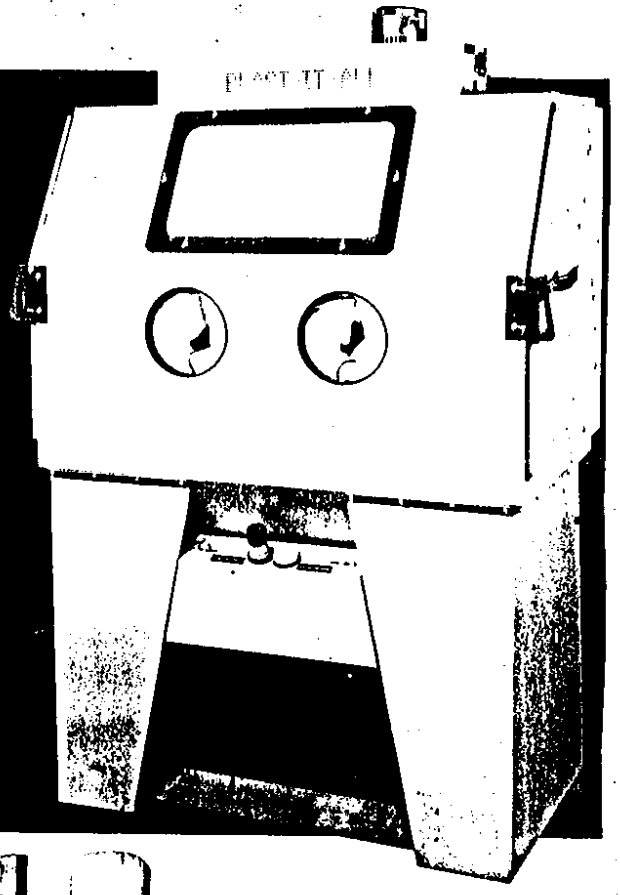
OPERATION & PARTS MANUAL

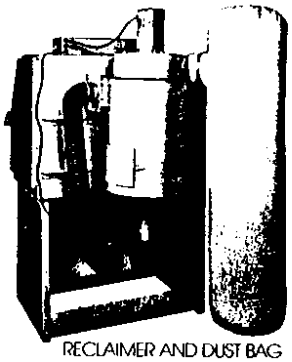
SUCTION BLAST MACHINES

BLAST-IT-ALL blasting cabinets feature high-tech and innovative designs for cleaning, finishing and peening for complete surface preparations. They are engineered for operator comfort and efficiency, and are cost-effective by decreasing production costs, while increasing production rates. BLAST-IT-ALL cabinets are constructed of the highest quality materials with large, double-walled doors for a quieter working area. Included in these systems are a moisture separator, pressure regulator, gauge, and blow-off gun. Its efficient reclaim system cleans and separates the medium for reuse. BLAST-IT-ALL cabinets also meet OSHA and CSA safety and noise requirements.

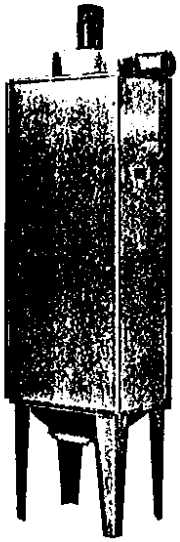
Media Reclaimer: An efficient reclaimer is not only designed to draw the media from the cabinet but also to remove the contaminants, dust, and fines from the media so that it can be efficiently reused. All spent media and contaminants are pneumatically pulled tangentially into the cyclone and they centrifugally separate the reusable media from dust and foreign materials. The heavy contaminants are separated with a filter screen prior to collecting the reusable media into the storage section. The fine dust is pulled from the center of the cyclone separator into the dust collector. BLAST-IT-ALL media reclaimers are adjustable so that fine, medium or coarse media/abrasives can be used.

Media: Most any media/abrasive can be used in BLAST-IT-ALL cabinets depending upon the applications and/or options and accessories chosen. Different abrasive would be selected for cleaning, stripping, finishing, deburring, peening, shotblasting, stress relieving, or sealing porosity.

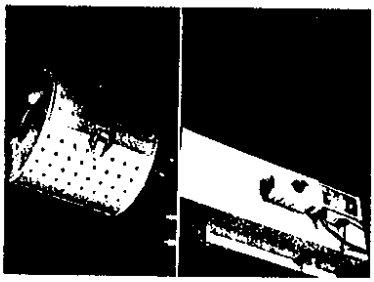




RECLAIMER AND DUST BAG



D10 DUST COLLECTOR



BLAST-IT-ALL

A MEMBER OF THE MML INTERNATIONAL GROUP

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Dear Customer:

We at Blast-It-All would like to take this opportunity to thank you for your patronage. The Blast-It-all machine you have purchased has been assembled with quality materials by skilled craftsmen, backed by a highly qualified engineering staff. Your machine has passed a Quality Assurance test that enables you to begin enjoying benefits of your machine right away.

Provided in the following pages of this manual are operating instructions, a trouble shooting guide and maintenance procedure and detailed parts listings. In the event you have any problems or questions pertaining to your Blast-It-All machine, please contact your local distributor, or our Service Department. To expedite parts ordering or technical questions, please include your Model and Serial number in all correspondence.

MODEL NUMBER:

SERIAL NUMBER:

Thank you once again for letting Blast-It-All serve you.

Sincerely,

Blast-It-All, Inc.

G:MAN-PRES.CAB

SECTION I

DESCRIPTION AND GENERAL INFORMATION

1-1 PURPOSE AND SCOPE

This publication contains operation and maintenance instructions and a troubleshooting guide with illustrated parts breakdown for the Blast-It-All Dry Blast Cabinet, manufactured by Blast-It-All, Inc., Salisbury, North Carolina.

1-2 DESCRIPTION

The blast cleaning and peening machine is of the enclosed type. Parts for processing are loaded into the cabinet through doors on the right or left sides of the unit. The operators hands are inserted into a pair of gloves, connected to the unit. The gloves are to protect the operator and to retain the media in the enclosure. Observation of parts in process is through a glass window in the cabinet front. The unit also contains a sealed, two tube, fluorescent light which illuminates the work areas. This machine is equipped with a vacuum or manually activated safety interlock switch which controls the blasting process. This provides a measure of safety for the blast operator.

The media for abrasive blast cleaning or bead peening is propelled by externally supplied air pressure. The air pressure is routed through a moisture separator, pressure regulator, and blast control solenoid to the blast gun or nozzle.

The blast cleaning and peening machine is equipped with a media reclaiming device. This device is a modified cyclone separator with a very delicate air balance. Media, dust, and debris returned from the cabinet sump enters the air balance for separation. Reuseable material drops through the filter screen where large particles are trapped, and into the storage hopper for reuse. Air and dust, are exhausted through the reclaiming device to be discarded. The cyclone separator is equipped with an adjustable slide tube assembly. The slide tube regulates the amount of dust being removed from the media.

Air and dust being exhausted from the cyclone separator may be trapped by several means. Standard means is the use of a Dust Bag attached to the outlet of the blower. Blast-It-All also builds dust collector systems that are easily installed with the machine. Exhausting into in-plant exhaust systems requires special considerations. Your Blast-It-All distributor or a factory representative should be contacted if any other dust collecting system is being considered.

1-3 GENERAL INFORMATION

This machine is designed primarily for the cleaning and peening process with glass beads; however, it will also handle abrasive media when cutting action is required. The gun pressure and media is determined by the application. Additionally, the blast cleaning and peening machine has the following applications:

A. Increase tensile strength and relieve stress by microscopic bombardment.

B. Remove burrs following machining or grinding operation, subminature space age or large castings.

C. Produces a metallurgically clean surface for plating, painting and other processes.

D. Increase tool life by blending minute surface inperfections.

E. Improve releasing characteristics of molds and dies which process glass, rubber, and plastic parts.

F. Enhance lubrication by imparting a microscopically controlled dimpled surface.

G. Retain critical dimensions while producing above results.

H. Reclaim and recondition parts by removing paint, rust, and corrosion, etc. This process is also used on rubber, fiberglass and plastics.

SECTION II

UTILITY REQUIREMENTS

2-1 AIR REQUIREMENTS

Compressed air with sufficient pressure and volume must be used. Normal blast pressure should not exceed 80 PSI. Air volume (CFM) must be sufficient to maintain correct blast pressure for the gun orifice used (see Table 2-1). Compressed air to the dry blast cabinet must be clean and dry. Water and/or oil in the compressed air will contaminate the media and cause clogging in the machine, gun, reclaimer and dust collecting system. Piping to the machine should be of the size of the point of contact to the machine or larger to prevent pressure and volume loss.

TABLE 2-1

Orifice	CFM	PSI
No. 4	21.0	80
No. 5	31.9	80
No. 6	47.0	80
No. 7	62.0	80
No. 8	85.7	80

2-2 ELECTRICAL REQUIREMENTS

Before electricity is aplied to the blast machine, consult the Motor Data Plate for proper voltage. The standard blast machine is equipped with a cord and plug for 120 volt AC operation. All other voltages require termination wiring on the machine.

A. 1 HP, 120 Volt, 1 Phase, 60 HZ, 20 AMP. circuit

B. 1 HP, 240 Volt, 1 Phase, 60 HZ, 10 AMP. circuit

C. 2 HP, 240 Volt, 1 Phase, 60 HZ, 20 AMP. circuit

D. 2 HP, 240 Volt, 3 Phase, 60 HZ, 20 AMP. circuit

E. 2 HP, 480 Volt, 3 Phase, 60 HZ, 10 AMP. circuit

Machines that are wired for other than 120 Volt, 1 Phase, use a step down transformer to power the lights and for control voltage. Make sure machine and components are properly grounded as per local and NEC requirements.

SECTION III

INSTALLATION - SUCTION MACHINE

3-1 LOCATION

In selecting a location for your blast cabinet that is convenient for your operation, the following should be taken into consideration:

A. Access to electrical supply

B. Access to compressed air supply

C. Sufficient room around machine for parts handling

D. Access to dust bag or dust collector for dust removal

E. Access to reclaimer fill door to clean trash screen and add media

F. Noise level of blasting operation to other operator stations

G. High atmospher humidity conditions where moisture is pulled into the cabinet.

3-2 INSTALLATION

A. Remove the plastic covering and any strapping holding the machine and components.

B. Remove lag bolts holding the machine to the pallet, and remove from pallet. Place the machine in the desired location.

C. If the reclaimer is not attached to the machine and equipped with a stand, remove the reclaimer from it's pallet and place it directly behind,and as close as possible, to the machine. Be sure the reclaimer door is easily accessible.

D. Reclaimers that are mounted on stands, select proper size flex hose and two (2) clamps to connect the machine to the reclaimer. Slide one end of the flex hose on the sump outlet of the machine and clamp in place. Slide the other end of the flex hose onto the reclaimer inlet adapter and clamp into place. Slide the 1/2 inch rubber media hose onto the barb fitting in the media valve on the bottom of the reclaimer sump.

E. Dust bag installation:

Rmove the dust bag from its' package and unfold. Slide dust bag opening over the outlet of the blower housing, making sure zippered end is in the down position. Using the proper clamp, secure dust bag to the blower housing.

TABLE 3-1

R-18 Reclaimer	1 dust bag
R-24 Reclaimer	2 dust bags

F. Dust collector installation D10 and D20:

Carefully raise the dust collector to a standing position. Move the dust collector to a position close to the reclaimer. Slip one end of the flex hose (6 in. for D10, 8 in. for D20) on the outlet adapter located on the top of the reclaimer and clamp in place. Slip the other end of the flex hose on the inlet damper of the dust collector and clamp in place. Connect the 1/4 inch black plastic air supply line for the shaker switch to the fitting supplied at the moisture separator located under the machine. When the dust collector is in position, it should be lag bolted ot the floor for safety, due to its top heavy construction. Be sure the slide valve on the bottom of the sump is in place before starting the machine.

G. Motor wires from the machine should be terminated. If they are not, do so at this time. Wiring should be connected to the motor by a qualified electrician. A wiring schematic is furnished by the motor manufacturer for correct wiring of desired voltage.

H. Connect compressed air line to the moisture trap mounted to the machine skirt at the back of the machine. (See 2-1 for compressed air requirements.)

I. Connect proper electricity to the machine using motor data plate and Section 2-2 for guidance.

J. Connect a grounding conductor from the bolt on the machine skirt labeled "Ground Machine Here", to a positive earth ground.

Example: Cold water pipe, metal beam, etc.

K. For machines with a dust collector, loosen the wing nut on the inlet damper handle. Move the handle to full open position and tighten wing nut to prevent damper from moving.

TABLE 3-2

R-18 Reclaimer	20 lbs.
R-24 Reclaimer	40 lbs.

T. Open the machine door and place a test piece, that is to be blasted, onto the grate within reach of the gloves. Close the machine door and latch securily. Move switch marked "reclaimer" to its ON position. Insert both hands into the gloves. Hold the piece to be blasted firmly in one hand, and the blast gun in the other. Activate the foot pedal to begin blasting.

U. Blasting technique is similar to spray painting, that is, smooth continuous strokes are most effective. The distance of the gun from the part effects the size and results of the blast pattern. Normal usage places the gun approximately 3 inches from the surface of the material, at approximately a 30 degree perpendicular angle. Several media sizes and pressures may be required to process many varied types of materials. However, once the correct process is established, any person may be taught the application in a short time.

V. When blasting is finished, move the switch marked "reclaimer" to its OFF position and motor will stop. Move switch marked "lights" to its OFF position.

W. Dust removal - dust bag:

Obtain a container and place under th dust bag. Use the zipper in the bottom of the dust bag to open the bag and allow the accumulated dust to flow into the container. When the dust has been transferred into the container, close the dust bag by moving the zipper to its closed position.

CAUTION: NEVER OPEN DUST BAG WITH MOTOR RUNNING

X. Dust removal - dust collector:

Press the bottom on the air operated vibrator valve mounted on the side of the dust collector. When vibrator valve is activated, you will be able to hear the vibrator shaking the bags inside the dust collector. The vibrator should be activated for one (1) minute before releasing. Obtain a container and place under the slide valve on the sump of the dust collector. Move slide valve to its OPEN position and the accumulated dust will flow into the container. When dust has stopped flowing, move the slide valve to its CLOSED position.

CAUTION: NEVER ACTIVATE SHAKER OR SLIDE VALVE WITH MOTOR RUNNING

L. Slowly turn on compressed air supply. Listen for any air leaks that may have occured during shipment and installation. If any leaks have occured, turn compressed air off and repair leaks. Repeat steps until full air pressure is achieved with valve fully open.

M. Move switches marked "lights" and "reclaimer" to their OFF position and apply electrical power to the machine.

N. Move the switch marked "lights" to its ON position. The two tube, fluoresent light will be energized and illuminate the interior of the cabinet.

O. Single phase machines:

Single phase motors used are non-reversing, or factory set for proper rotation. Move switch marked "reclaimer" to its ON position, and the machine motor will start.

P. Three phase machines:

Three phase motors must have the rotation of the blower checked before operating. Move the switch marked "reclaimer" to its ON position. As soon as the motor begins turning, move the switch marked "reclaimer" to its OFF position. The fan must turn clockwise in the blower housing viewed from the top, or motor side of the blower housing. If the rotation is wrong, have a qualified electrician reverse rotation. If rotation is correct, move the switch marked "reclaimer" to its ON position, and the machine motor will start.

Q. Close all doors on the machine, reclaimer and dust collector. A negative pressure must occur within the cabinet for blast to occur. This can be observed by the upward movement of the gloves. Insert one hand into a glove and hold the blast gun firmly. Activate the blast solenoid by pressing down on the foot pedal located at the bottom front of the machine. Observe the reading on the gauge marked "Gun Air Pressure". Adjust the regulator until the gauge reads 80 PSI (clockwise - pressure increase, counter clockwise - pressure decrease). Release the foot pedal and blast will stop. Activate and release foot pedal several times to insure no damage has occured during shipment, and to become familiar with the feel of the blast.

R. Move switch marked "reclaimer" to its OFF position, and allow motor to come to a full stop.

S. Obtain the desired media selected for your operation. Open the reclaimer door and pour the correct amount of media through the trash screen into the hopper of the reclaimer (see Table 3-2). Close the reclaimer door and secure latch, making sure the reclaimer door is sealed.

NOTE: Dust removed from the dust bag or dust collector must be disposed of in an approved manner. This dust is WASTE and should NEVER BE PUT BACK INTO THE MACHINE.

Y. Turn compressed air supply off and drain moisture trap. Open the reclaimer door and clean trash screen.

SECTION IV

MAINTENANCE

4-1 BEFORE EACH USE:

A. Check moisture trap and drain if needed

B. Visually inspect machine for any unsafe condition

C. Turn on compressed air supply

D. Turn on electricity

4-2 AFTER EACH USE:

A. Activate shaker valve on dust collector

B. Turn off electricity

C. Turn off compressed air supply

D. Drain moisture trap

4-3 DAILY INSPECTION:

A. Clean trash screen in reclaimer

B. Empty dust bag or dust collector

C. Rotate nozzle in blast gun 1/8 turn

4-4 WEEKLY INSPECTION:

A. Dust bags in dust collector

B. Blast gun parts for wear

C. Machine door gaskets

D. Reclaimer door gasket

E. Air hoses for leaks and loose clamps

F. Media hose for holes or soft spots

4-5 AS NEEDED:

A. Add media

B. Wash or replace bags

C. Replace worn gloves

D. Replace window

E. Replace reclaimer trash screen

F. Replace any worn or defective blast gun parts

G. Replace gaskets

H. Replace hoses

SECTION V

BLAST GUN - SUCTION MACHINE

5-1 OPERATION - Ref. Dwg. M9009-B

The blast gun is the heart of the blasting operation. Worn parts or improper adjustment will reduce the effectiveness of the blasting process. Compressed air enters through the orifice (7) and is directed into the center of the nozzle (2). The amount of air passing through the orifice (7) is determined by its opening. The stream of compressed air enters the nozzle (2) venturi and creates a vacuum in the gun body (4). This vacuum draws media from the media metering valve (Ref. dwg. M110-A, Item 11) into the gun body (4) through the barbed fitting (10) at the bottom of the blast gun handle. The media is drawn into the nozzle (2) by the vacuum produced by the stream of compressed air and mixes with the compressed air. This mixture is then propelled from the nozzle onto the surface to be blasted. The air/media ratio is pre-set to give maximum blasting performance. To maintain a maximum blasting condition the blast gun must be properly adjusted with no worn parts.

5-2 PARTS REPLACEMENT

A. Nozzle: Remove nozzle nut (1) by turning counter-clockwise. Remove nozzle by pulling straight out from gun body (4). Remove old "O" ring (3). Insert new "O" ring (3) into gun body (4) until it rests squarely on the machined shoulder in the gun body (4). Insert new nozzle (2) into the gunb body (4) with the tapered venturi end first. Make sure the nozzle (2) seats evenly on the "O" ring (3). Replace nozzle nut (1) and tighten by turning clockwise until hand tight.

B. Orifice: Loosen clamp on 1/2 inch rubber hose attached to the barbed end of the orifice (7) and remove hose. Loosen orifice locknut (5) by turning counter clockwise until orifice (7) can be turned counter clockwise from the gun body (4). Inspect the end of the orifice (7), if brass is worn at an angle, replace orifice (7). The end of the orfice (7) must be straight or the stream of compressed air will not enter the nozzle (2) correctly, and vacuum will not be produced to draw media into the blast gun. The rubber cover (6) is placed on the orifice (7). The rubber cover (6) should be installed on the orifice (7) approximately 1/16 inch to 1/8 inch from end of the orifice (7). Insert orifice (7) into gun body (4) and turn clockwise approximately six turns. Replace 1/2" air hose to the barbed end of the orifice (7) and tighten clamp. Remove media hose from the bottom of the blast gun and install a 0-30 inches of water (H20) vacuum gauge.

Turn compressed air supply and electricity ON. Activate foot pedal and set air pressure to 80 PSI. With foot pedal activated, note reading on vacuum gauge. Adjust orifice (7) clockwise or counter clockwise until the maximum amount of vacuum is noted on the vacuum gauge. Release foot pedal and turn orifice locknut (5) clockwise until it holds orifice (7) securely in place.

SECTION VI

RECLAIMER AIR WASH

6-1 OPERATION - Ref. Dwg. M1110-A

Reclaimer/Dust Bag

Media, dust and debris are removed from the blast cabinet and enters the reclaimer through the inlet adapter (5). The air velocity created by the blower asembly (1,2,3,19) causes the mixture removed from the cabinet to begin spinning in the reclaimer housing (16). This spinning action separates the dust and small particles from the good media and debris. The dust is pulled from the reclaimer body (16) through the inner tube assembly (21,23) by the air velocity and discharged into the dust bag. Good media and debris falls to the trash screen (9), where the debris is trapped and re-usable media passes through into the sump of the reclaimer to be used again. The amount of dust and small particles removed may be varied (see 6-3 adjustment).

6-2 OPERATION

Pull-Through

The internal operation of a pull-through reclaimer is the same as described in 6-1; the only difference is that the motor assembly is located on the dust collector. An adapter is bolted onto the reclaimer in place of the blower assembly and a flex hose connects the reclaimer to the dust collector. The dust collector is equipped with an inlet damper which must also be adjusted (see 7-4, damper adjustment).

6-3 AIR WASH ADJUSTMENT

Placement of the slide tube (21) for each type of blasting application cannot be a pre-determined setting. Many factors contribute to the air wash adjustment such as media type, media size, desired finish of part, etc. Adjustment of the slide tube (21) must be made in small increments (approximately 1/4 inch) in the direction needed to prevent over adjustment.

Adjust slide tube (21) up, when good media is found in the material removed from the dust bag or dust collector. Adjust the slide tube (21) down when excessive dust is found mixed with the media in the reclaimer sump. To adjust the slide tube (21), move the switch marked "reclaimer" to its OFF position and allow the motor to stop. Disengage reclaimer door latch (13) and open the access door (14). Using caution, insert arm into reclaimer housing routing hand upward through the inner sump until the round slide tube (21) is felt.

Loosen the locking "T" handle located inside the slide tube (21), by turning counter-clockwise. Move the slide tube (21) in the determined direction and lock in place by turning "T" handle clockwise. Carefully remove arm and close access door (14) and engage access door latch (13) to insure air tight seal. The machine should be operated under blast condition until the media has been circulated through the reclaim several times. Inspect media and dust again to determine if further adjustment is needed.

SECTION VII

DUST COLLECTOR

7-1 OPERATION - Ref. Dwg. 903001, 903002

The D10 and D20 dust collectors operate in the same manner; the area of dust collecting is the only operating difference. The dust collectors are equipped with tubular dust bags with one end closed while the other end remains open. The blower assembly mounted on top of the dust collector creates a negative pressure around the outside of the dust bags. This negative pressure draws air, media, dust and debris from the blast cabinet into the reclaimer, where the dust is separated. The dust laiden air from the reclaimer is drawn into the dust bags where the dust is trapped inside the bags. Clean air is then allowed to pass through the bags and exhausted from the blower assembly.

7-2 CLEANING

The bag hanger is equipped with an air operated vibrator. This vibrator is activated by a push button air switch located on the side of the dust collector. Cleaning of the dust bags and emptying the dust from the sump is very critical to correct operation of the blast machine. Failure to clean the dust collectors reduces air movement in the blast machine and reclaimer. Results of reduced air movement includes excessive dust in cabinet, improper reclaiming, etc. (see Trouble Shooting Guide).

Dust bags should be shaken after each use or more often if needed. To shake the dust bags, first move the switch labeled "reclaimer" to its OFF position and allow motor to stop rotating. Press the button on the shaker switch and hold for one minute. With motor still off, place a container under the slide valve in the sump of the dust collector. Move slide valve to its open position and allow dust to flow into the container. Move slide valve to its closed position. Dispose of dust in an approved manner. Do not cycle dust back into the system. Do not shake bags or open sump slide valve when motor is operating. Remove wing nuts and remove access door weekly and inspect dust bags. After extended use, the dust bags will become saturated with dust and will not pass sufficient air. At this time remove the dust bags and wash thoroughly or replace with new bags.

7-3 BAG REPLACEMENT

Move the switch labeled "reclaimer" to its OFF position. De-energize electrical service switch and lock in its open or off position. Shake dust bags and empty sump as described in 7-2. Turn air supply to the unit off. Remove wing nuts and remove access door. Remove the closed

end of the dust bag from the bag hanger at the top of the collector. Starting at the front, remove the bags from the bag holder. The open end of the bag has two coil springs sewn into the felt material. One spring is on each side of the bag holder. Pushing the springs inward will allow the bag to slip from its mounting hole.

Caution: Personnel protection should be taken against any dust that might escape during bag replacement. Some blasted items may produce dust that is harmful. Know what your dust contains!

To install new or cleaned bags, begin by hanging the bags on the bag hanger using the loop sewn into the closed end of the bag. With the bags hanging in place, begin at the rear of the machine installing the open end of the dust bag into the bottom bag holder. Place one spring on each side of the bag holder metal. Working forward, install all bags carefully into their respective hole being careful not to cross any bags. Do not use any sharp object to install bags in bag holder. When all bags have been installed correctly, inspect and replace any worn gasket around the access door. Replace access door and tighten all wing nuts. When the blast machine is restarted, observe the exhaust from the blower for traces of dust. If dust is detected, remove access door and inspect bag installation and dust bags.

7-4 DAMPER ADJUSTMENT

Due to increased efficiency over the standard dust bag, the D10 and D20 dust collectors are equipped with an inlet damper. The inlet damper has an external adjustable handle which can be locked in place with a wingnut. The inlet damper should be open enough to maintain sufficient air flow for correct reclaiming and to clean dust from the cabinet. If inlet damper is open too far, it will tend to pull good media out of the reclaimer. Inspection of the dust removed from the dust collector will determine if the damper is open too far. A correct balance of the inlet damper of the dust collector and the air wash in the reclaimer will produce maximum use of selected media.

SECTION VIII

SAFETY SWITCH

8-1 OPERATION

A. Vacuum

Blast-It-All machines are equipped with a vacuum activated safety interlock switch. This switch is located inside the light box with a tube extending into the cabinet enclosure. A negative pressure, or vacuum, is produced in the cabinet by the blower assembly on the reclaimer, or dust collector. The desired negative pressure needed for proper negative pressure is not maintained within the cabinet enclosure, the safety interlock switch will disengage or open. When this occurs, the blast solenoid cannot be energized. When proper negative pressure in the blast cabinet is returned, the interlock switch will once again engage or close. Begin blasting when the safety interlock is engaged. See Trouble Shooting Guide 9-L for possible causes of the interlock lock switch disengaging.

B. Manual

Some style blast cabinets must use a manually activated safety switch. The cabinet may have more than one swtich wired in series to protect all doors on openings. When a safety switch is de-activated, electricla power is interrupted to the blast solenoid stopping the blasting process. When the safety switch is once again activated, the blast process can resume.

WARNING: By-passing safety switch could cause a hazardous condition to personnel.

SECTION IX

TROUBLESHOOTING

9-A NO BLAST - NO AIR OR MEDIA

Probable Cause	Solution
1. Improper or no electricity to the machine.	Turn on electrical power (see 2-2)
2. Air supply to machine turned off.	Turn on air supply.
3. Reclaimer switch off.	Move reclaimer switch to its ON position.
4. Regulator adjusted too low.	Set regulator to 80 PSI (see 3-2-Q)
5. Foot switch out of adjustment or bad.	Check foot switch activator with a volt/OHM meter. Adjust or replace as needed.
6. Nozzle or orifice plugged.	Clear pluggage and re-adjust (see 5-2-A and 5-2-B).
7. Air hose from solenoid to blast gun pinched.	All turns in the hose should be gradual radius and not kinking air hose.
8. Vacuum safety interlock de-energizer.	See 9-L
9. Blast solenoid bad.	Check and replace if needed.
10. Air regulator bad.	Check and replace if needed.

9-B NO MEDIA FROM BLAST GUN (AIR ONLY)

1. Out of media.	Add media to reclaimer sump (see 3-2-S)
2. Hose off media valve.	Slide hose back onto barb hose fitting in media valve.
3. Media valve or hose plugged.	Clear pluggage and determine reason for becoming caked.
4. Worn media hose - collapsing under vacuum.	Inspect and replace hose as needed.

Probable Cause	Solution
5. Media path in gun body plugged.	Remove media hose from bottom of gun and inspect. If gun must be disassembled to clean, refer to 5-2-A, 5-2-B.
6. Reclaimer trash screen clogged.	Open reclaimer access drop and clean trash screen. Daily maintenance.
7. Low or no vacuum produced by gun.	Refer to Section V of this manual for blast gun operation and adjustment.
9-C BLAST FROM GUN SURGING	
1. Fluctuating gun air pressure.	A. Restriction in compressed air supply B. Gun air regulator bad. C. Blast solenoid bad. D. Pinched air hose to blast gun.
2. Contaminated media.	Remove contaminated media and replace with new. Heavily contaminated media may require cabinet and reclaimer to be cleaned.
3. Worn media hose - Collapsing under vacuum.	Inspect and replace if needed.
4. Air injector closed.	Remove and clear brass air injector located on media valve. Note: Air injector must be open to draw media properly.
5. Low gun vacuum.	Inspect, replae parts and adjust as needed. See 5-2-A and 5-2-B.
9-D CABINET CLOUDY	
1. Low air movement.	See 9-E
2. Media too fine.	Check reclaimer air-wash adjustment. (See 6-3).
9-E LOW OR NO AIR MOVEMENT	
1. Fan motor not running.	Move switch labeled reclaimer to its ON position.

	Probable Cause	Solution
2.	Fan motor running in reverse direction.	Reverse rotation. (See 3-2-P).
3.	Incorrect fan speed.	A. Check for correct motor voltage. (See 2-2). B. Check motor bearings for wear. C. Fan blade loose on motor shaft.
4.	Dust bag full.	A. Empty dust bag. (See 3-2-W). B. Replace bag if bag material is saturated.
5.	Dust collector full.	A. Shake bags and empty sump. (See 3-2-X). B. Replace bags if bag material is saturated.
6.	Air intake holes in blast cabinet closed.	Remove any obstructions covering holes on top of blast cabinet.
7.	Inlet damper on dust collector closed.	Adjust inlet damper. (See 7-4)
8.	Flex hose - machine to reclaimer.	A. Flex hose off - replace. B. Hose collapsed - replace. C. Hose clogged with large objects bolts, etc. Clean D. Hole in flex hose - replace.
9.	Flex hose - reclaimer to dust collector.	A. Flex hose off - replace. B. Hose collapsed - replace. C. Hole in flex hose - replace.

9-F RECLAIMER NOT SEPARATING (DUST IN MEDIA)

1.	Contaminated media.	Replace contaminated media with new media, and correct source of contamination. (See 9-G).
2.	Adjustable air wash in reclaimer set too high.	Adjust air wash slide tube. (See 6-3)
3.	Low air movement.	See 9-E.
4.	Reclaimer baffle worn.	Replace baffle plate (See dwg. M110-A, Item #4).

	Probable Cause	Solution
9-G	CONTAMINATION OF MEDIA	
1.	Condensation in compressed air.	A. Drain moisture trap more often. B. Install air dryer in compressed air supply.
2.	Oil in compressed air from air compressor.	A. Install coalescing oil filter in compressor air supply.
3.	Machine oil or cleaning solvents on parts being blasted.	Parts being blasted should be cleaned in a solution that leaves no residue.
4.	Atmospheric Humidity.	Machine should be placed in a location where large amounts of outside humid air is not drawn through the system.
9-H	MEDIA CARRY-OVER TO DUST BAG	
1.	Adjustable air wash in reclaimer set too low.	Adjust air wash slide tube (See 6-3)
2.	Air entering reclaimer at access door.	A. Close access door and latch securely. B. Inspect access door gasket and replace if needed.
3.	Hole worn in inner suck out tube.	Remove blower assembly and replae suck out tube (Ref. dwg. M1110-A, Item #23).
4.	Hole worn in reclaimer body and/or blower housing.	Determine location of hole and replace parts needed (Ref. dwg. M1110-A).
9-I	MEDIA CARRY-OVER TO DUST COLLECTOR	
1.	See 9-H.	See 9-H.
2.	Inlet damper on dust collector adjusted to open.	Adjust inlet damper (See 7-4).

Probable Cause	Solution
9-J EXCESSIVE MEDIA CONSUMPTION	
1. Blast gun air pressure too high causing media breakdown.	Adjust air regulator. Blast pressure should only be high enough to give desired finish on blasted part. Do not exceed 80 PSI. Media breakdown accelerates at higher pressures.
2. Wrong media for application.	See your media distributor for possible media alternatives. If wrong media is used, higher blast pressure and extended blast time may be needed to give desired finish.
3. Carry over to dust bag or dust collector.	See 9-H and 9-I.
4. Improper exhaust hookup.	If blast machine is connected to another type of exhaust system, an unbalanced condition could exist, effecting the operation of the reclaimer. A factory representative should be contacted if any other exhaust system is being considered.
9-K REDUCTION IN BLAST RESULTS	
1. Reduced media size.	Adjust air wash slide tube (See 6-3).
2. Reduced gun air pressure.	A. Check air regulator setting and adjust as needed. B. Check compressed air supply for reduced pressure.
3. No media flow to blast gun.	See 9-B.
4. Low media flow to blast gun.	A. Low blast gun vacuum (See Section V for Gun Operation). B. Contaminated media (See 9-G). C. Hole worn in media hose to blast gun - replace.

	Probable Cause	Solution
9-L	VACUUM SAFETY INTERLOCK SWITCH	
	1. Blast cabinet door open or leaking.	A. Close door and latch securely. B. Inspect and replace door gasket if needed. C. Adjust door striker for tight door seal.
	2. Low or no air movement.	See 9-E.
9-M	Manual Safety Interlock Switch	
	1. Push button switch bad	Check with VOM meter and replace if needed.
	2. Striker out of adjustment.	Adjust as needed.

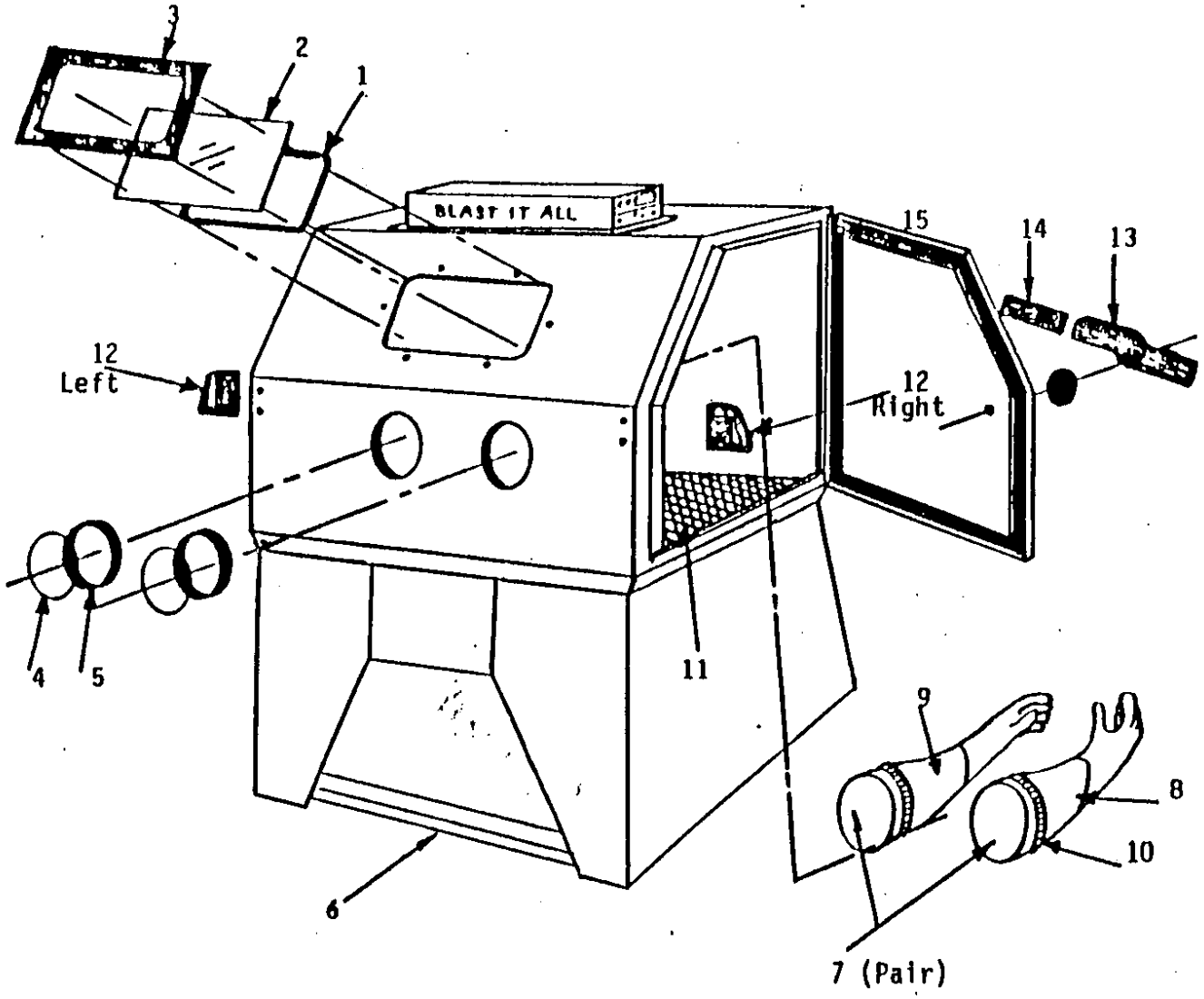
G:MAN-BIA.STD

BLAST-IT-ALL, inc.

DESCRIPTION: Standard Machine Replacement Parts

DRAWN BY: R.A.M. DATE: 7-9-87

DRAWING NO: M121



Item	Part No.	Description
1	000304	Window Seal
2	000302	Window
3	000303	Window Frame
4	000308	Arm Hole Trim (Pair)
5	000307	Arm Hole Gasket
6	*	Foot Treadle
7	000309	Gloves (One Pair)
8	002854	Glove (Right)
9	002855	Glove (Left
10	000310	Clamp
11	- - - -	Grate (Specify Machine Model #)
12	001945	Door Striker
13	001946	Door Cam
14	001947	Door Cam Rubber Grip
15	000307	Door Gasket

NOTE: When ordering, give Model #, Part #, and Description

* See Drawing 000311 OR M131

ITEM	QTY	DESCRIPTION	PART NO.
1	1	FOOT BAR	A129 ①
2	2	TREADLE MOUNT	A125 ②

NOTE: SPECIFY MACHINE MODEL NUMBER WHEN ORDERING.

BLAST-IT-ALL, inc.

Description: FOOT TREADLE

Drawing No. M131

Drawn By: RAS

Date: 3-30-00

Material:

Program:

Weight:

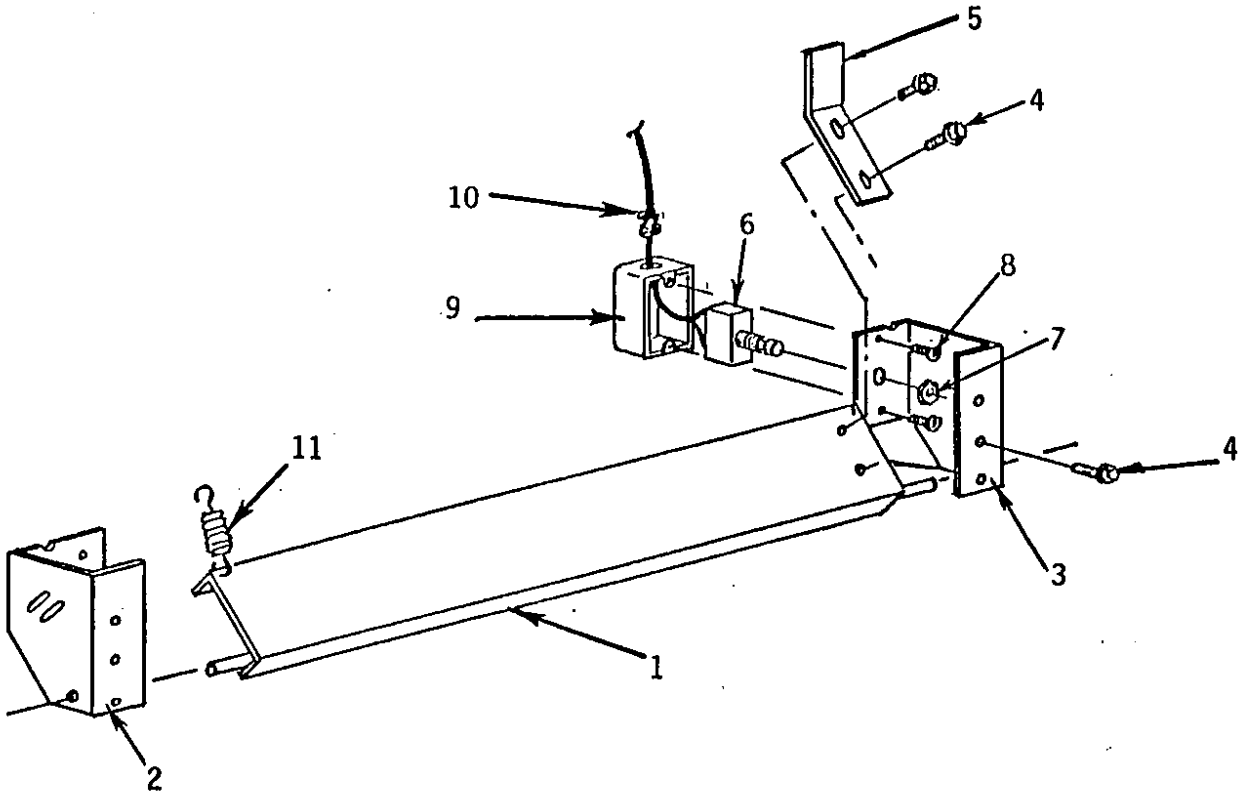
BLAST-IT-ALL, inc.

Description: Standard Foot Treadle Assembly

Drawn By: BLB

Date: 9-23-88

Drawing No. 000311



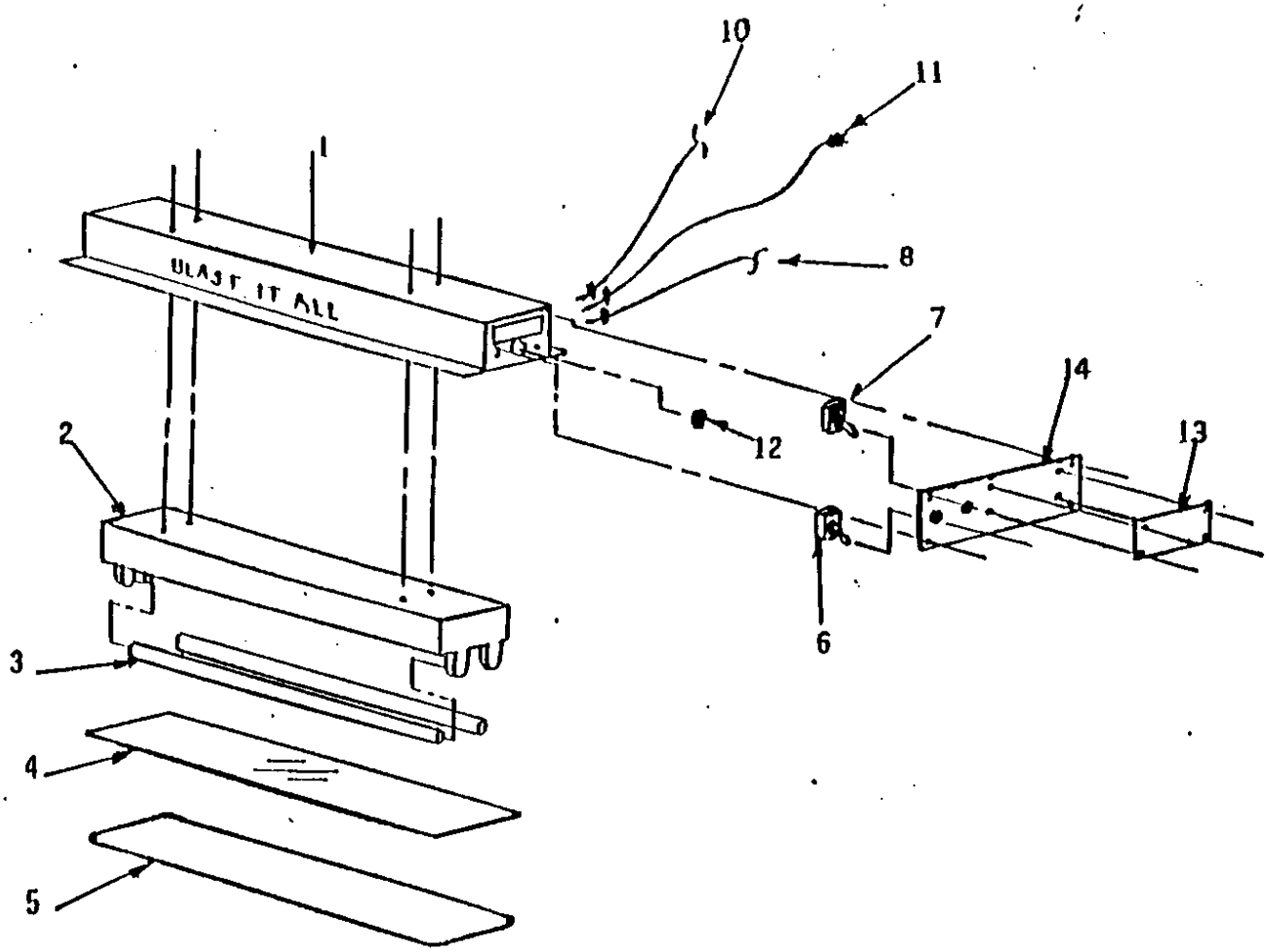
Item	Part No.	Description
1	000320	Foot Treadle
2	000318	Left Bracket
3	000317	Right Bracket
4	000341	1/4" - 20 x 1/2" Self Tapper
5	000319	Switch Bar
6	000342	Switch
7	000343	Nut (Furnished with switch)
8	000344	#6-32 x 1/2" Slotted Head Screw
9	000345	2 x 4 Handy Box
10	000346	Heyco Connector
11	000347	Spring

Note: When ordering give: Model #, Part #, and Description.

BLAST-IT-ALL, inc.

DESCRIPTION: Standard Machine Light Assembly

DRAWN BY REH | DATE 3-12-85 | DRAWING NO M8009-A

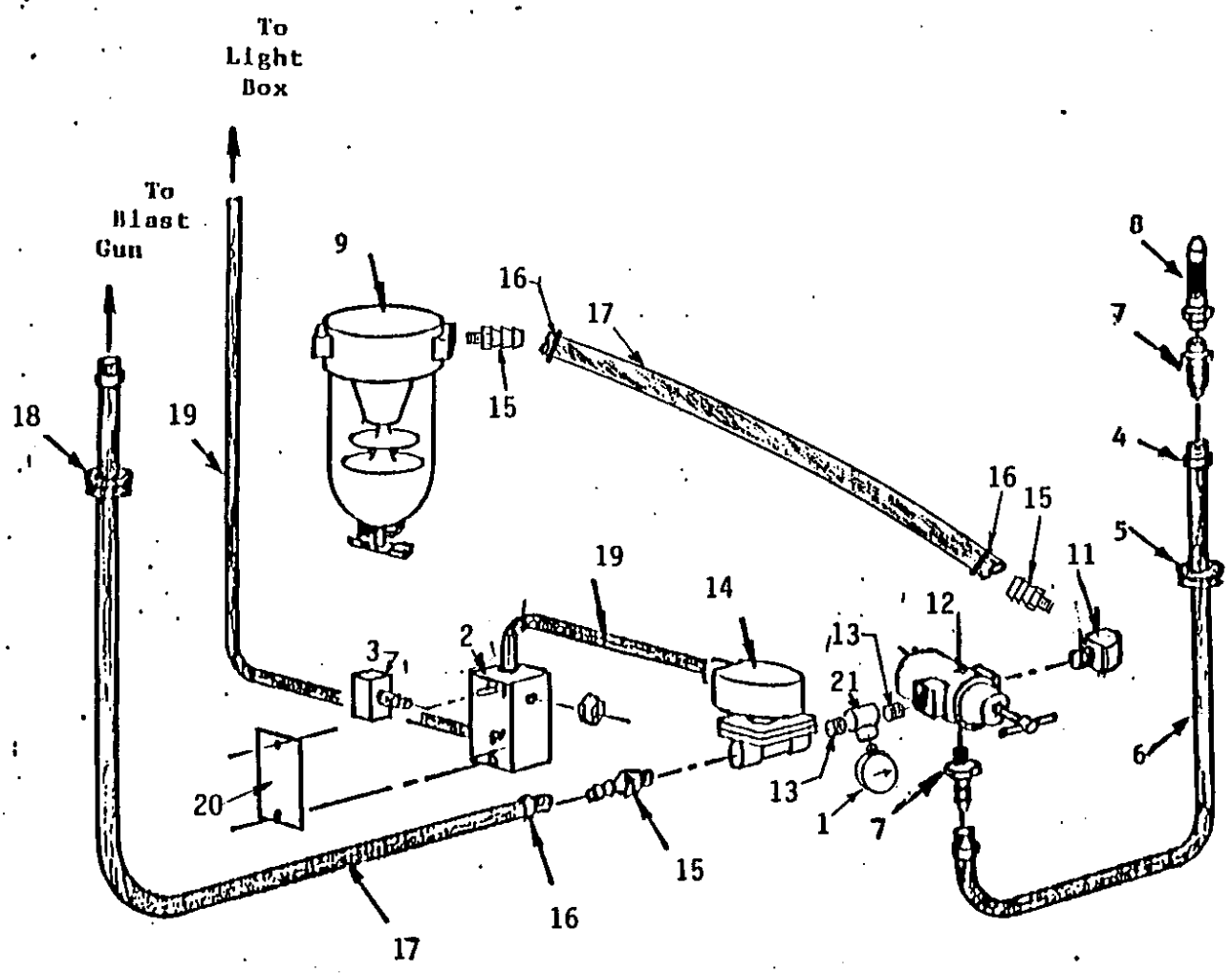


Item	Part No.	Description
1	002755	Light Box
2	001672	Fluorescent Fixture
3	002739	24" Fluorescent Tube
4	002857	Window
5	000304	Window Seal
6	002858	Motor Switch
7	002858	Light Switch
8	001006	S.J. Cord, 2 Wire (Specify Length)
9	000346	Heyco Connector
10	001005	S.J. Cord, 3 Wire (Specify Length)
11	002859	Power Cord, 3 Wire, 6" Long
12	004574	7/8" Knock Out Plug
13	000381	Serial Number Plate
14	004575	Switch Mounting Plate

BLAST-IT-ALL, inc.

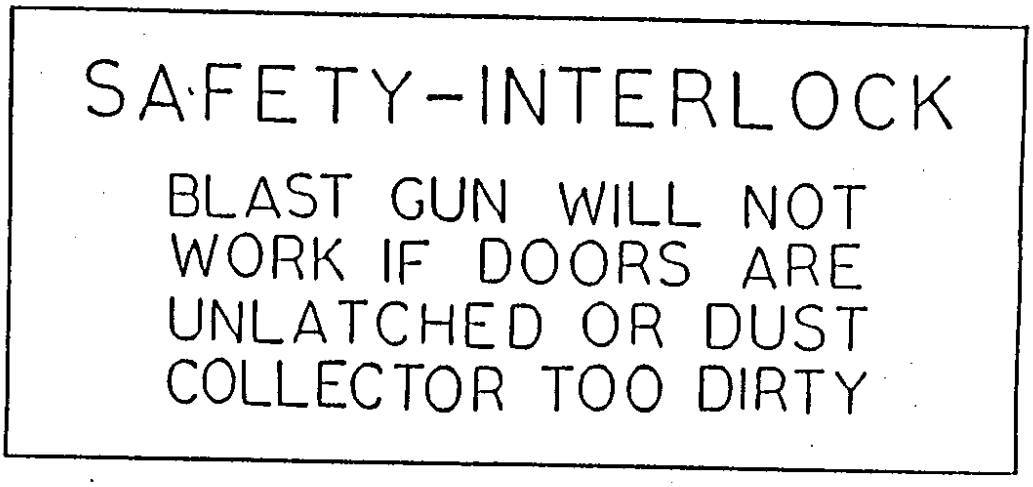
DESCRIPTION: Standard Machine Air Controls

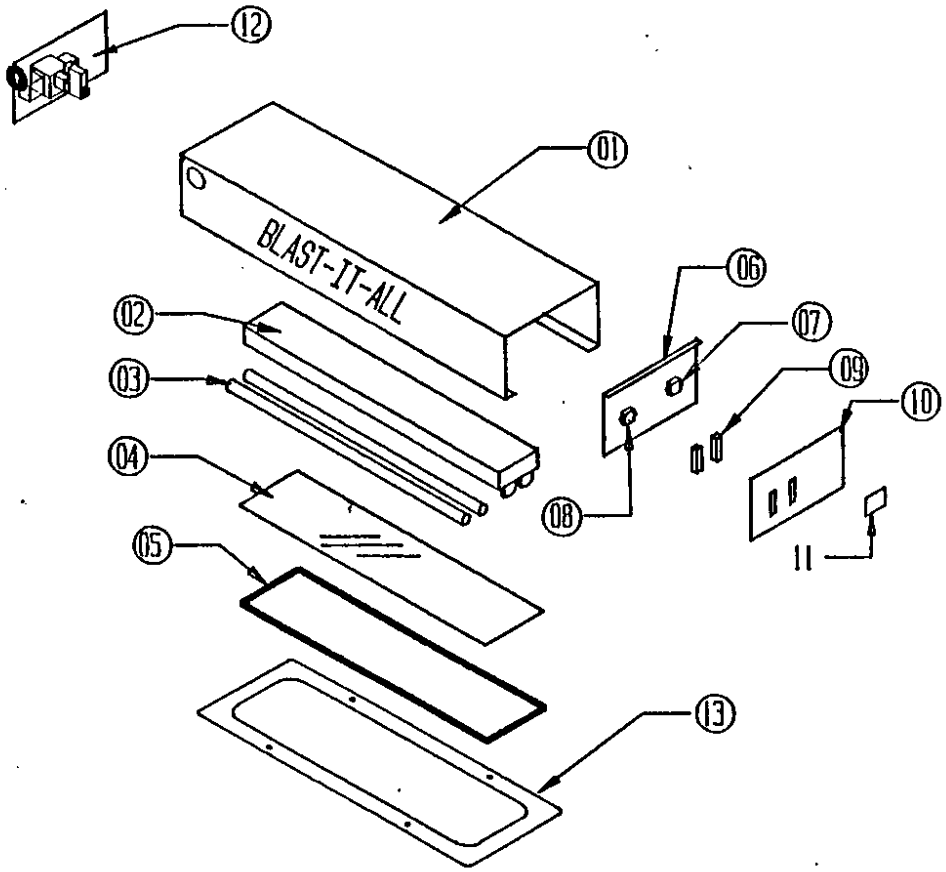
DRAWN BY TMS | DATE 10/1/84 | DRAWING NO M7023-A



Item #	Part #	Description
1	000713	Air Gauge
2	000345	2" x 4" Electrical Junction Box
3	000342	Foot Control Switch
4	002742	1/2" Clamp
5	000822	Rubber Grommet for 1/4" Hose
6	000738	1/4" Air Hose (Specify Length)
7	000795	1/4" Hose x 1/4" MPT Fitting
8	002889	Blow Off Nozzle
9	000802	Air Filter
10	000929	3/8" x 45 Street Elbow
11	000790	3/8" x 90 Street Elbow
12	000801	Air Regulator
13	000810	3/8" Close Nipple
14	000804	Solenoid
15	000363	1/2" Hose To 3/8" MPT Fitting
16	000815	1" Clamp
17	000361	1/2" Air Hose (Specify Length)
18	000823	Rubber Grommet for 1/2" Hose
19	001006	2 Wire 14 Gage S.J. Cord (Specify Length)
20	002768	2" x 4" Electrical Junction Box Cover
21	002766	3/8" x 1/4" Tee

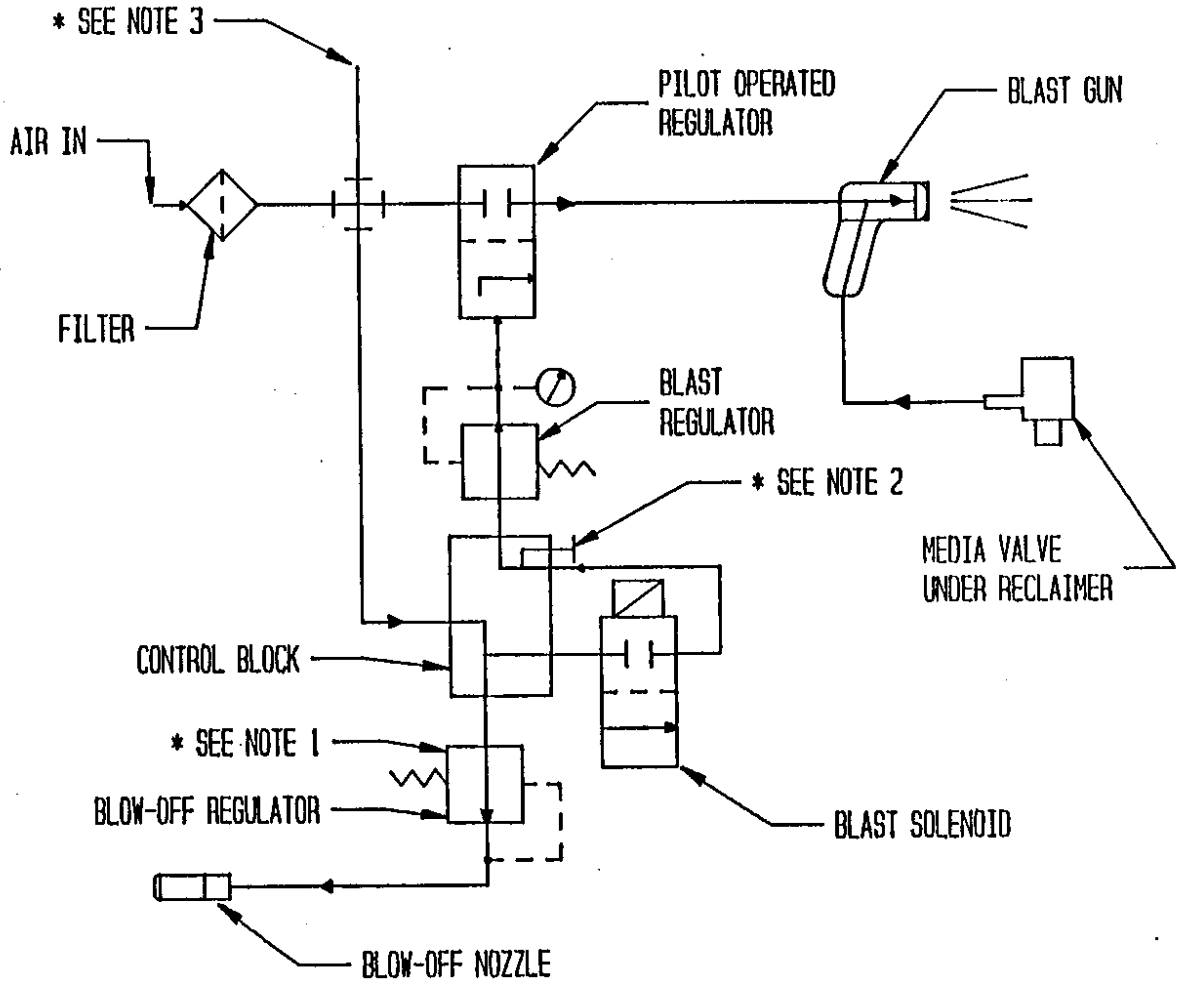
g:vac-sis.gid


SAFETY-INTERLOCK
BLAST GUN WILL NOT
WORK IF DOORS ARE
UNLATCHED OR DUST
COLLECTOR TOO DIRTY



ITEM	QTY	DESCRIPTION	PART NO.
01	1	LIGHT BOX	002755
02	1	FLUORESCENT FIXTURE - 24''	001672
03	2	FLUORESCENT TUBE - 24''	002739
04	1	LIGHT GLASS	002857
05	1	LIGHT GLASS SEAL	000304
06	1	SAFETY MOUNTING PLATE	A319-01
07	1	SAFTEY SWITCH	001536
08	1	SAFETY VACUUM SENSOR	005285
09	2	SWITCH (MOTOR & LIGHT)	002858
10	1	SWITCH MOUNTING PLATE	004575
11	1	SERIAL PLATE	000381
12	1	AIR CONTROL ASSEMBLY	919002
13	1	LIGHT BOX FRAME	A506-01

SUCTION MACHINE

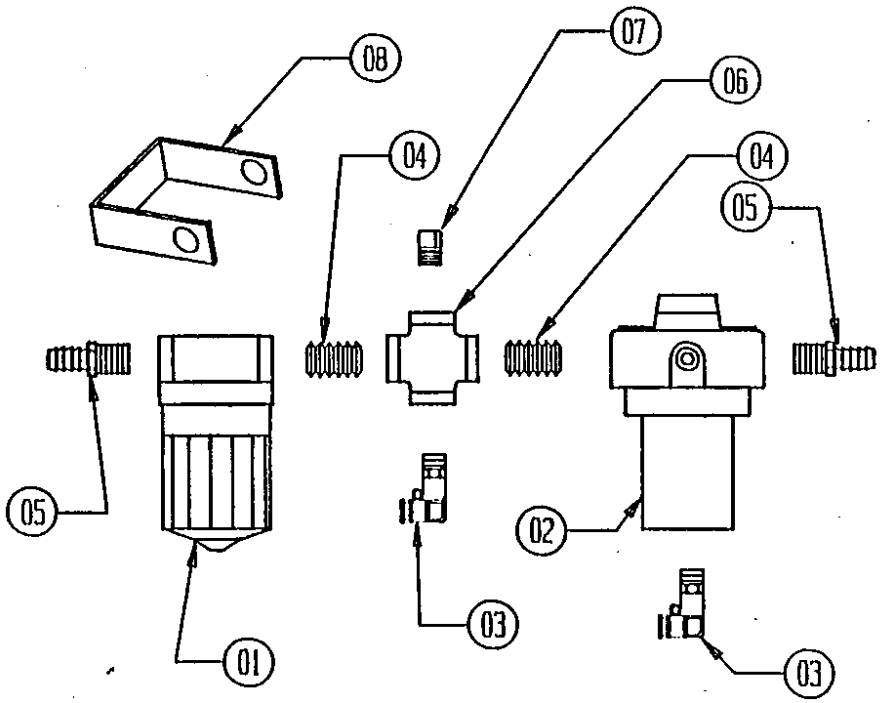


NOTE:

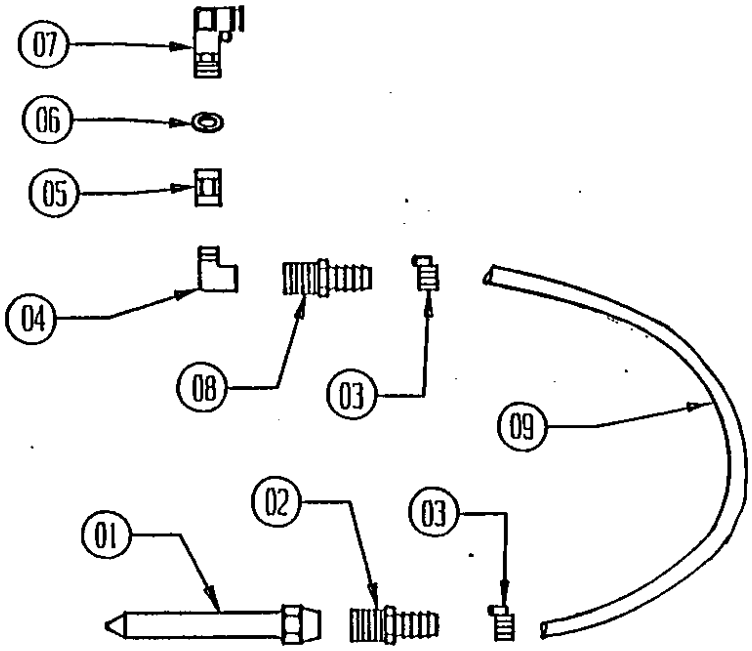
1) IN COMPLIANCE WITH OSHA REGULATIONS, BLOW-OFF IS FACTORY SET AT 30 PSI.

2) PLUG ON SUCTION CABINET.

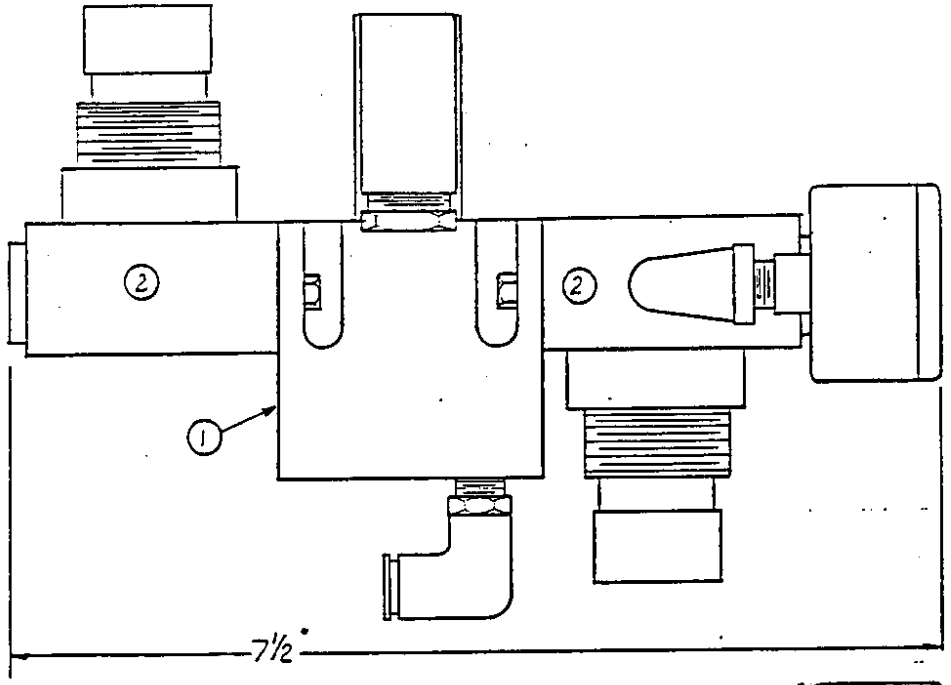
3) CONNECT TO BAG SHAKER AIR SWITCH IF DUST COLLECTOR IS USED.
PLUG IF NOT NEEDED.

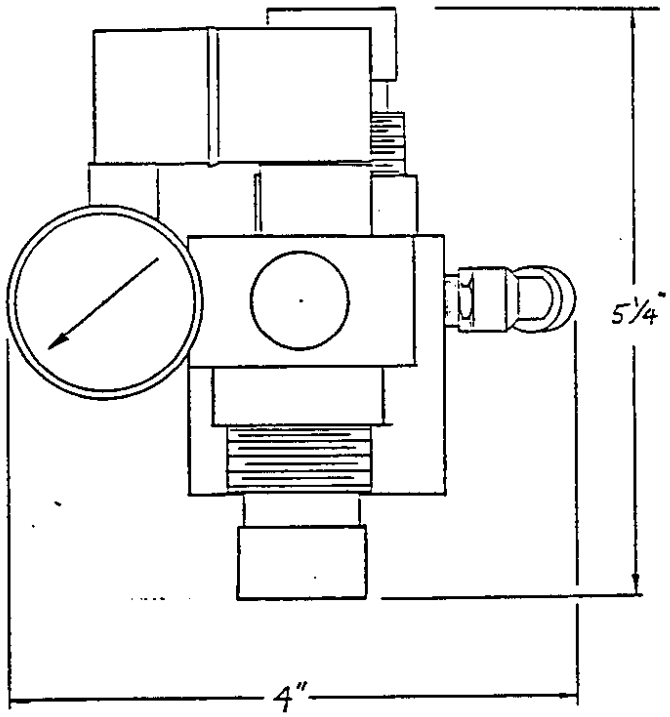


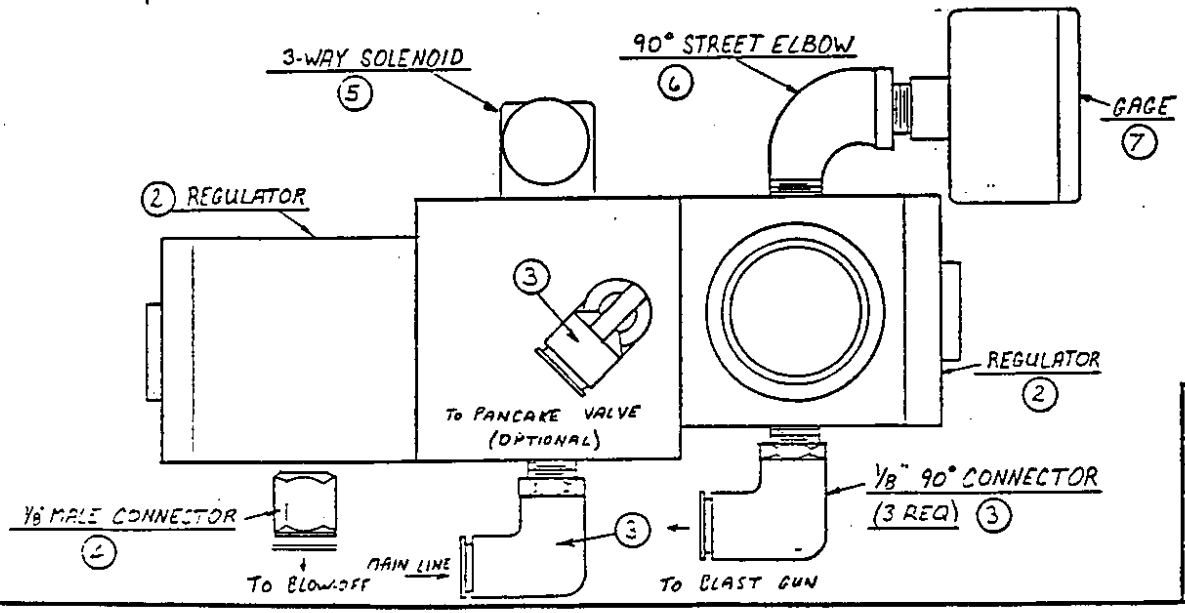
ITEM	QTY	DESCRIPTION	PART NO.
01	1	FILTER 3/8''	000802
02	1	PILOT OPERATED REGULATOR 3/8''	001467
03	2	90 ELBOW QUICK CONNECT 1/4''	003084
04	2	CLOSE NIPPLE - BRASS 3/8	000810
05	2	BARB - BRASS 3/8 MPT - 3/8 HOSE	005286
06	1	CROSS MS 150# 3/8	000426
07	1	PLUG MS 3/8	000808
08	1	MOUNTING BRACKET	A000



ITEM	QTY	DESCRIPTION	PART NO.
01	1	BLOW OFF NOZZLE	002889
02	1	1/4 MPT x 1/4 BARB FITTING	000795
03	2	1/4 SCREW CLAMP	000496
04	1	1/8 STREET ELBOW	001129
05	1	1/8 COUPLER	000681
06	1	3/8 FLAT WASHER	001105
07	1	1/8 MPT x 1/4 TUBE Q.C. 90 ELBOW	003791
08	1	1/8 MPT x 1/4 BARB FITTING	000927
09	5 ft	1/4 BLOW OFF HOSE	000738







QTY	ITEM	DESCRIPTION	DWG. Nº
1	1	A.C.B. MANIFOLD	003397
2	2	REGULATOR	004346
3	3	90° CONNECTOR ELBOW	003791
1	4	STRAIGHT CONNECTOR	000718
1	5	SOLENOID, 3 WAY	004345
1	6	STREET ELBOW	003792
1	7	AIR GAUGE	001125

TOLERANCES (EXCEPT AS NOTED)
DECIMAL ±
FRACTIONAL ±
ANGULAR ±

REVISIONS		
NO.	DATE	BY
1	11-14-88	DLR
2		
3		
4		
5		

BLAST-IT-ALL, inc.

AIR CONTROL BLOCK ASSY

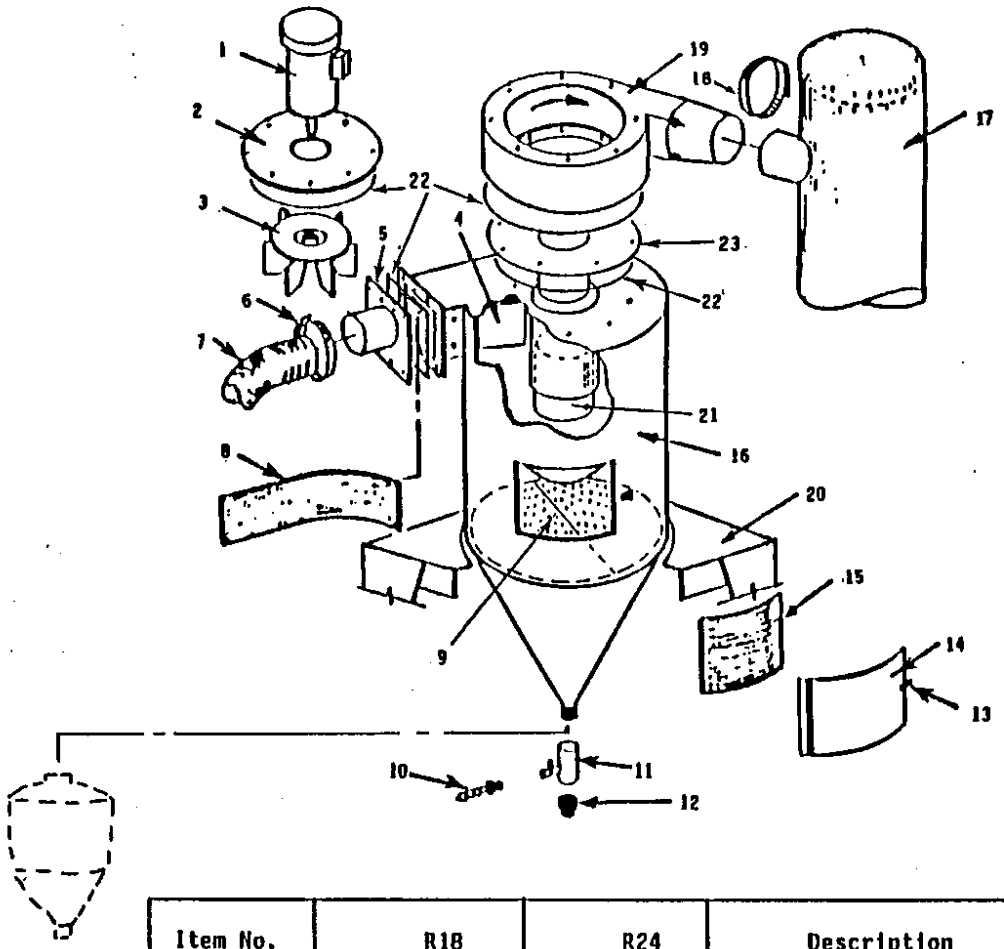
DRAWN BY TWM	SCALE	MATERIAL
CHK'D	DATE 8/15/88	DRAWING NO. 919002
TRACED	APP'D	

BLAST-IT-ALL, inc.

Description: RECLAIMER SEPARATOR w/ Dust Bag

Drawn By DLS | Date 12-14-88

Drawing No. M1113



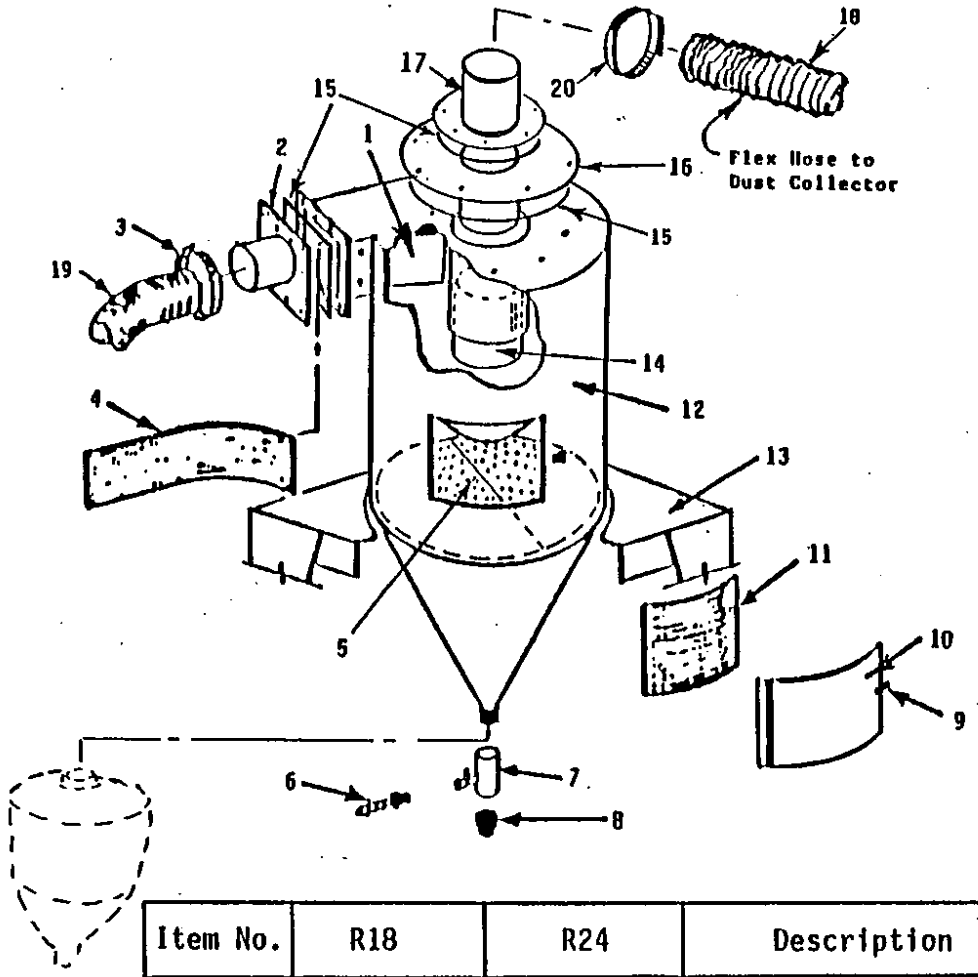
Item No.	R18	R24	Description
1	000076	000077	Motor
2	000369	001056	Motor Plate
3	000390	001054	Blade
4	003045	001146	Baffle
5	002741	001231	Inlet Adaptor
6	000816	000817	Clamp
7	002792	003192	Flex Hose
8	003050	003050	Wear Plate
9	002789	001245	Trash Screen
10	000353	000353	Fitting
11	001581	001581	2" Media Valve
12	001567	001567	Plug
13	001948	001948	Door Latch
14	002788	001188	Door
15	003046	003047	Door Gasket
16	002786	003053	Reclaimer Housing
17	000566	000568	Bag
18	000818	000310	Clamp
19	000371	001062	Blower Housing
20	000044	003049	Stand
21	001169	003048	Slide Tube Assembly
22	000836	000836	Putty Tape
23	004568	003583	Suck Out Tube

BLAST-IT-ALL,inc.

Description: RECLAIMER SEPARATOR (Pull Through)

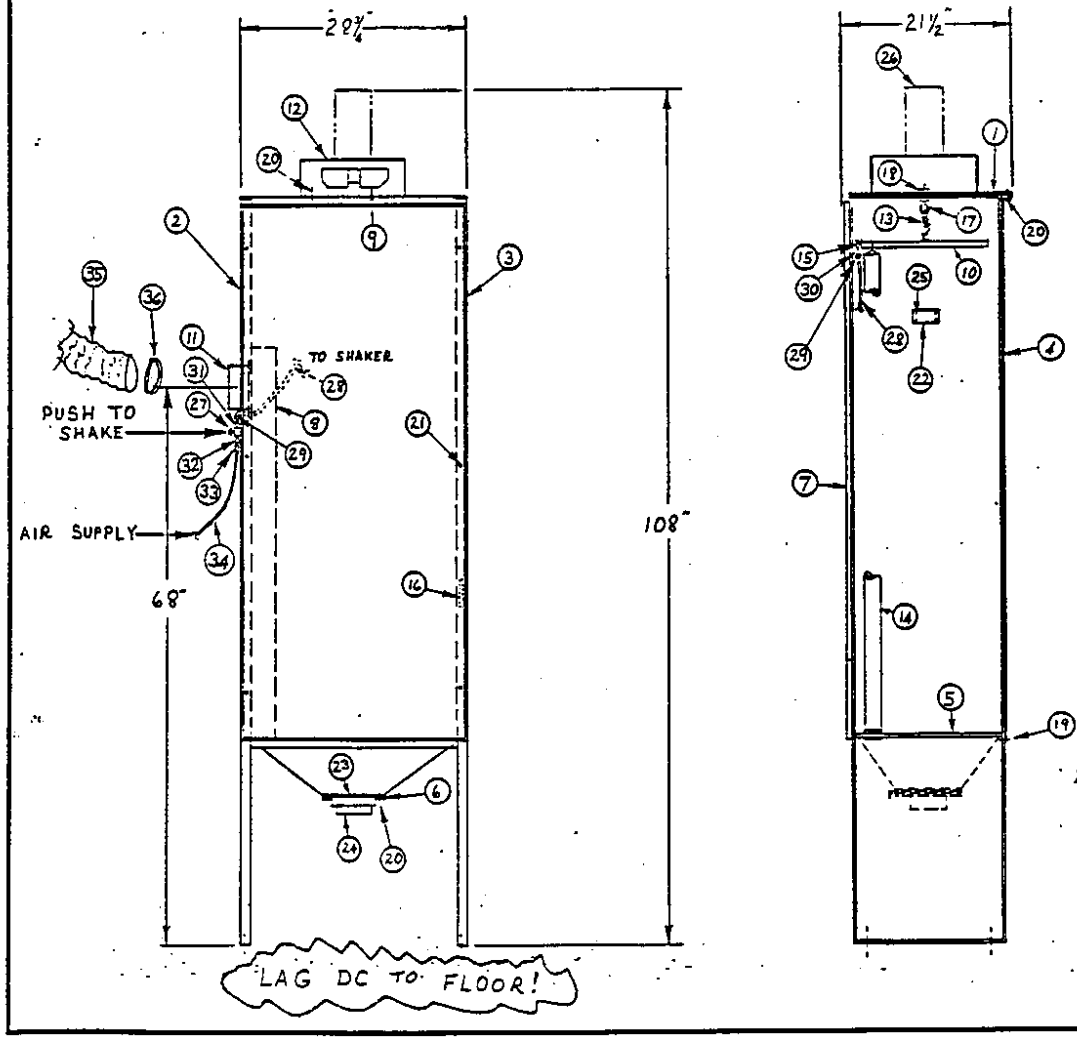
Drawn by DLS | Date 12-14-88

Drawing No. M1114



Item No.	R18	R24	Description
1	003045	001146	Baffle
2	002741	001231	Inlet Adaptor
3	000816	000817	Clamp
4	003050	003050	Wear Plate
5	002789	001245	Trash Screen
6	000353	000353	Fitting
7	001581	001581	2" Media Valve
8	001567	001567	Plug
9	001948	001948	Door Latch
10	002788	001188	Door
11	003046	003047	Door Gasket
12	002786	003053	Reclaimer Housing
13	000044	003049	Stand
14	001169	003948	Slide Tube Ass'y
15	000836	000836	Putty Tape
16	004568	003583	Suck Out Tube
17	002028	003153	Outlet Adaptor
18	001992	002502	Flex Hose
19	002792	003192	Flex Hose
20	000818	000310	Clamp

903001

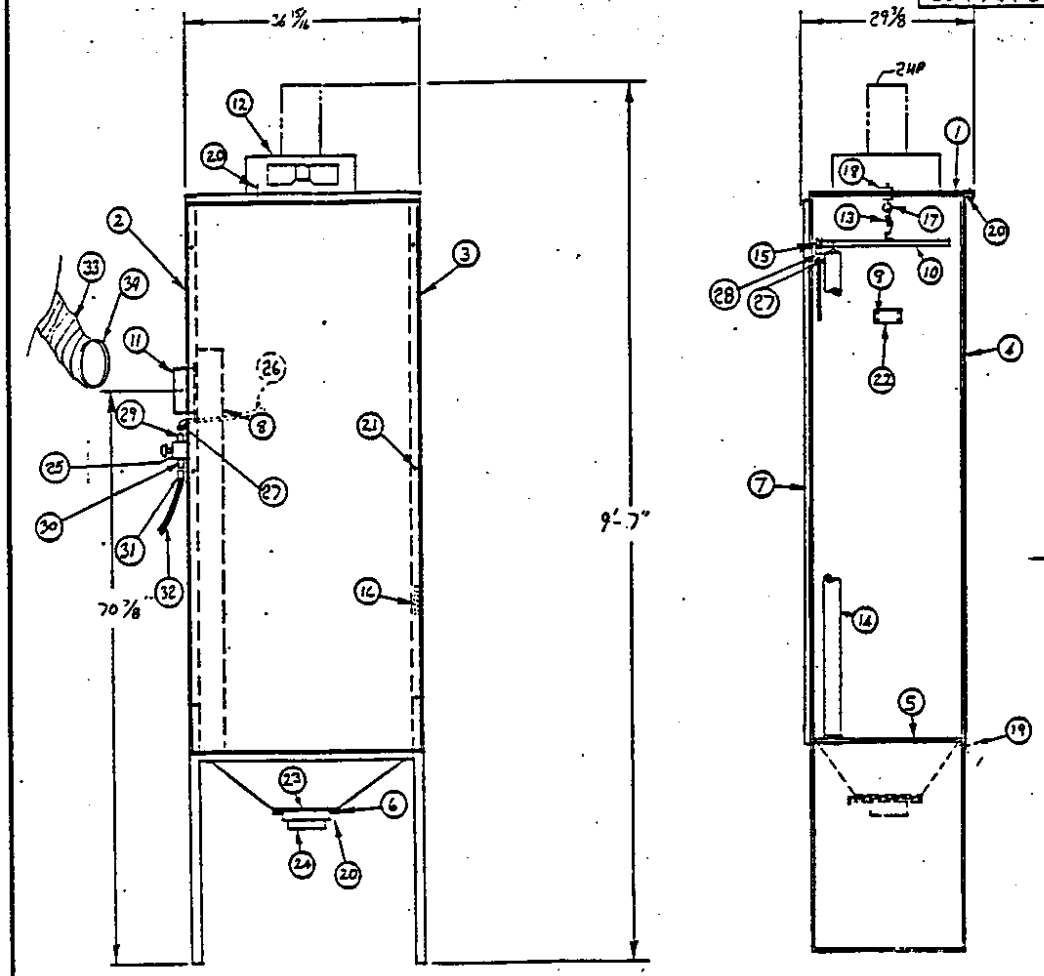


NOTE:
1. SHAKER BUTTON MAY BE REMOTELY LOCATED.
2. BUTYL CAULK ALL SEAMS.

QTY	ITEM	DESCRIPTION	DWG. NO
1	1	TOP	000334
1	2	LEFT SIDE	000336
1	3	RIGHT SIDE	000337
1	4	BACK PLATE	000332
1	5	SUMP ASSY	000328
2	6	SPACER	000329
1	7	DOOR	000338
1	8	PLENUM	000335
1	9	BLADE ASSY	000390
1	10	DUST BAG MOUNT ASSY	000397
1	11	INLET DAMPER ASSY	000723
1	12	BLOWER ASSY	000371
2	13	SPRING	000347
20	14	DUST BAG	000372
1	15	SHAKER	000382
17'	16	½"×1" GASKET	000307
2	17	3/16" EYE BOLT	000379
4	18	3/16" HEX NUT	000378
23	19	¼"×1" LG ROLLOK	000377
90	20	¼"×⅝" LG ROLLOK	000301
6	21	¼" WING NUT	000305
1	22	SERIAL PLATE	000381
1	23	SLIDE GATE	000324
1	24	OUTLET FLANGE	000725
4	25	⅛" POP RIVETS	000459
1	26	MOTOR 1HP-110, 56C	000076
1	27	SHAKER VALVE	001001
3'	28	¼" AIR HOSE	000738
2	29	¼" SCREW CLAMPS	000496
1	30	⅛"×¼" HOSE BARB	000927
1	31	¼"×⅛" HOSE BARB	000795
1	32	¼"×⅛" BUSHING	000705
1	33	MALE CONNECTOR	000718
6'	34	¼" PLASTIC HOSE	001656
5'	35	FLEX HOSE	000892
2	36	SCREW CLAMP	000818
	37	CUT SHEET	000403

TOLERANCES (UNLESS OTHERWISE NOTED)	REVISIONS			BLAST-IT-ALL, inc.		
DECIMAL ±	NO.	DATE	BY	D-10		
FRACTIONAL ±	1	3-9-88	DLS	DRAWN BY DLS	SCALE NONE	MATERIAL
ANGULAR ±	2	5-25-88	DLS	CHK'D	DATE 2-19-88	DRAWING NO. 903001
	3			TRACED	APP'D	
	4					
	5					

903002



ITEM	QTY	DESCRIPTION	P/N
1	1	TOP	001046
2	1	LEFT SIDE	001053
3	1	RIGHT SIDE	001052
4	1	BACK PLATE	001050
5	1	SUMP ASS'Y	001010
6	2	SPACER	000329
7	1	DOOR	001049
8	1	PLENUM	001057
9	4	1/8" POP RIVETS	000459
10	1	DUST BAG MOUNT ASS'Y	001066
11	1	INLET FLANGE ASS'Y	001046
12	1	900 CFM BLOWER ASS'Y	001063
13	2	SPRING	000347
14	40	DUST BAG	000372
15	1	SHAKER	000382
16	17'	1/4"x1" GASKET	000307
17	2	3/16" EYE BOLT	000379
18	4	3/16" HEX NUT	000378
19	22	1/4"x1" LG SELF TAP	000377
20	92	1/4"x3/4" LG SELF TAP	000301
21	6	1/4" WING NUT	000305
22	1	SERIAL PLATE	000381
23	1	SLIDE GATE	000329
24	1	OUTLET FLANGE	000725
25	1	SHAKER VALVE	001001
26	3'	1/4" AIR HOSE	000738
27	2	1/4" SCREW CLAMPS	000496
28	1	1/8 x 1/4" HOSE BARB	000927
29	1	1/4 x 1/8 HOSE BARB	000795
30	1	1/4 x 1/8 BUSHING	000705
31	1	MALE CONNECTOR	000718
32	6'	1/4" PLASTIC HOSE	001656
33	5'	FLEX HOSE 8"	002502
34	2	SCREW CLAMP	000310
35	X	CUT SHEET	001082

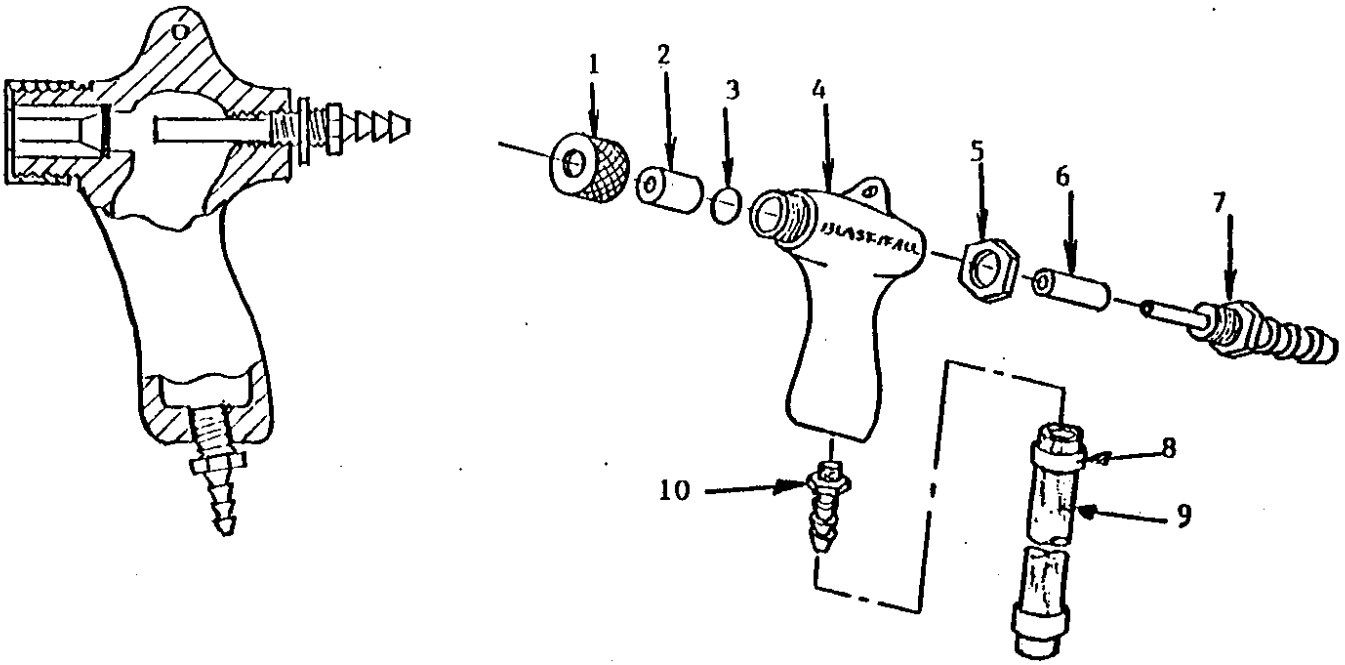
NOTES:
1) BUTYL CAULK ALL SEAMS.
2) LAG MACHINE TO FLOOR.
3) SHAKER BUTTON (001011) MAY BE REMOTELY LOCATED.

TOLERANCES	REVISIONS			BLAST-IT-ALL, inc
DECIMAL ±	NO.	DATE	BY	D-20
FRACTIONAL ±	1	6/12/86	MJS	
ANGULAR ±	2	4/27/88	MJS	
	3			DRAWN BY MJS · SCALE NONE · MATERIAL
	4			CHK'D · DATE 3/28/88 · DRAWING NO. 903002
	5			TRACED · APP'D

BLAST-IT-ALL, inc.

DESCRIPTION: Standard Blast Gun Assembly

DRAWN BY: DLS | DATE: 8-3-88 | DRAWING NO: M9009-B



Item #	Part #	Description
1	002748	Nozzle Nut
1	002861	Nozzle Nut (Wide Spray)
2	002862	Nozzle Ceramic, 1/4" I.D., Size 4
2	002863	Nozzle Ceramic, 5/16" I.D., Size 5
2	002864	Nozzle Ceramic, 3/8" I.D., Size 6
2	002865	Nozzle Ceramic, 7/16" I.D., Size 7
2	002866	Nozzle Ceramic, 1/2" I.D., Size 8
2	002856	Nozzle Carbide, 1/4" I.D., Size 4
2	002867	Nozzle Carbide, 5/16" I.D., Size 5
2	001026	Nozzle Carbide, 3/8" I.D., Size 6
2	002868	Nozzle Carbide, 7/16" I.D., Size 7
2	002869	Nozzle Carbide, 1/2" I.D., Size 8
2	002874	Nozzle Boron Carbide, 3/8" I.D., Size 6
2	002877	Nozzle Boron Carbide (Wide Spray), 3/8" I.D., Size 6
3	002749	"O" Ring - Nozzle Sealing
4	002750	Gun - Body Only
5	002751	Locknut, Orifice
6	002752	Rubber Cover
7	001155	Orifice, Air 4/32" I.D., Size 4
7	002878	Orifice, Air 5/32" I.D., Size 5
7	002753	Orifice, Air 6/32" I.D., Size 6
7	002879	Orifice, Air 7/32" I.D., Size 7
7	002880	Orifice, Air 8/32" I.D., Size 8
8	002742	Clamp
9	000354	Hose, Media 1/2" I.D. (Specify Length)
10	000363	Fitting - Hose to Gun
---	002881	Gun, Standard Complete with Ceramic Nozzle
---	002882	Gun, Standard Complete with Carbide Nozzle
---	002883	Gun, Standard Complete less Nozzle (Specify Orifice Size)

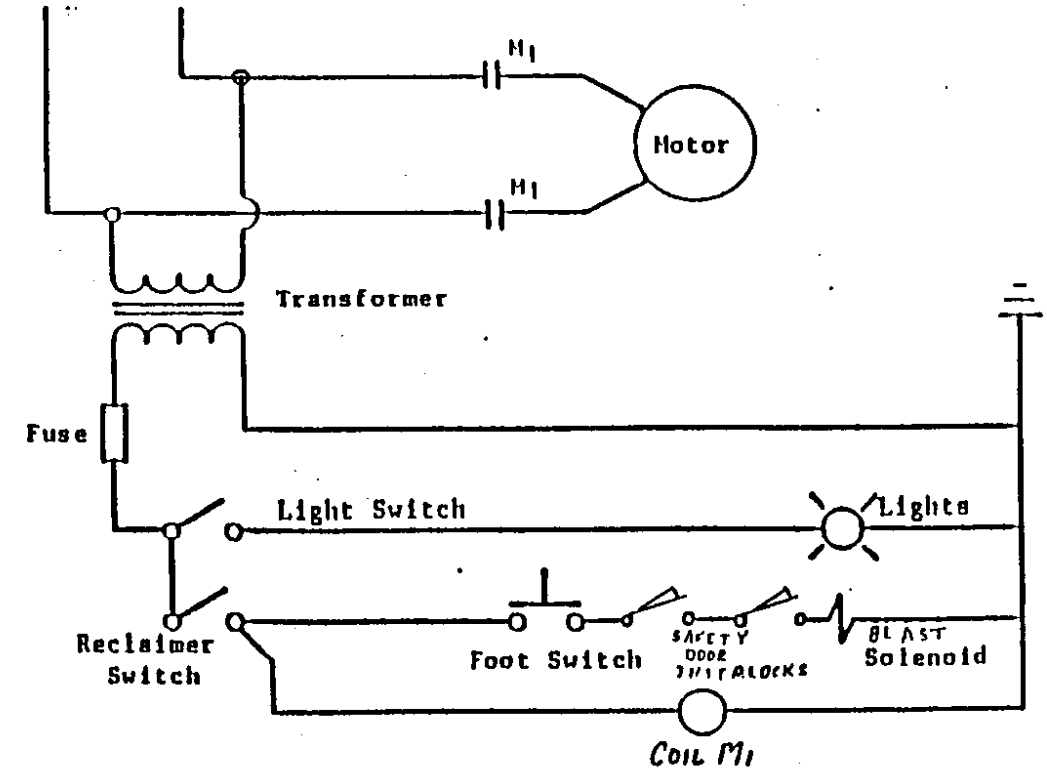
NOTE: When ordering a Gun Complete, indicate what size orifice is required.

BLAST-IT-ALL, inc.

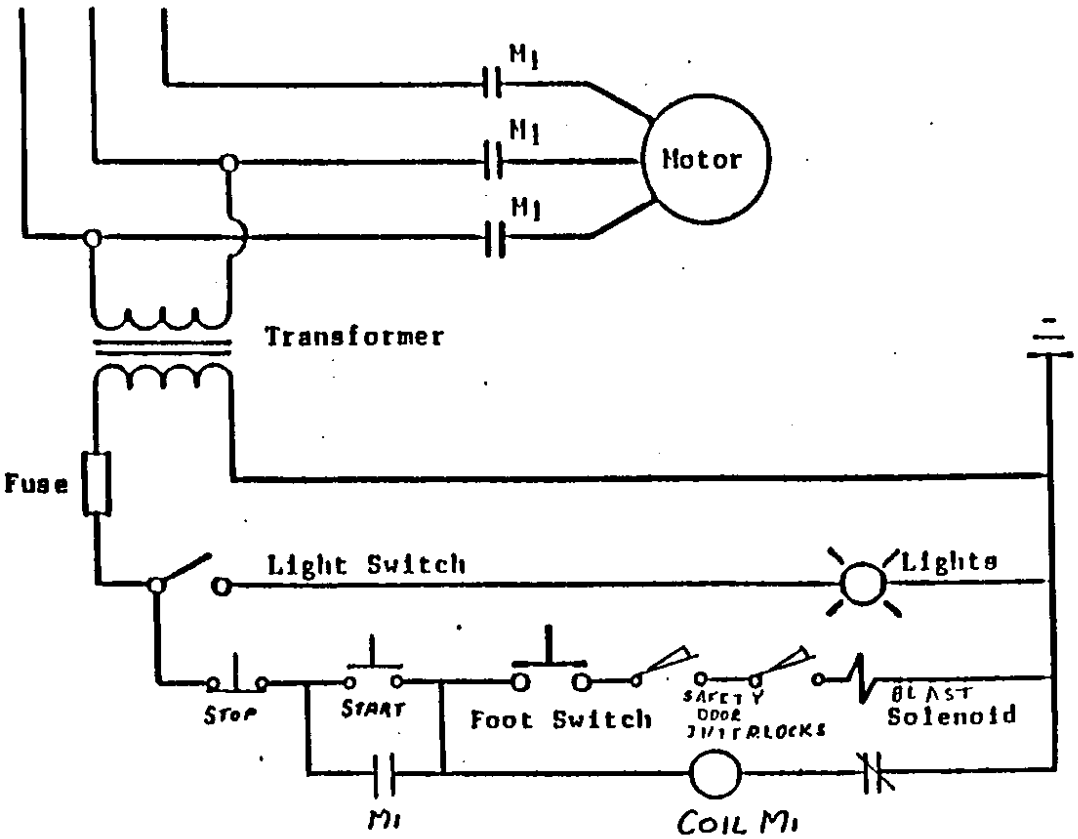
DESCRIPTION: Standard Machine Wiring

DRAWN BY: TMS | DATE: 10/1/84 | DRAWING NO: M5007-B

220 V - 1 PHASE POWER



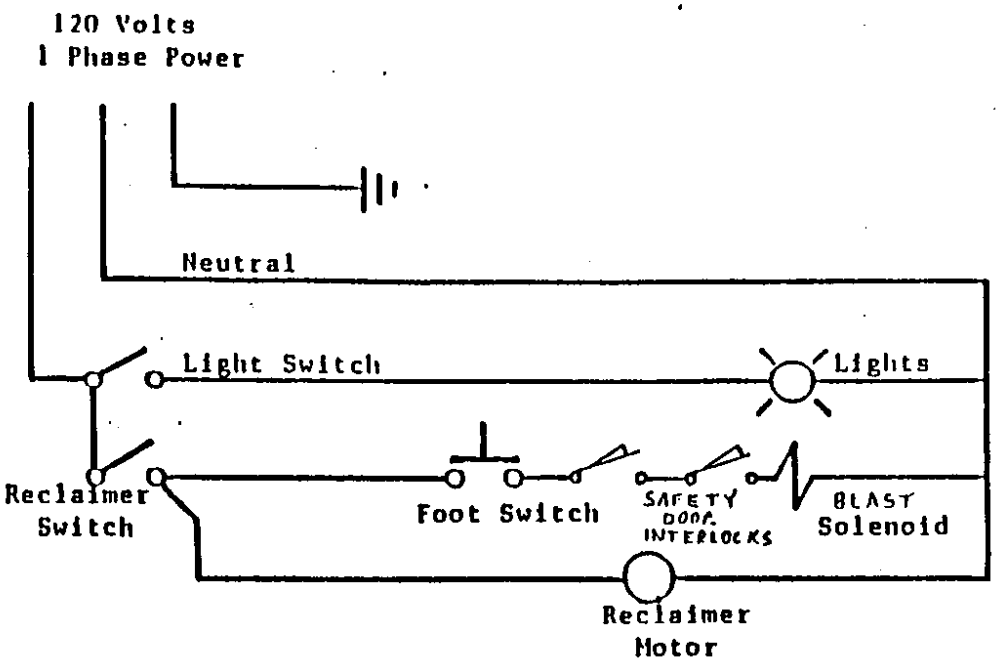
3 Phase Power WITH MOTOR STARTER

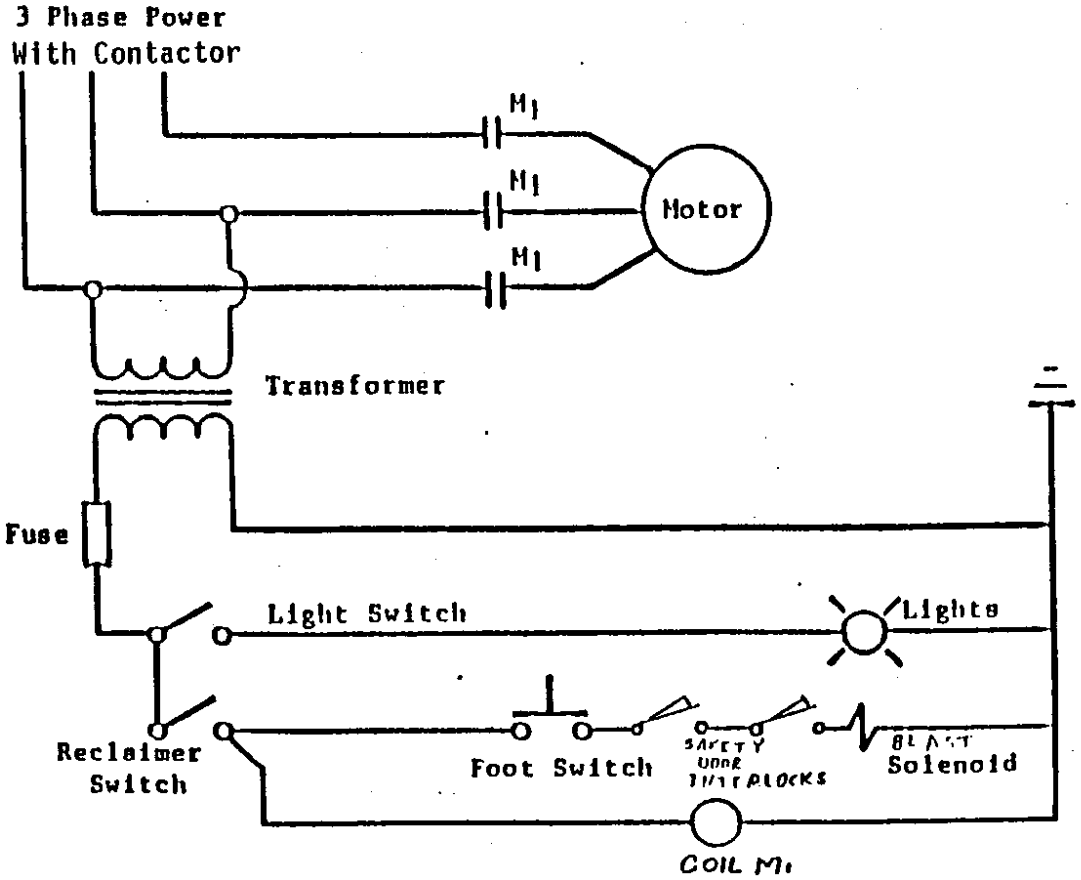


BLAST-IT-ALL, inc.

DESCRIPTION: Standard Machine Wiring

DRAWN BY: TMS | DATE: 10/1/84 | DRAWING NO: M5007-C



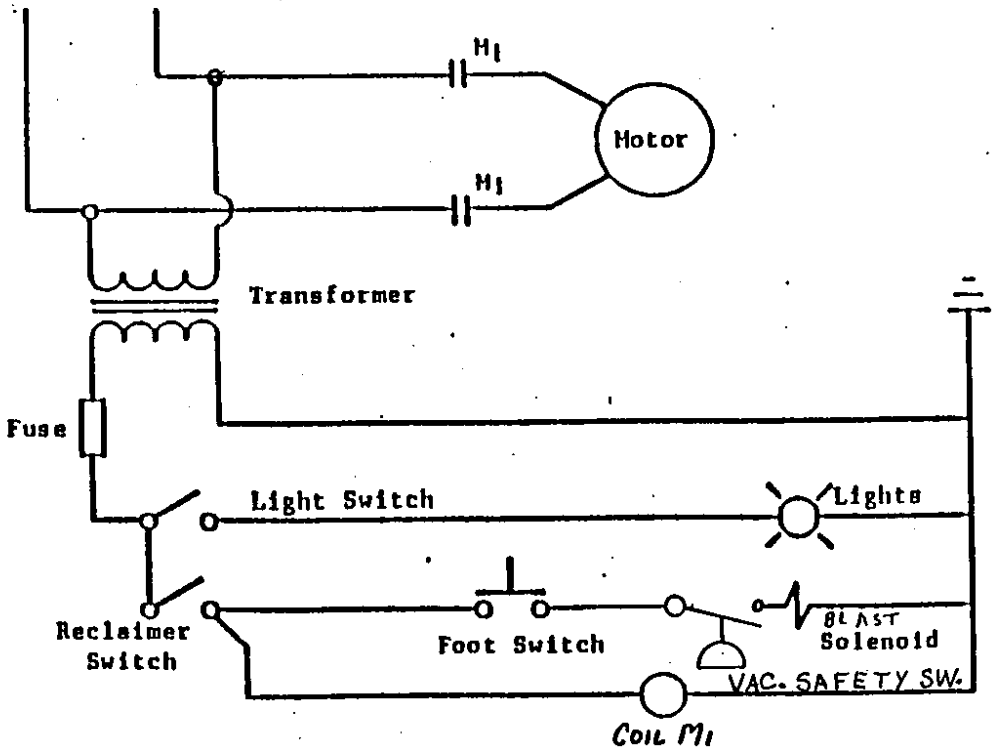


BLAST-IT-ALL, inc.

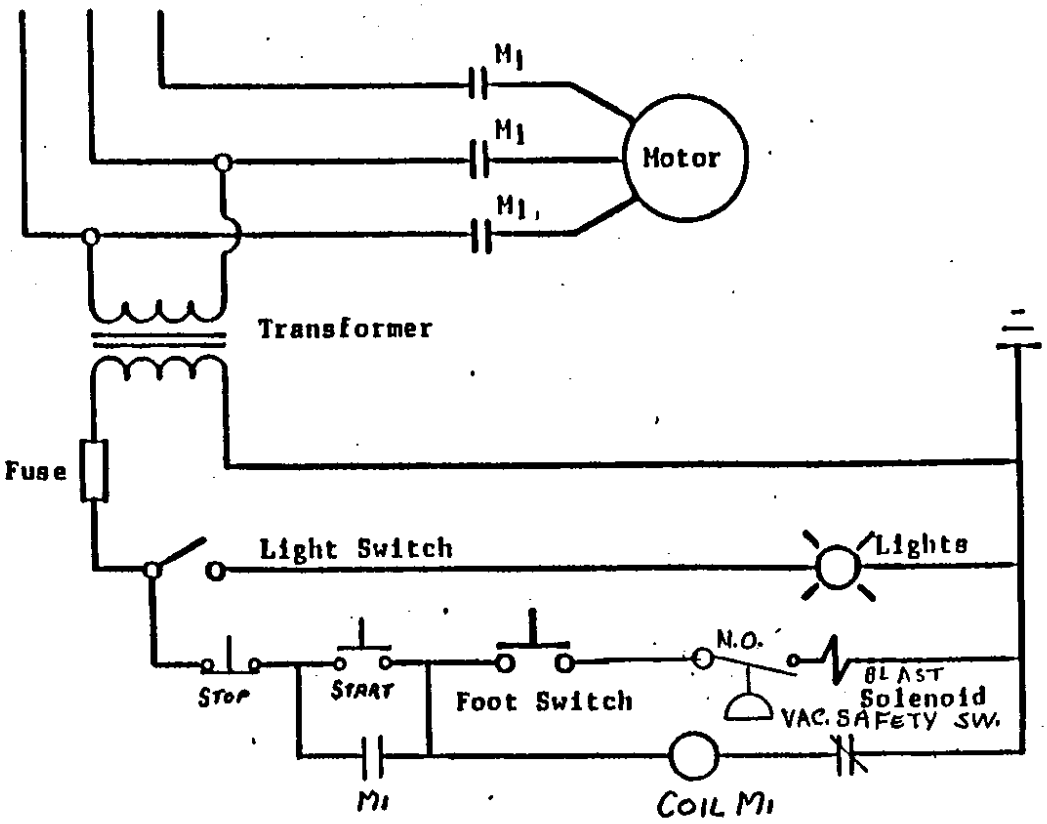
DESCRIPTION: Standard Machine Wiring

DRAWN BY: TMS | DATE: 10/1/84 | DRAWING NO: M5014

220 V - 1 PHASE POWER



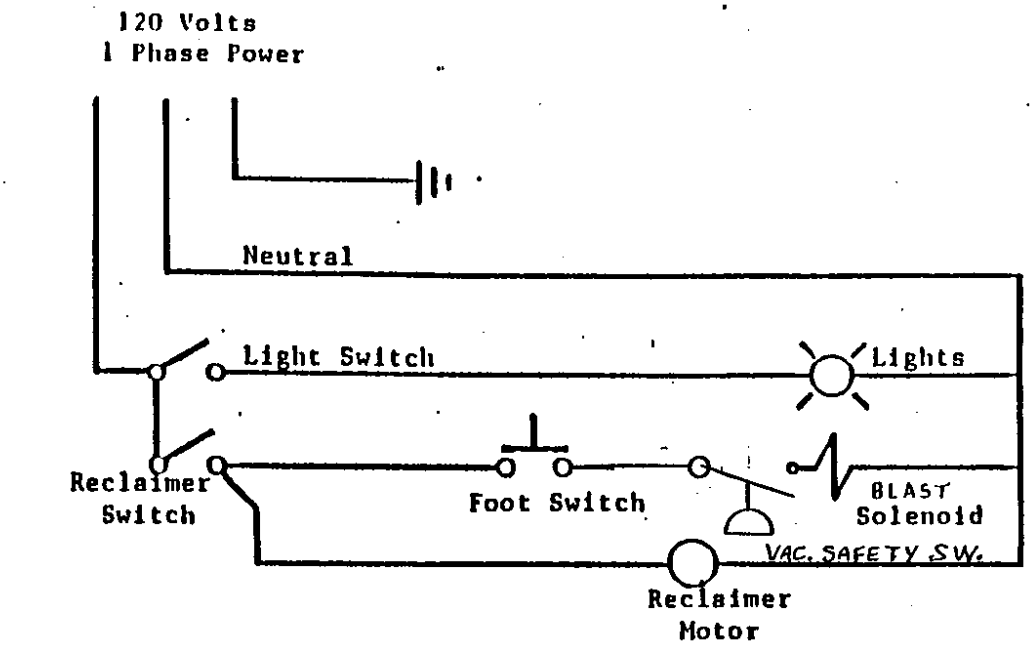
3 Phase Power WITH MOTOR STARTER

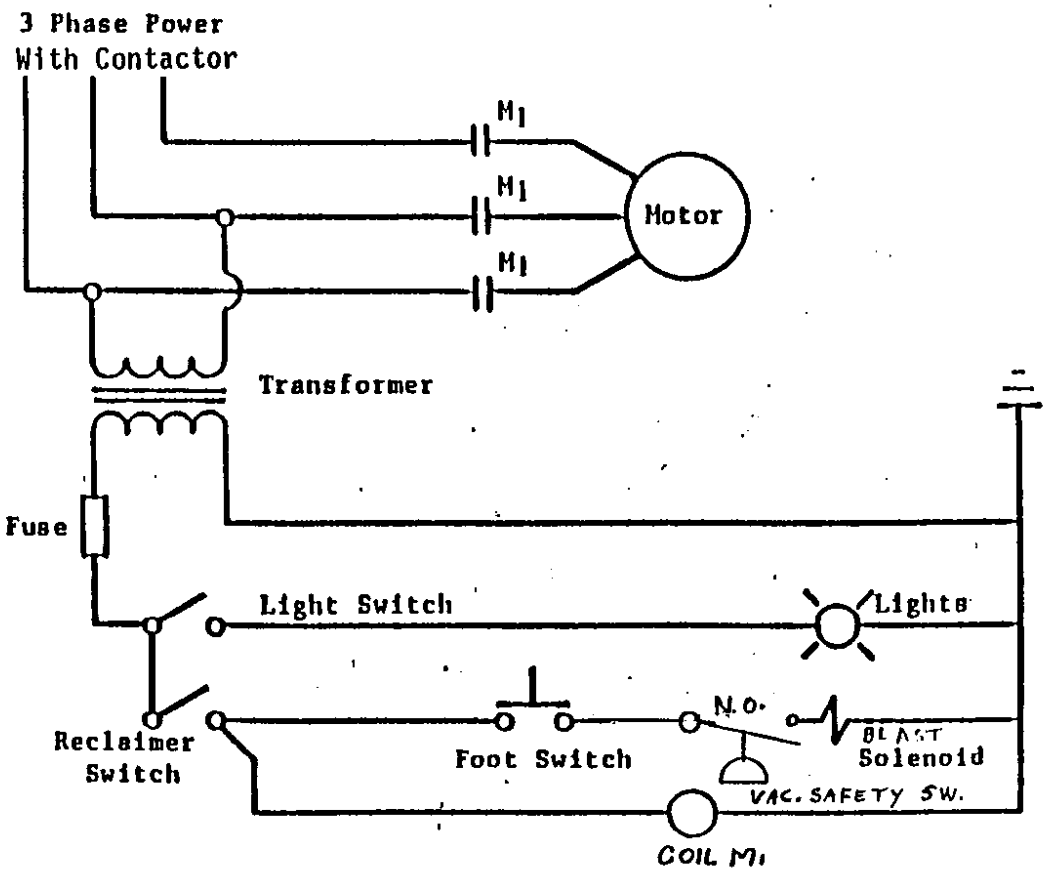


BLAST-IT-ALL, inc.

DESCRIPTION: Standard Machine Wiring

DRAWN BY: TMS DATE: 10/1/84 DRAWING NO: MS013





RETURN MERCHANDISE POLICY

BLAST-IT-ALL, INC. (BIA) will not accept returned merchandise for credit without proper authorization. A return authorization number will be issued and must be included on all purchases or correspondence. Any material returned without prior authorization will remain the property of the sender and BIA will not be responsible for returned merchandise.

WARRANTY

BLAST-IT-ALL, INC. (BIA) warrants its equipment against defective materials and workmanship for one year. This warranty does not apply to parts which are subject to wear such as blast guns, nozzles, hoses and gloves; nor does it apply to equipment that has been subjected to misuse, accident, improper installation, improper application or improper operation. BIA shall have no liability for labor, consequential damages or special charges. Warranty period is determined by the purchase date on the Warranty Form. If there is no Warranty Form on file at the manufacturer, warranty period will revert back to date of shipment from our factory.