CB MASTER
Production Sandcarving Machine

MBA
MEDIA BLAST
& ABRASIVE, INC.
MEDIABLAST.COM
MADE IN USA

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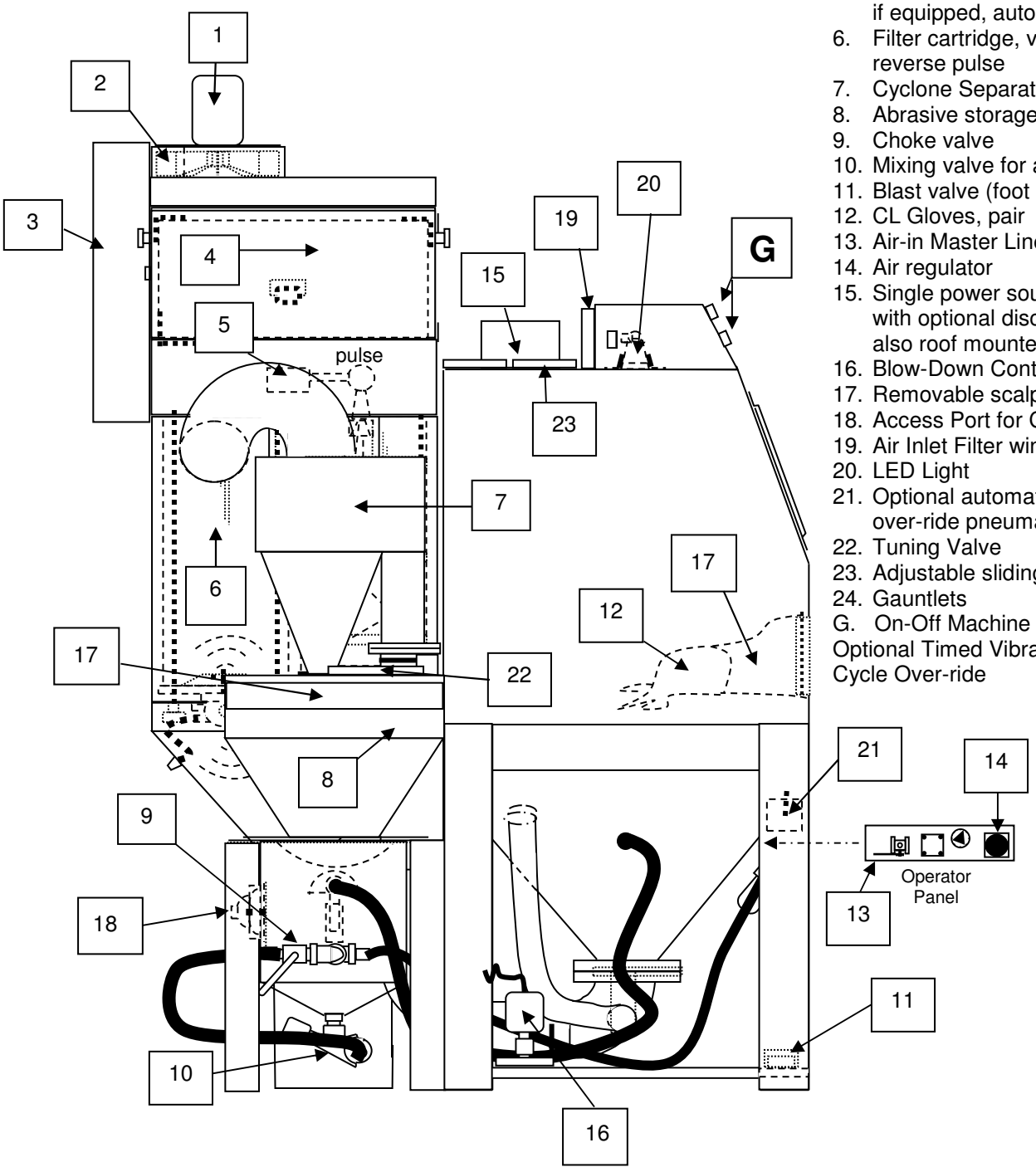
Diagram and Controls



1. Blower motor
2. Blower impeller
3. Super Silencer
4. HEPA option if equipped
5. Optional reverse pulse cleaning if equipped, automatic timed
6. Filter cartridge, vibration or reverse pulse
7. Cyclone Separator Reclaimer
8. Abrasive storage hopper
9. Choke valve
10. Mixing valve for abrasive
11. Blast valve (foot operated)
12. CL Gloves, pair
13. Air-in Master Line
14. Air regulator
15. Single power source electrical with optional disconnect switch, also roof mounted
16. Blow-Down Control Valve
17. Removable scalper screen
18. Access Port for Cleanout
19. Air Inlet Filter window sweep
20. LED Light
21. Optional automatic pot loading over-ride pneumatic switch
22. Tuning Valve
23. Adjustable sliding air inlets
24. Gauntlets

G. On-Off Machine Switch and Optional Timed Vibrator Cleaning Cycle Over-ride

Added options, different cabinet sizes may change the location of standard machine features.

CONTROLS AND TERMS

INSTALLATION

ASSEMBLY: If your unit required factory disassembly to facilitate machine shipment please refer to the separate assembly instruction sheet supplied with this information. This sheet will instruct you on the parts required for re-assembly.

UNIT PLACEMENT: Allow adequate clearance for loading and unloading the blast cabinet. MBA recommends 36" in front of the cabinet for the operator and 36"-60" (based on door width and or part size) on each side of the cabinet that has an access door. Always leave at least 9" clearance behind the cabinet to facilitate airflow from the exhaust of the dust collectors (allow 12" for a cabinet equipped with vacuum cleanup assembly). Never place the unit where direct light can strike the operator view window. This will cause reflections on the view window and make it uncomfortable and difficult for the operator to view the work in progress.

INSTALLATION OF THE SHROUDED FOOT PEDAL (cabinet option): Remove shrouded foot pedal from box. Place foot pedal on the floor in front of the cabinet. Run both coiling tubes under the front leg brace. Insert end of right coiling tube into the right L-shaped tube connector located on the top of the front leg brace. Insert end of left coiling tube into the left L-shaped tube connector. *Note: Coiling tubes must be run under leg brace or the tubes will kink.*

ELECTRICAL REQUIREMENTS AND CONNECTION: Please check cabinet serial number tag for electrical requirements. Many MBA blast cabinets are wired for standard 120V service. However, larger exhaust blowers and special configurations may require the machine to be wired to a different power voltage. Client requirements were determined prior to the machine being manufactured. Cabinets with HIGHER VOLTAGE electrical require hard wiring to the cabinet. Any 3-Phase High-Voltage power source requires the exhaust blower rotation in one direction only. ***NOTE:*** *Check red arrow located on the blower housing for proper motor rotation. Some units include optional safety disconnect to permit machine electrical lockout during machine service. Always supply electrical lockout during machine installation if optional lockout was not purchased.*

WARNING – Follow OSHA approved lock out and tag out procedures before connecting any electrical portion of this machine. The end user shall provide the appropriate means of disconnecting and locking off the electrical supply to this machine.

AIR REQUIREMENTS AND CONNECTION: Single operator cabinets are supplied with one blast nozzle. Dual operator cabinets may be supplied with one or two blast nozzles. Each cabinet is supplied standard with a 3/16" (#3) nozzle. The air consumption of the nozzle will be 27 cfm at 50 psi. This does not take into consideration the nozzle wear or the line loss experienced from the compressor to the cabinet. To calculate the volume of air necessary to operate this cabinet efficiently, refer to TABLE 1: MBA PRESSURE BLAST AIR CONSUMPTION after review of the ADJUSTING BLASTING PRESSURE for the required abrasive being used. Determine the maximum blasting pressure used in the cabinet, and then locate the cell corresponding to the nozzle size. Drop down to the corresponding cell for the next larger size nozzle. This would be the least amount of compressed air that should be dedicated to the cabinet. (To calculate horsepower, divide the cfm by 4.) If the blast cabinet is located more than 100 feet from the compressor, add an additional 10%-15% for line loss. Therefore, MBA's recommendation for air supply to this cabinet (@ 50 psi) is 30 cfm or 7-1/2 hp.

If other nozzle sizes are used in the future, use Table 1 to determine an adequate air supply**.** Table 1 highlights the standard nozzle size. Always know the maximum impact velocity of the abrasive being used.

NOTE: Never use sand or poor quality abrasives in any stationary abrasive blasting cabinet. Poor quality abrasives with low recycle rates affect the proper operation of any blasting cabinet dust collector.

WARNING – Follow OSHA approved lock out and tag out procedures before connecting any pneumatic portion of this machine. The end user shall provide the appropriate means of disconnecting and locking off the electrical supply to this machine.

Never use quick disconnect fittings on cabinet installations. The quick disconnect fittings will restrict the air flow. Use only 1/2" pipe or 1/2" ID air hose with proper barb fittings or threaded fittings**.** If the air source is over 50 feet from the cabinet, use 1/2" pipe for the line source. If the cabinet is outfitted with a Non-Standard nozzle, use 1" or larger pipe for the line source.

NOTE: *Using airlines or supply hoses smaller than the recommended size will cause reduced blasting pressures or excessive pressure drop.*

Nozzle Size	CFM CONSUMPTION AT SPECIFIC PRESSURES						
	30 PSI	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI
1/8" (#2)	8.38	10.29	12.20	14.02	15.93	**17.76**	19.67
3/16" (#3)	18.92	23.24	27.39	31.54	35.85	**40.08**	44.15
1/4" (#4)	33.62	41.17	48.64	56.11	63.66	**71.13**	78.68
5/16" (#5)	54.61	67.06	79.10	91.13	103.63	**115.66**	127.74
3/8" (#6)	75.61	92.96	109.56	126.16	143.59	**160.19**	176.79
1/2" (#8)	134.46	164.34	195.05	224.93	254.81	**284.69**	314.57

TABLE 1: MBA PRESSURE BLAST AIR CONSUMPTION

MBA OPERATION

FILLING THE CABINET WITH ABRASIVE: All cabinets should be filled with abrasive only when the exhaust blower running, all abrasive should be loaded into the machine cabinet hopper. This is not to prevent clogging, but to prevent the dust (created during filling) from escaping the cabinet. All CB Master units will transfer the abrasive directly into the outside abrasive storage hopper assembly. All units with single power source electrical use the front cabinet **ON-OFF**, **(G),** switch located on the window sweep enclosure to turn the machine on for operation. This switch controls the machine on-off cycle activating the lights, blower and all required control circuits. If the optional electrical lockout disconnect has been supplied this switch is for service only and not used for machine on-off control.

The CB Master is equipped with 1.0 cubic foot pressure vessel and advised for operation using 75 pounds of standard abrasive. (Do not overfill, use no more than 100 pounds of abrasives). The CB Master is available with optional 1.7 cubic foot pressure pot capable of holding 160 pounds of standard abrasive. Abrasive has a tendency to find places to hide in larger cabinets; therefore, it may be necessary to add additional abrasive to compensate for the abrasive that is not recycling. Caution must be exercised to prevent overfilling. The quantity is based on abrasive with a bulk density of 100 pounds per cubic foot.

PRESSURE BLAST ABRASIVE DELIVERY

WARNING: Never use non-recyclable abrasives, poor quality abrasives or silica sand. The rapid and continuous breakdown of these abrasives reduces cabinet visibility and loads the dust collector filters (rendering them ineffective). Use of silica sand in the blast cabinet voids the warranty on any Media Blast equipment.

Nozzle Size	Abrasive Delivery @ 80 psi*		Hourly Usage Based on Abrasive Recyclability				
	Lb./Min.	Lb./Hr.	5 Cycles	10 Cycles	15 Cycles	20 Cycles	25 Cycles
1/8" (#2)	2.0	125	25 lbs.	13 lbs.	8 lbs.	6 lbs.	5 lbs.
3/16" (#3)	4.5	265	53 lbs.	27 lbs.	18 lbs.	13 lbs.	11 lbs.
1/4" (#4)	7.7	465	93 lbs.	47 lbs.	31 lbs.	23 lbs.	19 lbs.
5/16" (#5)	13.0	780	156 lbs.	78 lbs.	52 lbs.	39 lbs.	31 lbs.
3/8" (#6)	18.0	1100	220 lbs.	110 lbs.	73 lbs.	55 lbs.	44 lbs.
1/2" (#8)	31.0	1900	380 lbs.	190 lbs.	127 lbs.	95 lbs.	76 lbs.

* Abrasive delivery based on abrasives with a density of 100 lbs. per cubic foot

TABLE 2: PRESSURE BLAST ABRASIVE DELIVERY

ADJUSTING THE MEDIA MIXING VALVE: To regulate the flow of abrasive first open the fine turning choke valve to full open position, next adjust the main media-mixing valve located at the bottom of the pressure pot assembly. Turn the handle clockwise to reduce the flow and counterclockwise to increase the flow. Too much abrasive will cause the flow to be erratic and it will feel like the abrasive is being spit out of the nozzle. The standard mixing valve is non-piston operated. When the abrasive is visible exiting the nozzle use the choke valve to make final adjustments to abrasive flow, see item #9 page #2 of the Diagram and Controls for choke valve location.

NOTE: It is possible after time for small media to create nesting in the mixing valve starving the mixing valve setting. This condition will result in a lessening of the media delivery. If this condition occurs, remove the blast nozzle from the abrasive hose and open the mixing valve two full turns. Pressing on the blast hose will blow the nested material out of the mixing valve and clear the delivery system. Replace the mixing valve to the original position and install the nozzle for effective abrasive flow and delivery to the blast nozzle.

ADJUSTING THE BLAST PRESSURE:

Pull out the handle to unlock the regulator, rotate the regulator adjustment knob located on the panel on the front of the hopper. Turn clockwise to increase the pressure, counter-clockwise to reduce the pressure. Push adjustment knob in to lock in place. MBA recommends the following ranges of blasting pressures for the appropriate abrasives:

Glass Bead	**30 – 40 psi**	**Aluminum Oxide**	**30 – 50psi**
Crushed Glass	**30 – 40 psi**	**Silicon Carbide**	**30 – 50 psi**
Garnet	**30 – 35 psi**	**Agri Shell**	**Not Advised**
Steel Grit or Shot	**Not Advised**	**Plastic**	**30 – 40 psi**
Silica Sand	**Never Use**	**Slags**	**Not Advised**

Note: *Using pressures on the high end of the range or beyond the recommended ranges may cause the abrasive to breakdown prematurely. If increased blasting pressures are used, always increase the blasting distance to the part.*

BLASTING PARTS: With parts loaded in the machine and all adjustments completed, the unit is ready for use.

NOTES: *Before operating the machine, check to ensure that the dust collector cartridges are secure. They may loosen during shipping. During the initial blasting, it is possible that abrasive dust will escape from the blower exhaust if the filters are not secure (especially with fine meshed abrasives). Super fine abrasive media may require HEPA after-filtration to control sub-micron dust created by the abrasive during abrasive shipment. Always check with the abrasive supplier for HEPA requirement. This machine will not operate if a door is open and the blow-off gun is also linked to the access door for safety. The door is equipped with a safety door interlock that locks out the valve operated foot pedals when the door is open. This safety feature eliminates potential injuries caused by blasting with a door open. It is possible to purchase an optional pneumatic door lock, consult factory.*

Place both hands inside the gloves when glove (s) are attached. Grip the nozzle and nozzle holder. Holding the nozzle at a slight angle from the part will typically yield the best results. Never hold the nozzle closer than 2 inches from the part. Depress the foot treadle (or shrouded foot pedal) to begin blasting. Blasting will stop when you remove your foot from the foot treadle. The CB Master includes the Quick Load pressure pot Blow-Down controls. With the Blow-Down Control valve in automatic the pot will open each time the blast pedal is released. Manual or off position does not allow the blow-down valve to open. This feature can be used to prevent the need to clear the abrasive hose, it also allows the operator to use different blasting pressure on the same blast cycle.

WARNING – Do not point the nozzle at the gloves or the safety glass. Do not cover the end of the nozzle with the finger(s) of the glove. Always have a firm grip on the nozzle prior to depressing the foot treadle. Never bypass, disable or tamper with any safety device. Failure to heed this warning may result in serious injury.

ADJUSTING THE CYCLONE RECLAIM SEPARATOR EFFICIENCY VALVE (TUNING VALVE) (standard on all CB Master machines) The CB Master includes the efficient cyclone reclaim separator for abrasives recycle to 30 microns (about 450 mesh). This means only dust from the blasting will be sent to the dust collector. If the cabinet is retaining too many fines in the cabinet it may become necessary to remove finer sizes of the abrasive from the blast stream and transfer these to the dust collector. This can be accomplished using the TUNING VALVE on top of the cyclone abrasive storage hopper. Most applications today operate using a “TIME BLASTING PERIOD” established to determine abrasive change-out. Factors like the part hardness, the blasting pressure, nozzle size and the air volume used are all determining factors used to know when to purge the abrasive from the machine… cumulative blast time is the most used method to determine when the abrasive requires change.

To tune the cyclone reclaim separator first find the tuning disk located on the top of the blast abrasive storage hopper, see #22 on the Diagram and Controls page 2. The tuning disk is preset closed by the factory. Open slightly by turning the tuning disk when visibility is lessoned by retained fine particles. Opening the disk allows ambient air to enter the discharge end of the cyclone separator. This air decreases the efficiency of the cyclone by creating a cone tip air velocity. As the tuning disk is opened further, the efficiency of the cyclone continues to decrease and larger particles of abrasive will be pulled into the dust collector. Set the tuning disk at the point when abrasive particles slightly finer than desired for blasting are being pulled into the dust collector. While this is not an exact science, this simple device can remove the smaller abrasive particles but a very small opening is all that is required. Opening full will transfer most abrasive to the dust collector waste hopper.

ADJUSTABLE AIR INLET FILTER: The CB Master has multiple air inlets. One operator glove is often used removed to load parts into and out of the cabinet. Make sure to use gloves to hold any part being blasted using the fixed nozzle holding bracket. Another air inlet is the window sweep used to help prevent dust from attaching to the view window. The top of the machine has four down-draft air inlets with sliding block-off plates. These can be used to increase air velocity into the machine at all locations. Do not close all of the top air inlets, this will lessen the down-draft creating more cabinet dust. Always remember the tuning valve can be used to remove more of the fine dust being retained in the system.

REMOVABE ABRASIVE SCALPER SCREEN: All CB Master Models include a removable scalper screen assembly. This screen must remain closed and sealed at all times. Smaller screen sizes are available, ask for details. We advise removing the screen only with the exhaust blower off. Removing the screen with the blower running will vacuum the debris back into the abrasive storage hopper when the screen is removed.

ELECTROSTATIC SHOCK: Electrostatic shock is a common occurrence with abrasive blasting equipment. It is a condition that typically occurs in low humidity situations. Static electricity builds when two different materials are brushed or rubbed against each other. Many abrasives, under these conditions, will “adhere” to the sides of the cabinet. This is due to the buildup of static in the cabinet. Electrons are used to pass off static build up maintaining a static balance in the area. When the humidity is low this balance can’t be maintained. Standing on a rubber mat, holding the part with rubber gloves can cause static to build in the nozzle attached to a rubber hose and the cabinet itself. Most of the problem comes from the cabinet itself and the most common item in abrasive blasting that will store static electricity is the blast cabinet. The cabinet acts as a condenser waiting to discharge to ground. Static electricity looks for a moist ground. Typically your body (consisting of nearly 90% water) becomes the best path for ground, therefore the harmless but annoying static shock.

Static electricity can also be caused by rubber mats used on the work surface or operator work area. The rubber does not allow the electricity to discharge or equalize, static can build up in the nozzle and the part itself. The machinery ground will not stop static from storing but there is an easy solution.

To alleviate the static shock, MBA recommends using an approved Static Electricity Grounding Kit (part number 100-22-251). The grounding kit consists of a grounding strap for the machine and a grounding strap for the operator. When the grounding strap for the operator is attached to the operator’s wrist, the cabinet will be unable to act as a condenser; the static will be unable to build up and jump to the operator’s body. When using a rubber mat to protect the part being processed it may be necessary to supply a grounding clip from the part to the cabinet.

Grounding the abrasive nozzle to the cabinet is also advisable to prevent static from building up in the blast nozzle.
Most annoyance will be solved when the right air condition creating balanced static in all areas but the cabinet elimination will solve almost all problems.

RE-FILLING THE PRESSURE POT: All pressure pot units are sealed and not open to the atmosphere during the blasting operation. The standard blast circuit uses the compressed air from the depressed foot pedal to close the pressure pot valve and you will hear a slight "metal clunking sound" with the valve opens to refill the pot. This allows the pot to pressurize and start the blasting process. It may take 1-3 seconds for the media delivery to stabilize depending on the nozzle size being used. Some units are standard with Blow-Down Controls that create a second pot exhaust circuit permitting fast pot de-pressurization when the blast pedal is no longer depressed. This can keep the pot filled eliminating the need to stop production and fill the pot.

After the operator has removed his or her foot from the blast pedal the compressed air inside the pot will exhaust completely from the pot using the blast nozzle and the pot blow-down circuit if equipped. If the unit is not equipped with blow-down circuit the time required for the pot valve to open is determined by the nozzle size and blasting pressure being used. A ¼" nozzle assembly, standard, can require 10 seconds before the pot valve opens allowing the abrasive being stored in the outside storage hopper to re-fill the abrasive blast pot. Having the blow-down controls ensures that the pot is open in 2-3 seconds helping to keep the blast pot filled during constant machine operation.

PRESURE POT BLOW-DOWN OVER-RIDE CONTOLS: Some machines include the automatic blow-down over-ride controls This allows the operator to determine when to fill the pressure pot. When the over-ride switch (see item # 21 in the Diagram and Controls page #2) is in the automatic position the pot will open each time the operator releases the blasting pedal. In the off position the blast nozzle will continue to blast as the blasting pressure is slowly lowered. Depending on the nozzle size this feature will eliminate needing to clear the hose each time the operator releases the blast pedal. It also allows the operator to release the pedal and process part areas at a lower pressure tapping the pedal to maintain any desired lower pressure. Pressing down again on the pedal will increase the blasting pressure back to regulator set pressure.

MBA SERVICE

MINIMUM RECOMMENDED MAINTENANCE SCHEDULE FOR YOUR MACHINE
(Replacement schedule can vary depending on equipment usage and other factors)

MAINTENANCE PROCEDURE	EVERY 2 HRS	DAILY	WEEKLY	MONTHLY	SEMI-ANNUAL	ANNUALLY
Clean Dust Collector Cartridge Filter* (* does not apply to machines with optional automatic filter cleaning)	X					
Drain Pressure Regulator Filter Trap		X				

Inspect Nozzle		X				
Inspect Abrasive Hose for Wear			X			
Replace Abrasive Hose					X	
Replace Dust Collector Cartridge Filter* (* may vary depending on blast hours and humidity)						X
Replace Door Seal					X	
Inspect Level of Abrasive in Pressure Vessel		X				
Replace Abrasive* (* time a pressure sensitive)				X		

TABLE 3: MINIMUM RECOMMENDED MAINTENANCE SCHEDULE

INSPECTING THE NOZZLE: The nozzle should be inspected on a daily basis. Remove the nozzle from the nozzle holder and inspect the back of the nozzle. If the nozzle is showing excessive, uneven wear then it should be replaced. Measure the diameter of the bore of the nozzle. If the bore diameter is 1/16" larger than the original dimension, the nozzle should be replaced. As the bore diameter increases, the volume of air needed to maintain a specific pressure increases and frictional heat on the part increases (e.g., a 3/16" bore nozzle worn to 1/4" will use an additional 21 cfm when processing at 50 psi.

WARNING: Never use a damaged or highly worn nozzle…this will pass excessive amounts of air and abrasive making visibility hard inside the cabinet.

CHECK THE ABRASIVE LEVEL IN CB MASTER MODELS: All CB Master Models have an inspection cover located in the top of the abrasive storage hopper. This cover can be used to inspect the abrasive level inside the hopper. Equipped with a screen to prevent abrasive loading directly into the hopper. Loading abrasive here will bypass the machine scalper screens and possibly allow contaminate to enter the abrasive system plugging the mixing valve. By Looking at the visual level and using simple math, 100 pounds of abrasive per cubic foot, will establish how much abrasive the hopper will hold in the remaining hopper. This figure considers abrasive weight of 100 pounds per cubic foot.

Installing more abrasive than the hopper will hold will result in the abrasive transferring directly into the dust collector. Never leave this door open and never allow this inspection cover to leak air into the hopper. Refer to RECLAIM SEPARATOR TUNING below for what happens when air is introduced into the storage hopper.

REPLACING THE SPENT ABRASIVE: The volume of parts, type of parts and critical nature of the finish on the parts being blasted will determine when the abrasive should be replaced. As a rule of thumb, MBA recommends complete removal and replacement of spent abrasive. Adding abrasive normally includes the TUNING VALVE assembly, refer to **CYCLONE RECLAIM SEPARATOR TUNING VALVE:** above. Please refer to the following to determine whether the old abrasive should be completely or partially removed and replaced:

FACTORS DETERMINING COMPLETE REPLACEMENT OF ABRASIVE MEDIA

- **Best Visibility** – Less fine, broken abrasive particles creating dust and clogging the dust collector filter.

- **Least Maintenance** – Dust collector filters do not require changing as often because the spent abrasive is not TRANSFERRED to the dust collector but REMOVED prior to complete abrasive breakdown.
- **Consistent Finish** – When the finish on the parts starts to suffer, complete replacement of the abrasive will bring back the desired finish to the parts.
- **Slightly Lower Productivity** – New abrasive does not have the blend of particle sizes that lends to less productivity. The smaller the abrasive becomes the slower the production becomes.

First turn the automatic blow-down controls to off. This will hold the pot closed and allow you to clean the inside of the cabinet. There are several ways to remove the abrasive from a cabinet with a pressure pot. First use the machine blow-off gun to blow-down all inside machine ledges with the exhaust blower running. This will transfer the used spent abrasive into the abrasive storage hopper located below the cyclone separator and above the pressure pot assembly. After the cabinet inside area has been cleaned switch the blow-down controls to automatic and allow the abrasive to fall into the pressure pot, perform a pneumatic machine lockout next. The spent abrasive will collect in the outside abrasive storage hopper and pressure pot assembly. At this time the pressure pot valve assembly will be open to atmosphere, remove the pot access port and allow the abrasive to drain into a low-sided container. Loosen the nut securing the yoke to the cover plate. Remove the nut, yoke, cover plate and gasket by turning the holding stud back into the pot, this allows the port sealing plate to be removed first. Insert any hoe tool into the hand hole to clean out the abrasive. To replace, insert the sealing plate stud first, rotate the port plate inside the pot.. Hold the gasket and cover plate tight against the inside of the hand hole. Slide the yoke over the threaded rod on the cover plate and tighten down the nut. ***Note: The gasket and cover plate must be centered. Both sides of the yoke must be secured to the rim of the hand hole.*** Other vacuum attachments can be used to clean out the inside of the cabinet if the machine has been equipped with the optional Integrated Vacuum Cleanout Assembly... Cement mixing containers are best for this operation. Use a small scoop to remove the last of the media remaining inside the pot assembly. Cabinets equipped with the optional vacuum cleanup assembly can do a more thorough job of cleaning the cabinet and pressure pot.

If the machine is equipped with the Integrated Vacuum Clean-Up, open the vacuum slide gate located on the rear of the dust collector chamber. Use the vacuum nozzle to remove any final media remaining in the pot assembly. Close the vacuum slide gate, install the pressure pot access port assembly and the unit is now ready for a new abrasive charge. This is one method for changing the abrasive.

A second method is to open the tuning valve during machine operation and continue to operate the machine until the abrasive has been totally transferred into the dust collector. This will be noticeable as the total pot run time gets shorter and shorter before pot loading is required. ***Note:*** *Don't forget to close the tuning valve when finished.*

This is a method commonly used when the pot assembly does not include an access port. Having the Cyclone Tuning Valve will eliminate the need for total abrasive change out.

CLEANING THE DUST COLLECTOR CARTRIDGE FILTER: Most cabinets are equipped standard with a manual pneumatic filter cleaning system. The manual pneumatic filter cleaning system uses compressed air to operate a ball vibrator. The ball vibrator shakes the filter, (filters), to remove the collected dust. All Media Blast Production Machines include negative

WARNING: Operating the blast cabinet with moist compressed air will compromise the performance of all the filter cleaning systems. It is critical that the compressed air entering the blast cabinet is dry. If there is a moisture concern, install the MBA Inline Ambient Air Dryer (P/N# 100-03-177).

pressure dust collector operation. **With the exception of the automatic timed reverse pulse optional cleaning cycle, all machines need to have the exhaust blower turned off to permit dust collector filter cleaning.** The optional automatic timed filter-cleaning uses the ball vibrator to clean the filter but performs it automatically each time the machine is turned off. The optional manual reverse pulse filter cleaning cycle uses a pulse of compressed air to clean the filter and the automatic version cleans the filters at regular intervals when the machine is operating.

Manual Pneumatic Filter Cleaning Assembly (standard): For optimum visibility, the dust collector filter cartridge should be cleaned every two hours of cabinet process time. To clean the dust collector filter cartridge, turn off the power to the machine blower. *NOTE: Running the filter cleaning cycle with the exhaust blower running will pack the cartridge filter.* Open the valve located behind the dash panel on the front of the hopper. With the blower in the off position run the vibrator, (s), for 2 to 3 minutes every two hours of machine operation.

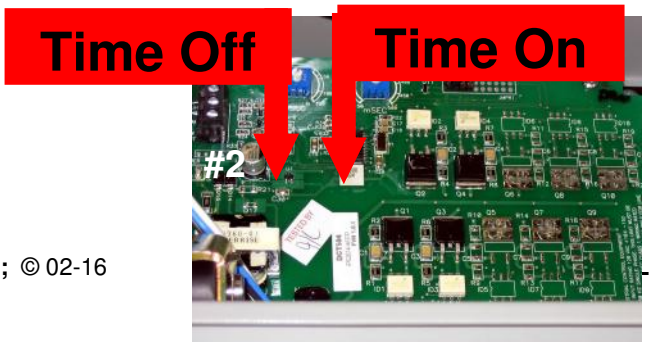
This allows the air to flow to the vibrator in the dust collector. The vibrator shakes the cartridge, thus releasing dust trapped in the pleats of the filter. Run the vibrator for approximately 2-3 minutes. Turn off the vibrator by closing the air valve.

Automatic Timed Filter Cleaning Assembly (optional): This filter cleaning assembly cleans the filters automatically every time the machines power is powered off. It uses the same pneumatic ball vibrator as the Manual Pneumatic Filter Cleaning Assembly. A timer, located inside the main electrical enclosure, is set to permit adequate time for blower coasting to remove the negative pressure inside the dust collector housing.

NOTE: The pneumatic vibrator (s) include a spring adjustable silencer that allows adjustment of the vibrator cycles. Using a slower vibrator cycle will result in a more efficient cleaning cycle. The optional manual over-ride switch is used for applications when the machine is used infrequently and turned on and off many times a day. Make sure at the end of the day the machine is allowed to clean itself when turning this switch to the off position. Never turn will the cleaning switch to the off position or the dust collector never get cleaned.
You can always inspect the condition of the filters to establish if the cleaning cycles per day can be increased or decreased. Always tap the door first and always open the dust collector service door with the blower off.

Adjusting the Optional Reverse Pulse Timed Cleaning Assembly: The factory settings are intended for optimum results on most applications. We do not recommend that you adjust factory settings, but this may be done to improve performance for certain applications.
To adjust:

1. With machine air and power on, locate the reverse pulse timer enclosure
   (pic #1). Open the box by inserting a flat head screw driver into the black lock and turn until lock is dis-engaged and the top can be opened.
2. Adjust the dial labeled “Time Off” to the desired position with a small flat head screw driver.(pic #2)
3. With a stop watch, time a few pulse cycles to make sure it is correct.



Never set the “Time Off” to less than 20 seconds, because it doesn’t give the Reverse Pulse Air Tank enough time to fully charge. “Time On” should never be adjusted from factory settings.

Manual Reverse Pulse Filter Cleaning Assembly (optional): This system is strongly recommended for single cartridge dust collectors that will be operated in regions that experience high humidity with the pneumatic vibrator cleaning cycle. The operator depresses a button located on the front of the blast cabinet. This button opens a valve that releases compressed air into the filter to “pulse” the dust off the filter. Typically, it is recommended that the filter be pulsed after each part is processed. Retrofit kits are available to convert existing MBA machines with single cartridge dust collectors. It is also possible to pulse the filter once or twice only with the exhaust blower off. This condition exaggerates the cleaning action but can also push collected dust back inside the cabinet. This is not recommended.

Automatic Reverse Pulse Filter Cleaning Assembly (optional): This system is strongly recommended for dual cartridge dust collectors that will be operated in regions that experience high humidity. The filters are automatically cleaned sequentially at regular intervals. Retrofit kits are available to convert existing MBA machines with dual cartridge dust collectors. This is also advisable when the operator is not actively involved in the dust collector cleaning process. 90-100 PSI line pressure is required for proper operation of the reverse pulse cleaning cycle. Optional manual pulse controls are advised to allow cleaning with the exhaust blower off.

REMOVING THE DUST FROM THE DUST COLLECTOR HOPPER: Periodically the dust must be removed from the dust collector hopper. MBA recommends removing the dust at least once per week (more often depending on the type of abrasive used, the blasting pressures and the number of cabinet process hours per week). Daily dust removal is very common when the machine is being used for more than 4 hours per day. Simply tap on the storage hopper and a solid thud indicates a full hopper.

To remove the dust, turn the exhaust blower off. Locate the air valve (behind the dash panel) and open it, allowing the compressed air to travel to the filter vibrator (please refer to the section, CLEANING THE DUST COLLECTOR CARTRIDGE FILTER). When the filter cleaning has been completed, the dust is ready for dust removal.

With one hand, hold the neck of a plastic bag above the hopper drain cap. With the other hand, grasp the drain cap through one corner of the bottom of the plastic bag. Unscrew the drain cap

and move it aside to allow the dust to drain into the bag. Continue to hold the cap through the plastic bag until all of the dust has been drained. Screw the drain cap back on the nipple. Grasp the neck of the plastic bag below the drain cap and remove the bag. The dust should be contained completely in the bag for disposal without exposing anyone to the dust. Placing the bag in a container and lifting it to the correct height can make this an easy job. Running the pneumatic vibrator during dust removal will reduce the time required to empty the stored dust.

Contained Dust Discharge (optional): Open the slide gate located at the bottom of the dust collector hopper. When the dust has been drained, close the slide gate. Remove the top from the storage pail, grasp the plastic bag and remove it from the storage pail. Replace the plastic bag with a clean bag and replace the top onto the storage pail.

CARTRIDGE FILTER REPLACEMENT: MBA recommends replacing the cartridge filter every 500-1,000 blast hours (filters may have to be replaced more frequently in regions experiencing high humidity).

Standard Dust Collector with Vertically Mounted Filters: When the access door of the dust collector is open, the cartridge filter and filter mounting assembly can be observed. The filter mounting assembly consists of two threaded rods located outside the filter, a ball vibrator, filter bracket, and two filter retainer knobs. The following steps outline the cartridge filter replacement:

1. Clean the dust collector cartridge filter (please refer to Cleaning the Dust Collector Cartridge Filter procedure).
2. Remove the dust from the dust collector (please refer to Removing the Dust from the Dust Collector Hopper procedure).
3. If the machine is on, turn it off.
4. Insert one end of a lever bar (or short 2 x 4 lumber) under the filter vibrator and push down on the other end. This will reduce the tension on the filter retainer knobs.
5. Loosen the knobs and remove the spacers while applying steady pressure on the lever bar.
6. Allow the existing cartridge filter to drop, using the lever bar to control the descent.
7. Remove the cartridge from the dust collector housing by tilting the top of the cartridge through the access door followed by the cartridge bottom.
8. Replace the cartridge. Ensure that the center guide pin and sealing washer are located in the 1/2" assembly hole located on the bottom of the cartridge.
9. Hold the cartridge against the top seal. The new cartridge can easily be held in place while the ball vibrator and filter bracket are installed and the filter retainer knobs tightened. *NOTE: The filter retainer knobs must be tight or dust and abrasive will escape through the blower exhaust. Thread the knobs snug plus one additional turn. (The knobs can be kept from loosening by threading a nylon tie strap around the knob and the filter bracket).*
10. 24-48 hours after installing the new cartridge, check the cartridge to determine that it is still snug. Tighten the filter retainer knobs if the cartridge is loose.

WARNING: Use caution not to over tighten the filter retainer knobs. Over tightening the filter retainer knobs will cause damage to the cartridge.

WINDOW PROTECTOR GLASS REPLACEMENT: Machines using cutting abrasives require the window protector assembly. The window protector glass is held in position with a metal frame assembly installed inside the cabinet or under the view window with outside window frame assembly. A small compression seal is attached to the machine view window on the inside surface. The window protector frame assembly is used to press the second protector glass against the seal preventing dust from collecting between the two window surfaces. Replacing the window protector glass:

1. Loosen the frame holding knobs.
2. Remove the protector frame from the cabinet. Be careful to ensure that the window protector glass comes free with the frame.
3. Clean the safety glass view window interior surface and the new window protector glass surfaces.
4. Slide the new protector glass into the frame tracks and center the glass in the frame.
5. Install the frame and tighten the frame holding knobs. Be careful not to over tighten the knobs.

Replacement of the protector glass with no inside protector glass frame.

1. Loosen the lower two screw knobs to loosen the bottom bracket.
2. Loosen and remove the two top knobs and bracket.

3. The view window and protector glass can now be removed by pivoting the glass from the top and lifting from the bottom bracket.
4. Clean the view window, clean the new protector window and replace.
5. Before tightening the brackets push up on the bottom bracket and tighten the bottom bracket first followed by replacement and tightening of the top bracket

VIEW WINDOW REPLACEMENT: Many of the MBA cabinet view windows are held in place with a positive sealing window molding (FIGURE 1). The following steps outline window replacement:

1. Locate the locking strip end and remove the strip from the window molding.
2. Holding one hand firmly against the outside of the window, push the window from inside to outside and remove the window from the molding.
3. Apply silicone spray or equivalent to the locking strip slot and the window slot. Soap will work if sprays are not available.
4. Place lower left-hand corner of the window into the window slot at mid-window (FIGURE 1a).
5. While the window is being pushed toward the left side of the cabinet, bring the window to a level position and guide the top left window corner into the top molding window slot (FIGURE 1b).
6. Push the window into the left side of the window molding slot. Use the plastic stick from the Window Molding Tool Kit (part no. 100-07-599) if necessary.
7. With the aid of the plastic stick, install the second half of the window into the molding slot by inserting the stick between the outside of the window and the window slot. Move the stick around the perimeter to the lower half of the window (FIGURE 1c).
8. With the aid of the window locking strip tool (Window Molding Tool Kit), install the locking strip (FIGURE 1d).

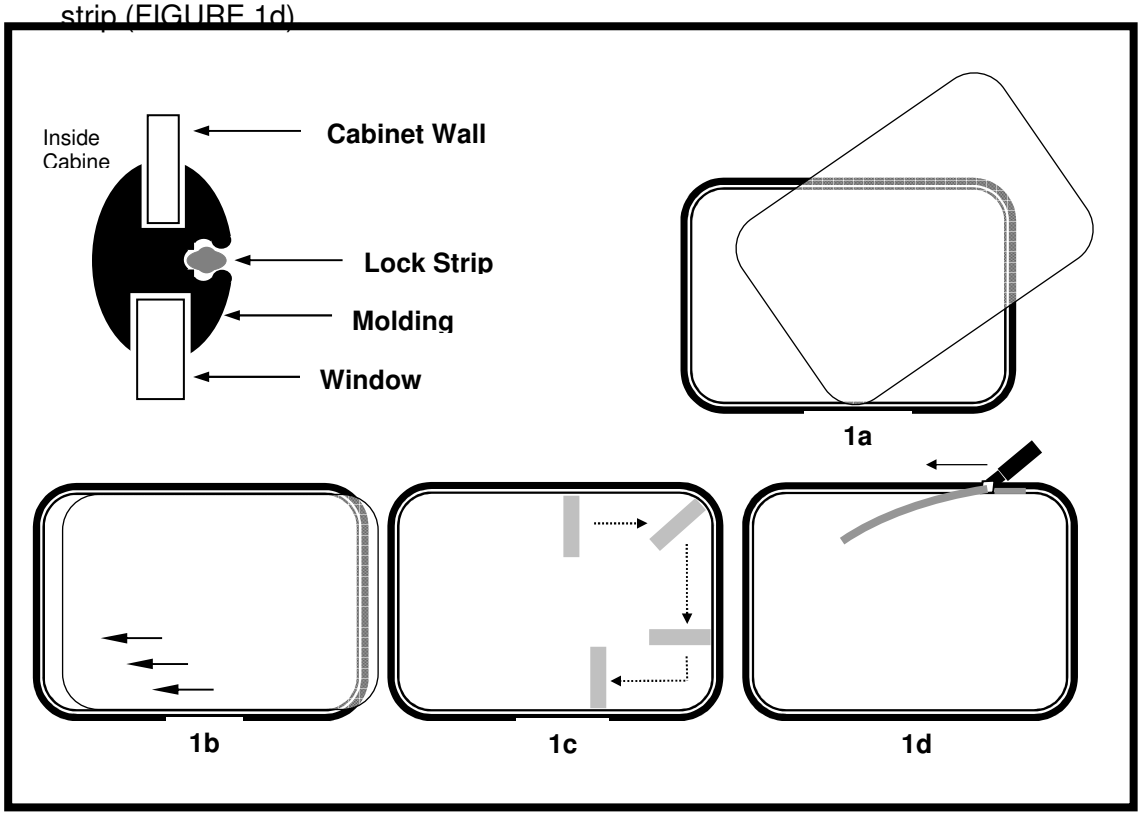


FIGURE 1: SAFETY VIEW WINDOW REPLACEMENT

HEPA FILTER (cabinet option and part of the Hazardous Materials Dust Collector option):

WHEN TO CHANGE THE HEPA FILTER: The magnahelic gauge on the front of the cabinet should read between 1/2" and 1" w.g. (water gauge) when the HEPA filter is new. As the HEPA filter gets dirty, the water gauge reading will increase. When the magnahelic gauge reads 2.5", remove the HEPA filter and replace with a new HEPA filter.

CHANGING THE HEPA FILTER: To change the HEPA filter, the exhaust blower must first be turned off. Turn off the exhaust blower with the switch located in the front of the machine. Locate the two larger finger knobs on each side of the HEPA filter housing (located between the cartridge filter housing and the exhaust blower plenum). These two knobs hold the HEPA filter in position. Loosen each knob and move the knob up approximately 1/4". Lightly tighten the knobs. The HEPA filter is now unlocked from position and ready to remove.

Remove the door to the HEPA filter housing. This is accomplished by removing the four smaller finger knobs. Pull the door off the housing (it may be slightly difficult since the knife edge seal is seated securely). Remove the protective plastic bag from the shipping box of the new filter. Place the lip of the plastic bag around the outside edge of the doorframe. Hold the plastic bag in place with several pieces of masking tape. From the bottom edge of the bag, reach for the handle located on the HEPA filter. Pull the HEPA filter into the bag, ensuring that the weight of the HEPA filter is supported. When the HEPA filter has cleared the housing, pull the plastic bag away from the doorframe and lower the filter. *Note: Be careful to not allow the open end of the plastic bag to point down thus releasing dust.* Use the nylon tie strap (enclosed with the plastic bag) to tie closed the end of the plastic bag. *NOTE: The plastic bag is not provided as an approved method of protective encasement for disposal of hazardous waste. Please follow all Federal, State and local laws pertaining to hazardous waste disposal.*

Remove the new HEPA filter from the shipping box. *Note: Be certain not to bump the packing into sharp objects that may tear the packing material.* Place the HEPA filter inside the filter housing with the gasket pointed down. When the gasket is securely in place, loosen the large finger knobs, slide down until snug and tighten. Replace the door and securely tighten the four smaller finger knobs.

ADJUSTING THE TIMED SAFETY DOOR LOCK: Locate the time delay control behind the front right leg of the blast cabinet (look for the two small button head mounting screws). This valve is also located to the top of the main blast cabinet. Loosen the knurled lock nut, then turn the knurled control nut clockwise one half turn to increase the time delay. Turn the knurled control nut counter-clockwise to decrease the time delay. Once the time delay is set, tighten the knurled lock nut to secure. *Note: The time delay will not release the door if the control nut is tightened completely.*

PROBLEM	SOLUTIONS
No Abrasive Delivery	• Door is not closed. Machine will not operate if the door interlock valve is not engaged. *Close door.* • No abrasive in the machine. *Add abrasive; review the procedure for filling the cabinet with abrasive.* • Hole in abrasive hose. *Replace abrasive hose.* • Mixing valve is closed (vertical position) or mixing valve pin is not touching the outer valve body. *Review the mixing valve adjustment procedure, and then adjust the mixing valve.* • Wet abrasive. This is usually caused by moisture from the air compressor. *Install an after-cooler or air dryer between the compressor and the blast machine.* • Wet, hardened abrasive around the abrasive mixing valve. This is usually caused by moisture from the air compressor. *Install an after-cooler, refrigerated or desiccant style air dryer between the compressor and the blast machine.* • The abrasive mixing valve is plugged with long, narrow material that passed through the scalper screen. *Remove, clean and replace the mixing valve. If this is a recurring problem, lay a small mesh screen over the top of the scalper screen.* • Fine, worn-out abrasive is not flowing to mixing valve. Worn out abrasive will not flow uniformly. *Replace the abrasive.* • The scalper screen in the hopper is plugged or clogged. *Clean the screen.* • The pot plunger seal is worn out. *Remove the access port cover on the side of the blast pot. Remove old pot seal. Install new pot seal with beveled side of seal pointing at the floor.*

PROBLEM	SOLUTIONS
High Abrasive Consumption	• The nozzle is worn out. *Replace the nozzle* • The blasting pressure is exceeding the maximum abrasive velocity. This causes the abrasive to break down prematurely. *Reduce blasting pressures.* • The abrasive is too fine for the separator reclaimer style. *Increase the size of the abrasive. Convert machine to cyclone style separator.* • The abrasive separator reclaimer is worn out. *Unbolt the separator, remove and replace.* • (Cyclone Models only) There is too much abrasive for the storage hopper to hold, the cyclone is dumping it into the dust collector. *Remove some of the abrasive. The machine is overcharged.* • (Cyclone Models only) Tuning valve (option) is releasing too much good abrasive into dust collector. *Adjust tuning valve.*

Erratic Abrasive Delivery	• Abrasive mixing valve is not adjusted for the abrasive mesh size. *Review the adjustment procedure and re-adjust the mixing valve.* • The machine is low on abrasive. *Add abrasive.* • The scalper screen in the hopper is plugged or clogged. *Clean the screen.* • Mixing valve i.d. tube is worn out. *Replace the mixing valve.* • The nozzle is worn out (oversized). Worn nozzles require additional compressed air volume. If additional volume is not available, the pressure will drop and produce slower particle velocities. *Replace the nozzle. The rule of thumb is to replace the nozzle when it has worn one size (1/16").* • The abrasive is worn to ultra-fine size. Worn out abrasive will not flow uniformly. *Change-out the abrasive.* • Compressed air is not dry or moisture free. *Install an after-cooler, desiccant style or refrigerated air dryer between the compressor and the blast machine.* • Pressure pot is not sealing properly. Too much abrasive is not allowing the pot plunger to seat or abrasive inlet o-ring seat is worn out. *Remove abrasive and/or inspect o-ring seat. Replace o-ring seat if worn.*
Poor Visibility and/or Dusty Abrasive	• A cabinet light is burned out. *Replace the bulb* • The dust collector cartridge filter is dirty. *Review the dust collector cartridge filter cleaning procedure and clean the dust collector cartridge filter.* • The dust collector has too much accumulated dust; it does not allow the cartridge to be cleaned. *Review the dust collector cleaning procedure and clean the dust collector.* • The blower is rotating in the wrong direction (three phase electrical systems only). *Note the direction of the blower. Rewire the motor so the blower rotates the right direction.* • The abrasive is worn to ultra-fine size creating dusty conditions in cabinet and plugging cartridge filter. *Change-out abrasive. Clean the dust collector cartridge filter.* • Blasting pressures are too high. Abrasive is breaking down prematurely. *Lower blasting pressure or change abrasive.* • Sand or poor quality abrasive is breaking down prematurely. *Change to a better quality abrasive.* • The nozzle size is too large for the type of abrasive. The dust collector is not rated to remove the volumes of dust generated by the larger nozzle. *Change out the nozzle to a smaller size or change to a different type of abrasive.* • The internal separator reclaimer is plugged. The dust is not leaving the cabinet. *Unplug the separator reclaimer.* • Wrong machine application for the parts (e.g., heavy, black carbon deposits absorb cabinet light). *The parts should be cleaned in machines with larger dust collector CFM ratings.* • (Cyclone Models Only) Tuning valve (option) is not releasing enough fine abrasive into dust collector. *Adjust tuning valve.*

PROBLEM	SOLUTIONS
Excessive Nozzle Holder Wear or Erratic Nozzle Wear	• Hose is not seated flat inside the nozzle holder. *Remove nozzle holder from hose, check hose cut for square-ness, re-cut hose if necessary and seat nozzle holder tight against hose.* • *The nozzle is not seated properly in the nozzle holder. Screw the nozzle into the nozzle holder until it bottoms out against the hose.*
Dust Collector is Not Cleaning	• The cartridge filter is plugged with oil or wet deposits. *Replace the filter or filters.* • Exhaust blower is not turned off during cleaning cycle. *Turn off exhaust blower.* • The cartridge filter is packed from running the filter vibrator with the exhaust blower running. *Replace the filter.* • The vibrator exhaust muffler is plugged. *Remove, clean and replace the muffler.* • The vibrator is not operational or running slow. *Check line pressure. Refer to specifications chart for air requirements. Check vibrator airlines for leaks. Replace if necessary. If there are no leaks, replace the vibrator.* • Exhaust blower is running during cleaning cycle
Longer Cleaning Times	• The abrasive is worn out and too small for aggressive cleaning rates. *Change-out the abrasive.* • The abrasive is too big; producing slower particle velocities. *Replace the abrasive with a similar abrasive of smaller particle size.* • The nozzle is worn out and oversized. Worn nozzles require additional compressed air volume. If additional volume is not available, the pressure will drop and produce slower particle velocities. *Replace the nozzle. The rule of thumb is to replace the nozzle when it has worn one size (1/16").* • The abrasive type has been changed to a less aggressive or non-cutting type. *Change back to the more aggressive abrasive.* • The amount of compressed air is limited or it is being shared with other locations. *Refer to Table 1: MBA PRESSURE BLAST AIR CONSUMPTION. Determine the quantity of air necessary to dedicate to the blast cabinet and allocate it. Or, switch to a smaller nozzle.* • Poor cabinet visibility due to worn-out abrasive. *Change-out the abrasive.*
Premature Window Failure	• The operator is holding the parts too close to the view window. *Hold the parts further away from the window, or install a window protector assembly.* • The abrasive is an aggressive, cutting type and there is no window protector assembly. *Install a window protector assembly, or use a less aggressive abrasive.* • The operator is using an improper gun angle allowing the abrasive to bounce directly back against the window. *Change the gun angle or install a window protector.*

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PROBLEM	**SOLUTIONS**
Abrasive is Blowing Out the Blower Exhaust	• The cartridge filter is loose. *Tighten the filter knobs beneath the filter bracket.* • There is a hole in the dust collector cartridge filter. *Replace the cartridge filter.* • The cartridge filter and seal are not seated properly. *Review the cartridge filter installation procedure and re-install the cartridge filter.*
The Dust Collector Cycle Cleaning Gauge Reads Below 10	• The cartridge filter is dirty. *Review the procedures for cleaning the cartridge filter then clean the filter.* • The cartridge filter has been cleaned but the cycle cleaning gauge still reads below 10. The cartridge filter is worn out. *Review the procedure for replacing the cartridge filter and replace the cartridge filter.* • The cleaning gauge intake filter is dirty. *Replace.*
Too Much Good Abrasive Going Into Dust Collector	• (Non-cyclone Models only) Blasting angle or ricochet of abrasive is causing abrasive to go into internal reclaim separator. *Change angle of blast.* • (Non-cyclone Models only) Internal reclaim separator is worn out. *Replace reclaim separator.* • (Non-cyclone Models only) Abrasive is too fine for internal reclaim separator (180 mesh or finer). *Change to a coarser abrasive, replace internal reclaim separator with a high efficiency internal reclaim separator or convert cabinet to an N-200 Cyclone blast cabinet.* • (Cyclone Models only) There is too much abrasive for the storage hopper so the cyclone is dumping it into the dust collector. *Remove all the abrasive and pour the recommended amount of abrasive back into the blast cabinet.* • (Cyclone Models only) The seal between the cyclone and the hopper is damaged, causing air to leak into the cyclone. *Replace the seal.* • (Cyclone Models only) There is a leak in the abrasive storage hopper – between the cyclone and the pressure pot. *Find leak and seal; replace abrasive storage hopper.* • (Cyclone Models only) There is a leak in the blast pot inlet o-ring seat. *Remove the hand-hole assembly from the side of the blast pot, remove the old inlet o-ring seat and replace.* • (Cyclone Models only) Tuning valve (option) is releasing too much good abrasive into dust collector. *Adjust tuning valve.*
Operator is Getting Shocked by Machine	• Humidity is very low. *1) Install MBA Static Electricity Grounding Kit. 2) Ground blast nozzle by running wire from nozzle to cabinet. Secure end on nozzle by between nozzle and nozzle holder. Tie wrap wire to abrasive hose. Secure to cabinet with machine screw or nut and bolt.* • The part is resting on a rubber mat. *1) Remove the rubber mat. 2) Install MBA Static Electricity Grounding Kit. 3) Ground blast nozzle by running wire from nozzle to cabinet. Secure end on nozzle by between nozzle and nozzle holder. Tie wrap wire to abrasive hose. Secure to cabinet with machine screw or nut and bolt.*

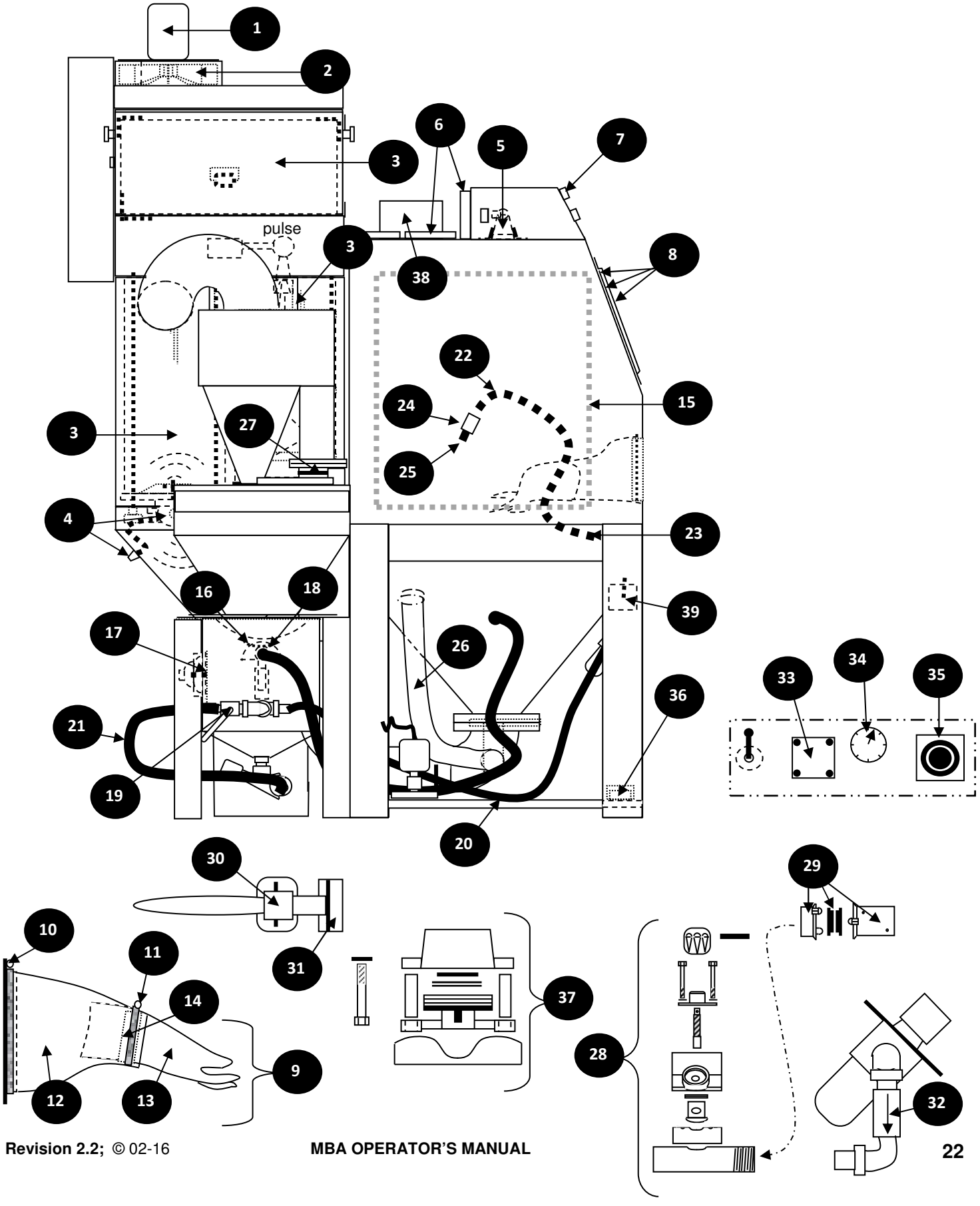
	• The operator is holding the part off the work surface. *1) Place part on work surface while blasting. 2) Refer to prior suggestions for other causes of static shock.*

SYSTEMS DIAGRAMS AND PARTS LIST

TO FIND THE PART AND PART NUMBER FOR YOUR MACHINE:

1. Determine in which system the part is most likely to be found (hardware, pneumatic, dust collector, sheet metal or electrical).
2. Refer to the appropriate diagram.
3. Find the location of the part and note the corresponding bubble number.
4. Refer to the corresponding system section of the parts list and locate the corresponding bubble number.
5. If there are multiple listings for the bubble number, the correct part and part number can be determined from the bubble number descriptions.

CB MASTER PARTS Most Common



MBA CB MASTER PARTS Most Common

Bubble #	New Part #	Description
1	100-05-121	Motor, 2 hp – Single Phase – 60 Cycle
1	100-05-122	Motor, 2 hp – Three Phase – 60 Cycle
2	100-05-313	Impeller 12”
3	100-08-010	Filter Cartridge (220 sq.ft. paper)
3	100-08-020	Filter Cartridge (polyester 110 sq.ft.)
3	100-08-015	Filter Cartridge (220 sq.ft. banded for R/P)
3	100-08-033	Filter HEPA 780 cfm
4	100-08-131	Vibrator, Ball
4	100-08-132	Vibrator, Muffler
5	100-09-651	Light, LED 50 watt
6	100-06-085	Inlet Filter, Adjustable Inlet
6	100-06-607	Inlet Filter, Window Sweep
7	100-09-042	Switch On-Off
8	109-06-029	Window, View 13-1/2” x 24”
8	109-03-030	Window, Protector Glass 13-1/2” x 24”
8	100-11-019	Window Seal, Bladder each
9	100-12-100	Glove Gauntlet Assembly each (less gauntlet clamp)
10	100-12-034	Clamp, Gauntlet each
11	100-12-033	Clamp, Glove each
12	100-12-031	Gauntlets, pair
13	100-12-011	Gloves Cloth Lined, pair
14	100-12-032	Glove, Rings each
15	100-11-030	Seal Door, 1-1/2” x 1/2" x 25’ roll
16	104-21-176	Pot Plunger Seal
17	104-21-171	Pot Access Cover Seal
18	104-21-178	Pot Plunger
19	104-26-121	Pot Choke Valve
20	104-14-217	Air Hose, 3/4" I.D. / foot
21	104-15-139	Abrasive Hose / ft. 3/4" I.D. blk. pressure
22	104-15-138	Abrasive Hose / ft. 1/2" I.D. blk. pressure
23	104-16-146	Abrasive Hose Coupling, 3/4”
23	104-16-147	Abrasive Hose Coupling, 1/2"
24	104-16-137	Nozzle, Holder 1/2" Pressure Whip black
25	100-19-032	Nozzle, Boron Carbide, 1/8”
25	100-19-033	Nozzle, Boron Carbide, 3/16”
25	100-19-034	Nozzle, Boron Carbide, 1/4"
26	100-03-001	Duct 5” pneumatic air duct inlet
27	100-02-030	Duct, Abrasive Conveyor (5”)
28	104-26-170	Mixing Valve Complete
29	104-26-124	Hose, Abrasive Coupler, 3/4" threaded
29	104-25-110	Hose, Abrasive Coupler, 3/4" screw type
29	104-26-125	Hose, Abrasive Coupler Gasket
30	100-06-092	Door Handle
31	100-06-091	Door Strike

Parts Continued

Bubble #	New Part #	Description
32	104-26-221	Valve, Check
33	100-26-095	Valve Pilot
34	100-13-076	Gauge, Air (panel mount0
35	100-03-090	Regulator, Air/Filter Water Trap 3/4"
36	100-26-091	Valve, Air Pedal (foot)
37	104-26-001	Blow-Down Valve Complete (viper)
38	100-09-015	Transformer, .500 KVA
	100-09-016	Transformer Fuse, 5 amp.
	100-09-101	Contactor, Blower
	100-09-149	Contactor Overload 2.8 to 4.2
	100-09-150	Contactor Overload 5.0 to 8.0
39	100-20-012	Toggle Switch, pneumatic on-off

WARRANTY

Media Blast & Abrasives, Inc., hereinafter known as "Seller", warrants the equipment and products sold hereunder against defects in material and workmanship for a period of one year from the date of shipment to buyer.

Equipment, products or parts manufactured by others but furnished by seller will be repaired or replaced only to the extent of the original manufacturer's warranty (except motors).

The following conditions apply to limitations:

1. High wear parts are not covered, these parts include windows, window protectors, nozzles, gun parts, abrasive hose and other parts exposed to excessive abrasive contact and wear.

2. Warranty does not apply to misuse of the machine to include improper abrasive type use and or abrasive mesh size used in the equipment. No Media Blast equipment is used with sand, sand will void the machine warranty and is known to be a health hazard.

3. The machine warranty is not transferable and only applies to the original buyer.

4. Replacement warranty parts will be sent at no charge to the buyer for warranty replacement. The cost of labor is not covered under the machine warranty unless preformed at the seller's facility.

5. A Returned Goods Authorization (RGA) form must be obtained before the product is returned to seller for warranty repair. Without an RGA number the product will not be accepted.

6. Seller's entire liability, whether under warranty, contract, negligence, or otherwise, shall be limited to repair or replacement, F.O.B. Seller's place of business, of the original equipment found to be defective within the warranty period.

MBA **Media Blast & Abrasive Inc.**