** eye is functioning - by seeing it cycle between black and green.

Operating Tips:

- Check the top screen of Recycler for obstructions (duct tape, paint chips, etc).
- When vacuuming the air/media ratio should be at least 60%/40%. Avoid rapid vacuuming of media, especially on long runs.
- Continuously monitor the quantity of material in waste drums and storage silos to avoid overflow.
- Add new media at approximately 1 bag per hour to maintain a uniform working media mix.
- Monitor levels in both lubricators.
- Avoid vacuuming foreign objects/debris which may create clogs or equipment jams.
- Inspect and monitor for vacuum and system leaks.
- Monitor both storage silo viewing ports to avoid over-filling silos.
- Cycle the Vacuum Filter Cleaning Lever once every 2 hours.
- Never vacuum water or other liquids – it will destroy the vacuum filter.

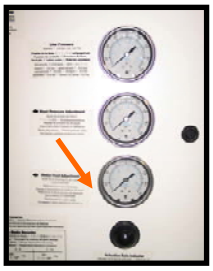
4.2 Shut Down of the B-Vac Pro

Normal shutdown during operation is by releasing **Deadman Handle.** Alternatively the **Emergency Stop** Button may be used.

Note: During inspection, maintenance or any non-operational activity, always shut off (push in) **Emergency Stop** Button.

4.3 End of Shift Shut Down

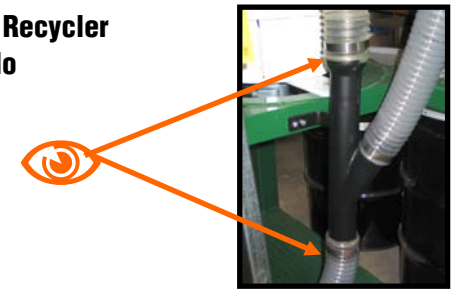
Turn **Media Feed** to "Zero", then depress the **Deadman Handle** until Sponge Media stops flowing through the nozzle (typically 15-45 seconds).



Push **Emergency-Stop** Button.

Vacuum all remaining media from containment area.

Allow all media to process through **Recycler** into **Feed Unit Cyclone Storage Silo** until no Sponge Media is visible.

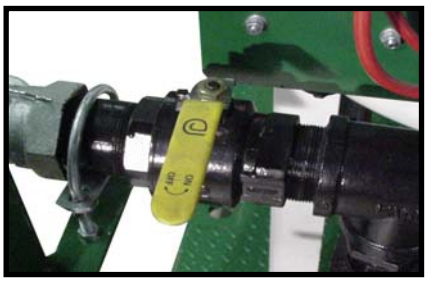


Close the **Primary Recycler Air Ball Valve.**

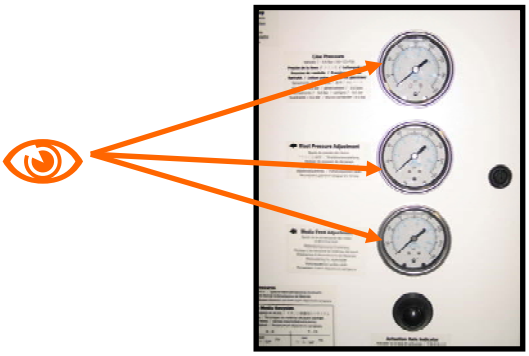
On certain models, clean the **Vacuum** filter by cycling the **Filter Cleaning Lever** down and then back up.

Models without this lever automatically clean the filter at each shut down of the **Vacuum**.

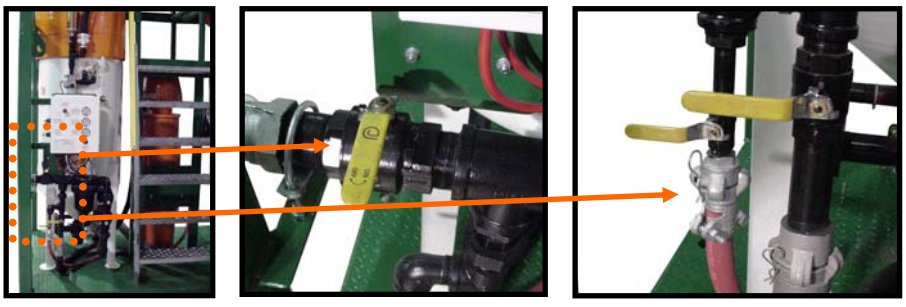
Shut down **Air Supply** or alternatively the **Main Air Ball Valve**.



Confirm all gauges read “zero”.



Close both the **Main Air Ball Valve** and the **Primary Vacuum Air Ball Valve**



5.0 Maintenance

Routine maintenance is required to provide long and reliable equipment life. The B-Vac must be shut down and fully depressurized prior to any maintenance.

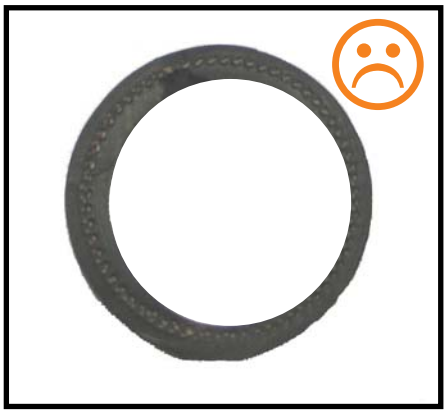
5.1 Prior to each use:

- Inspect the **Blast Nozzle** for wear.

  Once the nozzle throat has worn 1.5mm (1/16in) beyond its original intended diameter, it should be replaced.

- Thoroughly inspect **Blast Hose** and **Vacuum Hose** components and connections.

  Replace hose. Ensure all couplings are properly equipped with coupling gaskets, safety pins and hose restraints.



- Inspect and clean **Exhaust Muffler**. Replace when exhaust is slow.

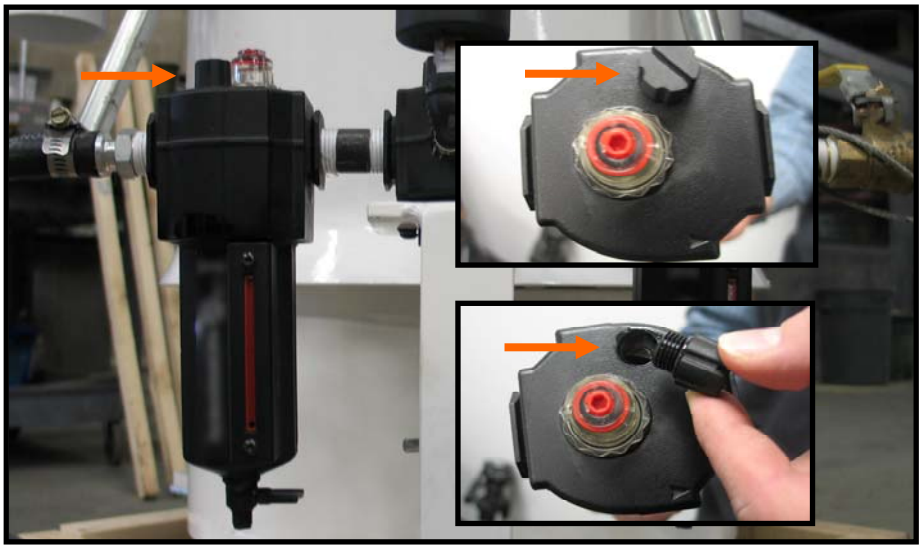
Remove any accumulated media in the **Exhaust Muffler** and reinstall.
WARNING: Do no operate equipment without **Exhaust Muffler** in place.

5.2 To be performed every 2 hours of operation

Lubricators

Check the pneumatic oil level in **Lubricators**.

Refill with pneumatic tool oil through the fill port on top as required.



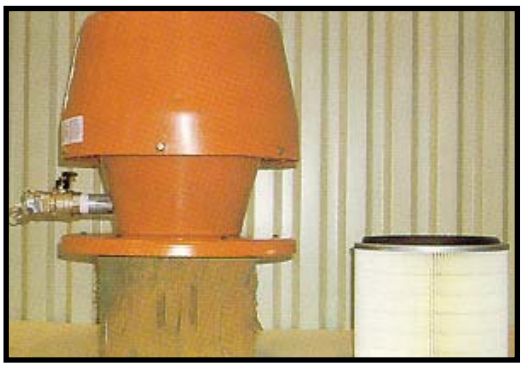
The Vacuum

If the **Vacuum** differential pressure is >0.1bar, increase frequency of filter cleaning.

On certain models, clean the **Vacuum** filter by cycling the **Filter Cleaning Lever** down and then back up.

Models without this lever automatically clean the filter at each shut down of the **Vacuum**.

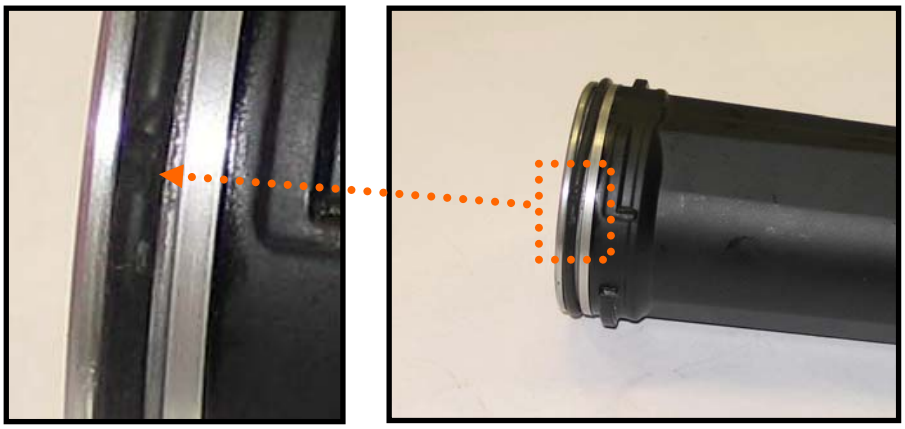
If purging the filter does not lower the readings to below 0.1bar a filter replacement is necessary. Efforts to maintain the filter from excessive buildup, and the suction of liquids, will extend the **Vacuum** filter service life.



5.3 To be performed after every 80 hours of operation:

Remove the lower, threaded portion of the **Secondary Water Separator, Control Panel Moisture Separator** and **Air Motor Moisture Separator** and inspect the interior and O-Ring.

Remove any contaminants, replace O-Ring if needed and reinstall.



5.4 Performed monthly (or as needed):

IMPORTANT: Under **NO** circumstances should any inspection, adjustment or lubrication be conducted while running or connected to an air supply.

Auger Chain

Remove the **Auger Chain Guard** and inspect the condition of the **Auger Drive Chain**. Apply lightweight lubricating oil as necessary then replace the **Auger Chain Guard**.

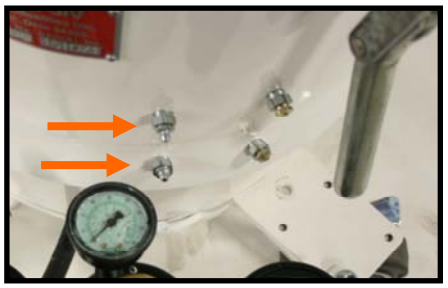
Bearing Grease

This unit was greased before shipment. Add grease using a half pump (or small amount) every 500 hours of operation. If the unit has not been used for one year, add 1 to 2 pumps of grease. Use quality NLGI #2 grease such as:

- Citco AP, Citco oil
- Ore-Lube K2
- Mobilux, Mobil Oil Co.
- Socony, Mobil Oil Co.
- Val-Lith #IP, Valvoline Co.
- VS SGA, MM Industries, Inc.
- Multifak #2, Texaco Inc.
- Alvanie R#, Shell Oil Co.

The two bearings should be greased by fittings on the side of the machine.

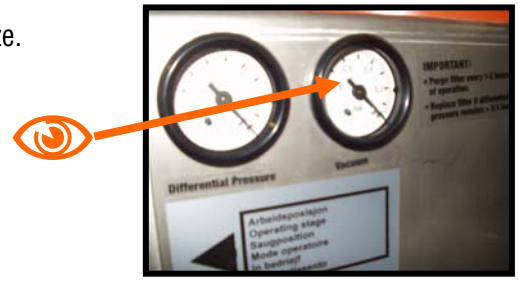
DO NOT OVERGREASE.



The Vacuum

- Check **Vacuum** suction while vacuum is operating.
- Allow all hose to clear of media so the flow is air only.
- Seal the hose end.
- Allow **Vacuum** level to stabilize.

Vacuum level should approach 3800mm WC (11 in of Hg).



If less than 70% of this reading, check for system leaks, confirm air supply to the **Vacuum** while running is between 6-8bar (90 –115psi), check filter performance and inspect for damage.

Recycler Assembly

Should the **Recycler** require disassembly to clear an obstruction, replace a gasket, or other maintenance, it is important to reassemble the components as illustrated.

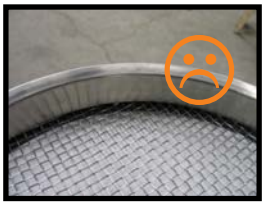
NOTE: Failure to properly assemble and fasten the **Sieve Assembly** will dramatically shorten its operating life.

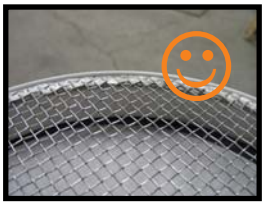
Assemble as follows:

1. Place the **Fine Particle Downspout** through the hole provided in the **Vibratory Section**. **Note**: Be sure the downspout is centered.
2. Place a **Flat Gasket** into the **Shallow Funnel**.
3. Place the **Bottom Screen** (#16* mesh) onto the **Flat Gasket**. **IMPORTANT: Place with mesh screen side up****
4. Place a **Flat Gasket** onto the mesh of the **Bottom Screen.**
5. Place the **Main Rim** over the **Flat Gasket**.
6. Place a **Flat Gasket** into the top of the **Main Rim**.
7. Place the **Top Screen** (#3* mesh) into the **Main Rim** and on top of the **Flat Gasket. IMPORTANT: Place mesh screen side up****
8. Place a **Flat Gasket** onto the **Top Screen,** making sure to center the **Flat Gasket.**
9. Place the **Hopper** over the **Flat Gasket**.
10. Attach all **Pan Clamps**. These must be adjusted properly to secure the **Sieve Assembly** (refer to 4.0 Operation).

*Top Screen standard size is #3; Bottom Screen standard size is #16 unless other sizes are specified or provided.

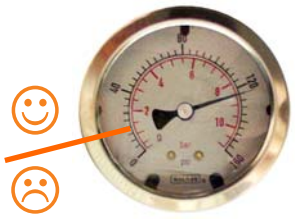
**Screens must be assembled with mesh side up. Incorrect assembly will cause poor operation.





6.0 Troubleshooting

6.1 Feed Unit:

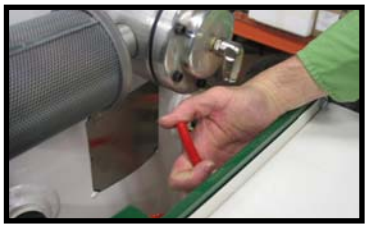
Unit does not operate when Deadman Handle is depressed	 
	Check **Main Air Ball Valve** is open. 
	Check **Emergency Stop** Button is pulled out. 
	Check **Twin Line Quick Connect Fittings** are connected and secure.   
	Check for damage to **Twin Line**. 
	Check **Line Pressure** is above 1bar(15psi) when **Deadman** is depressed. 

Unit does not operate when Deadman Handle is depressed *(Continued)*

Remove red air line from **Exhaust Valve**; hold it securely, then depress **Deadman Handle**.


IF no air is felt exiting red air line, trace air flow operation through **Twinline** and **Deadman Handle** checking for obstructions or leaks.

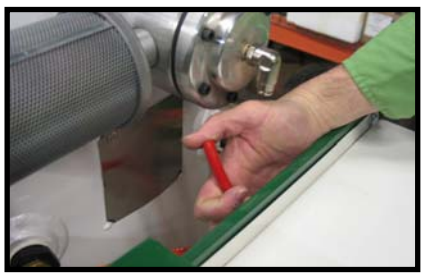
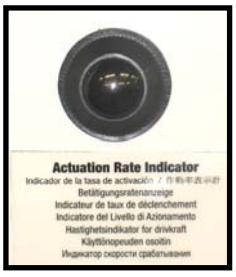

IF air is felt exiting red air line, place thumb on opening of red air line and depress **Deadman Handle**.

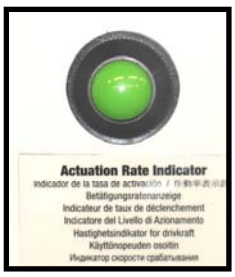



IF unit starts (air exits nozzle) depressurize unit and replace **Exhaust Valve Diaphragm**.



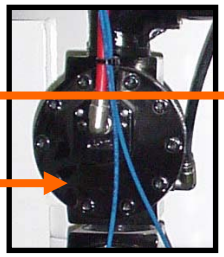
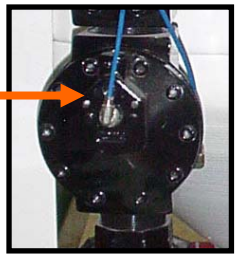
IF unit does not start, with thumb still blocking red air line, check **Actuation Rate Indicator** Eye is cycling.



IF cycling, troubleshoot, repair or replace **Blast Pressure Regulator**.

IF not cycling, replace **On/Off Control Valve**.

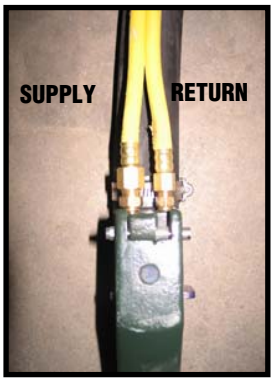
Air will not stop exiting nozzle when Deadman Handle is released

Push **Emergency Stop** Button (in).

If unit stops, likely problems are:

1. Incorrect **Deadman**. Replace with Sponge-Jet **Deadman**.

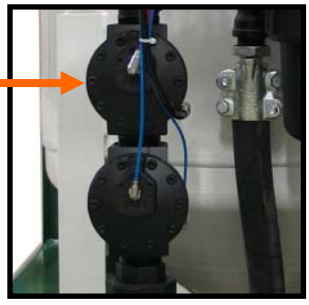
2. **Twinline** air lines from unit to **Deadman** have been reversed.



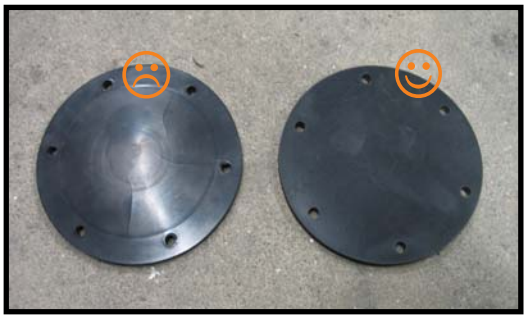
3. **Deadman** is broken; replace with Sponge-Jet **Deadman**.

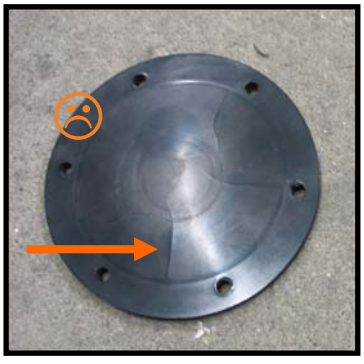
If Unit does not stop, likely problems are:

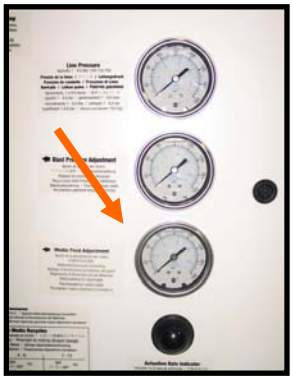
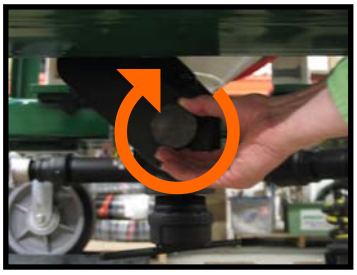
1. **On/Off Control Valve** is malfunctioning.



2. **Exhaust Valve Diaphragm** is damaged.





Air Motor sticks during startup; becomes sluggish at lower Media Pressures	Check **Air Motor Lubricator** oil level and oil lubrication rate.  
Auger will not begin rotating	Confirm **Media Feed Pressure** Gauge reads consistently with "Typical Media Feed Pressure" chart on **Control Panel**   Turn **Manual Rotation Knob** Regulator Handle clockwise to start the rotation. If excessive force is required, clear obstruction (see next section). 

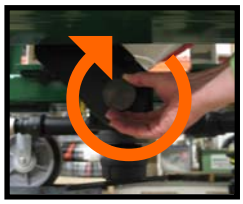
Auger stops rotating during normal operation

1. Release **Deadman Handle** and depressurize unit.

2. Close **Main Air Ball Valve**.

3. Depress **Emergency Stop** Button.

4. Remove **Clean Out Trap**; rotate **Manual Rotation Handle** clockwise and counter-clockwise until obstruction falls out. **Auger** should move smoothly. Replace **Clean Out Trap**.



5. If obstruction cannot be cleared:
   a. Remove **Auger Chain Guard and Chain**.
   b. Remove four screws, pull **Auger** from shaft and remove obstruction.

   c. Reassemble **Auger;** test for smooth rotation.
   d. Re-install **Auger Chain Guard and Chain**.

Air flow through nozzle suddenly stops	1. Do not restart. Depress **Emergency Stop** Button immediately. Depressurize unit and close **Main Air Ball Valve**.   2. Remove **Blast Nozzle** from **Blast Hose**; inspect for and remove obstructions.  3. Disconnect all **Blast Hose** connections; inspect for and remove obstructions. 4. Remove **Auger Tunnel End Cap**; check for and remove obstructions. Replace **Auger Tunnel End Cap**.    5. If obstruction was from Sponge Media, turn **Media Feed Pressure** to 0bar(0psi). Check **Choke Valve** is in full open position; or parallel to pipe. Resume blasting. When stream of air without Sponge Media is achieved, slowly return **Media Feed Pressure** Gauge to desired pressure.   
Too much Sponge Media exits Nozzle or is pulsing	1. Check **Choke Valve** is in full open position; or parallel to pipe. 2. Check **Media Feed Pressure** Gauge below 3.4bar(50psi). Resume Blasting. 

Blast Pressure increases and decreases continuously **or** **Unit exhausts intermittently while blasting**	1. Check for damage to **Twin Line** and for air leaks at all fittings and connections. Repair, replace or tighten as necessary.    2. Remove **Exhaust Valve Cover**, inspect for and remove obstructions. Check **Exhaust Diaphragm** for rips or small holes. Clean or replace as necessary.   

Air flows through Nozzle without Sponge Media while Auger is rotating	After depressing **Deadman**, Sponge Media flow through **Nozzle** can take up to ±15 seconds with normal hose length. Stabilized Sponge Media flow can take up to ±4 minutes. 1. Check for adequate Sponge Media amount in **Pressure Vessel**. 2. Check **Agitation Rate Indicator** Eye is cycling between black and green every few seconds while machine is pressurized and **Deadman Handle** is depressed. **If Agitation Rate Indicator Eye is cycling**, depressurize unit, open **Handhole Cover** and check **Media Actuator** and **Actuator Tree and Chain** are attached. Reconnect if necessary and look for obstruction in bottom of **Pressure Vessel**. **If Actuation Rate Indicator Eye is not cycling**, enter **Diagnostic Mode.** ***Diagnostic Mode:*** 1. *Turn **Blast Pressure** Regulator Handle "off" by rotating until it removes from **Control Panel**.* 2. *Turn **Media Feed Pressure** Regulator Handle "off" by rotating until it removes from **Control Panel**.* 3. *Remove **Handhole Cover** and Sponge Media so **Actuator Tree and Chain** are visible.* 4. *Actuator Tree and Chain should be alternating <90° every 2-4 second - depending on initial setting.*



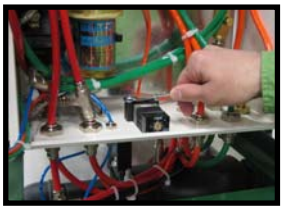
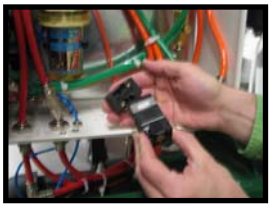

If Actuator Tree and Chain are cycling, then **Agitation Rate Indicator** Eye may need replacement – but should not effect overall operation.

Shut off unit and inspect for obstructions in the bottom of Pressure Vessel and pipe feeding **Auger**.

If Actuator Tree and Chain are not cycling, then…

Remove top orange output airline on **Desiccant Filter**, depress **Deadman Handle**; check top of **Desiccant Filter** for continuous airflow.

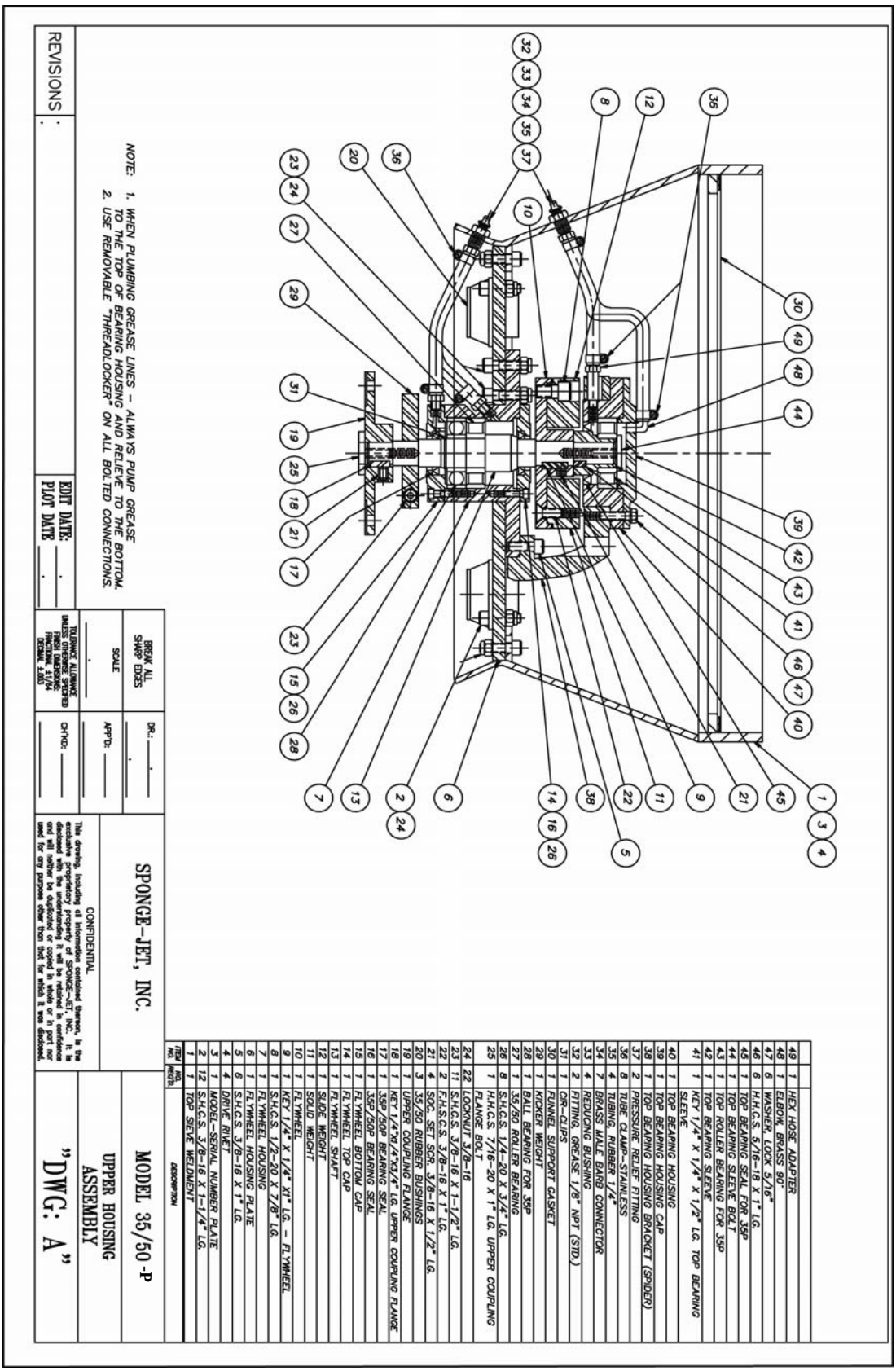


Air flows through Nozzle without Sponge Media while Auger is rotating *(Continued)*	If no airflow is felt from the top of **Desiccant Filter**, replace **Desiccant Filter** matching airline positions prior to removal. It is necessary to switch airline fittings from old filter to new. Re-check top of **Desiccant Filter** for continuous airflow. Check cycling of **Agitation Rate Indicator** Eye and for light pulse of air exiting **Timer.** Confirm **Timer** is set to 2.     **If Agitation Rate Indicator Eye and Timer test successfully**, resume blasting. **If no light pulse of air is exiting top of Timer**, then… Remove two nuts from **Timer** base, then remove screws from **Timer** face; replace the **Timer**, matching airline positions prior to removal.    Confirm proper motion of **Agitation Indicator** Eye and **Actuator Tree Assembly**.   

6.2 Recycler:

Unit won't turn on or vibration is slow	Confirm **Pressure Gauge** reads between 2.5-2.8bar(35-40psi). **If unit temperature is** near freezing or below, a) Warming the unit prior to operation may be required. b) Use winter grade pneumatic tool oil in lubricator. c) Minimize moisture in supply air. **If vibration is slow but unit is operating,** run without Sponge Media until vibration normalizes.
Sponge Media is exiting Large Particle Downspout	Confirm **Top Screen** is properly installed and free of debris. 
When Blasting, excessive amounts of dust are observed	Confirm **Bottom Screen** is properly installed. Additional dust reduction can be achieved by: 1. Passing Sponge Media through unit again. 2. Using a smaller number **Bottom Screen** (with larger wire spacing). 

7.0 Drawings



ITEM NO.	QTY. REQ'D.	DESCRIPTION
49	1	HEX HOSE ADAPTER
48	1	ELBOW, BRASS 90°
47	6	WASHER, LOCK 5/16"
46	6	H.H.C.S. 5/16–18 X 1" LG.
45	1	TOP BEARING SEAL FOR 35P
44	1	TOP BEARING SLEEVE BOLT
43	1	TOP ROLLER BEARING FOR 35P
42	1	TOP BEARING SLEEVE
41	1	KEY 1/4" X 1/4" X 1/2" LG. TOP BEARING SLEEVE
40	1	TOP BEARING HOUSING
39	1	TOP BEARING HOUSING CAP
38	1	TOP BEARING HOUSING BRACKET (SPIDER)
37	2	PRESSURE RELIEF FITTING
36	8	TUBE CLAMP–STAINLESS
35	4	TUBING, RUBBER 1/4"
34	7	BRASS MALE BARB CONNECTOR
33	4	REDUCING BUSHING
32	2	FITTING, GREASE 1/8" NPT (STD.)
31	1	CIR–CLIPS
30	1	FUNNEL SUPPORT GASKET
29	1	KICKER WEIGHT
28	1	BALL BEARING FOR 35P
27	1	35/50 ROLLER BEARING
26	8	S.H.C.S. 1/4–20 X 3/4" LG.
25	1	H.H.C.S. 7/16–20 X 1" LG. UPPER COUPLING FLANGE BOLT
24	22	LOCKNUT 3/8–16
23	11	S.H.C.S. 3/8–16 X 1–1/2" LG.
22	2	F.H.S.C.S. 3/8–16 X 1" LG.
21	4	SOC. SET SCR. 3/8–16 X 1/2" LG.
20	3	35/50 RUBBER BUSHINGS
19	1	UPPER COUPLING FLANGE
18	1	KEY 1/4"X1/4"X3/4" LG. UPPER COUPLING FLANGE
17	1	35P/50P BEARING SEAL
16	1	35P/50P BEARING SEAL
15	1	FLYWHEEL BOTTOM CAP
14	1	FLYWHEEL TOP CAP
13	1	FLYWHEEL SHAFT
12	1	SLIDE WEIGHT
11	1	SOLID WEIGHT
10	1	FLYWHEEL
9	1	KEY 1/4" X 1/4" X1" LG. – FLYWHEEL
8	1	S.H.C.S. 1/2–20 X 7/8" LG.
7	1	FLYWHEEL HOUSING
6	1	FLYWHEEL HOUSING PLATE
5	6	S.H.C.S. 3/8–16 X 1" LG.
4	4	DRIVE RIVET
3	1	MODEL–SERIAL NUMBER PLATE
2	12	S.H.C.S. 3/8–16 X 1–1/4" LG.
1	1	TOP SIEVE WELDMENT

NOTE: 1. WHEN PLUMBING GREASE LINES – ALWAYS PUMP GREASE TO THE TOP OF BEARING HOUSING AND RELIEVE TO THE BOTTOM.
2. USE REMOVABLE "THREADLOCKER" ON ALL BOLTED CONNECTIONS.

REVISIONS

EDIT DATE: ___.___.___
PLOT DATE: ___.___.___

BREAK ALL SHARP EDGES

SCALE ___.___

TOLERANCE ALLOWANCE UNLESS OTHERWISE SPECIFIED FRACTIONAL ±1/64 DECIMAL ±.005

DR.: ___.___.___
APP'D: ___.___.___
CH'KD: ___.___.___

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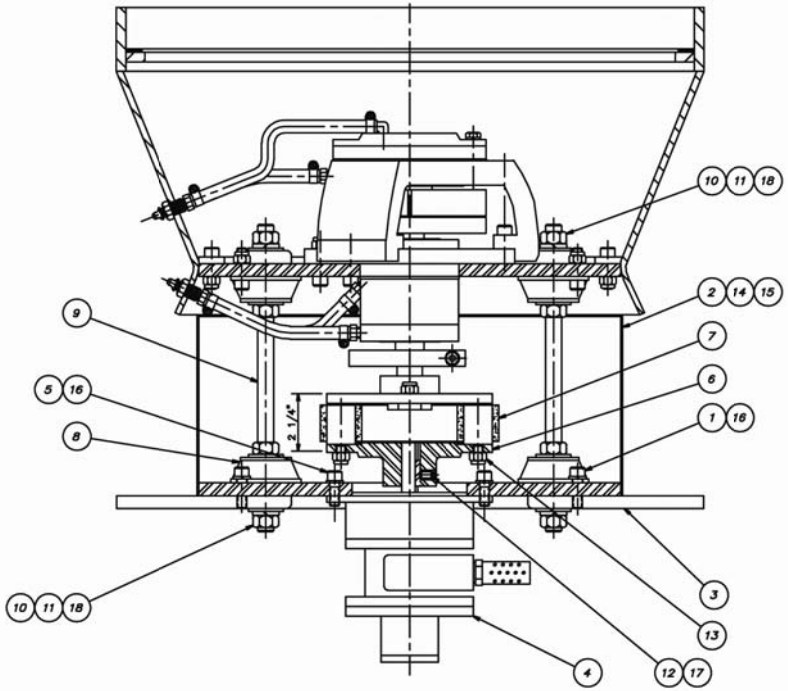
MODEL 35/50 -P

UPPER HOUSING ASSEMBLY

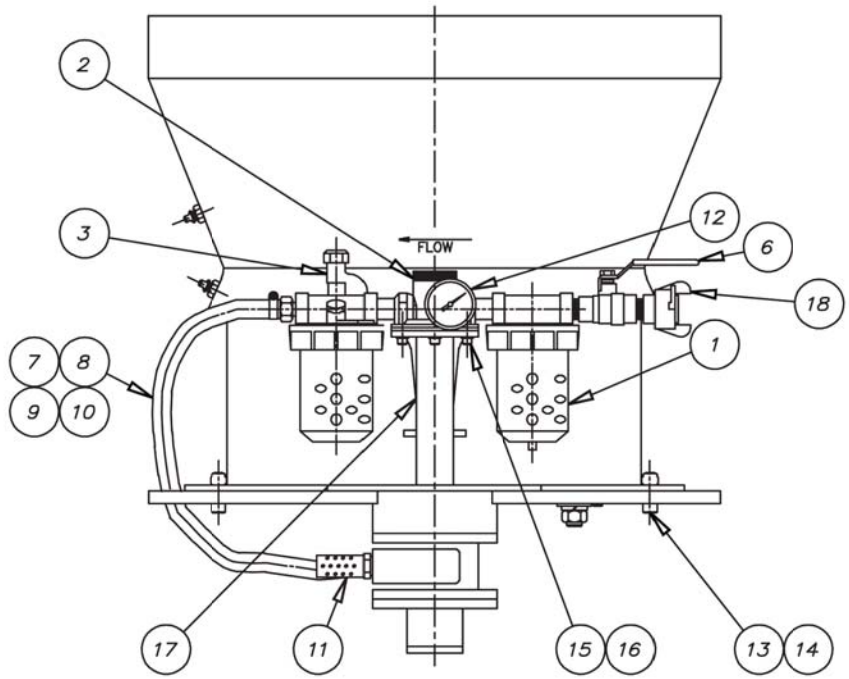
"DWG: A"

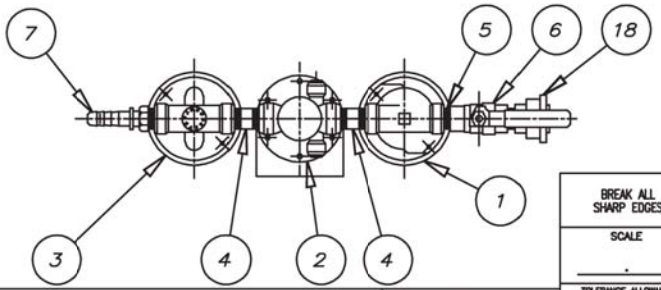


NOTE:
1. THE FLEXIBLE COUPLING MUST BE ADJUSTED TO 2 1/4" FROM THE TOP OF THE UPPER FLANGE TO THE BOTTOM OF THE MOTER FLANGE
2. DO NOT ATTEMPT TO OPERATE THE MOTOR WITHOUT THE FLEXIBLE COUPLING BOLTED TO THE UPPER FLANGE AND MOTOR FLANGE.
3. USE REMOVABLE "THREADLOCKER" ON ALL BOLTED CONNECTIONS.

ITEM NO.	NO. REQ'D.	DESCRIPTION
18	12	5/8" DIA FLAT WASHERS
17	1	KEY, MOTOR SHAFT 3/16" SQ. X 1" LG.
16	10	WASHER, SPLIT 3/8"
15	1	OVER CENTER LATCH STRAP
14	1	TRUNION, NUT AND BOLT STRAP
13	4	LOCKNUT 3/8-16
12	2	SOC. SET SCR. 3/8-16 X 1/2" LG.
11	6	WASHER, SPLIT 5/8"
10	12	NUT, HEX 5/8-11
9	3	35/50 RECYCLER SUSPENSION RODS
8	3	BUSHING, RUBBER
7	1	35/50 RECYCLER FLEXIBLE COUPLING
6	1	MOTOR FLANGE
5	4	S.H.C.S. 3/8-16 X 1" LG.
4	1	35/50 AIR MOTOR
3	1	MOTOR PLATE
2	2	35/50 SIDE COVERS
1	6	S.H.C.S. 3/8-16 X 1-1/4" LG.

BREAK ALL SHARP EDGES	DR.:	MODEL 35/50	MODEL RBF-15/22
SCALE	APP'D:		PNEUMATIC MOTOR DRIVE ASSEMBLY
TOLERANCE ALLOWANCE UNLESS OTHERWISE SPECIFIED FINISH DIMENSIONS: FRACTIONAL ±1/64 DECIMAL ±.003	CH'KD:	CONFIDENTIAL This drawing, including all information contained thereon, is the exclusive proprietary property of SPONGE-JET, INC. It is disclosed with the understanding it will be retained in confidence and will neither be duplicated or copied in whole or in part nor used for any purpose other than that for which it was disclosed.	"DWG: B"
REVISIONS	EDIT DATE: PLOT DATE		





ITEM NO.	NO. REQ'D.	DESCRIPTION
1	1	35–P MOISTURE SEPARATOR
2	1	35–P REGULATOR
3	1	35–P AUTOMATIC LUBRICATOR
4	1	1/2" NPT X 2" LG NIPPLES
5	2	1/2" NPT CLOSE NIPPLES
6	1	1/2" BALL VALVE
7	1	1/2" NPT HOSE BARB FITTING WITH ORIFICE
8	1	1/2" NPT HOSE BARB FITTING
9	2	HOSE CLAMPS
10	1	1/2" I.D. AIR HOSE
11	1	MUFFLER FOR 35P RECYCLER
12	1	2 1/2" GAUGE; 0–160 PSI W/CLIP
13	2	LOCKNUT 3/8–16 (SHIPPING ONLY)
14	2	S.H.C.S. 3/8–16 X 1–1/2" LG. (SHIPPING ONLY)
15	3	1/4" – 20 UNC SHCS X 1" LG
16	3	1/4" LOCKWASHER
17	1	FRL MOUNT
18	1	1/2" 2 PRONG COUPLING

NOTE:
1. ALL FITTINGS SEALED WTIH TEFLON TAPE.
2. AIR SYSTEM IS FACTORY SET TO RUN AT 3000 RPM MAXIMUM.
3. FILTER, REGULATOR, AND LUBRICATOR ARE CURRENTLY SUPPLIED BY THE CUSTOMER FOR ASSEMBLY.
4. SAFETY TIE BARB FITTING WITH ORIFICE TO LUBRICATOR.

REVISIONS	EDIT DATE:	BREAK ALL SHARP EDGES	DR.:
	PLOT DATE	SCALE	APP'D:
		TOLERANCE ALLOWANCE UNLESS OTHERWISE SPECIFIED FINISH DIMENSIONS: FRACTIONAL ±1/64 DECIMAL ±.003	CH'KD:

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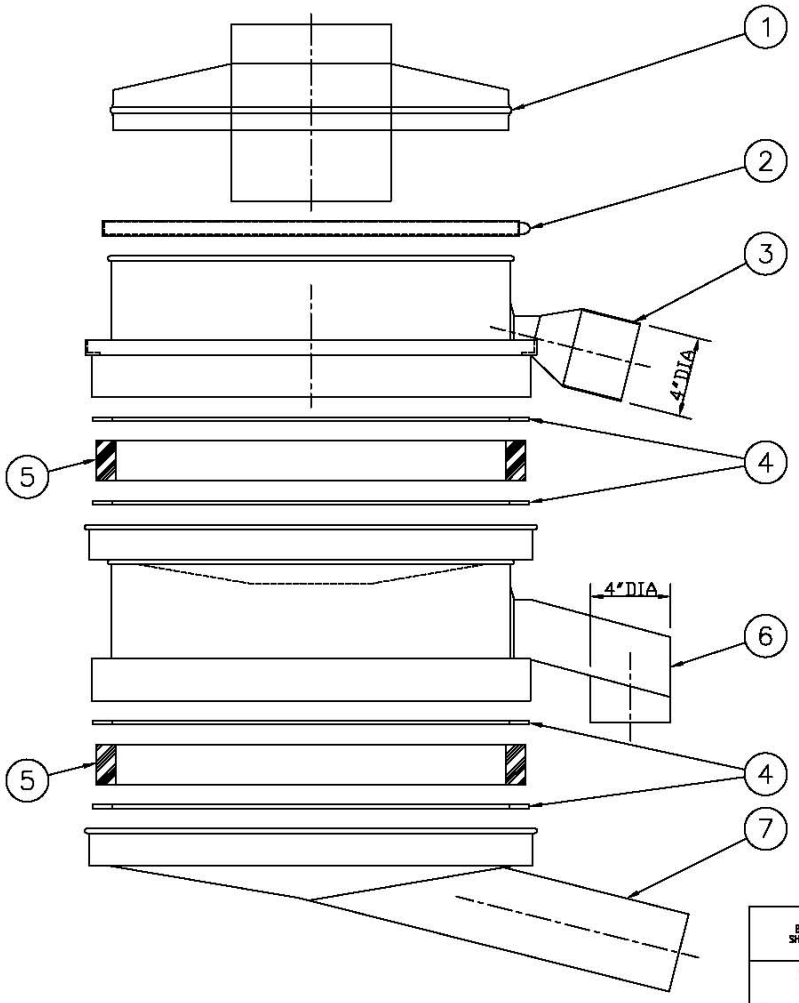
MODEL 35/50-P

PNEUMATIC SYSTEM ASSEMBLY

"DWG: C"



ITEM	QTY.	DESCRIPTION
1	1	DOME LID WITH 8" DIA. INLET
2	1	22" RIM LOCKING BAND
3	1	UPPER MAIN RIM
4	4	22" FLAT GASKET
5	2	50P SCREEN
6	1	LOWER MAIN RIM
7	1	22" SHALLOW FUNNEL

REVISIONS

EDIT DATE:
PLOT DATE

BREAK ALL SHARP EDGES

SCALE

TOLERANCE ALLOWANCE UNLESS OTHERWISE SPECIFIED FINISH DIMENSIONS: FRACTIONAL ±1/64 DECIMAL ±.003

DR.:

APP'D:

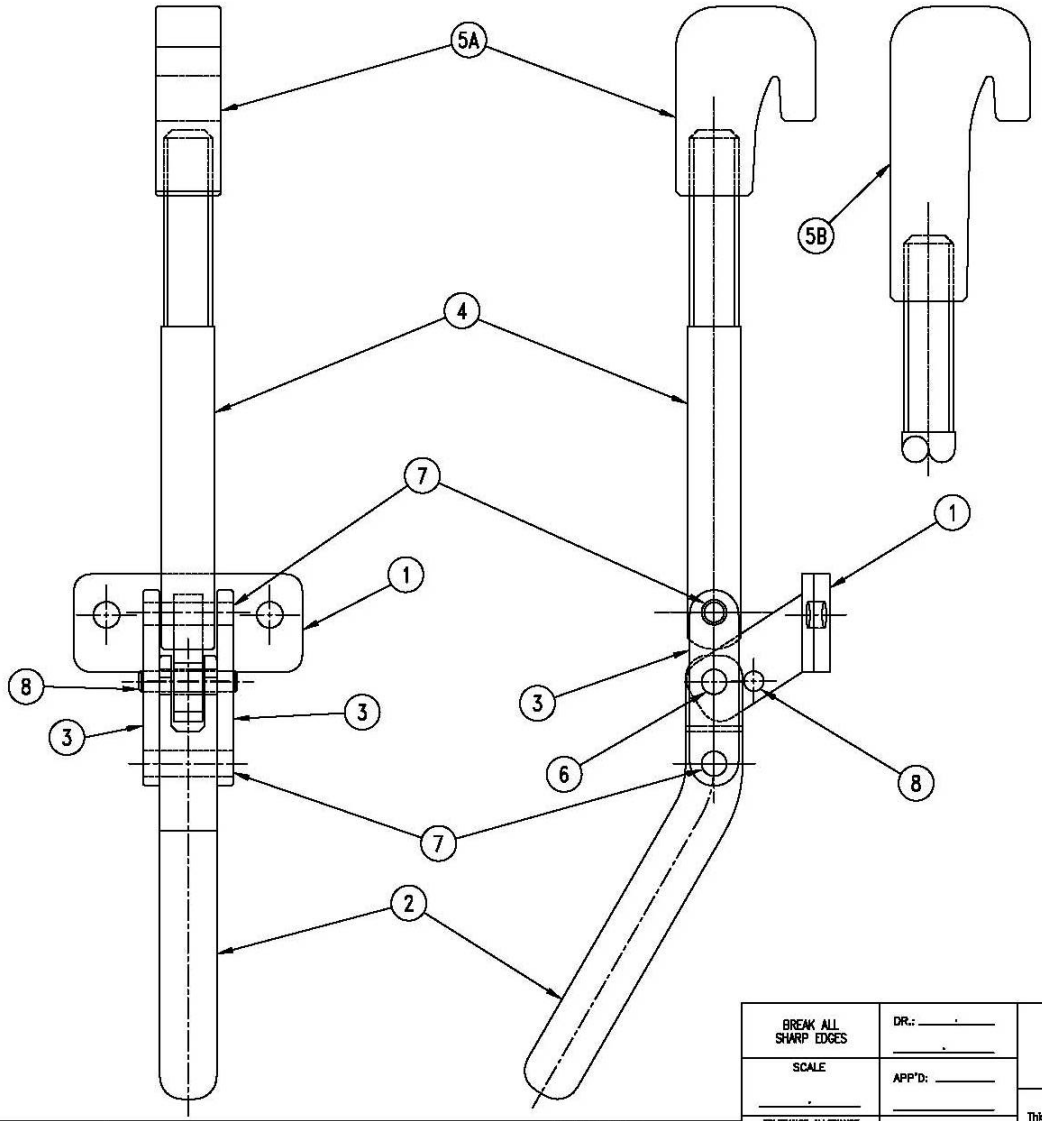
CH'KD:

SPONGE-JET, INC.

MODEL 50-P

CONTACT PARTS

"DWG: D"



ITEM	DESCRIPTION	REQ'D.
1	35 & 50P/E CLAMP BODY ONLY	1
2	HANDLE FOR #050PW-8	1
3	35/50 LINK FOR CLAMP (2 REQUIRED PER CLAMP)	2
4	THREADED ROD FOR 35P/E & 50P CLAMP 050PW-8	1
5A	35P CLAMP ARM HOOK	1
5B	50P CLAMP ARM HOOK	1
6	35/50 SHORT PIN FOR CLAMP	1
7	35/50 LONG PIN FOR CLAMP	2
8	35/50 STOP PIN FOR CLAMP BODY FOR 050PW-8	1
	50P RECYCLER COMPLETE CLAMP	4
	35/50 LOCKNUTS 3/8-16	8

35P RECYCLER COMPLETE CLAMP 4

NOTE: 1. USE REMOVABLE "THREADLOCKER" WHEN BOLTING TO THE TOP HOUSING.

REVISIONS		EDIT DATE:	BREAK ALL SHARP EDGES	DR.:
		PLOT DATE:	SCALE	APP'D:
			TOLERANCE ALLOWANCE UNLESS OTHERWISE SPECIFIED FINISH DIMENSIONS: FRACTIONAL ±1/64 DECIMAL ±.005	CH'KD:

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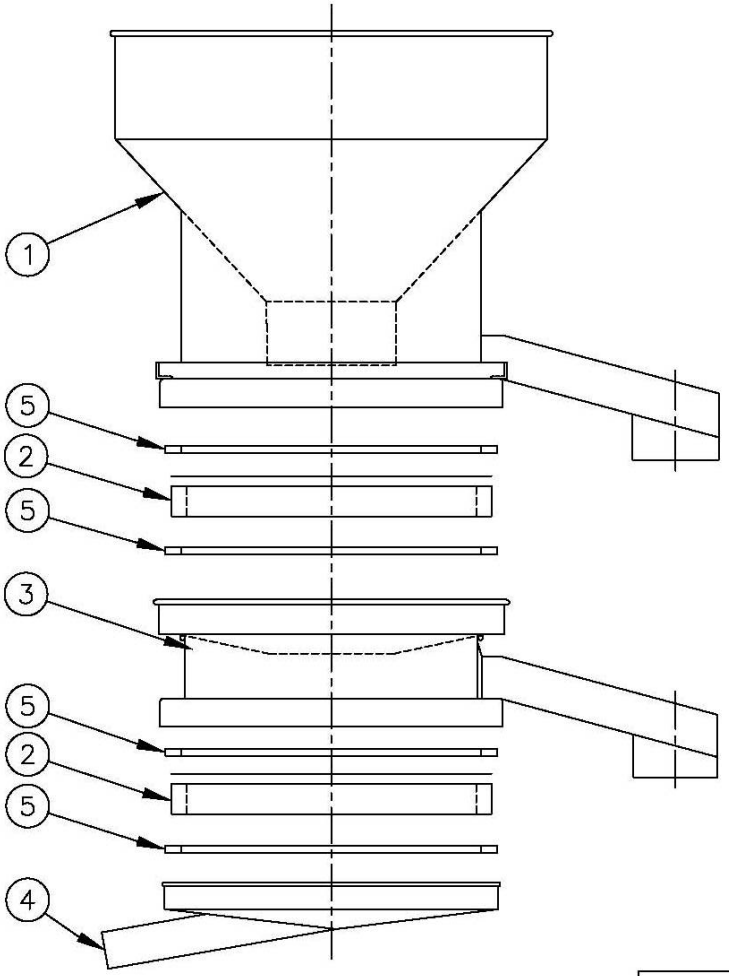
MODEL 35-P/50-P

CLAMP ASSEMBLY

"DWG: E"

ITEM	QTY.	DESCRIPTION
1	1	HOPPER
2	2	35–P SCREEN
3	1	MAIN RIM WITH 2" X 9" OVERSIZE CHUTE
4	1	SHALLOW FUNNEL
5	4	FLAT GASKETS



REVISIONS:	EDIT DATE: . PLOT DATE: .	BREAK ALL SHARP EDGES SCALE . TOLERANCE ALLOWANCE UNLESS OTHERWISE SPECIFIED FINISH DIMENSIONS: FRACTIONAL ±1/64 DECIMAL ±.003	DR.: . APP'D: CH'KD:	SPONGE–JET, INC. CONFIDENTIAL This drawing, including all information contained thereon, is the exclusive proprietary property of SPONGE–JET, INC. It is disclosed with the understanding it will be retained in confidence and will neither be duplicated or copied in whole or in part nor used for any purpose other than that for which it was disclosed.	MODEL 35–P CONTACT PARTS "DWG: F"

Notes:

MODEL#: _____

SERIAL#: _____