MOD-U-BLAST®

# ABR BLASTROOM & PNEUMATIC RECOVERY SYSTEM OPERATION & MAINTENANCE MANUAL




## SUPERIOR PERFORMANCE

### And Quality In Blast Cleaning Equipment



**WARNING**

**Read Manual**

Failure to read, understand & follow all safety and operation procedures in this manual can cause injury or death. Manuals that are lost, incomplete, or damaged, must be replaced immediately.

***Manual # ABRP1711***

**www.modublast.com** **Ph: (780) 425-5510** **Fax: (780) 425-5540**

*Copyright© 2017 Mod-U-Blast®, All Rights Reserved*

# Table of Contents

Important Notice . . . . . 3
Warnings. . . . . 4
Important Safety Items . . . . . 5
Pneumatic Reclaim Components Description. . . . . 6 & 7
Pneumatic Blastroom Maintenance . . . . . 7
Pneumatic Reclaim Components . . . . . 8
Basic Principles . . . . . 9
Set-up Requirements. . . . . 9 & 10
Control Panel Operation . . . . . 10
Blasting Preparation . . . . . 11
Blasting Operation. . . . . 11
Pneumatic Recovery System Troubleshooting . . . . . 12
Warranty Coverage . . . . . 12


Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Important Notice

TO DISTRIBUTORS, PURCHASERS AND END USERS OF MOD-U-BLAST PRODUCTS

The information provided described and illustrated in this material is intended for experienced, knowledgeable users of abrasive blasting equipment and supplies(products).
The products described in this material may be combined as determined solely by the user in a variety of ways and purposes. However no representations are made as to intended use, performance standards, engineering suitability, safe practices or compliance with government regulations and laws that apply to these products, products of others, or a combination of various products chosen by the user or others. It is the responsibility of the users of these products, products of third parties, and a combination of various products, to exercise caution and familiarize themselves with all applicable laws, government regulations and safety requirements.

Nor are representations made or intended as to the useful life, maintenance cycles, efficiency or performance of the referenced products of any combination of products. This material must not be used for estimating purposes. Production rates, labour performance or surface finishes are the sole responsibility of the user based on the
user's expertise, experience and knowledge of industry variables.

It is the responsibility of the user to insure that proper and comprehensive training of operators has been performed and all environmental and safety precautions observed.

Mod-U-Blast Inc. provides a variety of excellent products to the surface preparation industry, and we are confident that all proficient users, operators and contractors in this industry will continue to use our products in a safe and knowledgeable manner.

**Before using this product, read all instructions, literature, labels, specifications and warnings sent with and affixed to the unit.**

If operation of the unit is unclear after reading this manual, contact your supervisor for instructions. It is the responsibility of the employer to read the following instructions to users of this equipment. Periodic inspection at the work site should be made by supervisory personnel to ensure the blast machine is being properly used and maintained. A copy of this owner's manual must be kept with the blast machine and readily accessible to the blast machine operators at all times.

It is the responsibility of the user to insure that proper and comprehensive training of operators has been performed and all environmental and safety precautions observed.


Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Warnings



**WARNING:** Over time, exposure to any dust could result in lung medical issues or death. Use a reverse pulse dust collector with HEPA filters if lead or other toxic materials are removed from items during the blasting process.



**WARNING:** Never point the blast nozzle at the viewing window. Blow-off parts before opening the door. Keep doors closed until all dust has been exhausted after blasting.



**WARNING:** Do not disconnect hoses while the system is under pressure, this could cause serious injury or death. Use coupler lock pins and hose whips to prevent accidental disconnection.



**WARNING:** Use proper respirator and eye protection when servicing any component in this blast system.



**WARNING:** Do not disable the safety door interlock system as it may cause injury from unintentional blasting.



**WARNING:** When servicing the Blastroom or its components disconnect and lock out the electrical supply and disconnect the air line from the compressor.



**WARNING:** DO NOT WELD OR GRIND ON THE BLAST VESSEL AS IT MAY CAUSE WEAK POINTS AND COULD CAUSE SERIOUS INJURY OR DEATH. THIS WILL ALSO VOID ANY WARRANTY COVERAGE.



Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Important Safety Items

Read all instructions before using this equipment. For efficient and safe production reference the OSHA requirements.

## 1.1 Blastroom Manual

This manual contains important instructions for the safe operation of this Blastroom and some of its related equipment.
Before attempting to operate this Blastroom and its components all personnel intending on using this equipment must read all of the complete manuals and familiarize themselves with the operation and parts. There are separate manuals for the blast pot and dust collector.

## 1.2 Safety Considerations

- Pressure blast pots require high pressure air to operate.
- Dust from the Blastroom is collected by a reverse pulse collector and must not be allowed to become concentrated in areas where workers are exposed. This requires proper maintenance of the dust collection & Hepa components.

## 1.3 Operator's Responsibilities Before Starting

- Inspect fittings and hoses for damage and wear. Repair any air leaks before operating.
- Only operate the Blastroom with all the doors securely closed and with the dust collection system running.
- Clean the dust collector filters as needed and empty the dust collector hopper daily.

IMPORTANT NOTE: When using a reverse pulse dust collector the filters need to be seasoned before pulsing. Do not turn on the auto pulse until 4 hours of blasting and one cycle of reclaiming media has occurred.

## 1.4 Cautions

- The blast pot is to be used with the appropriate media. Contact your representative for information.
- The compressed air supply to the pressure system needs to be dry.
- Working pressure of the blastroom and related components must not exceed 125 P.S.I.
- Keep the blast nozzle controlled and aimed at the work always.

## 1.5 Maintenance

- Disconnect the power and air supply from all components before servicing.
- Keep all components in good repair. Use Mod-U-Blast parts only and do not substitute or modify.

MOD-U-BLAST®

**For Service Call:**
**1-800-661-3842**



Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Pneumatic Reclaim Components Description

## SWEEP-IN SECTION

- The sweep-in section is 8 feet in length with a transition elbow on the outside of the blastroom and a raised air inlet at the other end inside the unit.
- It attaches to the reclaimer via a 6" heavy duty rubber lined hose.
- Media is swept or shoveled into the sweep hoppers and when the dust collector blower is activated air passes through the inlet on the sweep and the media is induced into the air stream and conveyed up to the reclaimer.

Note: The sweep inlet may need to be partially covered to control the amount of air entering the sweep-in channel.

## MEDIA RECLAIMER

- The reclaimer receives the media from the sweep-in and removes dust, spent media and oversized particles.
- The media, dust and oversized particles are directed into a spiral as it is pulled into the reclaimer. Centrifugal force holds the heavy media to the outside of the reclaimer and the light dust is drawn up in the centre vortex pipe and collected in the dust collector.
- The size of the dust particles drawn off to the dust collector can be adjusted by shortening or lengthening the adjustable centre vortex pipe.

Note: The adjustable vortex tube is set all the way up in the reclaimer from factory and may need to be adjusted downwards depending on the amount of good media being collected in the dust collector waste. The ideal adjustment would be if there is 5 to 10 percent of good media in with the dust collected in the hopper of the dust collector.

Note: To adjust the vortex tube in the reclaimer the elbow will have to be removed to expose the tube. Loosen the 3 tabs screws and lower as required and reverse procedure to use. As the vortex pipe is lengthened the reclaimer will draw off larger particles into the dust collector.

## STORAGE HOPPER

- As clean media drops through the reclaimer it is retained in the storage hopper. With the hopper sealed to the blast pot lid and the blast pot lid sealed to the pot then the slide gate on the hopper can be left in the open position.
- Should there be any air introduced (leak) into the hopper it will directly affect the separation process in the reclaimer.

## PRESSURE BLAST POT

- There is a complete description of the blast pots function in the MBM manual.

MOD-U-BLAST®

**For Service Call:**
**1-800-661-3842**



Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Pneumatic Reclaim Components Description cont'd

## RESPIRATORY SYSTEM

- Contaminants in the air supplied to workers can cause serious injury and/or death. Ensure you breathing air system is complete and functioning correctly.
- The air supplied respirator consists of a helmet with inner and outer protective lenses, an internal air delivery system and a protective cape.

## DUST COLLECTOR

- There is a complete description of the Dust Collector in the DC manual.

# Pneumatic Blastroom Maintenance

**Maintenance Schedule For Blastroom Pneumatic System**

## Daily Maintenance

- Report and / or fix any operational problems
- Correct and safety issues before blasting
- Pulse dust filters
- Empty dust collector
- Add media if required (DO NOT OVERFILL)

## Weekly Maintenance

- Inspect nozzle for wear
- Clean screens on sweep-in and inside reclaimer
- Check lights for proper operation
- Clean / Repair safety glass or protector
- Inspect all hoses for holes or weak spots

## Monthly Maintenance

- Inspect blast coupler gaskets for wear
- Inspect air hoses for leaks or loose fittings
- Check for quick shutdown of the door safety switches

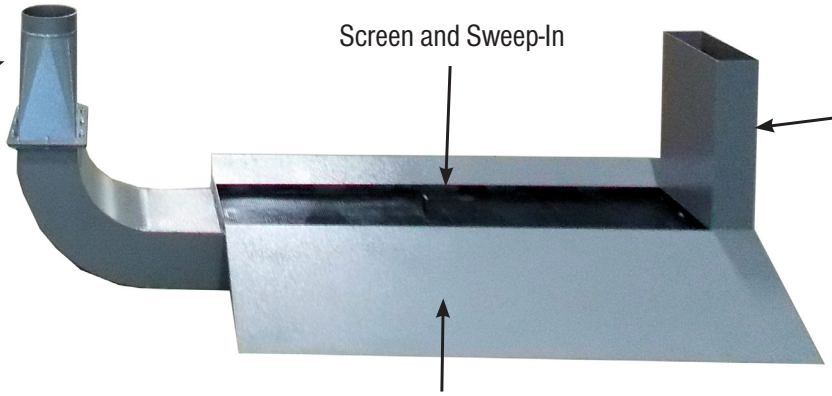
## Six Month Maintenance

- Check dust collector filters - if the magnehelic gauge on the DC reads 5 inches even after pulsing then the filters need replacing - see dust collector manual for filter replacement procedure
- Check for leaks in dust hoses
- Check for leaks in all parts of the system


Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Pneumatic Reclaim Components




| Stock # | Description |
|---|---|
| 16006-B | 1600 CFM Reclaimer |
| 16060-RL | Rubber lined hose (12.5') |

| Stock # | Description |
|---|---|
| 270005-E | Transition Elbow (2 pc) |
| 270013 | Sweep-In |



Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# 2. Basic Principles

## Mod-U-Blast Pressure Blast System Description

The Pneumatic Blastroom system consists of these key components:

- Blastroom
- Pressure pot
- 20 cu. ft. Hopper and 1600 cfm Reclaimer
- Dust Collector
- 3 Tier Hepa Filter (Optional)
- Radex Breathing Air
- Blow-off Lance

# 3. Set-Up Requirements

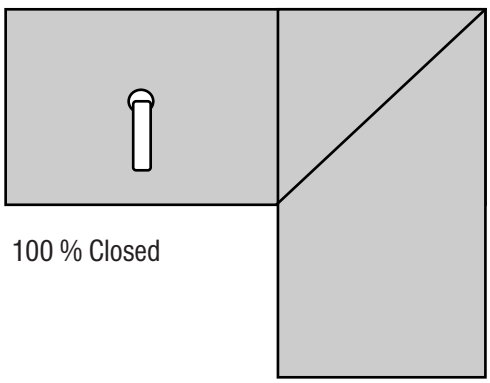
## 3.1 Location

## Before setting up your Blastroom and components remember the following points:

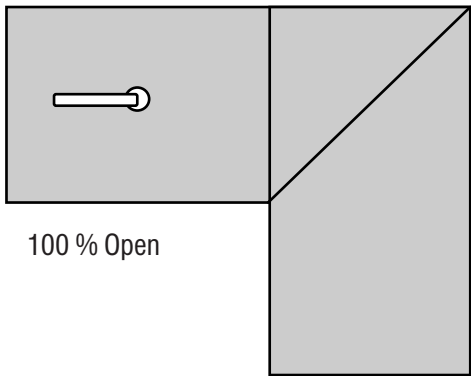
- The Mod-U-Blast Blastroom components require a compressed air supply. NOTE: The compressed air supply to this unit needs to be dry.
- The Blastroom control panel requires a power supply of _____volts 3 phase
- This Blastroom is designed to be used in a heated indoor location.
- Dust can escape from the Blastroom while loading and unloading or while servicing the dust collector.

## 3.2 Initial Adjustments

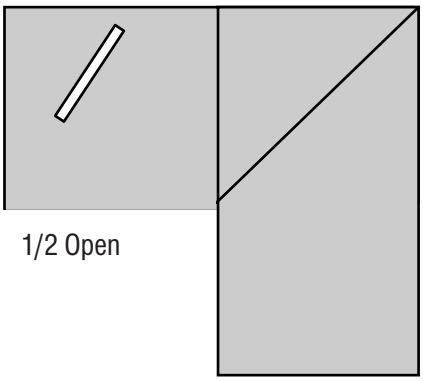
The first adjustment that needs to be done is to set the damper position on the elbow atop the reclaimer. See initial adjustment below.



100 % Closed



100 % Open



1/2 Open

This is where the damper should be for the initial start-up



Copyright© 2017 Mod-U-Blast®, All Rights Reserved

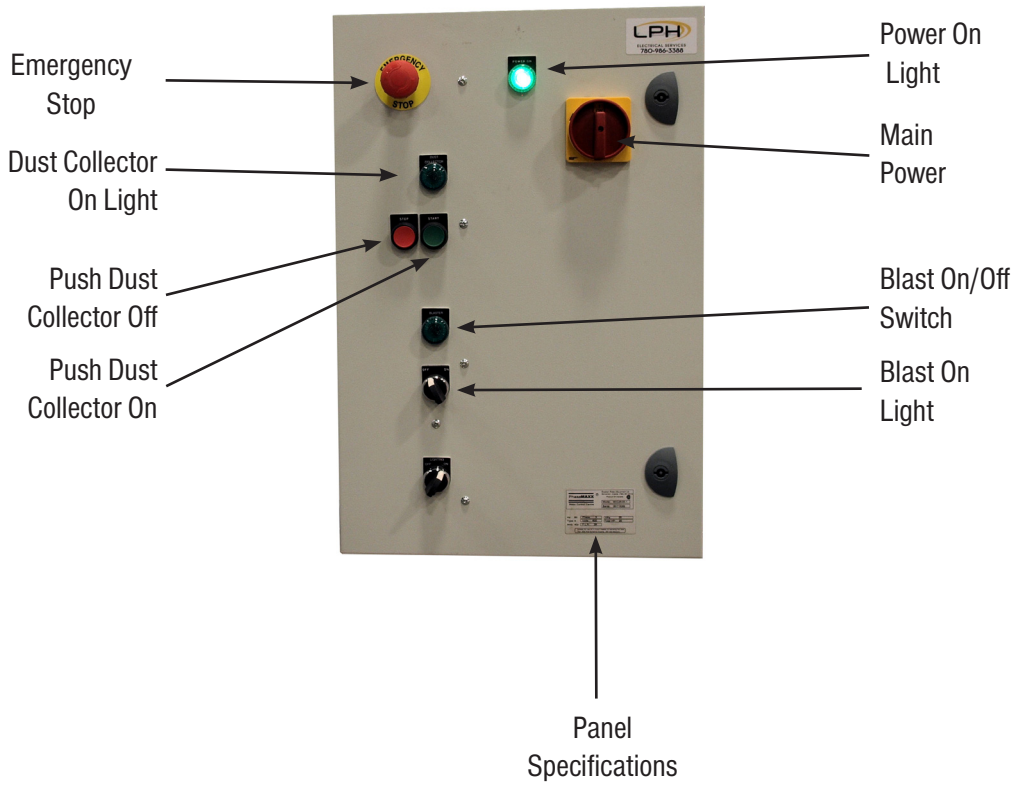
# 3. Set-Up Requirements cont'd

## 3.2 Initial Adjustments cont'd

- The regulator a the top of the air tank on the back of the dust collector has been pre-set to 80 psi and is to remain at that pressure.
- The Micro Valve (orange knob) at the bottom of the blast pot should initially be opened 4 turns by turning it CCW. (depending on the size of the media this will either have to be closed or opened more to create a smooth steady blast stream later)
- Turn on the main air supply to the air tree located on the leg of the hopper and open the 1" ball valve for the Radex breathing air canister. Then open the gate valve approx 2 turns. Next adjust the regulator on top of the Radex canister to read between 20- 40 psi. (This adjustment varies between different operators according to their comfort level of air flow). With the yellow air hose attached to the Radex and the Nova helmet have the operator wear the helmet and adjust the air accordingly. After the air flow is adjusted remove the helmet and place it on the hook inside the Blastroom.
- The auto pulse control box on the front of the dust collector should remain off. See section 1.3 'Important Note' on page 5.

# 4. Control Panel Operation

## 4.1 Control Panel Layout





Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# 5. Blasting Preparation

## 5.1 Initial Loading the Media

**To initially charge the system with media:**

- Turn on the main power at the control panel.
- Turn on the Blastroom lights.
- Ensure that the damper in the elbow of the reclaimer is only 1/2 open. See section 3.2 on page 9 for clarification.
- Dump 6 bags of media evenly spaced over the length of the sweep-in.
- Turn on the dust collector blower at the control panel.
- Observe how quickly the media is taken away. There is no actual set rate.
- Once the media has been loaded turn off the dust collector blower.

## 5.2 Loading Parts to be Cleaned

1. Load parts or components
2. Parts of components need to be free of grease, oil, or water.
3. Close all the door (s).

## 5.3 Preparation for Blasting

1. Open the compressed air used to supply the air tree and open all ball valves.
2. Open slide gate on the hopper to fill the pot. The slide gate can remain open.
3. Adjust the regulator to desired blast pressure. (pull knob down to unlock, adjust pressure and push up to lock).
4. Turn on main power on the Blastroom control panel, turn on dust collector blower and turn on the blaster switch.
5. Turn on blastroom lights
6. Wear OSHA approved outer wear and helmet.
7. Read MBM blast pot manual before proceeding to blast operation

# 6. Blasting Preparation

## 6.1 Blasting

1. Remove the blast hose from the hose hangers and grab the blast nozzle firmly.
2. Press the toggle on the deadman for the blasting to start.

## 6.2 Finish Blasting

1. To finish blasting, release the toggle of the deadman.
2. Once the pot pressure has been evacuated through the exhaust hose into the Blastroom the pop-up in the blast pot will drop to allow the good media that was collected in the hopper from the reclaimed media to fall back into the pot for reuse.
3. Use the blow-off lance inside the Blastroom to blow off the part (s) that were just cleaned and allow the dust to clear before removing them from the Blastroom.
4. Hang up all hoses.
5. Sweep or shovel the spent media into the sweep-in.
6. At the control panel turn off the blast switch, turn off the dust collector blower, turn off the main power supply.
7. Turn off the lights
8. Close all ball valves on the air tree and shut off the main air supply.


Copyright© 2017 Mod-U-Blast®, All Rights Reserved

# Pneumatic Recovery System Troubleshooting

| PROBLEM | POSSIBLE CAUSE | REMEDY |
|---|---|---|
| Sweep-in suction too low | Damper closed too much on elbow of reclaimer | Open damper a little until proper suction is achieved |
| | Sweep-In intake restricted | Remove the restriction |
| | Clogged hose between transition elbow and reclaimer | Remove hose and clear obstruction |
| | Reclaimer door open | Close the reclaimer door |
| | Fan on dust collector running backwards | Have electrician change wiring for the blower assembly |
| | Filters in dust collector dirty and plugged | Make sure auto pulse is working and if magnehelic gauge reads 5 or above consistently then the filters need replacing |
| | Reclaimer screens plugged | Clean reclaimer screens |
| | | |
| More than 10% of good media in the DC waste | Damper open too much on elbow of reclaimer | Close damper a little until less than 10% good media in waste |

# Warranty Coverage

Mod-U-Blast equipment is covered by a one (1) year warranty against defects in material and workmanship starting from the purchase date. This covers the equipment as well as all major components.

This warranty does not apply to abnormal use of the equipment or parts. Parts considered consumables are not covered by warranty.

Claims will be honored only if the warranty card is returned within a period of two (2) months from the factory shipping date.

The card can be returned to your Mod-U-Blast salesperson or mailed to the address below.

In the event of failure of this equipment
please contact a Mod-U-Blast service centre
or call (780) 425-5510.

MOD-U-BLAST®

403 - 69 Avenue NW
Edmonton, Alberta
Canada
T6P 0C2
PH: (780) 425-5510 FAX: (780) 425-5540



Copyright© 2017 Mod-U-Blast®, All Rights Reserved