

# OPERATOR'S MANUAL

## BLASTMASTER® 160 CU. FT. ABRASIVE BLASTING POTS



Highway Trailer



Yard Trailer



Offshore



Fork-Pocket Skid



Stationary

**BUILT MARCO  
TOUGH**  
MARCO MANUFACTURED

### **⚠ WARNING**

Before using this equipment, read, understand and follow all instructions in the Operator's Manuals provided with this equipment. If the user and/or assistants cannot read or understand the warnings and instructions, the employer of the user and/or assistants must provide adequate and necessary training to ensure proper operation and compliance with all safety procedures pertaining to this equipment. If Operator's Manuals have been lost, please visit [www.marco.us](http://www.marco.us), or contact Marco at 563.324.2519 for replacements. Failure to comply with the above warning could result in death or serious injury.



## Company Profile

Since 1944, Marco has developed a strong tradition of providing innovative and reliable products and services to the surface preparation and protective coatings industries. We are the world's premier provider of Abrasives, Blasting, Coating, Dust Collectors, Engineered Systems, Rental, Safety, Service, Repair, & Modernization, and Vacuums.

Through innovative designs and a total commitment to quality, Marco manufactures products that increase production rates, create a safer workplace, and reduce maintenance costs. Marco's industry experience, manufacturing capabilities, legendary customer service, product availability, logistics services, and technology leadership is your assurance that we deliver high quality products and services, providing the best value to you, our customer.

## The Marco Difference

- **Industry Experience** – With Marco on your team, you have access to expertise which can only come from decades of industry leadership. We have organized our engineering department, production specialists, customer operations, and safety support into a “Center of Competence.” As a Marco customer, you have access to hundreds of years of cumulative experience related to your operations.
- **Manufacturing Excellence** – Marco is a U.S. based, ISO 9001:2008 certified manufacturer of equipment for the Surface Preparation and Protective Coatings industries. Marco's engineers benchmark the industry to ensure that we design and manufacture superior products that set the “Gold Standard” for performance, safety, and quality.
- **Legendary Customer Service** – Marco's legendary customer service team is staffed by friendly, highly-trained individuals who are focused on providing the highest level of product support, order accuracy, and customer satisfaction.
- **Product Availability** – We stock over 10,000 SKU's and have more than 45 shipping locations to serve North American and International markets for all major brands of blasting and coating equipment. As the largest provider of surface preparation and protective coatings equipment in the world, our inventory levels and product availability are unmatched.
- **Logistics Services** – Marco's in-house logistics team is dedicated to moving your shipment anywhere in the world. We move more than 14,000 truckloads every year, allowing you to save on freight costs by leveraging our buying power. Lower your process costs with a single invoice, which includes product and freight.
- **Technology Leadership** – Our website provides: Operator's Manuals, Part Numbers and Schematics Guides, SDS information, and Features & Specifications Guides, providing access to information 24/7. Our Extranet application allows you to receive quotes and place orders online. Our Intranet maintains a complete record of your purchase history to assist with ongoing support of your existing equipment and future purchasing decisions.

## Vision Statement

Marco is the world's premier provider of Abrasives, Blasting, Coating, Dust Collectors, Engineered Systems, Rental, Safety, Service, Repair, & Modernization, and Vacuums.

## Mission Statement

Marco provides strong leadership and innovation to the surface preparation and protective coatings industries. We dedicate our efforts to the continuous improvement of our products, services, processes, people, and most importantly, the quality of our customer's experience.

## Quality Statement

Marco is committed to providing superior quality in the design, manufacturing, distribution, rental, service, and repair of our products. Our ISO 9001:2008 certification extends throughout all operations in all locations. Continuous improvement of our processes and supply chain Integration comprise the core of our business strategy for delivering exceptional quality and value in all Marco products and services.

## Management Philosophy

We are a company dedicated to the success of every customer and associate. We discuss, debate, challenge, measure, and test our ideas. We will be boundless and limitless in our passion to improve. Through sound leadership and dedicated associates, we will ensure a long term, profitable future for Marco, our associates, customers, and suppliers.

## DEFINITION OF TERMS

### **DANGER**

This is an example of danger. This indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### **CAUTION**

This is an example of a caution. This indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It can also be used to alert against unsafe practices.

### **WARNING**

This is an example of a warning. This indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### **NOTICE**

This is an example of a notice. This indicates policy or practice directly related to safety of personnel or protection of property.

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## HAZARD IDENTIFICATIONS

### **WARNING**

**Failure to comply with ANY WARNING listed below could result in death or serious injury.**

- ▶ OSHA sets exposure limits to protect workers from exposure to respirable crystalline silica, 29 CFR 1910.1053. Airborne dust could increase the exposure levels beyond permissible limits. Breathing dust containing silica could cause silicosis, a fatal lung disease. Breathing dust during abrasive blasting operations, post-blast cleaning operations, and/or servicing equipment within the abrasive blasting area may expose an individual to conditions that could cause asbestosis, lead poisoning and/or other serious or fatal diseases. Harmful dust containing toxic material from abrasives or surfaces being abrasive blasted can remain suspended in the air for long periods of time after abrasive blasting has ceased. A NIOSH-approved, well-maintained, respirator designed for the specific operation being performed must be used by anyone abrasive blasting, handling or using the abrasive, and anyone in the area of the dust.
- ▶ Contact NIOSH and OSHA offices to determine the proper respirator for your specific application. The air supplied to the respirator must be at least Grade D quality as described in Compressed Gas Association Commodity Specification G-7.1 and as specified by OSHA Regulation 1910.134. Ensure air filter and respirator system hoses are not connected to non-air sources or in-plant lines that may contain nitrogen, oxygen, acetylene or other non-breathable gases. Before removing respirator, use an air monitoring instrument to determine if the atmosphere is safe to breathe.
- ▶ You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area.
- ▶ Abrasive blasting operators must receive thorough training on the use of abrasive resistant attire which includes: supplied-air respirator, abrasive blasting suit, safety shoes, gloves, ear protection and eye protection. Protect the operator and bystanders by complying with NIOSH and OSHA Safety Standards.
- ▶ Inspect all equipment for wear or damage before and after each use. Failure to use Original Equipment Manufacturer repair parts and failure to immediately replace worn or damaged components could void warranties and cause malfunctions.
- ▶ OSHA requires abrasive blasting nozzles be equipped with an operating valve, which shall be designed to be held open only by continuous hand pressure and shall close immediately upon release of hand pressure (i.e., a “deadman” control). The valve shall not be modified in any manner that would allow it to remain open without the application of continuous hand pressure by the operator. Failure to comply with the above warning could result in release of high speed abrasive and compressed air resulting in death or serious injury. OSHA 29CFR 1910.244(b)
- ▶ Point the abrasive blasting nozzle only at the surface being abrasive blasted. Never point the abrasive blasting nozzle or abrasive stream at yourself or others.
- ▶ Unless otherwise specified, maximum working pressure of abrasive blasting pots and related components must not exceed 150 psi. Exceeding maximum working pressure of 150 psi could cause the abrasive blasting pot and components to burst. Failure to comply with the above warning could result in death or serious injury.
- ▶ Never weld, grind or drill on the abrasive blasting pot (or any pressure vessel). Doing so will void ASME certification and manufacturer’s warranty. Welding, grinding or drilling on the abrasive blasting pot (or any pressure vessel) could weaken the vessel causing it to burst. Failure to comply with the above warning could result in death or serious injury. (ASME Pressure Vessel Code, Section VIII, Division 1)
- ▶ This equipment is not intended for use in any area that might be considered a hazardous location, as described in the National Electric Code NFPA 70, Article 500. Use of this equipment in a hazardous location could cause an explosion or electrocution.
- ▶ Never attempt to move an abrasive blasting pot containing abrasive. Never attempt to manually move abrasive blasting pots greater than 6.5 cubic foot capacity. Always use at least two capable people to manually move an abrasive blasting pot on flat, smooth surfaces. A mechanical lifting device must be used if an abrasive blasting pot is moved in any other manner.

# HAZARD IDENTIFICATIONS

## **WARNING**

**Failure to comply with ANY WARNING listed below could result in death or serious injury.**

- ▶ This product is not for use in wet environments. Always use a Ground Fault Interrupter Circuit (GFI) for all electrical power source connections. Use of this product in wet environments could create a shock or electrocution hazard.
- ▶ Frozen moisture could cause restrictions and obstructions in pneumatic control lines. Any restriction or obstruction in the pneumatic control lines could prevent the proper activation and deactivation of the remote control system, resulting in the release of high speed abrasive and compressed air. In conditions where moisture may freeze in the control lines an antifreeze injection system approved for this application can be installed.
- ▶ Do not cut, obstruct, restrict or pinch pneumatic control lines. Doing so could prevent the proper activation and deactivation of the remote control system, resulting in the release of high speed abrasive and compressed air.
- ▶ Use of Marco remote control switches with other manufacturer's remote control systems could cause unintended activation of remote control systems resulting in the release of high speed abrasive and compressed air. Only Marco remote control switches should be used with Marco remote control systems.
- ▶ Always be certain to have secure footing when abrasive blasting. There is a recoil hazard when abrasive blasting starts that may cause user to fall and misdirect the abrasive stream at operator or bystander.
- ▶ Never use an abrasive blasting pot or attachments as a climbing device. The person could slip and fall. The abrasive blasting pot could become unstable and tip over.
- ▶ For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment.
- ▶ Flammable fumes, such as solvent and paint fumes in the work area can present an ignition or explosion hazard if allowed to collect in adequate concentrations. To reduce conditions that could result in a fire or an explosion, provide adequate ventilation, eliminate all ignition or spark sources, keep the work area free of debris, store solvents and solvent contaminated rags in approved containers, follow proper grounding procedures, do not plug/unplug power cord or turn on/off power switches when flammable fumes are present, keep a working fire extinguisher or provide another fire suppression system in the work area. Cease all operations and correct condition if a spark or ignition source is identified during operation.
- ▶ Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.
- ▶ Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts.
- ▶ Surfaces of heated supply tanks, drums and/or lines as well as the adjoining plumbing may become hot during normal use. Do not touch these heated surfaces without proper protection. Deactivate and allow sufficient time for all surfaces to cool before attempting any maintenance.
- ▶ High-pressure fluid from gun, hose leaks, or ruptured components can pierce skin and can cause a serious injury that may result in amputation. Do not point gun or spray tip at anyone or at any part of the body. Keep clear of any leaks or ruptures. Depressurize the entire system before attempting cleaning, inspecting, or servicing equipment.
- ▶ Exposure to toxic fluids or fumes may occur during the normal operation of this system. Before attempting to fill, use, or service this system, read SDS's to know the specific hazards of the fluids you are using. Always use proper Personal Protective Equipment when attempting to fill, use, or service this system.
- ▶ The use of this product for any purpose other than originally intended or altered from its original design is prohibited.
- ▶ Never hang objects from the abrasive blasting pot handle. Doing so may cause the abrasive blasting pot to become unstable and tip over.



## HAZARD IDENTIFICATIONS

### CAUTION

**Failure to comply with ANY CAUTION listed below may result in minor or moderate injury.**

- ▶ Static electricity can be generated by abrasive moving through the abrasive blasting hose causing a shock hazard. Prior to use, ground the abrasive blasting pot and abrasive blasting nozzle to dissipate static electricity.
- ▶ High decibel noise levels are generated during the abrasive blasting process which may cause loss of hearing. Ensure appropriate Personal Protective Equipment and hearing protection is in use.

### NOTICE

**Failure to comply with ANY NOTICE listed below could pose a hazard to personnel or property.**

- ▶ See Air & Abrasive Consumption Chart for estimated abrasive consumption rates and required air flow (cubic feet per minute). Your system must meet these minimum requirements to ensure proper function and performance.
- ▶ Always use abrasive that is dry and properly screened. This will reduce the potential for obstructions to enter the remote control system, abrasive metering valve and abrasive blasting nozzle.
- ▶ Moisture build-up occurs when air is compressed. Any moisture within the abrasive blasting system will cause abrasive to clump, clogging metering valves, hoses and nozzles. Install an appropriately sized moisture separator at the inlet of the abrasive blasting system. Leave the moisture separator petcock slightly open to allow for constant release of water. If insufficient volume of air exists and petcock is unable to be left open (at all times) petcock should be opened frequently to release water.
- ▶ To reduce abrasive intrusion in the air supply hose, depressurize the abrasive blasting pot before shutting off air supply from compressor.
- ▶ Inspect abrasive blasting nozzle before placing into service. Damage to abrasive blasting nozzle liner or jacket may occur during shipping. If you receive a damaged abrasive blasting nozzle, contact your distributor immediately for replacement. Abrasive blasting nozzles placed into service may not be returned. Abrasive blasting nozzle liners are made of fragile materials and can be damaged by rough handling and striking against hard surfaces. Never use a damaged abrasive blasting nozzle.
- ▶ Abrasive blasting at optimal pressure for the abrasive used is critical to productivity. Example: For an abrasive with an optimal abrasive blasting pressure of 100 psi at the abrasive blasting nozzle, one pound per square inch of pressure loss will reduce abrasive blasting efficiency by 1.5%. A 10 psi reduction in air pressure will cause a 15% loss of efficiency. Use a Needle Pressure Gauge to identify pressure drops in your system. Consult with your abrasive supplier for the requirements of your abrasive.
- ▶ Replace abrasive blasting nozzle if liner or jacket is cracked or damaged. Replace abrasive blasting nozzle if original orifice size has worn 1/16" or more. Determine abrasive blasting nozzle wear by inserting a drill bit 1/16" larger than original size of abrasive blasting nozzle orifice. If the drill bit passes through abrasive blasting nozzle, replacement is needed.



# AIR & ABRASIVE CONSUMPTION CHART

## NOTICE

Failure to comply with ANY NOTICE listed below could pose a hazard to personnel or property.

- ▶ See Air & Abrasive Consumption Chart for estimated abrasive consumption rates and required air flow (cubic feet per minute). Your system must meet these minimum requirements to ensure proper function and performance.
- ▶ When it comes to air & abrasive mixtures, more is not necessarily better. Optimum abrasive blasting efficiency takes place when a lean air & abrasive mixture is used. To correctly set the abrasive metering valve, begin with the valve fully closed and slowly increase the amount of abrasive entering the airstream. As you increase the abrasive flow, watch for a “blue flame” at the exit of the abrasive blasting nozzle. Faster cutting, reduced abrasive consumption and lower clean up costs, are benefits of the “blue flame”.
- ▶ Abrasive blasting at optimal pressure for the abrasive used is critical to productivity. Example: For an abrasive with an optimal abrasive blasting pressure of 100 psi at the abrasive blasting nozzle, one pound per square inch of pressure loss will reduce abrasive blasting efficiency by 1.5%. A 10 psi reduction in air pressure will cause a 15% loss of efficiency. Use a Needle Pressure Gauge to identify pressure drops in your system. Consult with your abrasive supplier for the requirements of your abrasive.



“Blue Flame”

## NOTICE

Inspect abrasive blasting nozzle before placing into service. Damage to abrasive blasting nozzle liner or jacket may occur during shipping. If you receive a damaged abrasive blasting nozzle, contact your distributor immediately for replacement. Abrasive blasting nozzles placed into service may not be returned. Abrasive blasting nozzle liners are made of fragile materials and can be damaged by rough handling and striking against hard surfaces. Never use a damaged abrasive blasting nozzle.

## Air & Abrasive Consumption Chart\*

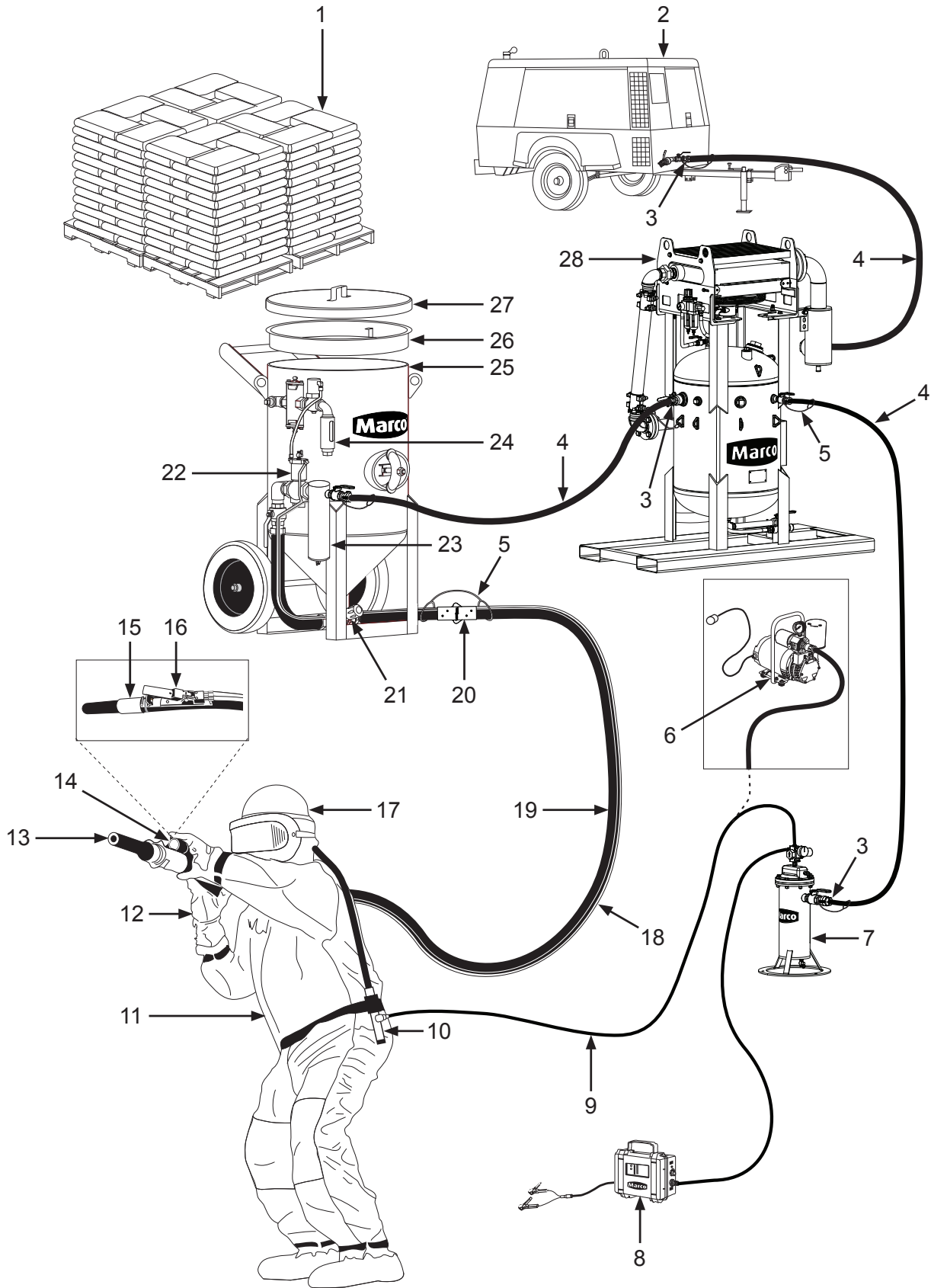
Nozzle Orifice	Pressure at the Nozzle (PSI)								Air (in cfm), Abrasive & Compressor Requirements
	50	60	70	80	90	100	125	140	
No. 2 (1/8")	11	13	15	17	18	20	25	28	Air (cfm)
	67	77	88	101	112	123	152	170	Abrasive (lbs/hr)
	2.5	3	3.5	4	4.5	5	5.5	6.2	Compressor Horsepower
No. 3 (3/16")	26	30	33	38	41	45	55	62	Air (cfm)
	150	171	196	216	238	264	319	357	Abrasive (lbs/hr)
	6	7	8	9	10	10	12	13	Compressor Horsepower
No. 4 (1/4")	47	54	61	68	74	81	98	110	Air (cfm)
	268	312	354	408	448	494	608	681	Abrasive (lbs/hr)
	11	12	14	16	17	18	22	25	Compressor Horsepower
No. 5 (5/16")	77	89	101	113	126	137	168	188	Air (cfm)
	468	534	604	672	740	812	982	1100	Abrasive (lbs/hr)
	18	20	23	26	28	31	37	41	Compressor Horsepower
No. 6 (3/8")	108	126	143	161	173	196	237	265	Air (cfm)
	668	764	864	960	1052	1152	1393	1560	Abrasive (lbs/hr)
	24	28	32	36	39	44	52	58	Compressor Horsepower
No. 7 (7/16")	147	170	194	217	240	254	314	352	Air (cfm)
	896	1032	1176	1312	1448	1584	1931	2163	Abrasive (lbs/hr)
	33	38	44	49	54	57	69	77	Compressor Horsepower
No. 8 (1/2")	195	224	252	280	309	338	409	458	Air (cfm)
	1160	1336	1512	1680	1856	2024	2459	2754	Abrasive (lbs/hr)
	44	50	56	63	69	75	90	101	Compressor Horsepower
No. 10 (5/8")	308	356	404	452	504	548	663	742	Air (cfm)
	1875	2140	2422	2690	2973	3250	3932	4405	Abrasive (lbs/hr)
	68.5	79.5	90	100.5	112	122	146	165	Compressor Horsepower
No. 12 (3/4")	432	504	572	644	692	784	948	1062	Air (cfm)
	2672	3056	3456	3840	4208	4608	5570	6238	Abrasive (lbs/hr)
	96	112	127	143	154	174.5	209	236	Compressor Horsepower

\*Abrasive consumption is based on abrasive with a bulk density of 100 lbs per Cubic Foot

## NOTICE

Replace abrasive blasting nozzle if liner or jacket is cracked or damaged. Replace abrasive blasting nozzle if original orifice size has worn 1/16" or more. Determine abrasive blasting nozzle wear by inserting a drill bit 1/16" larger than original size of abrasive blasting nozzle orifice. If the drill bit passes through abrasive blasting nozzle, replacement is needed.

# "THE BIG PICTURE"



# DAILY PRE-OPERATION CHECKLIST

## Daily Pre-operation Checklist

- 1. Abrasive
- 2. Air Compressor
- 3. Air Hose Couplings & Gaskets
- 4. Air Hose
- 5. Safety Cable
- 6. Ambient Air Pump\*
- 7. Breathing Air Filter
- 8. CO Monitor
- 9. Breathing Line
- 10. Climate Control Device
- 11. Abrasive Blasting Suit
- 12. Gloves
- 13. Abrasive Blasting Nozzle
- 14. Lighting System\*
- 15. Abrasive Blasting Nozzle Holder
- 16. Remote Control Switch
- 17. Supplied-Air Respirator
- 18. Control Line
- 19. Abrasive Blasting Hose
- 20. Abrasive Blasting Hose Couplings & Gaskets
- 21. Abrasive Metering Valve
- 22. Remote Control System
- 23. Moisture Separator
- 24. Abrasive Blasting Pot Exhaust Muffler
- 25. Abrasive Blasting Pot
- 26. Abrasive Blasting Pot Screen
- 27. Abrasive Blasting Pot Lid
- 28. Aftercooler\*

\* *Optional or alternative device. Ask your Marco Representative for more details.*

**Abrasive** – Select the correct Abrasive (1) for the application. Review the SDS (*Safety Data Sheet*) to ensure the correct PPE (*Personal Protective Equipment*) and Environmental Controls have been selected and are in place.

**Air Compressor** – Select an Air Compressor (2) of adequate size to support all equipment requirements. Refer to “Air & Abrasive Consumption Chart” for Abrasive Blasting Nozzle (13) air consumption requirements. Before connecting Air Hose (4), sample the air being produced by the air compressor (2) to ensure it is free of petroleum contaminants.

**Air Hose, and Air Hose Couplings & Gaskets** – Select Air Hoses (4) of sufficient size to support all subsequent volumetric requirements and with a sufficient PSI (*pound per square inch*) rating. Inspect all Air Hoses (4), and Air Hose Couplings & Gaskets (3) for damage or wear. Repair or replace damaged or worn components.

**Abrasive Blasting Hose, Abrasive Blasting Hose Couplings & Gaskets, and Abrasive Blasting Nozzle Holder** – Select an Abrasive Blasting Hose (19) that has an inner diameter 3 to 4 times larger than your Abrasive Blasting Nozzle (13). Inspect Abrasive Blasting Hose (19), Abrasive Blasting Hose Couplings & Gaskets (20), and Abrasive Blasting Nozzle Holder (15) for damage or wear. Repair or replace damaged or worn components.

**Safety Cables** – Install a Safety Cable (5) at each Abrasive Blasting Hose (19), and Air Hose (4) connection points.

**Aftercooler and Moisture Separator** – Ensure Aftercooler (28) is positioned on stable ground. Keep petcock drain of Moisture Separator (23) slightly open during use. Drain both devices after each use.

**Supplied-Air Respirator, Breathing Line, Breathing Air Filter, Climate Control Device, CO Monitor, Ambient Air Pump** – You MUST consult the Operator’s Manual supplied with your Respiratory Equipment (6, 7, 8, 9, 10, 17) for ALL applicable instructions and warnings. Inspect all Respiratory Equipment components for damage or wear. Repair or replace damaged or worn components.

**Abrasive Blasting Suit and Gloves** – Select an abrasive-resistant Abrasive Blasting Suit (11) that is slightly oversized to allow ease of movement and allows air to flow around your body. Select abrasive-resistant Gloves (12) with a tight fit and a long cuff that overlaps the sleeve of the Abrasive Blasting Suit (11).

**Abrasive Metering Valve and Abrasive Blasting Pot** – Confirm Abrasive Blasting Pot (25) is positioned on stable ground. Inspect Abrasive Blasting Pot (25) and Abrasive Metering Valve (21) for damage or wear. Repair or replace damaged or worn components.

**Abrasive Blasting Pot Screen and Abrasive Blasting Pot Lid** – Always use an Abrasive Blasting Pot Screen (26) when filling Abrasive Blasting Pot (25) with Abrasive (1) to prevent debris from entering the Abrasive Blasting Pot (25). Remove Abrasive Blasting Pot Lid (27) before operating the Abrasive Blasting Pot (25). Install Abrasive Blasting Pot Lid (27) after use to protect the Abrasive Blasting Pot’s (25) interior.

**Remote Control System, Remote Control Switch, Control Line,** – Inspect Remote Control System (22) and Control Line (18) for damage or wear. Repair or replace damaged or worn components. Ensure Control Line (18) fittings connected to the Remote Control System (22) are tight and free of leaks. Ensure Remote Control Switch (16) is functioning properly. Consult Remote Control Switch Operator’s Manual for applicable instructions.

**Abrasive Blasting Pot Exhaust Muffler** – Inspect Abrasive Blasting Pot Exhaust Muffler (24) at start and end of daily use. Replace element of Abrasive Blasting Pot Exhaust Muffler (24) per Operator’s Manual instructions.

**Lighting System** – Ensure the Lighting System (14) is connected to a proper power supply before use.

# UNLOADING AND LOADING INSTRUCTIONS

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

## WARNING

W-520

The use of this product for any purpose other than originally intended or altered from its original design is prohibited. Failure to comply with the above warning could result in death or serious injury.

## WARNING

W-503

You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area. Failure to comply with the above warning could result in death or serious injury.

## Description

The Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot is a pressure vessel used as part of an abrasive blasting system to deliver a mixture of abrasive and compressed air to a work surface. Marco blast pots are proudly engineered and manufactured in the USA and built in accordance with ASME guidelines. Each Marco blast pot is designed with added features to enhance work site safety. Blastmaster® Blast Pots are manufactured using higher quality materials that resist wear, reducing costly downtime and increasing production rates. Typical applications include blast rooms, blast yards, bridges, oil refineries, shipyards and storage tanks. Common abrasives used include garnet, mineral abrasives, slags and steel grit/shot.

## Unloading from Transport

- 1) Attach appropriate lifting devices to Lifting Lugs (5). See Dimensions & Weight, and Center of Gravity section.
- 2) Detach Blast Pot from transport at tie-down lugs (6).
- 3) Lift Blast Pot off transport.
- 4) If applicable, install tires on Trailer Mounted Systems.
- 5) Place Blast Pot on ground.
- 6) Close Hatch (2). See Pressurize & Depressurize Blast Pot.
- 7) Install Blastmaster® Pneumatic Closure Lockout Device (3) over closed Hatch (2). See Install Blastmaster® Pneumatic Closure Lockout Device.

## Loading onto Transport

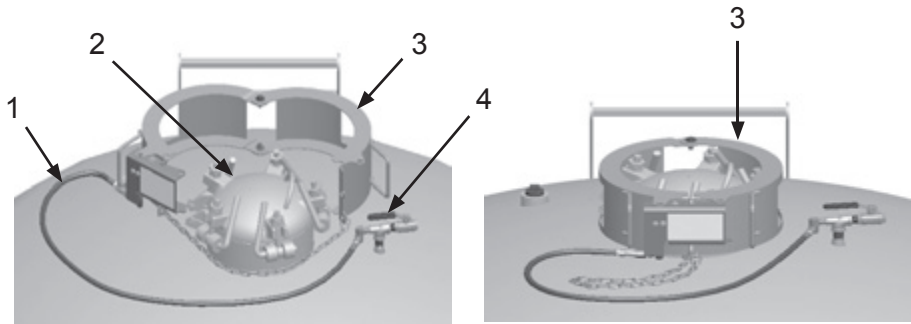
- 1) Depressurize Blast Pot. See Pressurize & Depressurize Blast Pot.
- 2) Empty Blast Pot.
- 3) Disconnect all blast hoses and remote control lines from remote control system.
- 4) Disconnect Air Hose Assembly (1) from Pressure Indicating Ball Valve (4), then remove Blastmaster® Pneumatic Closure Lockout Device (3) from Hatch (2).
- 5) Open Hatch. See Pressurize & Depressurize Blast Pot.
- 6) Attach appropriate lifting devices to Lifting Lugs (5). See Dimensions & Weight, and Center of Gravity section.
- 7) Raise and position on transport. For Trailer Mounted units, removal of tires may be required. Ensure unit is sufficiently supported before removing tires.
- 8) Secure Blast Pot to transport using Tie-down Lugs (6), following local Department of Motor Vehicle guidelines.
- 9) Disconnect lifting device.

# UNLOADING AND LOADING INSTRUCTIONS

## **WARNING**

W-574

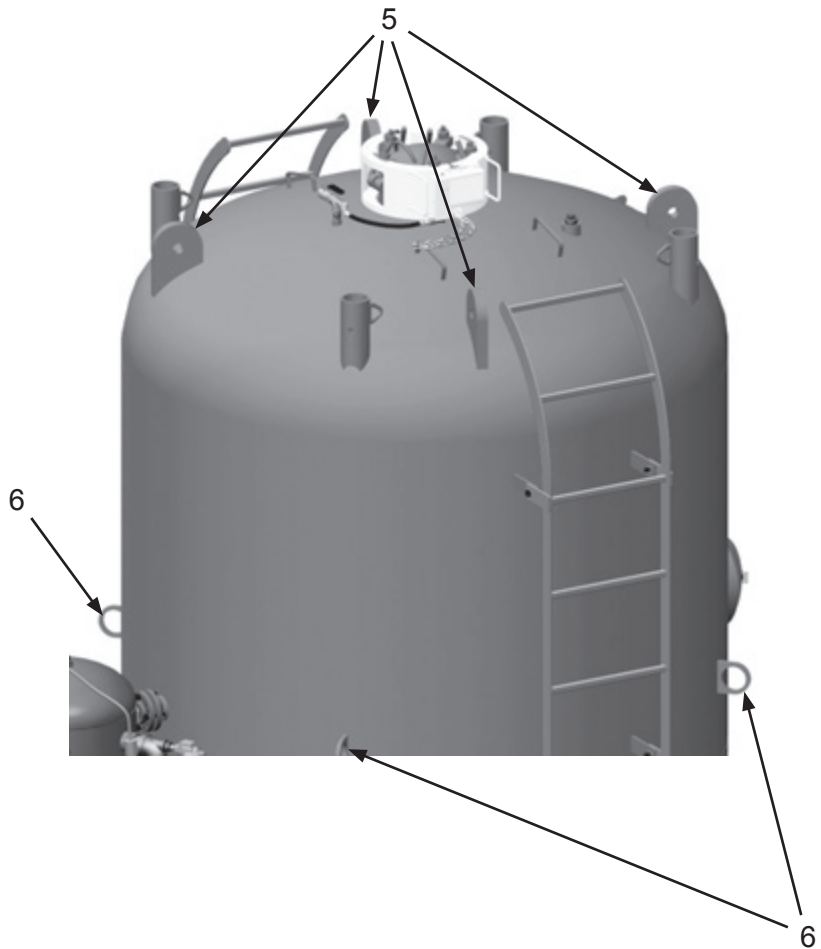
Transporting, lifting, or moving this device must be in accordance with applicable OSHA standards and ASME B30 standards, as well as any applicable local, state, or federal requirements. For crane lifting, attach to Tie-down/Lifting Lugs only. For transporting device with fork pockets, use fork-lift truck with sufficient lifting capacity. When transporting, use Tie-down/Lifting Lugs only to secure the device. Failure to comply with the above warning could result in death or serious injury.



## **WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.





# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Stationary & Skid Mounted Models

### **⚠ WARNING**

W-574

Transporting, lifting, or moving this device must be in accordance with applicable OSHA standards and ASME B30 standards, as well as any applicable local, state, or federal requirements. For crane lifting, attach to Tie-down/Lifting Lugs only. For transporting device with fork pockets, use fork-lift truck with sufficient lifting capacity. When transporting, use Tie-down/Lifting Lugs only to secure the device. Failure to comply with the above warning could result in death or serious injury.

### **⚠ WARNING**

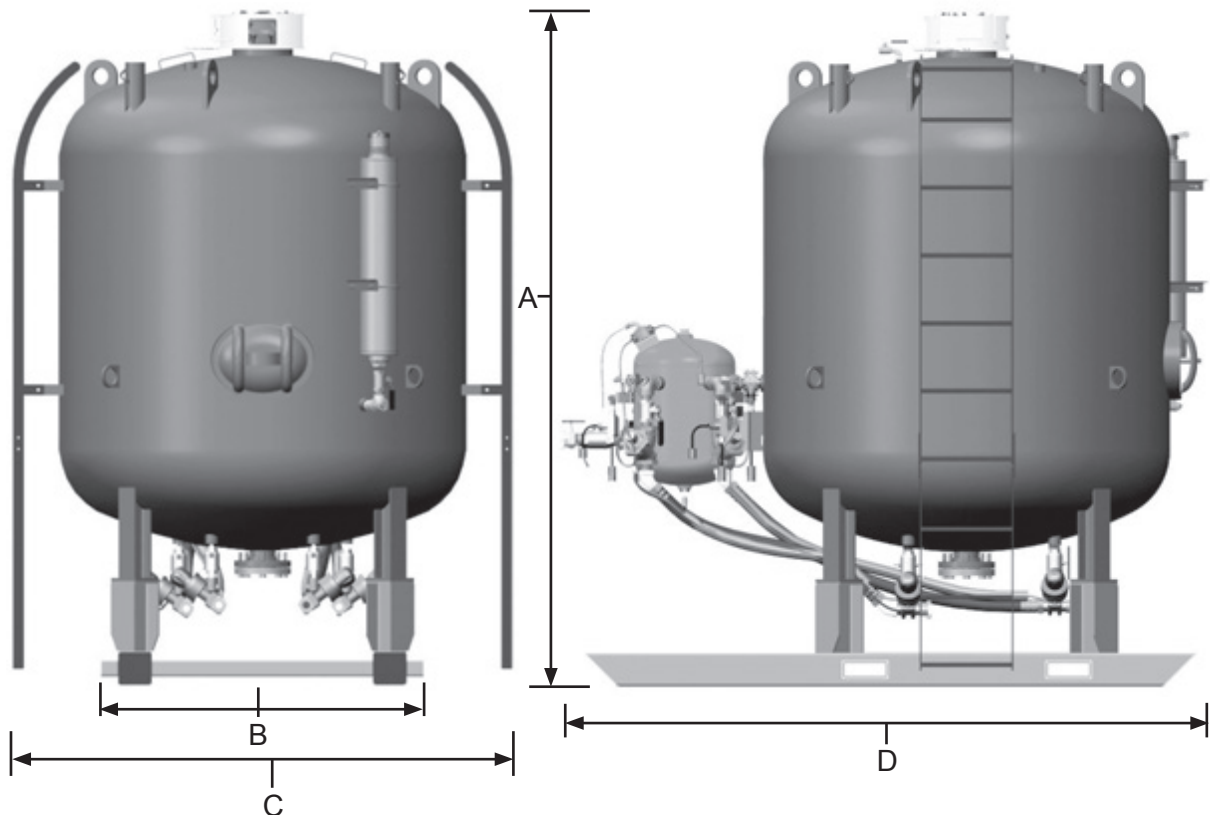
W-503

You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area. Failure to comply with the above warning could result in death or serious injury.

### **⚠ WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.



#### **Dry Weight:**

Stationary Model - 4020 pounds

Fork-Pocket Skid Model - 4660 pounds

#### **Overall Dimensions:**

A: 120"

B: 48"

C: 89"

D: 111"

#### **System Capacities:**

Maximum Working Compressed Air Pressure: 150 psig

Abrasive Capacity: 16,000 lbs.

#### **Torque Specifications:**

Swing Bolt Nut: 20 ft./lb.

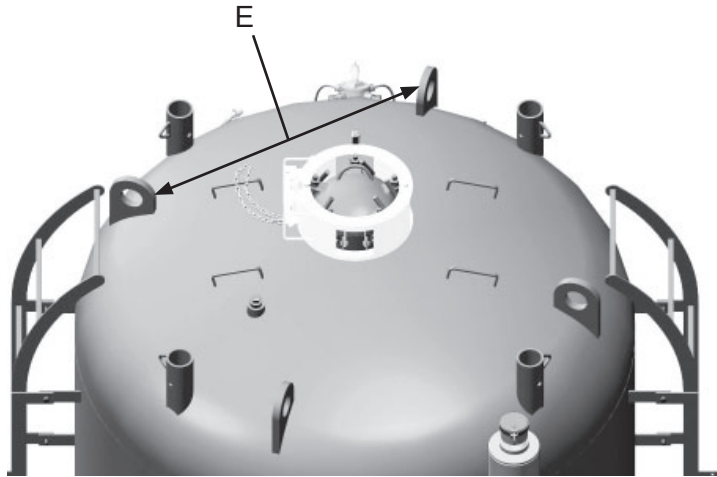
# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Stationary & Skid Mounted Models

### ⚠ WARNING

W-574

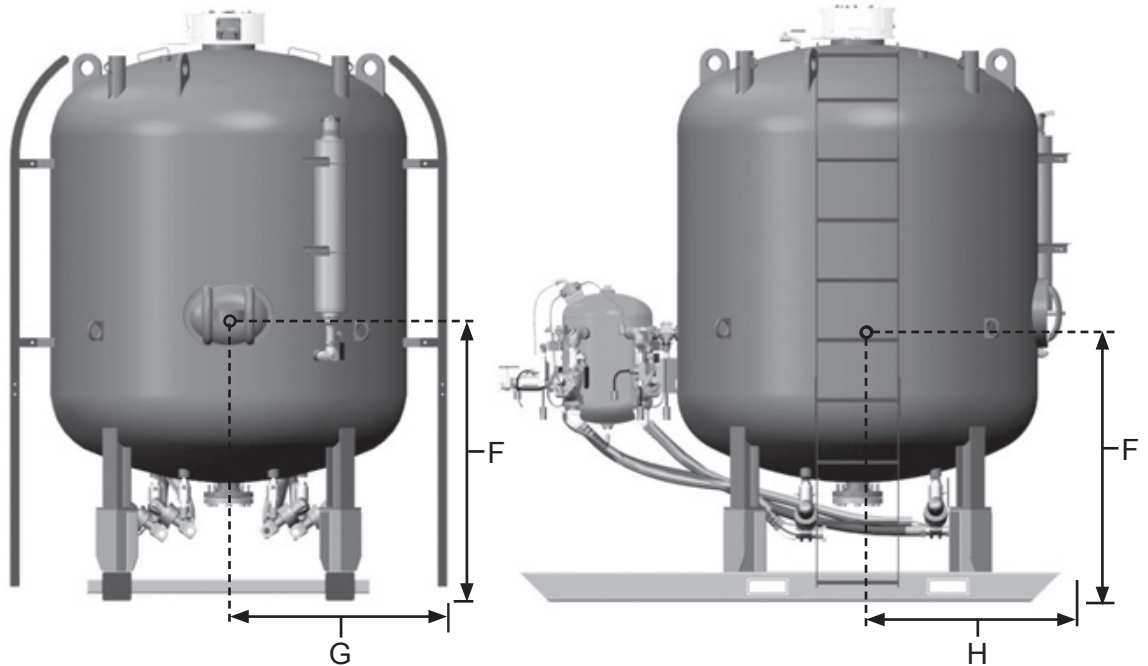
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### ⚠ WARNING

W-503

You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area. Failure to comply with the above warning could result in death or serious injury.



### ⚠ WARNING

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.

#### Distance Between Lifting Lugs:

E: 60"

#### Center of Balance:

F: 57.1"

G: 44.5"

H: 43.4"



# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Offshore Blast Pots

### **⚠ WARNING**

W-574

Transporting, lifting, or moving this device must be in accordance with applicable OSHA standards and ASME B30 standards, as well as any applicable local, state, or federal requirements. For crane lifting, attach to Tie-down/Lifting Lugs only. For transporting device with fork pockets, use fork-lift truck with sufficient lifting capacity. When transporting, use Tie-down/Lifting Lugs only to secure the device. Failure to comply with the above warning could result in death or serious injury.

### **⚠ WARNING**

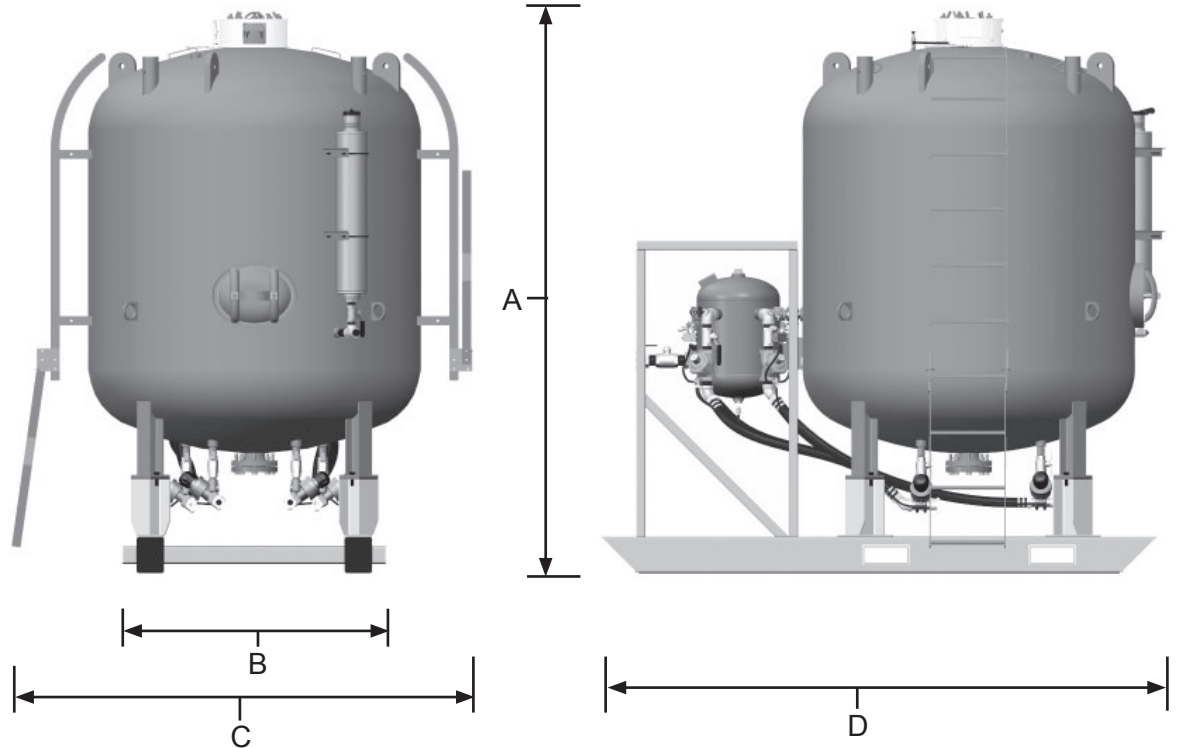
W-503

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### **⚠ WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.



**Dry Weight:**  
Offshore Model - 5150 pounds

**Overall Dimensions:**

A: 122"  
B: 48"  
C: 89"  
D: 119"

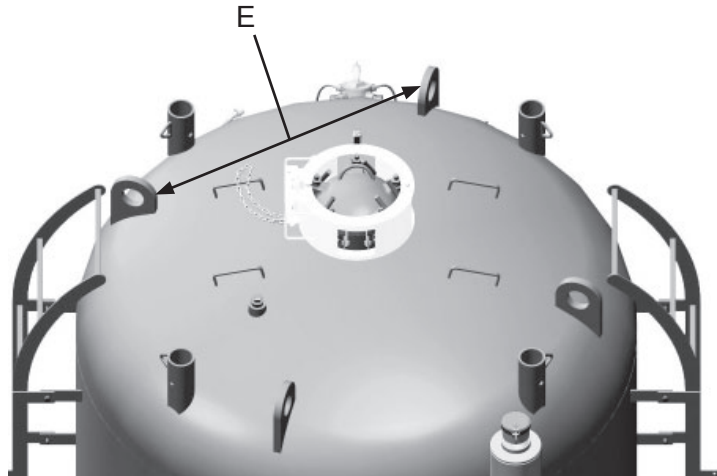
# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Offshore Blast Pots

### **WARNING**

W-574

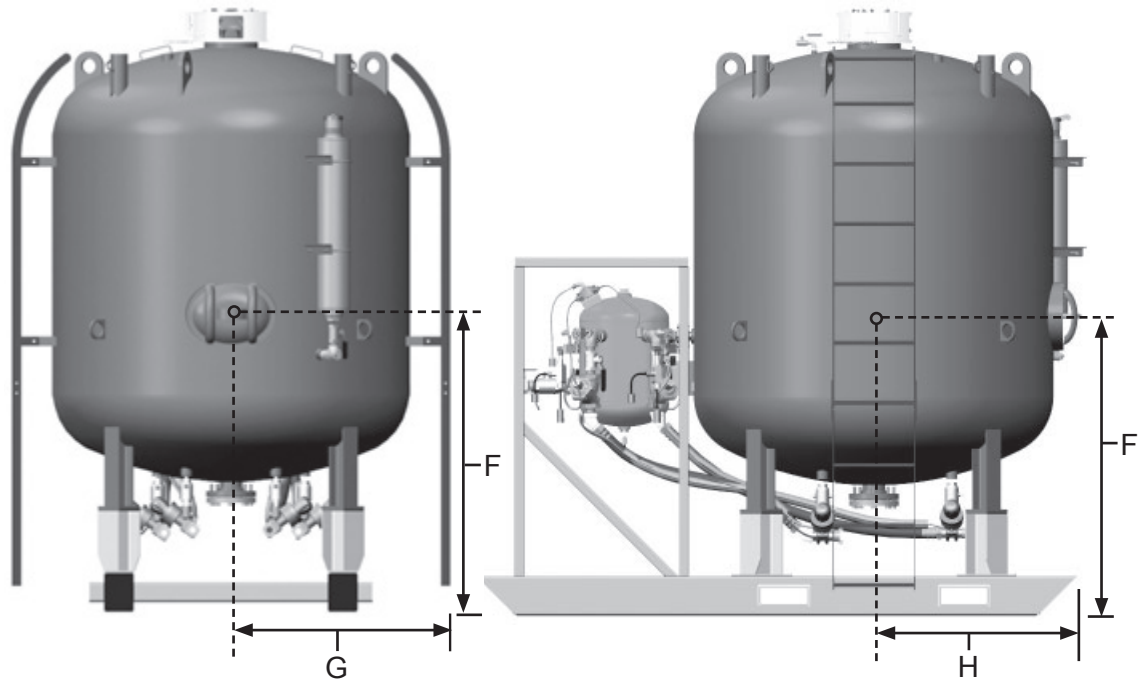
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### **WARNING**

W-503

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### **WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.

#### **Distance Between Lifting Lugs:**

E: 60"

#### **Center of Balance:**

F: 56.6"

G: 44.5"

H: 45.75"

# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Yard Trailer Mounted Models

### **WARNING**

W-574

Transporting, lifting, or moving this device must be in accordance with applicable OSHA standards and ASME B30 standards, as well as any applicable local, state, or federal requirements. For crane lifting, attach to Tie-down/Lifting Lugs only. For transporting device with fork pockets, use fork-lift truck with sufficient lifting capacity. When transporting, use Tie-down/Lifting Lugs only to secure the device. Failure to comply with the above warning could result in death or serious injury.

### **WARNING**

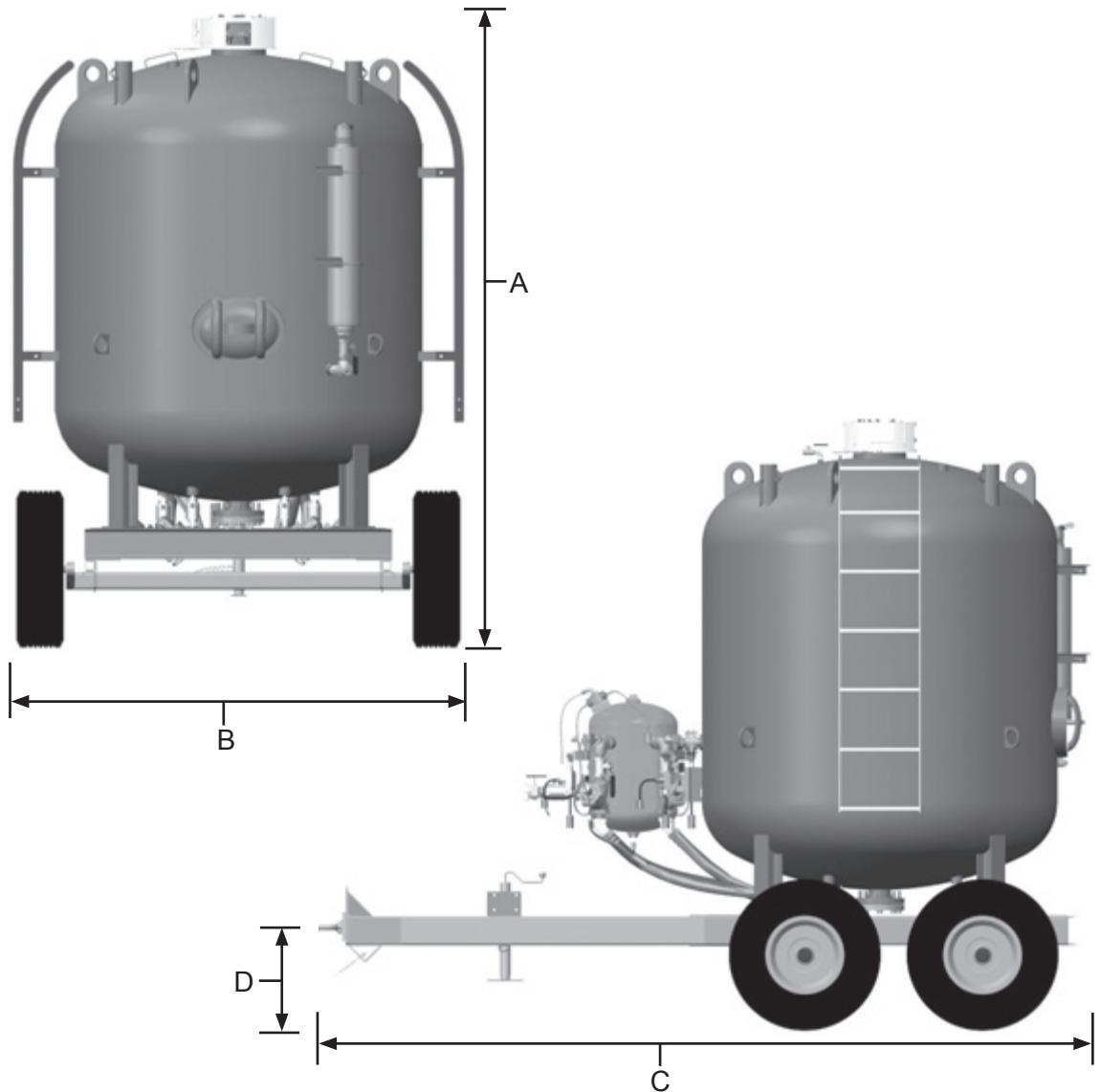
W-503

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### **WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.



**Dry Weight:**  
Yard Trailer Model - 5450 pounds

**Overall Dimensions:**  
A: 124"  
B: 89"  
C: 145"  
D: Adjustable 19" – 23"

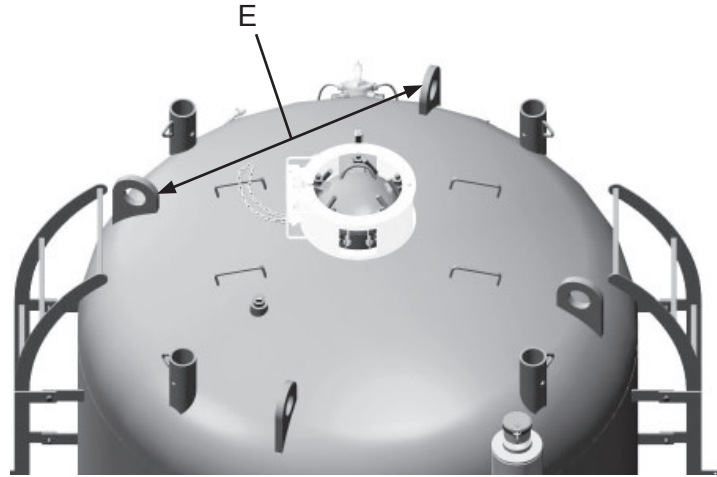
# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Yard Trailer Mounted Models

### **WARNING**

W-574

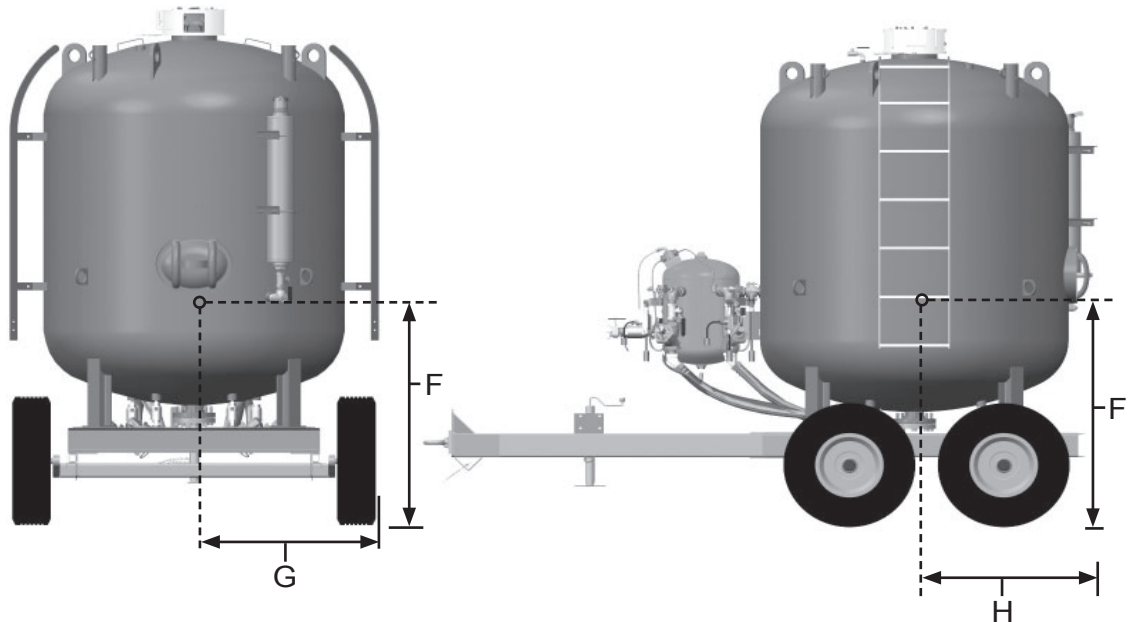
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### **WARNING**

W-503

You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area. Failure to comply with the above warning could result in death or serious injury.



### **WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.

#### **Distance Between Lifting Lugs:**

E: 60"

#### **Center of Balance:**

F: 57.53"

G: 44.5"

H: 43.4"

# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Highway Trailer Mounted Models

### **WARNING**

W-574

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### **WARNING**

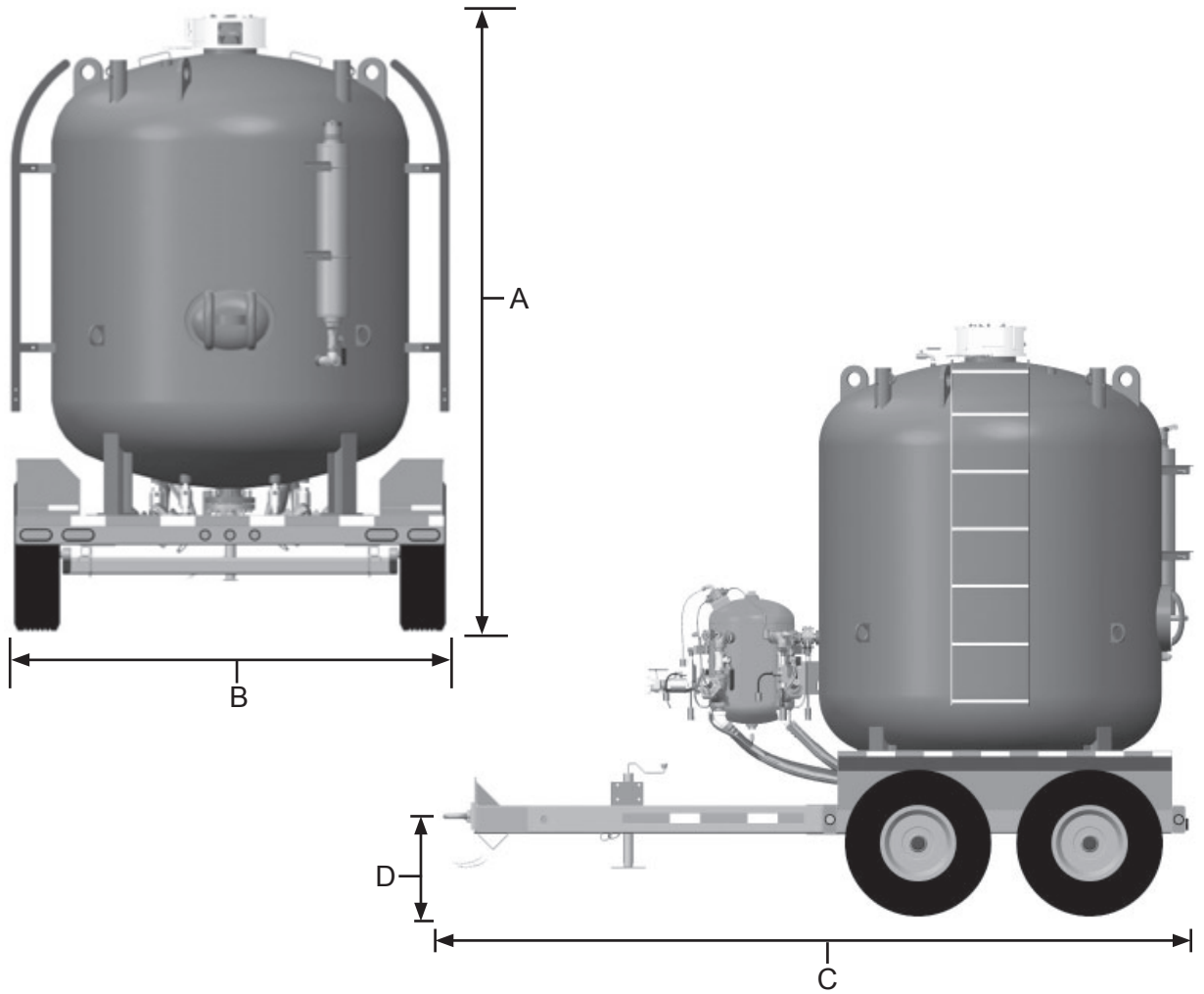
W-503

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### **WARNING**

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.



**Dry Weight:**  
Highway Trailer Model - 5910 pounds

**Overall Dimensions:**  
A: 124"  
B: 89"  
C: 156"  
D: Adjustable 19" – 23"

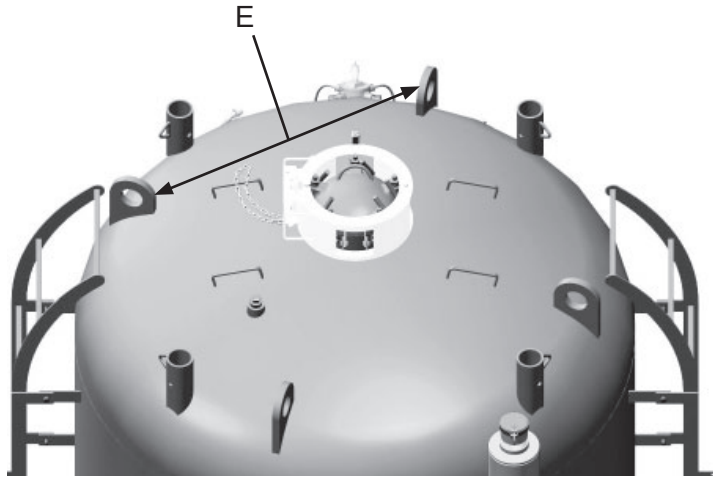
# DIMENSIONS, WEIGHTS AND CENTER OF GRAVITY

## Highway Trailer Mounted Models

### ⚠ WARNING

W-574

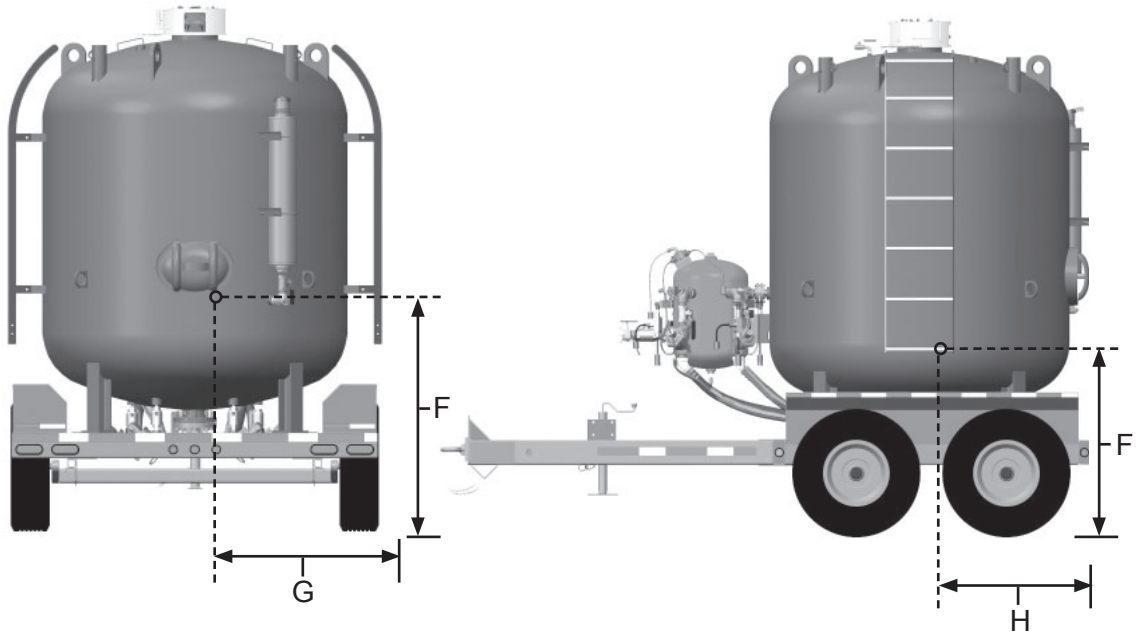
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### ⚠ WARNING

W-503

You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area. Failure to comply with the above warning could result in death or serious injury.



### ⚠ WARNING

W-536

Do not use any component other than the attached ladders as climbing devices. Ensure hand and foot contact with ladder while ascending / descending the ladder. The person can slip and fall. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.

**Distance Between Lifting Lugs:**

E: 60"

**Center of Balance:**

F: 55.9"

G: 44.5"

H: 45.5"



# OPERATING INSTRUCTIONS

## **▲ DANGER**

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## **▲ DANGER**

D-507

Do not operate this equipment without the proper pressure relief device in place. Exceeding maximum working pressure could cause vessel or components to burst. Failure to comply with the above warning will result in death or serious injury. ASME STANDARD PTC25-2014. OSHA Standard 1910.169 (B)(3)(i).

## **▲ WARNING**

W-539

Ensure tongue jack of the trailer is properly engaged. Improper engagement of the tongue jack on trailer could cause the abrasive blasting pot to become unstable causing the abrasive blasting pot to tip. Failure to comply with the above warning could result in death or serious injury.

## **▲ WARNING**

W-546

Do not use any tools or devices to aid in moving a Camlock Handle or Swing Bolt during opening of the Hatch Assembly. If a Camlock Handle and Swing Bolt do not move freely during the opening of the Hatch Assembly stop immediately as the abrasive blasting pot could be under pressure. Ensure the abrasive blasting pot is depressurized before continuing with opening the Hatch Head. Failure to comply with the above warning could result in death or serious injury.

## Operational Requirements

- Compressed air, 150 psi maximum working pressure.

### ***The following may cause safety hazards or reduced performance:***

- Insufficient volume of compressed air.
- Improper installation and/or maintenance of components.
- Incorrect lifting/transporting of Blast Pot or incorrect or worn lifting devices.
- Failure to place Blast Pot on surface capable of supporting the weight of the Blast Pot containing abrasive.
- Failure to properly secure trailer mounted models from movement.
- Tow vehicle does not have electric brake controller.
- Exceeding 15 mph speed limit when all trailer mounted models are filled with abrasive.
- Exceeding 65 mph speed limit when highway trailer mounted models are empty.
- Exceeding 15 mph speed limit when yard trailer mounted models are empty.
- Use of abrasive that is not properly dried and screened of debris.

## Towing Requirements

- Tow vehicle must have electric brake controller.
- Do not exceed 15 mph speed limit with all trailer mounted models filled with abrasive.
- Do not exceed 65 mph speed limit with highway trailer mounted models empty.
- Do not exceed 15 mph speed limit with yard trailer mounted models empty.

## Initial Setup

- Place Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot on a secure level surface that can withstand the weight of a full Blast Pot. Be aware of possible erosion of surface and load shifting.
- Ensure blast pot is depressurized.
- PNEUMATIC: Connect Pneumatic Control Line (1) to Pneumatic Solenoid (2) and Remote Control Switch (3). Repeat for all lines being used.
- ELECTRIC: Connect Control Line (4) to Connector (5) of Electric Pilot Valve Assembly (6), and to Control Line Connector (7) from Electric Remote Control Switch (8). Repeat for all lines being used.
- Connect Electrical Cord Connector (9) to Connector (14) of Distribution Box (15). Repeat for all lines being used.
- Using Extension Cord (10), connect Marco 120-Volt AC to 12-Volt AC Power Converter (11) or Battery Clamp Assembly (12) to Twist-Lock Plug (13) from Distribution Box (15).
- Connect air supply hose from compressor to Inlet (16). To provide best performance, an air supply hose with an inner diameter five to six times the size of blast nozzle orifice is recommended.
- Connect blast hose to Coupling (17) installed on Abrasive Metering Valve (18). Repeat for all lines being used.





# OPERATING INSTRUCTIONS

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## DANGER

D-507

Do not operate this equipment without the proper pressure relief device in place. Exceeding maximum working pressure could cause vessel or components to burst. Failure to comply with the above warning will result in death or serious injury. ASME STANDARD PTC25-2014. OSHA Standard 1910.169 (B)(3)(i).

## WARNING

W-546

Do not use any tools or devices to aid in moving a Camlock Handle or Swing Bolt during opening of the Hatch Assembly. If a Camlock Handle and Swing Bolt do not move freely during the opening of the Hatch Assembly stop immediately as the abrasive blasting pot could be under pressure. Ensure the abrasive blasting pot is depressurized before continuing with opening the Hatch Head. Failure to comply with the above warning could result in death or serious injury.

## Operating Instructions

Operating Instructions are limited to the instructions found in the Original Equipment Manufacturer's Operator's Manuals. Please refer to all literature included with your Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot at time of delivery. If this literature is unavailable, please contact Marco for a replacement set before use.

### **Before use:**

*Note: Do Not operate this equipment without a pressure relief device installed. OSHA and ASME Code require that all pressure vessels be operated with pressure relief devices in place., It is the responsibility of the owner of the abrasive blast pot to install a pressure relief valve that meets all regulations as set forth by local, state, and federal governments.*

- Inspect entire system for air leaks or damage. Repair or replace damaged components.
- Ensure all fittings are tight and secure before use.
- Ensure sufficient compressed air supply volume and/or pressure.
- Ensure Blast Pot is on a stable surface. Block wheels of Trailer Mounted units to stop unintended movement.
- Inspect Exhaust Ball Valve (11) for proper operation. See Remove & Install Blastmaster® Large Exhaust Muffler.
- Run (Air Only) start up test. See Start Up Test.
- Open Hatch (1). See Pressurize & Depressurize Blast Pot.
- If equipped, install Blastmaster® Bulk Bag Rack. See Remove & Install Blastmaster® Bulk Bag Rack.
- Fill Blast Pot with abrasive.
- If equipped, remove Blastmaster® Bulk Bag Rack. See Remove & Install Blastmaster® Bulk Bag Rack.
- Close Hatch (1). See Pressurize & Depressurize Blast Pot.
- Place Blastmaster® Pneumatic Closure Lockout Device (4) in the open position, and orient Chain (9), as shown.
- Grasp Handles (6,8), and close Blastmaster® Pneumatic Closure Lockout Device (4). Ensure Latch Handle (7) engages properly.
- Close Pressure Indicating Ball Valve (5).

### **During use:**

- Ensure Union End Ball Valve (2) above each Abrasive Metering Valve (3) that will be in use is in the open position.
- Turn on air supply.
- Open Ball Valve (10) to pressurize pot.
- To start abrasive blasting, activate Remote Control Switch (See remote control switch Operator's Manual for instructions). To stop abrasive blasting, deactivate Remote Control Switch.
- Set Air and Abrasive Mixture:
  - Metering Valve with Tungsten Carbide Sleeve or Urethane Sleeve. Rotating Knob (12) clockwise reduces the amount of abrasive, rotating the Knob counterclockwise increase the amount of abrasive. Rotate Knob clockwise until it stops, this is fully closed position. Rotate the Knob counterclockwise two full turns and activate the remote control system to start abrasive blasting, watch for a "blue flame" at the exit of the blast nozzle. The remote control system must be in the off position to adjust the amount of abrasive. Make adjustments as needed to attain the "blue flame" at the nozzle. See Air and Abrasive Consumption Chart for guidance.

# OPERATING INSTRUCTIONS

## **⚠ WARNING**

W-545

Before attempting to open the Hatch Assembly, ensure the abrasive blasting pot is not pressurized by opening the Pressure Indicator Ball Valve located on the top of the abrasive blasting pot. If air is released when the Pressure Indicator Ball Valve is opened do not attempt to open Hatch Assembly. Attempting to open the Hatch Assembly when the abrasive blasting pot is pressurized could release high speed abrasive and compressed air and allow the Hatch Assembly to be forced open. Follow proper depressurization instructions before proceeding. Failure to comply with the above warning could result in death or serious injury.

## **⚠ WARNING**

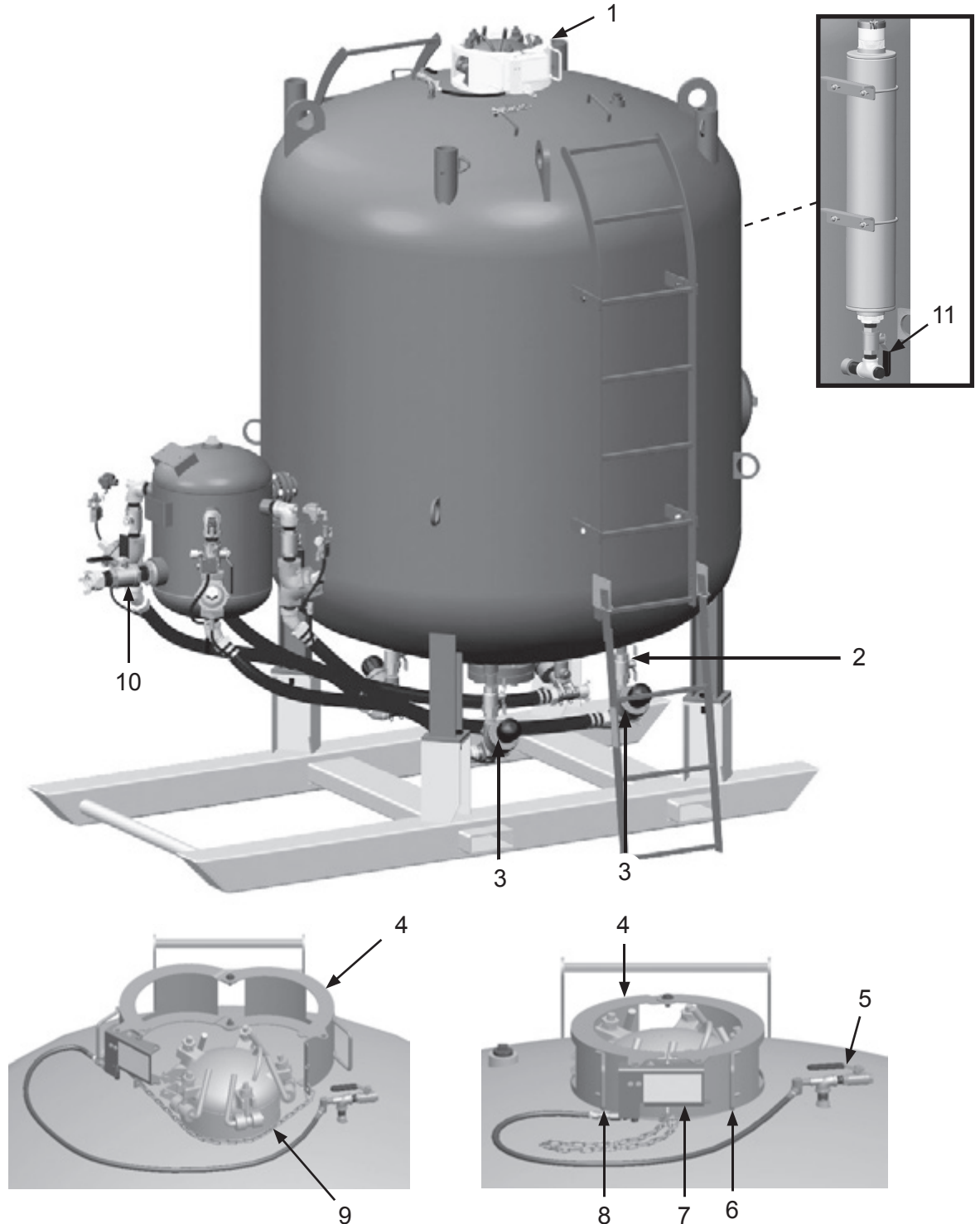
W-579

Do not use any component other than the attached ladders as climbing devices. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.

## **⚠ WARNING**

W-583

Do not walk on, stand on, or climb on any surface other than the designated work platform. Doing so poses a slip and fall hazard. Failure to comply with the above warning could result in death or serious injury.



# OPERATING INSTRUCTIONS

## **⚠ DANGER**

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## **⚠ WARNING**

W-514

Never attempt to move an abrasive blasting pot containing abrasive. Never attempt to manually move abrasive blasting pots greater than 6.5 cubic foot capacity. Always use at least two capable people to manually move an abrasive blasting pot on flat, smooth surfaces. A mechanical lifting device must be used if an abrasive blasting pot is moved in any other manner. Failure to comply with the above warning could result in death or serious injury.

## **⚠ WARNING**

W-538

Failure to properly secure the abrasive blasting pot during transport could cause the abrasive blasting pot to become unstable. Use only the Tie-Down Lugs affixed to the bottom of the abrasive blasting pot as connection points for strapping devices adequate for the weight of the abrasive blasting pot. Failure to comply with the above warning could result in death or serious injury.

## **⚠ CAUTION**

C-510

Do not attach or stow any items not original equipment on the abrasive blasting pot. Non-original equipment may become dislodged during transport and impact property or personnel. Failure to comply with the above caution may result in minor or moderate injury.

### **After use:**

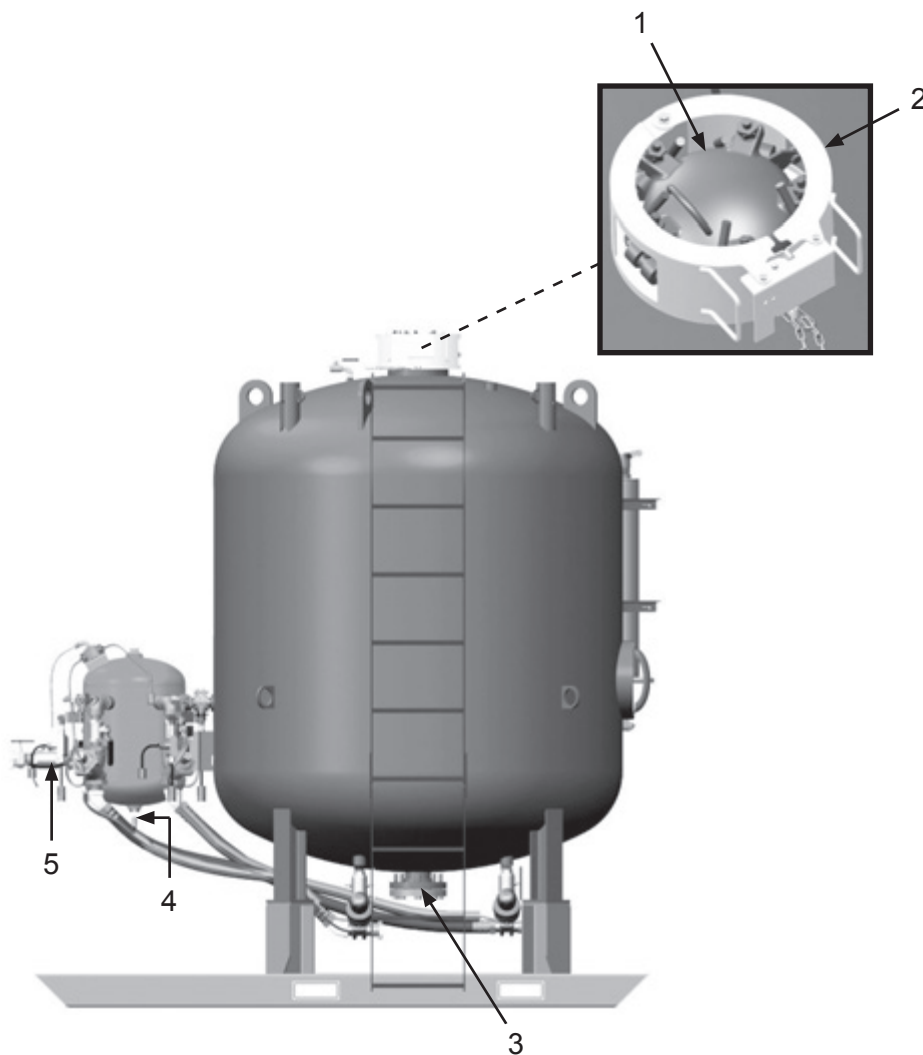
- Depressurize the Blast Pot. See Pressurize & Depressurize Blast Pot.
- Disengage and remove Blastmaster® Pneumatic Closure Lockout Device (2) and open Hatch (1). See Pressurize & Depressurize Blast Pot.

*Note: Do not leave Hatch (1) open when Blast Pot is not in use to keep debris and water from entering the vessel.*

- Disconnect air supply hose from Inlet Ball Valve (5). Open Moisture Separator Drain Ball Valve (4) to release residual water.

*Note: Do not store with abrasive in the vessel.*

- To remove abrasive, remove Flange Cover (3) on the bottom of vessel and extract remaining abrasive. See Remove & Install Clean-Out Flange.



# OPERATING INSTRUCTIONS

## **⚠ WARNING**

W-543

Do not exceed 65 miles per hour when towing a highway trailer mounted blast pot on public roads. Do not tow a highway trailer mounted blast pot with abrasive in the blast pot on public roads. A highway trailer mounted blast pot can be towed with abrasive in the blast pot at 15 miles per hour or less on non-public roads. Exceeding the speed limit could cause damage to components and the unit to become unstable causing it to tip over or cause the tow vehicle to become unstable. Failure to comply with the above warning could result in death or serious injury.

## **⚠ WARNING**

W-542

Trailer mounted abrasive blasting pots are not designed for use on rough terrain. The abrasive blasting pot could become unstable causing the unit to tip and disengage from the transport device. Failure to comply with the above warning could result in death or serious injury.

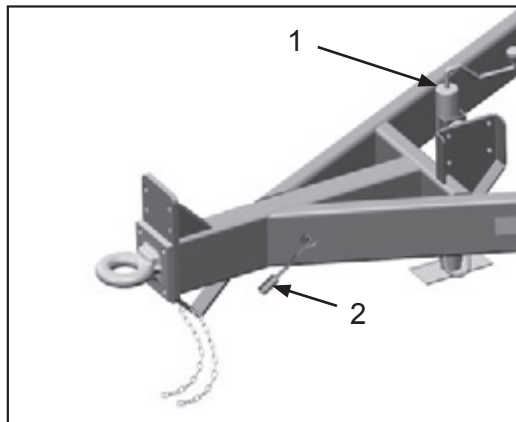
## **⚠ CAUTION**

C-505

For trailer mounted abrasive blasting pots, ensure tow vehicle is disconnected from the trailer hitch during use and storage. Removing the trailer from the tow vehicle may reduce the possibility of unintended movement. Failure to comply with the above warning could result in death or serious injury.

### ***After use (continued):***

- For Trailer Mounted units, ensure wheel blocking is removed and the Tongue Jack (1) is in the up position. On Highway Trailer models, connect Wiring Harness (2) to tow vehicle before moving. The maximum speed for a Yard Trailer unit is 15 miles per hour. Do not exceed 15 miles per hour on non-public roads when abrasive is in a Highway Trailer model. Do not transport a Highway Trailer model on public roads with abrasive in the vessel. For Highway Trailer models, do not exceed 65 miles per hour when traveling on public roads.





# OPERATING INSTRUCTIONS

## Blast Hoses and Connections

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **CAUTION**

C-515

Worn blast hose assemblies can fail while blasting. Check the full length of blast hose assembly for soft spots caused by wear. Replace blast hoses that show signs of excessive wear. Failure to comply with the above caution may result in minor or moderate injury.

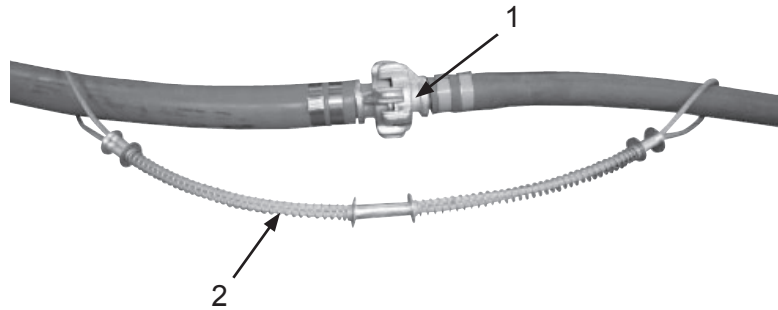
### **CAUTION**

C-516

Leaks around couplings and nozzle holders indicate worn or loose fitting parts. They could disconnect while under pressure. Inspect all couplings and nozzles daily for worn or loose fitting parts. Inspect nozzle threads for wear. Failure to comply with the above caution may result in minor or moderate injury.

Blast hoses are a high wear component of the abrasive blast system. Sharp bends in the blast hose create high wear points resulting in soft spots that can fail while blasting. Check the full length of the blast hose assembly for soft spots caused by wear. To protect against serious injury to personnel replace blast hoses with soft spots.

All air hose, blast hose, and threaded couplings have pin holes that align when connected. To protect against accidental hose disconnections, four Safety Pins (1) must be installed through these holes. As a secondary safety measure each hose connection should also include a Hose Whip Check (2) that will hold the hose if there is an accidental disconnection. Connect one loop to each side of connection and stretch out as shown below.



All air hose, blast hose, and threaded couplings have gaskets that seal the connection. To reduce loss of air pressure and/or premature abrasive wear replace these gaskets when leaks are found. Replace gaskets when visible wear or leaks are found.

Leaks around couplings and nozzle holders could indicate worn or loose fitting parts. They could disconnect while under pressure. Inspect all couplings and nozzles daily for worn or loose fitting parts. Check nozzle threads for wear.

# OPERATING INSTRUCTIONS

## Start Up Test

### **⚠ DANGER**

D-507

Do not operate this equipment without the proper pressure relief device in place. Exceeding maximum working pressure could cause vessel or components to burst. Failure to comply with the above warning will result in death or serious injury. ASME STANDARD PTC25-2014. OSHA Standard 1910.169 (B)(3)(i).

### **⚠ DANGER**

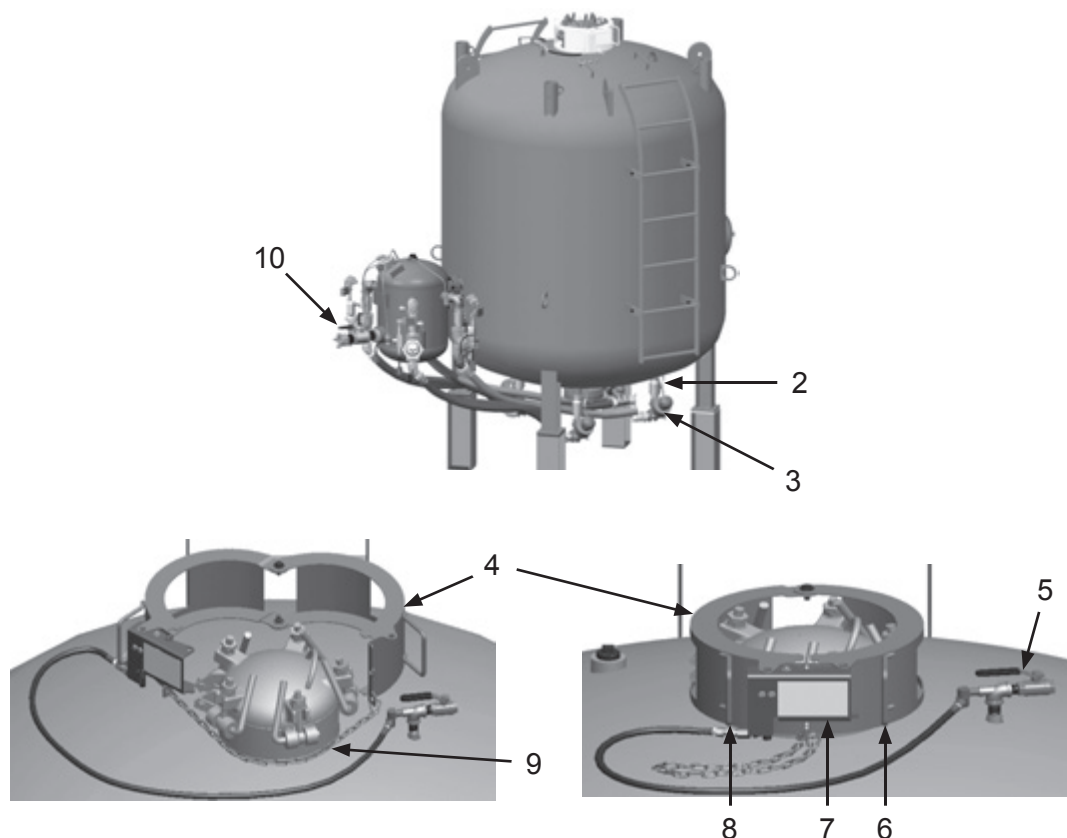
D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

Check operation of the machine, each operator outlet, and control systems with air only (no abrasive) prior to blasting.

*Note: Do Not operate this equipment without a pressure relief device installed. OSHA and ASME Code require that all pressure vessels be operated with pressure relief devices in place., It is the responsibility of the owner of the abrasive blast pot to install a pressure relief valve that meets all regulations as set forth by local, state, and federal governments.*

- 1) Perform steps in "Operating Instructions - Before Use".
- 2) Close Hatch (1). See Pressurize & Depressurize Blast Pot.
- 3) Place Blastmaster® Pneumatic Closure Lockout Device (4) in the open position, and orient Chain (9), as shown.
- 4) Grasp Handles (6,8), and close Blastmaster® Pneumatic Closure Lockout Device (4). Ensure Latch Handle (7) engages properly.
- 5) Close Pressure Indicating Ball Valve (5).
- 6) Ensure Union End Ball Valve (2) above each Abrasive Metering Valve (3) that will be in use is in the open position.
- 7) Turn on air supply.
- 8) Open Ball Valve (10) to pressurize pot.
- 9) Check that each control handle operates the correct outlet.
- 10) Check that blasting starts when control handle is pressed and stops when control handle is released.
- 11) Make sure operator outlets will not operate with Pressure Indicator Ball Valve (5) open.
- 12) Check fittings, hoses and piping for leaks. Replace as needed.
- 13) Depressurize Abrasive Blast Pot. See Pressurize & Depressurize Blast Pot.





# OPERATING INSTRUCTIONS

## Pressurize & Depressurize Blast Pot

### DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

### WARNING

W-545

Before attempting to open the Hatch Assembly, ensure the abrasive blasting pot is not pressurized by opening the Pressure Indicator Ball Valve located on the top of the abrasive blasting pot. If air is released when the Pressure Indicator Ball Valve is opened do not attempt to open Hatch Assembly. Attempting to open the Hatch Assembly when the abrasive blasting pot is pressurized could release high speed abrasive and compressed air and allow the Hatch Assembly to be forced open. Follow proper depressurization instructions before proceeding. Failure to comply with the above warning could result in death or serious injury.

### CAUTION

C-504

Release of high speed abrasive and compressed air occurs during depressurization of the abrasive blasting pot. Ensure appropriate Personal Protective Equipment is in use. Failure to comply with the above caution may result in minor or moderate injury.

### **Pressurization:**

- 1) Ensure Blast Pot is on a stable surface. Block wheels of Trailer Mounted units to stop unintended movement.
- 2) Ensure Blast Pot is not pressurized. Ensure Inlet Ball Valve (9) is in the closed position and Exhaust Ball Valve (8) is in the open position. Close Pressure Indicator Ball Valve (10).
- 3) Inspect Hatch O-ring (*not shown*) for damage and proper seating in groove, replace if needed. Ensure all components are free of corrosion and damage, replace if needed. Ensure Camlocks and Swing Bolts move freely without binding, replace if needed. Visually inspect internal components and abrasive level in vessel.
- 4) To secure Hatch, move each Swing Bolt (6) to the up position. Starting with Camlock (5), move each to the up position in a star pattern with Camlock (3) being the last one. Do not use any device or tool to aid in moving the Camlock.
- 5) Close Blastmaster® Pneumatic Closure Lockout Device (7) around Hatch. See Install Blastmaster® Pneumatic Closure Lockout Device
- 6) Close Outlet Ball Valve (8).
- 7) Open Inlet Ball Valve (9) to begin pressurization.

### **Depressurization:**

- 1) Move Inlet Ball Valve (9) to the closed position.
- 2) Move Exhaust Ball Valve (8) to the open position.
- 3) When air has stopped exhausting from the Exhaust Ball Valve (8), Open Pressure Indicator Ball Valve (10).
- 4) Disengage Blastmaster® Pneumatic Closure Lockout Device (7) and slide away from Hatch.

*Note: If at any time during the moving of the Camlocks, air is released from the Hatch opening, stop immediately. Move all Camlocks to the up position. Ensure Air Inlet Ball Valve (9) is in the closed position, Exhaust Ball Valve (8) is in the open position and Pressure Indicator Ball Valve (10) is open.*

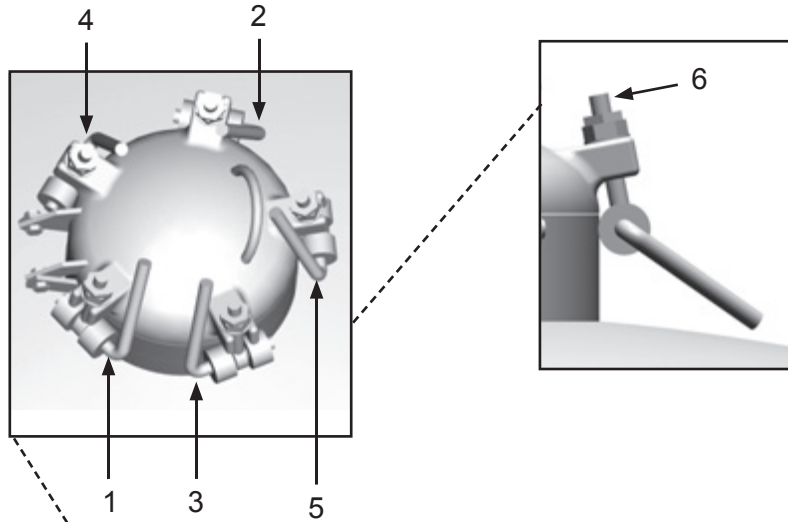
- 5) Open Hatch starting with Camlock (5), move each to the down position in a star pattern with Camlock (3) being the last one. Do not use any device or tool to aid in moving the Camlock.
- 6) Move Swing Bolt (6) on Camlock (5) to the down position. Move each Swing Bolt to the down position in a star pattern with Camlock (1) being the last one.
- 7) Inspect Hatch O-ring for damage and proper seating in groove, replace if needed. Ensure all components are free of corrosion and damage, replace if needed. Ensure Camlocks and Swing Bolts move freely without binding, replace if needed. Visually inspect internal components and abrasive level in vessel.

# OPERATING INSTRUCTIONS

## **WARNING**

W-546

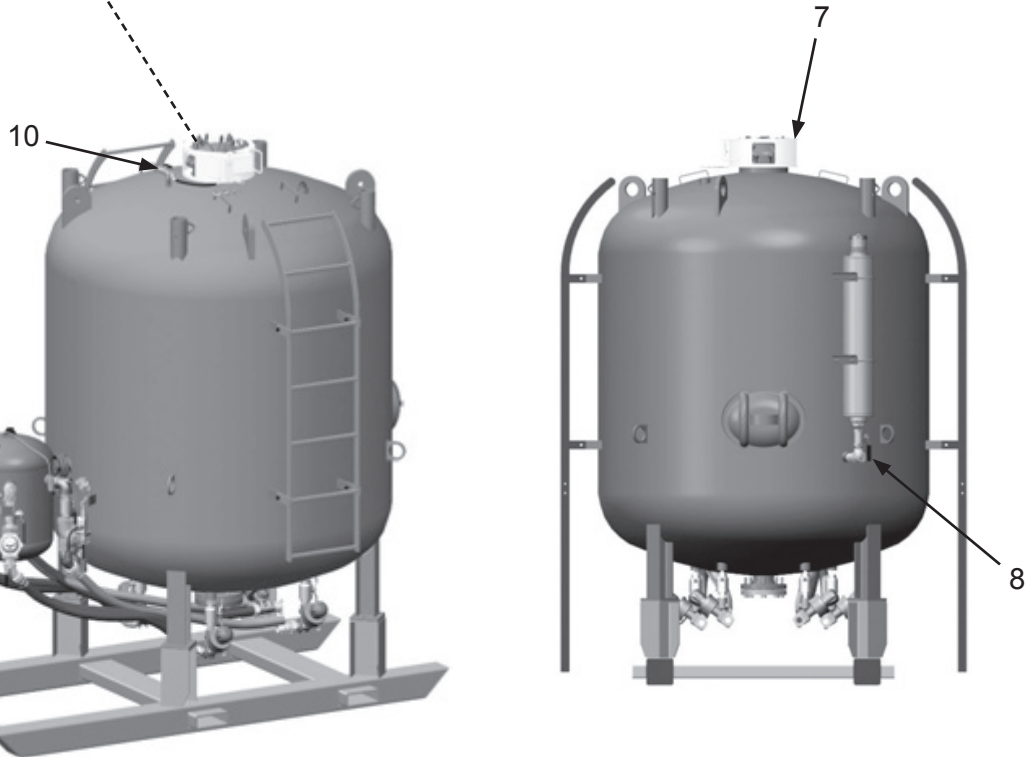
Do not use any tools or devices to aid in moving a Camlock Handle or Swing Bolt during opening of the Hatch Assembly. If a Camlock Handle and Swing Bolt do not move freely during the opening of the Hatch Assembly stop immediately as the abrasive blasting pot could be under pressure. Ensure the abrasive blasting pot is depressurized before continuing with opening the Hatch Head. Failure to comply with the above warning could result in death or serious injury.



## **WARNING**

W-535

Abrasive blasting pots are not intended for transport of personnel. Personnel should not be carried on the abrasive blasting pot during transit or moving of the unit as they can fall from the unit. Failure to comply with the above warning could result in death or serious injury.



## **WARNING**

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

## **WARNING**

W-579

Do not use any component other than the attached ladders as climbing devices. Ensure appropriate Fall Protection is used when climbing the ladder. Failure to comply with the above warning could result in death or serious injury.

# MAINTENANCE

## Adjust Camlock Assemblies

Maintenance of the Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

### **⚠ DANGER**

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

### **⚠ WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **⚠ WARNING**

W-563

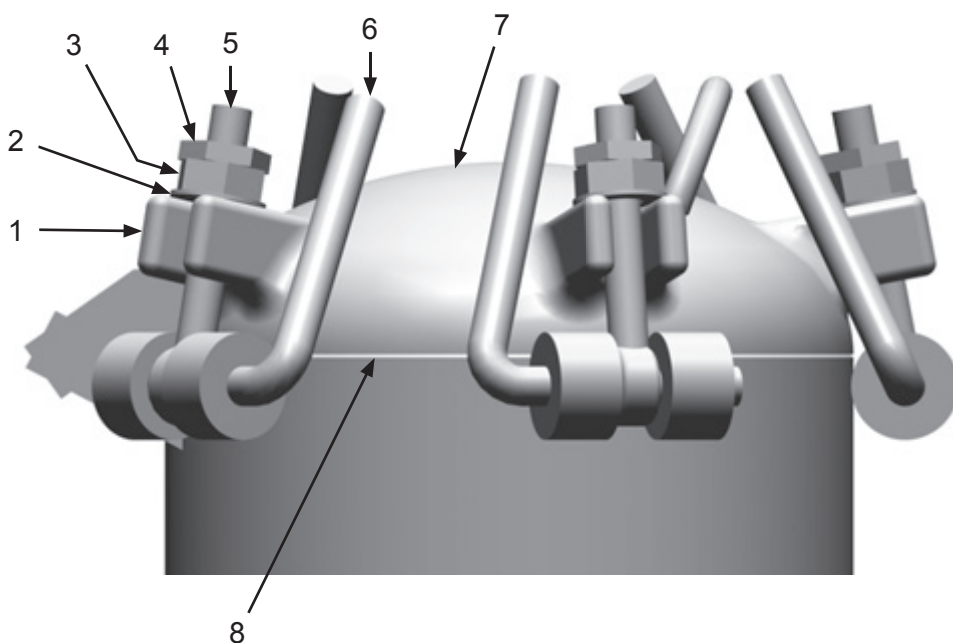
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

### **⚠ WARNING**

W-605

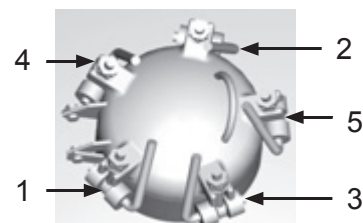
For proper operation, maintenance should be performed with the assistance of a qualified technician. Failure to comply with the above warning could result in death or serious injury.

- 1) Depressurize Blast Pot. See Pressurize & Depressurize Blast Pot.
- 2) Open Hatch and inspect Hatch O-ring (8) for damage. Replace as needed.
- 3) With Camlock Assemblies (6) in the closed position, remove Locking Nut (4), Swing Bolt Nut (3) and Washer (2). Inspect items and replace if damaged.
- 4) Apply graphite powder to Cam Lobes (9).
- 5) Adjust Swing Bolt (5) position so it is fully seated in Holding Lug (1). Install Washer (2) and Swing Bolt Nut (3) on to Swing Bolt hand tight. Do not over tighten.
- 6) Working one Camlock Assembly at a time, repeat steps 2 and 3 for remaining four Camlock Assemblies.
- 7) Using a torque wrench, tighten Swing Bolt Nut (3) on Camlock Assembly #5 to a final



torque of 20 ft/lbs. Tighten remaining Swing Bolt Nuts in the sequence shown.

- 8) Install Locking Nut (3) on to Swing Bolt (5). Using a wrench to hold Swing Bolt Nut in place, tighten Locking Nut. Tighten remaining Locking Nuts in the sequence shown.
- 9) Inspect Camlock Assemblies for proper function.



**Camlock Assembly Sequence**

# MAINTENANCE

## Remove & Install Manway Assembly

Maintenance of the Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

### ⚠ WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### ⚠ CAUTION

C-507

Ensure content of abrasive blasting pot is free of hazardous material before entry. If hazardous material is detected, follow prescribed methods for handling the material. Failure to comply with the above caution may result in minor or moderate injury.

### ⚠ CAUTION

C-509

When entering and exiting the abrasive blasting pot via the manway, ensure the surface in the abrasive blasting pot is stable. Loose abrasive in the abrasive blasting pot may cause a slip / fall hazard. Failure to comply with the above caution may result in minor or moderate injury.

### ⚠ CAUTION

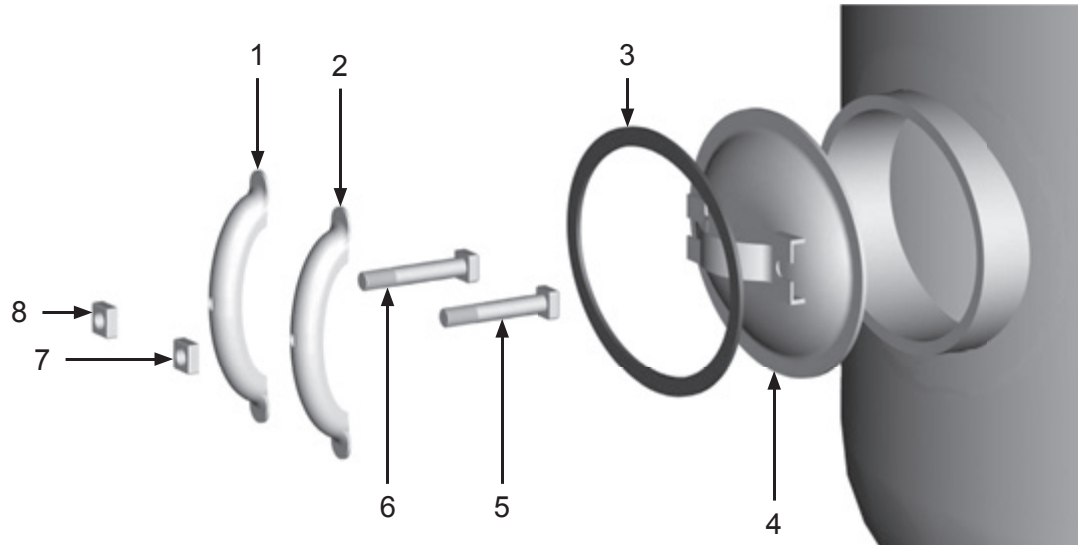
C-508

Ensure the person entering the abrasive blasting pot can pass through the 12" x 16" manway opening as they can become wedged. Failure to comply with the above caution may result in minor or moderate injury.

- 1) Depressurize Blast Pot. See Pressurize & Depressurize Blast Pot.
- 2) Ensure abrasive in Blast Pot is below the opening of the Manway Door opening. See Remove & Install Clean-Out Flange.
- 3) Loosen Nut (8) from Bolt (6). Do not remove Nut (8). Repeat step for Nut (7).
- 4) Grasp Manway Door (4). Remove loosened Nut (8) from Bolt (6). Repeat step for Nut (7).
- 5) Remove Yoke (1) from Bolt (6). Repeat step for Yoke (2).
- 6) Remove Bolts (5 and 6) from Manway Door (4). Push on Manway Door toward the interior of Blast Pot to free the Manway Door and Gasket (3).
- 7) Remove Manway Door (4) and Gasket (3) from Blast Pot interior.

*Note: Alternate tightening nuts for even gasket seal*

- 8) Install parts in reverse order using the following special instructions:
  - Ensuring that Yokes (1,2) is tight and an air-tight seal is produced.



# MAINTENANCE

## Remove & Install Wheel and Tire Assemblies

Maintenance of the Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

### **WARNING**

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### **WARNING**

W-541

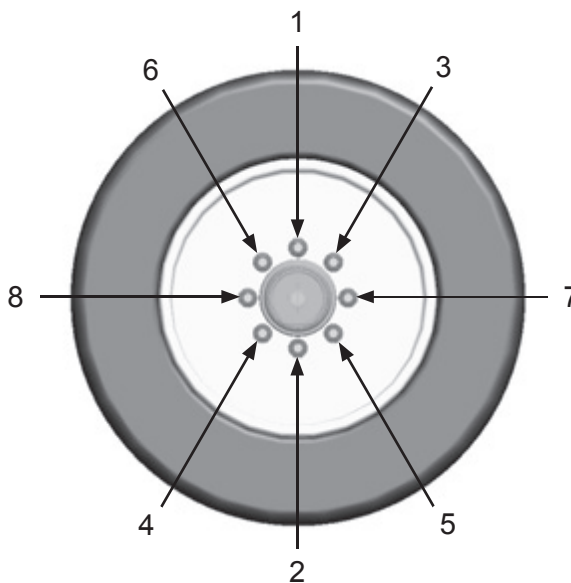
Ensure Wheel Lug Nuts are tightened to 250 ft/lbs of torque. Incorrect torque could allow for the wheel to become disengaged causing loss of control of the Trailer. For yard towable abrasive blasting pot models, tighten wheel lug nuts after each filling of abrasive. For highway towable abrasive blasting pot models, tighten wheel lug nuts after the first 50 miles of use. Check wheel lug nut torque every 90 days. Failure to comply with the above warning could cause death or serious injury.

### **CAUTION**

C-511

Do not transport trailer mounted abrasive blasting pots on transport devices with the wheel assemblies installed. The abrasive blasting pot may become unstable causing unintended movement and disengage from the transport device. Failure to comply with the above caution may result in minor or moderate injury.

- 1) Remove lug nuts and inspect for damage. Replace as needed.
- 2) Remove tire from hub.
- 3) Install parts in reverse order using the following special instructions:
  - Ensure tire is inflated to the tire manufacturer's recommended pressure. See sidewall of tire for recommended pressure.
  - Mount Tire and Wheel Assembly on Wheel Hub of Trailer.
  - Thread Lug Nut on to Stud (1). Thread remaining Lug Nuts on to Stud in the sequence shown. Tighten to hand tight.
  - Tighten Lug Nut on Stud (1) to 250 ft/lbs of torque. Repeat for remaining Lug Nuts in the sequence shown.
  - For Yard Trailer Blast Pot models, tighten Wheel Lug Nuts weekly. For Highway Trailer Blast Pot models, tighten Wheel Lug Nuts after the first 50 miles of use. Check Wheel Lug Nut torque every 90 days.





# MAINTENANCE

## Install Blastmaster® Pneumatic Closure Lockout Device

Maintenance of the Blastmaster® Pneumatic Closure Lockout Device is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

### Install:

- 1) Depressurize Blast Pot. See Pressurize & Depressurize Blast Pot.
- 2) Place Blastmaster® Pneumatic Closure Lockout Device (1) on camlock closure as shown.
- 3) Remove existing piping from Port (A).
- 4) Install Pipe Nipple (5) into Port (A).
- 5) Install Elbow with Side-out (4) onto Pipe Nipple (5).
- 6) Install Close Nipple (3) into Elbow with Side-out (4).
- 7) Install Pressure Indicating Ball Valve (2) onto Close Nipple (3).
- 8) Install Swivel Connector (6) into Elbow with Side-out (4).
- 9) Install Reducing Fitting (9) into 1/8" 90° Elbow (*not shown*).
- 10) Install Swivel Hose End (10) into Reducing Fitting (9)
- 11) Connect Air Hose (7) into Swivel Connector (6) and Swivel Hose End (10).
- 12) Ensure Pressure Indicating Ball Valve (2) is in the closed position, and pressurize Blast Pot. Verify Pneumatic Locking Piston (12) engages Latch Handle (8). Grasp Latch Handle and attempt to disengage from Blastmaster® Pneumatic Closure Lockout Device (1). The Latch Handle should not disengage.

### ⚠ WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### ⚠ WARNING

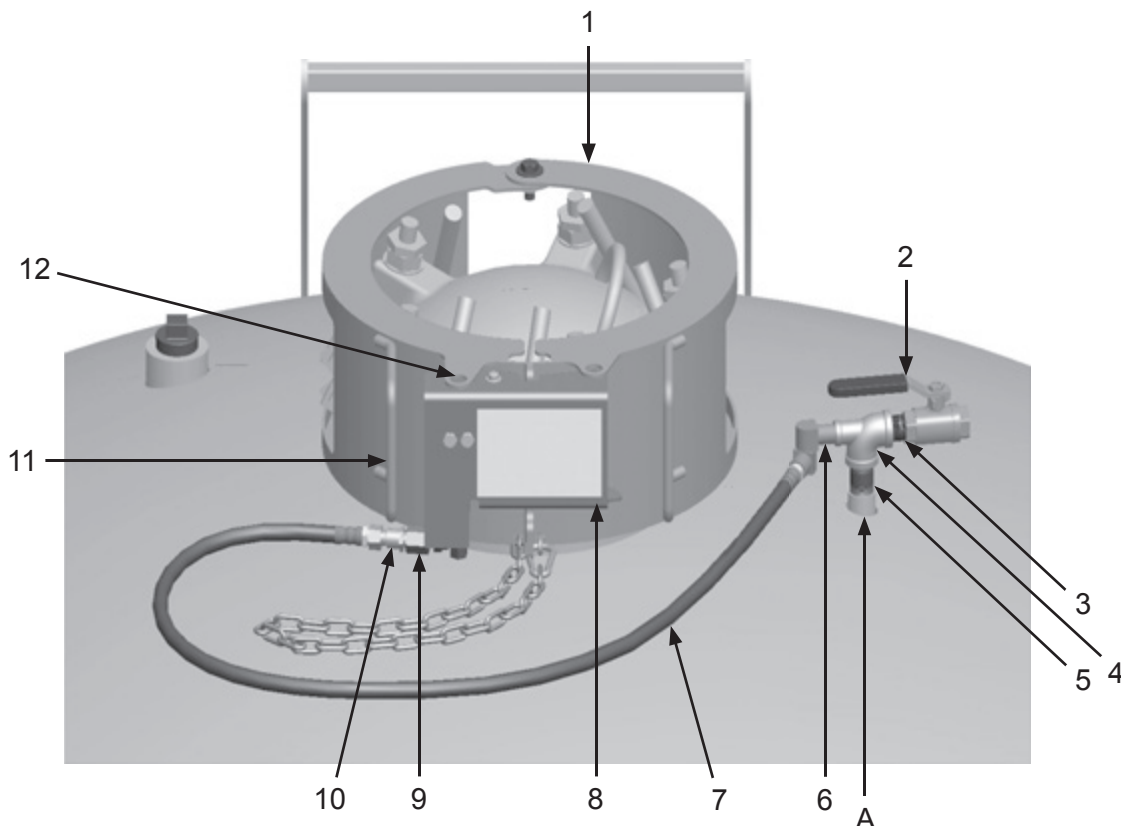
W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### ⚠ WARNING

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.



# MAINTENANCE

## Remove & Install Clean-Out Flange

### WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### WARNING

W-548

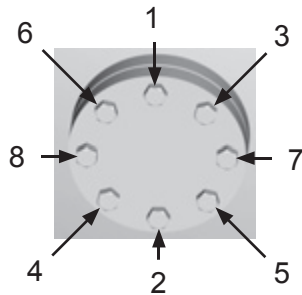
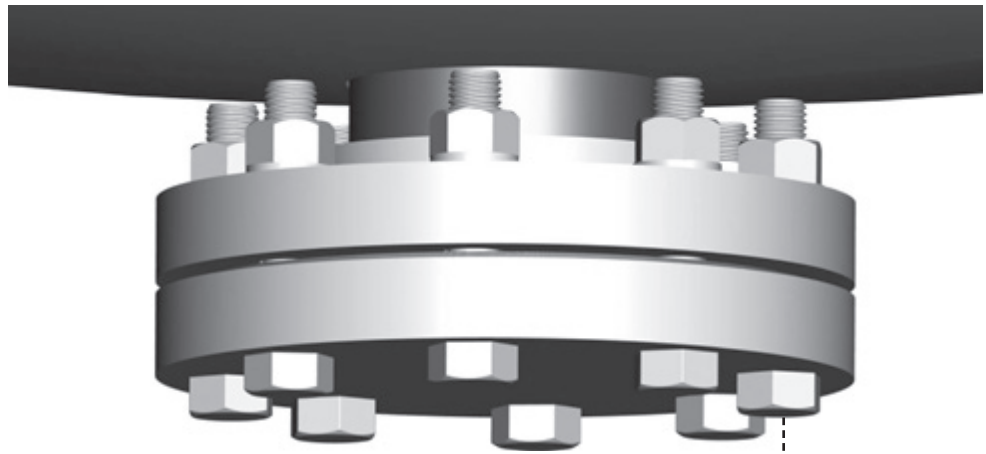
Do not remove Clean-out Flange Plate when the abrasive blasting pot is pressurized. Removal of the Clean-out Flange Plate while the abrasive blasting pot is pressurized could release high speed abrasive and compressed air. Failure to comply with the above warning could result in death or serious injury.

Maintenance of the Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

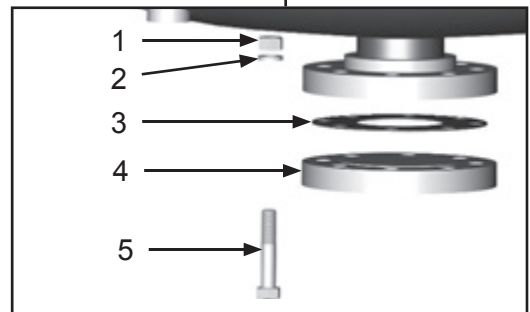
- 1) Depressurize Blast Pot. See Pressurize & Depressurize Blast Pot.
- 2) Loosen Nut (1) from Bolt (5). Do not remove Nut and Washer (2). Loosen remaining seven Nuts.
- 3) Remove Nut (1) and Washer (2) from Bolt (5). Repeat for remaining seven bolts.

*Note: Abrasive will begin flowing from the vessel.*

- 4) Remove Flange Plate (4) and Flange Gasket (3). Allow abrasive to empty from vessel.
- 5) Install parts in reverse order using the following special instructions:
  - Install Nut (1) on to Bolt and tighten to hand tight. Repeat for remaining seven bolts.
  - Tighten bolts in sequence shown.



Flange Assembly Sequence





# MAINTENANCE

## Remove & Install Blastmaster® Large Exhaust Muffler

Maintenance of the Blastmaster® Large Exhaust Muffler is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

### WARNING

W-585

Release of high speed abrasive and moisture-laden compressed air that occurs during depressurization of an abrasive blasting pot could cause blockage of the Blastmaster® Large Exhaust Muffler. Any obstruction could cause incomplete depressurization of the abrasive blasting pot. Consult Original Equipment Manufacturer Operator's Manuals for proper use of equipment. Failure to comply with the above warning could result in death or serious injury.

### WARNING

W-606

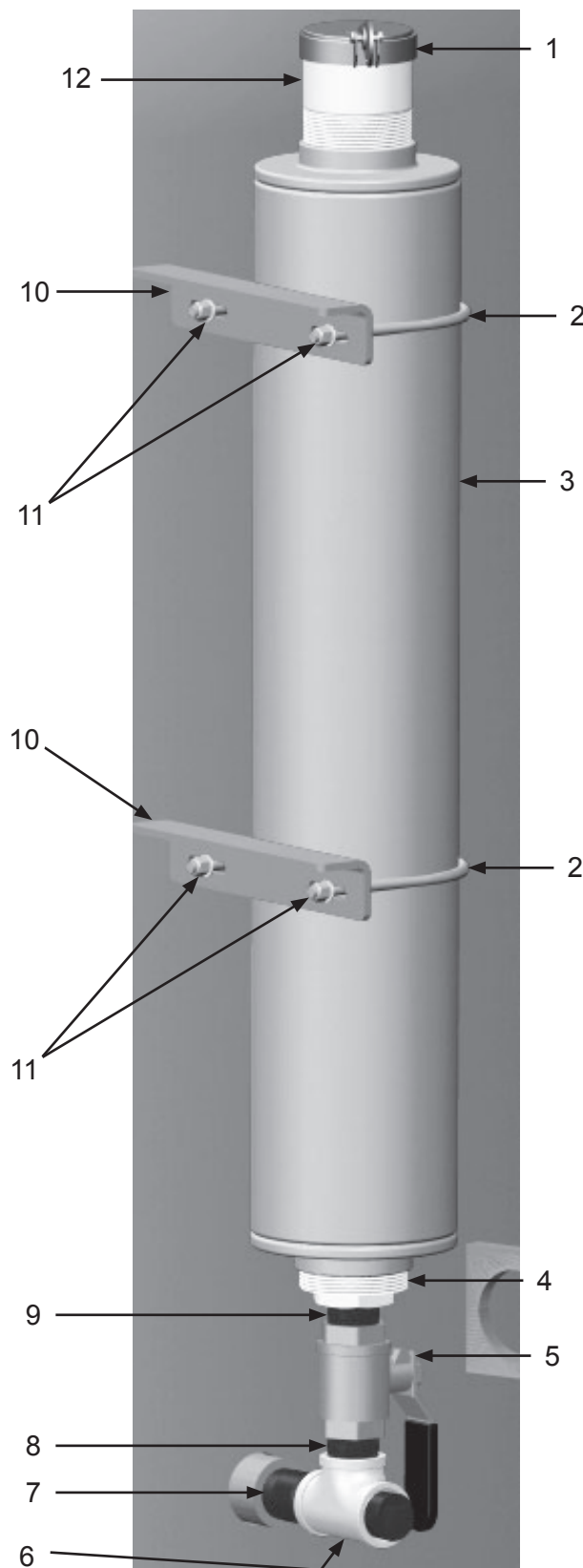
Worn exhaust ball valve, piping, and pipe fittings can fail during operation which can cause serious injury or death to operating personnel. Always replace worn or damaged components. Failure to comply with the above warning could result in death or serious injury.

### CAUTION

C-501

High decibel noise levels are generated during the abrasive blasting process which may cause loss of hearing. Ensure appropriate Personal Protective Equipment and hearing protection is in use. Failure to comply with the above caution may result in minor or moderate injury.

- 1) Remove Rain Cap (1) from Silencer Assembly (3).
- 2) Remove Toe Nipple (12).
- 3) Remove Nuts and Washers (11). Remove U-Bolts (2) from Mounting Brackets (10).
- 4) Remove Silencer Assembly (3) from Bushing (4).
- 5) Remove Bushing (4).
- 6) Remove Nipple (9).
- 7) Remove Ball Valve (5). Confirm that the ball valve handle turns open and closed without difficulty. Difficulty in turning the ball valve handle indicates grit contamination within the moving parts of the valve. If contamination is confirmed, replace ball valve.
- 8) Remove Nipple (8).
- 9) Remove Tee Fitting (6).
- 10) Remove Nipple (7).
- 11) Install parts in reverse order using the following special instructions:
  - Inspect the abrasive blaster pressure vessel coupling (A) for thread damage caused by wear or corrosion. If damage is found, remove the abrasive blaster from service and have it repaired by an authorized ASME Code repair shop.
  - If Ball Valve (5) is replaced, also replace Nipples (7,8) and Tee Fitting (6).



# MAINTENANCE

## Blastmaster® Bulk Bag Rack

### DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

### WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### WARNING

W-505

Inspect all equipment for wear or damage before and after each use. Failure to use Original Equipment Manufacturer repair parts and failure to immediately replace worn or damaged components could void warranties and cause malfunctions. Failure to comply with the above warning could result in death or serious injury.

### WARNING

W-580

Keep clear of Bulk Bag Rack Collars when lowering or raising Bulk Bag Rack into operating position. Do not attempt to guide the Bulk Bag Rack into position with the use of hands or feet. Failure to comply with the above warning could result in death or serious injury.

### **Before use:**

- Place Lanyard Assembly (7) down into top opening of Bulk Bag Rack Collar (4). Ensure Split Ring (8) exits Hole (6) at base of Bulk Bag Rack Collar.
- Install Locking Pin (9) onto Lanyard Assembly (7) by threading Split Ring (8) through hinge on Locking Pin.

### **Installation:**

- 1) Ensure Locking Pins (9) are not inserted in Bulk Bag Rack Collar Pin Holes (5).
- 2) Open hatch. See Pressurize & Depressurize Blast Pot.
- 3) Attach lifting device to Bulk Bag Rack Lifting Eyes (1), or use Fork Pockets, if equipped.
- 4) Raise and position Rack Legs (3) in Bulk Bag Rack Collars (4).
- 5) Insert Locking Pin (9) through Pin Holes (5) in Bulk Bag Rack Collar (4) and Rack Legs (3). Repeat on remaining three Bulk Bag Rack Collars.
- 6) Place Abrasive Bulk Bag (11) in Blastmaster® Bulk Bag Rack (10).
- 7) Secure Bulk Bag in position by placing Bulk Bag Lifting Loops (2) over Bulk Bag Rack Lifting Eyes (1).

### **After use:**

- Remove Bulk Bag (11).
- Remove Locking Pins (9) from Bulk Bag Rack Collar Pin Holes (5).
- Attach lifting device to Bulk Bag Rack Lifting Eyes (1), or use Fork Pockets, if equipped.
- Raise Bulk Bag Rack out of Bulk Bag Rack Collars (4) and lower to the ground.
- Close hatch. See Pressurize & Depressurize Blast Pot.

# MAINTENANCE

## **⚠ WARNING**

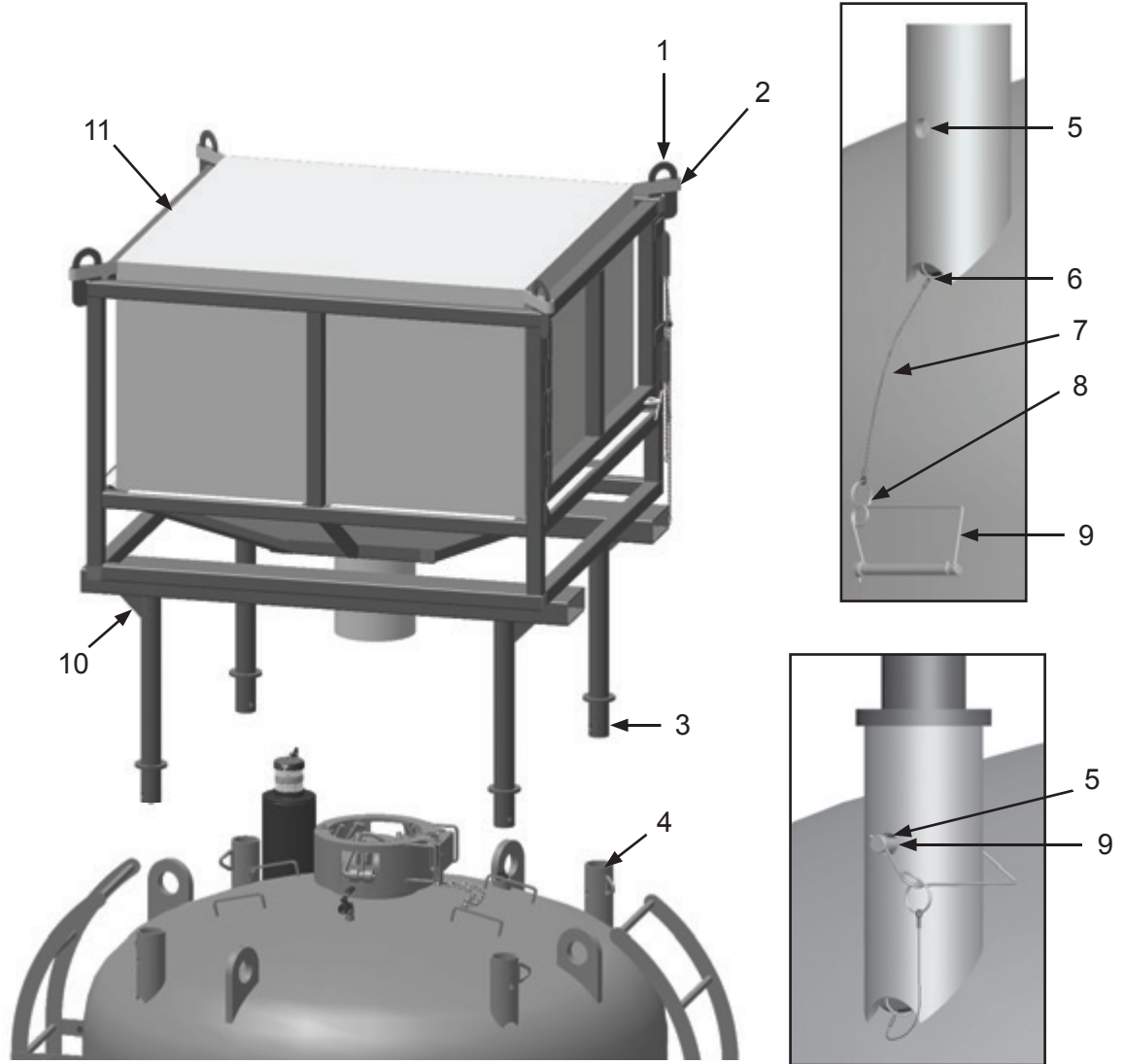
W-581

Always remove any locking device securing the bulk bag rack before attempting removal. Do not use the installed bulk bag rack as a lifting device for the blast pot. Lifting a blast pot using the bulk bag rack can cause the blast pot to become unstable and damage components. Failure to comply with the above warning could result in death or serious injury.

## **⚠ WARNING**

W-582

Do not transport abrasive blasting pot with bulk bag rack installed. Transporting abrasive blasting pot with bulk bag rack installed could cause the abrasive blasting pot to become unstable or allow the bulk bag rack to become disengaged from the abrasive blasting pot. Failure to comply with the above warning could result in death or serious injury.



### **Weight:**

620 pounds

### **Overall Dimensions:**

Length: 62"

Width: 60"

Height: 80"

# MAINTENANCE

## Remove & Install GateKeeper Air Valve

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

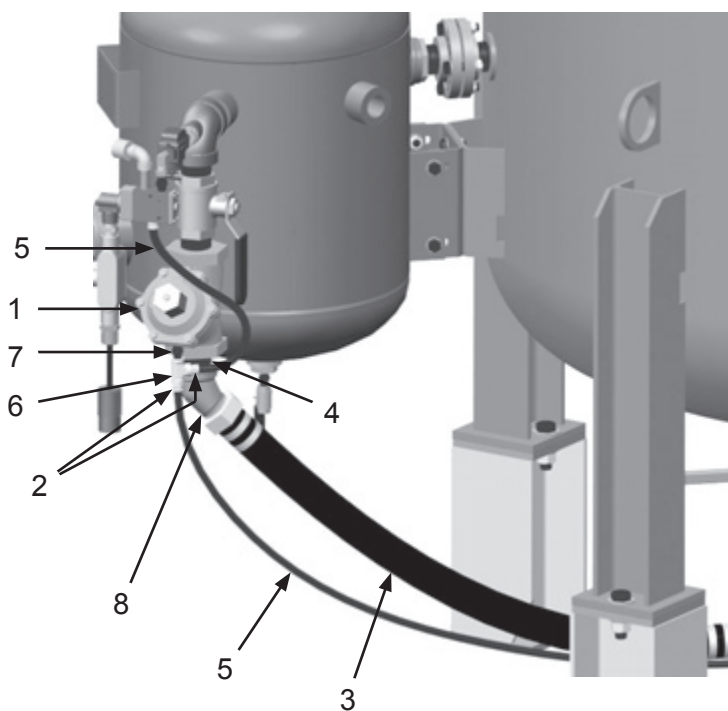
### **NOTICE**

N-519

Apply pipe thread sealant to all pipe threads to ensure an airtight seal.

- 1) Depressurize the system.
- 2) Disconnect Pusher Assembly (3) from Elbow (8).
- 3) Remove Elbow (8) and Nipple (4).
- 4) Remove Control Lines (5), Tee (6), Nipple (7) and Fittings (2).
- 5) Remove GateKeeper Air Valve (1).
- 6) Install parts in reverse order.

*Note: Apply pipe thread sealant to all pipe threads to ensure an airtight seal.*



Electric Shown

## MAINTENANCE

### Remove & Install Blastmaster® Maxum III Abrasive Metering Valve

#### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **NOTICE**

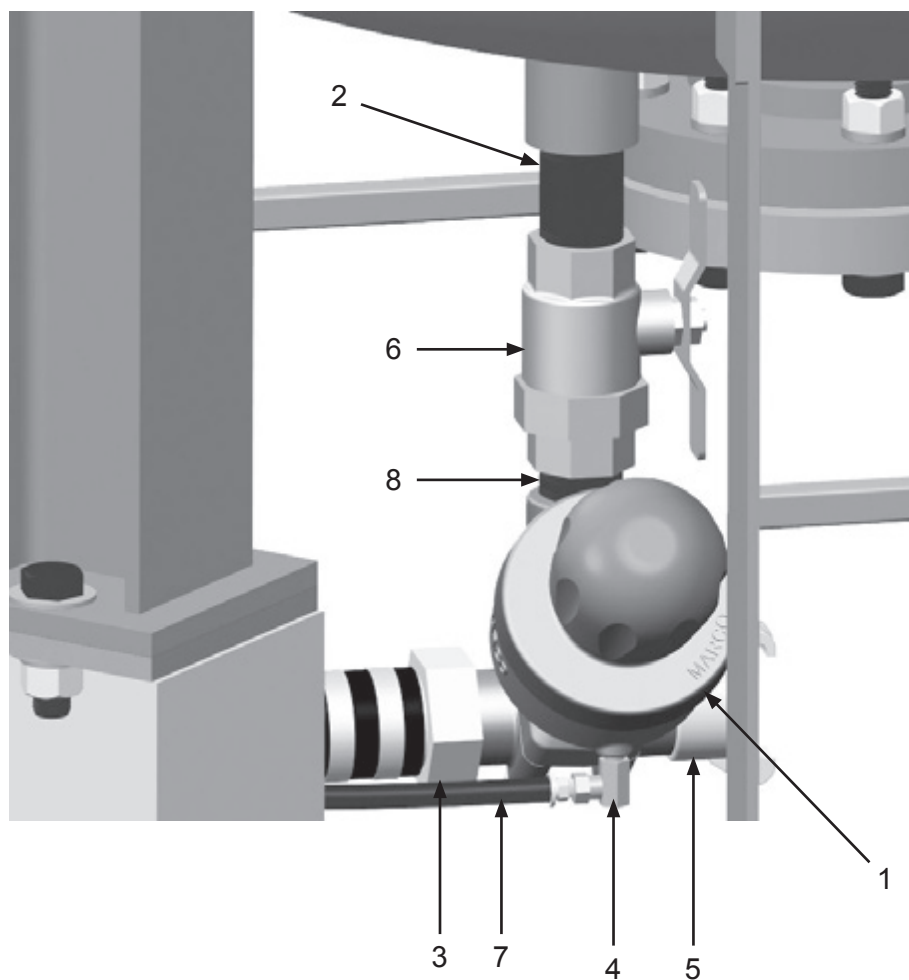
N-519

Apply pipe thread sealant to all pipe threads to ensure an airtight seal.

- 1) Depressurize the system and empty tank.
- 2) Disconnect Pusher Assembly (3) from Metering Valve (1).
- 3) Disconnect Control Line (7) and Fitting (4).
- 4) Remove Tank Coupling (5).
- 5) Remove Metering Valve (1), Nipple (8), Valve (6) and Nipple (2).
- 6) Install parts in reverse order.

*Note: Apply pipe thread sealant to all pipe threads to ensure an airtight seal.*

*Note: A Minimum Distance of 14" from exit port of Blast Pot to the ground is required for proper installation of the Blastmaster® Maxum III Abrasive Metering Valve.*





# MAINTENANCE

## Install Hinged Ladder Extension (Optional)

### ⚠ WARNING

W-505

Inspect all equipment for wear or damage before and after each use. Failure to use Original Equipment Manufacturer repair parts and failure to immediately replace worn or damaged components could void warranties and cause malfunctions. Failure to comply with the above warning could result in death or serious injury.

### ⚠ WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### ⚠ WARNING

W-520

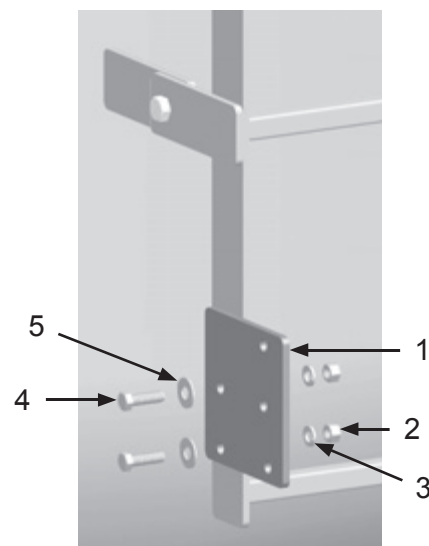
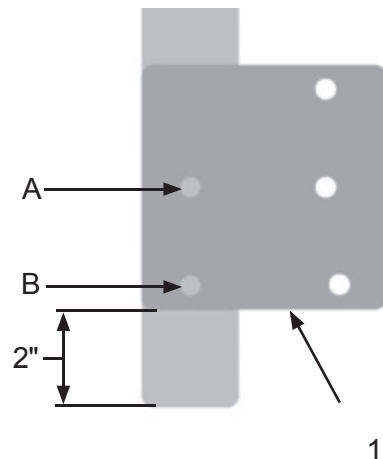
The use of this product for any purpose other than originally intended or altered from its original design is prohibited. Failure to comply with the above warning could result in death or serious injury.

### Installation:

- 1) Measure two inches up from the base of the existing ladder and make a mark.
- 2) Place Ladder Extension Bracket (1) side with two holes on the mark. Mark placement of Holes (A,B).
- 3) Drill two holes using a 13/32" drill bit.

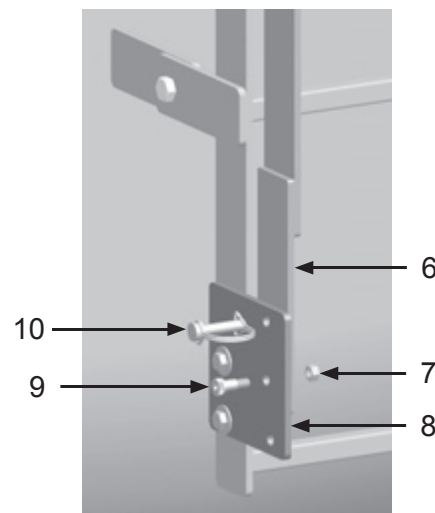
*Note: Ladder Extension Bracket must be installed in orientation shown or ladder will not raise to proper position.*

- 4) Install Ladder Extension Bracket (1) using Bolts (4), Washers (5), Lock Washers (3), and Hex Nuts (2).



- 5) Install Ladder Extension (6) in "up" position to Ladder Extension Mounting Bracket (8) using Shoulder Bolt (9) and Hex Nut (7). Repeat on other leg of Ladder Extension.
- 6) Secure Ladder Extension in the "up" position using D-Locking Pins (10).

*Note: Always transport or store Blast Pot with Hinged Ladder Extension in the "up" position.*



# MAINTENANCE

## Maintenance Schedules Quick Reference Charts

<b>BULK BLAST POT MAINTENANCE SCHEDULE</b>				
Perform inspections at the intervals specified. Repair or replace damaged parts as needed.				
<b>Item</b>	<b>Maintenance Required</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
Bulk Blast Pot Exterior	Visually inspect exterior of Bulk Blast Pot for any damage (corrosion, dents, bulges, cracks etc.). Remove from service and contact Marco.	X		
Bulk Blast Pot Piping & Pipe Fittings	Visually inspect external pipe & pipe fittings for damage (wear, cracks, air leaks etc.). Replace as needed.	X		
Closure	Check camlock nut torque		X	
Closure	Check component operation and condition.	Before every use		
Vessel Manway	Visually inspect condition of gasket and sealing surfaces. Ensure all components are tight. Replace as needed.		X	
Identification Tags and Decals	Visually inspect for presence and condition of all identification tags and decals. Replace as needed.		X	
Bulk Blast Pot Interior	Visually inspect interior surfaces of the Bulk Blast Pot for wear, corrosion, pitting, cracks, or other damage. Remove from service and contact Marco. Check internal piping for wear or damage. Replace as needed. Check Y- strainer or GSV, & piping.			X
Blowdown Ball Valve	Check for proper opening and closing. Check for wear, damage, or air leaks.	Before every use		
Moisture Separator	Degrease internal demister element.			X
Vessel Mount Bolts	Tighten to specified torque.			X
Bulk Blast Pot	Hydrostatic Test	Every 5 years unless otherwise directed by local, state, or jurisdictional requirements.		

# TROUBLESHOOTING

If the Blastmaster® 160 Cu. Ft. Abrasive Blasting Pot does not function properly, check the following:

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## WARNING

W-546

Do not use any tools or devices to aid in moving a Camlock Handle or Swing Bolt during opening of the Hatch Assembly. If a Camlock Handle and Swing Bolt do not move freely during the opening of the Hatch Assembly stop immediately as the abrasive blasting pot could be under pressure. Ensure the abrasive blasting pot is depressurized before continuing with opening the Hatch Head. Failure to comply with the above warning could result in death or serious injury.

## WARNING

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above warning could result in death or serious injury.

### **SYMPTOM (Cause)**

#### **Blast Pot will not pressurize or pressurizes slowly**

*(Damaged components, Insufficient air compressor output capacity, Clogged exhaust muffler)*

### **ACTION**

Ensure Inlet Ball Valve is in the open position. Inspect for damage. Replace damaged components.

Ensure Hatch is closed and properly secured. Inspect Camlocks and Swing Bolts for correct installation. See proper torque specifications of Swing Bolt nuts.

Ensure Exhaust Ball Valve is in the closed position. Inspect for damage. Replace damaged components.

Inspect 'Y'-Strainer on the internal pipe string for blockage or damage. Clean out blockage. Replace damaged components.

Insufficient air volume from compressor. Ensure air compressor output capacity will support the blast nozzles being used.

Inspect for air leaks. Tighten fittings if leaks are present.

Inspect Tee Pipe Assembly on Blastmaster® Large Exhaust Muffler for obstruction. Remove obstructions.

#### **Air and abrasive do not exit Blast Nozzle**

*(Blast Pot is not pressurized, Malfunctioning Remote Control System)*

Insufficient air supply. Ensure minimum of 50 PSI is supplied to Blast Pot and sufficient air volume to support blast nozzle.

Open Pressure Indicator Ball Valve. If air does not exit Pressure Indicator Ball Valve, ensure Inlet Ball Valve is in the open position. If air does exit the Pressure Indicator Ball Valve, consult Remote Control System and Remote Control Handle Operator's Manual.

Inspect blast hose and blast nozzle for blockage. Repair or replace immediately.

Inspect solenoid for damage. Repair or replace as necessary.

See remote control switch Operator's Manual.

# TROUBLESHOOTING

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## WARNING

W-546

Do not use any tools or devices to aid in moving a Camlock Handle or Swing Bolt during opening of the Hatch Assembly. If a Camlock Handle and Swing Bolt do not move freely during the opening of the Hatch Assembly stop immediately as the abrasive blasting pot could be under pressure. Ensure the abrasive blasting pot is depressurized before continuing with opening the Hatch Head. Failure to comply with the above warning could result in death or serious injury.

## WARNING

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

## SYMPTOM (Cause)

**Blast Pot will not depressurize**  
(*Damaged components*)

## ACTION

Follow the sequence below:

- 1) Ensure Exhaust Ball Valve is in the open position.
- 2) If Exhaust Ball Valve is in the open position and not exhausting air from the Blast Pot, close the inlet ball valve. Terminate air supply from compressor.
- 3) Turn Abrasive Metering Valve flow setting to the closed position. While maintaining control of Blast hose, brace for recoil and activate remote control system. Air from the Blast Pot should exhaust through the Blast hose.
- 4) After air stops exiting the blast hose, open the Pressure Indicator Ball Valve located on the top of the vessel. If air does not exit the Pressure Indicator Ball Valve, follow instructions for removing the Pneumatic Closure Lockout Device and opening the hatch assembly. Inspect internal piping of the Blast Pot for damage. Replace damaged Exhaust Ball Valve and piping immediately.
- 5) If air exits the Pressure Indicator Ball Valve, the vessel is still pressurized. Open Moisture Separator Drain Ball Valve to full open, allow air to exhaust from the Moisture Separator. If air stops exiting the Moisture Separator within five minutes, open the Pressure Indicator Ball Valve. If air does not exit the Pressure Indicator Ball Valve, follow instructions for opening the hatch. Inspect internal piping of the air-blast pot for damage. Replace damaged Exhaust Ball Valve and piping immediately.

**Air and abrasive exit Blast Nozzle when Remote Control Switch is in OFF position**

(*Remote Control Switch, Pneumatic Control Lines, Pilot Valve*)

Ensure a "non-bleeder" style pneumatic remote control switch is installed. Install a "non-bleeder" style pneumatic remote control switch.

Inspect pneumatic pilot valve for damage. Repair or replace pneumatic pilot valve.

Inspect electric solenoid for damage. Repair or replace electric solenoid.

See remote control switch Operator's Manual.

# TROUBLESHOOTING

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

## WARNING

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

## SYMPTOM (Cause)

### Latch Handle does not properly engage

*(Improper alignment, Obstruction of Latch Handle or Pneumatic Closure Lockout Device, Damaged components)*

### Latch Handle will not disengage

*(Blast Pot is pressurized, Improper alignment, Obstruction of Latch Handle or Pneumatic Closure Lockout Device, Damaged components)*

### Only abrasive exits Blast nozzle

*(Closed or damaged Choke Valve, Malfunctioning Remote Control System or Remote Control Switch)*

### Air exits Blast Nozzle when Remote Control Switch is in OFF position

*(Pneumatic Control Lines, Damaged GateKeeper Air Valve components)*

## ACTION

Inspect components for damage. Repair or replace components as necessary.

Inspect components for proper alignment. Repair or replace components as necessary.

Ensure Blast Pot camlocks are in the fully closed position.

Ensure Blast Pot is depressurized.

Ensure Pneumatic Locking Piston is disengaged from Latch Handle. Open Pressure Indicating Ball Valve to release air pressure from Pneumatic Locking Piston. If Blast Pot is not depressurized, depressurize Blast Pot. see Pressurize & Depressurize Blast Pot.

Inspect components for damage. Repair or replace components as necessary.

Verify Blast Pot camlocks are in the fully closed position. Depressurize Blast Pot. See Pressurize & Depressurize Blast Pot.

Ensure Choke Valve located on pusher line is in the open position. Replace Choke Valve if damaged.

See remote control switch Operator's Manual.

Inspect control lines for restrictions, leaks and correct routing. Repair or replace damaged components.

Ensure the GateKeeper Air Valve is installed with the port labeled AIR INLET closest to the air source.

Inspect GateKeeper Air Valve for damaged components. Repair or replace damaged components.

See remote control switch Operator's Manual.



# TROUBLESHOOTING

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## WARNING

W-546

Do not use any tools or devices to aid in moving a Camlock Handle or Swing Bolt during opening of the Hatch Assembly. If a Camlock Handle and Swing Bolt do not move freely during the opening of the Hatch Assembly stop immediately as the abrasive blasting pot could be under pressure. Ensure the abrasive blasting pot is depressurized before continuing with opening the Hatch Head. Failure to comply with the above warning could result in death or serious injury.

## WARNING

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

## SYMPTOM (Cause)

### Only air exits Blast Nozzle

*(Blast Pot does not have abrasive in it, Malfunctioning Remote Control System)*

## ACTION

Follow instructions in the Before Use section of this Operator's Manual. Fill Blast Pot with abrasive.

Ensure Union End Ball Valve between Blast Pot and abrasive metering valve is in the open position.

Ensure Abrasive is dry and free of debris. If Abrasive is wet, empty Abrasive from Blast Pot and replace with dry Abrasive.

Inspect control lines for restrictions, leaks, and correct routing. Repair or replace damaged components.

Insufficient air supply. Ensure minimum of 50 psi is supplied to Blastmaster® Maxum III Abrasive Metering Valve.

Ensure Blastmaster® Maxum III Abrasive Metering Valve abrasive inlet port is clear of obstructions. Clean area and ensure abrasive is free of debris, properly screened and free of moisture.

Set metering knob.

Ensure air is not escaping from Breather Mufflers in Blastmaster® Maxum III Abrasive Metering Valve. Inspect Blastmaster® Maxum III Abrasive Metering Valve for damaged components and ensure nut securing piston to plunger is tightened to 70 foot/pounds.

Inspect Abrasive Metering Valve for damage. Replace damaged components. See remote control switch Operator's Manual.

# TROUBLESHOOTING

## DANGER

D-502

During the opening of the Hatch Assembly, any air pressure released from the area indicates the abrasive blasting pot is still pressurized and the Hatch Assembly can be propelled open. Stop immediately and depressurize the abrasive blasting pot. Failure to comply with the above danger will result in death or serious injury

## WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

## WARNING

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

## SYMPTOM (Cause)

### Abrasive exits Blast Nozzle when Remote Control Switch is in the OFF position

*(Pneumatic Control Lines, Damaged Abrasive Metering Valve components)*

## ACTION

Inspect control lines for restrictions, leaks, and correct routing. Repair or replace damaged components.

Inspect abrasive metering valve for damage.

Ensure an air-actuated abrasive metering valve is installed. Install an air-actuated abrasive metering valve.

Ensure Breather Mufflers in cap of Blastmaster® Maxum III Abrasive Metering Valve are not blocked. Replace Breather Mufflers if blocked.

Inspect Blastmaster® Maxum III Abrasive Metering Valve for damaged components. Repair or replace Blastmaster® Maxum III Abrasive Metering Valve.

See remote control switch Operator's Manual.





## **ADDITIONAL TECHNICAL DATA**

The associations listed below offer information, materials and videos pertaining to abrasive blasting and safe operating practices.

- **American Society for Testing and Materials (ASTM)**  
100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959  
  
Phone: (610) 832-9585  
FAX: (610) 832-9555  
www.astm.org
- **Occupational Safety & Health Administration (OSHA)**  
United States  
Department of Labor  
200 Constitution Avenue  
Washington, DC 20210  
  
Phone: (800) 321-OSHA  
(800) 321-6742  
www.osha.gov
- **The National Board of Boiler & Pressure Vessel Inspectors**  
1055 Crupper Avenue  
Columbus, Ohio 4322  
  
Phone: (614) 888-8320  
FAX: (614) 888-0750  
www.nationalboard.org
- **National Association of Corrosion Engineers (NACE)**  
1440 South Creek Drive  
Houston, TX 77084-4906  
  
Phone: (281) 228-6200  
FAX: (281) 228-6300  
www.nace.org
- **The Society for Protective Coatings (SSPC)**  
40-24th Street, 6th Floor  
Pittsburgh, PA 15222-4656  
  
Phone: (412) 281-2331  
FAX: (412) 281-9992  
www.sspc.org
- **American National Standards Institute (ANSI)**  
1899 L Street, NW, 11th Floor  
Washington, DC 20036  
  
Phone: (202) 293-8020  
FAX: (202) 293-9287  
www.ansi.org

## **LIMITED WARRANTY**

Seller warrants to the original purchaser that the Product covered by this Limited Warranty will remain free from defects in workmanship or material under normal commercial use and service for a period of one year from the date of shipment to the original Purchaser. This Warranty shall not apply to defects arising, in whole or in part, from any accident, negligence, alteration, misuse or abuse of the Product, operation of the Product which is not in accordance with applicable instructions or manuals or under conditions more severe than, or otherwise exceeding, those set forth in the written specifications for the Product, nor shall this Warranty extend to repairs or alterations of the Product and/or any maintenance part by persons other than Seller or Seller's authorized representatives. This warranty does not apply to accessory items. Further, this Warranty does not apply to damage or wear to the surface finish or appearance of the Product or normal wear and tear to the Product. This Warranty is limited to a purchaser who purchases the Product either directly from the Seller or from one of Seller's "Authorized Distributors". An Authorized Distributor is a Seller approved distributor that purchases the Product directly from the Seller for the sole purpose of re-selling the Product at retail, without any use or modifications whatsoever, to an end-purchaser. This warranty is specifically non-assignable and non-transferable.

## **DISCLAIMER OF WARRANTY**

The foregoing Limited Warranty is exclusive and is in lieu of all other warranties, whether oral or written and whether express, implied, or statutory. SELLER HEREBY DISCLAIMS ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE AND ALL SUCH OTHER WARRANTIES ARE HEREBY EXCLUDED AND ARE INAPPLICABLE TO THE PRODUCT. Seller makes no warranties or representations of any kind concerning respirators, or equipment made by other manufacturers. Seller's agents and representatives are not authorized to offer any further warranties.

## **EXCLUSIVE REMEDY FOR WARRANTY CLAIMS**

THE SOLE AND EXCLUSIVE REMEDY UNDER THE FOREGOING LIMITED WARRANTY, AND TO THE EXTENT PERMITTED BY LAW, ANY WARRANTY OR CONDITION IMPLIED BY LAW, COVERING THIS PRODUCT SHALL BE, AT THE SELLER'S OPTION, THE REPAIR OR REPLACEMENT, FREE OF CHARGE, F.O.B. POINT OF MANUFACTURE, OF ANY DEFECTIVE PART OR PARTS OF THE PRODUCT THAT WERE MANUFACTURED BY SELLER, AND WHICH ARE RETURNED TO SELLER AT SELLER'S PRINCIPAL PLACE OF BUSINESS, POSTAGE PREPAID BY THE PURCHASER. THIS SOLE AND EXCLUSIVE REMEDY IS CONDITIONED UPON PURCHASER'S PROMPT WRITTEN NOTICE TO SELLER AT SELLER'S PLACE OF BUSINESS THAT A DEFECT HAS BEEN DISCOVERED, TOGETHER WITH A REASONABLY DETAILED DESCRIPTION OF THE DEFECT IN THE PRODUCT, PROOF OF PURCHASE OF THE PRODUCT, AND THE MODEL AND IDENTIFICATION NUMBER OF THE PRODUCT WITHIN THIRTY (30) DAYS AFTER DISCOVERY OF THE DEFECT, OTHERWISE SUCH CLAIMS SHALL BE DEEMED WAIVED. NO ALLOWANCE WILL BE GRANTED FOR ANY REPAIRS OR ALTERATIONS MADE BY PURCHASER OR OTHERS WITHOUT SELLER'S PRIOR WRITTEN CONSENT. IF SUCH NOTICE IS TIMELY GIVEN, SELLER WILL HAVE THE OPTION TO EITHER MODIFY THE PRODUCT OR COMPONENT PART THEREOF TO CORRECT THE DEFECT, REPLACE THE PRODUCT OR PART WITH COMPLYING PRODUCTS OR PARTS, OR REFUND THE AMOUNT PAID FOR THE DEFECTIVE PRODUCT, ANY ONE OF WHICH WILL CONSTITUTE THE SOLE LIABILITY OF SELLER AND FULL SETTLEMENT OF ALL CLAIMS. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OBLIGATION GREATER THAN THE ORIGINAL PURCHASE PRICE OF THE PRODUCT UNDER THIS WARRANTY. PURCHASER SHALL AFFORD SELLER PROMPT AND REASONABLE OPPORTUNITY TO INSPECT THE PRODUCT FOR WHICH A CLAIM IS MADE. THE SOLE PURPOSE OF THE FOREGOING STIPULATED EXCLUSIVE REMEDY SHALL BE TO REPAIR OR REPLACE DEFECTIVE PRODUCTS OR COMPONENTS THEREOF, OR TO REFUND PURCHASER THE PURCHASE PRICE THEREOF. THIS STIPULATED EXCLUSIVE REMEDY SHALL NOT BE DEEMED TO HAVE FAILED OF ITS ESSENTIAL PURPOSE SO LONG AS SELLER IS WILLING AND ABLE TO REPAIR OR REPLACE THE DEFECTIVE PARTS OR REFUND THE PURCHASE PRICE IN ACCORDANCE WITH THE TERMS HEREOF. PRODUCTS THAT HAVE BEEN REPAIRED OR REPLACED UNDER THIS WARRANTY DO NOT RECEIVE A NEW WARRANTY AND ARE ONLY COVERED BY THE REMAINING PORTION OF THE ORIGINAL WARRANTY.

## **LIMITATION OF REMEDIES**

The foregoing stipulated exclusive remedy is in lieu of all other remedies for breach of contract, warranty, and/or tort or otherwise. Seller shall not be liable, either directly or indirectly, for any consequential, incidental or special losses or damages of Purchaser, including but not limited to the Purchaser's expenses for downtime or for making up downtime, damages for which the Purchaser may be liable to other persons and/or entities, damages to property, and injury to or death of any persons and/or any claims for incidental or consequential damages, including but not limited to loss of profits, regardless of whether Seller has been informed of the possibility of such damages. Seller neither assumes, nor authorizes any person to assume for it, any other liability in connection with the sale or use of any Products covered by the foregoing Warranty and Disclaimers, and there are no oral agreements relating to remedies which are collateral to or which affect this limitation.



## GLOBAL HEADQUARTERS

- 3425 East Locust Street  
Davenport, IA 52803

ph: 800.BLAST.IT (800.252.7848)

ph: 563.324.2519

fax: 563.324.6258

## REGIONAL BRANCH OFFICES

- **Iowa**  
Davenport
- **Louisiana**  
Gonzales  
Lafayette
- **Ohio**  
Youngstown
- **Texas**  
Beaumont  
Corpus Christi  
Deer Park



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and Shipping Locations

● Direct Shipping Locations

## CONTACT MARCO

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**(800.252.7848)**

**563.324.2519**

**FAX: 563.324.6258**

**WWW.MARCO.US**

**SALES@MARCO.US**