



Economy (E) Series Blast Cabinet Owner's 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 # eseries1801 |

Table of Contents

| | |
|---|------------------|
| Important Notice | 3 |
| Warnings | 4 |
| Important Safety Items | 5 |
| E Series Assembly Instructions | 6 |
| Basic Principles | 7 |
| Set-Up Requirements | 7 & 8 |
| Media | 8 |
| Operation | 9 |
| Maintenance | 10 |
| Air & Component Schematic | 11 |
| Parts List | 12 |
| Dust Collector | 13 |
| Electrical Schematic | 14 |
| Suction Gun | 15 |
| Troubleshooting | 16 |
| Maintenance & Operational Tips | 16 |
| CSA Compliance | 17 |
| Upgrades & Options | 18 |
| Warranty | 18 |

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.

Warnings



Over time, exposure to any dust could result in lung medical issues or death.



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.



Do not disconnect hoses while the system is under pressure, this could cause serious injury or death.



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



When servicing the cabinet disconnect and lock out the electrical supply and disconnect the air line from the compressor.

1. Important Safety Items

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

1.1 E Series Cabinet Manual

This manual contains important instructions for the safe operation of this cabinet and its related equipment. Before attempting to operate this E series cabinet and its components, all personnel intending on using this equipment must read the complete manual and familiarize themselves with the operation and parts.

1.2 Safety Considerations

- E series blast cabinets require high pressure air to operate.
- The blast cabinet must be grounded to avoid shock.
- Electric extension cords must be three wire grounded and rated for the amperage of the blaster. Check the cabinet serial tag for the rated amps.
- Dust from the blast cabinet is collected by an attached filter system and must not be allowed to become concentrated in areas where workers are exposed. This requires proper maintenance of the dust collection system.

1.3 Operator's Responsibilities Before Starting

- Inspect fittings and hoses for damage and wear. Repair any air leaks before operating.
- Check the gaskets on all doors.
- Only operate the blast cabinet 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.

1.4 Cautions

- The Mod-U-Blast E series is to be used with appropriate media. Contact your representative for information.
- The compressed air to the pressure system needs to be dry.
- Working pressure of the blast cabinet and related components must not exceed 100 P.S.I.
- Keep the blast nozzle controlled and aimed at the work always.

1.5 Maintenance

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

E Series Assembly Instructions

1. Remove the crate top (for E4824-DC bend back the tabs holding the lid to the sides)
2. Remove all loose parts from on top of the cabinet body.
3. Separate the styrofoam box containing the foot pedal and the metering valve and remove all loose parts.
4. Remove cabinet body from the crate and stand it on its top with the light hole facing down.
5. Attach one leg to each of the 4 corners of the cabinet body (legs all have identical holes) using 6 bolts/nuts for each leg.
6. Remove the 2 angle brackets from the long cardboard box and install between the front and back leg on each side of the cabinet.
7. Attach the metering valve plate/hinge to the bottom of the cabinet using 3 bolts/nuts. Hold open to install the nuts inside. Once tightened do up the clasp so that the seal is tight. (Clasp is adjustable)
8. Remove the light assembly from inside the cabinet top and put aside.
9. Stand up the cabinet using 2 persons.
10. Place the foot pedal in the middle front of the cabinet.
11. Install the regulator/bracket on the front left leg - 2 bolts/nuts and tighten.
12. Set the long narrow glass piece on top of the cabinet so that it is centered on the rubber seal.
13. Place the light assembly on top of the narrow glass with the light switch facing the front and attach to the top of the cabinet.
14. Install viewing window with window protector facing inside the cabinet - DO NOT OVERTIGHTEN
15. Install the perforated floor material so that the corner notch is situated in the right front corner and have the hoses for the suction gun pass through the notched area.
16. Dust Collector - Attach the body of the dust collector to the rear panel (right side) aligning the pipe with the hole. Use 4 nuts/bolts to attach) Push the large 'O' Ring on the dust collector pipe so that it is tight to the outside of the back panel. Remove the inlet box that covers the dust collector pipe inside the cabinet and place a bead of silicon caulking around the pipe to seal it and then replace the inlet box.
17. Attach the left and right doors.
18. Attach the door catches and move out to full extent and tighten the bolts. Moving them in slightly will tighten the door seal.
19. Plug the dust collector into the female plug coming off the light. Then plug the male cord from the light into a 115 volt 60Hz supply. The On/Off switch controls the lights and dust collector fan.

2. Basic Principles

2.1 Mod-U-Blast E series Suction Blast System Description

Our suction blast systems consists of these important components:

- Blast cabinet
- Suction Gun & Metering Valve
- Dust Collection

2.2 How The E Series Suction Blast System Works

With the cabinet doors closed, the main air to the inlet on the cabinet is turned on and media is loaded in through the floor of the cabinet. Turn on the switch for the cabinet lights/dust collector fan. The E Series blast cabinet is now ready to use. Press the foot pedal to start blasting. While blasting the object to be cleaned, the heavier used media falls through the perforated floor into the hopper and the finer dust is captured in the dust collector.

3. Set-Up Requirements

3.1 Location

Before setting up your cabinet remember the following points:

- The Mod-U-Blast suction blast cabinet requires a compressed air supply. **NOTE: The compressed air supply for this unit needs to be completely dry.**
- The cabinet needs a power supply (see paragraph 3.4)
- This cabinet is designed to be used in a heated indoor location.
- Dust can escape from the cabinet while loading and unloading or while servicing the dust collector.

3.2 Compressed Air Requirements

- The compressed air supply should be sized according to the table (shown below.)

| Pipe or Hose Length | VOLUME OF AIR IN CFM'S | | | | |
|---------------------|------------------------|-----|-----|-----|----|
| | 25 | 30 | 35 | 40 | 50 |
| 25' | .75 | .75 | .75 | .75 | 1 |
| 50' | .75 | .75 | .75 | 1 | 1 |
| 75' | .75 | .75 | 1 | 1 | 1 |
| 100' | .75 | .75 | 1 | 1 | 1 |
| 150' | .75 | 1 | 1 | 1 | 1 |

3. Set-Up Requirements cont'd

3.3 Nozzle CFM Requirements at 80 psi

| AIR JET | AIR JET SIZE | NOZZLE SIZE | CFM@80PSI |
|---------------|--------------|-------------|-----------|
| #3.5 | 3/32" | *** | 15 |
| #4 (standard) | 1/8" | 1/4" | 21 |
| 5 | 5/32" | 5/16" | 31.9 |
| 6 | 3/16" | 3/8" | 47 |
| 7 | 7/32" | 7/16" | 62 |
| 8 | 1/4" | 1/2" | 85.7 |

** Standard nozzle in E series cabinets. Nozzle CFM's listed above are with using a new nozzle - cfm numbers will increase as the nozzle becomes worn.

3.4 Electrical Requirements

- Electrical requirements for Mod-U-Blast E series cabinets use 115 Volts @ 60 Hz. The light switch will turn on the cabinet lights and the exhaust fan.

4. Media

4.1 Glass Bead Ordering Information

| STOCK NO. | SIZE | DESCRIPTION | MICRONS | PACKAGE | |
|-----------|------|----------------|------------|---------|----------|
| 71003 | #3 | 20 – 30 Mesh | Glass Bead | 840-590 | 20 Kg. |
| 71004 | #4 | 30 – 40 Mesh | Glass Bead | 590-420 | 20 Kg. |
| 71005 | #5 | 40 – 50 Mesh | Glass Bead | 420-297 | 20 Kg. |
| 71006 | #6 | 50 – 70 Mesh | Glass Bead | 297-210 | 20 Kg. |
| 71007 | #7 | 60 – 80 Mesh | Glass Bead | 250-177 | 20 Kg. |
| 71008 | #8 | 70 – 100 Mesh | Glass Bead | 210-149 | 20 Kg. |
| 71010 | #10 | 100 – 170 Mesh | Glass Bead | 149-88 | 20 Kg. |
| 71011 | #11 | 120 – 200 Mesh | Glass Bead | 125-74 | 20 Kg. |
| 71013 | #13 | 170 – 325 Mesh | Glass Bead | 88-44 | 20 Kg. |
| 71100 | MGA | Glass Mix | Specialty | ----- | 20 Kg. |
| 71100TON | MGA | Glass Mix | ----- | ----- | 2000 lb. |

Other Medias are available - please contact your Mod-U-Blast dealer for further information



For Supplies & Parts
Call 1.800.661.3842

E Series Operation

5.1 Loading the Media

1. With the exhaust fan off, to add the new media, open either door on the cabinet and pour the media through the floor screen into the bottom of the cabinet hopper (approx 1/4 of a bag)
2. Close the door on the cabinet.

5.2 Loading Parts to be Cleaned

1. Load parts through either door on the cabinet
2. Parts need to be free of grease, oil, or water.
3. Close the door (s).

5.3 Preparation for Blasting

1. Open the compressed air used to supply the cabinet.
2. Turn on the cabinet lights & exhaust fan.
3. Adjust the regulator to desired blast pressure. (pull knob down to unlock, adjust pressure and push up to lock).
4. The metering valve on the bottom of the cabinet hopper has been set at the factory for the most efficient blast stream. (Fast steady stream is preferred)

5.4 Blasting

1. Place hands into the gloves and grab the blast gun assembly firmly.
2. Depress the foot pedal for the blasting to start.
3. Hold the nozzle approximately 6" from the item to be cleaned. Point nozzle at a 45° angle towards the part and use smooth, even strokes for best results.

5.5 Finish Blasting

1. To finish blasting, release pressure from the foot pedal and blasting will stop quickly.
2. Use the blow gun inside the cabinet to blow off the part (s) that were just cleaned and allow the dust to clear before removing them from the cabinet.
3. Turn off the cabinet lights and exhaust fan.

5.6 After Blasting Dust Collector Cleaning

- Clean the filter by pushing in on the shaker on the side of the dust collector a few times and then empty the hopper.

E Series Cabinet & Dust Collector Maintenance

6.1 Maintenance Schedules

Daily Start-Up Procedure

- Check air pressure and adjust to desired setting
- Check & adjust media flow (if necessary)
- Correct any safety issues before blasting
- Report and / or fix any operational problems

Daily Maintenance

- Shake dust filters
- Empty dust collector
- Add required media (1/4 bag at a time)

Weekly Maintenance

- Inspect gloves
- Inspect nozzle for wear
- Check lights for proper operation
- Clean / Repair safety glass or protector
- Inspect clear media hose and air supply hoses for holes or weak spots.

Monthly Maintenance

- Inspect air & media hoses for leaks or loose fittings
- Check for quick shutdown of the following:
 - Foot pedal on cabinet

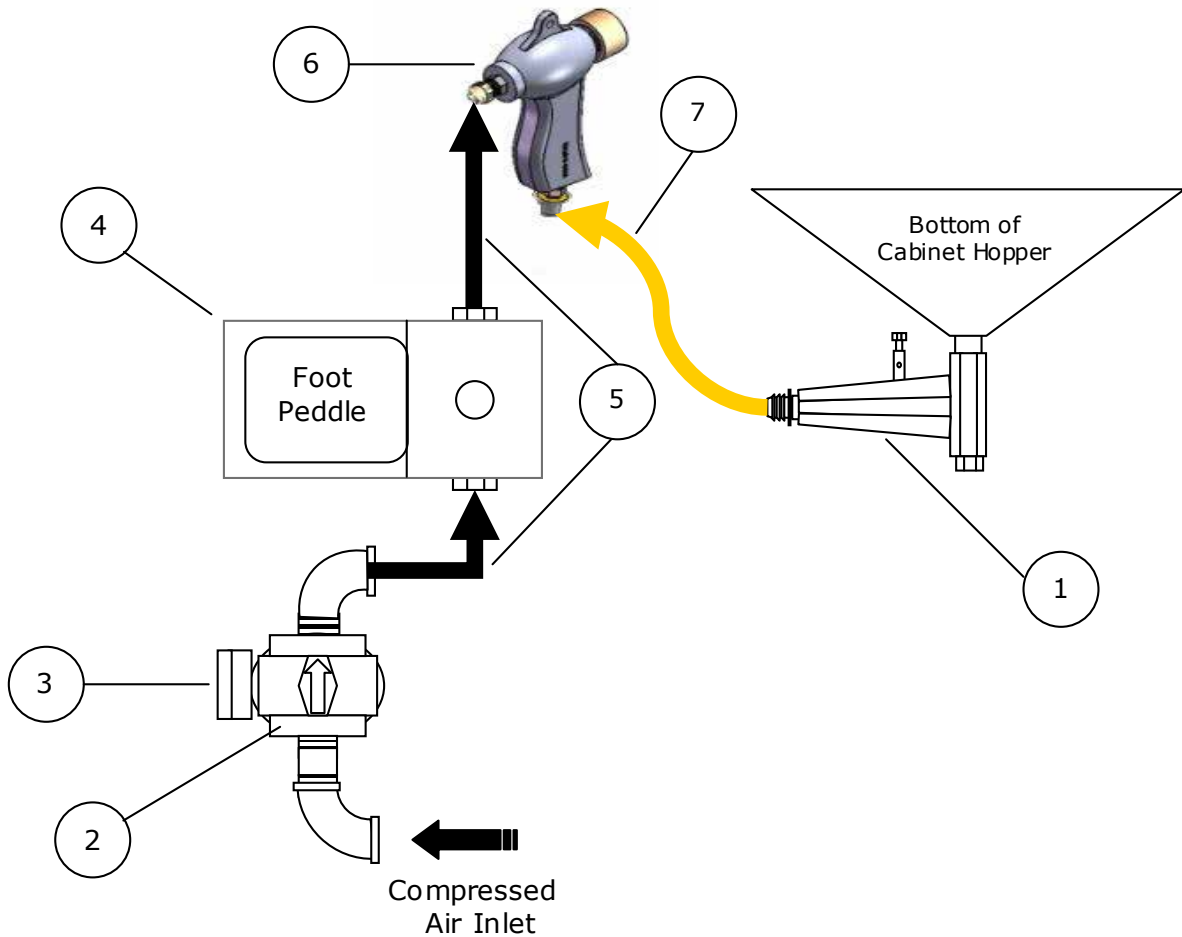
Six Month Maintenance

- Check dust filters for cleanliness
- Inspect door seals
- Check for leaks in dust hoses
- Check for leaks in the cabinet

MOD-U-BLAST®

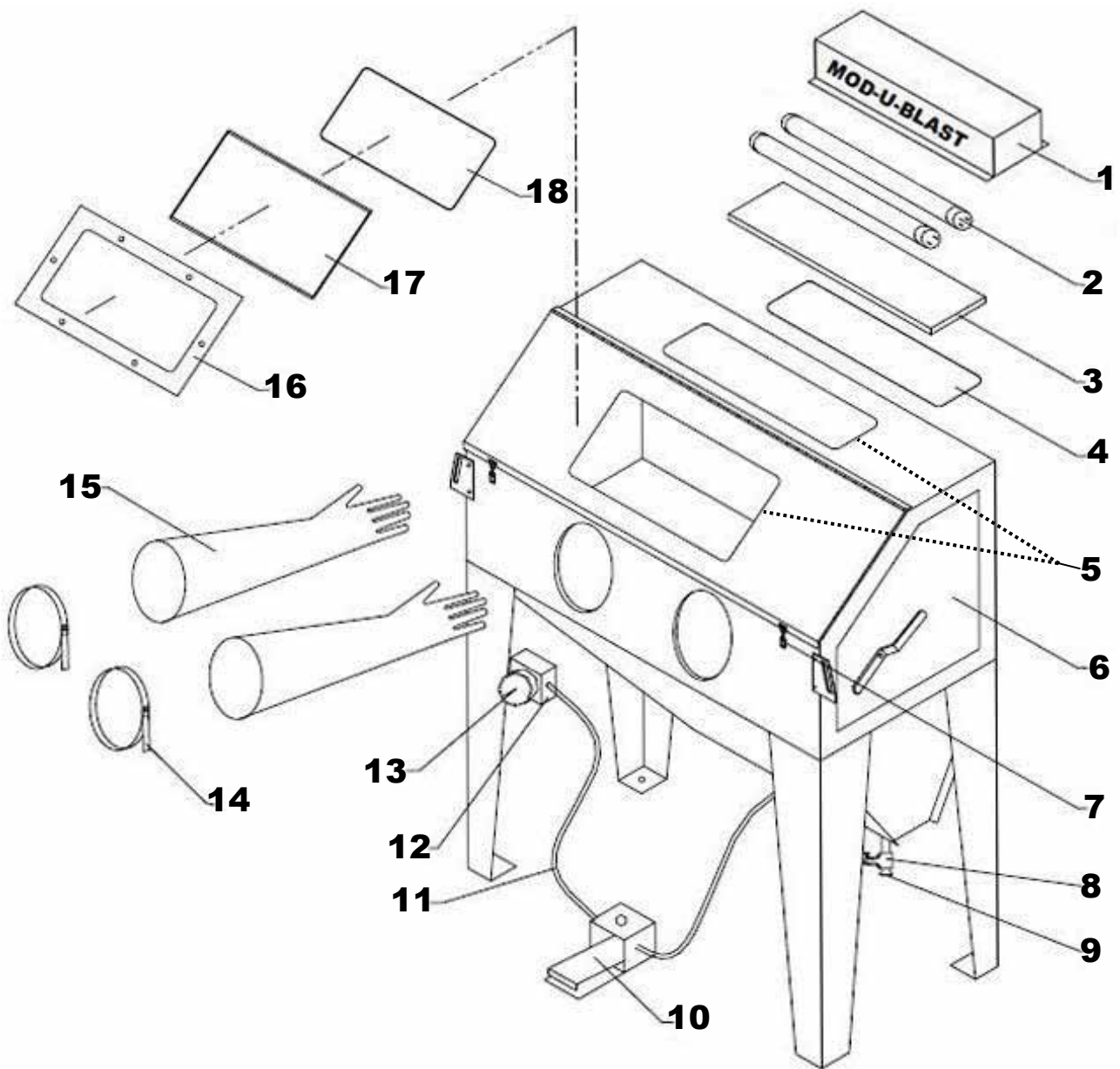
**For Supplies & Parts
Call 1.800.661.3842**

E Series Air & Components Schematic



| ITEM # | STOCK # | DESCRIPTION |
|--------|---------|-----------------------|
| 1 | 16025 | METERING VALVE |
| 2 | 50-330 | 3/8" REGULATOR |
| 3 | 55-415 | 1/4" PRESSURE GAUGE |
| 4 | 16190-M | 1/2" FOOT PEDDLE |
| 5 | 12-PUSH | 1/2" PUSH ON AIR HOSE |
| 6 | 12301 | #4 MUB SUCTION GUN |
| 7 | 12-MED | 1/2" CLEAR MEDIA HOSE |

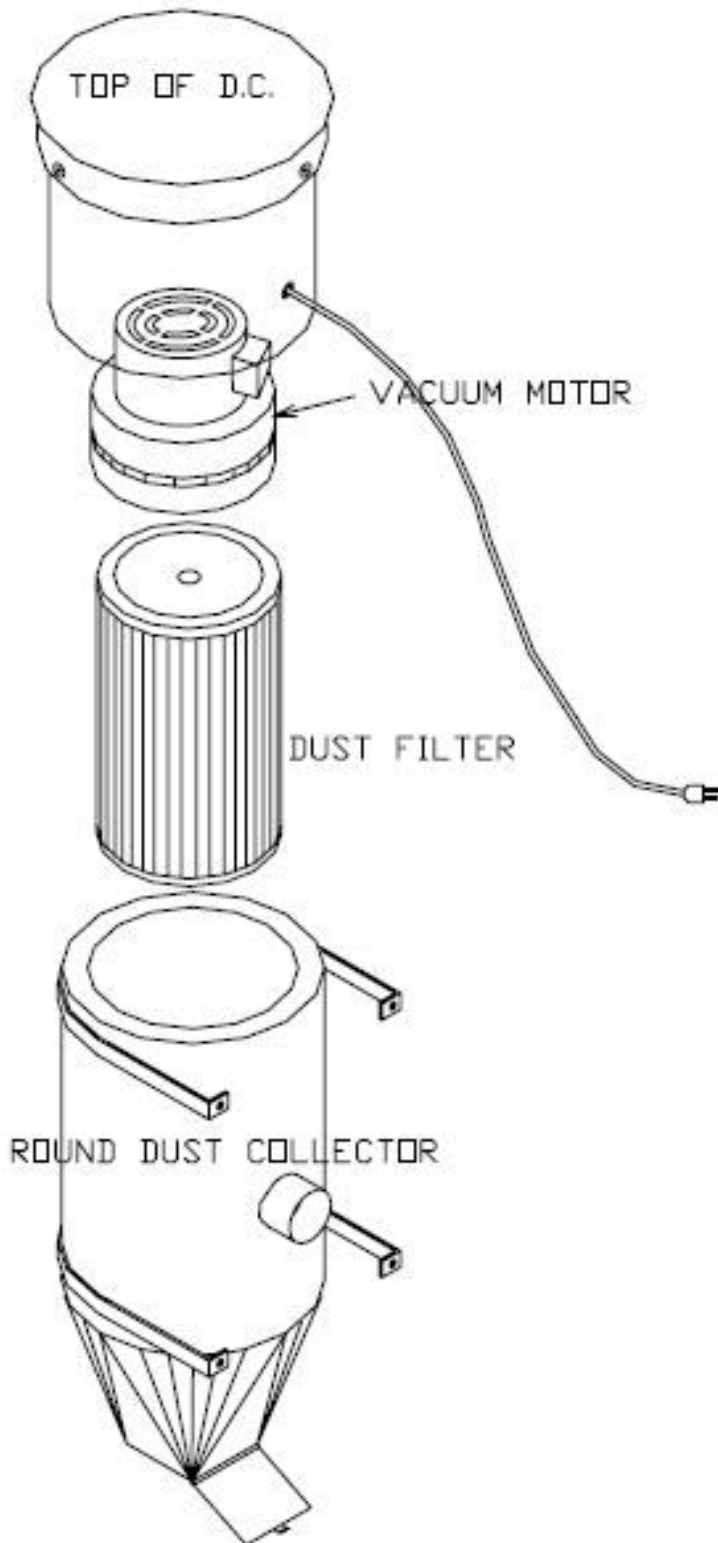
E Series Parts List



| ITEM # | STOCK # | DESCRIPTION |
|--------|---------|-------------------------|
| 1 | 16366 | LAMP HOUSING |
| 2 | 16367 | LED TUBES (EA) |
| 3 | 12215A | WINDOW FOR LAMP |
| 4 | 43518S | SINGLE WINDOW PROTECTOR |
| 5 | 16540 | TRIM LOK WINDOW SEAL |
| 6 | 12434 | DOOR GASKET |
| 7 | Z-CATCH | FRONT DOOR LATCH |
| 8 | 16025 | METERING VALVE |
| 9 | 12011 | METERING VALVE PLUG |
| 10 | 16190-M | 1/2" FOOT PEDAL |

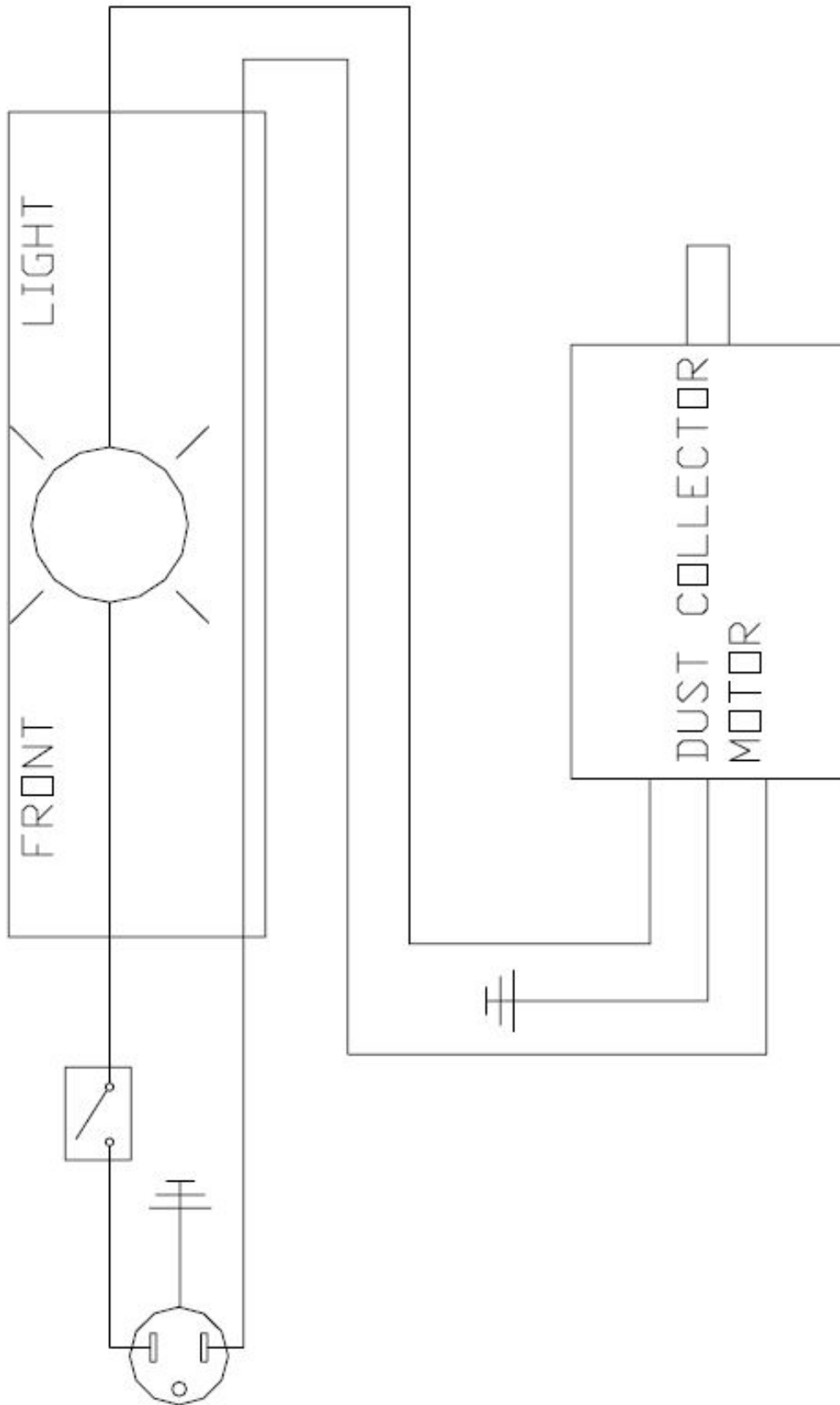
| ITEM # | STOCK # | DESCRIPTION |
|--------|---------|-----------------------------------|
| 11 | 12-PUSH | 1/2" PUSH ON AIR HOSE |
| | 12-MED | 1/2" CLEAR MEDIA HOSE (NOT SHOWN) |
| 12 | 50-330 | 3/8" REGULATOR |
| 13 | 55-415 | 1/4" PRESSURE GAUGE |
| 14 | 12535 | 8" GLOVE CLAMP |
| 15 | 15250 | GLOVES PAIR |
| 16 | 16053 | WINDOW FRAME COVER |
| 17 | 12216 | SAFETY WINDOW |
| 18 | 41117S | SINGLE WINDOW PROTECTOR |

E Series Dust collector

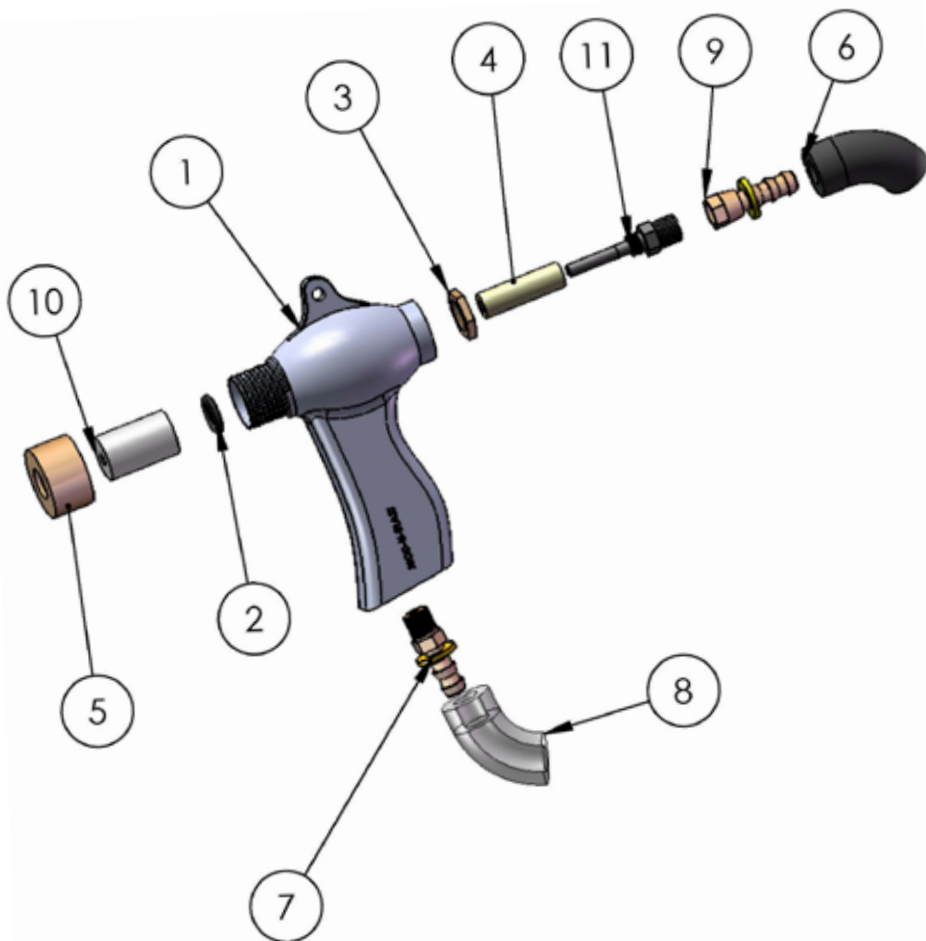


| STOCK # | DESCRIPTION |
|----------|----------------------------------|
| 16550R-P | E SERIES DUST COLLECTOR COMPLETE |
| 16560 | REPLACEMENT MOTOR FOR (16550R-P) |
| 16565 | E SERIES D.C. REPLACEMENT FILTER |

E Series Electrical Schematic

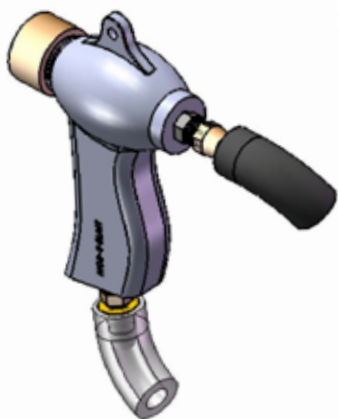


E Series Suction Gun



| ITEM # | STOCK # | DESCRIPTION |
|--------|---------|------------------------------------|
| 1 | 11802 | MOD-U-BLAST GUN BODY ONLY |
| 2 | 12031 | NOZZLE O RING |
| 3 | 11913 | AIR JET HEX NUT |
| 4 | 11913 | AIR JET SLEEVE |
| 5 | 11914 | NOZZLE HOLDING NUT BRASS |
| 6 | 12-PUSH | 1/2" PUSH ON AIR HOSE |
| 7 | 11724 | 3/8" LOCK BARB FITTING MEDIA INLET |
| 8 | 12-MED | 1/2" MEDIA HOSE |
| 9 | 11723 | 3/8" SWIVEL FITTING AIR INLET |
| 10 | 36664 | # 4 CERAMIC NOZZLE |
| | 36665 | # 5 CERAMIC NOZZLE |
| | 36666 | # 6 CERAMIC NOZZLE |
| | 36667 | # 7 CERAMIC NOZZLE |
| | 37664 | # 4 BORON NOZZLE |
| | 37665 | # 5 BORON NOZZLE |
| | 37666 | # 6 BORON NOZZLE |
| 11 | 12341 | #3.5 AIR JET |
| | 12342 | #4 AIR JET |
| | 12343 | #5 AIR JET |
| | 12344 | #6 AIR JET |
| | 12345 | #7 AIR JET |
| | 12346 | #8 AIR JET |
| | 12348 | #3 AIR JET |

Complete Gun Assemblies



| STOCK # | DESCRIPTION |
|---------|----------------------------------|
| 12300 | #3.5 GUN ASSEMBLY CERAMIC |
| 12301 | #4 GUN ASSEMBLY CERAMIC |
| 12302 | #5 GUN ASSEMBLY CERAMIC |
| 12303 | #6 GUN ASSEMBLY CERAMIC |
| 12304 | #7 GUN ASSEMBLY CERAMIC |
| 12301T | #4 GUN ASSEMBLY TUNGSTEN CARBIDE |
| 12302T | #5 GUN ASSEMBLY TUNGSTEN CARBIDE |
| 12303T | #6 GUN ASSEMBLY TUNGSTEN CARBIDE |
| 12302B | #5 GUN BORON CARBIDE |
| 12303B | #6 GUN BORON CARBIDE |

E - Series Cabinet Troubleshooting

Poor Visibility

- Dirty Filter. Clean filter and empty the dust collector.
- Using media that is too fine or worn out.
- Nozzle pressure too high causing media to breakdown prematurely.
- Dust collector fan not working.

Reduced Blast Cleaning Rate

- Low media level reducing media flow. Check and fill if to low.
- Reduced air pressure. Possible malfunctioning regulator, partially closed main air supply valve, leaking air line.
- Blockage in media line or suction gun. Blockage may occur from foreign particles from items being blasted.
- Incorrect metering valve or metering jet adjustment.
- Worn gun parts (nozzle or air jet) Check and replace if needed.
- Worn clear media hose. Check hose for leaks or soft spots. Replace worn or damaged hose.
- Moist media. Check for moisture in the metering valve. If moisture is evident, some form of moisture removal will need to be added to the main air supply to the cabinet.

No Media Or Air Coming Out Of The Nozzle When Foot Pedal Is Pressed

- Nozzle is plugged. Remove nozzle and clear obstruction.
- Foot pedal malfunction. Check foot pedal inlet and outlet lines for pressure.
- Regulator may be turned down or off. Check and adjust.
- Air compressor may be off or supply valve may be closed.

E Series Maintenance & Operational Tips

Blasting Gun

After 10 hours of blasting time the nozzle should be checked. If it shows uneven wear it should be turned 1/4 turn every 10 hours of use.

Caking of Media

Media caking is caused by moisture in the air supply or from oily and greasy parts. If this is not corrected the media will not flow evenly and will plug the metering valve and the gun. Check the air supply; if water is present install a good moisture trap. If oily or greasy parts are to be blasted then wash the parts with a degreaser and dry the parts.

Reverse Pressure

If media stops flowing occasionally, place GLOVED thumb over the nozzle (hold tight) and push the foot peddle down for 2 seconds. This will cause the system to back blast through the gun and up the media hose and will loosen and clogs in the nozzle.

Gun Air Pressure Drop

Set the air pressure to 80 psi on the air gauge at the regulator. Hold the gun - press the foot pedal and see if the gauge pressure drops significantly. If the pressure drops more than 5 psi this indicates a restriction in the air supply line to the cabinet. This could be that the supply line is too small, a reducer or quick coupler, a plugged filter or other piping that doesn't allow enough air through. Also if the cabinet is too far from the air compressor a pressure drop will occur. Air supply line should be 1/2" or larger with NO quick couplers. (see paragraph 3.2)



Certificate of Compliance

Certificate Number: LR 104892-1

Revision: LR 104892-3

Date Issued: January 8, 1998

Issued to: **Manaus Abrasive Systems Inc.**
1040 - 78 Ave.
Edmonton, AB T6P 1L7
Canada
Attention: Mr. Tom MacLean

The products listed below are eligible to bear the CSA Mark

¹NOTE: The "NRTL/C" indicator also appears adjacent to the CSA Mark.

Issued by: **Alan Jenkins, E.T.**
Edmonton, AB Canada

Signature: _____

PRODUCTS

9091 01 - MOTOR OPERATED APPLIANCES - Miscellaneous
9091 81 - MOTOR OPERATED APPLIANCES - Miscellaneous

PART A

Blast Cleaning Equipment, Cord-connected, MOD-U-BLAST, Models E2424, E3624, E4824, may or may not be followed with suffixes VAC or DC; Models S3026, P3026, S3626, P3626, S3636, P3636, S4826, S4836, P4836, S4848, P4848, P6026, S6036, P6036, S6048, P6048, S6060, P6060 may or may not be followed with suffixes DC, followed by 3B or 3F. Rated 115 V ac, 60 Hz, 10 A. Max. with a 300 CFM Reclaimer, 15 A. Max. with a 600 or 900 CFM Reclaimer.

LEGEND

E Economy Model
VAC Industrial Vacuum Collector
DC 150 CFM Cartridge Type Dust Collector
S Suction Cabinet
3 300 CFM
6 600 CFM
9 900 CFM
B Dust Bag
F Multi-Bag Dust Filter Cabinet
P Pressure Cabinet
D Dual-Station Cabinet

¹The "NRTL/C" indicator adjacent to the CSA Mark signifies that the product has been evaluated to the applicable ANSI/UL and CSA Standards, for use in the U.S. and Canada. NRTL, i.e. Nationally Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.

Upgrades & Options

Upgrade and options are also available to increase the production, efficiency and wear ability of Mod-U-Blast suction cabinets and are listed below:

- Safety Doors
- Manual Turntable

Call Your Mod-U-Blast Distributor to Find Out More

Warranty

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 mechanical components, air valves and plumbing, electrical components, air motors, vessels, machine body (normal wear).

This warranty does not apply to abnormal use of the equipment or parts. Parts subject to abrasive wear, such as nozzles, hoses, dust filters, windows and window protectors are not covered by the warranty.

Claims will be honored only if the warranty card is returned within a period of two 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

VISIT WWW.MANUSSERVICE.COM FOR ONLINE PRODUCT SUPPORT