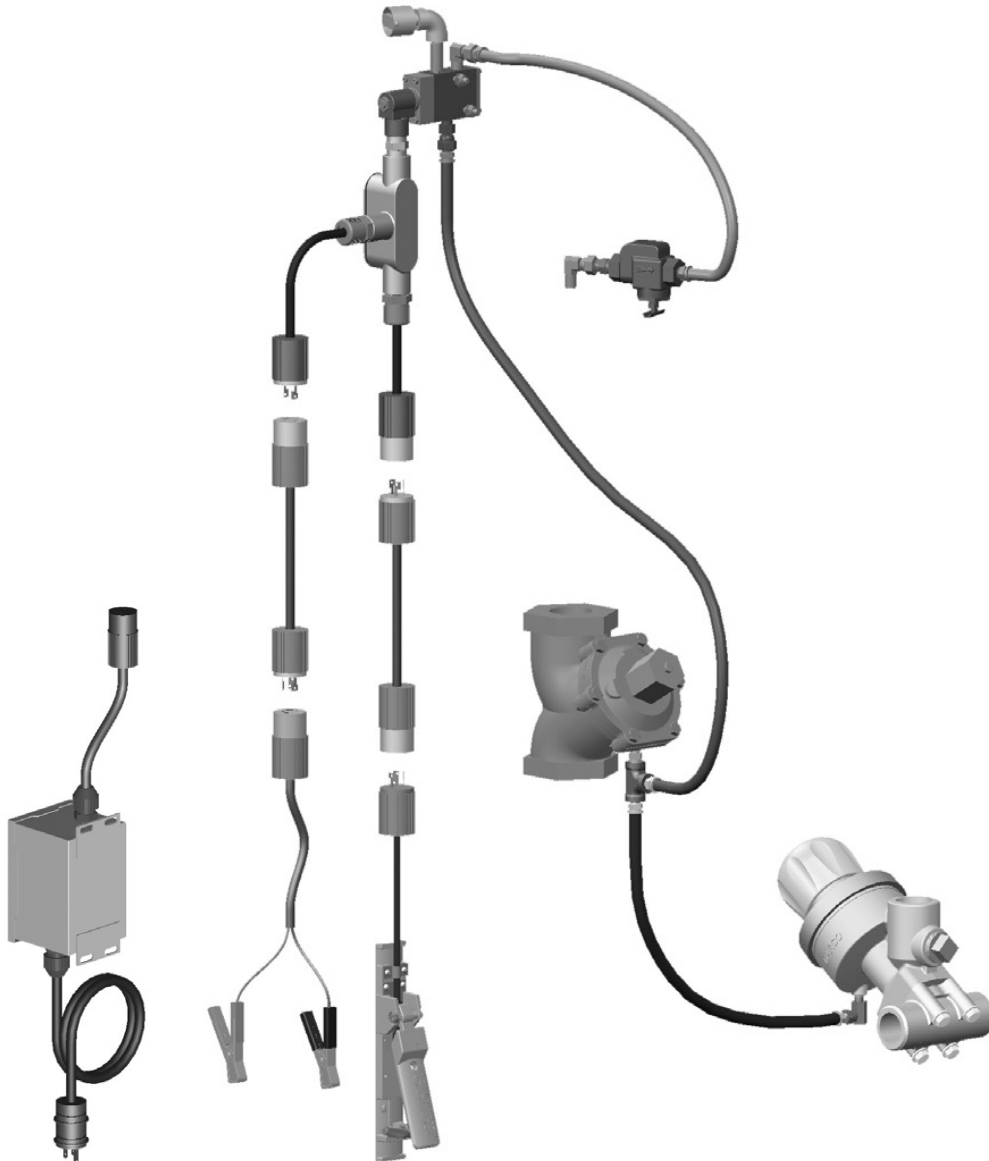


OPERATOR'S MANUAL

BLASTMASTER® 130E REMOTE CONTROL SYSTEM



**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, or contact Marco at 563.324.2519 for replacements. Failure to comply with the above warning could result in death or serious injury.

Marco®

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 Equipment, Coating and Painting Equipment, Engineered Systems, Rental Equipment, Safety Equipment, Service, and Repair.

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 over 45 shipping locations to serve North American and International markets for all major brands of blasting and painting 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 over 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, MSDS information, and Features, Advantages, and Benefits 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 Equipment, Coating and Painting Equipment, Engineered Systems, Rental Equipment, Safety Equipment, Service, and Repair.

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 Policy

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.

TABLE OF CONTENTS

Company Profile	1	12-Volt DC 190 Electric Solenoid	26
Definition of Terms	2	120-Volt AC Blastmaster® 130E Remote Control System—Single Outlet	27
Hazard Identifications	3	120-Volt AC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot—Single Outlet	29
Air & Abrasive Consumption Chart	6	120-Volt AC Blastmaster® 130E Remote Control System—Multiple Outlet	31
Daily Pre-Operation Checklist	8	120-Volt AC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot—Multiple Outlet	33
Operating Instructions	9	12-Volt AC 190 Electric Control Assembly	35
Description	9	12-Volt AC 190 Electric Solenoid	36
Operational Requirements	9	Blastmaster® 120-Volt AC to 12-Volt AC Power Converter	37
Operating Instructions	9	Blastmaster® 1-1/2" NPT High-flow GateKeeper Air Valve	39
Installation	12	Blastmaster® 1-1/2" GateKeeper Air Valves For 3.5 Cu. Ft. Abrasive Blasting Pot	41
Maintenance	13	Limited Warranty	46
Disassemble and Assemble Blastmaster® 190 Electric Remote Control Assembly	15	Disclaimer of Warranty	46
Disassemble and Assemble Electric Solenoid	17	Exclusive Remedy for Warranty Claims	46
Disassemble and Assemble 120-Volt AC to 12-Volt AC Power Converter.	18	Limitation of Remedies	46
Troubleshooting	19		
Assembly Part Numbers & Schematics	21		
12-Volt DC Blastmaster® 130E Remote Control System	21		
12-Volt DC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot	23		
12-Volt DC 190 Electric Control Assembly	25		

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.

HAZARD IDENTIFICATIONS

WARNING

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

- ▶ 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 hang objects from the abrasive blasting pot handle. Doing so may cause the abrasive blasting pot to become unstable and tip over.
- ▶ 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.
- ▶ The use of this product for any purpose other than originally intended or altered from its original design is prohibited.

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.

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.

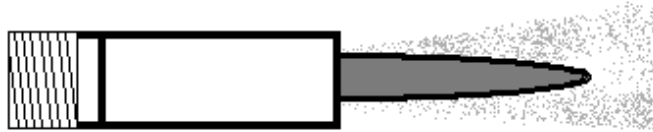
- ▶ See Air & Abrasive Consumption Chart for estimated abrasive consumption rates and required air flow (cubic feet per minute). Your system must meet these minimum requirements to ensure proper function and performance.
- ▶ Always use abrasive that is dry and properly screened. This will reduce the 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.



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*

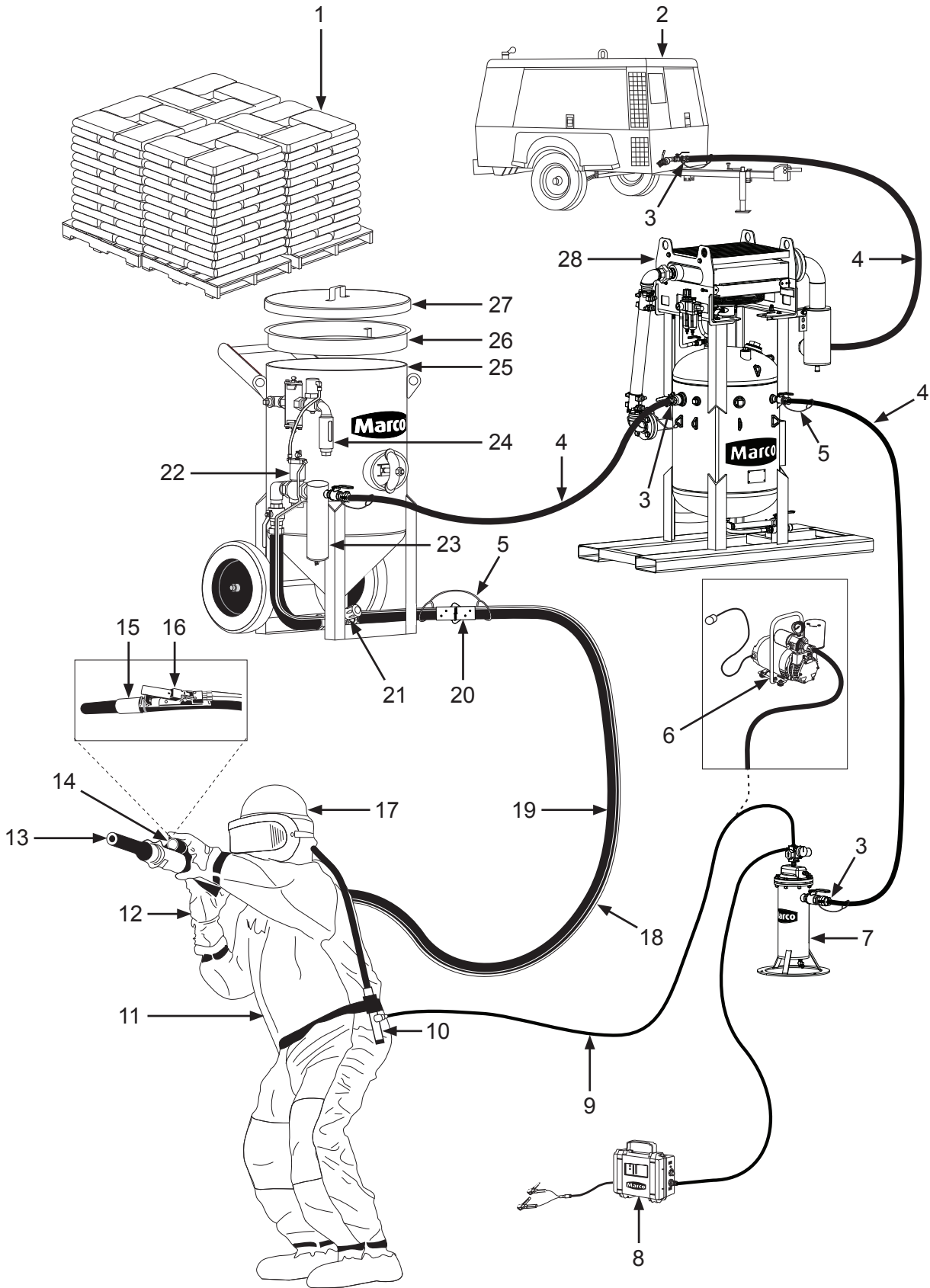
Nozzle Orifice	Pressure at the Nozzle (PSI)								Air (in cfm), Abrasive & Compressor Requirements
	50	60	70	80	90	100	125	140	
No. 2 (1/8")	11 67 2.5	13 77 3	15 88 3.5	17 101 4	18 112 4.5	20 123 5	25 152 5.5	28 170 6.2	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
No. 3 (3/16")	26 150 6	30 171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

OPERATING INSTRUCTIONS

WARNING

Always depressurize the entire blasting 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

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

OSHA requires blast-cleaning 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)

Description

Remote control systems give an operator the ability to remotely activate and deactivate the flow of air and abrasive at the nozzle. Pressure-hold remote control systems are ideal for high production applications where an operator is frequently activating and deactivating the remote control switch during operator repositioning. The pressure-hold remote control system allows the vessel to remain pressurized when the remote control switch is deactivated. This eliminates the time waiting for the vessel to depressurize and pressurize, increasing production rates. The Blastmaster® 130E Remote Control System is a pressure-hold remote control system that uses a electric signal from the remote control switch to remotely activate and deactivate an abrasive blasting pot. Typical applications include blast rooms, blast yards, bridges, oil refineries, pipelines, railcar shops, shipyards, and storage tanks.

Operational Requirements

The following is required for proper installation of a Blastmaster® 130E Remote Control System:

- An abrasive blasting pot with an air inlet of 1" I.D. or greater and a normally-closed air-actuated abrasive metering valve.

The following may cause safety hazards or reduced performance:

- Improper installation and/or maintenance of components.
- Improper air supply pressure (operating pressure: 50–150 PSI).
- Improper electric power supply.
- Use of a normally-open electric solenoid valve.
- Use of a non-air-actuated abrasive metering valve.

Operating Instructions

Before use:

- Inspect components of Blastmaster® 130E Remote Control System for damage and air leaks. Replace or repair any damaged components before use.
- Ensure blast pot is depressurized. See blast pot Operator's Manual for instructions.
- Connect Control Line Connector (4) to Connector (3) of Electric Pilot Valve Assembly (1), and Control Line Connector (5) to Electric Remote Control Switch (6).
- Connect Electrical Cord Connector (10) to Connector (9) of Marco 120-Volt AC to 12-Volt AC Power Converter (8) or Battery Clamp Assembly (7) to Twist-Lock Plug (10) of Blastmaster® 190 Electric Control Assembly (1).
- Connect air supply from compressor to inlet of blast pot.

During use:

- Connect Marco 120-Volt AC to 12-Volt AC Power Converter (8) or Battery Clamp Assembly (7) to power supply.
- Pressurize blast pot. See blast pot Operator's Manual.
- Activate the Electric Remote Control Switch (6). See remote control switch Operator's Manual. The electric signal will open the GateKeeper Air Valve (2) and air-actuated abrasive metering valve and abrasive blasting will begin.

OPERATING INSTRUCTIONS

⚠ WARNING

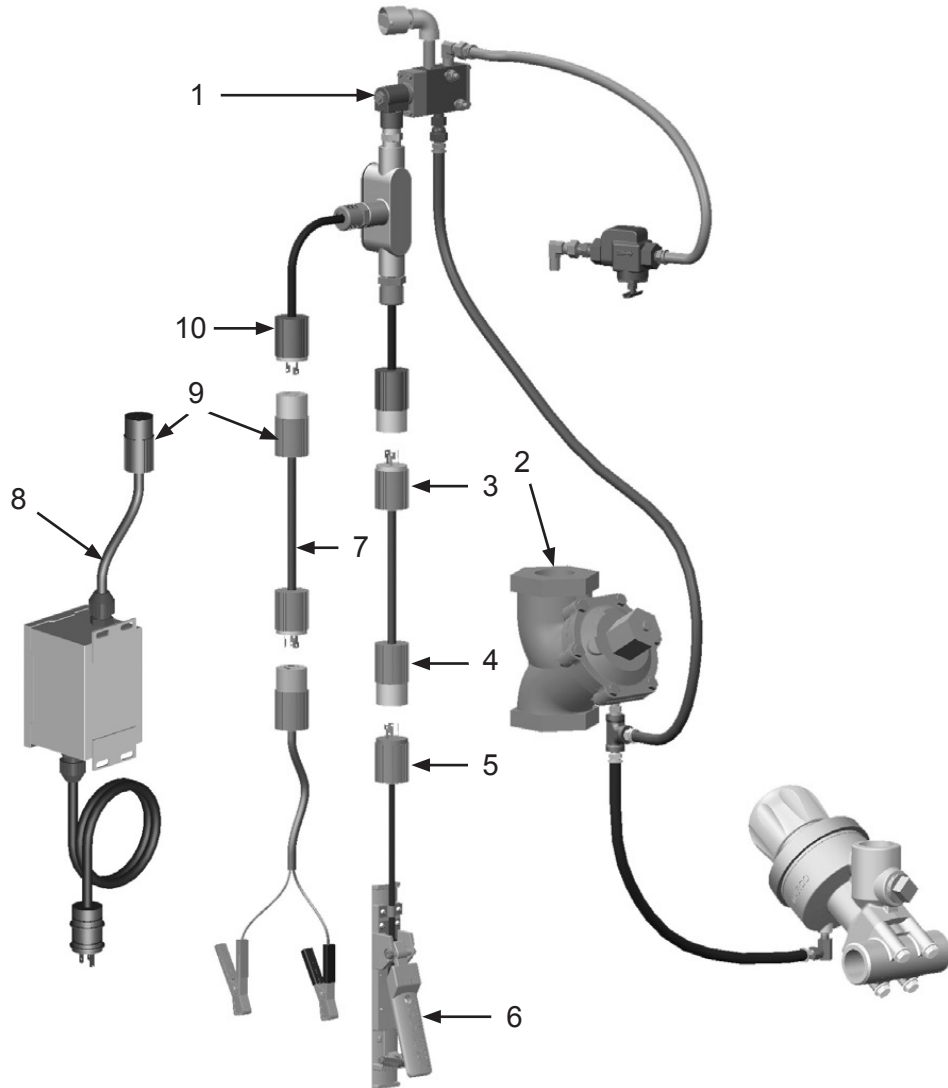
This product is designed for use with a 12-volt DC battery or Marco 120-Volt AC to 12-Volt AC Power Converter only. Use of any other power supply could cause electric shock and/or damage to the product, voiding manufacturer's warranty. Failure to comply with the above warning could result in death or serious injury.

⚠ WARNING

This product is not for use in wet environments. Always use a Ground Fault Interrupter Circuit (GFIC) for all electrical power source connections. Use of this product in wet environments could create a shock or electrocution hazard. Failure to comply with the above warning could result in death or serious injury.

⚠ WARNING

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. Failure to comply with the above warning could result in death or serious injury.



OPERATING INSTRUCTIONS

⚠ WARNING

The Blastmaster® 130 Remote Control System is to be used in conjunction with a normally-closed, air-actuated abrasive metering valve. Failure to comply with the above warning could result in release of high speed abrasive and compressed air resulting in death or serious injury.

⚠ WARNING

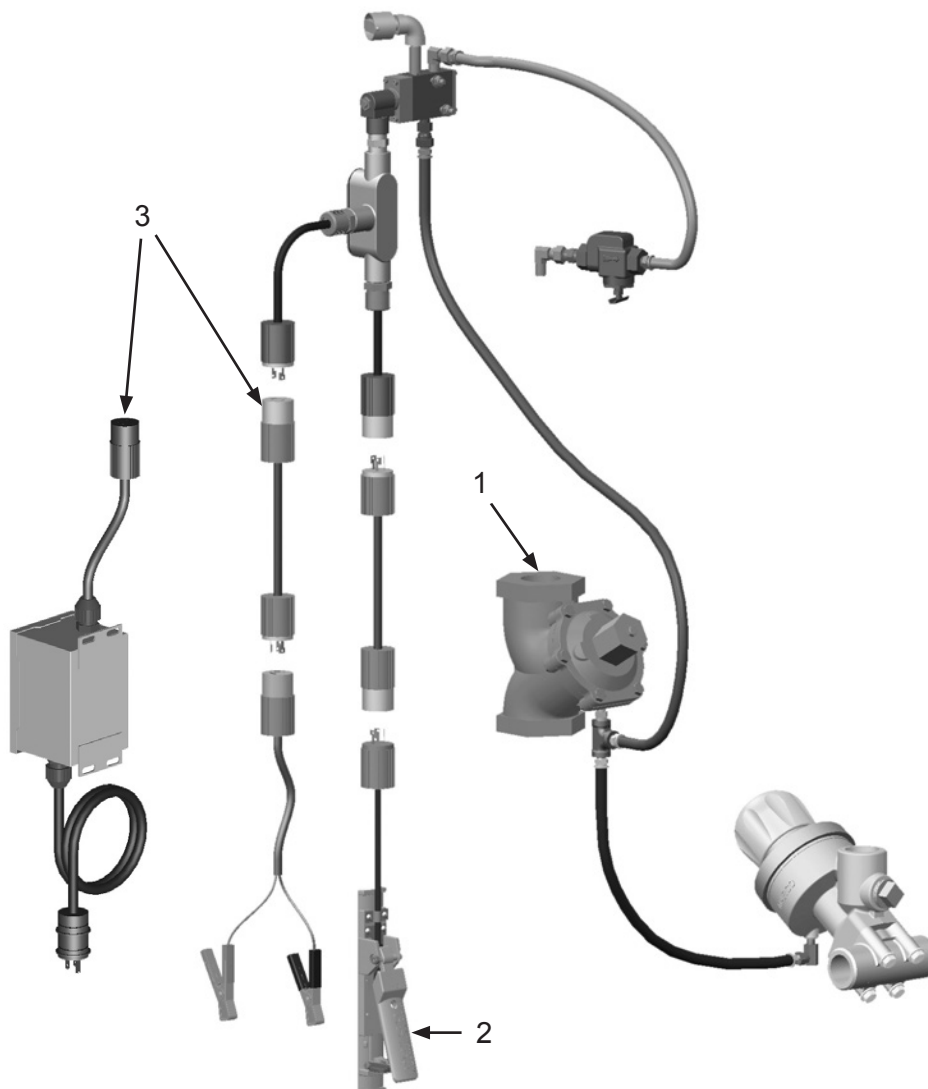
OSHA requires blast-cleaning nozzles be equipped with an operating valve, which shall be designed to be held open only by continuous hand pressure and shall close immediately upon release of hand pressure (i.e., a "deadman" control). The valve shall not be modified in any manner that would allow it to 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)

During Use (continued):

- To stop abrasive blasting, deactivate the Electric Remote Control Switch (2). This will remove the air flow to the GateKeeper Air Valve (1) and air-actuated abrasive metering valve, allowing them to close. The blast pot will remain pressurized.
- To cease complete operation of abrasive blasting, deactivate Electric Remote Control Switch (2).
- Depressurize blast pot. See blast pot Operator's Manual.
- Disconnect remote control system from power source.

After use:

- When abrasive blasting is concluded, inspect components for damage.
- Refer to Electric Remote Control Switch (2) Operator's Manual for instructions for storage.
- Refer to blast pot Operator's Manual for instructions for storage.



INSTALLATION

⚠ WARNING

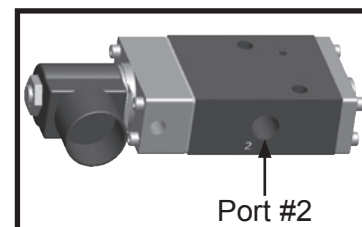
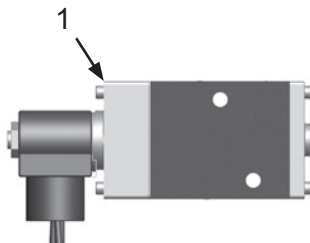
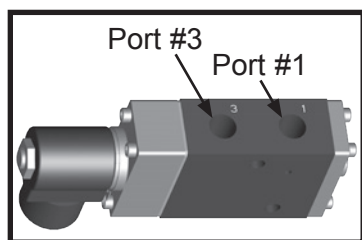
The Blastmaster® 130 Remote Control System is to be used in conjunction with a normally-closed, air-actuated abrasive metering valve. Failure to comply with the above warning could result in release of high speed abrasive and compressed air resulting in death or serious injury.

⚠ WARNING

OSHA requires blast-cleaning 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)

Installation:

- To install the Blastmaster® 130E Remote Control System, see Assembly Part Numbers and Schematics section for your specific system and use it as a guide. Additional plumbing components may be required to install the Blastmaster® 130E Remote Control System on a blast pot. Ensure that abrasive metering valve functions as normally-closed. See abrasive metering valve Operator's Manual for proper installation.
- NOTE: When installing the Electric Solenoid (1), ensure the air source is connected in Port #1 of the Electric Solenoid (1), and the actuating pneumatic control line is connected in Port #2 of the Electric Solenoid (1) and is connected to the GateKeeper Air Valve. Port #3 of the Electric Solenoid (1) is used as an exhaust to release air pressure from the GateKeeper Air Valve.



MAINTENANCE

Disassemble and Assemble GateKeeper Air Valve

WARNING

Always depressurize the entire blasting 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

Never use compressed air to separate or remove internal components during maintenance. Components could be ejected at high speeds. Failure to comply with the above warning could result in death or serious injury.

WARNING

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.

NOTICE

Air flow through the GateKeeper Air Valve is opposite of the directional arrow located on the GateKeeper Body. Ensure the GateKeeper Air Valve is installed with the port labeled AIR INLET closest to the air source.

Maintenance of the GateKeeper Air Valve is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

Disassemble:

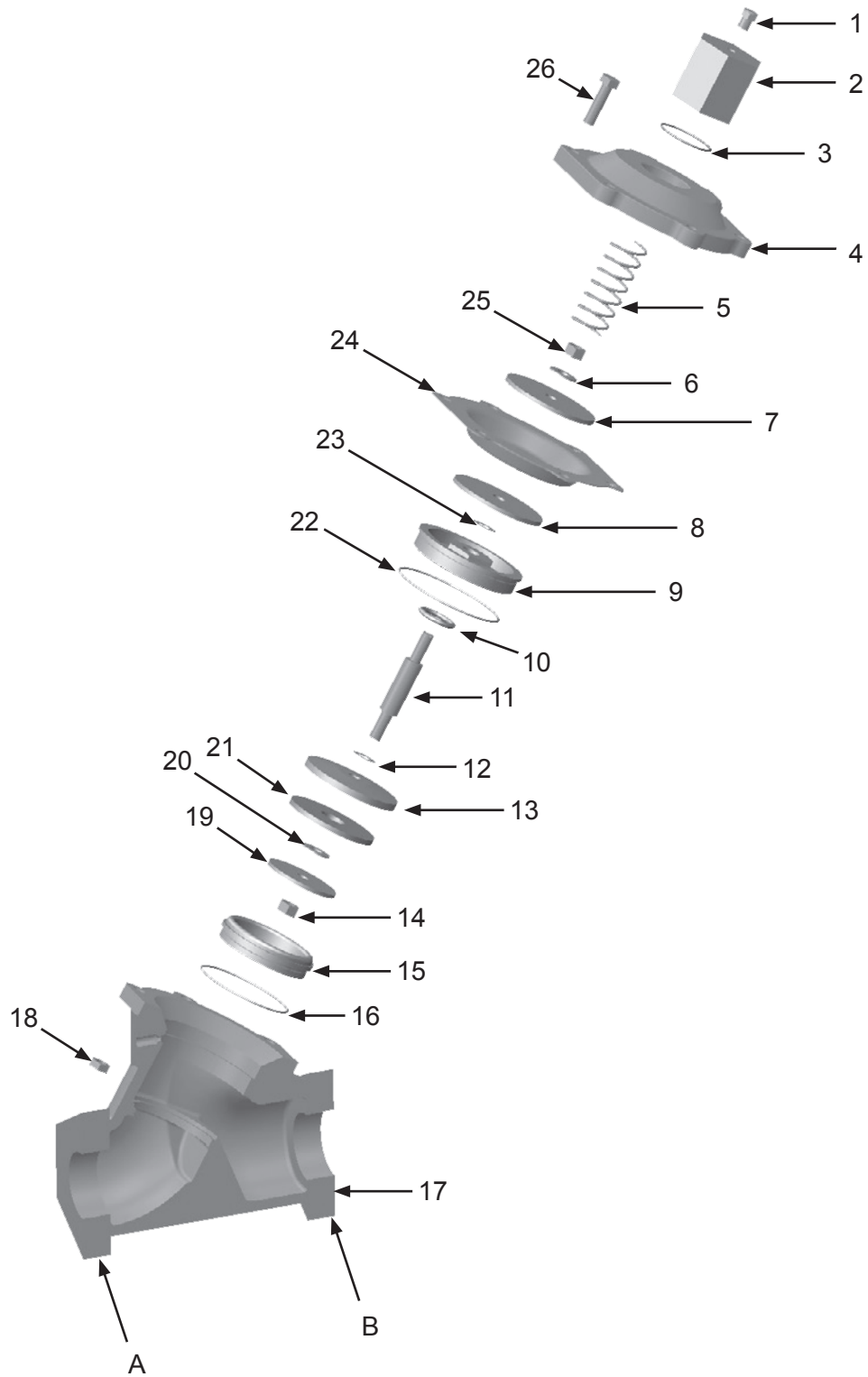
- 1) Remove 1/8" Breather Muffler (1) from Spring Retainer (2).
- 2) Remove Spring Retainer (2) by turning counter-clockwise. There will be tension on the Spring Retainer from Spring (5) as it is removed. Remove Spring Retainer O-ring (3) and Spring.
- 3) Remove four Bolts (26) and Nuts (18).
- 4) Remove Cap (4) from Body (17).
- 5) Grasp Nut (5) and pull up to expose Lock Nut (14) in the inlet chamber of the Body (17). Hold Lock Nut (14) and loosen Nut (5).
- 6) Remove upper Diaphragm Plate (7), Washer (6), Diaphragm (24) lower Diaphragm Plate (8) and Washer (22) from Shaft (11).
- 7) Remove Retainer Bushing (9) using retainer bushing tool (purchased separately). Remove Shaft (11) and Bushing Retainer from Body (17). Remove Shaft from Bushing Retainer (9).
- 8) Remove O-ring (22) from Body (17). Remove Retainer Bushing O-ring (10) from Retainer Bushing (9).
- 9) Remove Lock Nut (14) from Shaft (11). Slide Disc Plate (19) from Shaft. Remove Disc (21), Disc Retainer (13), and Washer (12) from Shaft.
- 10) Using seat tool (purchased separately), remove Seat (15) from Body (17).
- 11) Remove Seat O-ring (16) from Seat (15).

Assemble:

- 1) Place Seat O-ring (16) in Body (17). Install Seat (15) into Body and tighten using seat tool (purchased separately).
- 2) Place Washer (12), upper Disc Retainer (13), Disc (21), and lower Disc Retainer (19) on Shaft (11). Install Lock Nut (14) on Shaft and tighten.
- 3) Insert Retainer Bushing O-ring (10) in Retainer Bushing (9).
- 4) Lubricate Shaft (11) with white lithium grease. Slide Shaft into Retainer Bushing (9).
- 5) Insert O-ring (22) into Body (17).
- 6) Insert assembled Shaft (11) and Retainer Bushing (9) into Body (17). Using retainer bushing tool (purchased separately), tighten Retainer Bushing.
- 7) Install Washer (23) on Shaft (11), place lower Diaphragm Plate (8) on Shaft. Place Diaphragm (24) on Shaft.
- 8) Place upper Diaphragm Plate (7) on Shaft (11). Install Nut (25) on Shaft and tighten.
- 9) Align holes at corners of Diaphragm (24) with holes in Body (17).
- 10) Place Cap (4) on Body (17). Insert Bolts (26) in corner holes of Cap. Install Nut (16) on Bolt. Tighten Nuts in a star pattern.
- 11) Place Spring (5) into hole in Cap (4).
- 12) Place Spring Retainer O-ring (3) over threads of Spring Retainer (2). Install Spring Retainer (2) into Cap (4) and tighten.
- 13) Install 1/8" Breather Muffler (1) into of Spring Retainer (2).
- 14) Place the assembled valve with the arrow located on the body facing to the right. Adhere Air Outlet Sticker on Valve Body (17) at location (A).
- 15) Place the assembled valve with the arrow located on the body facing to the right. Adhere Air Inlet Sticker on Valve Body (17) at location (B).

MAINTENANCE

Disassemble and Assemble GateKeeper Air Valve



MAINTENANCE

Disassemble and Assemble Blastmaster® 190 Electric Remote Control Assembly

WARNING

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

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.

Maintenance of the Blastmaster® 190 Electric Remote Control Assembly is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

Disassemble:

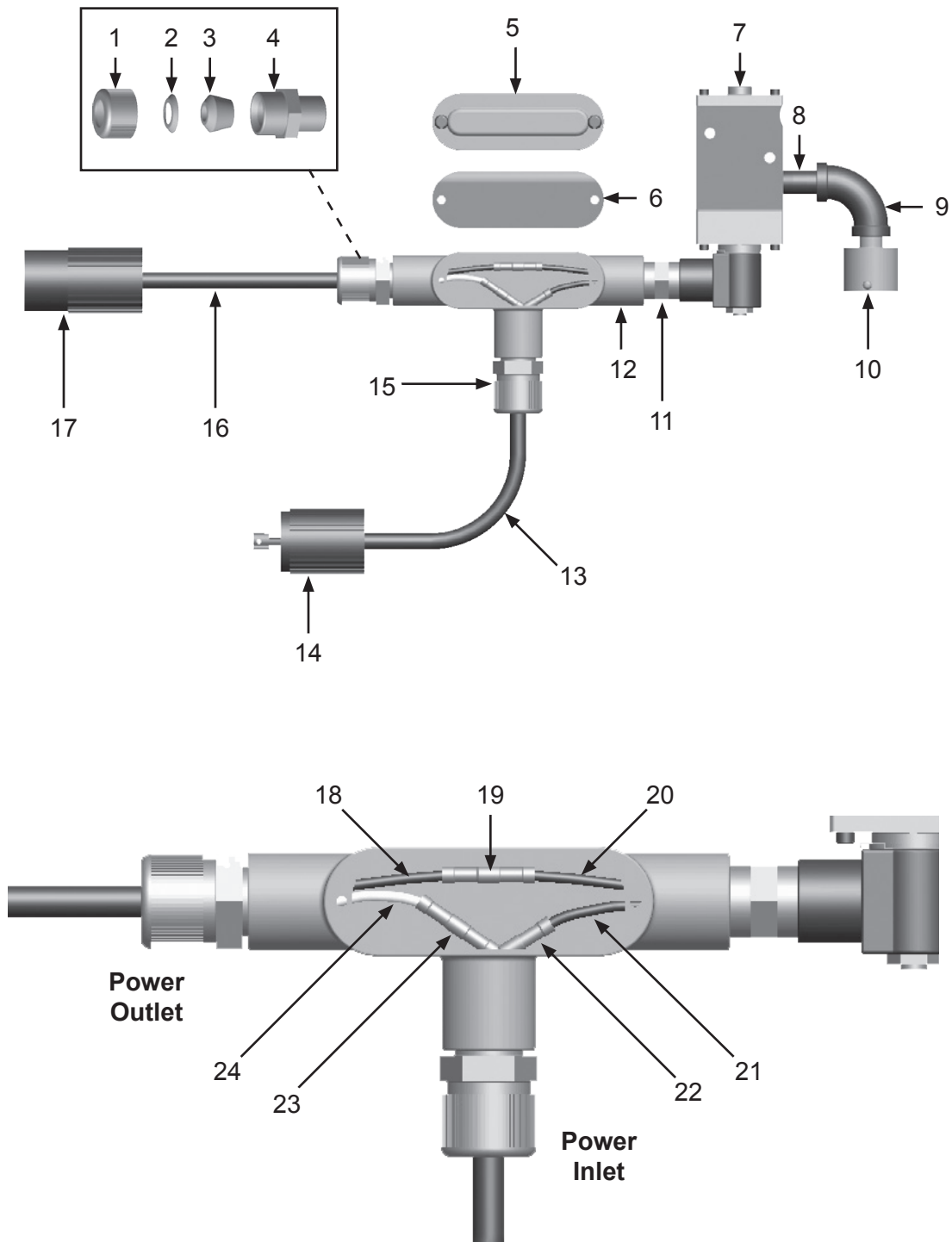
- 1) Remove Female Twist-Lock Plug (17), and Male Twist-Lock Plug (14).
- 2) Remove Dust Eliminator (10), Pipe Elbow (9), and Pipe Nipple (8) from Electric Solenoid (7).
- 3) Remove Cover (5) and Gasket (6).
- 4) Cut Black Wire (18) and Wire (20) and remove Butt Splicer (19).
- 5) Cut White Wire (24), Wire (21), and remove two Butt Splicers (22, 23) from Power Inlet Power Cord (13).
- 6) Remove Threaded Cap (1), Washer (2), Grommet (3), and 1/2" Hex Nipple (4), then remove Power Cord (16) from Conduit Box (12). Repeat for Cord Grip (15) and Power Cord (13).
- 7) Remove Electric Solenoid (7) from 1/2" Hex Nipple (11).
- 8) Remove 1/2" Hex Nipple (11) from Conduit Box (12).

Assemble:

- 1) Cut the green ground wire, of the Electric Solenoid (7), at the base of the Coil Housing and install a Butt Splicer on the wire.
- 2) Insert wires of Pilot Valve Assembly (7), into 1/2" Hex Nipple (11), and tighten Electric Solenoid (7) onto 1/2" Hex Nipple (12).
- 3) Insert two wires through end of Conduit Box (12). Install Conduit Box (12) on 1/2" Hex Nipple (11) and tighten.
- 4) Install Cord Grip Hex Nipple (4) in Conduit Box (12) opposite Electric Solenoid (7).
- 5) Install Grommet (3), Washer (2), and Threaded Cap (1) on Power Cord (16).
- 6) Remove three inches of cover from Power Cord (16) to expose wires. Insert exposed wires through Cord Grip Hex Nipple (4). Repeat for Cord Grip (15) and Power Cord (13).
- 7) Install Butt Splicer (19) on Black Power Outlet Wire (18). Install Pilot Valve Wire (20) in Butt Splicer (19), and crimp wires in place.
- 8) Install Butt Splicer (23) on White Power Outlet Wire (24). Install White Power Inlet Wire in Butt Splicer (23) and crimp wires in place.
- 9) Install Butt Splicer (22) on Pilot Valve Wire (21). Install Black Power Inlet Wire in Butt Splicer (22), and crimp wires in place.
- 10) Install Male Twist-Lock Plug (14) on Power Cord (13).
- 11) Install Female Twist-Lock Plug (17) on Power Cord (16).
- 12) Install Gasket (6), and Cover (5) on Conduit Box (12). Do not overtighten screws.
- 13) Install Pipe Nipple (8), Pipe Elbow (9), and Dust Eliminator (10) on Electric Solenoid (7). Do not overtighten.

MAINTENANCE

Disassemble and Assemble Blastmaster® 190 Electric Remote Control Assembly



MAINTENANCE

Disassemble and Assemble Electric Solenoid

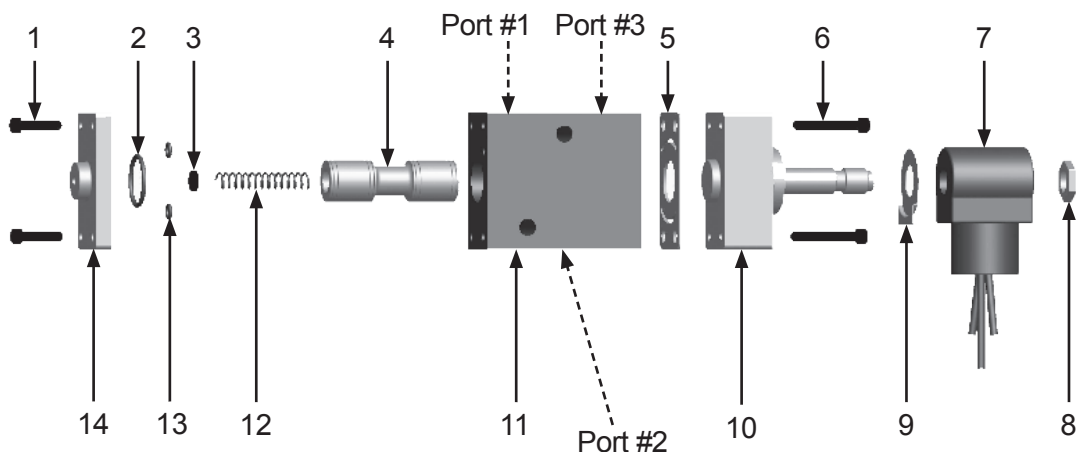
WARNING

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

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.

Maintenance of the Electric Solenoid is limited to the daily cleaning and the immediate replacement of damaged or worn parts.



Disassemble:

- 1) Remove four Screws (1) from End Cap (14). Remove Spring (12) from Valve Body (11).
- 2) Remove large O-ring (2) and two small O-rings (13) from End Cap (14).
- 3) Remove Felt (3) from End Cap (14).
- 4) Remove Nut (8) Slide Coil and Coil Housing (7) from Pilot (10). Remove Coil Washer (9).
- 5) Remove four Screws (6) from Pilot (10). Remove Gasket (5).
- 6) Ease Plunger (4) from Valve Body (11) by pushing Plunger (12) from Pilot (10) end.

Assemble:

- 1) Orient the Valve Body (11) so Port #1 and Port #3 are facing away. Insert Plunger (4) in Valve Body (11) from the left.
- 2) Place Gasket (5) on Valve Body (11) on the right. Place Pilot (10) on Gasket (5).
- 3) Ensure port in side of Pilot (10) is on the same side as Port #2 of Valve Body (11).
- 4) Install four Screws (6) to secure Pilot (10) to Valve Body (11). Do not overtighten.
- 5) Place Coil Washer (9) over stem of Pilot (10). Slide Coil and Coil Housing (7) onto stem of Pilot (10). Install Nut (8) on stem of Pilot (10). Do not overtighten.
- 6) Place two small O-rings (13), large O-ring (2), and Felt (3) in End Cap (14).
- 7) Insert Spring (12) in Valve Body (11). Place End Cap (14) on Spring (12) and compress Spring (12) until End Cap (14) meets Valve Body (11).
- 8) Install four Screws (1) in End Cap (14). Do not overtighten.

MAINTENANCE

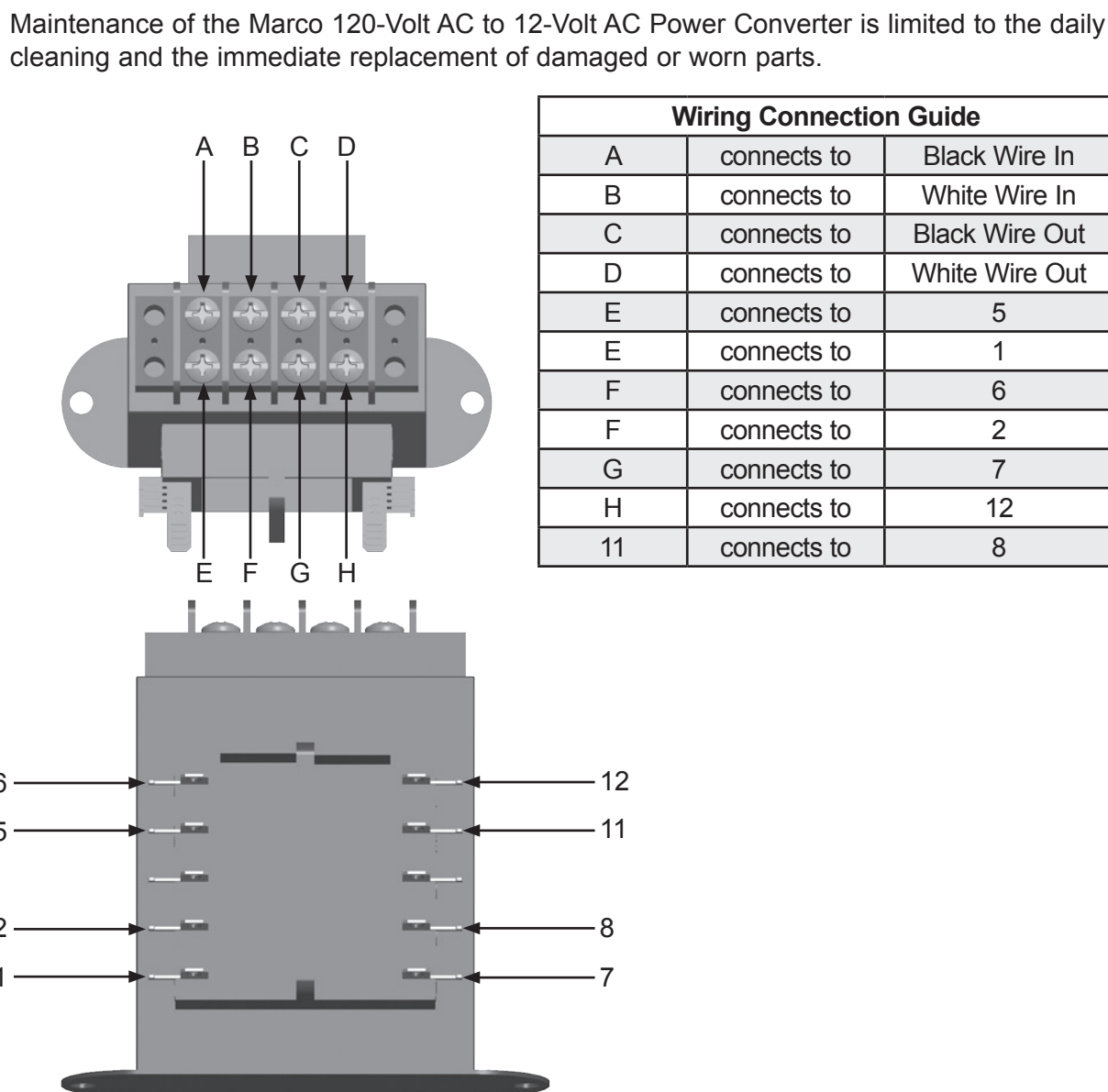
Disassemble and Assemble 120-Volt AC to 12-Volt AC Power Converter

WARNING

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

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.



Disassemble:

- 1) Disconnect power source from power converter.
- 2) Loosen four screws on cover of power converter enclosure and remove cover.
- 3) Remove two nuts securing transformer to enclosure, and remove transformer.
- 4) Disconnect and retain wires from transformer.

Assemble:

- 1) Connect retained wires to transformer using the Wiring Connection Guide.
- 2) Install transformer in enclosure, and secure it using two nuts.
- 3) Install cover on power converter enclosure and tighten four screws.

TROUBLESHOOTING

WARNING

Always depressurize the entire blasting 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

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. Failure to comply with the above warning could result in death or serious injury.

WARNING

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. Failure to comply with the above warning could result in death or serious injury.

If the Blastmaster® 130E Remote Control System does not function properly, check the following:

SYMPTOM (Cause)

ACTION

Air and abrasive does not exit the Abrasive Blasting Nozzle

(Blast pot, Blockages, Control Lines, Solenoid, Remote Control Switch)

Blast pot is not pressurized. See blast pot Operator's Manual for instructions.

Insufficient air supply. Ensure minimum of 50 PSI is supplied to blast pot and sufficient air volume to support abrasive blasting nozzle.

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

Inspect solenoid for damage. Repair or replace as necessary.

See blast pot Operator's Manual.

See remote control switch Operator's Manual.

Only air exits Abrasive Blasting Nozzle

(Control Lines, Abrasive Metering Valve)

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

See abrasive metering valve Operator's Manual.

Only abrasive exits Abrasive Blasting Nozzle

(Control Lines, Choke Valve, Damaged GateKeeper Air Valve)

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

Inspect GateKeeper Air Valve for damaged components. Replace damaged components.

Ensure choke valve of blast pot is in the OPEN position. See blast pot Operator's Manual.

TROUBLESHOOTING

⚠ WARNING

Always depressurize the entire blasting 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

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. Failure to comply with the above warning could result in death or serious injury.

NOTICE

Air flow through the GateKeeper Air Valve is opposite of the directional arrow located on the GateKeeper Body. Ensure the GateKeeper Air Valve is installed with the port labeled AIR INLET closest to the air source.

SYMPTOM (Cause)

Air and abrasive exit Abrasive Blasting Nozzle when Remote Control Switch is in OFF position

(Control Lines, Remote Control Switch, Pilot Valve)

Air exits Abrasive Blasting Nozzle when Remote Control Switch is in OFF position

(Control Lines, Damaged GateKeeper Air Valve)

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

(Control Lines, Damaged Abrasive Metering Valve, Remote Control Switch)

ACTION

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

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 GateKeeper Air Valve.

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

Inspect abrasive metering valve for damaged components. Refer to abrasive metering valve Operator's Manual.

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

See remote control switch Operator's Manual.

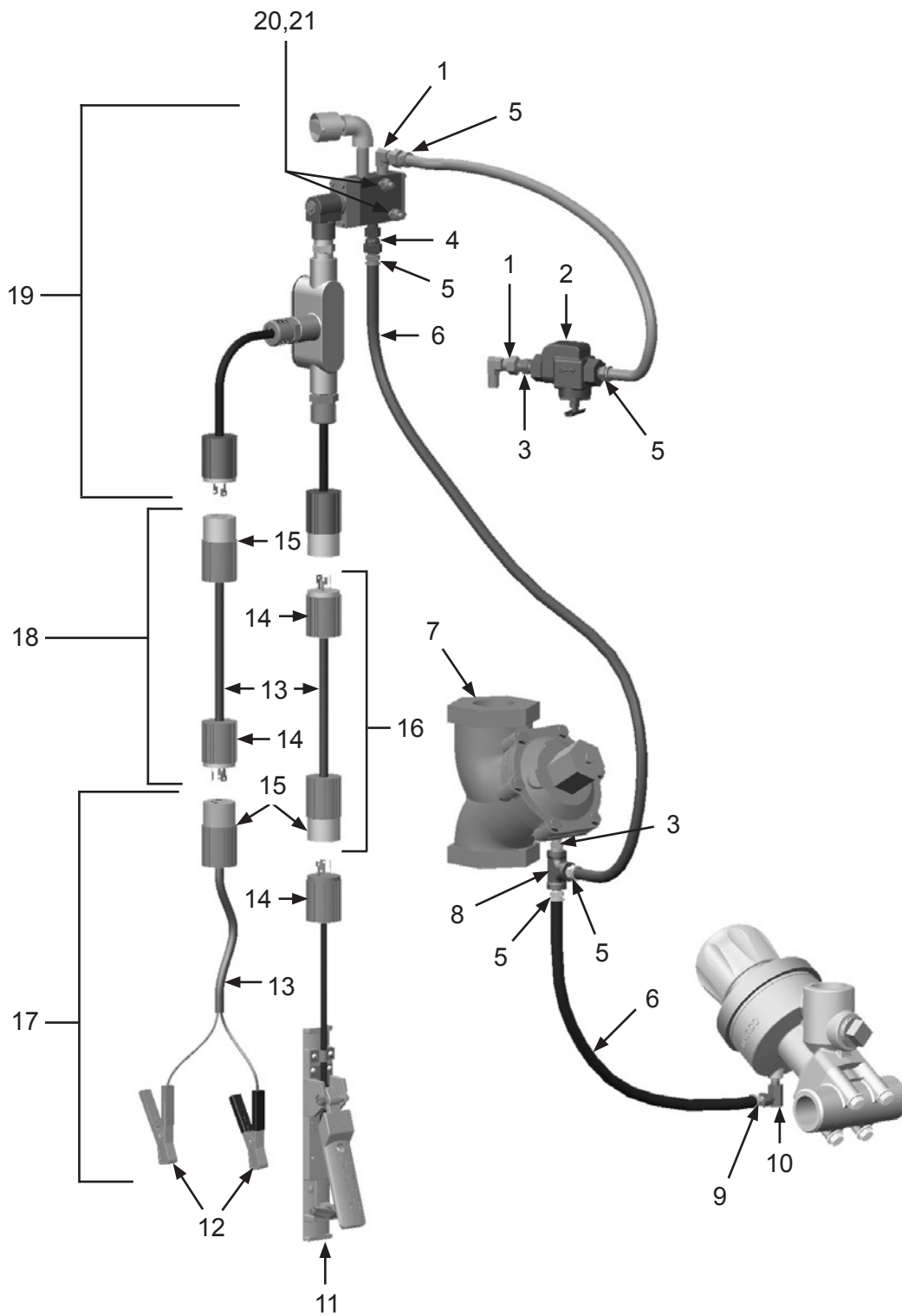
ASSEMBLY PART NUMBERS & SCHEMATICS

12-Volt DC Blastmaster® 130E Remote Control System

Item #	Part #	Description
Fig. 1		
—	10103835	12-Volt DC Blastmaster® 130E Remote Control System – Complete
1	1012326	1/4" NPT Swivel 90° Fitting <i>(Two Required)</i>
2	10WS	Watts Strainer
3	1017019	1/4" NPT Hex Nipple <i>(Two Required)</i>
4	10SME025	1/4" Straight Swivel
5	10PAF025	1/4" NPT x 1/4" Barb Push-On Hose Fitting <i>(Five Required)</i>
6	10AH025	1/4" Push-On Air Hose <i>(Per Foot)</i>
7	1013600	1-1/2" NPT High-flow GateKeeper Air Valve <i>(See Figure 12)</i>
8	1011844	1/4" NPT Pipe Tee
9	10PAF0125	1/8" NPT x 1/4" Barb Push-On Air Hose Fitting
10	1014239	1/8" 90° Swivel Fitting
11	1015100	Blastmaster® 151E Remote Control Switch
12	1030718	Battery Clamps – pair
13	1015540	16/2 SJ Power Cord <i>(Per Foot)</i>
14	1015555	3-prong Twist-Lock Plug – Male
15	1015556	3-prong Twist-Lock Plug – Female
16	1015545	50' of 16/2 SJ Power Cord with 3-prong Twist-Lock Plugs <i>(Includes Item #'s: 15, 16, and 14 (Quantity of 50 Feet))</i>
17	1015544	Battery Clamp Kit with 3-prong Twist-Lock Plug Installed <i>(Includes Item #'s: 13, 16, and 14 (Quantity of Two Feet))</i>
18	1015546	16/2 SJ Power Cord with 3-prong Twist-Lock Plugs Installed <i>(Includes Item #'s: 15, 16, and 14 (Quantity of 25 Feet))</i>
19	1019051	12-Volt DC 190 Electric Control Assembly <i>(See Figure 3)</i>
20	1019044	1/4"-20 x 1-3/4" Zinc Bolt <i>(Two Required)</i>
21	1012323	1/4"-20 Zinc Lock Nut with Nylon <i>(Two Required)</i>
—	1091045	Hazard Identification Tag
—	105M063	Features and Specifications Guide – Blastmaster® 151E Remote Control Switch
—	105M087	Features and Specifications Guide – Blastmaster® 130E Remote Control System
—	106M063	Part Numbers and Schematics Guide – Blastmaster® 151E Remote Control Switches
—	106M087	Part Numbers and Schematics Guide – Blastmaster® 130E Remote Control System
—	1090063	Operator's Manual – Blastmaster® 151E Remote Control Switches
—	1090087	Operator's Manual – Blastmaster® 130E Remote Control System

SCHEMATIC

Figure 1: 12-Volt DC Blastmaster® 130E Remote Control System



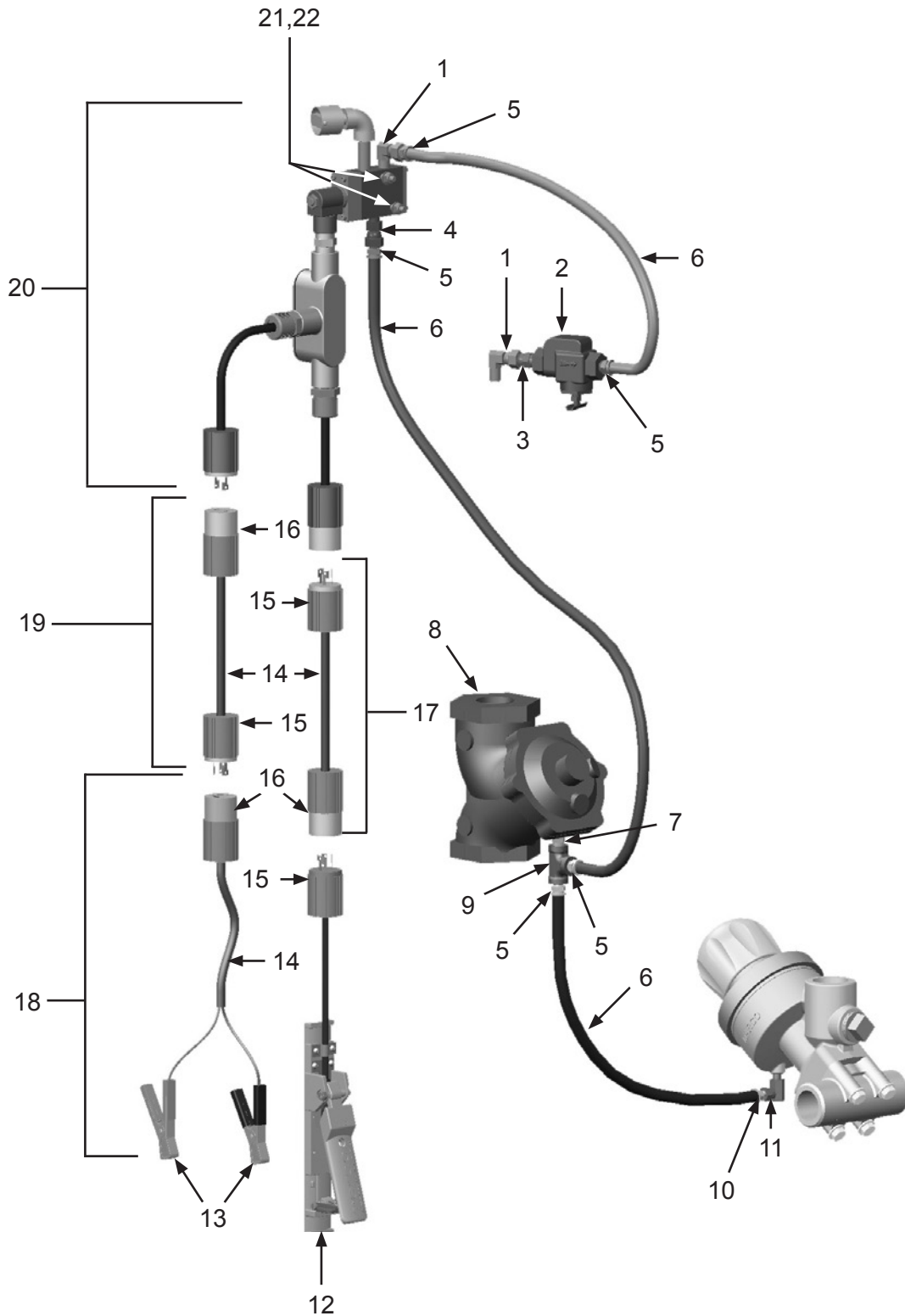
ASSEMBLY PART NUMBERS & SCHEMATICS

12-Volt DC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot

Item #	Part #	Description
Fig. 2		
—	10105798	12-Volt DC Blastmaster® 130E Remote Control System – Complete
1	1012326	1/4" NPT Swivel 90° Fitting <i>(Two Required)</i>
2	10WS	Watts Strainer
3	1017019	1/4" NPT Hex Nipple
4	10SME025	1/4" Straight Swivel
5	10PAF025	1/4" NPT x 1/4" Barb Push-On Hose Fitting <i>(Five Required)</i>
6	10AH025	1/4" Push-On Air Hose <i>(Per Foot)</i>
7	10PVFIT1	1/4" x 1/8" Hex Union
8	1013200	1-1/2" NPT GateKeeper Air Valve <i>(See Figure 13)</i>
9	1011844	1/4" NPT Pipe Tee
10	10PAF0125	1/8" NPT x 1/4" Barb Push-On Air Hose Fitting
11	1014239	1/8" 90° Swivel Fitting
12	1015100	Blastmaster® 151E Remote Control Switch
13	1030718	Battery Clamps – pair
14	1015540	16/2 SJ Power Cord <i>(Per Foot)</i>
15	1015555	3-prong Twist-Lock Plug – Male
16	1015556	3-prong Twist-Lock Plug – Female
17	1015545	50' of 16/2 SJ Power Cord with 3-prong Twist-Lock Plugs <i>(Includes Item #'s: 15, 16, and 14 (Quantity of 50 Feet))</i>
18	1015544	Battery Clamp Kit with 3-prong Twist-Lock Plug Installed <i>(Includes Item #'s: 13, 16, and 14 (Quantity of Two Feet))</i>
19	1015546	16/2 SJ Power Cord with 3-prong Twist-Lock Plugs Installed <i>(Includes Item #'s: 15, 16, and 14 (Quantity of 25 Feet))</i>
20	1019051	12-Volt DC 190 Electric Control Assembly <i>(See Figure 3)</i>
21	1019044	1/4"-20 x 1-3/4" Zinc Bolt <i>(Two Required)</i>
22	1012323	1/4"-20 Zinc Lock Nut with Nylon <i>(Two Required)</i>
—	1091045	Hazard Identification Tag
—	105M063	Features and Specifications Guide – Blastmaster® 151E Remote Control Switch
—	105M087	Features and Specifications Guide – Blastmaster® 130E Remote Control System
—	106M063	Part Numbers and Schematics Guide – Blastmaster® 151E Remote Control Switches
—	106M087	Part Numbers and Schematics Guide – Blastmaster® 130E Remote Control System
—	1090063	Operator's Manual – Blastmaster® 151E Remote Control Switches
—	1090087	Operator's Manual – Blastmaster® 130E Remote Control System

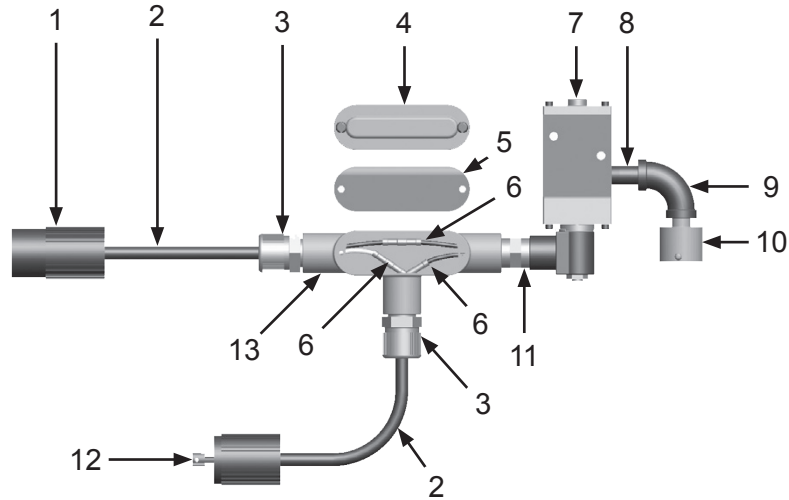
SCHEMATIC

Figure 2: 12-Volt DC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot



ASSEMBLY PART NUMBERS & SCHEMATIC

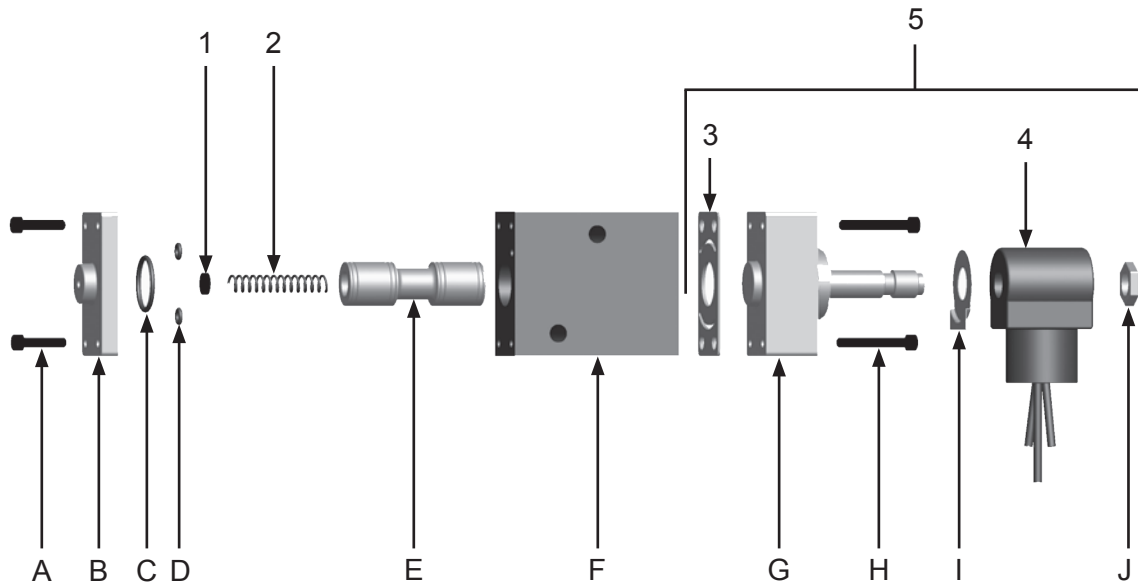
Figure 3: 12-Volt DC 190 Electric Control Assembly



Item #	Part #	Description
Fig. 3		
—	1019051	12-Volt DC 190 Electric Control Assembly – Complete
1	1015556	3-Prong Twist-Lock Plug – Female
2	1015540	16/2 SJ Power Cord – Per Foot
3	1019021	Cord Grip (<i>Two Required</i>)
4	1019022	Conduit Box Cover
5	1019023	Conduit Box Cover Gasket
6	1030028	Butt Splicer (<i>Four Required</i>)
7	1019010	12-Volt DC Electric Solenoid – Complete
8	1011217	1/4" x 2" Pipe Nipple
9	1011832	1/4" NPT 90° Pipe Nipple
10	10DE025	Dust Eliminator
11	20100677	1/2" x 1/2" NPT Hex Nipple
12	1015555	3-Prong Twist-Lock Plug – Male
13	1019020	1/2" Tee Conduit Box

ASSEMBLY PART NUMBERS & SCHEMATIC

Figure 4: 12-Volt DC 190 Electric Solenoid



Item #	Part #	Description
—	1019010	12-Volt DC 190 Electric Solenoid — Normally-closed — Complete
1	1019029	Felt Filter
2	1019032	Spring
3	1019033	Gasket
4	1019039	12-Volt DC Coil
5	1019034	12-Volt DC Operator Assembly <i>(Includes Items: #3, #4, G, H, I, and J)</i>
—	1019030	Electric Solenoid Repair Kit <i>(Includes Items: #1, #2, #3, C, D, and E)</i>

* Items A–J are not available individually

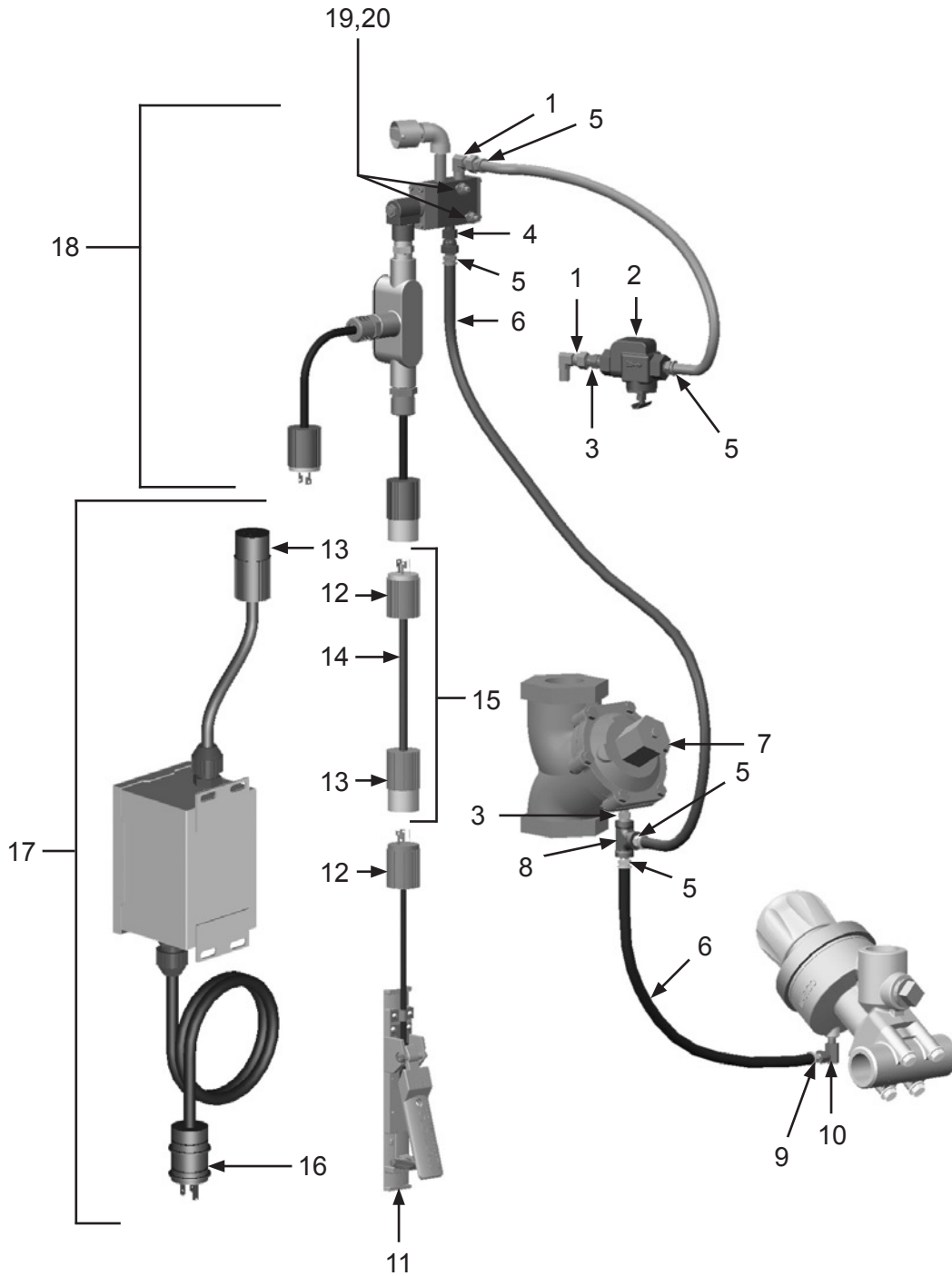
ASSEMBLY PART NUMBERS

120-Volt AC Blastmaster® 130E Remote Control System—Single Outlet

Item #	Part #	Description
Fig. 5		
—	10103836	120-Volt AC Blastmaster® 130E Remote Control System – Single Outlet Complete
1	1012326	1/4" NPT Swivel 90° Fitting (<i>Two Required</i>)
2	10WS	Watts Strainer
3	1017019	1/4" NPT Hex Nipple (<i>Two Required</i>)
4	10SME025	1/4" Straight Swivel
5	10PAF025	1/4" NPT x 1/4" Barb Push-On Hose Fitting (<i>Five Required</i>)
6	10AH025	1/4" Push-On Air Hose (<i>Per Foot</i>)
7	1013600	1-1/2" NPT High-flow GateKeeper Air Valve (<i>See Figure 12</i>)
8	1011844	1/4" NPT Pipe Tee
9	10PAF0125	1/8" NPT x 1/4" Barb Push-On Air Hose Fitting
10	1014239	1/8" 90° Swivel Fitting
11	1015100	Blastmaster® 151E Remote Control Switch
12	1015555	3-Prong Twist-Lock Plug – Male (<i>Two Required</i>)
13	1015556	3-Prong Twist-Lock Plug – Female
14	1015540	16/2 SO Power Cord (<i>Per Foot</i>)
15	1015545	50' of 16/2 SJ Power Cord with 3-prong Twist-Lock Plugs Installed (<i>Includes Item #'s: 13, 14, and 15 (Quantity of 50 Feet)</i>)
16	1030026	120-Volt 3-prong Standard Male Plug
17	10100713	3 Amp 120-Volt AC to 12-Volt AC Power Converter (<i>Includes Item #'s: 14 and 17</i>)
18	1019052	12-Volt DC 190 Electric Control Assembly (<i>See Figure 3</i>)
19	1019044	1/4"-20 x 1-3/4" Zinc Bolt (<i>Two Required</i>)
20	1012323	1/4"-20 Zinc Lock Nut with Nylon (<i>Two Required</i>)
—	1091045	Hazard Identification Tag
—	105M063	Features and Specifications Guide – Blastmaster® 151E Remote Control Switch
—	105M087	Features and Specifications Guide – Blastmaster® 130E Remote Control System
—	106M063	Part Numbers and Schematics Guide – Blastmaster® 151E Remote Control Switches
—	106M087	Part Numbers and Schematics Guide – Blastmaster® 130E Remote Control System
—	1090063	Operator's Manual – Blastmaster® 151E Remote Control Switches
—	1090087	Operator's Manual – Blastmaster® 130E Remote Control System

SCHEMATIC

Figure 5: 120-Volt AC Blastmaster® 130E Remote Control System—Single Outlet



ASSEMBLY PART NUMBERS

120-Volt AC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot—Single Outlet

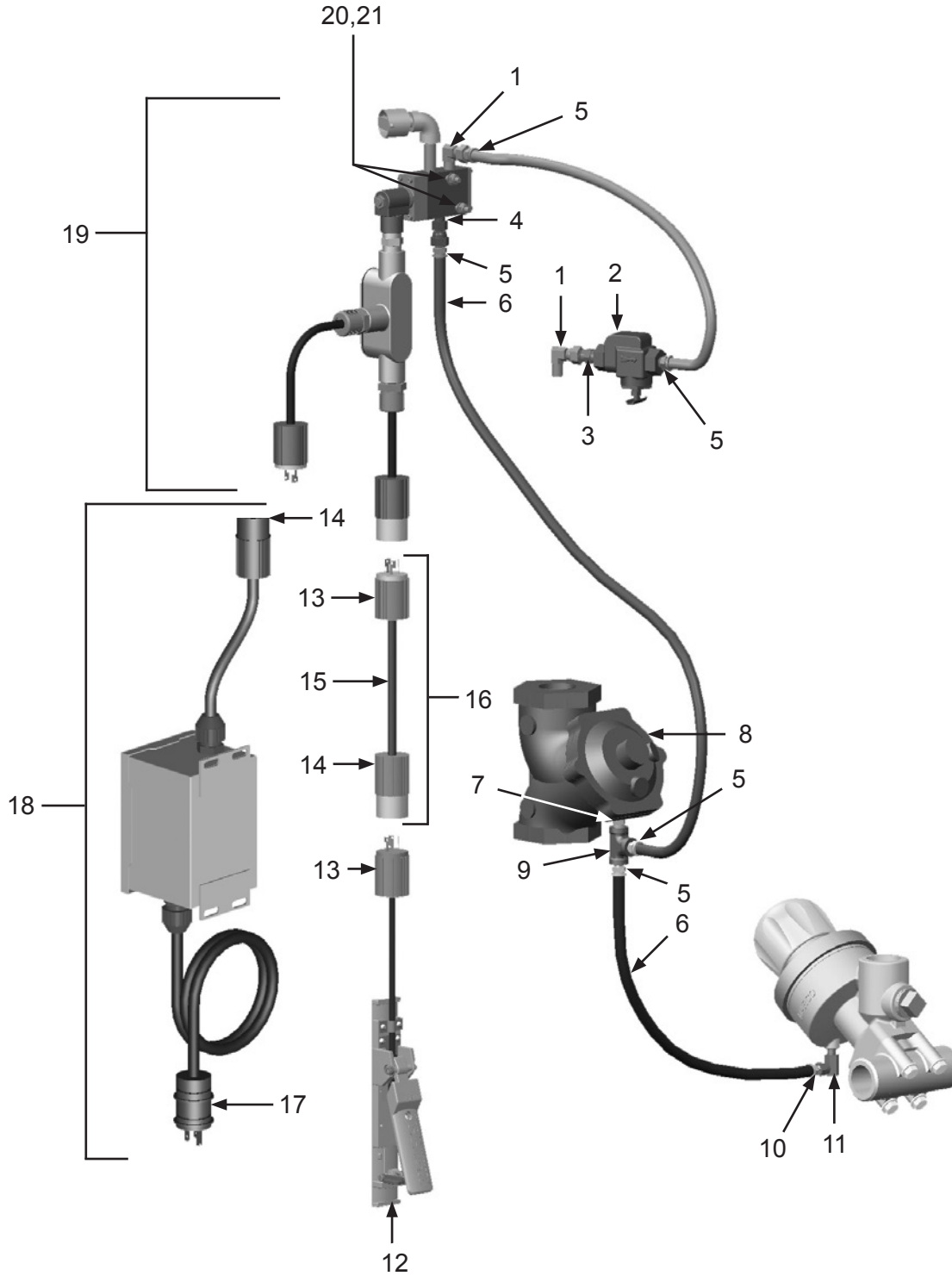
Item # Part # Description

Fig. 6

—	10105799	120-Volt AC Blastmaster® 130E Remote Control System – Single Outlet Complete
1	1012326	1/4" NPT Swivel 90° Fitting (<i>Two Required</i>)
2	10WS	Watts Strainer
3	1017019	1/4" NPT Hex Nipple
4	10SME025	1/4" Straight Swivel
5	10PAF025	1/4" NPT x 1/4" Barb Push-On Hose Fitting (<i>Five Required</i>)
6	10AH025	1/4" Push-On Air Hose (<i>Per Foot</i>)
7	10PVFIT1	1/4" x 1/8" Hex Union
8	1013200	1-1/2" NPT GateKeeper Air Valve (<i>See Figure 13</i>)
9	1011844	1/4" NPT Pipe Tee
10	10PAF0125	1/8" NPT x 1/4" Barb Push-On Air Hose Fitting
11	1014239	1/8" 90° Swivel Fitting
12	1015100	Blastmaster® 151E Remote Control Switch
13	1015555	3-Prong Twist-Lock Plug – Male (<i>Two Required</i>)
14	1015556	3-Prong Twist-Lock Plug – Female
15	1015540	16/2 SO Power Cord (<i>Per Foot</i>)
16	1015545	50' of 16/2 SJ Power Cord with 3-prong Twist-Lock Plugs Installed (<i>Includes Item #'s: 13,14, and 15 (Quantity of 50 Feet)</i>)
17	1030026	120-Volt 3-prong Standard Male Plug
18	10100713	3 Amp 120-Volt AC to 12-Volt AC Power Converter (<i>Includes Item #'s: 14 and 17</i>)
19	1019052	12-Volt DC 190 Electric Control Assembly (<i>See Figure 3</i>)
20	1019044	1/4"-20 x 1-3/4" Zinc Bolt (<i>Two Required</i>)
21	1012323	1/4"-20 Zinc Lock Nut with Nylon (<i>Two Required</i>)
—	1091045	Hazard Identification Tag
—	105M063	Features and Specifications Guide – Blastmaster® 151E Remote Control Switch
—	105M087	Features and Specifications Guide – Blastmaster® 130E Remote Control System
—	106M063	Part Numbers and Schematics Guide – Blastmaster® 151E Remote Control Switches
—	106M087	Part Numbers and Schematics Guide – Blastmaster® 130E Remote Control System
—	1090063	Operator's Manual – Blastmaster® 151E Remote Control Switches
—	1090087	Operator's Manual – Blastmaster® 130E Remote Control System

SCHEMATIC

Figure 6: 120-Volt AC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot—Single Outlet



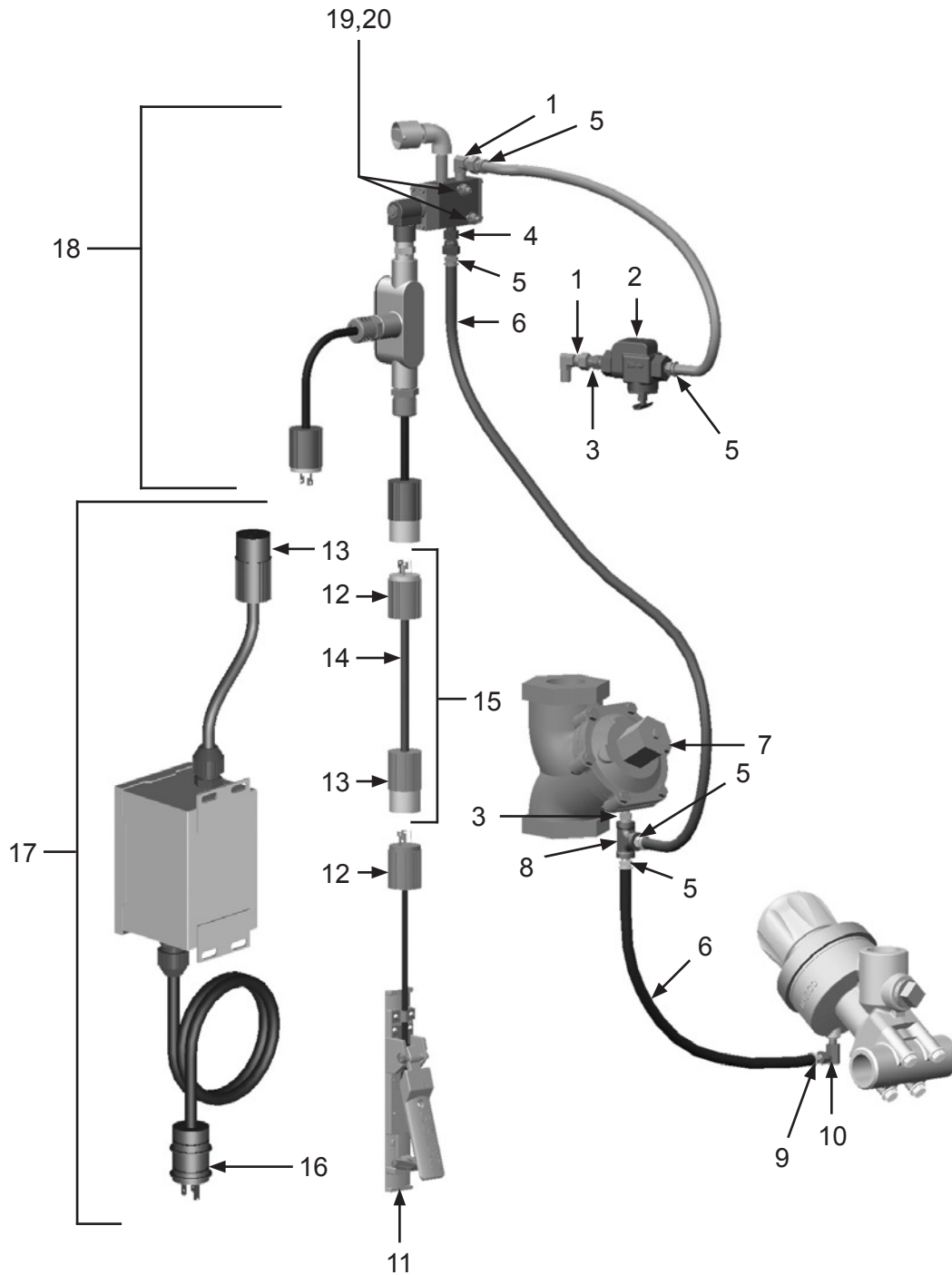
ASSEMBLY PART NUMBERS

120-Volt AC Blastmaster® 130E Remote Control System—Multiple Outlet

Item #	Part #	Description
Fig. 7		
—	10103870	120-Volt AC Blastmaster® 130E Remote Control System – 2-Outlet Complete
—	10103871	120-Volt AC Blastmaster® 130E Remote Control System – 3-Outlet Complete
—	10103872	120-Volt AC Blastmaster® 130E Remote Control System – 4-Outlet Complete
1	1012326	1/4" NPT Swivel 90° Fitting (<i>Two Required</i>)
2	10WS	Watts Strainer
3	1017019	1/4" NPT Hex Nipple (<i>Two Required</i>)
4	10SME025	1/4" Straight Swivel
5	10PAF025	1/4" NPT x 1/4" Barb Push-On Hose Fitting (<i>Five Required</i>)
6	10AH025	1/4" Push-On Air Hose (<i>Per Foot</i>)
7	1013600	1-1/2" NPT High-flow GateKeeper Air Valve (<i>See Figure 12</i>)
8	1011844	1/4" NPT Pipe Tee
9	10PAF0125	1/8" NPT x 1/4" Barb Push-On Air Hose Fitting
10	1014239	1/8" 90° Swivel Fitting
11	1015100	Blastmaster® 151E Remote Control Switch
12	1015555	3-Prong Twist-Lock Plug – Male (<i>Two Required</i>)
13	1015556	3-Prong Twist-Lock Plug – Female
14	1015540	16/2 SO Power Cord (<i>Per Foot</i>)
15	1015545	50' of 16/2 SJ Power Cord with 3-prong Twist-Lock Plugs Installed (<i>Includes Item #'s: 13, 14, and 15 (Quantity of 50 Feet)</i>)
16	1030026	120-Volt 3-prong Standard Male Plug
17	10100713	3 Amp 120-Volt AC to 12-Volt AC Power Converter (<i>Includes Item #'s: 14 and 17</i>)
18	1019052	12-Volt DC 190 Electric Control Assembly (<i>See Figure 3</i>)
19	1019044	1/4"-20 x 1-3/4" Zinc Bolt (<i>Two Required</i>)
20	1012323	1/4"-20 Zinc Lock Nut with Nylon (<i>Two Required</i>)
—	1091045	Hazard Identification Tag
—	105M063	Features and Specifications Guide – Blastmaster® 151E Remote Control Switch
—	105M087	Features and Specifications Guide – Blastmaster® 130E Remote Control System
—	106M063	Part Numbers and Schematics Guide – Blastmaster® 151E Remote Control Switches
—	106M087	Part Numbers and Schematics Guide – Blastmaster® 130E Remote Control System
—	1090063	Operator's Manual – Blastmaster® 151E Remote Control Switches
—	1090087	Operator's Manual – Blastmaster® 130E Remote Control System

SCHEMATIC

Figure 7: 120-Volt AC Blastmaster® 130E Remote Control System—Multiple Outlet



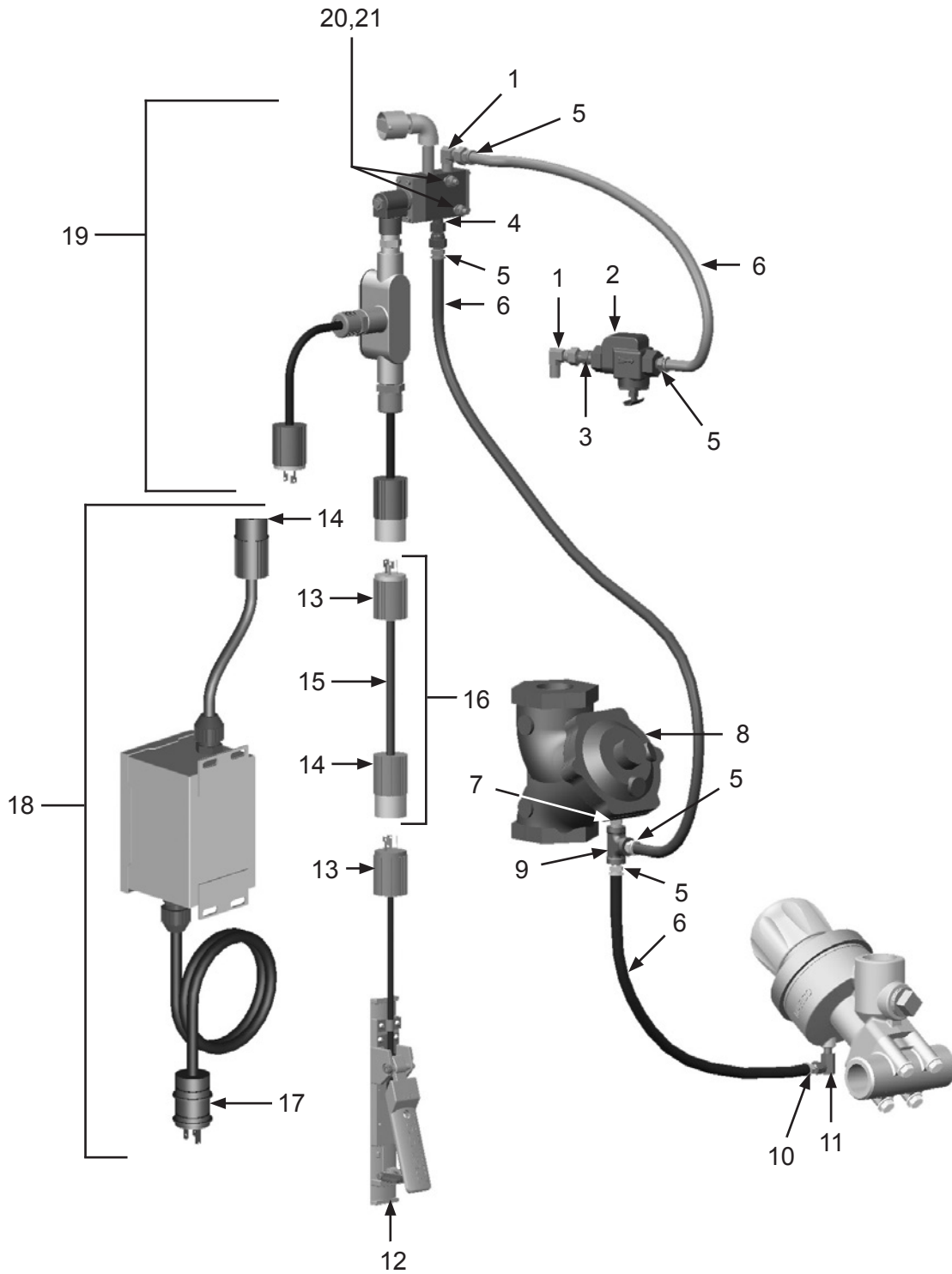
ASSEMBLY PART NUMBERS

120-Volt AC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot—Multiple Outlet

Item #	Part #	Description
Fig. 8		
—	10105800	120-Volt AC Blastmaster® 130E Remote Control System – 2-Outlet Complete
—	10105801	120-Volt AC Blastmaster® 130E Remote Control System – 3-Outlet Complete
—	10105802	120-Volt AC Blastmaster® 130E Remote Control System – 4-Outlet Complete
1	1012326	1/4" NPT Swivel 90° Fitting <i>(Two Required)</i>
2	10WS	Watts Strainer
3	1017019	1/4" NPT Hex Nipple
4	10SME025	1/4" Straight Swivel
5	10PAF025	1/4" NPT x 1/4" Barb Push-On Hose Fitting <i>(Five Required)</i>
6	10AH025	1/4" Push-On Air Hose <i>(Per Foot)</i>
7	10PVFIT1	1/4" x 1/8" Hex Union
8	1013200	1-1/2" NPT GateKeeper Air Valve <i>(See Figure 13)</i>
9	1011844	1/4" NPT Pipe Tee
10	10PAF0125	1/8" NPT x 1/4" Barb Push-On Air Hose Fitting
11	1014239	1/8" 90° Swivel Fitting
12	1015100	Blastmaster® 151E Remote Control Switch
13	1015555	3-Prong Twist-Lock Plug – Male <i>(Two Required)</i>
14	1015556	3-Prong Twist-Lock Plug – Female
15	1015540	16/2 SO Power Cord <i>(Per Foot)</i>
16	1015545	50' of 16/2 SJ Power Cord with 3-prong Twist-Lock Plugs Installed <i>(Includes Item #'s: 13, 14, and 15 (Quantity of 50 Feet))</i>
17	1030026	120-Volt 3-prong Standard Male Plug
18	10100713	3 Amp 120-Volt AC to 12-Volt AC Power Converter <i>(Includes Item #'s: 14 and 17)</i>
19	1019052	12-Volt DC 190 Electric Control Assembly <i>(See Figure 3)</i>
20	1019044	1/4"-20 x 1-3/4" Zinc Bolt <i>(Two Required)</i>
21	1012323	1/4"-20 Zinc Lock Nut with Nylon <i>(Two Required)</i>
—	1091045	Hazard Identification Tag
—	105M063	Features and Specifications Guide – Blastmaster® 151E Remote Control Switch
—	105M087	Features and Specifications Guide – Blastmaster® 130E Remote Control System
—	106M063	Part Numbers and Schematics Guide – Blastmaster® 151E Remote Control Switches
—	106M087	Part Numbers and Schematics Guide – Blastmaster® 130E Remote Control System
—	1090063	Operator's Manual – Blastmaster® 151E Remote Control Switches
—	1090087	Operator's Manual – Blastmaster® 130E Remote Control System

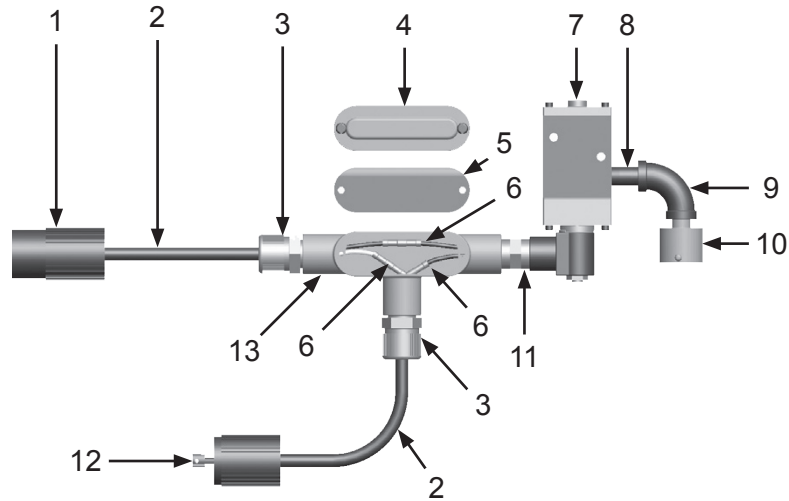
SCHEMATIC

Figure 8: 120-Volt AC Blastmaster® 130E Remote Control System For 3.5 Cu. Ft. Abrasive Blasting Pot—Multiple Outlet



ASSEMBLY PART NUMBERS & SCHEMATIC

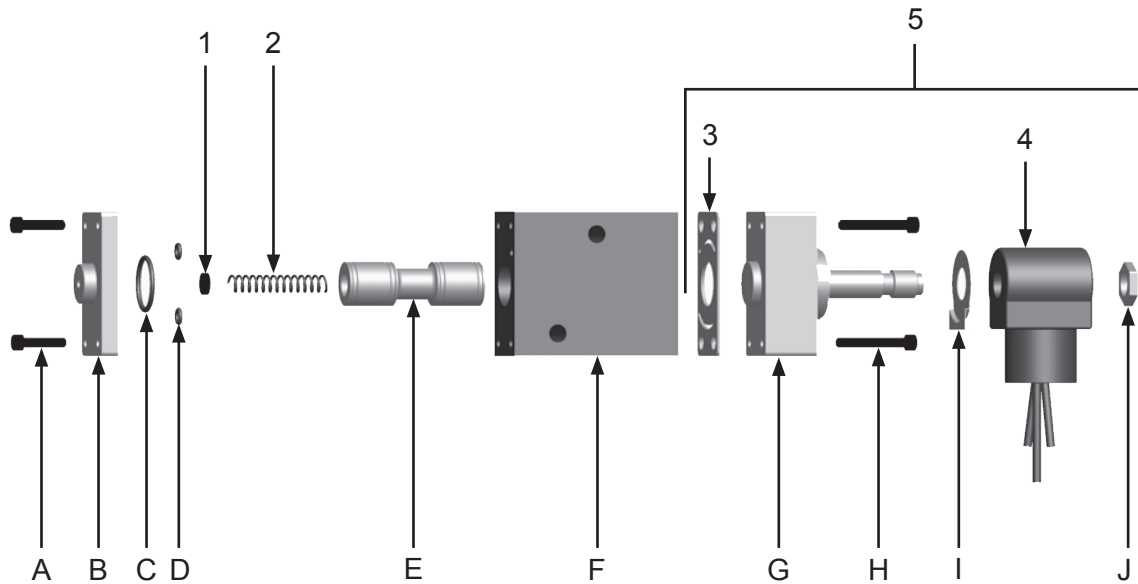
Figure 9: 12-Volt AC 190 Electric Control Assembly



Item #	Part #	Description
Fig. 9		
—	1019052	12-Volt AC 190 Electric Control Assembly – Complete
1	1015556	3-Prong Twist-Lock Plug – Female
2	1015540	16/2 SJ Power Cord – Per Foot
3	1019021	Cord Grip (<i>Two Required</i>)
4	1019022	Conduit Box Cover
5	1019023	Conduit Box Cover Gasket
6	1030028	Butt Splicer (<i>Four Required</i>)
7	1019011	12-Volt AC Electric Solenoid – Complete
8	1011217	1/4" x 2" Pipe Nipple
9	1011832	1/4" NPT 90° Pipe Nipple
10	10DE025	Dust Eliminator
11	20100677	1/2" x 1/2" NPT Hex Nipple
12	1015555	3-Prong Twist-Lock Plug – Male
13	1019020	1/2" Tee Conduit Box

ASSEMBLY PART NUMBERS & SCHEMATIC

Figure 10: 12-Volt AC 190 Electric Solenoid



Item #	Part #	Description
Fig. 10		
—	1019011	12-Volt AC 190 Electric Solenoid – Complete
1	1019029	Felt Filter
2	1019032	Spring
3	1019033	Gasket
4	1019040	12-Volt AC Coil
5	1019035	12-Volt AC Electric Operator Assembly (Includes Items: #3, #4, G, H, I, and J)
—	1019030	12-Volt AC Electric Solenoid Repair Kit (Includes Items: #1, #2, #3, C, D, and E)
* Items A–J are not available individually		

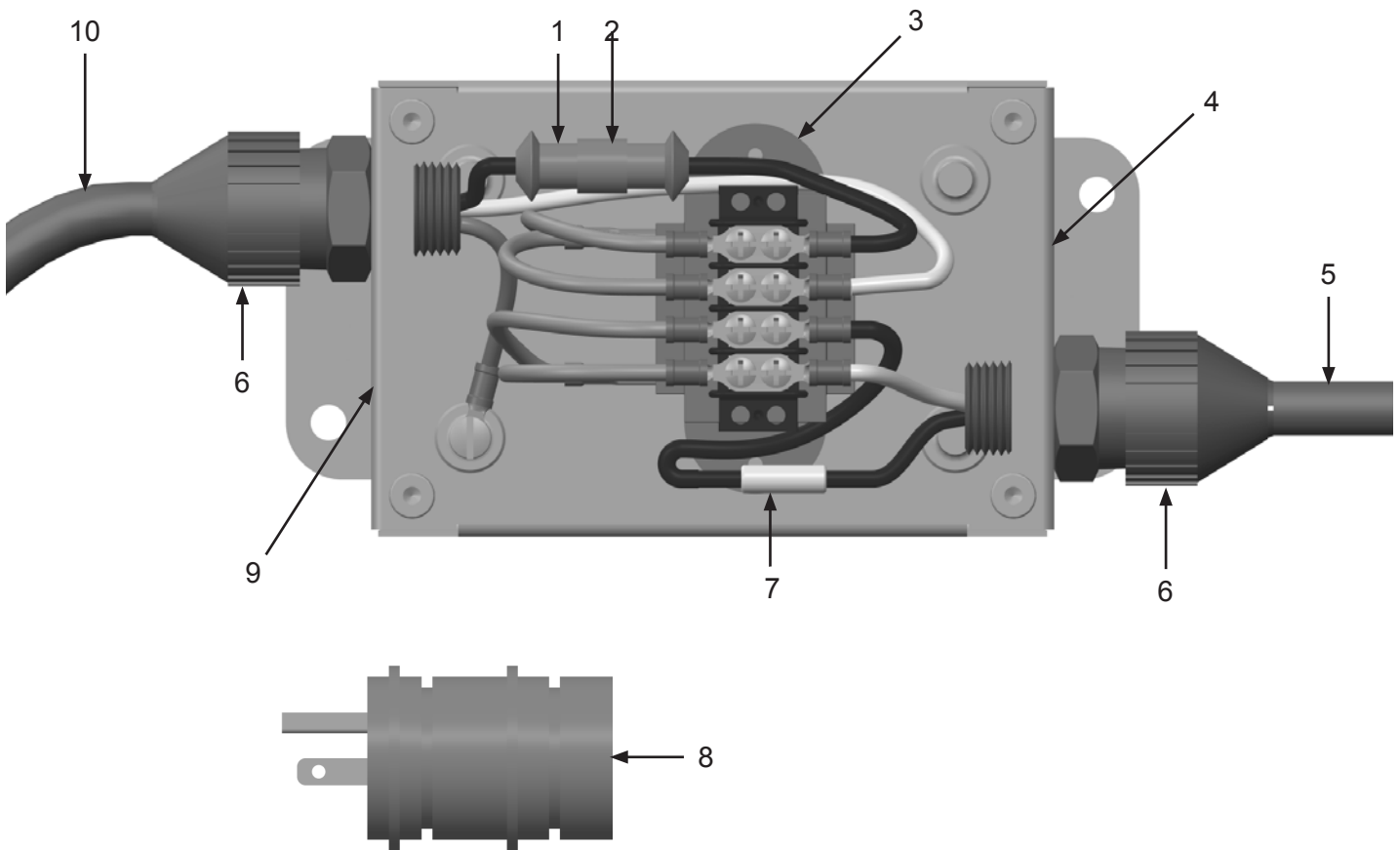
ASSEMBLY PART NUMBERS & SCHEMATIC

Blastmaster® 120-Volt AC to 12-Volt AC Power Converter

Item #	Part #	Description
Fig. 11		
—	1030020	Blastmaster® 120-Volt AC to 12-Volt AC Power Converter with 3 feet of 14/2 Electric Cord and Plug – Complete
1	1030123	3 Amp Fuse
2	1030023	In-Line Fuse Holder
3	1030022	Transformer – Blastmaster 120-Volt AC to 12-Volt AC Power Converter
4	1091067	Power-Out Decal (<i>Not Shown</i>)
5	1030013	14/2 SEOW Electric Cord (<i>Per Foot</i>)
6	1030025	Strain Relief (<i>Two Required</i>)
7	1030021	Resistor
8	1030026	3-prong, 120-Volt AC Plug – Male
9	1092014	Power-In Decal (<i>Not Shown</i>)
10	1015550	14/3 SEOW Electric Cord (<i>Per Foot</i>)
—	1091063	Hazard Identification Decal

ASSEMBLY PART NUMBERS & SCHEMATIC

Figure 11: Blastmaster® 120-Volt AC to 12-Volt AC Power Converter



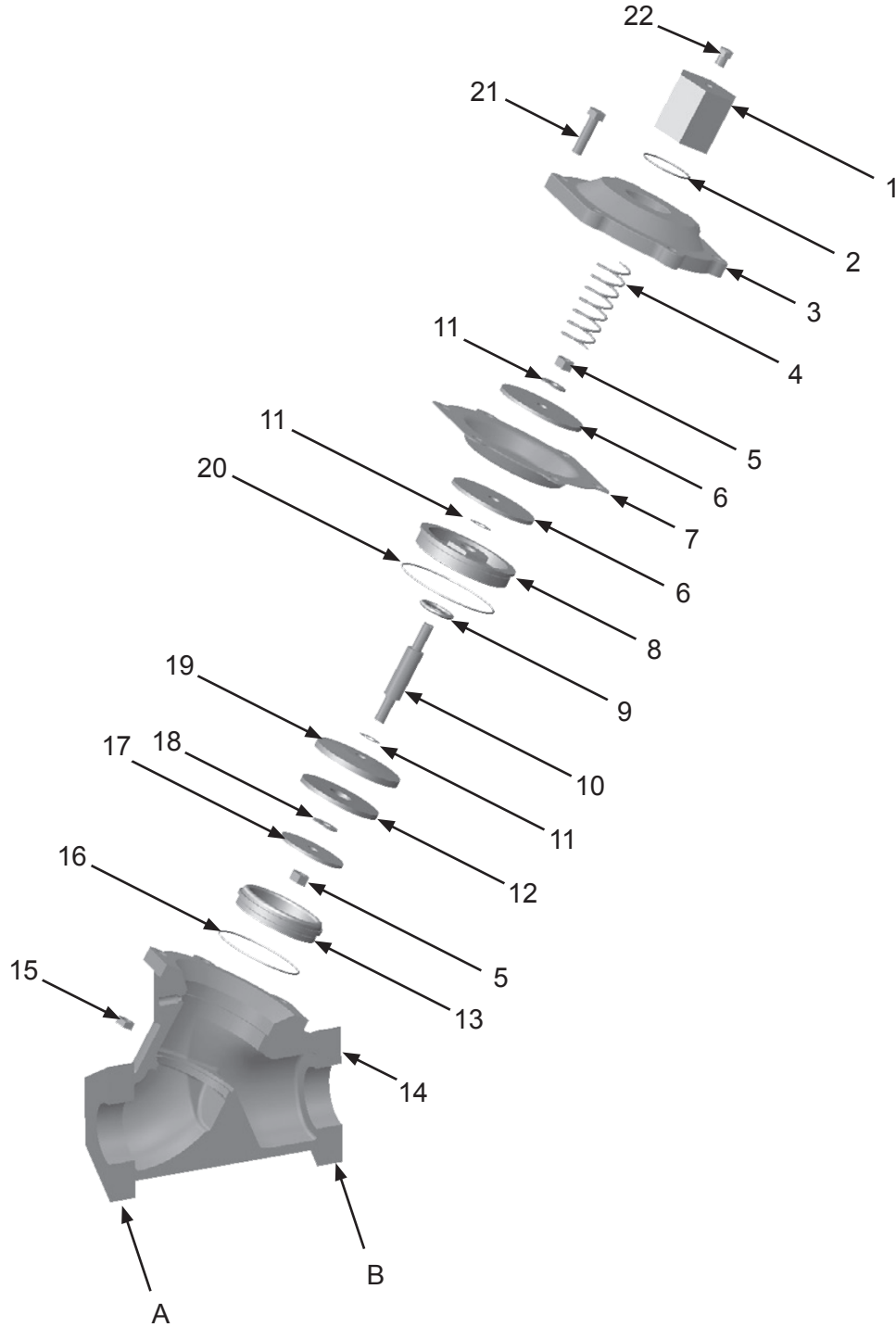
ASSEMBLY PART NUMBERS

Blastmaster® 1-1/2" NPT High-flow GateKeeper Air Valve

Item #	Part #	Description
Fig. 12		
—	1013600	Blastmaster® 1-1/2" NPT High-flow GateKeeper Air Valve
1	1013322	Spring Retainer
2	1013326	O-ring
3	1013312	Cap
4	1013323	Spring
5	1013313	Lock Nut
6	1013315	<i>Diaphragm Plate (two required)</i>
7	1013303	Diaphragm
8	1013305	Retainer Bushing
9	1013306	O-ring
10	1013318	Shaft
11	1013302	<i>Gasket (two required)</i>
12	1013320	Disc
13	1013311	Lock Nut
13	1013309	Seat
14	1013328	Body
15	1013316	<i>Nut (six required)</i>
16	1013308	Seat O-Ring
17	1013310	Disc Plate
18	1013327	Brass Washer
19	1013307	Disc Retainer
20	1013304	O-ring
21	1013314	<i>Cap Screw (six required)</i>
22	1012905	1/8" Breather Muffler
A	1091050	Sticker - Air Outlet
B	1091051	Sticker - Air Inlet
—	1013301	1-1/2" NPT High-flow GateKeeper Air Valve Service Kit (Includes Item #'s: 5, 7, 9, 11, 12, 17, and 20)

SCHEMATIC

Figure 12: Blastmaster® 1-1/2" NPT High-flow GateKeeper Air Valve



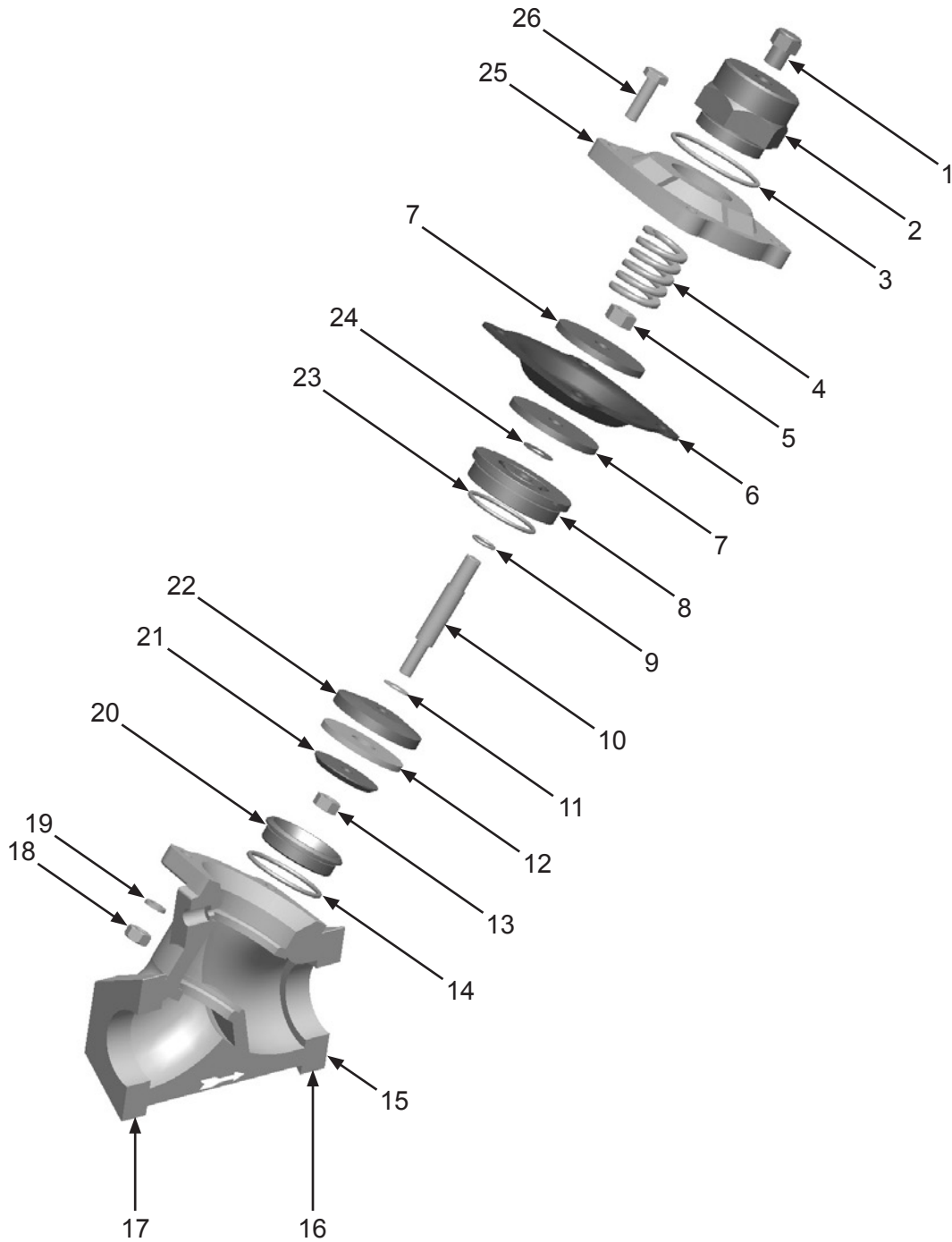
ASSEMBLY PART NUMBERS

Blastmaster® 1-1/2" GateKeeper Air Valves For 3.5 Cu. Ft. Abrasive Blasting Pot

Item #	Part #	Description
Fig. 13		
—	1013200	Blastmaster® 1-1/2" GateKeeper Air Valve – Complete
1	1012905	1/8" Breather Muffler
2	1013122	Spring Retainer
3	1013121	Spring Retainer O-ring
4	1013123	Spring
5	1013113	5/16–24 Hex Nut
6	1013103	Diaphragm
7	1013115	Diaphragm Plate <i>(Two Required)</i>
8	1013105	Retainer Bushing
9	1013106	Retainer Bushing O-ring
10	1013118	Shaft
11	1013119	Shaft Gasket
12	1013120	Disc
13	1013111	Lock Nut
14	1013108	Seat O-ring
15	1013202	Body – 1-1/2" GateKeeper Air Valve
16	1091050	Sticker – AIR INLET
17	1091051	Sticker – AIR OUTLET
18	1013116	Hex Nut <i>(Four Required)</i>
19	1012153	Lock Washer <i>(Four Required)</i>
20	1013109	Seat
21	1013110	Disc Plate
22	1013107	Disc Retainer
23	1013104	O-ring
24	1013102	Gasket
25	1013112	Cap
26	1013114	Bolt <i>(Four Required)</i>
—	1013101	GateKeeper Repair Kit <i>(Includes Item #'s: 5, 6, 11–14, 20, 23, and 24)</i>
—	1013124	Seat Tool
—	1013125	Retainer Bushing Tool

SCHEMATIC

Figure 13: Blastmaster® 1-1/2" GateKeeper Air Valves For 3.5 Cu. Ft. Abrasive Blasting Pot



MAINTENANCE NOTES

DATE	TYPE OF SERVICE	PART NUMBER

MAINTENANCE NOTES

DATE	TYPE OF SERVICE	PART NUMBER

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

GULF STATES HEADQUARTERS

- 701 East Boulevard
Deer Park, TX 77536

ph: 800.BLAST.IT (800.252.7848)

ph: 281.930.0905

fax: 281.542.0736

REGIONAL BRANCH OFFICES

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



Experience, Trust, Service

ABRASIVES

BLASTING

COATING & PAINTING

ENGINEERED SYSTEMS

RENTAL

SAFETY

SERVICE & REPAIR

50+ NATIONWIDE SHIPPING LOCATIONS



★ Marco Regional Branch Offices
and Shipping Locations

● Direct Shipping Locations

CONTACT MARCO

800.BLAST.IT
(800.252.7848)

563.324.2519

FAX: 563.324.6258

WWW.MARCO.US
SALES@MARCO.US