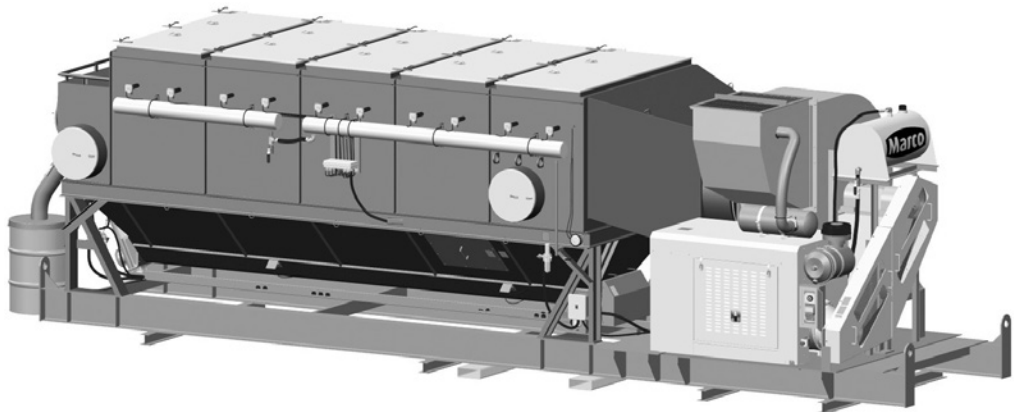
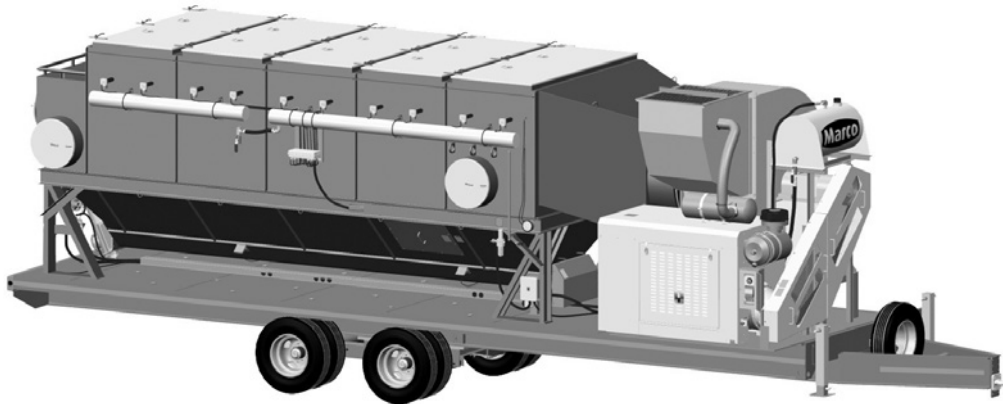


# OPERATOR'S MANUAL

## DUSTMASTER® 50,000 CFM DUAL AXLE/ DUAL WHEEL DIESEL DUST COLLECTORS



**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.

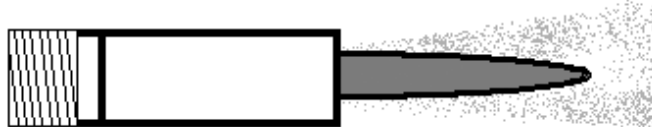


# AIR & ABRASIVE CONSUMPTION CHART

## 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\*

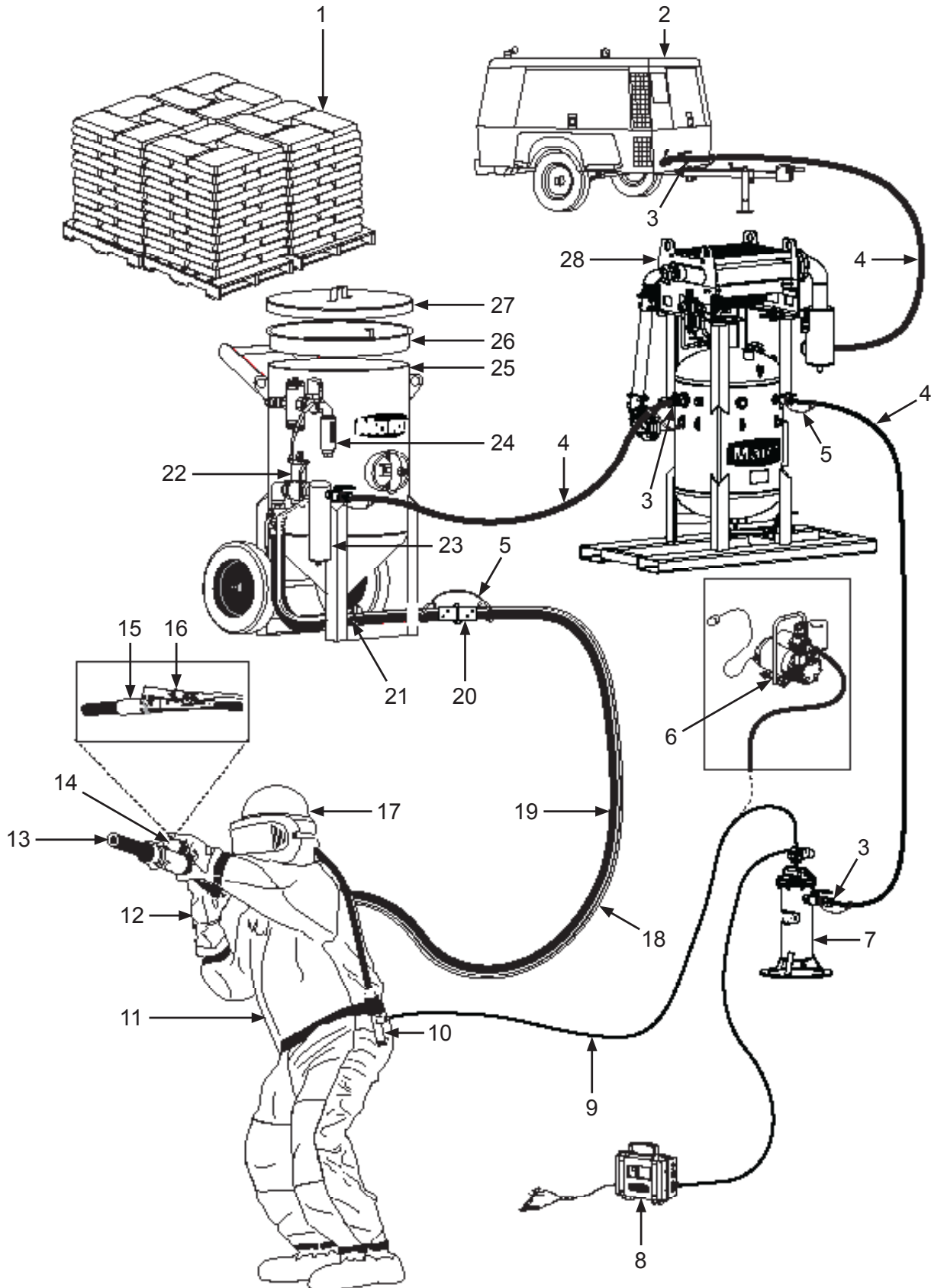
Nozzle Orifice	Pressure at the Nozzle (PSI)								Air (in cfm), Abrasive & Compressor Requirements
	50	60	70	80	90	100	125	140	
<b>No. 2</b> (1/8")	11 67 2.5	13 77 3	15 88 3.5	17 101 4	18 112 4.5	20 123 5	25 152 5.5	28 170 6.2	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 3</b> (3/16")	26 150 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
<b>No. 4</b> (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
<b>No. 5</b> (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
<b>No. 6</b> (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
<b>No. 7</b> (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
<b>No. 8</b> (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
<b>No. 10</b> (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
<b>No. 12</b> (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 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.

# OPERATING INSTRUCTIONS

## 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-575

Ensure the surface is level, stable, and is sufficient to support the weight of the Device or System. Uneven or unstable surfaces, and/or surfaces that cannot support the gross weight of the Device or System could cause the Device or System to overturn. 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.

## Description

A dust collector creates an engineered air flow in an enclosure, providing ventilation and collecting airborne dust and debris. Abrasive blasting performed in an enclosure requires a dust management system for compliance with OSHA regulations governing the work site. Removing airborne dust and debris from an enclosure improves work site safety and visibility, increasing production rates. The Dustmaster® 50,000 CFM Dual Axle/Dual Wheel Diesel Dust Collectors have a reverse incline blade fan matched to a 174 horsepower Perkins® Tier III diesel engine to generate up to 50,000 CFM of air flow. Typical applications include blast rooms, blast yards, bridges, oil refineries, offshore platforms, pipelines, shipyards, storage tanks, and water treatment plants.

## Operational Requirements

- 12-Volt DC
- 24 CFM @ 90 PSI regulated filtered air.

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

- Improper installation and/or maintenance of components.
- Failure to properly secure unit from movement when not in transport.
- Exceeding 55 mph speed limit when towing unit.
- Using unit in wet spray or coating containment areas.
- Failure to properly ground unit.
- Operating in an area with inadequate ventilation.

## Operating Instructions

### *Before use:*

- Position Dust Collector as near the containment area as possible. Using short lengths of duct hose and minimizing curves and bends improves performance.
- Ensure the surface is level, stable, and is sufficient to support the weight of the unit. Block wheels to prevent unintended movement.
- Level Dust Collector by adjusting height using Jack Stand (1).
- If using a Discharge Collection Drum (5), install optional Drum Cover (4).  
NOTE: Follow all applicable guidelines for collection containers.
- Perform daily lubrication. (See Lubricate Grease Points.)
- Connect a 3/4" I.D. air supply line to Filter Regulator (2) of Pulser system.
- Open Air Inlet Door(s) and connect duct hose. (See Connect Duct Hose.)
- Ensure all unused Air Inlet Doors are closed securely.
- Close Pulser System Ball Valve (3).
- Turn on compressed air supply.

### *During use:*

- Monitor all fluid levels.
- Monitor air pressure.
- Monitor amount of material collected in catch container to prevent overflowing.

# OPERATING INSTRUCTIONS

## **⚠ 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.

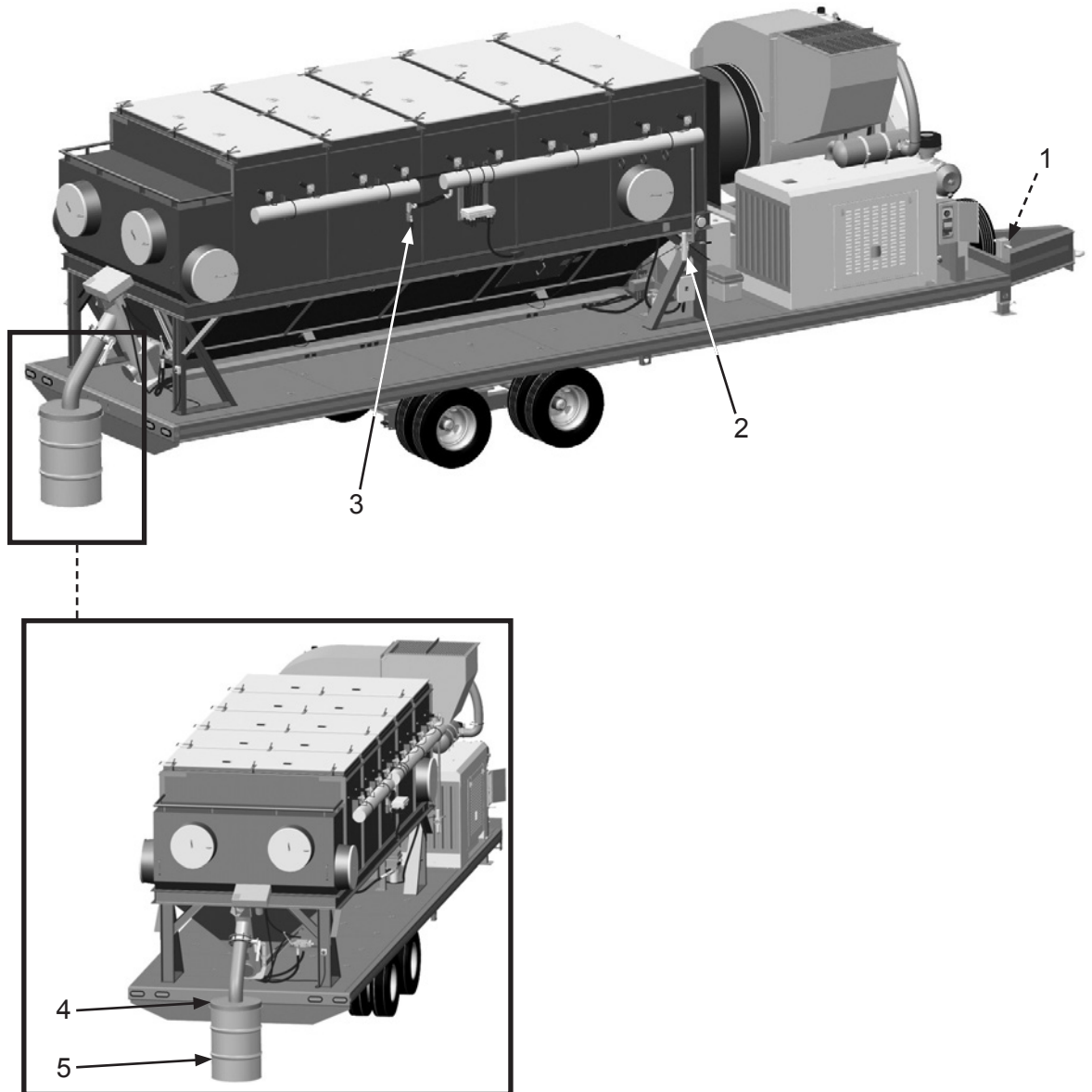
## **⚠ WARNING**

W-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.

## **NOTICE**

When a dust collector is used to service a storage tank, ensure there is adequate ventilation to prevent tank collapse due to pressure imbalance between external and internal tank surfaces. Failure to properly ventilate storage tank may result in damage to property. If proper ventilation is in question, consult with tank manufacturer or engineer.

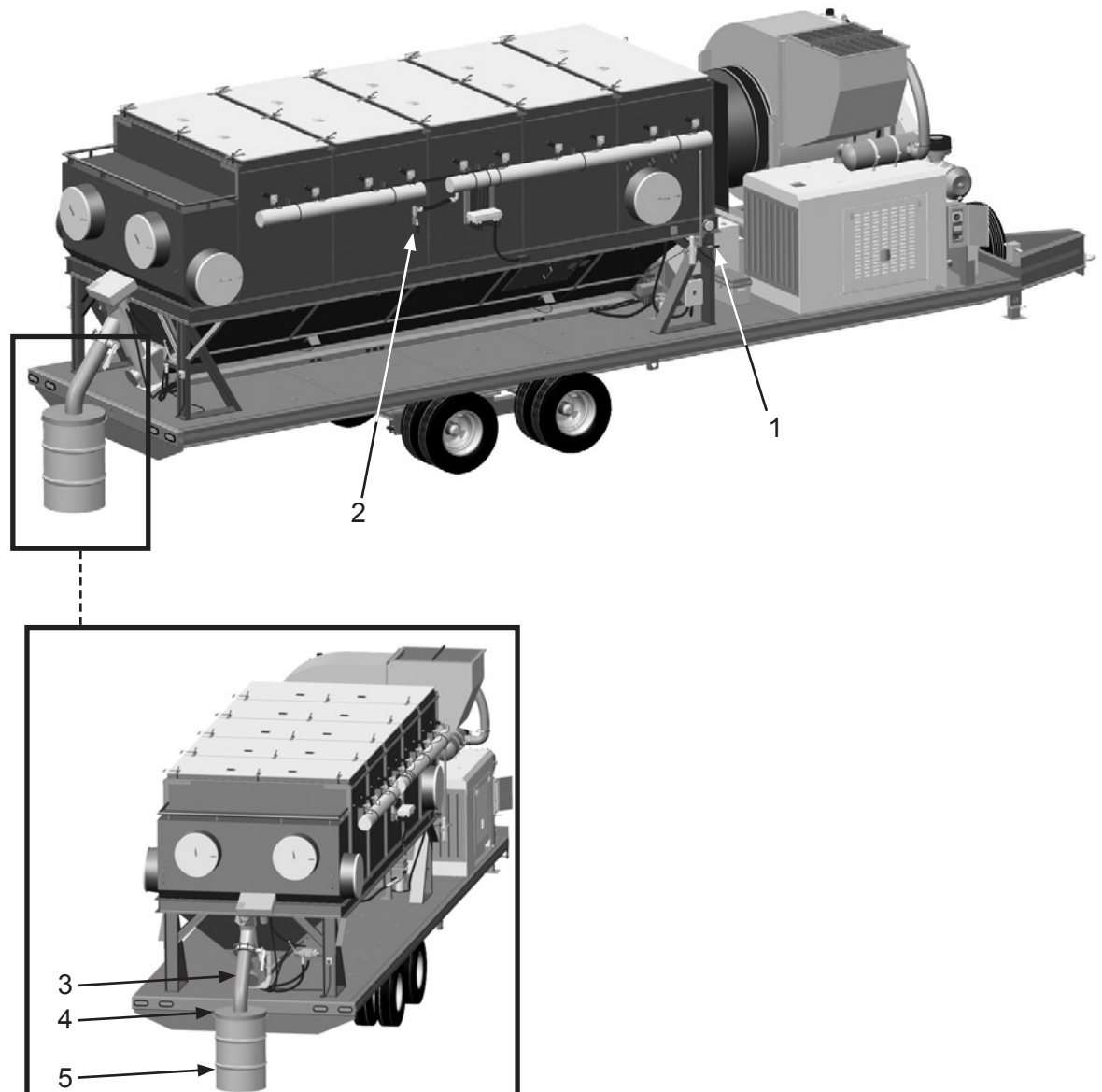




**⚠ WARNING**

***After use:***

- 1) Decrease engine speed to idle (approximately 1000 RPM).
- 2) Disengage clutch with engine at idle.
- 3) Allow the pulser system to continue cleaning filters, with augers running. Operate at least 60 minutes to allow filters to clean with the fan turned off.
- 4) Disconnect Discharge Hose (3) from optional Drum Cover (4), if equipped. Remove Drum (5), if equipped.
- 5) Turn off compressed air supply.
- 6) Turn pulsers off by turning the two-position Selector Switch (1) "OFF" after header has depressurized.
- 7) Turn the Auger Clean-out System "OFF" by returning the Hydraulic Control Valve Lever on the control valve to center position.
- 8) Shut engine down.
- 9) Open Pulser System Ball Valve (2).
- 10) Disconnect duct hose from Air Inlet(s).
- 11) Close Air Inlet(s).





# OPERATING INSTRUCTIONS

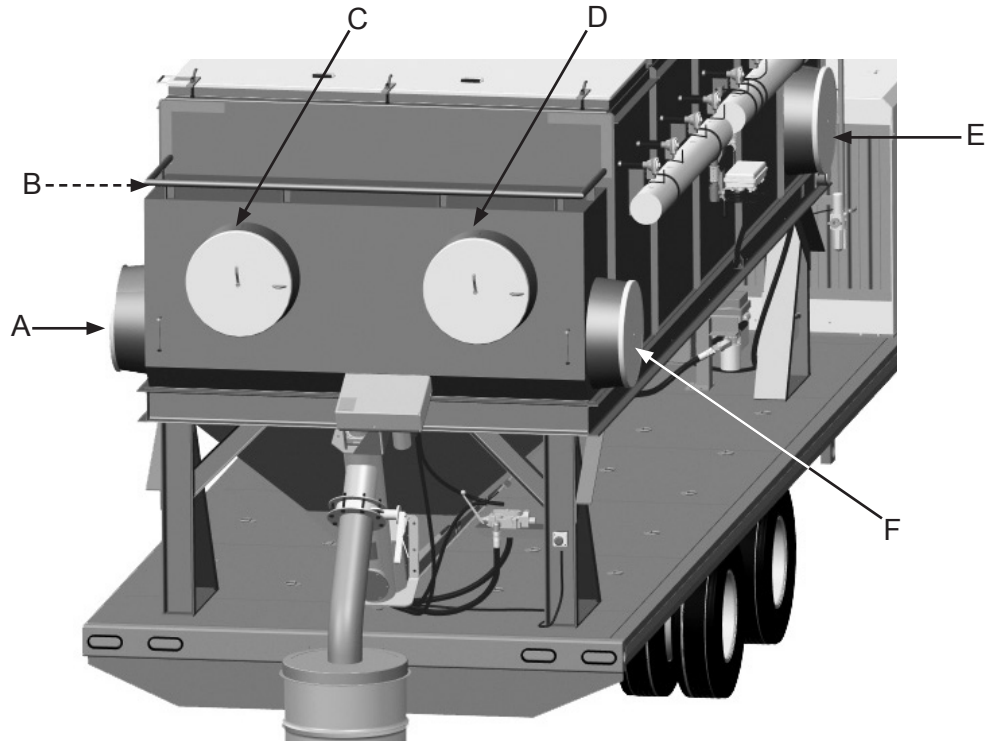
## Connect Duct Hose

### **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.

- 1) Secure a Duct Hose (not shown) to Dust Collection Inlets. See Inlet Configuration Chart, below.
- 2) Use support rail above Dust Collection Inlets to assist in securing Duct Hose.
- 3) Connect opposite end of Duct Hose (not shown) to Containment Area. Containment Area should have sufficiently sized air inlet openings on opposite side for air exchange and cross-flow ventilation.



Inlet Configurations Chart		
Two	Three	Four
B,A	B,A,D	B,A,F,E
B,C	B,A,F	B,C,D,E
B,D	B,C,D	B,A,D,E
B,F	B,C,F	B,C,F,E
E,F	B,F,E	
E,D	E,F,C	
E,C	E,C,B	
E,A	E,A,B	
A,F	E,F,A	
A,D	A,D,E	
C,D	B,D,E	
C,F	D,E,C	

# OPERATING INSTRUCTIONS

## **WARNING**

W-587

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

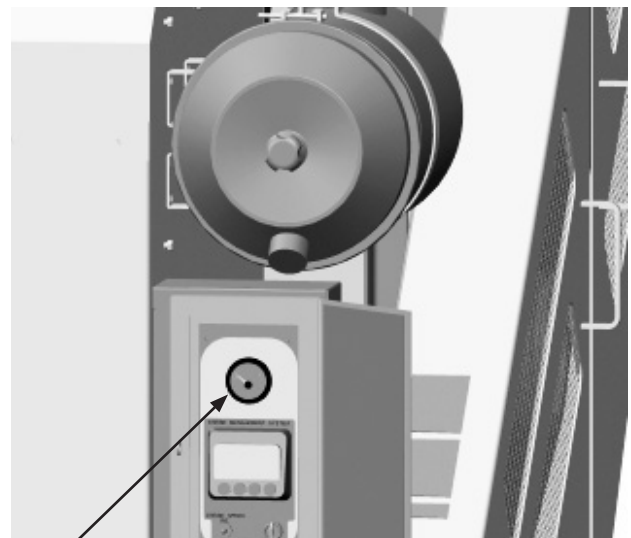
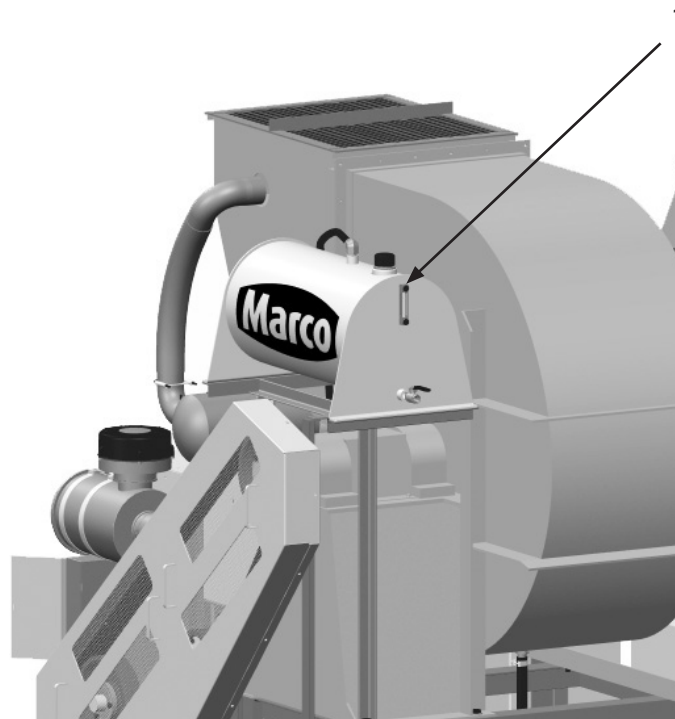
## **WARNING**

W-586

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

### ***Pre-Startup Instructions:***

- 1) Check engine oil and coolant levels. See Engine Operator's Manual for instructions.
- 2) Check diesel fuel level using Sight Gauge (2). Add diesel fuel, as needed.
- 3) Check hydraulic oil level using Sight Glass (1). Add hydraulic oil, as needed.



# OPERATING INSTRUCTIONS

## Unit Startup & Shutdown

### WARNING

W-501

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. 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.

#### **Unit Startup Instructions:**

- 1) Ensure Clutch Handle (2) is disengaged.
- 2) Open Access Panel.
- 3) Start Engine. See Engine Operator's Manual for proper procedure.
- 4) Run engine for approximately 5 minutes.
- 5) Increase RPM to approximately 1000 RPM.
- 6) Bump Clutch Handle (2) three times so that fan gradually increases in speed. After three bumps, slowly move Clutch Handle until fully engaged and is in locked position.

*Note: Rapid engagement may cause damage to clutch and belts to slip from pulleys.*

- 7) Once clutch is engaged, adjust RPM to recommended operating range of 1000–1600 RPM.

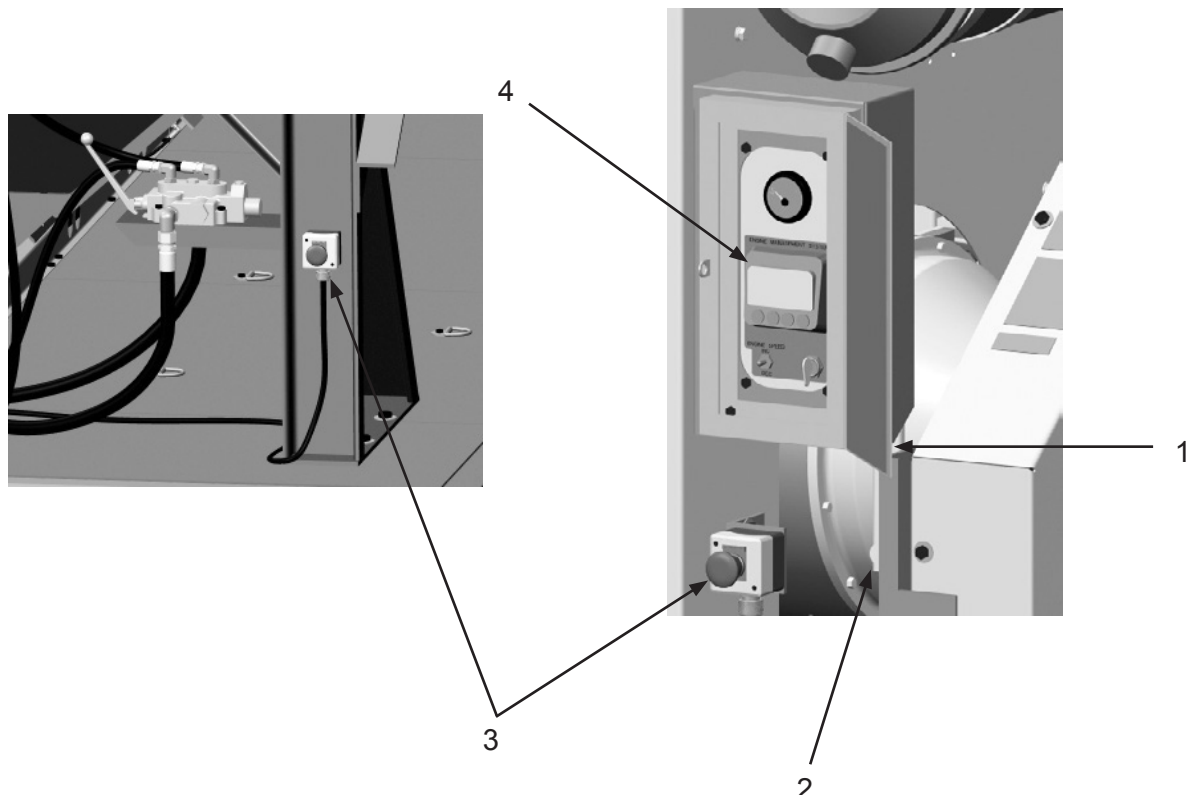
*Note: Reducing number of inlets reduces volume of air.*

- 8) Monitor engine functions using Murphy® PowerView™ (4). (See Murphy® PowerView™ Operator's Manual.)

#### **Unit Shutdown Instructions:**

*Note: In the event of an emergency, press one of the Emergency-Stop Stations (3) to cease operation of the system.*

- 1) Decrease engine speed to Idle (approximately 1000 RPM).
- 2) Disengage Clutch Handle (2).
- 3) If an Emergency-Stop Station(s) (3) was engaged, ensure Engine is in the "OFF" position and the Clutch Handle is in the disengaged position. Return Emergency-Stop Station to the operating position by pulling knob away from the base.
- 4) Follow After use instructions.



# OPERATING INSTRUCTIONS

## Pulser System Startup

### 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

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.

### WARNING

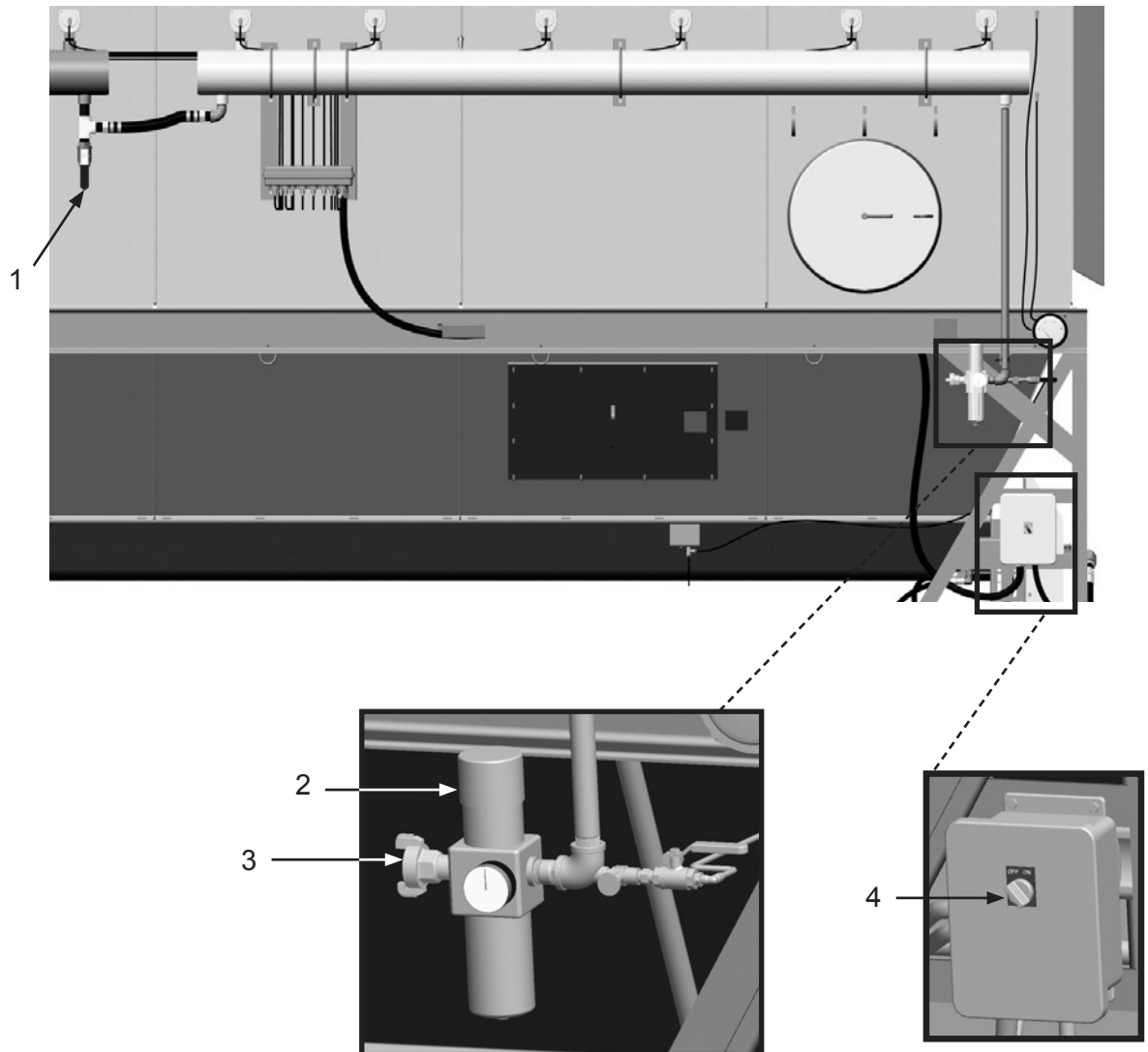
W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

### *Pulser System Startup Instructions:*

The Pulser System is a cleaning system for the filter cartridges. This system blows a burst of air into a set of filters to dislodge dust from the filters into the hopper. To change time duration of pulse, see Adjust Pulse Separation.

- 1) Close Ball Valve (1).
- 2) Turn Switch (4) clockwise to "ON".
- 3) Supply compressed air to Regulator (3). Adjust compressed air pressure to 90 PSI using Regulator Control Knob (2). Normal operating range is 90-95 PSI.  
NOTE: The timer controller is pre-set to pulse one row of filters every 8 seconds (See Adjust Pulse Separation.).
- 4) After use, turn Switch (4) counterclockwise to "OFF".
- 5) Disconnect supply of compressed air to the Regulator (3).
- 6) Open Ball Valve (1) to relieve pressure in Pulser System.



# OPERATING INSTRUCTIONS

## Auger Clean-out Startup

### WARNING

W-577

Before using this equipment, read, understand and follow all instructions in the Operator's Manuals 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, visit [www.marco.us](http://www.marco.us) or call (563) 324-2519 for replacements. Failure to comply with the above warning could result in death or serious injury.

### WARNING

W-586

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.

### WARNING

W-587

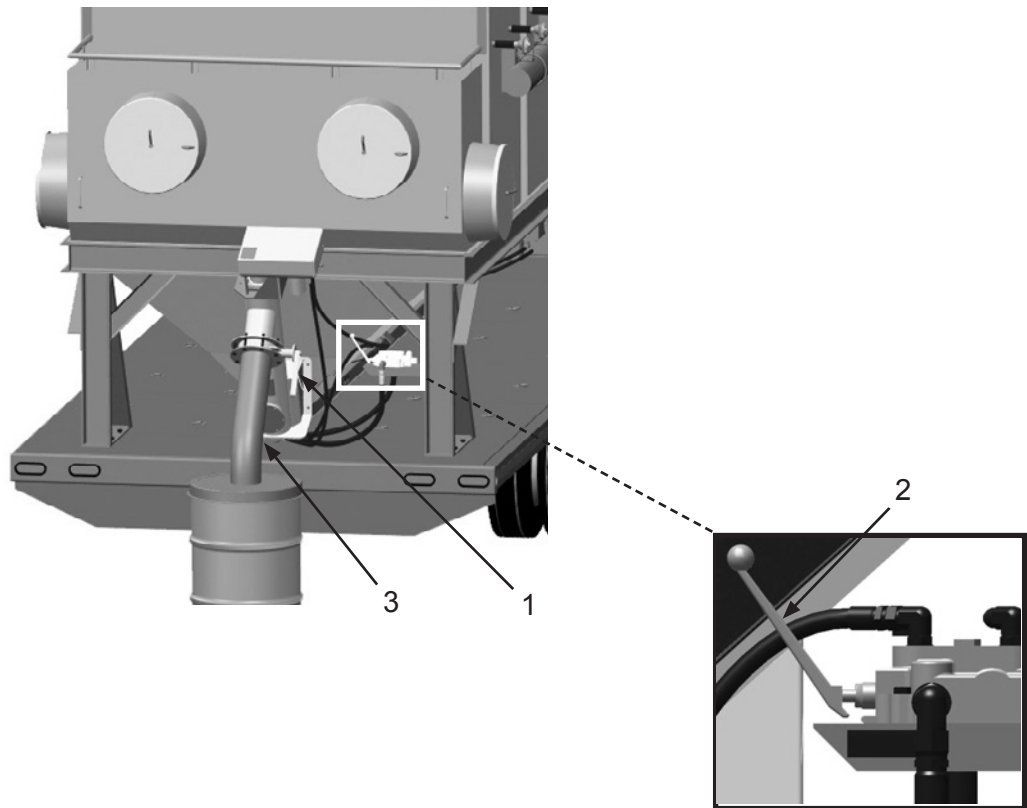
Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

### **Auger Clean-out System Startup Instructions:**

The Auger Clean-out System removes collected dust and debris from the bottom of the hopper to the Discharge Auger for discharging.

- 1) Ensure personnel are clear of auger conveyors.
- 2) Open Butterfly Valve (1) on Discharge Auger (3).
- 3) Activate screw conveyors by moving Hydraulic Control Valve Lever (2) clockwise to detent position.

*Note: Moving Hydraulic Control Valve Lever (2) counter-clockwise will allow the conveyor system to run in reverse but will not lock in position. Only operate in reverse momentarily to attempt to dislodge an item.*





# OPERATING INSTRUCTIONS

## Activating & Deactivating Pneumatic Ball Vibrators

### **WARNING**

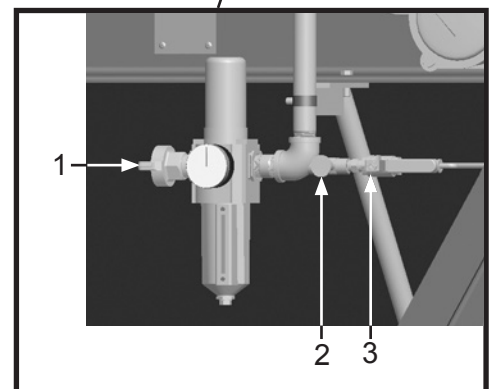
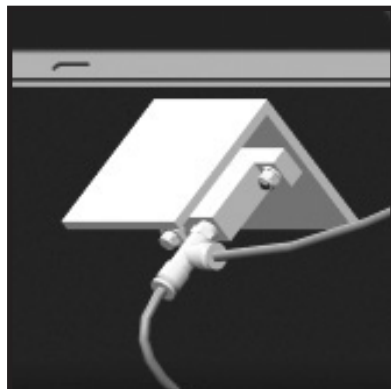
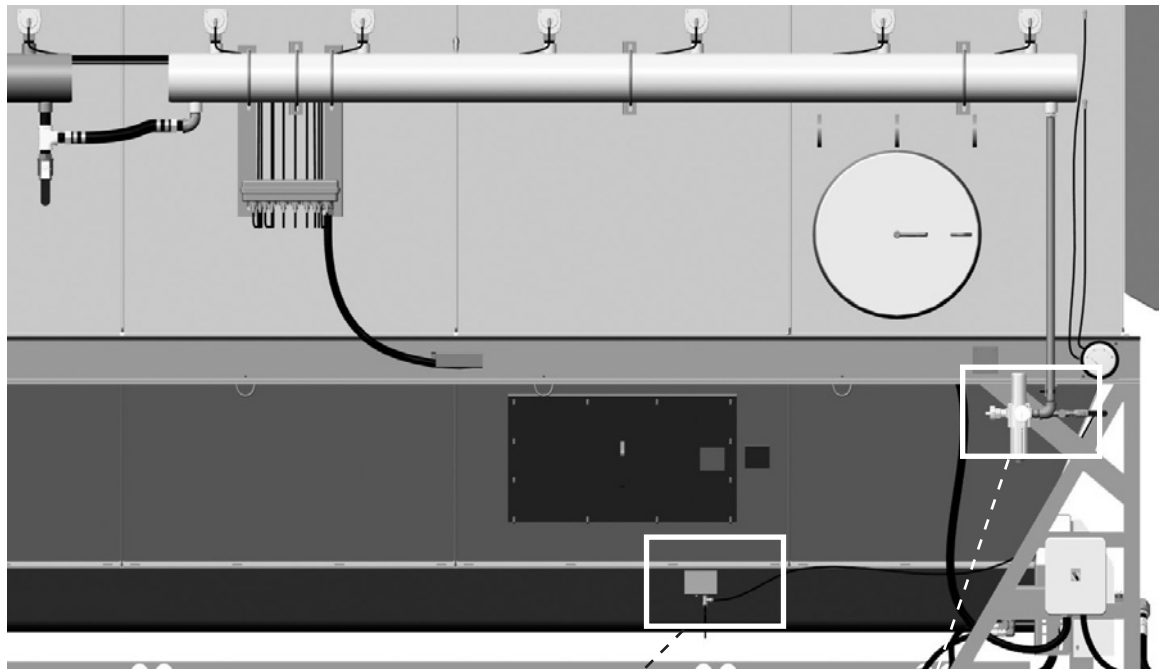
W-577

Before using this equipment, read, understand and follow all instructions in the Operator's Manuals 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, visit [www.marco.us](http://www.marco.us) or call (563) 324-2519 for replacements. Failure to comply with the above warning could result in death or serious injury.

### *Pneumatic Ball Vibrator Instructions:*

Vibrators will help keep dust from building up on the hopper walls and facilitate removal of material. Run vibrators when running auger system.

- 1) With airline attached to Inlet (1) to pressurize header, open Ball Valve (3) near pressure regulator to "activate" vibrators.
- 2) Adjust vibration intensity by rotating Knob (2). Clockwise reduces vibration intensity. Counter-clockwise increases vibration intensity.





# OPERATING INSTRUCTIONS

## Reading Magnehelic Gauge

### **WARNING**

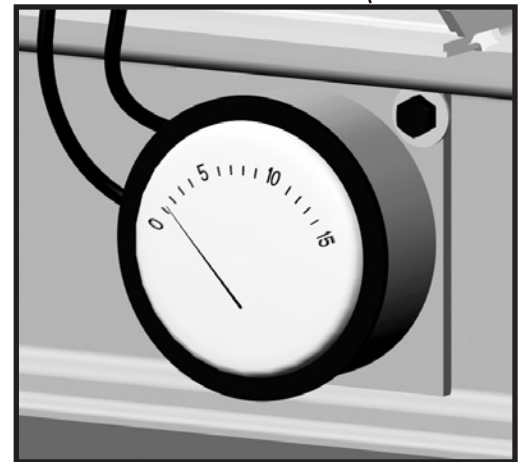
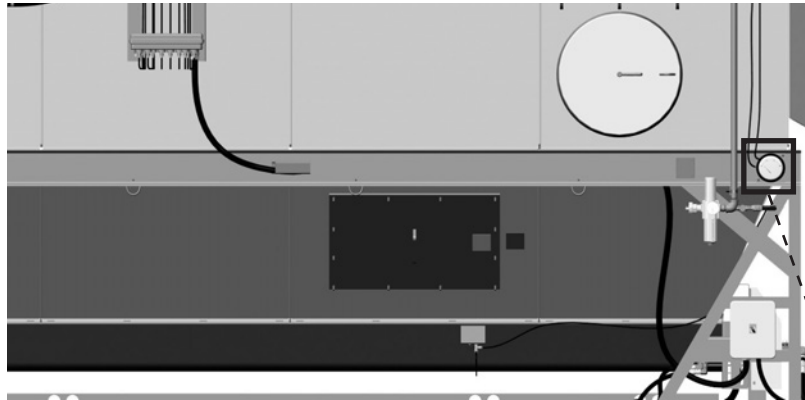
W-577

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### *Reading Magnehelic Gauge (Dust Collector Differential Pressure) Instructions:*

The Magnehelic Gauge provides a means to tell how clean the dust collector filter cartridges are. It measures the static pressure and the resistance of air flow across the filters.

- New Filters will register approximately 4" water column (w.c.) on the gauge. Normal operating range for conditioned filters will show 3" – 14" (w.c.) on gauge.
- If Magnehelic Gauge is reading above the normal operating range, see Troubleshooting Section.
- If reading above 14" (w.c.), stop operating the unit, perform shut-down procedure, and check pulser system and filter cartridges.
- If reading above 16" (w.c.), stop operating the unit, perform shut-down procedure, check pulser system, and if static pressure will not drop below 16", replace filter cartridges.



# OPERATING INSTRUCTIONS

## Lubricate Grease Points

### **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**

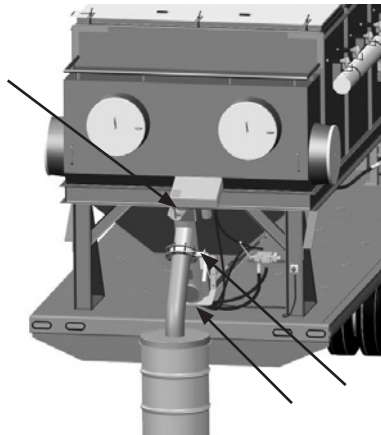
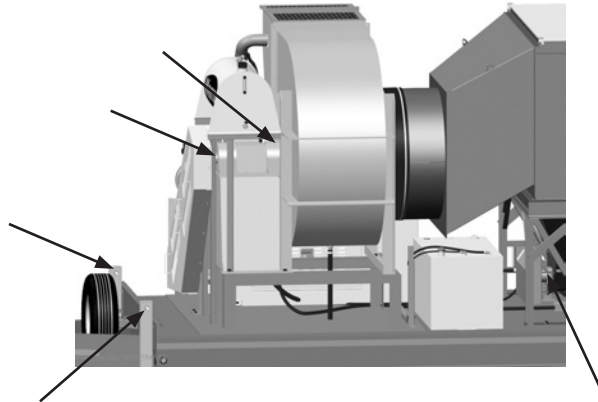
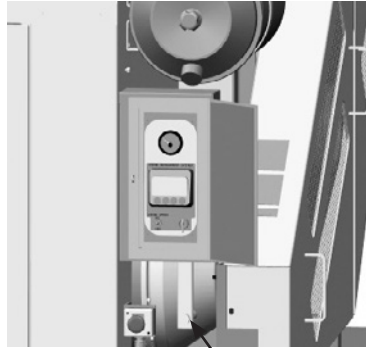
W-587

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

Lubricate Dustmaster® 50,000 CFM Dual Axle/Dual Wheel Diesel Dust Collectors at points indicated. Points are indicated by Lubrication Point Grease Daily label (1).



1



## SPECIFICATIONS

<b>Performance:</b>	CFM = 36,880 – 50,490 W.C. = 6 – 16"
<b>Filter Cartridge Style:</b>	Open Top with Flange, Closed Bottom 56 Required
<b>Filter Cleaning:</b>	Pulse System, 5–15 second intervals Pulse Duration: 200–350 millisecond
<b>Air to Cloth Ratio:</b>	3.43:1 @ 40,000 CFM
<b>Filter Area:</b>	11,662 square feet
<b>Efficiency:</b>	85/15 Blend High Density Pleat Filters – 99.8% @ 0.5 micron 85/15 Blend Filters – 99.8% @ 0.5 micron HEPA Filters – 99.99% @ 0.3 micron Fire Retardant Filters – 96.8% @ 2.0 micron Spunbond Filters – 97% @ 3.0 micron
<b>Ducting Connections:</b>	20" I.D., Quantity of Six
<b>Clean-out Ports:</b>	One
<b>Dust Removal Conveyor:</b>	Main Auger, 6" Discharge Auger, Hydraulic Motor Drive
<b>Fan:</b>	Backward Inclined, non-overloading, spark resisting
<b>Engine:</b>	Diesel, Tier III, 174 Horsepower
<b>Fuel Capacity:</b>	Type: Diesel Capacity: 116 Gallons
<b>Air Requirements:</b>	Clean, Dry, Compressed Air 24 CFM @ 90 PSI
<b>Electrical System:</b>	12-Volt DC
<b>Engine Protection:</b>	Engine Monitoring System with automatic shutdown measures: coolant temperature, intake air temperature, engine intake manifold pressure, engine oil pressure, pressure in fuel rail, engine speed and timing.
<b>Fluid Specifications:</b>	Hydraulic Oil: H46 or equivalent, 40 Gallons Diesel Fuel: See Engine Operator's Manual for type, 160 Gallons Grease/Lubricator: Shell Alvania Grease EP or equivalent
<b>Unit Dimensions Trailer:</b>	Weight: 19,900 pounds (empty) Tongue Weight: 3980 pounds Length: 36' 3" Width: 8' 6" Height: 11' 2"
<b>Unit Dimensions Skid:</b>	Weight: 19,900 pounds (empty) Length: 32' 6" Width: 8' 6" Height: 9' 7"

# MAINTENANCE

## Adjust Tension of Fan Drive Belt

### **⚠ 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-566

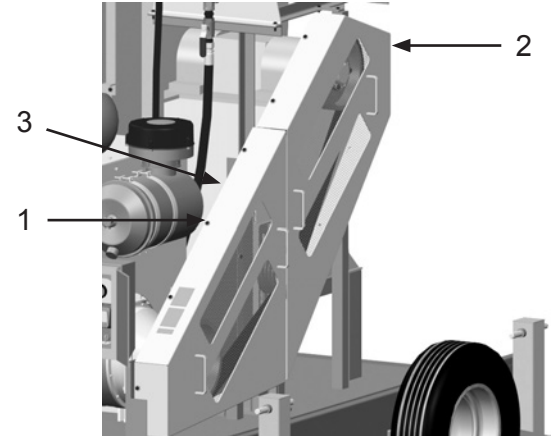
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts.

### **⚠ WARNING**

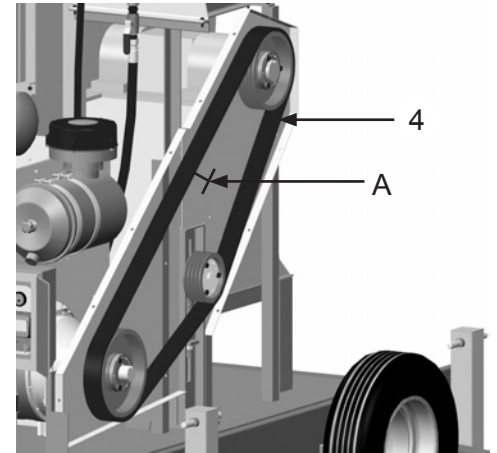
W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

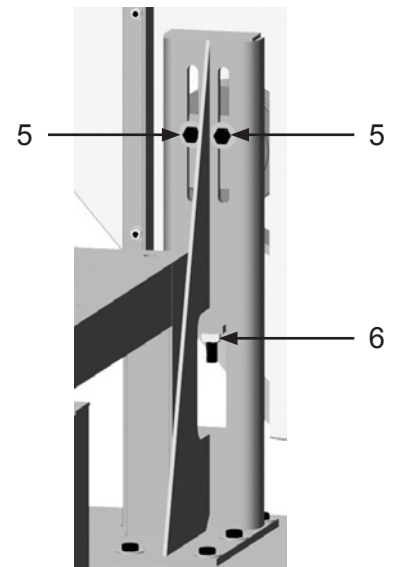
- 1) Disconnect battery cables from battery.
- 2) Remove 8 Bolts and Washers (1).
- 3) Remove Upper Belt Cover (2).
- 4) Remove Lower Belt Cover (3).



- 5) Inspect Belt (4) for wear, abrasion, and damage. Replace as needed.
- 6) Check tension of Belt (4) by pushing downward on Belt and measure Distance (A) of travel. Belt should have a deflection distance of approximately 1 inch; applied force of approximately 70 pounds.



- 7) To adjust tension of Belt, loosen two Bolts (5) and turn Nut (6) until deflection distance is approximately 1 inch; applied force of approximately 70 pounds. If distance cannot be attained, replace belt.
- 8) Tighten two Bolts (5).
- 9) Install parts in reverse order.



# MAINTENANCE

## Adjust Main Auger Drive Chain

### **⚠ WARNING**

W-562

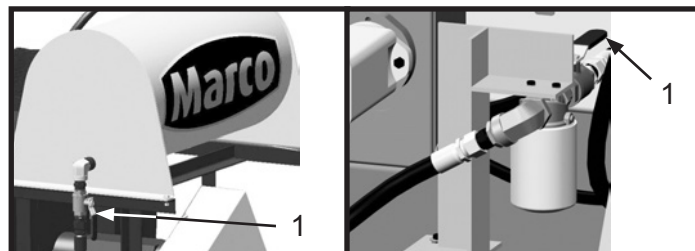
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **⚠ WARNING**

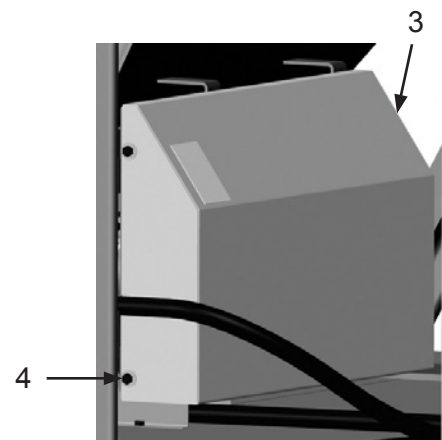
W-566

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.

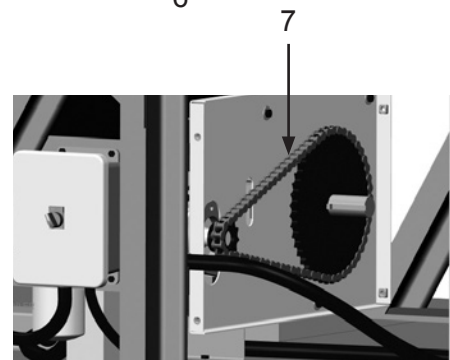
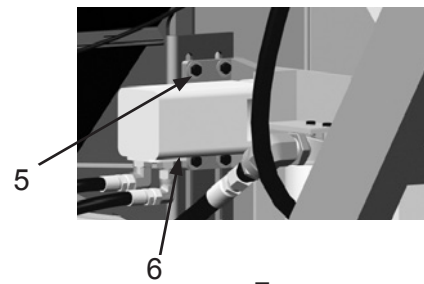
- 1) Close Ball Valves (1).
- 2) Loosen four Bolts (2).



- 3) Remove four Bolts and Washers (4) and remove Cover (3).



- 4) Move Hydraulic Motor (6) to set Chain (7) deflection to approximately 5/8 - 7/8 inch. Tighten four Bolts (5).



# MAINTENANCE

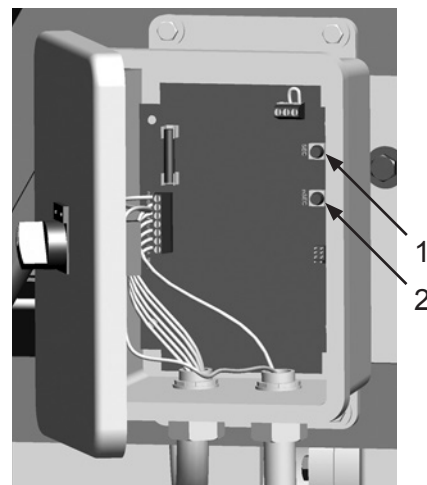
## Adjust Pulse Separation

### **WARNING**

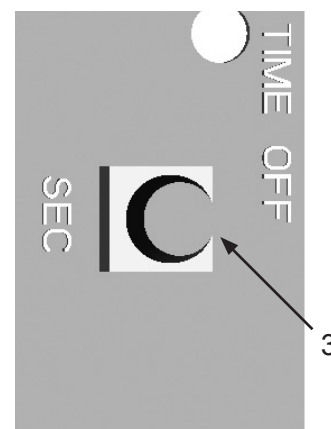
W-562

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.

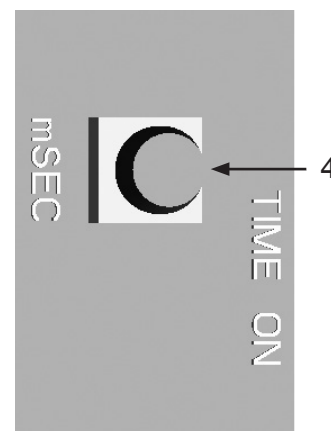
- 1) Open enclosure door of Timer Controller.
- 2) Locate Adjustment Knobs (1 and 2).



- 3) Set the Pulse Separation, the elapsed time between pulses, by moving Knob (3). The recommended elapsed time between pulses is the minimum time needed for pulse header to return to full pressure. Depending on conditions, the elapsed time may need to be changed. Elapsed time between pulses should be between 5–15 seconds.



- 4) Set Pulse Duration, the elapsed time of compressed air entering the filters, by moving Knob (4). The recommended elapsed time of compressed air entering the filters is 200 milliseconds (mSEC). Depending on conditions, the elapsed time of air entering the filters should be between 200–350 milliseconds.
- 5) Close enclosure door of Timer Controller.

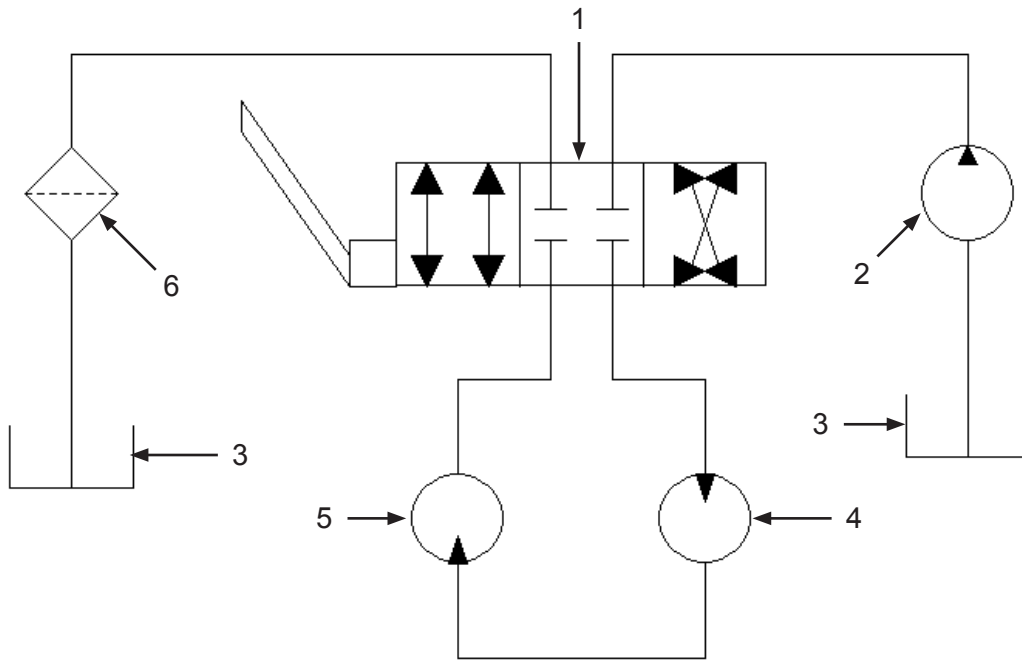




# MAINTENANCE

## Hydraulic System Schematic

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- 1) Hydraulic Control Valve
- 2) Hydraulic Pump
- 3) Hydraulic Oil Tank
- 4) Main Auger Motor
- 5) Discharge Auger Motor
- 6) Hydraulic Oil Filter

## MAINTENANCE

### Remove & Install Hydraulic Oil Tank

#### **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-567

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

#### **WARNING**

W-569

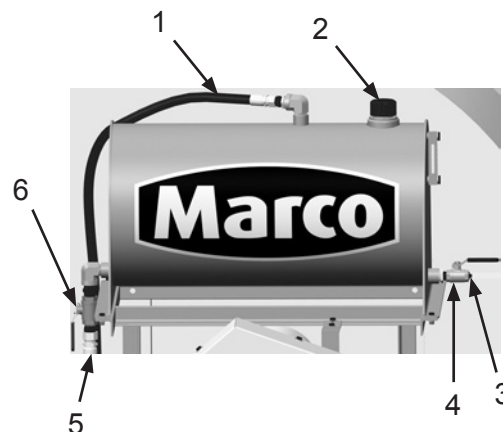
Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

- 1) Close Ball Valve (6).
- 2) Remove Filler Cap (2).

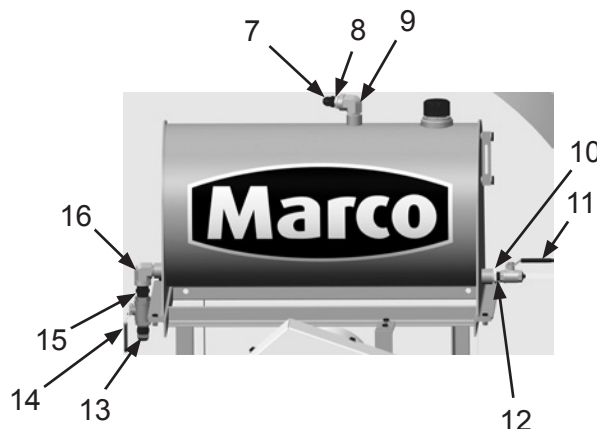
*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

*Note: Hydraulic Oil Tank capacity is approximately 40 gal.*

- 3) Remove Pipe Plug (3). Connect a hose to outlet to aid recovery of hydraulic fluid.
- 4) Open Ball Valve (4) and allow hydraulic oil to empty from tank.
- 5) Disconnect Hoses (1 and 5).

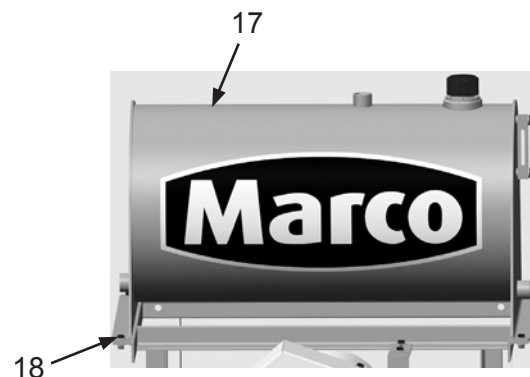


- 6) Remove Adapter (7), Bushing (8), and Elbow (9).
- 7) Remove Ball Valve (11), Nipple (12), and Bushing (10).
- 8) Remove Adapter (13), Ball Valve (14), Nipple (15), and Elbow (16).



*Note: Approximate empty weight of Hydraulic Oil Tank is 181 lbs. Use suitable lifting devices to support or maneuver Hydraulic Oil Tank.*

- 9) Attach a suitable lifting device to Hydraulic Oil Tank (17).
- 10) Remove four Bolts, Washers, and Nuts (18).
- 11) Remove Hydraulic Oil Tank (18).
- 12) Install parts in reverse order using the following special instructions:
  - Fill Hydraulic Oil Tank using appropriate hydraulic oil. (See Pre-Startup).
  - Activate Auger System and check for leaks. Repair as needed.



## MAINTENANCE

### Remove & Install Hydraulic Oil Filter Assembly

#### **⚠ 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-587

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

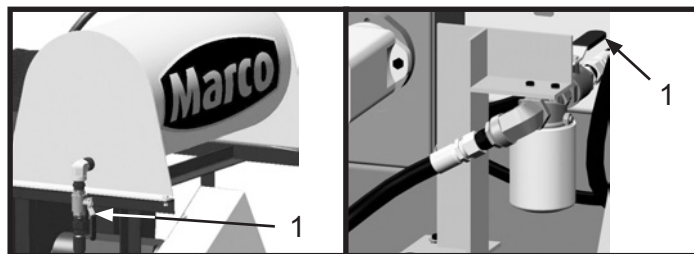
#### **⚠ WARNING**

W-589

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

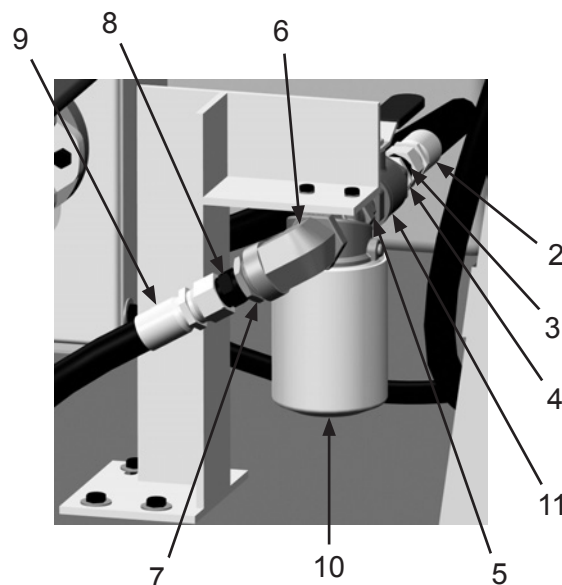
- 1) Close two Ball Valves (1).

*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

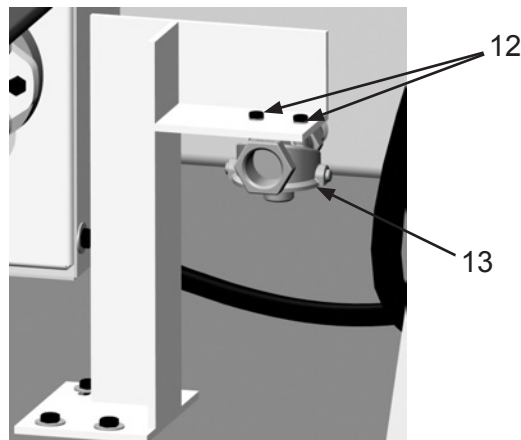


*Note: Label all hoses and connections to aid installation.*

- 2) Disconnect Hoses (2 and 9).
- 3) Remove Filter Element (10).
- 4) Remove Adapter (3).
- 5) Remove Reducer Fitting (4).
- 6) Remove Ball Valve (11).
- 7) Remove Nipple (5).
- 8) Remove Adapter (8).
- 9) Remove Reducer Fitting (7).
- 10) Remove Elbow (6).



- 11) Remove two Bolts and Washers (12), and Filter Head (13).
- 12) Install parts in reverse order.
- 13) Check hydraulic oil level (See Pre-Startup).
- 14) Activate Auger System and check for hydraulic oil leaks.



# MAINTENANCE

## Remove & Install Hydraulic Oil Pump

### 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-567

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

### WARNING

W-569

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

- 1) Disconnect battery.
- 2) Close Ball Valve (1).

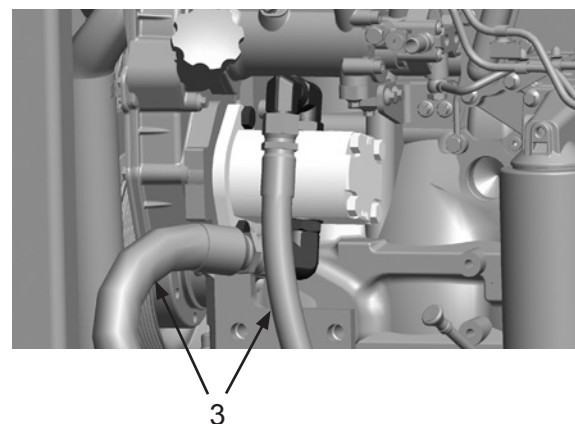
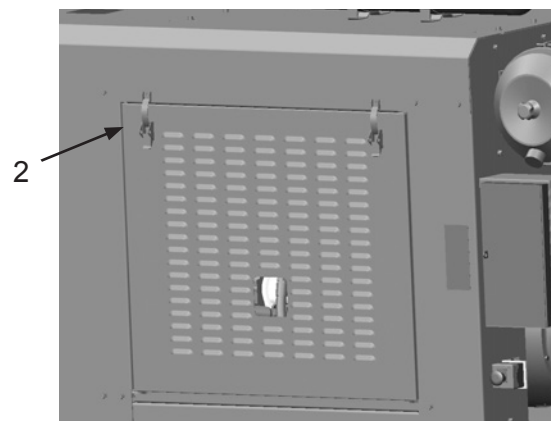


- 3) Remove Housing Panel (2).

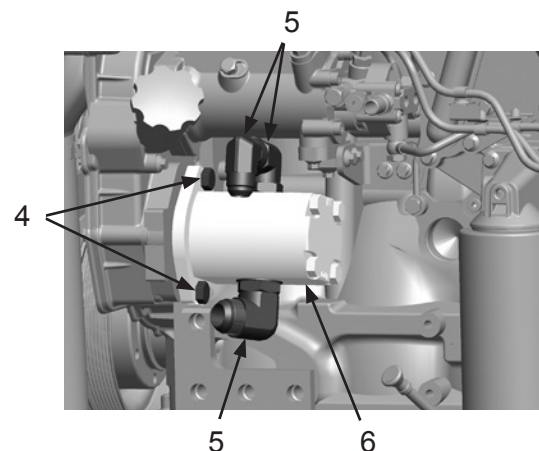
*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

*Note: Label all hoses and connections to aid installation.*

- 4) Disconnect Hydraulic Hoses (3).



- 5) Remove two Bolts (4) and Hydraulic Pump (6).
- 6) Note orientation and location of three Fittings (5) and remove Fittings.
- 7) Install parts in reverse order.
- 8) Check hydraulic oil level. (See Pre-Startup).
- 9) Activate Auger System and check for hydraulic oil leaks. Repair as needed.



# MAINTENANCE

## ⚠ 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-567

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

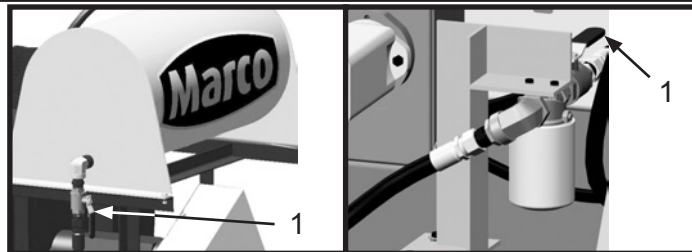
## ⚠ WARNING

W-589

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

## Remove & Install Hydraulic Control Valve

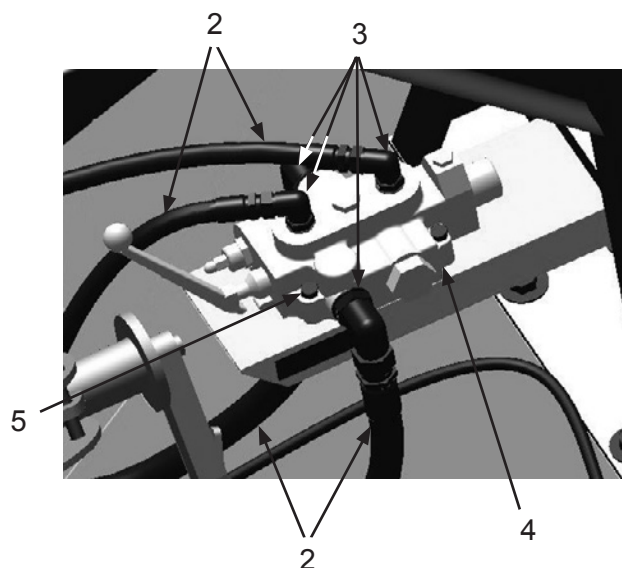
- 1) Close Ball Valves (1).



*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

*Note: Label all hoses and connections to aid installation.*

- 2) Disconnect four Hydraulic Hoses (2).
- 3) Remove four Fittings (3).
- 4) Remove four Bolts (5) and Hydraulic Control Valve (4).
- 5) Install parts in reverse order.
- 6) Check hydraulic oil level, add as needed.
- 7) Activate Auger System and check for leaks. Repair as needed.





## MAINTENANCE

### Remove & Install Discharge Auger Hydraulic Motor

#### **⚠ 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-567

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

#### **⚠ WARNING**

W-566

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.

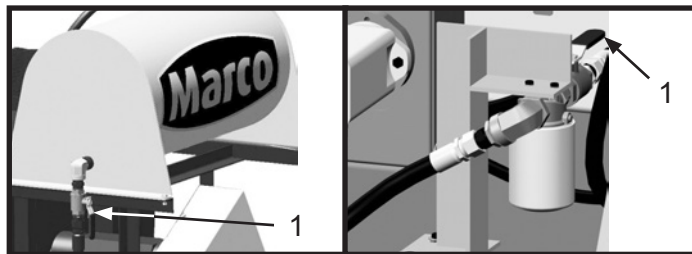
#### **⚠ WARNING**

W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

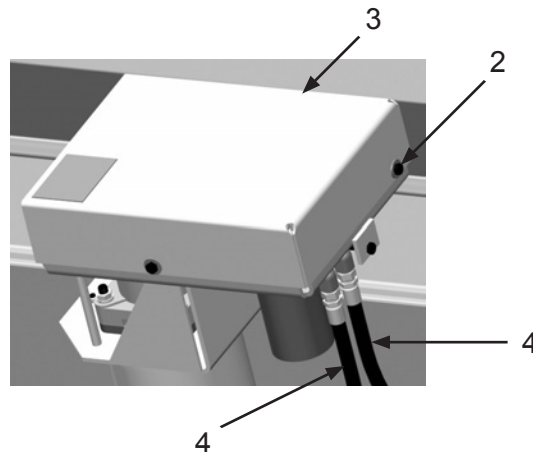
- 1) Close Ball Valves (1).

*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

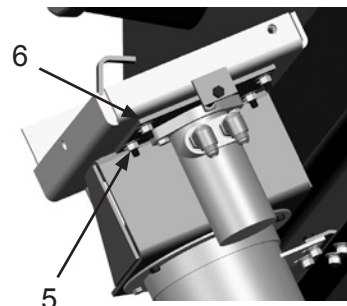


*Note: Label all hoses and connections to aid installation.*

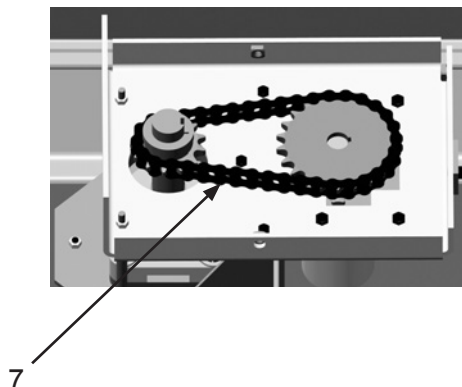
- 2) Disconnect two Hydraulic Hoses (4).
- 3) Remove three Bolts, and Washers (2) and Cover (3).



- 4) Loosen four Bolts (5) from Sliding Motor Mount (6).



- 5) Remove Chain (7). Inspect for wear or damage. Replace as needed.





## MAINTENANCE

### Remove & Install Discharge Auger Hydraulic Motor (*cont.*)

#### **⚠ 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-567

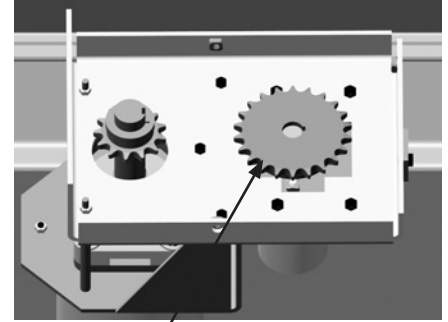
Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

#### **⚠ WARNING**

W-569

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

#### 6) Remove Sprocket (8)



8

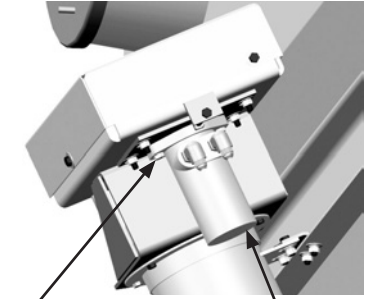
#### 7) Remove two Bolts (9) and Hydraulic Motor (10). Repair or replace Hydraulic Motor as needed.

#### 8) Install parts in reverse order using the following special instructions:

- Tighten Bolts (9) in an alternating pattern. Tighten to 9 ft.-lb.
- Ensure Chain has approximately 3/16 - 1/4 inch of deflection (See Adjust Discharge Auger Drive Chain).

#### 9) Check hydraulic oil level (See Pre-Startup).

#### 10) Activate Auger System and check for hydraulic oil leaks.



9

10

# MAINTENANCE

## Remove & Install Main Auger Hydraulic Motor

### **⚠ 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-587

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

### **⚠ WARNING**

W-586

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.

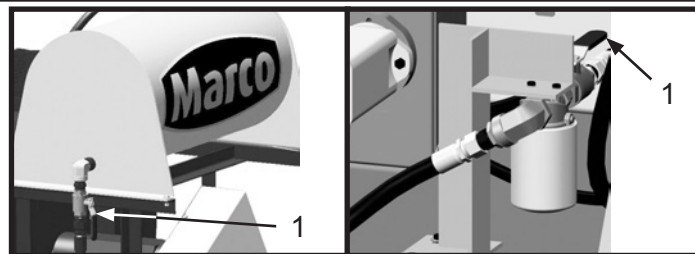
### **⚠ WARNING**

W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

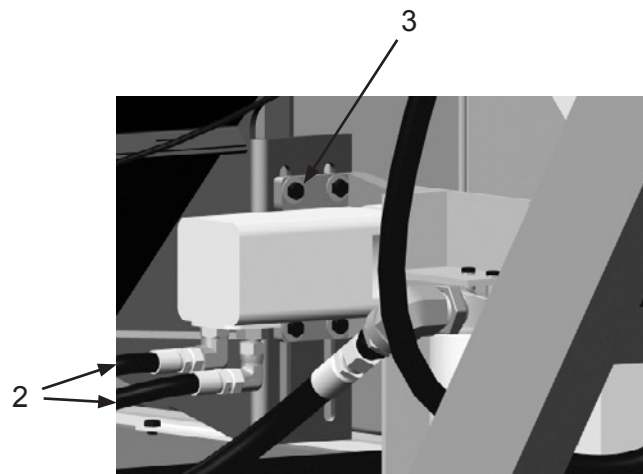
- 1) Close Ball Valves (1).

*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

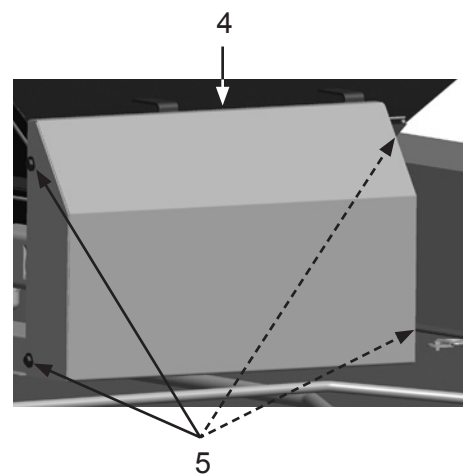


*Note: Label all hoses and connections to aid installation.*

- 2) Remove two Hydraulic Hoses (2)
- 3) Loosen four Bolts (3).



- 4) Remove four Bolts and Washers (5) and remove Cover (4).



## MAINTENANCE

### Remove & Install Main Auger Hydraulic Motor (cont.)

#### **WARNING**

W-562

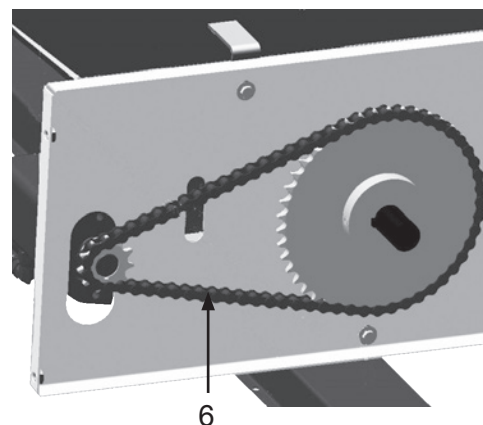
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **WARNING**

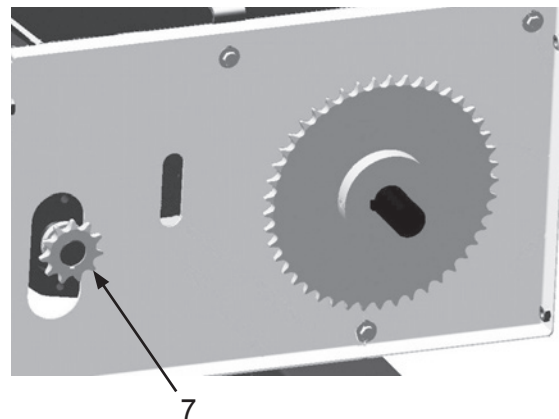
W-566

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.

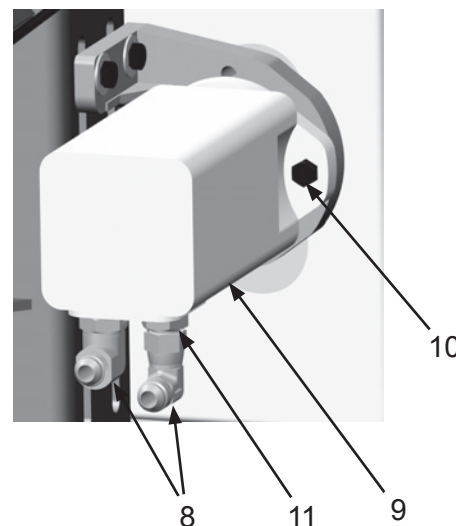
- 5) Remove Chain (6).



- 6) Remove Sprocket (7).



- 7) Remove two Fittings (8) and Straight Adapter (11).
- 8) Remove two Bolts (10) and Hydraulic Motor (9). Repair or replace Hydraulic Motor as needed.
- 9) Install parts in reverse order using the following special instructions:
- Ensure Chain has approximately 5/8 - 7/8 inch of deflection (See Adjust Main Auger Drive Chain).
- 10) Check hydraulic oil level (See Pre-Startup).
- 11) Operate Auger System and check for hydraulic oil leaks and Auger System function.



# MAINTENANCE

## Remove & Install Fan Drive Belt Assembly

### **⚠ 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-566

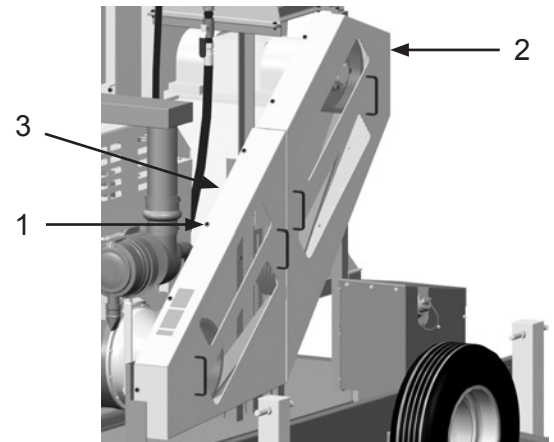
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts.

### **⚠ WARNING**

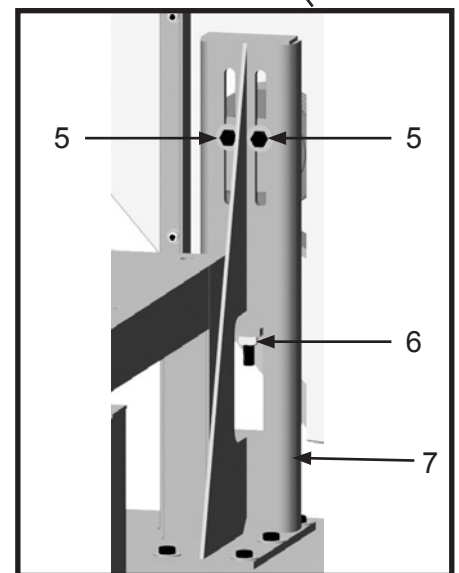
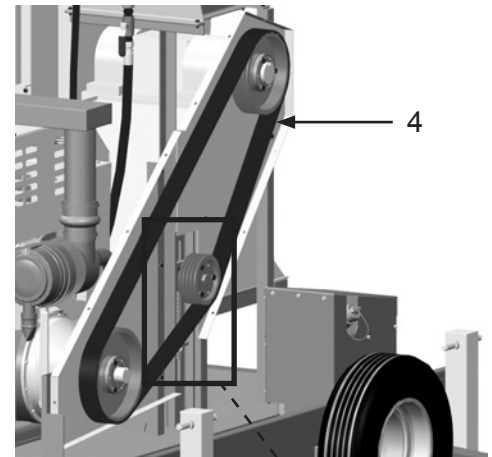
W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

- 1) Disconnect battery cables from battery.
- 2) Remove 8 Bolts and Washers (1).
- 3) Remove Upper Belt Cover (2).
- 4) Remove Lower Belt Cover (3).



- 5) On back of Tensioner (7), loosen two Bolts (5) and turn Nut (6) until belt is loose. Remove belt (4).
- 6) Inspect Belt (4) for wear, abrasion, and damage. Replace as needed.



## MAINTENANCE

### Remove & Install Fan Drive Belt Assembly (cont.)

#### **WARNING**

W-562

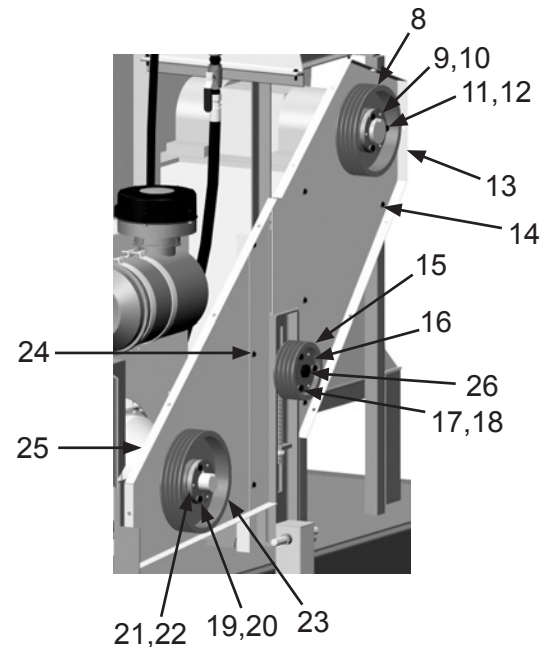
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **WARNING**

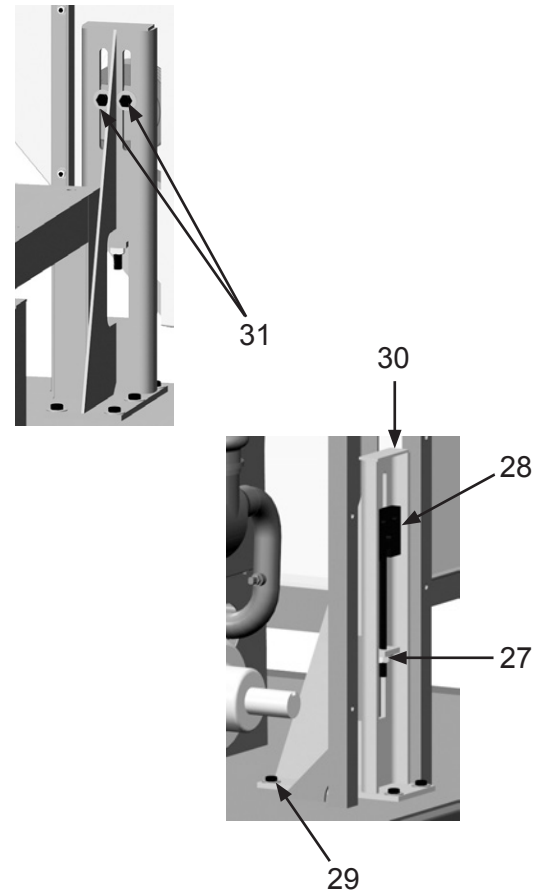
W-566

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.

- 7) Remove three Bolts (12), Washers (11) and Bushing (10).
- 8) Remove Sheave (8) and Key (9) from shaft.
- 9) Remove three Bolts (19), Washers (20) and Bushing (21).
- 10) Remove Sheave (23) and Key (22) from shaft.
- 11) Remove Bolt (26), Idler Bushing (16), and Sheave (15). Remove three Bolts (17) and Washers (18) to separate Idler Bushing (16), and Sheave (15).
- 12) Remove five Bolts, Nuts, Lock Washers and ten Washers (14). Remove Upper Belt Guard Back (13).
- 13) Remove four Bolts, Nuts, Lock Washers and eight Washers (24). Remove Lower Belt Guard Back (25).



- 14) Remove two Bolts and Washers (31).
- 15) Remove Nut and Washer (27), and Belt Tightener Mount (28).
- 16) Remove four Bolts, Lock Washers, Nuts and eight Washers (29) and Bracket (30).
- 17) Install parts in reverse order.





# MAINTENANCE

## Remove & Install Discharge Auger Assembly

### 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-587

Escaping fluid under pressure can penetrate skin and tissue causing injury. Stop pump and relieve pressure before attempting maintenance or repair. Ensure all fittings are properly tightened before restoring pressure. If injury should occur, immediately seek medical attention. Failure to comply with the above warning could result in death or serious injury.

### WARNING

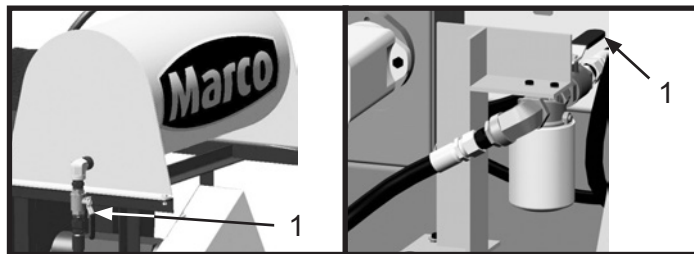
W-589

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

- 1) Close Ball Valves (1).

*Note: Drain hoses into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

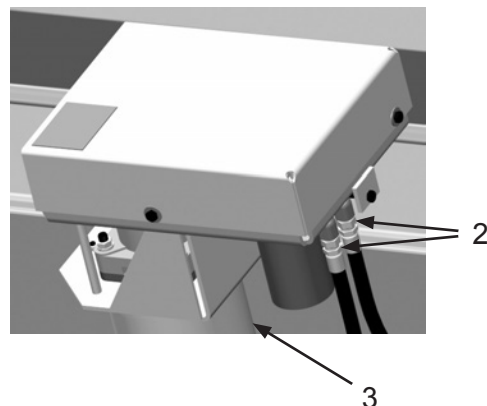
*Note: Label all hoses and connections to aid installation.*



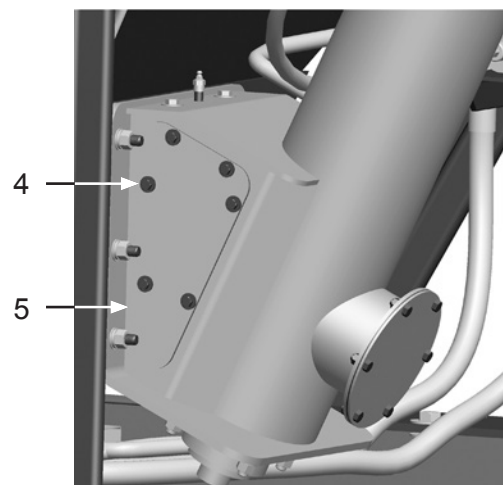
- 2) Disconnect two Hydraulic Hoses (2).
- 3) Route Hydraulic Hoses away from Discharge Auger Assembly.

*Note: Approximate weight of Discharge Auger Assembly is 180 lbs. Use suitable lifting devices to support or maneuver Discharge Auger Assembly.*

- 4) Attach a suitable lifting device to Discharge Auger Assembly (3).



- 5) Remove six Bolts and Washers (4).
- 6) Remove Cover and Gasket (5). Inspect Gasket for wear or damage. Replace as needed.
- 7) Repeat for opposite side.





## MAINTENANCE

### Remove & Install Discharge Auger Assembly (cont.)

#### **⚠ WARNING**

W-562

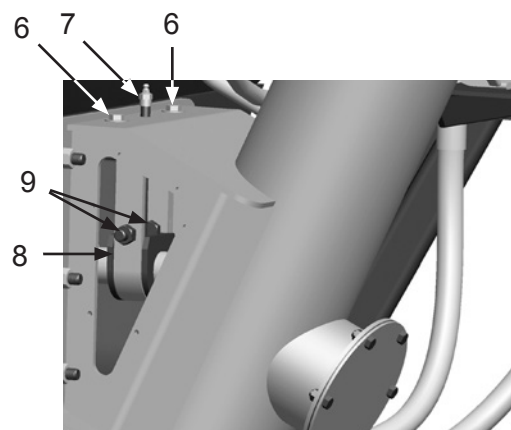
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **⚠ WARNING**

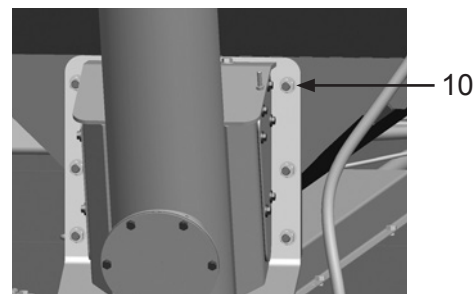
W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

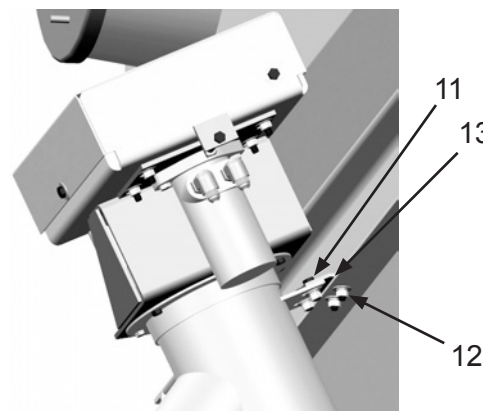
- 8) Remove two Bolts and Nuts (9).
- 9) Remove Grease Fitting (7).
- 10) Remove two Bolts and Washers (6).
- 11) Remove Bearing Hanger Assembly (8).



- 12) Remove six Nuts, Lock Washers, Flat Washers and Bolts (10).



- 13) Remove two Bolts, Washers, and Nuts (11).  
Raise and remove Discharge Auger Assembly.
- 14) Remove two Bolts, Washers, and, Nuts (12),  
and Bracket (13).
- 15) Install parts in reverse order.
- 16) Check hydraulic oil level. (See Pre-Startup).
- 17) Activate Auger System and check for hydraulic  
oil leaks. Repair as needed.



## MAINTENANCE

### Remove & Install Main Auger

#### **⚠ WARNING**

W-562

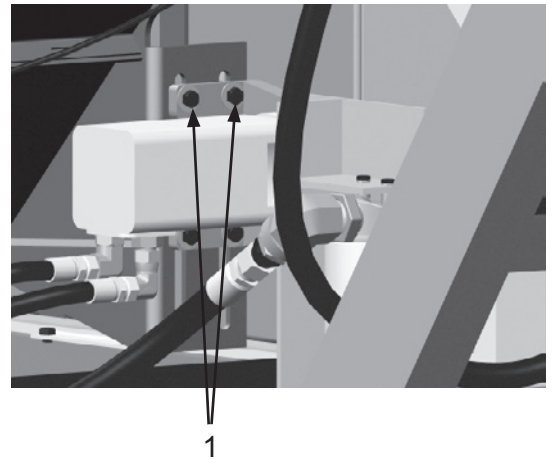
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **⚠ WARNING**

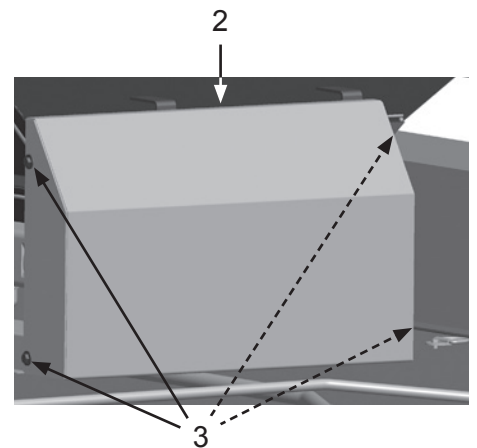
W-586

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.

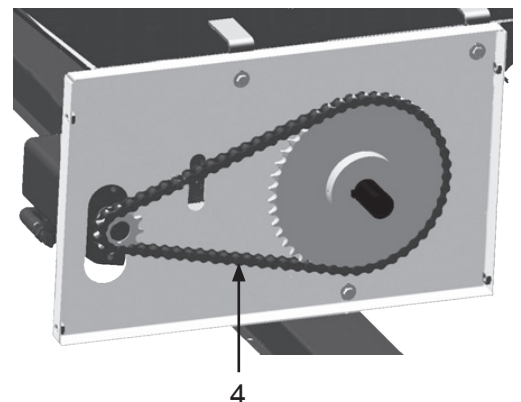
- 1) Remove Discharge Auger Assembly. See Remove & Install Discharge Auger Assembly.
- 2) Loosen four Bolts (1).



- 3) Remove four Bolts and Washers (3) and remove Cover (2).



- 4) Remove Chain (4).



## MAINTENANCE

### Remove & Install Main Auger (cont.)

#### **⚠ WARNING**

W-562

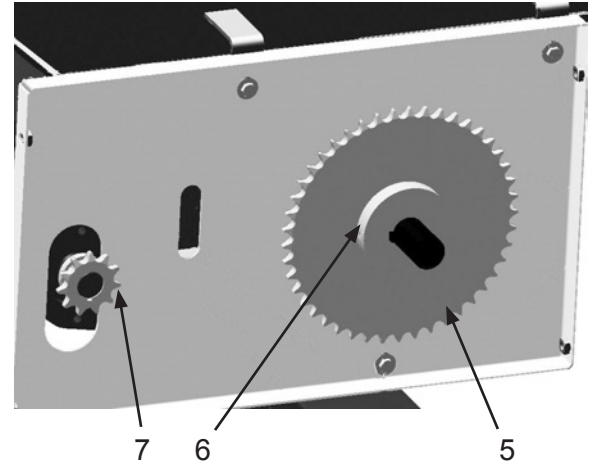
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **⚠ WARNING**

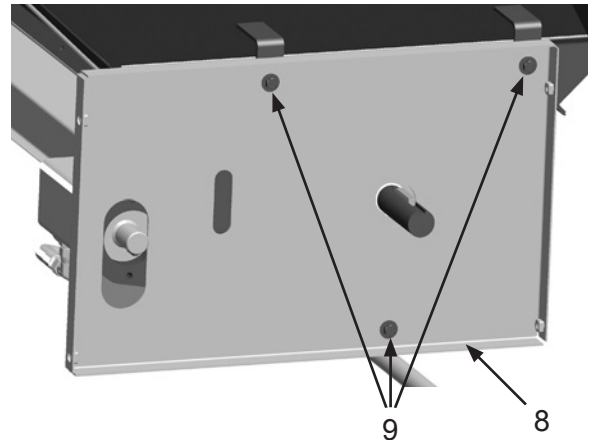
W-586

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.

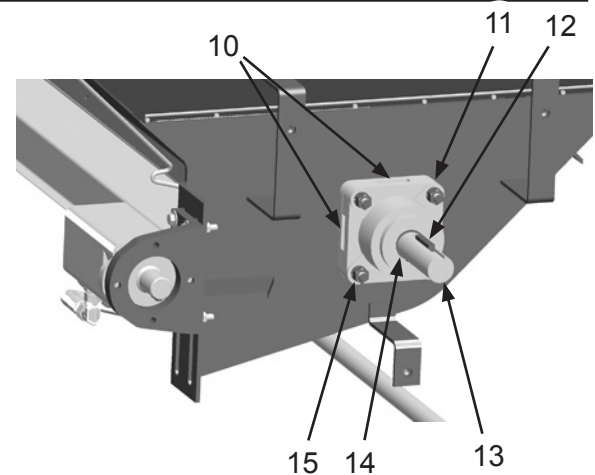
- 5) Loosen two Set Screws (6) and remove Sprocket (5).
- 6) Remove Sprocket (7).



- 7) Remove three Bolts and Washers (9).
- 8) Remove Back Cover (8).



- 9) Remove Key (12).
- 10) Remove Snap Ring (14).
- 11) Rotate Shaft (13) until two Set Screws (10) are visible in the slots. Loosen two Set Screws.
- 12) Remove four Nuts and Washers (15).
- 13) Remove Thrust Bearing (11).



## MAINTENANCE

### Remove & Install Main Auger (cont.)

#### **⚠ WARNING**

W-562

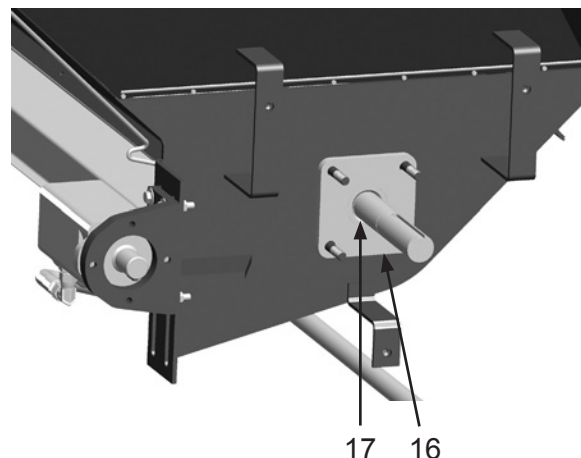
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **⚠ WARNING**

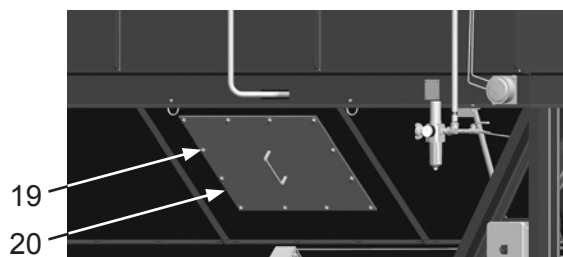
W-586

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.

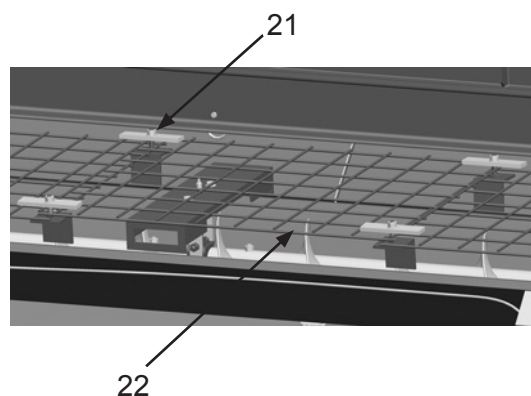
- 14) Remove Snap Ring (17) and Seal Plate (16).



- 15) Remove twelve Bolts and Washers (19) and Access Panel (20).



- 16) Remove four Retaining Brackets (21) and Grate (22).



## MAINTENANCE

### Remove & Install Main Auger (cont.)

#### **WARNING**

W-562

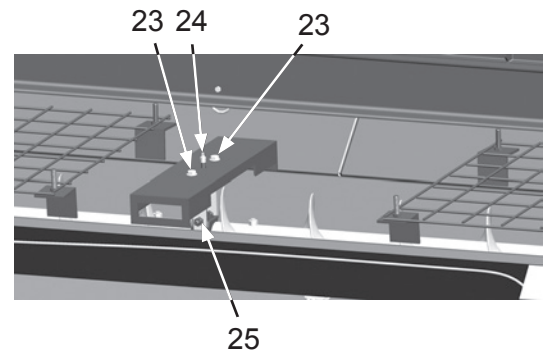
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **WARNING**

W-586

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.

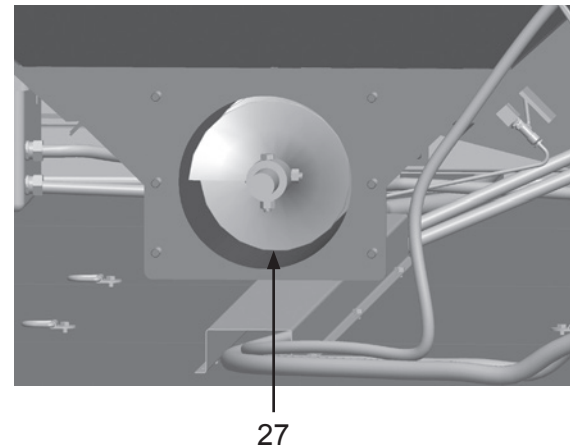
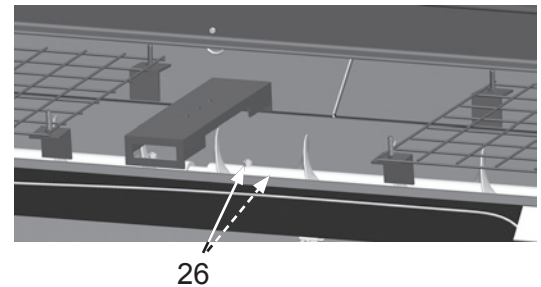
- 17) Remove Grease Zerk (24).
- 18) Remove two Bolts and Washers (23).
- 19) Remove Bolt and Bearing Hanger (25).



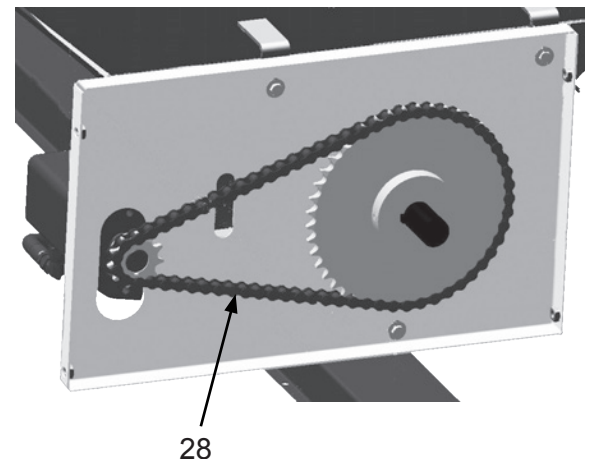
- 20) Remove two Bolts, Washers and Nuts (26).

*Note: Approximate weight of Main Auger is 105 pounds. Use suitable lifting devices to support or maneuver Main Auger.*

- 21) Remove Main Auger (27).



- 22) Install parts in reverse order using the following special instructions:
  - Ensure Chain (28) has approximately 5/8 - 7/8 inch of deflection. Adjust as needed. (See Adjust Main Auger Drive Chain).



# MAINTENANCE

## Remove & Install Discharge Auger

### **⚠ WARNING**

W-562

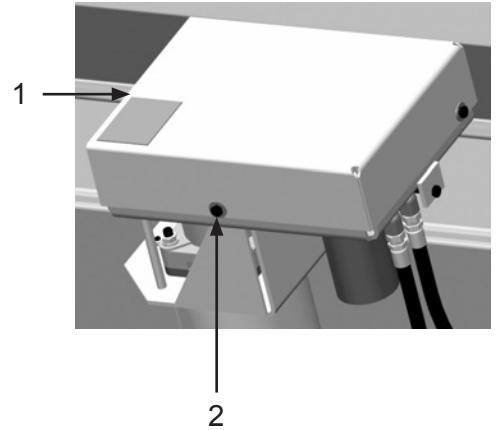
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **⚠ WARNING**

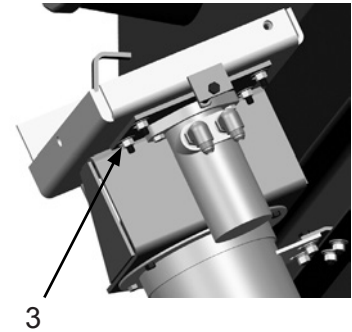
W-586

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.

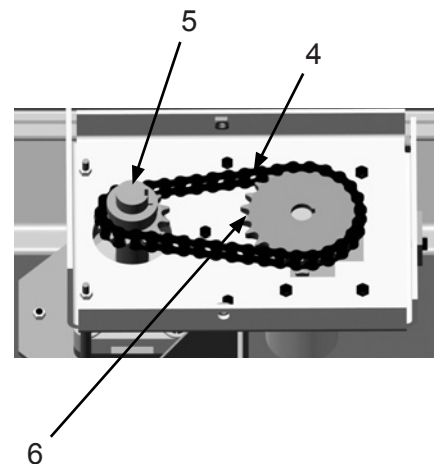
- 1) Remove Discharge Auger Assembly. See Remove & Install Discharge Auger Assembly.
- 2) Remove three Bolts (2) and Chain Drive Cover (1).



- 3) Loosen four Bolts (3).



- 4) Remove Chain (4). Inspect for wear or damage. Replace as needed.
- 5) Loosen two set screws retaining Sprocket (5) to shaft and remove Sprocket and key. Inspect Sprocket for wear or damage. Replace as needed.
- 6) Loosen two set screws retaining Sprocket (6) to shaft and remove Sprocket. Inspect Sprocket for wear or damage. Replace as needed.





## MAINTENANCE

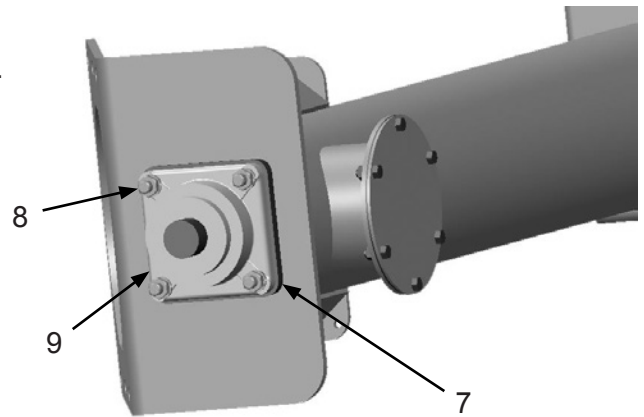
### Remove & Install Discharge Auger (cont.)

#### **WARNING**

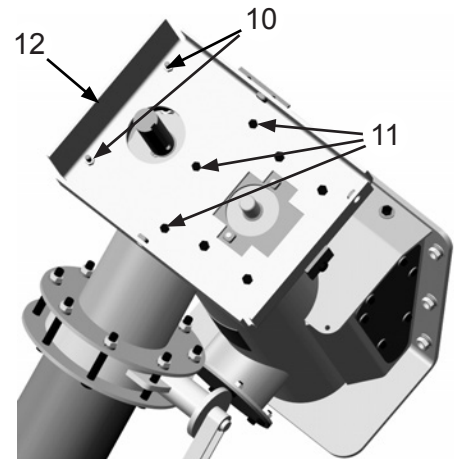
W-562

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.

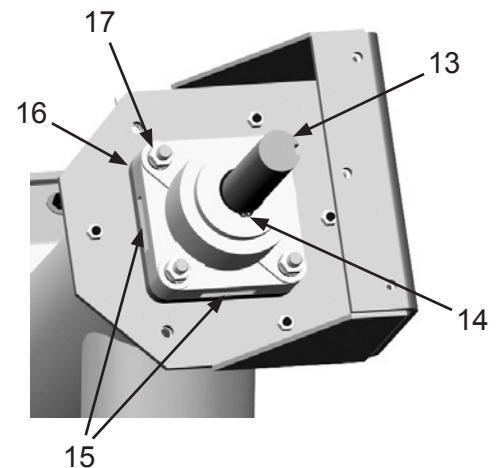
- 7) Remove four Nuts and Washers (8).  
Remove Bearing (9) and Seal Plate (7).



- 8) Remove three Bolts (11); two Nuts, Bolts and Spacers (10) and Chain Guard Bottom Cover (12).



- 9) Rotate shaft (13) until two Set Screws (15) are visible, and loosen Set Screws.
- 10) Remove Snap Ring (14).
- 11) Remove four Nuts and Lock Washers (17), and Bearing Housing (16).



## MAINTENANCE

### Remove & Install Discharge Auger (cont.)

#### **⚠ WARNING**

W-562

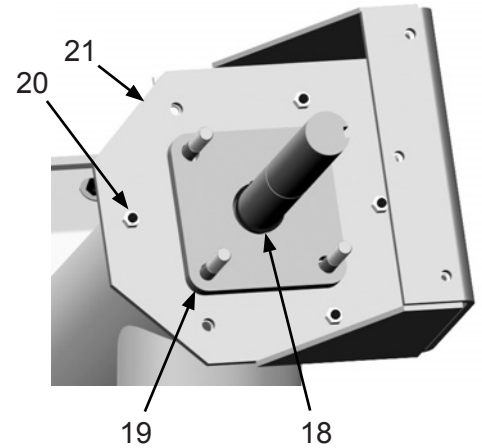
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **⚠ WARNING**

W-586

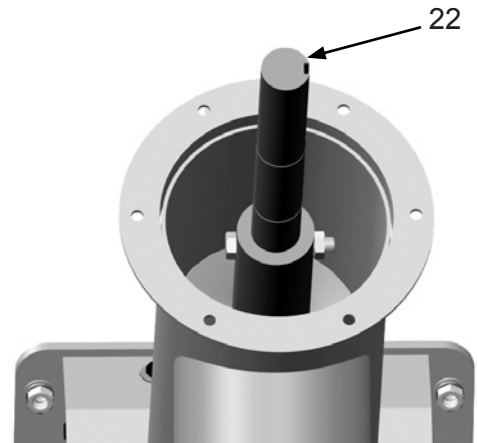
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts.

- 1) Remove Snap Ring (18) and Seal Plate (19).
- 2) Remove four Bolts, Washers, and Nuts (20).
- 3) Remove Shaft Cover (21).

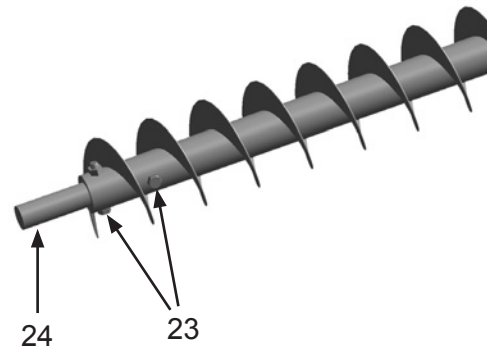


*Note: Approximate weight of Discharge Auger is 60 pounds. Use suitable lifting devices to support or maneuver Discharge Auger.*

- 4) Remove Discharge Auger (22).



- 5) Remove two Bolts and Nuts (23) and Shaft End (24). Repeat for opposite end.



## MAINTENANCE

### Remove & Install Discharge Auger (cont.)

#### **WARNING**

W-562

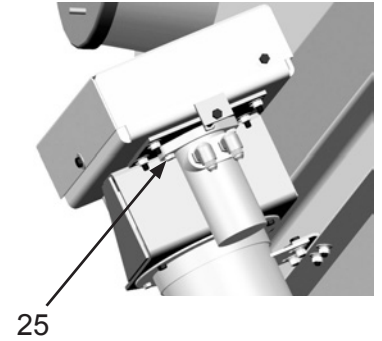
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **WARNING**

W-586

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.

- 6) Install parts in reverse order using the following special instructions:
  - Tighten Bolts (25) in an alternating pattern. Tighten to 9 ft.-lb.
  - Ensure Chain has approximately 3/16 - 1/4 inch of deflection (See Adjust Discharge Auger Drive Chain).
- 7) Check hydraulic oil level (See Pre-Startup).
- 8) Activate Auger System and check for hydraulic oil leaks.



# MAINTENANCE

## Remove & Install Fan

### **⚠ 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-566

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.

### **⚠ WARNING**

W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

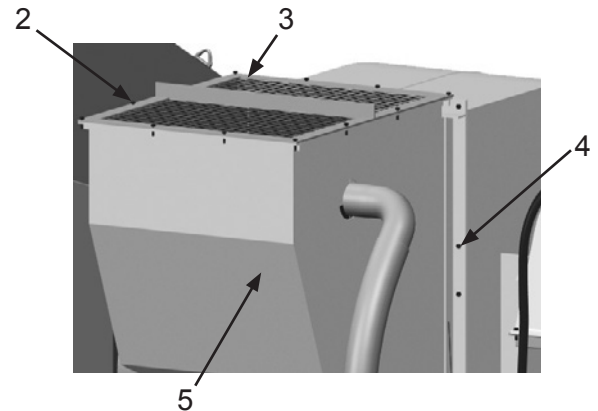
- 1) Remove Fan Drive Belt Cover (1) Assembly (See Remove & Install Fan Drive Belt Assembly).



- 2) Remove Bolts, Washers, and Nuts (2). Remove screen (3).

*Note: Approximate weight of fan exhaust is 195 lbs. Use suitable lifting devices to support or maneuver hydraulic oil tank stand.*

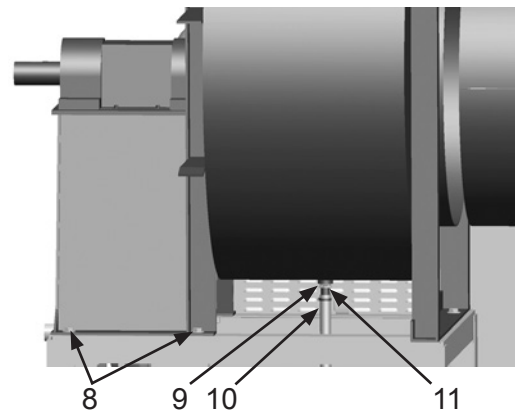
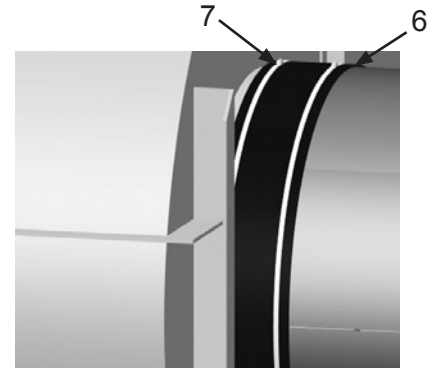
- 3) Attach a suitable lifting device to Fan Exhaust (5).
- 4) Remove 12 Bolts, Washers, and Nuts (4). Remove Fan Exhaust (5).



- 5) Remove two Clamps (7) and Rubber Connection Gasket (6).
- 6) Remove Hose (10), Toe Nipple (11), and Bushing (9).

*Note: Approximate weight of fan is 2050 lbs. Use suitable lifting devices to support or maneuver fan.*

- 7) Attach a suitable lifting device to Fan and remove four Bolts, Washers, and Nuts (8). Remove Fan.
- 8) Install parts in reverse order.



# MAINTENANCE

## Remove & Install Engine Assembly

### **⚠ 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**

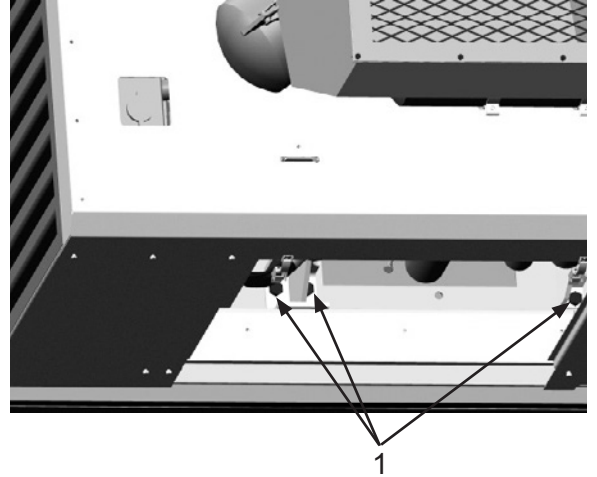
N-530

Label all hoses and connections to aid installation.

- 1) Disconnect battery cables from battery.
- 2) Remove Fan Drive Belt Cover Assembly. See Remove & Install Fan Drive Belt Cover Assembly.
- 3) Remove Hydraulic Pump. See Remove & Install Hydraulic Pump.
- 4) Disconnect Fuel Supply Hose and Fuel Return Hose.
- 5) Disconnect fuel hoses and battery cables from engine. See engine Operator's Manual.
- 6) Route all hoses and wiring away from Engine Assembly.

*Note: Approximate weight of Engine Assembly is 2450 pounds. Use suitable lifting devices to support or maneuver Engine Assembly.*

- 7) Attach suitable lifting devices to Engine Assembly.
- 8) Remove three Bolts (1). Repeat for opposite side.
- 9) Remove Engine Assembly.
- 10) Install parts in reverse order using the following special instructions:
  - Tighten six Bolts (1) to 320 ft.-lbs.



# MAINTENANCE

## Remove & Install Clutch

### 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

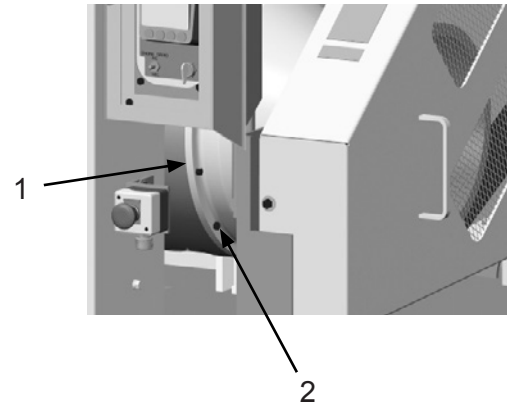
W-586

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.

- 1) Remove Fan Drive Belt Cover Assembly. See Remove & Install Fan Drive Belt Cover Assembly.

*Note: Approximate weight of Clutch Assembly is 175 pounds. Use suitable lifting devices to support or maneuver Clutch Assembly.*

- 2) Attach a suitable lifting device to Clutch Assembly (1).
- 3) Remove twelve Bolts (2), and remove Clutch Assembly (1).
- 4) Repair or replace Clutch Assembly (1) as needed. (See Operator's Manual for Clutch Assembly.)
- 5) Install parts in reverse order.





# MAINTENANCE

## Remove & Install Pulser Solenoid

### **⚠ 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**

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.

### **⚠ WARNING**

W-590

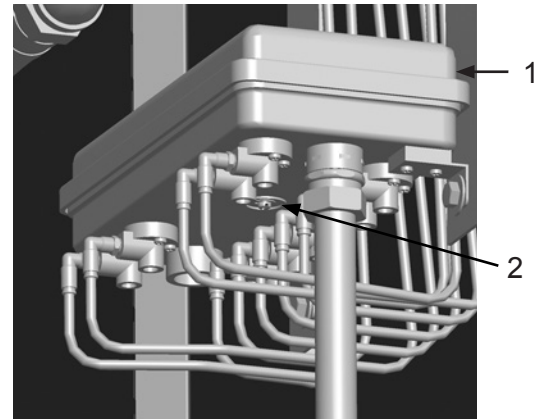
When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

### **NOTICE**

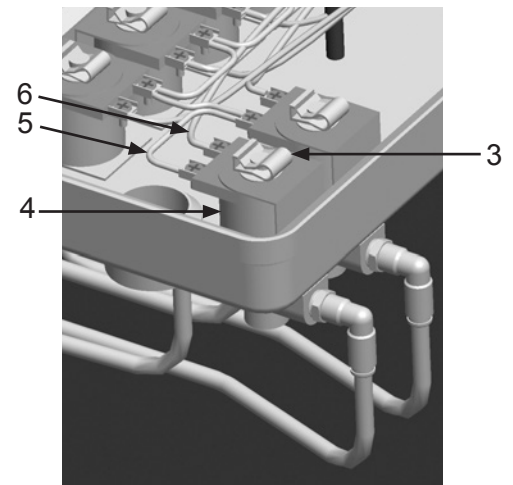
N-530

Label all hoses and connections to aid installation.

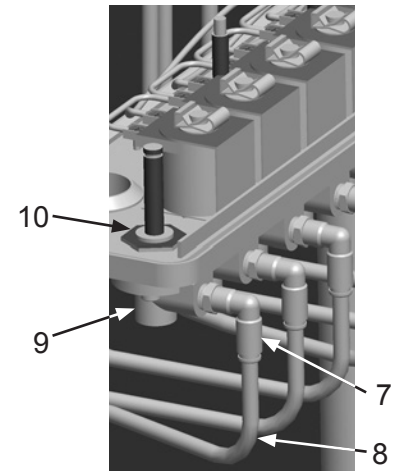
- 1) Disconnect battery cables from battery.
- 2) Disconnect air hose from filter/regulator.
- 3) Loosen Screw (2) and remove Cover (1).



- 4) Disconnect Wire (6) and Wire (5).
- 5) Remove Retaining Clip (3).
- 6) Remove Operator (4).



- 7) Disconnect Tubing (8).
- 8) Remove Fitting (7).
- 9) Remove Nut (10) and Valve (9).
- 10) Install parts in reverse order.



## MAINTENANCE

### Remove & Install Pulser Manifold

#### **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-590

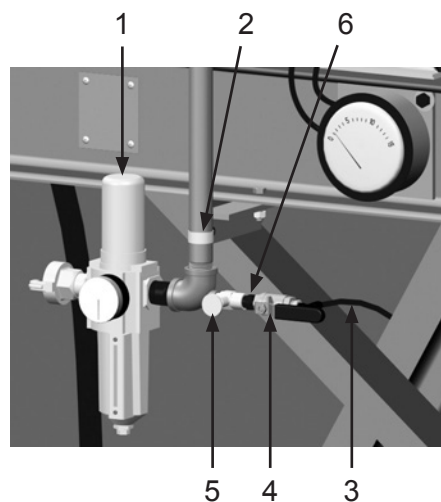
When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

#### **NOTICE**

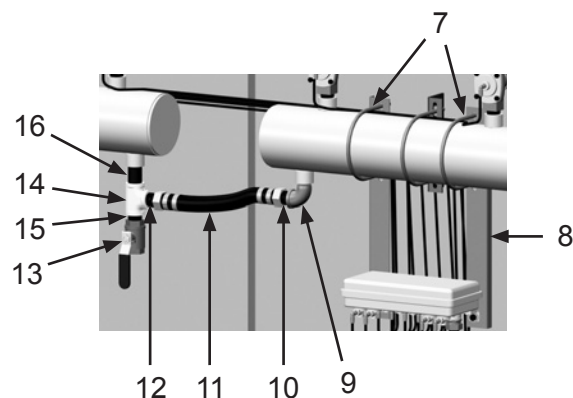
N-530

Label all hoses and connections to aid installation.

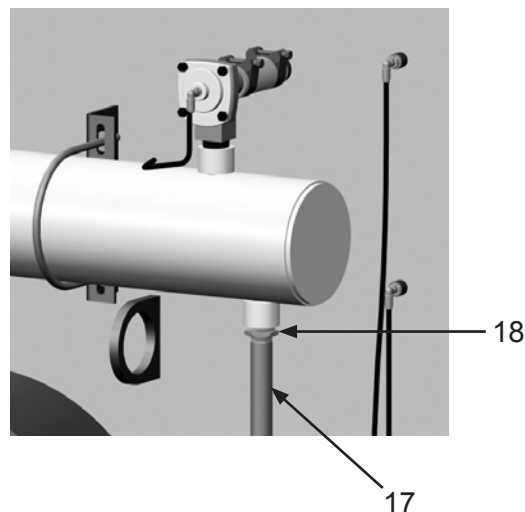
- 1) Disconnect air hose from filter/regulator.
- 2) Disconnect Air Hose (3).
- 3) Remove Ball Valve (4), Nipple (6) and Needle Valve (5).
- 4) Remove Clamp (2).
- 5) Remove Filter/Regulator (1).



- 6) Disconnect Hose (11).
- 7) Remove Close Nipple (12).
- 8) Remove Ball Valve (13).
- 9) Remove Pipe Nipple (15).
- 10) Remove Pipe Tee (14).
- 11) Remove Pipe Nipple (16).
- 12) Remove Close Nipple (10).
- 13) Remove Street Elbow (9).
- 14) Attach a suitable support to Bracket (8).
- 15) Remove two U-bolts (7).
- 16) Place and support Bracket (8) so it is clear of the area.



- 17) Remove Pipe (17) and Bushing (18).



## MAINTENANCE

### Remove & Install Pulser Manifold (cont.)

#### **WARNING**

W-562

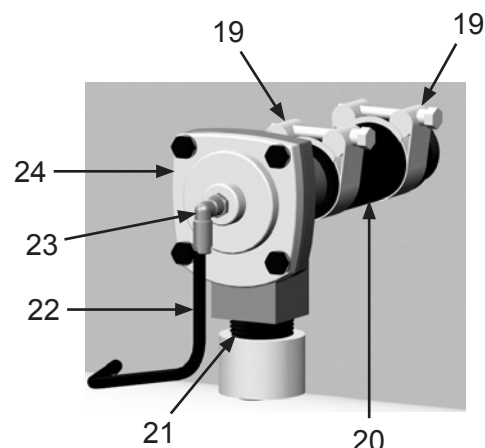
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **WARNING**

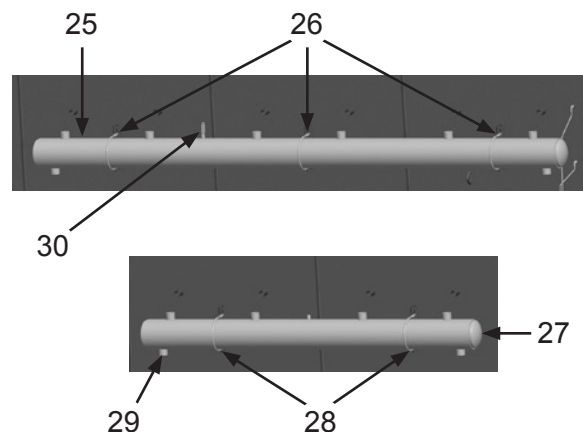
W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

- 1) Disconnect Urethane Tubing (22).
- 2) Remove Fitting (23).
- 3) Loosen two Clamps (19) and disconnect Hose (20) from Diaphragm Valve (24).
- 4) Remove Diaphragm Valve (24).
- 5) Remove Nipple (21).
- 6) Route Urethane Tubing (22) away from manifold.
- 7) Repeat for remaining Diaphragm Valves.



- 8) Approximate weight of Front Pulser Manifold is 120 pounds. Use suitable lifting devices to support or maneuver Front Pulser Manifold.
- 9) Attach suitable lifting devices to Pulser Manifold (25).
- 10) Remove Pressure Relief Valve (30).
- 11) Remove three U-bolts (26) and remove Pulser Manifold (25).
- 12) Approximate weight of Rear Pulser Manifold is 75 pounds. Use suitable lifting devices to support or maneuver Rear Pulser Manifold.
- 13) Attach suitable lifting devices to Pulser Manifold (27).
- 14) Remove Pipe Plug (29).
- 15) Remove two U-bolts (28) and remove Pulser Manifold (27).
- 16) Install parts in reverse order.



# MAINTENANCE

## Remove & Install Timer Board

### WARNING

W-562

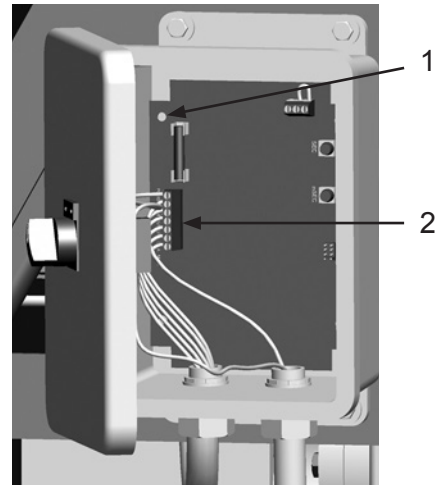
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### NOTICE

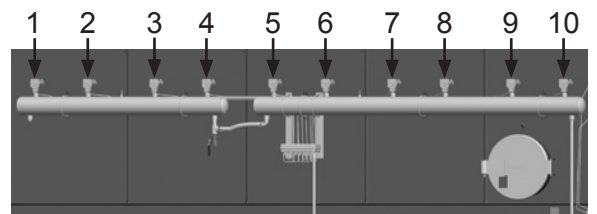
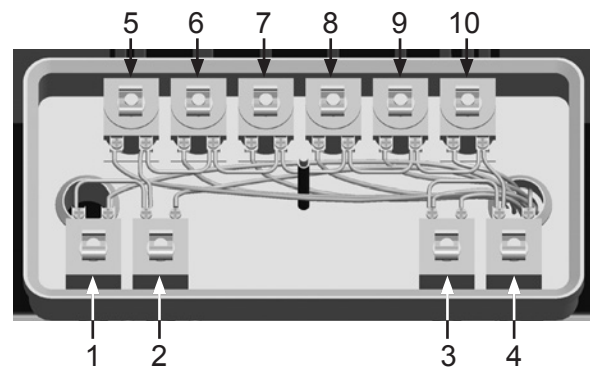
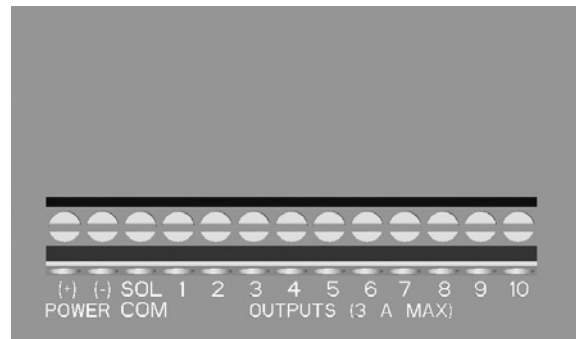
N-530

Label all hoses and connections to aid installation.

- 1) Disconnect battery cables from battery.
- 2) Open enclosure door.
- 3) Remove four Screws (1).
- 4) Record connection location and label Wires (2).
- 5) Disconnect Wires (2).



- 6) Install parts in reverse order using the chart as a guide.
- 7) Adjust pulse duration and pulse separation. See Adjust Pulse Separation.



## MAINTENANCE

### Remove & Install Dust Collector Filter Cartridges

#### **⚠ WARNING**

W-562

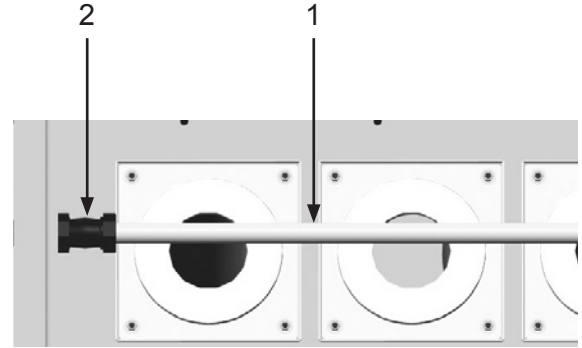
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **⚠ WARNING**

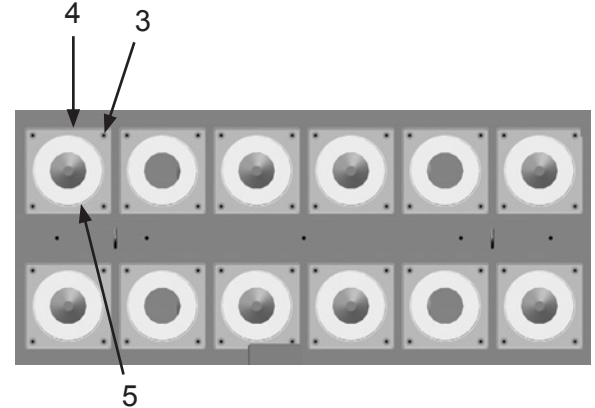
W-501

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

- 1) Remove Compression Coupling (2) from Pulser System Blowpipe (1).
- 2) Remove Pulser System Blowpipe (1).



- 3) Remove four Washers and Nuts (3) and remove Filter Retainer (4). Repeat for remaining Filter Retainers.
- 4) Remove Filter Cartridge (5). Repeat for remaining Filter Cartridges.
- 5) Install parts in reverse order.



## MAINTENANCE

### Remove & Install Dust Collector Filter Cartridge Hatch Assembly

#### **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-566

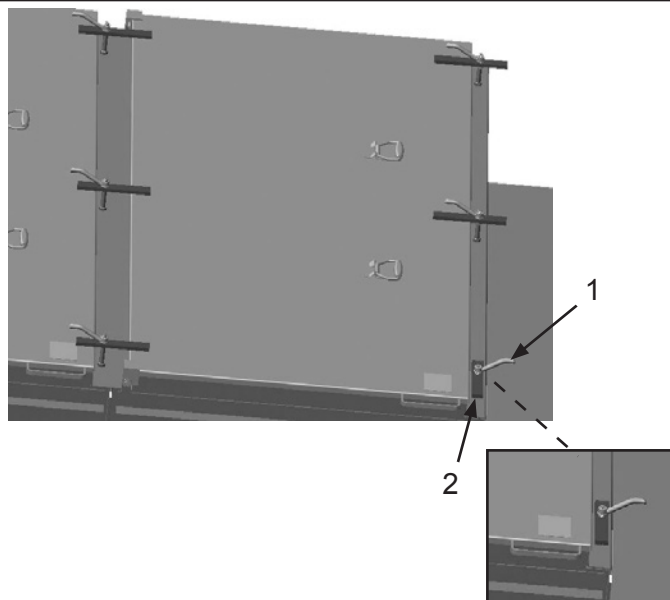
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts.

#### **WARNING**

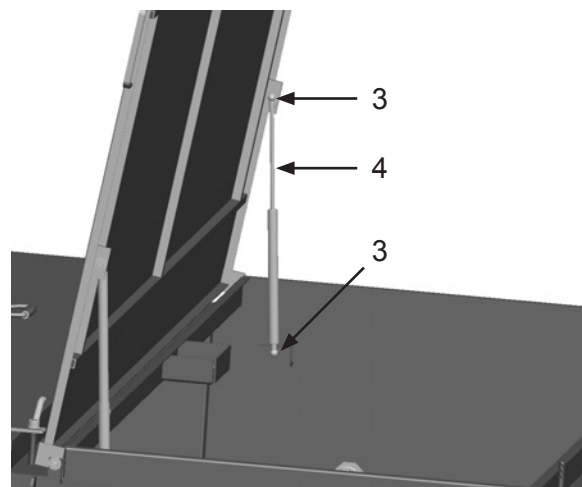
W-590

When performing service or maintenance on systems or devices requiring access from an elevated position, you must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, as related to working in elevated work areas. Failure to comply with the above warning could result in death or serious injury.

- 1) Loosen Handles (1).
- 2) Rotate Latch Bars (2) 90° to clear hatch door.
- 3) Open hatch door.



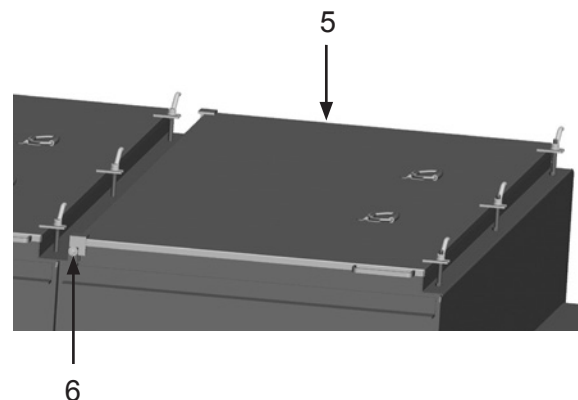
- 4) Remove two Hex Nuts (3).
- 5) Remove Gas Spring (4).
- 6) Repeat for other side.



- 7) Move Hatch Door (5) to closed position.
- 8) Remove two Bolts (6).
- 9) Remove Hatch Door (5).

*Note: Approximate weight of Hatch Door is 86 pounds. Use suitable lifting devices to support or maneuver Hatch Door.*

- 10) Install parts in reverse order using the following special instructions:
  - Ensure Gas Spring installed on left side of hatch door is a "locking" style.





# MAINTENANCE

## Remove & Install Fuel Tank

### **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-589

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

### **NOTICE**

N-531

Drain tanks into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.

### **NOTICE**

N-530

Label all hoses and connections to aid installation.

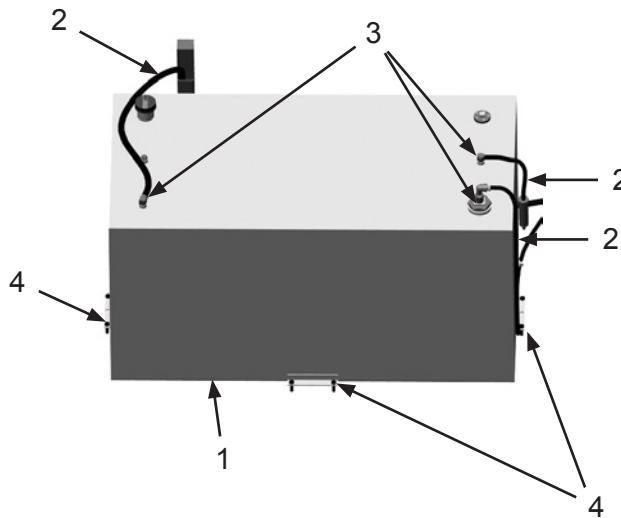
*Note: Fuel Tank capacity is approximately 116 gallons.*

*Note: Drain into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.*

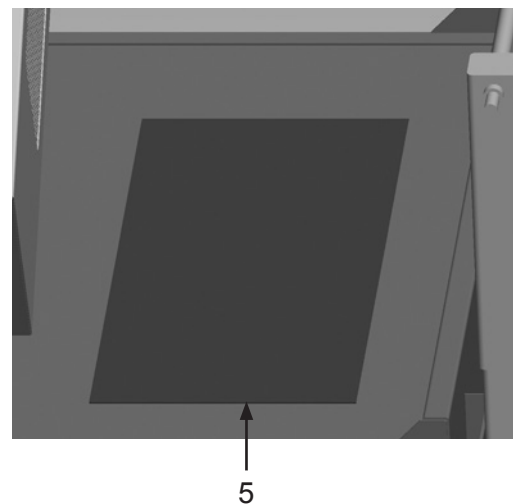
- 1) Empty fuel from Tank (1).
- 2) Disconnect Hoses (2).
- 3) Remove Fittings (3) from tank.
- 4) Remove six Bolts, Washers, Spacers and Nuts (4). Record location and quantity of spacers to aid installation.

*Note: Approximate empty weight of Fuel Tank is 90 pounds. Use suitable lifting devices to support or maneuver Fuel Tank.*

- 5) Attach a suitable lifting device to Tank (1), and remove.



- 6) Inspect Isolation Mat (5) for damage. Replace as needed.
- 7) Install parts in reverse order using the following special instructions:
  - See engine Operator's Manual for priming of engine.



## MAINTENANCE

### ⚠ 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-588

Special precautions required before entering, Entry limited to trained personnel only. Compliance with all local, state, and federal regulations is required before entry. Failure to comply with the above warning could result in death or serious injury.

### ⚠ WARNING

W-589

Exposure to diesel fuel, lubricant grease and oil, hydraulic oil, or engine coolant can cause personal injury. Do not allow these products to remain in contact with the skin or eyes. Ingestion of these products or inhalation of fumes from these products can cause dizziness, nausea, vomiting, or poisoning. If exposure to any of these products occurs, or if any of these products are ingested or if fumes are inhaled, please consult the product's SDS for proper first aid or medical procedures. Failure to comply with the above warning could result in death or serious injury.

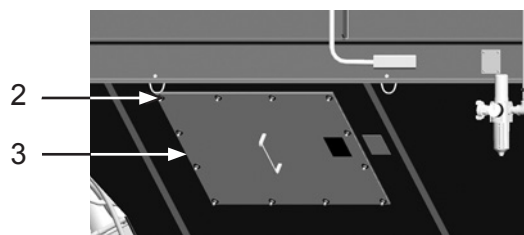
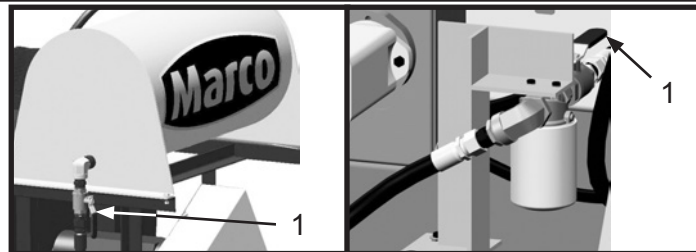
### NOTICE

N-531

Drain tanks into container suitable for collecting fluids. Comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment.

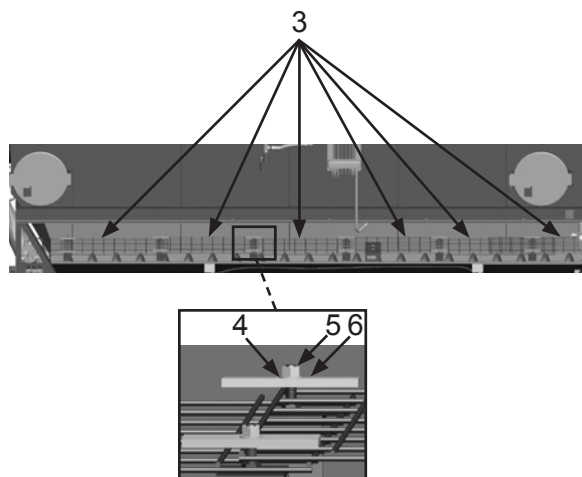
## Remove & Install Main Auger Protective Grate

- 1) Close Ball Valves (1).
- 2) Remove twelve Bolts and Washers (2) and Access Panel (3).



*Note: Side panels of hopper are not removed during this process. Side panels are not shown for clarity.*

- 3) Remove Nut (5), Washer (4), and Retainer (6). Repeat for remaining 11 Retainers.
- 4) Remove six Grates (7). Label and record position of Grates to aid installation.
- 5) Install parts in reverse order.



## MAINTENANCE

### Remove & Install Front Emergency-Stop Station

#### **WARNING**

W-562

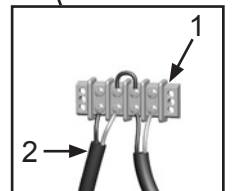
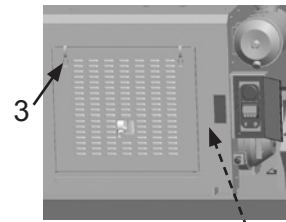
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **NOTICE**

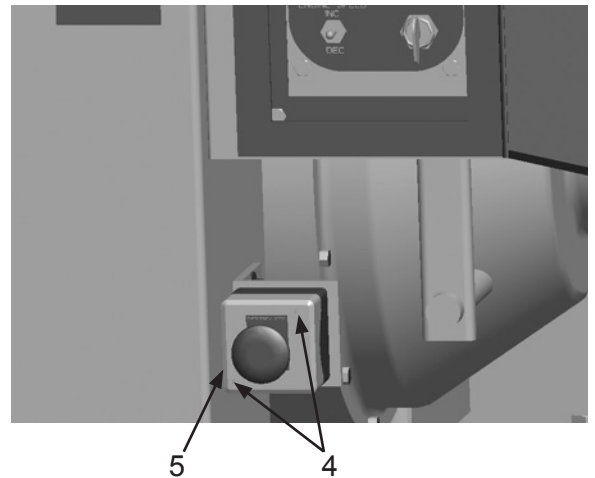
N-530

Label all hoses and connections to aid installation.

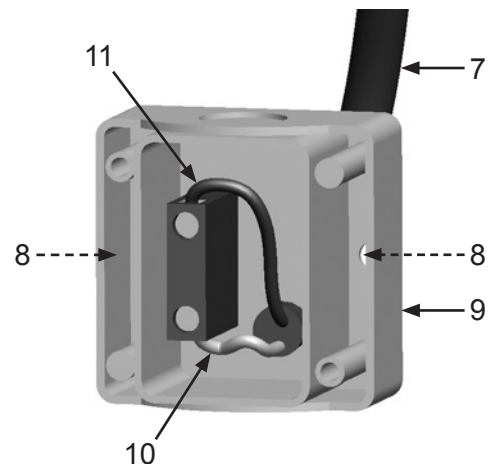
- 1) Disconnect battery cables from battery.
- 2) Remove Engine Cover (3).
- 3) Locate Terminal Block (1) and disconnect two wires of Cable (2).



- 4) Remove two Screws (4) and Cover (5).



- 5) Label Wires (10 and 11) to aid installation.
- 6) Disconnect Wires (10 and 11) and pull Cable (7) from Housing (9).
- 7) Remove two Screws, Washers, and Nuts (8) and Housing (9).
- 8) Install parts in reverse order.



## MAINTENANCE

### Remove & Install Rear Emergency-Stop Station

#### **WARNING**

W-562

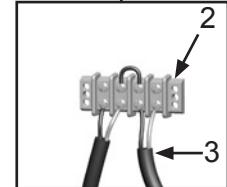
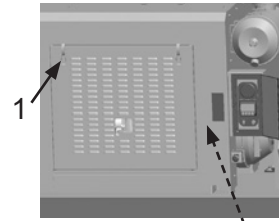
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **NOTICE**

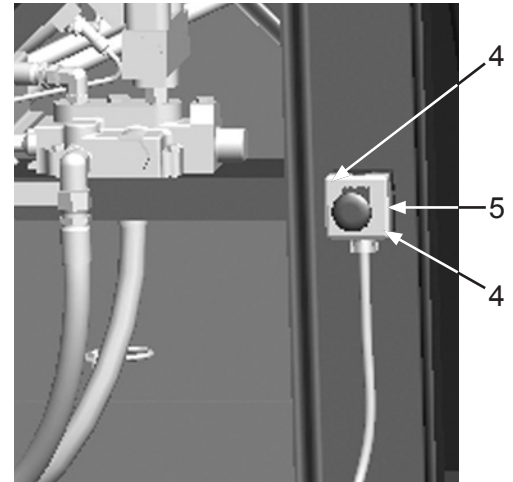
N-530

Label all hoses and connections to aid installation.

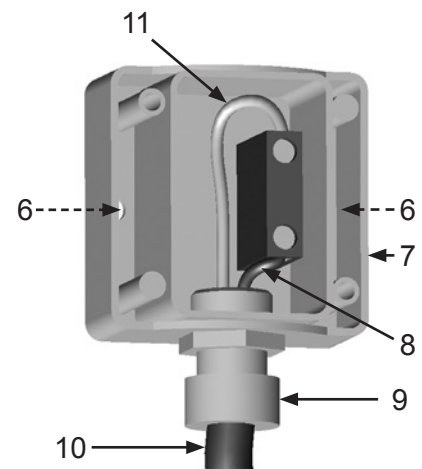
- 1) Disconnect battery cables from battery.
- 2) Remove Engine Cover (1).
- 3) Locate Terminal Block (2) and disconnect two wires of Cable (3).



- 4) Remove two Screws (4) and Cover (5).



- 5) Label Wires (8 and 11) to aid installation.
- 6) Disconnect Wires (8 and 11) and pull Cable (10) from Housing (7).
- 7) Remove two Screws, Washers, and Nuts (6) and Housing (8).
- 8) Install parts in reverse order.



## MAINTENANCE

### Remove & Install Magnehelic Gauge

#### **WARNING**

W-562

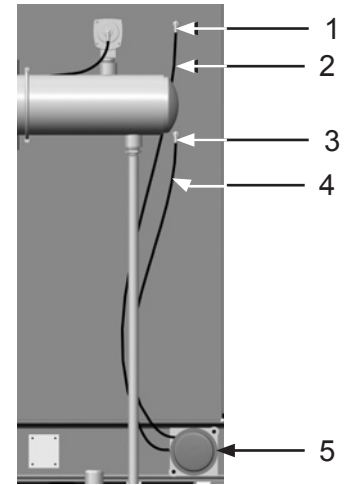
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

#### **NOTICE**

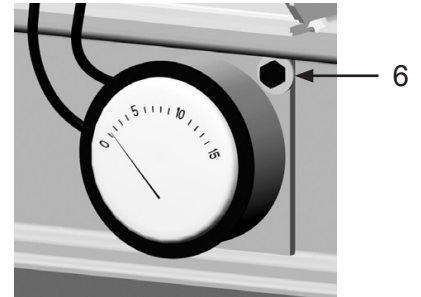
N-530

Label all hoses and connections to aid installation.

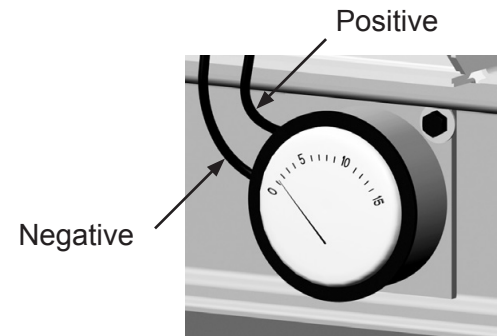
- 1) Label Hose (2) as "Negative".
- 2) Label Hose (4) as "Positive".
- 3) Disconnect Hoses (2,4) from 90° Elbows (1,3).
- 4) Disconnect Hoses (2,4) from Magnehelic Gauge (5).



- 5) Remove two Washers and Bolts (6).



- 6) Install parts in reverse order using the following special instructions:
  - Ensure labeled hoses are installed correctly. "Negative" hose installed in lower port. "Positive" hose in upper port.



## MAINTENANCE

### Remove & Install Pneumatic Ball Vibrators

#### **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.

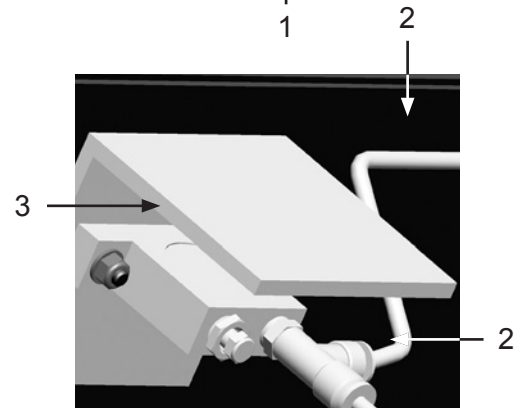
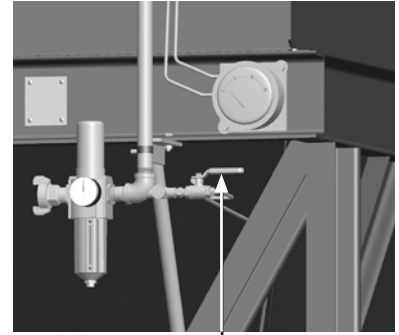
#### **NOTICE**

N-530

Label all hoses and connections to aid installation.

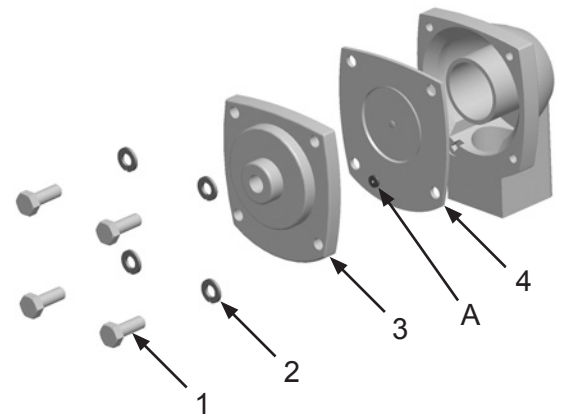
*Note: Front, right-hand side Pneumatic Ball Vibrator shown. Procedure is similar for all Pneumatic Ball Vibrators.*

- 1) Close Ball Valve (1)
- 2) Disconnect Hoses (2).
- 3) Remove two Hex Nuts and Flat Washers (3).
- 4) Repeat on opposite side of dust collector.
- 5) Install parts in reverse order.



### Disassemble & Assemble Diaphragm Valve

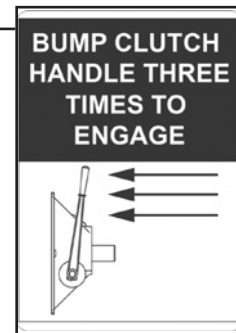
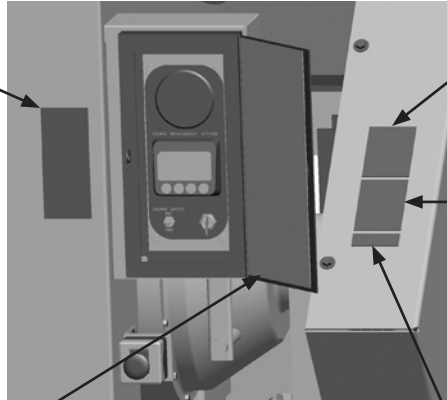
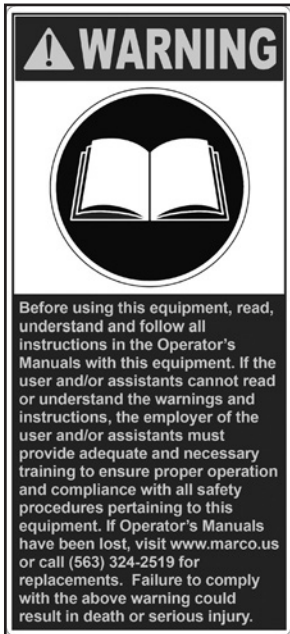
- 1) Remove four Bolts (1) and Washers (2).
- 2) Remove Cover (3).
- 3) Remove Diaphragm (4).
- 4) Install parts in reverse order using the following special instructions:
  - Check Vent Hole (A) is not blocked or occluded.





# MAINTENANCE

## Hazard Identification Decals



### Start-Up Operation:

#### Pre-Start-Up Checks

- Check levels of Engine oil, Fuel, Coolant and Hydraulic oil.
- Grease Clutch Assembly
- Grease Fan Bearings
- Grease Auger bearings as required

#### Engine Starting

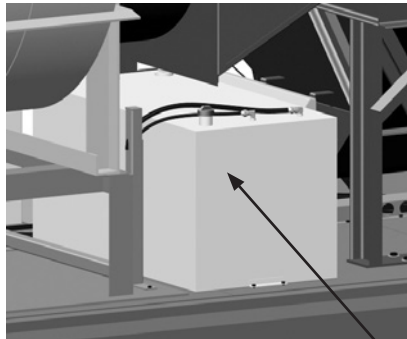
- Ensure clutch is **DISENGAGED**
- Turn key partway until Murphy PowerView fully comes online.
- Turn key until engine starts, 30 seconds maximum. Release key when engine starts.

#### Pulser System Start-Up

- Turn pulser system on by turning the two-position selector switch to "ON"
- Pressurize Pulser Header to 80-85 PSI. Regulate pressure via the regulator on the dust collector.

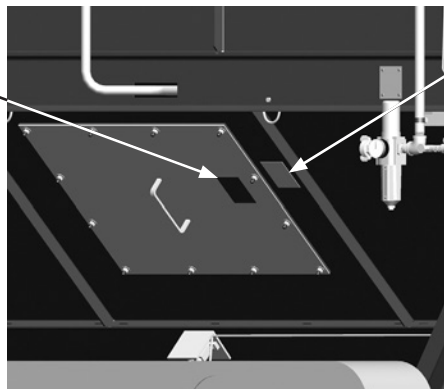
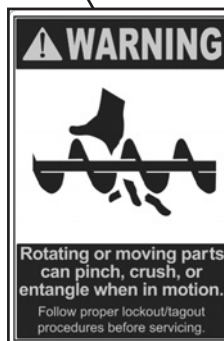
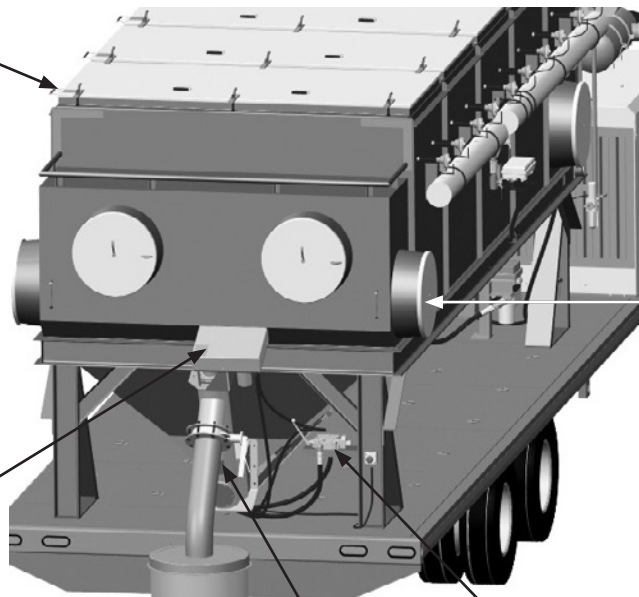
#### Fan Engagement

- Ensure that personnel are away from fan exhaust and air inlet openings.
- Let the engine warm up for approximately 5 minutes.
- Adjust RPM to about 1000 or less. Bump the clutch handle three (3) times so that fan gradually increase in speed. After three (3) bumps, gradually engage clutch until fully engaged and handle is in the locked position.
- Rapid engagement may cause belts to slip from pulleys and damage to clutch.
- Once engaged adjust RPM to recommended operating range.



# MAINTENANCE

## Hazard Identification Decals (cont.)



# TROUBLESHOOTING

## 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-586

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.

If the Dustmaster® 50,000 CFM Dual Axle/Dual Wheel Diesel Dust Collector does not function properly, check the following:

### SYMPTOM (Cause)

### ACTION

#### Diesel Engine will not start or runs poorly

*(Damaged components, insufficient connections, fuel supply)*

See original equipment Operator's Manual for service.

Ensure an Emergency-Stop Station is not activated. Return Emergency-Stop Station to operating position.

Inspect Emergency-Stop Stations for damage. Repair as needed.

#### Fan Drive Belt slips or vibrates

*(Loose connections, worn parts)*

Inspect Fan Drive Belt for damage. Replace as needed.

Adjust Fan Drive Belt Tension. See Adjust Fan Drive Belt Tension.

See fan Operator's Manual for service.

#### Discharge Augers do not turn

*(Object in auger, hydraulic fluid levels, hydraulic pressure relief valve, hydraulic pump, hydraulic motor, stripped gear, broken chain)*

Run Discharge Auger in reverse to dislodge item. Dismantle Discharge Auger if object still lodged.

Fill hydraulic system with hydraulic fluid.

Check line pressure at by-pass gauge, reset or replace hydraulic valve.

Test hydraulic pump pressure. Replace hydraulic pump.

Bench test hydraulic motor. Repair or replace hydraulic motor.

#### Magnehelic Gauge reading greater than normal operating range

*(Dust Collector Filter Cartridges)*

A reading greater than 10" (w.c.) on Magnehelic Gauge indicates clogged filters. Decrease engine RPM to idle speed and disengage clutch while allowing engine to run. Pulsers will clean down the filters. Once gauge reads back into the normal operation range of 3" – 10" (w.c.), re-engage clutch and increase RPM to operating speed.

If Magnehelic Gauge is reading above 10" (w.c.), perform After Use procedure. Inspect Pulser System and Filters. Replace filter cartridges, if needed.

If Magnehelic Gauge is reading above 15" (w.c.), shut down unit immediately. Replace filter cartridges.

# TROUBLESHOOTING

## 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-586

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.

### SYMPTOM (Cause)

#### **Pulser System leaks**

*(Loose or missing hoses or connections, loose or missing urethane tubing, damaged diaphragm valves)*

### ACTION

Check hose and hose connections between diaphragm valves and hopper wall.

Check all tubing for secure connections and fittings. If fittings do not fit tightly in hose, cut a small section from the end of the hose and re-insert fitting in tube.

Inspect diaphragm valve for damage or debris. Repair or replace diaphragm valve.

#### **Filter Pulser System pressurizes but does not pulse**

*(No power to control box, blown fuse in control box or timer board, disconnected wires, timer board, solenoid, diaphragm valve)*

Inspect all power connections. Repair or replace faulty connections.

Turn main power switch "ON", and look for indicator light. If indicator light does not signal, turn switch "OFF". Replace fuse.

Turn main power switch "OFF". Replace fuse.

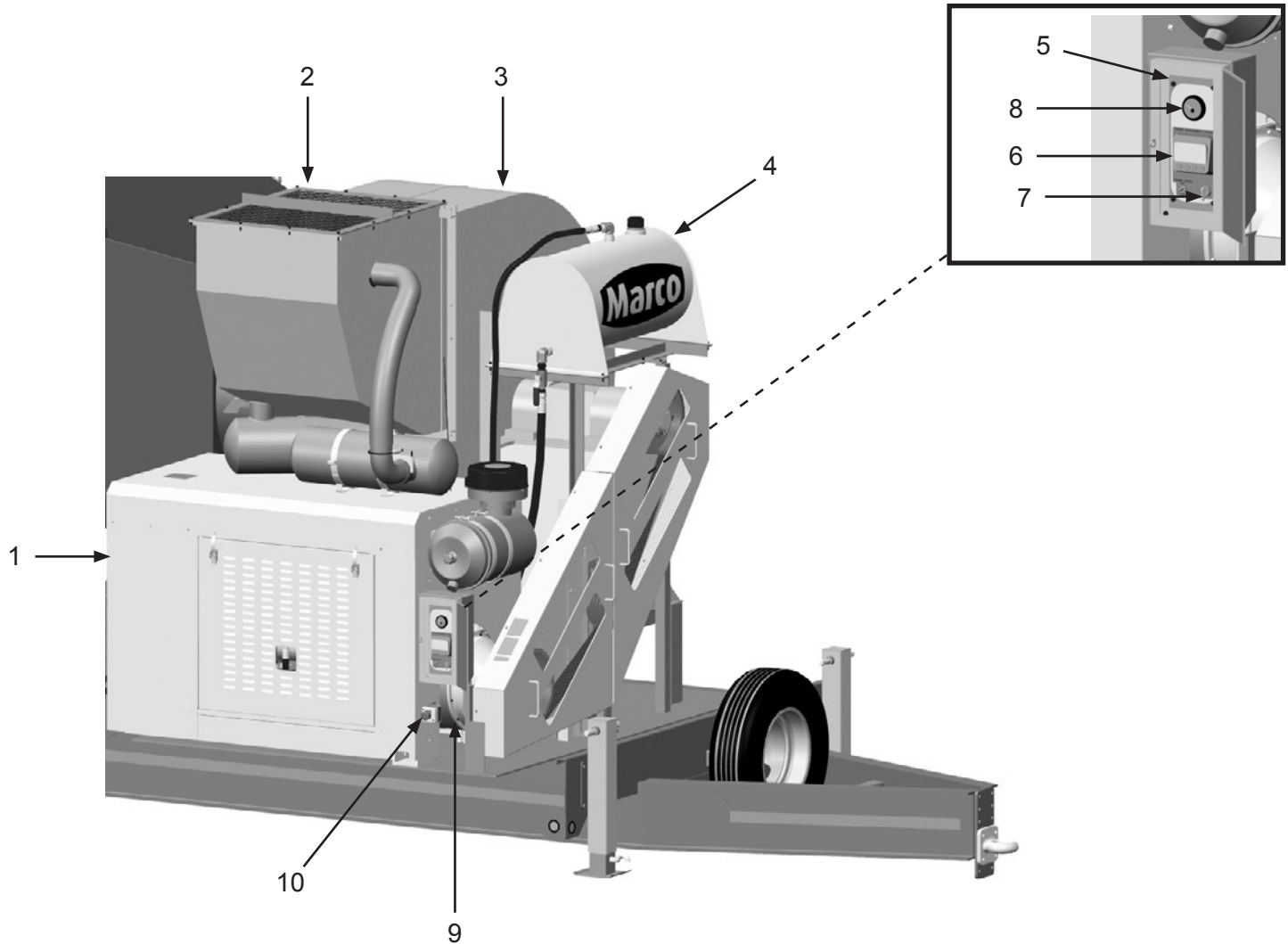
Turn main power switch "ON", and look for indicator light. If indicator light does not signal, turn switch "OFF". Inspect all electrical connections.

Inspect all solenoids and listen for audible sound as it engages to pulse. Replace solenoid.

Inspect diaphragm valve breather vent for obstruction.

## ASSEMBLY PART NUMBERS AND SCHEMATICS

Figure 1: Front Assembly



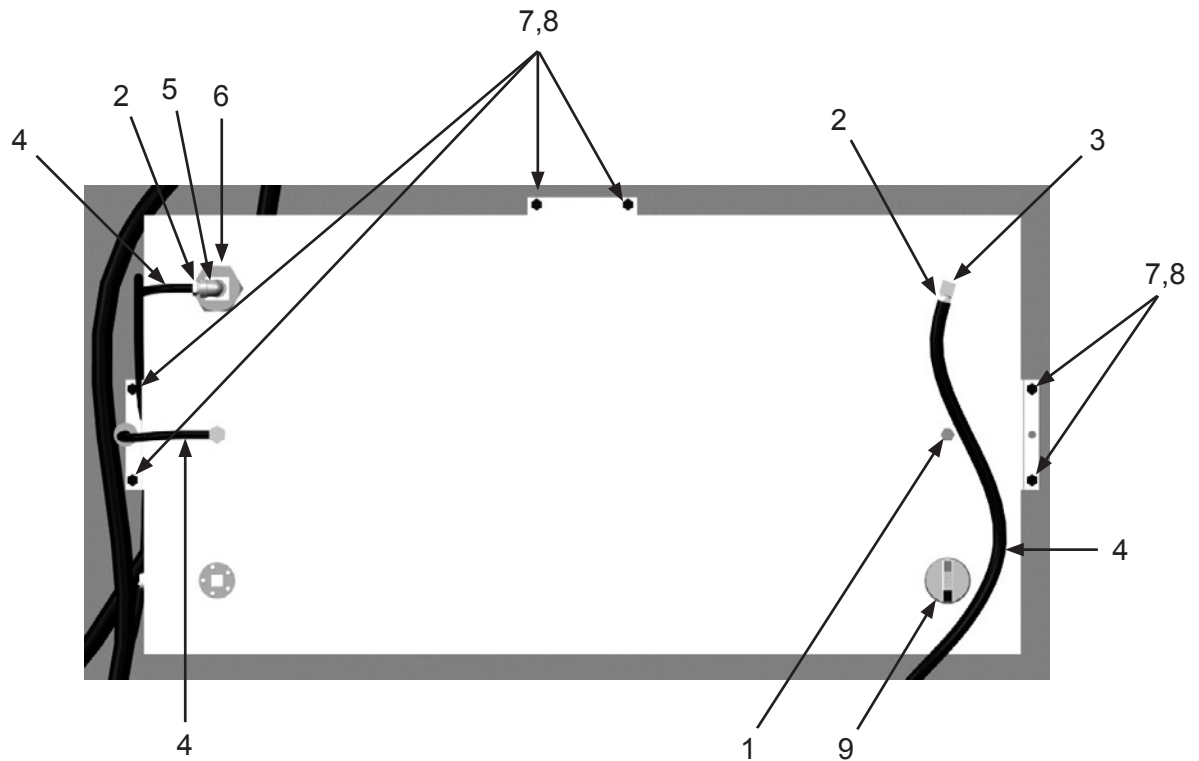
Item#	Part#	Description
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**Fig. 1**

1	10103494	Perkins Engine 174 HP Tier 3
2	10105951	Fan Exhaust Assembly
3	10103495	Fan BI-365 TH ARRG I Class IV (See Figure 8)
4	10105031	40 Gallon Hydraulic Tank (See Figure 4)
5	10103972	Engine Control Panel <i>Includes Item #'s: 6,7</i>
6	10103969	Murphy® PowerView™ Gauge
7	10103970	Key
8	10104821	Analog Fuel Level Gauge
9	10103986	Twin Disc Clutch
10	10104062	Emergency-Stop Station (See Fig. 29)

## PART NUMBERS AND SCHEMATICS

Figure 2: Fuel Tank

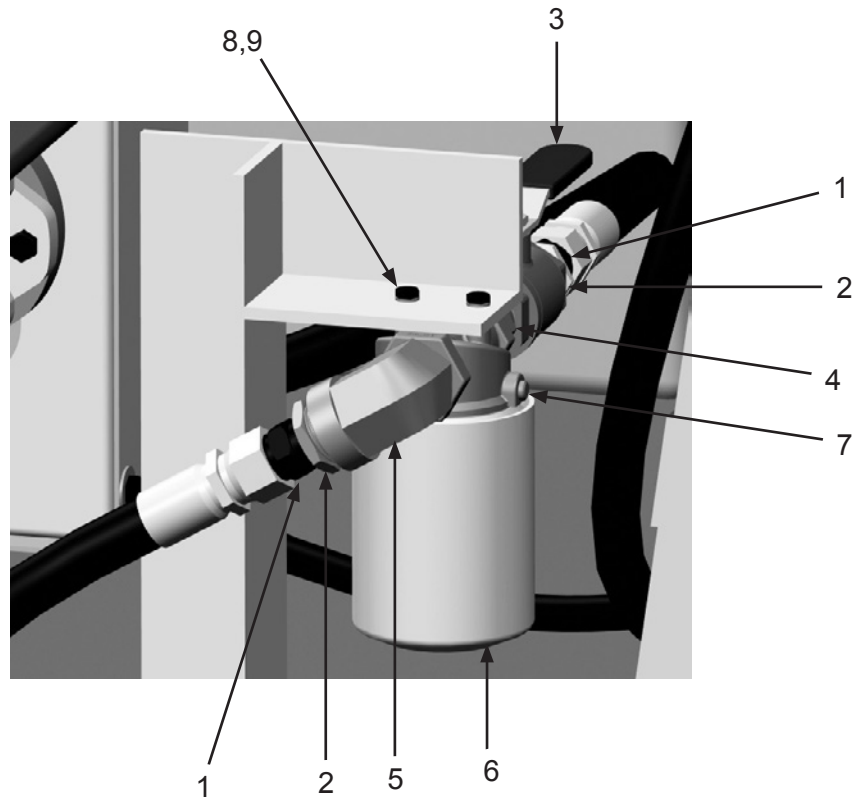


Item #	Part #	Description
<b>Fig. 2</b>		
—	10104704	Fuel Tank - 116 gallon
1	10106471	1/4" Pipe Plug
2	10106469	3/8" Barb x 3/8" NPT
3	10103617	Withdraw Tube - 16"
4	10103619	1/2" Fuel Hose ( <i>Per Foot</i> )
5	10106470	3/8" NPT Street Elbow
6	10106484	Adapter
7	10104234	3/8-16 x 1-1/4" Bolt Zinc ( <i>Six Required</i> )
8	1012318	3/8-16 Hex Nut ( <i>Six Required</i> )
9	10103968	Locking Fuel Cap with Key
—	10103620	3/8" Inline Filter ( <i>Not Shown</i> )
—	10103961	Fuel Tank Rubber Cushioning Pad ( <i>Not Shown</i> )



## PART NUMBERS AND SCHEMATICS

**Figure 3: Hydraulic Oil Filter Assembly**



Item #	Part #	Description
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**Fig. 3**

1	10103314	3/4" NPT x 12 JIC Straight Adapter
2	20PFHA24SB1612	1" x 3/4"Reducing Bushing ( <i>Two Required</i> )
3	1011601	3/4"Full Port Brass Ball Valve
4	20PFHA24SA1616	1" Hex Nipple ( <i>Two Required</i> )
5	20PFHA25UG1616	1" Street Elbow ( <i>Two Required</i> )
6	10104058	Hydraulic Oil Filter
7	10104057	Hydraulic Oil Filter Head
8	1012153	1/4"Lock Washer
9	20100125	1/4-20 x 3/4" Zinc Bolt

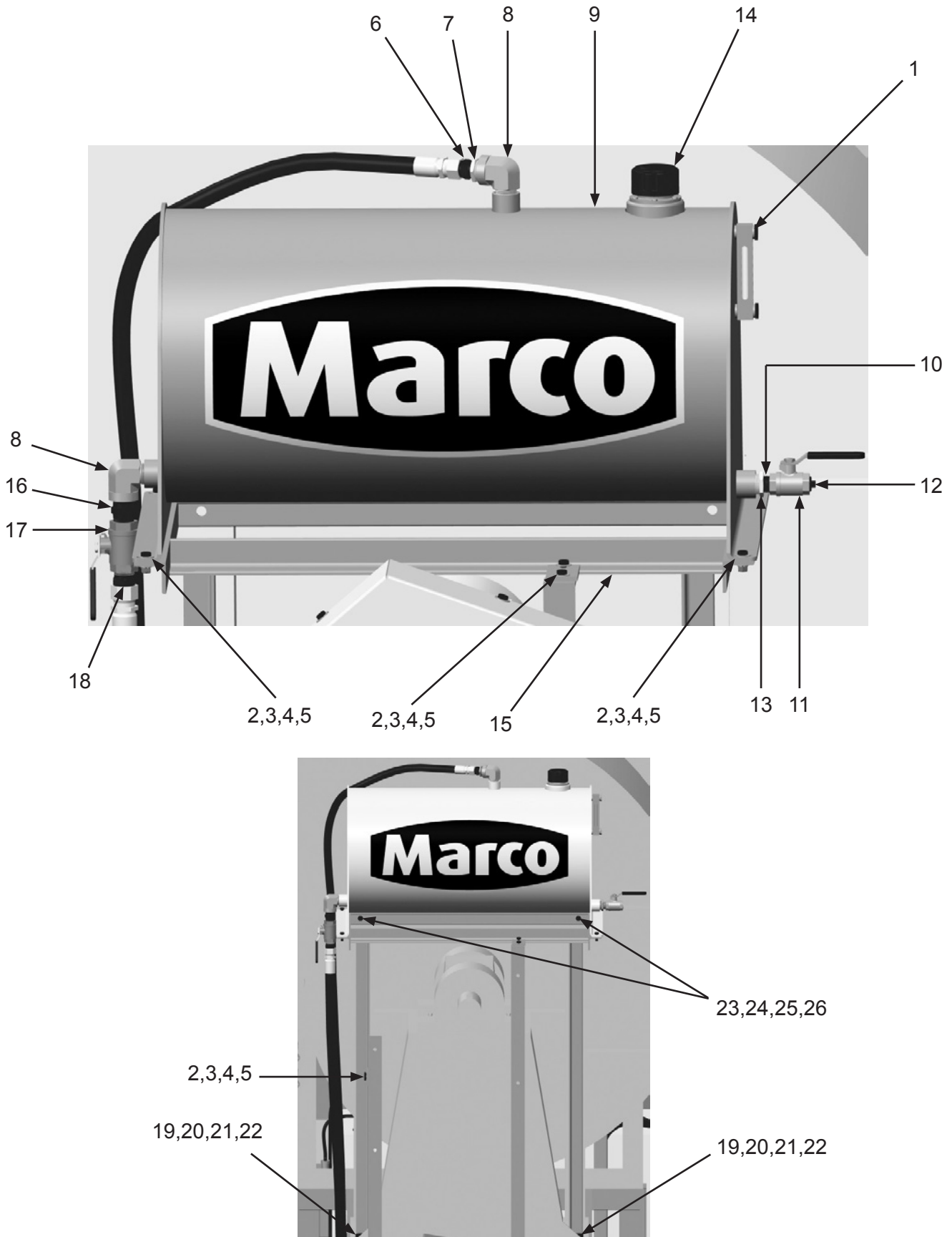
## PART NUMBERS AND SCHEMATICS

### Hydraulic Oil Tank

Item #	Part #	Description
<b>Fig. 4</b>		
1	10103942	Sight Level Gauge
2	1011747	3/8-16 x 1" Bolt <i>(10 Required)</i>
3	10101942	Flat Washer - 3/8" <i>(20 Required)</i>
4	10101936	Lock Washer - 3/8" <i>(10 Required)</i>
5	1012318	Hex Nut - 3/8-16 <i>(10 Required)</i>
6	10103314	Straight Adapter - 3/4" NPT x 12 JIC
7	20PFHA24SB1612	Reducing Bushing - 1" NPT x 3/4" NPT
8	20PFHA25UG1616	Street Elbow - 90° - 1" NPT <i>(Two Required)</i>
9	10105031	Hydraulic Oil Reservoir - 40 Gallon
10	1011213	Close Nipple - 3/4" NPT - Galvanized
11	10L8074C	Full Port Ball Valve - 3/4" NPT
12	10DSHP75	Pipe Plug - Square Head - 3/4" NPT
13	10102479	Street Elbow - 90° - 3/4" NPT - Galvanized
14	10103971	Filler/Breather Cap
15	10102958	Hydraulic Oil Tank Mount
16	20PFHA24SA1616	Hex Nipple - 1" NPT
17	1011601	Full Port Ball Valve - 1" NPT
18	10103312	Straight Adapter - 1" NPT x 16 JIC
19	10103417	3/4-10 UNC X 1-3/4" Grade 8 Bolt <i>(Four Required)</i>
20	10103418	3/8" Galvanized Flat Washer <i>(Eight Required)</i>
21	10103419	3/4" Lock Washer <i>(Four Required)</i>
22	10103420	3/4-10 Nut <i>(Four Required)</i>
23	10104603	1/2-13 X 1-1/4" Bolt <i>(Two Required)</i>
24	1014022	1/2-13 Hex Nut <i>(Two Required)</i>
25	10100674	1/2" Flat Washer <i>(Two Required)</i>
26	10100675	1/2" Lock Washer <i>(Two Required)</i>

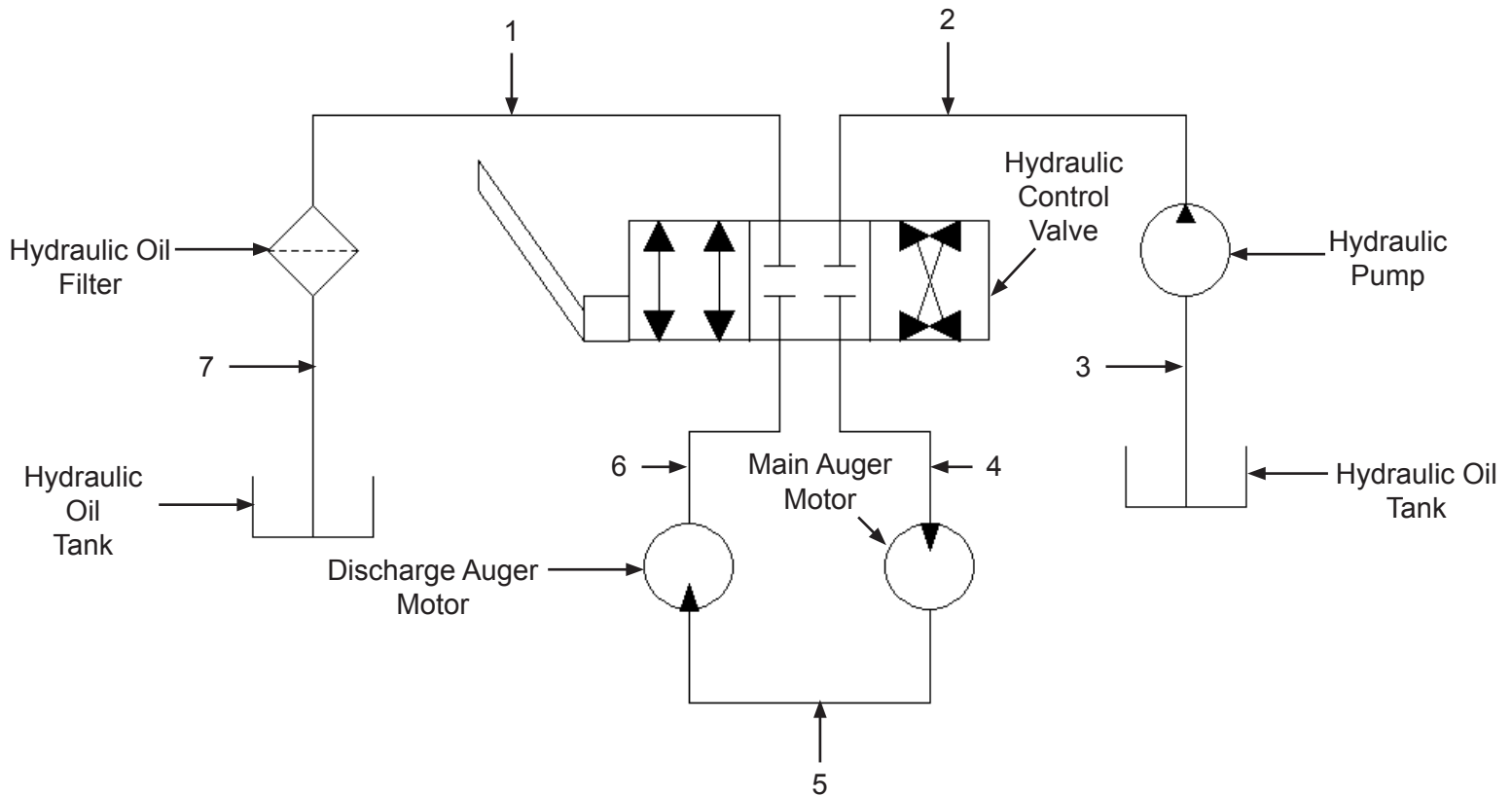
## PART NUMBERS AND SCHEMATICS

Figure 4: Hydraulic Oil Tank



## PART NUMBERS AND SCHEMATICS

**Figure 5: Hydraulic Hoses**



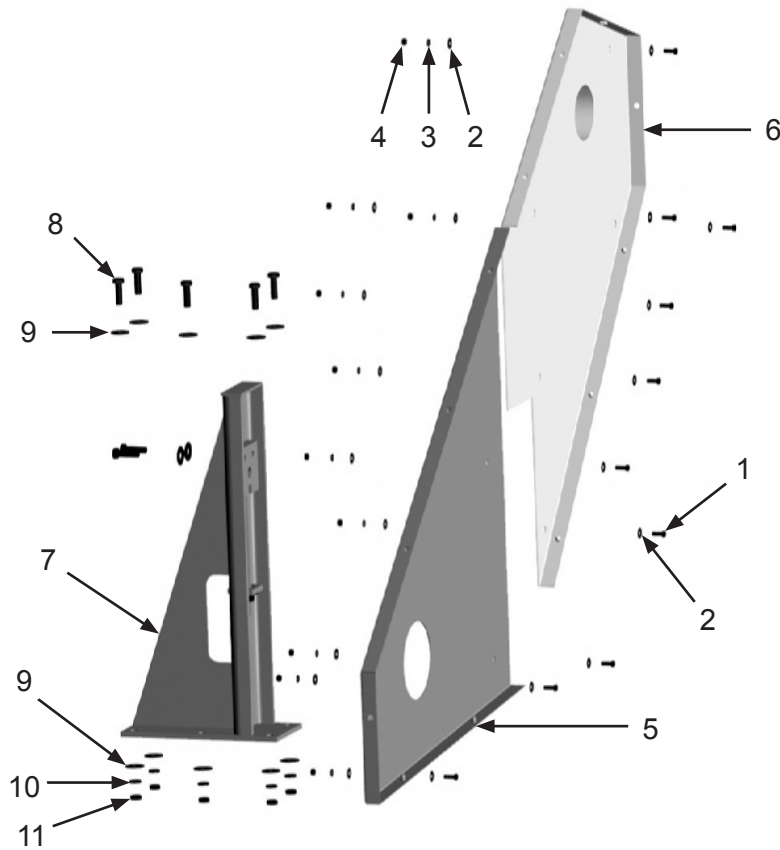
Item #	Part #	Description
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**Fig. 5**

1	10103412	Hydraulic Hose - 3/4" I.D. x 23' feet - 3045 psi
2	10103505	3/4" I.D. x 33' Hydraulic Hose – 3045 psi
3	10105963	Hydraulic Hose - 1" I.D. x 12 feet - 2000 psi
4	10103502	Hydraulic Hose - 1/2" I.D. x 20' – 4500 psi
5	10104224	Hydraulic Hose - 1/2" X 24' - 2000 psi
6	10103409	Hydraulic Hose - 1/2" I.D. x 7.08 feet - 2000 psi
7	10103707	Hydraulic Hose - 3/4" I.D. x 17' 7" – 3045 psi

## PART NUMBERS AND SCHEMATICS

**Figure 6: Fan Belt Guard Back Assembly**



Item #	Part #	Description
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**Fig. 6**

1	1011747	3/8-16 x 1" Bolt (10 Required)
2	10101942	3/8" Galvanized Flat Washer (20 Required)
3	10101936	3/8" Zinc Lock Washer (10 Required)
4	1012318	3/8-16 Hex Nut (10 Required)
5	10105986	Lower Belt Guard Back
6	10106011	Upper Belt Guard Back
7	10105981	Tensioner Mount
8	10103397	5/8-11 x 2" Zinc Bolt (Seven Required)
9	10103398	5/8" Washer (14 Required)
10	10103399	5/8" Lock Washer (Five Required)
11	10103393	5/8-11 Zinc Nut (Five Required)

## PART NUMBERS AND SCHEMATICS

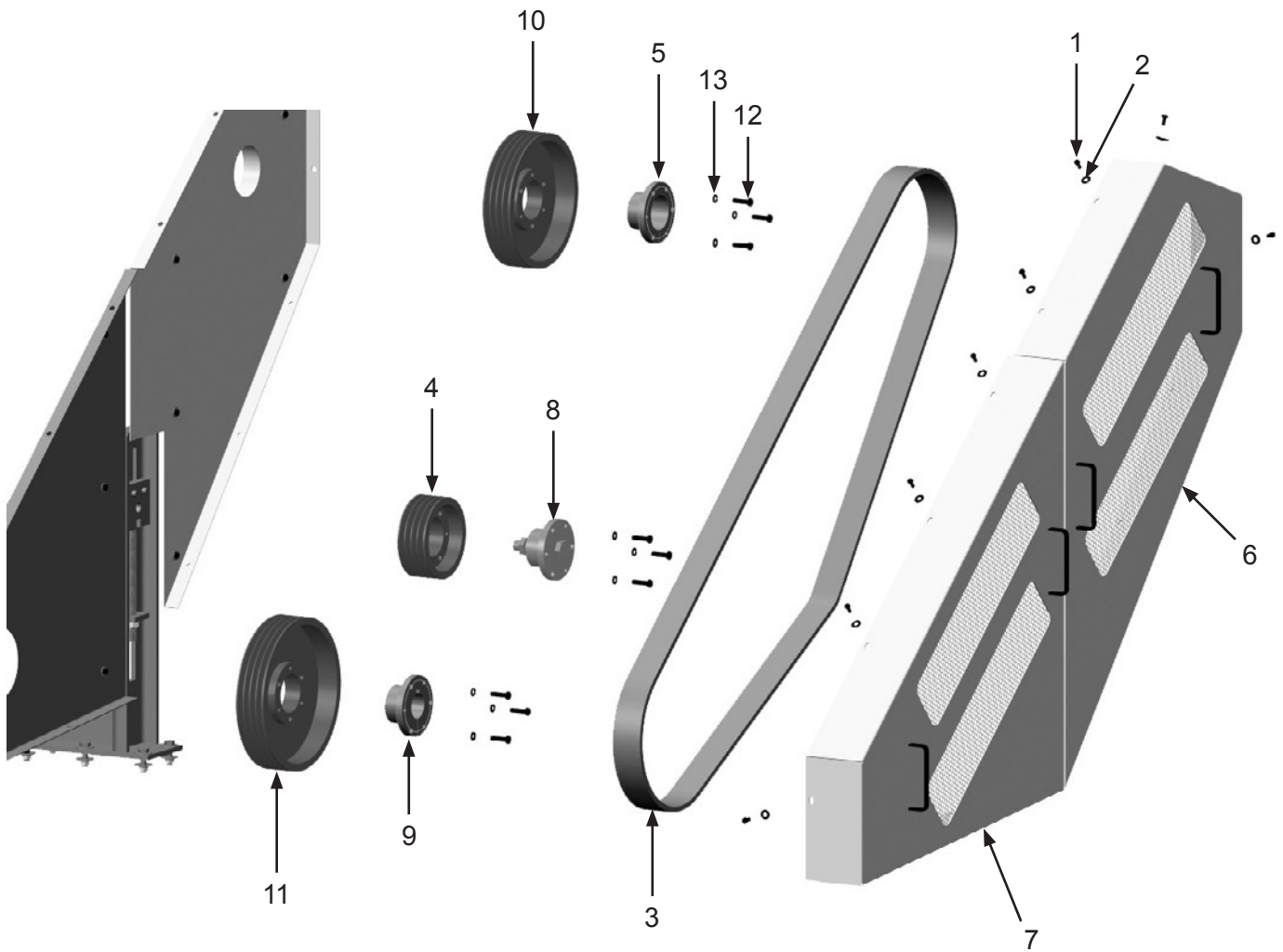
### Fan Belt Assembly

Item #	Part #	Description
<b>Fig. 7</b>		
1	10103400	3/8-16 x 3/4" Bolt ( <i>Eight Required</i> )
2	10101942	3/8" Galvanized Flat Washer ( <i>Eight Required</i> )
3	10106029	4/5 VX 1700 Banded Drive Belt
4	10103483	8" Sheave
5	10103482	3.4375 Bushing
6	10106016	Top Belt Cover
7	10105988	Bottom Belt Cover
8	10103484	Idler Bushing
9	10103485	2.5 Bore Bushing
10	10106754	12.5" Sheave
11	10106028	14" Sheave
12	10101943	1/2-13 X 1-3/4" Hex Bolt ( <i>Nine Required</i> )
13	10100675	1/2" Lock Washer ( <i>Nine Required</i> )



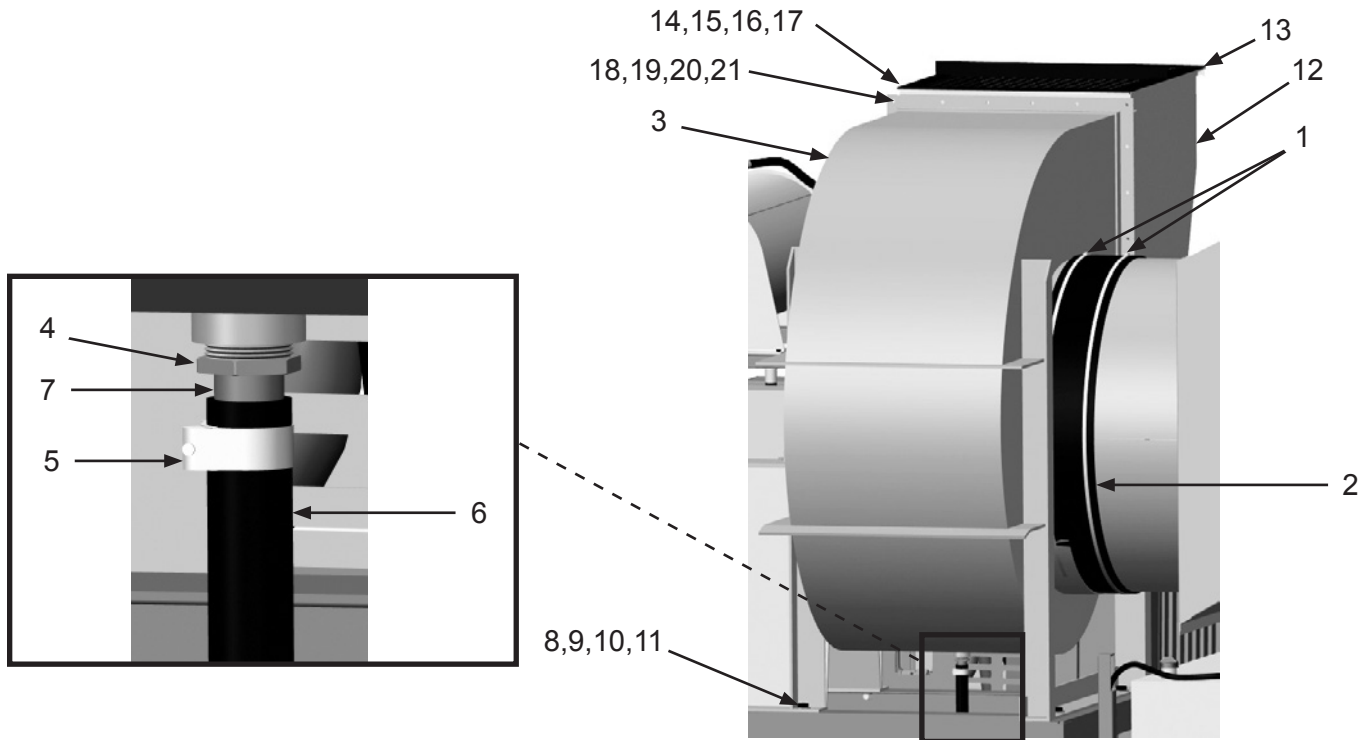
## PART NUMBERS AND SCHEMATICS

Figure 7: Fan Belt Assembly



## PART NUMBERS AND SCHEMATICS

**Figure 8: Fan Assembly**



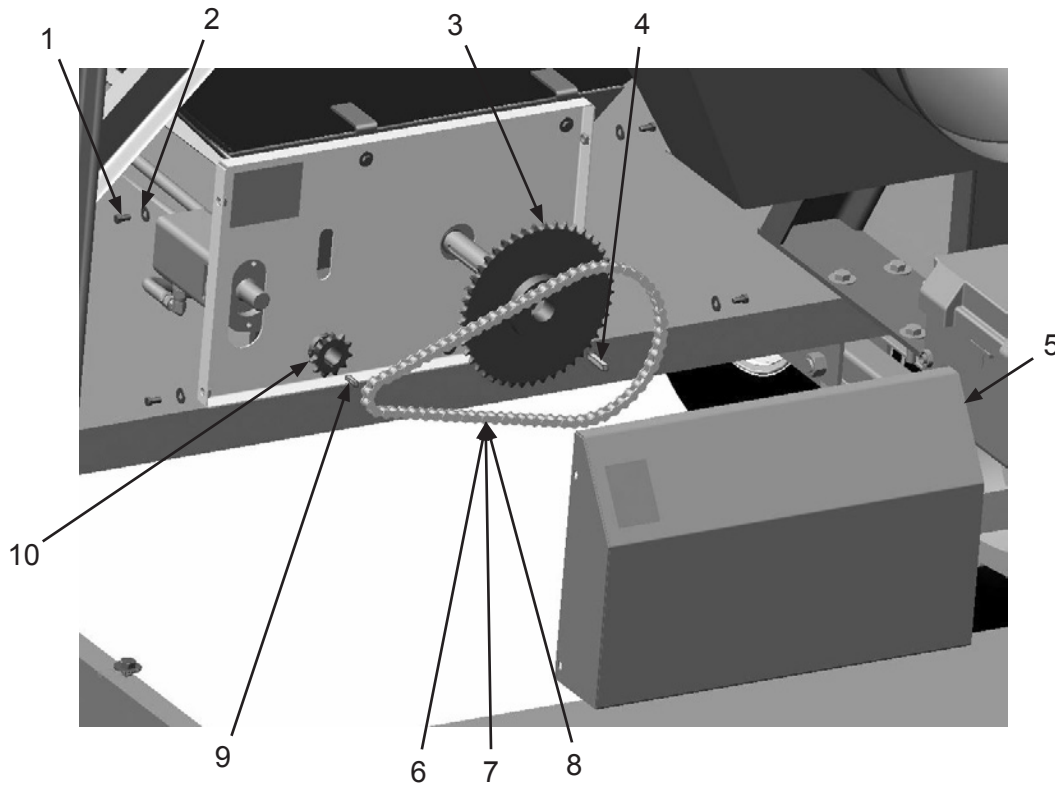
Item #	Part #	Description
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**Fig. 8**

1	10103416	Banding - Make a Clamp <i>(Two Required)</i>
2	10103962	Connection Rubber Gasket
3	10103495	Fan
4	20PFHA24SB2016	1-1/4" x 1" Reducing Bushing
5	10104136	T-Bolt Clamp 1-9/16" x 1-11/16" OD
6	10103654	1-1/4" I.D. Hose <i>(Per Foot)</i>
7	10000197	1" x 3" Toe Nipple
8	10103417	3/4-10 UNC x 1-3/4" Grade 8 Bolt <i>(Six Required)</i>
9	10103418	Washer - 3/4" - Grade 8 <i>(12 Required)</i>
10	10103419	Lock Washer - 3/4" HD <i>(Six Required)</i>
11	10103420	3/4-10 UNC Grade 8 Nut <i>(Six Required)</i>
12	10105951	Fan Exhaust <i>(See Figure 31)</i>
13	10103979	Bird Screen <i>(See Figure 31)</i>
14	1014019	5/16-18 x 1-1/4 Hex Bolt <i>(12 Required)</i>
15	10101935	5/16" Flat Washer - Galvanized <i>(12 Required)</i>
16	10L805014	5/16" Lock Washer <i>(12 Required)</i>
17	1035046	5/16-18 Nut <i>(12 Required)</i>
18	10104234	3/8-16 x 1-1/4 Hex Bolt Zinc Grade 5 <i>(12 Required)</i>
19	10101942	3/8" Galvanized Flat Washer <i>(24 Required)</i>
20	10101936	3/8" Zinc Lock Washer <i>(12 Required)</i>
21	1012318	3/8-16 Hex Nut <i>(12 Required)</i>

## PART NUMBERS AND SCHEMATICS

**Figure 9: Main Auger Drive Assembly**



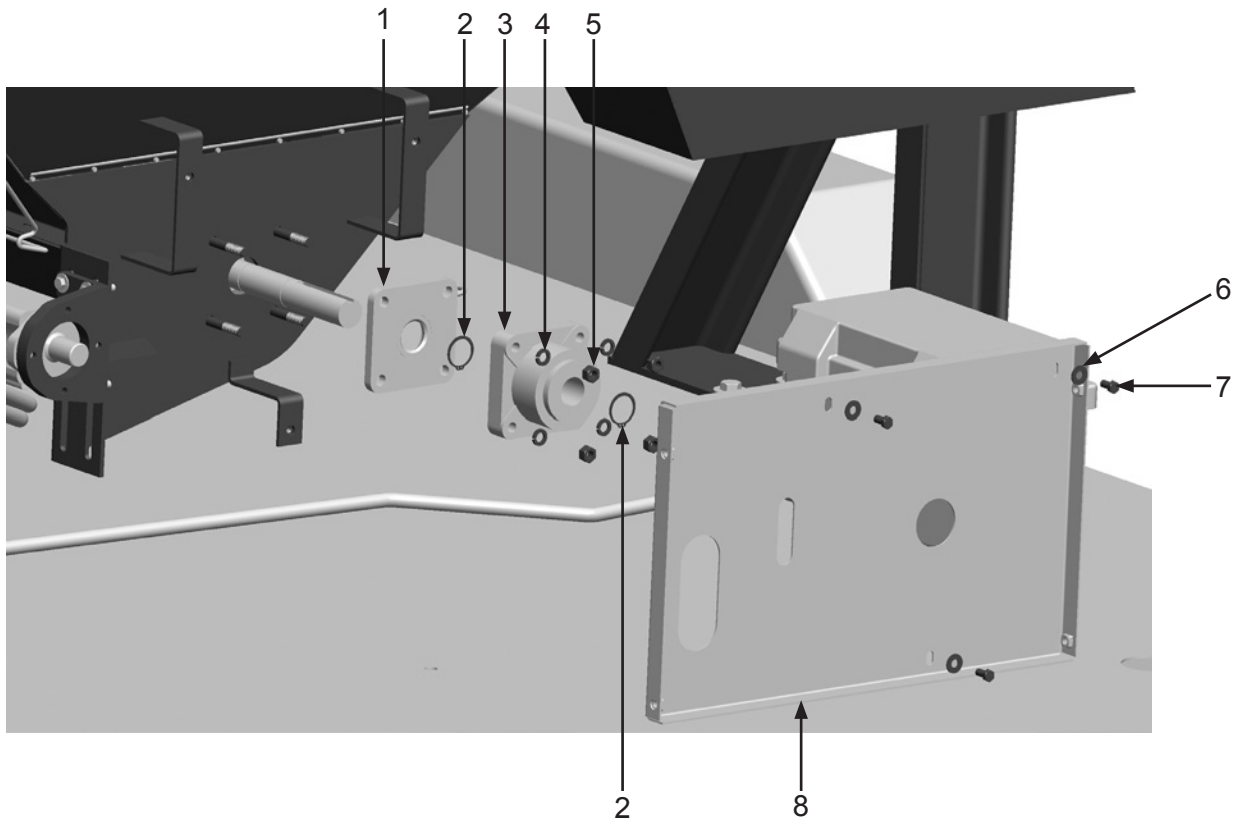
Item #	Part #	Description
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**Fig. 9**

1	10103400	3/8-16 x 3/4" Bolt ( <i>Four Required</i> )
2	10101942	3/8" Galvanized Flat Washer ( <i>Four Required</i> )
3	10104218	45-Tooth Sprocket
4	10103641	3/8" Key Cut
5	10102952	Main Auger Motor Cover
6	10103391	60# Cottered Roller Chain ( <i>Per Foot</i> )
7	10103392	60# Connecting Link
8	10103614	60# Offset Link
9	10103642	5/16" x 1/4" x 1/8" x 1/8" Key
10	10103265	11-Tooth Sprocket
—	10104192	Main Auger Chain Kit <i>Includes Item #'s: 7, 8, and 9</i>

## PART NUMBERS AND SCHEMATICS

Figure 10: Main Auger Bearing



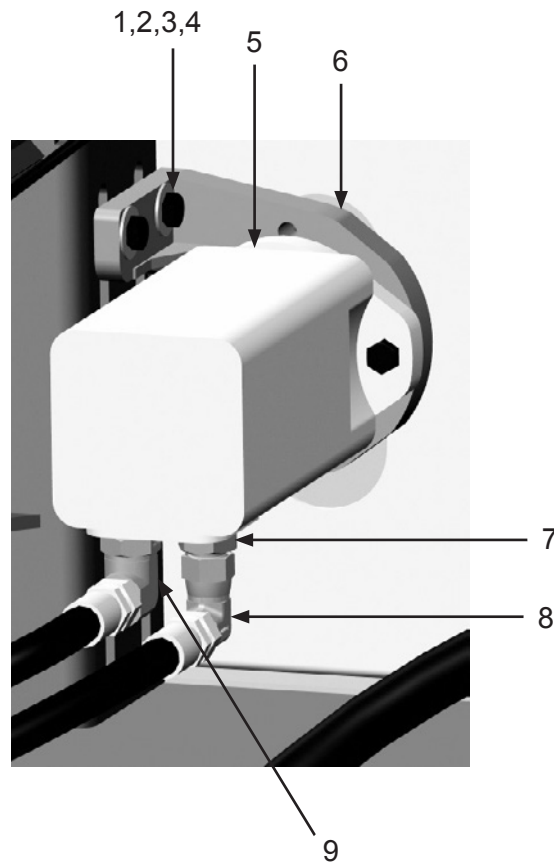
Item #	Part #	Description
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Fig. 10

1	10102902	Seal Plate
2	10103605	Snap Ring <i>(Two Required)</i>
3	10102903	Thrust Bearing
4	10100675	1/2" Lock Washer <i>(Four Required)</i>
5	1014022	1/2-13 Hex Nut <i>(Four Required)</i>
6	10101942	3/8" Galvanized Flat Washer <i>(Three Required)</i>
7	10103400	3/8-16 x 3/4" Bolt <i>(Three Required)</i>
8	10102955	Main Auger Guard Back

## PART NUMBERS AND SCHEMATICS

**Figure 11: Main Auger Motor**



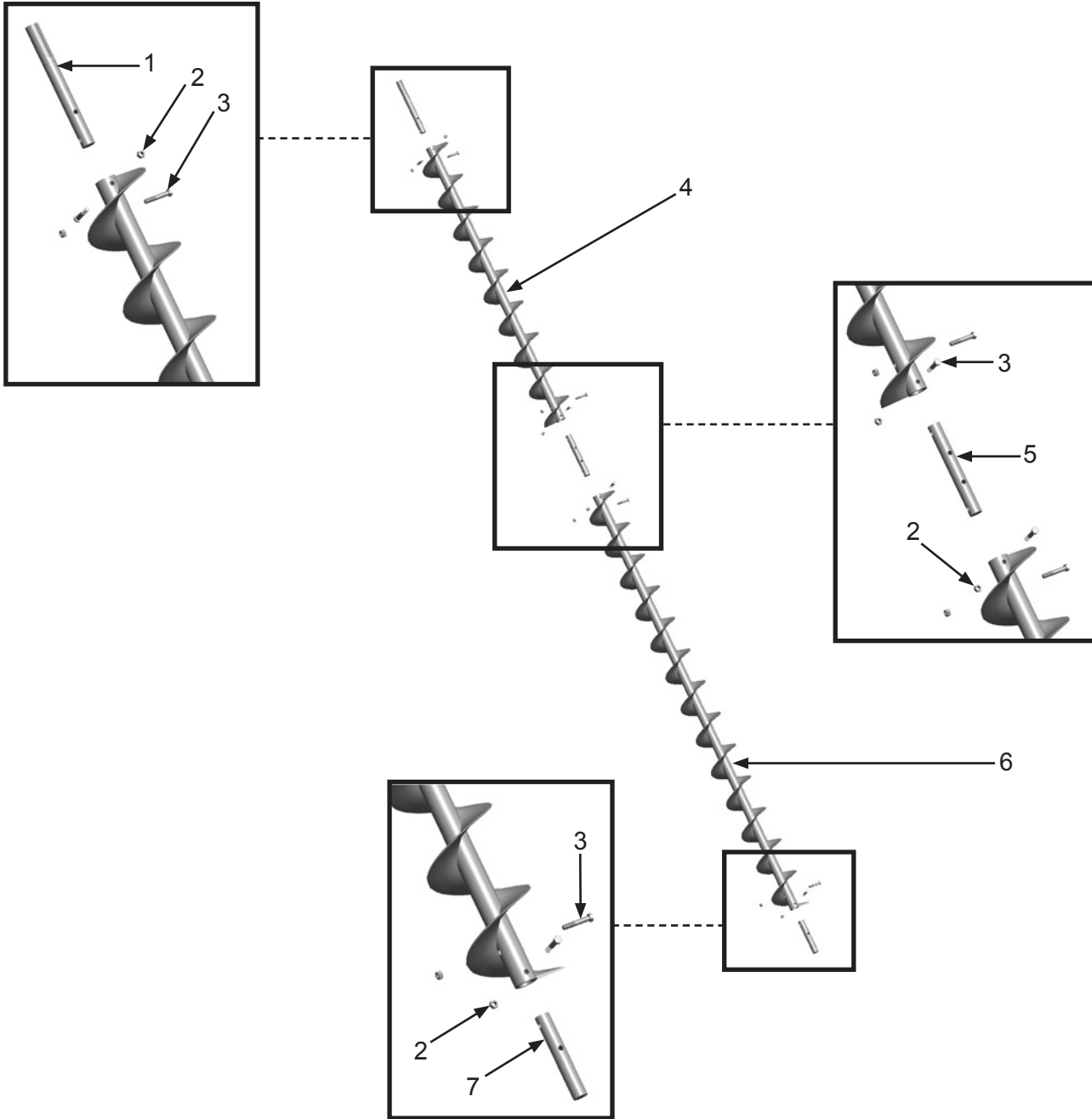
Item #	Part #	Description
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**Fig. 11**

1	1028617	3/8-16 x 1-3/4" Shoulder Bolt ( <i>Four Required</i> )
2	10101942	3/8" Galvanized Flat Washer ( <i>Eight Required</i> )
3	10101936	3/8" Zinc Lock Washer ( <i>Four Required</i> )
4	10101938	3/8-16 Galvanized Hex Nut ( <i>Four Required</i> )
5	10103266	18.7 Displacement Hydraulic Motor
6	10102881	Hydraulic Motor Mount with Hardware
7	10103612	JIC 8 x SAE 10 Straight Adapter
8	10103611	JIC 8 x JIC 8 90° Elbow
9	10103308	JIC 8 x SAE 10 90° Elbow
—	10103941	Seal Kit for 18.7 Displacement Hydraulic Motor

## PART NUMBERS AND SCHEMATICS

Figure 12: Main Auger



Item #	Part #	Description
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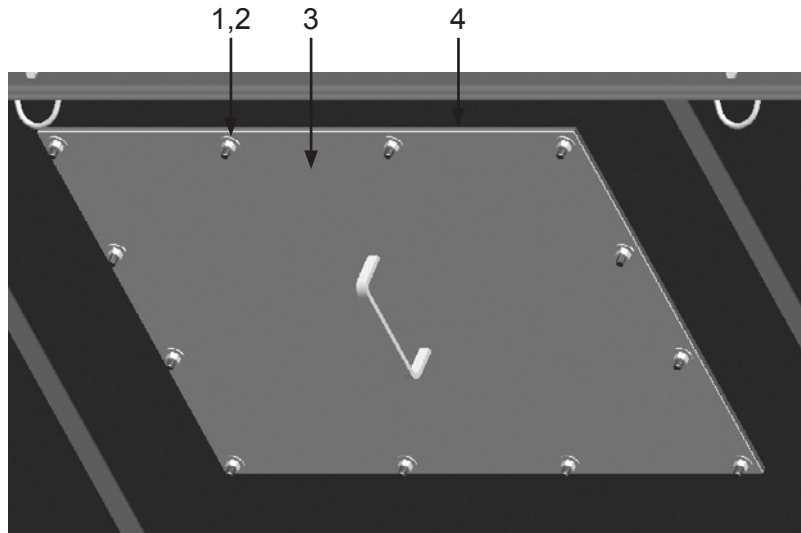
Fig. 12

1	10103306	Drive Shaft
2	10101941	1/2-13 Galvanized Hex Nut ( <i>Four Required</i> )
3	10103401	1/2-13 x 3" Galvanized Bolt ( <i>Four Required</i> )
4	10103490	9" x 78" Standard Pitch Auger
5	10103491	Coupling Shaft for 1-1/2" Shaft
6	10103262	118" x 9" Standard Pitch Auger
7	10102910	Auger Shaft End



## PART NUMBERS AND SCHEMATICS

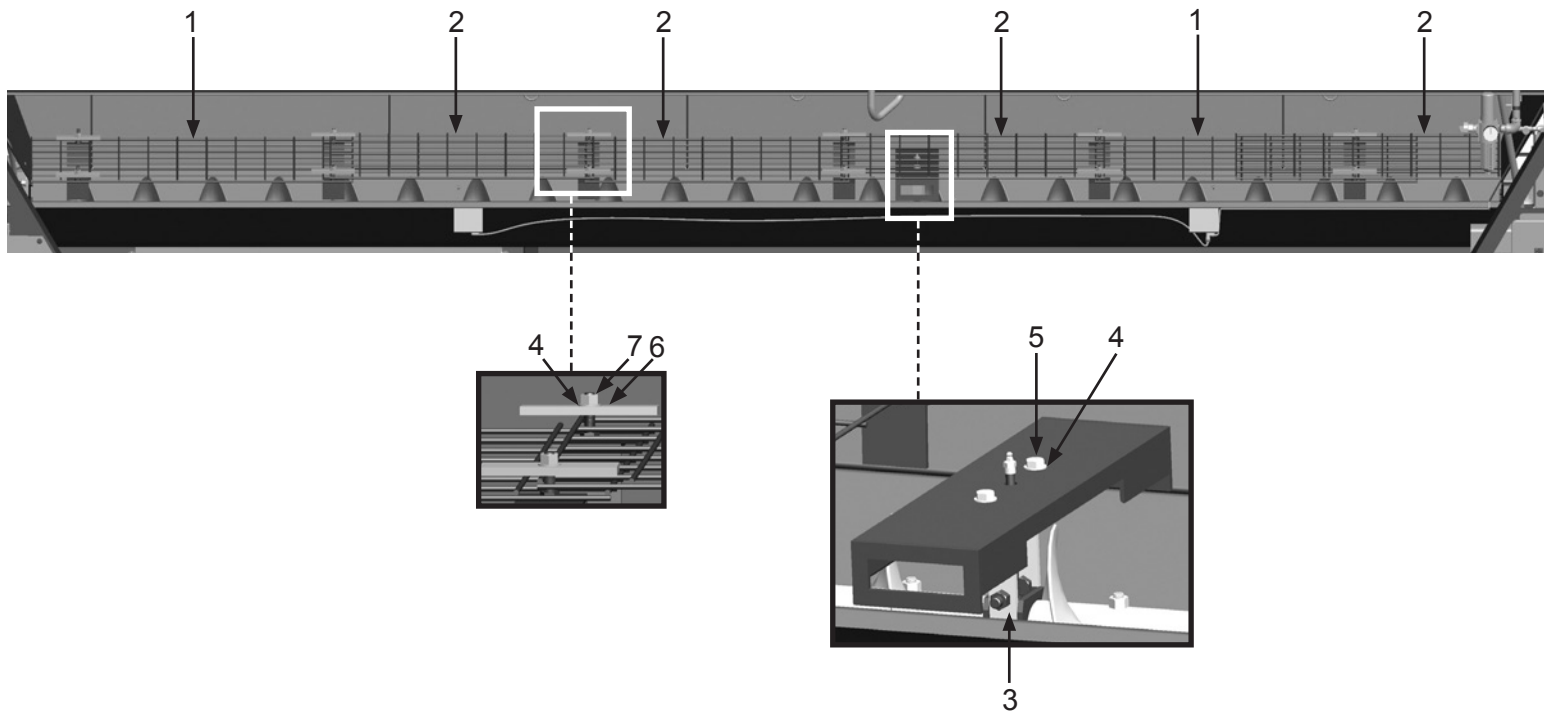
Figure 13: Access Panel Assembly



Item #	Part #	Description
<b>Fig. 13</b>		
1	10101938	3/8-16 Galvanized Hex Nut ( <i>12 Required</i> )
2	10101942	3/8" Flat Washer ( <i>12 Required</i> )
3	10102933	20" Access Panel Door
4	10103344	1/4" X 1-1/2" Adhesive-Backed Gasket ( <i>Per Foot</i> )

## PART NUMBERS AND SCHEMATICS

**Figure 14: Main Auger Protective Grate**



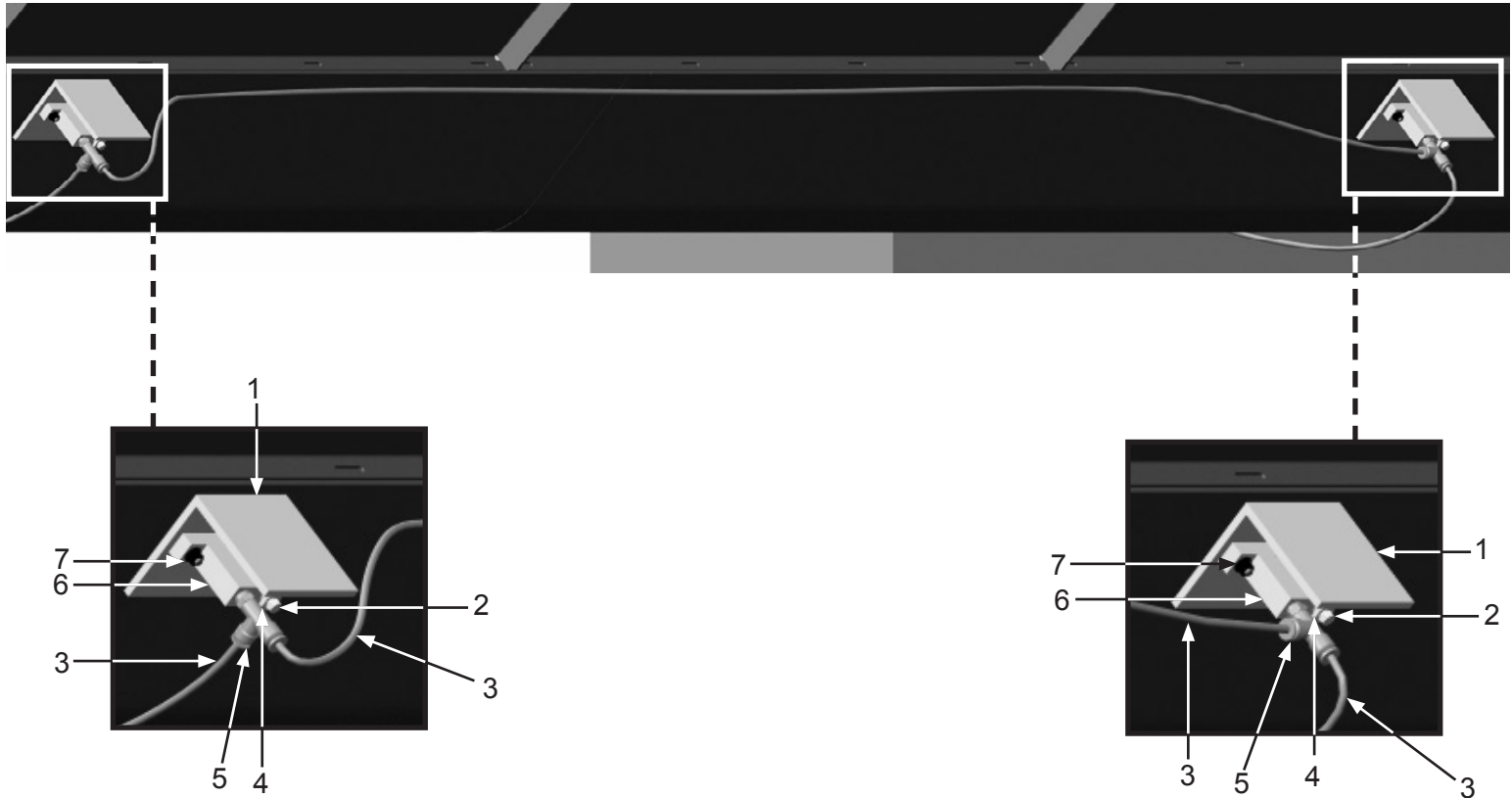
Item #	Part #	Description
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**Fig. 14**

1	10103966	Protective Grate - 44 Inches <i>(Two Required)</i>
2	10103967	Protective Grate - 36 Inches <i>(Four Required)</i>
3	10102896	Main Auger Hanger Bearing Assembly
4	10100674	1/2" Flat Washer <i>(12 Required)</i>
5	10101943	1/2-13 x 1-3/4" Galvanized Hex Bolt <i>(Two Required)</i>
6	10102936	Protective Grate Bracket <i>(12 Required)</i>
7	1014022	1/2-13 Hex Nut <i>(12 Required)</i>

## PART NUMBERS AND SCHEMATICS

**Figure 15: Left Side Pneumatic Ball Vibrators**



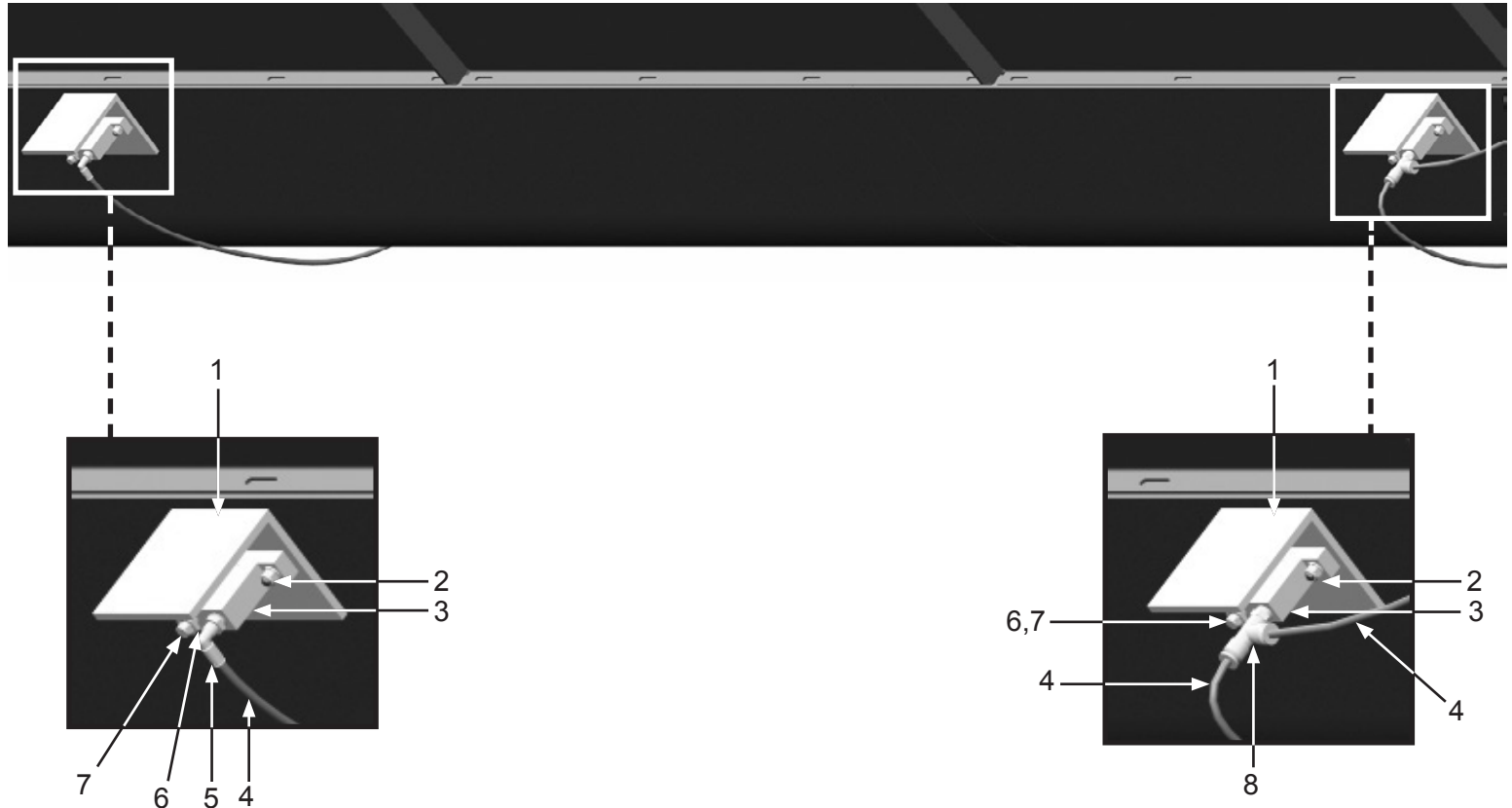
Item #	Part #	Description
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**Fig. 15**

1	10103609	Vibrator Shield <i>(Two Required)</i>
2	1012905	1/8" Breather Muffler <i>(Two Required)</i>
3	10103322	1/4" I.D. Black Urethane Tubing <i>(Per Foot)</i>
4	20PFHA24SB0402	1/4" x 1/8" Reducing Bushing
5	10103261	1/4" Male Push-to-connect Tee
6	10103258	Pneumatic Ball Vibrator <i>(Two Required)</i>
7	1012323	1/4-20 Zinc Lock Nut with Nylon Insert <i>(Four Required)</i>

## PART NUMBERS AND SCHEMATICS

Figure 16: Right Side Pneumatic Ball Vibrators



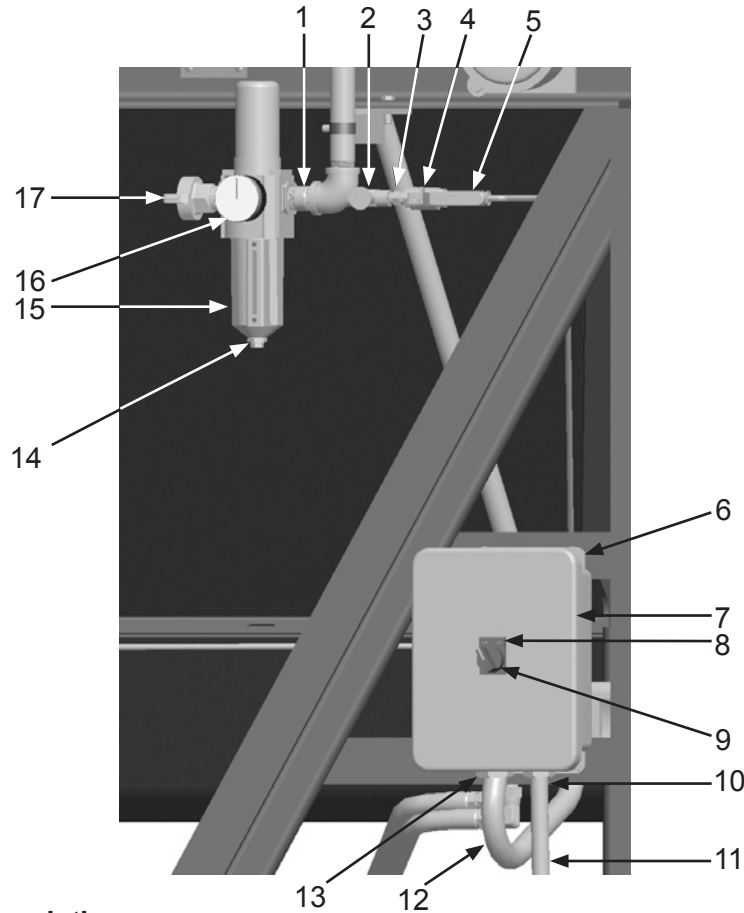
Item #	Part #	Description
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Fig. 16

1	10103609	Vibrator Shield ( <i>Two Required</i> )
2	1012323	1/4-20 Zinc Lock Nut with Nylon Insert ( <i>Four Required</i> )
3	10103258	Pneumatic Ball Vibrator ( <i>Two Required</i> )
4	10103322	1/4" I.D. Black Urethane Tubing ( <i>Per Foot</i> )
5	20PFBA31095614	1/4" Tube x 1/4" NPT 90° Fitting
6	20PFHA24SB0402	1/4" x 1/8" Reducing Bushing
7	1012905	1/8" Breather Muffler ( <i>Two Required</i> )
8	10103261	1/4" Male Push-to-connect Tee

## PART NUMBERS AND SCHEMATICS

**Figure 17: Pulser Regulator and Timer Assembly**



### Item # Part #

### Description

#### Fig. 17

1	10103317	3/4" x 2" Pipe Nipple
2	10103292	1/4" Needle Valve
3	1017019	1/4" x 1/4" Hex Nipple
4	1080050	1/4" Ball Valve
5	10103261	1/4" Prestolock Tee
6	20100125	1/4-20 x 3/4" Zinc Hex Bolt <i>(Four Required)</i>
7	10103488	Timer Controller - 10 Channel
—	10103935	Timer Box Only
—	10103949	Timer Board Only
8	10103414	On/Off Name Plate
9	10103305	2-Way Selector Switch
10	20RST50	Straight Liquid Tite Connection Fitting <i>(Two Required)</i>
11	20RSEL050UL	1/2" UL/UA Seal-Tite Conduit Pipe <i>(Per Foot)</i>
12	10103304	3/4" Flexible Conduit
13	10103303	3/4" Conduit Hub
14	10103952	Filter Auto Drain
15	10103257	Excelon 74 Series Filter/Regulator
16	10103953	Sight Glass Kit
17	10ME1	3/4" Male 2-lug Coupling
—	10103950	Excelon 74 Series Filter/Regulator Service Kit
—	10103951	Filter Element <i>(Not Shown)</i>

## PART NUMBERS AND SCHEMATICS

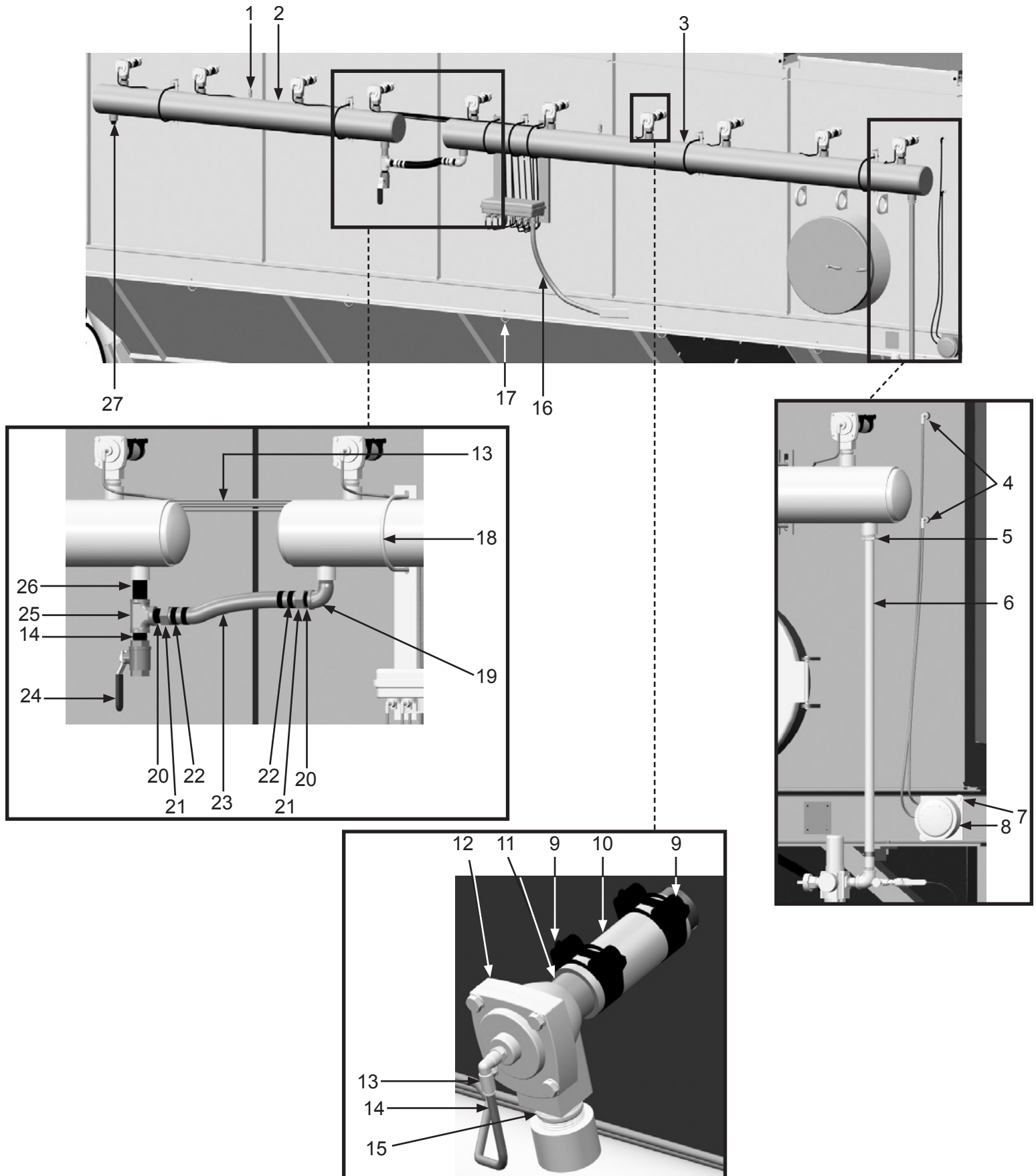
### Pulser System Assembly

Item #	Part #	Description
<b>Fig. 18</b>		
1	1028607	1/4" NPT Pressure Relief Valve – 125 PSI <i>(Two Required)</i>
2	10103452	4 Pipe Header
3	10102948	6 Pipe Header
4	20PFBA31095614	1/4" Tube x 1/4" NPT 90° Fitting <i>(Two Required)</i>
5	20PFHA24SB1612	1" x 3/4" Reducing Bushing
6	10103315	3/4" x 36" Pipe Nipple
7	10103608	Magnehelic Differential Pressure Gauge Mounting Bracket
8	10103259	Magnehelic Differential Pressure Gauge Assembly <i>Includes Mounting Hardware</i>
9	10104136	T-Bolt Clamp 1-9/16" X 1-11/16" OD <i>(20 Required)</i>
10	10103654	1-1/4" I.D. Marine Hose – 100 PSI <i>(Per Foot)</i>
11	10105207	1" x 3" Toe Nipple <i>(Six Required)</i>
12	10103255	1" Diaphragm Valve
13	20100579	1/4" O.D. Tube x 1/8" NPT Swivel <i>(20 Required)</i>
14	10103322	1/4" O.D. Black Urethane Tubing <i>(Per Foot)</i>
15	10103318	1" x 2" Pipe Nipple <i>(11 Required)</i>
16	10103304	3/4" I.D. Flexible Conduit
17	10103625	D-Ring with Nut <i>(16 Required)</i>
18	10103394	3/8-16 x 6" U-Bolt Assembly <i>(Seven Required)</i>
19	1011801	1" Street Elbow
20	1012151	1" Galvanized Close Nipple <i>(Two Required)</i>
21	10SFE2	1" Female Swivel End <i>(Two Required)</i>
22	10AHCL1	Band Clamp <i>(Two Required)</i>
23	10AH100	1" I.D. Air Hose
24	1011601	1" Full Port Ball Valve
25	1011816	1" Pipe Tee
26	1011843	1" x 2-1/2" NPT Pipe Nipple
27	1011901	1" Pipe Plug
—	10103954	1" Diaphragm Valve Service Kit <i>(Not Shown)</i>



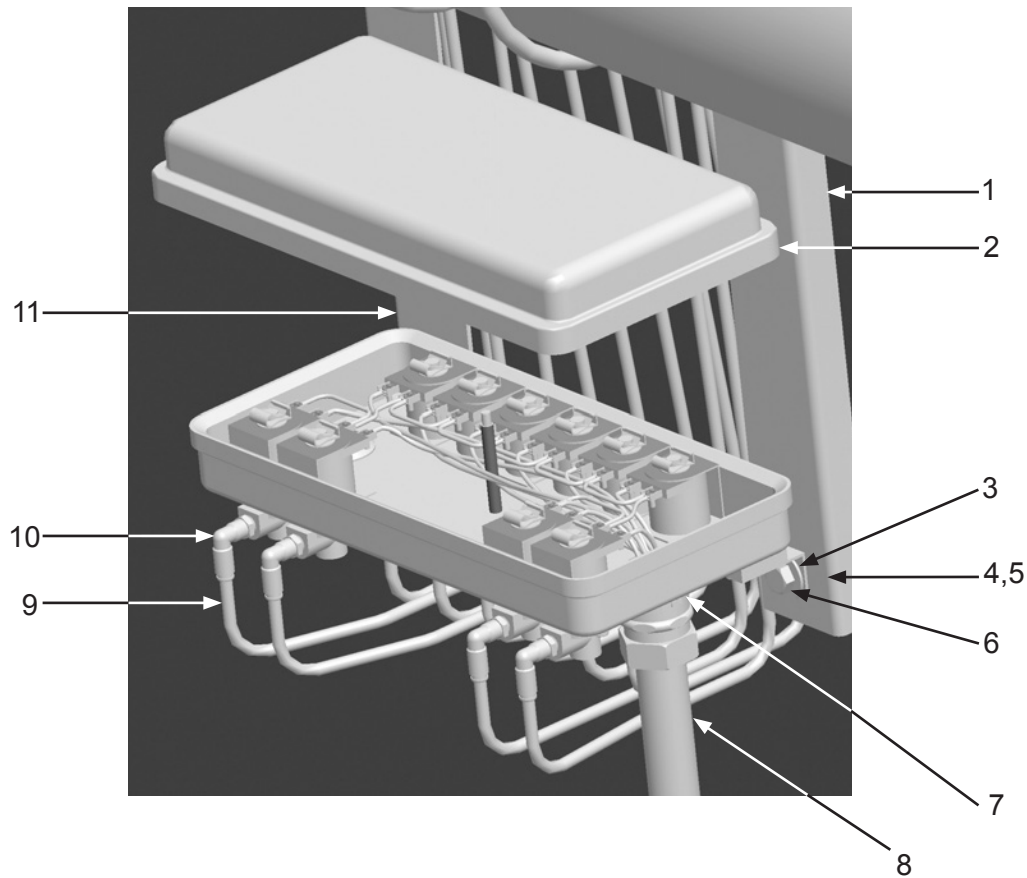
## PART NUMBERS AND SCHEMATICS

Figure 18: Pulser System Assembly



## PART NUMBERS AND SCHEMATICS

**Figure 19: Pulser Solenoid Enclosure Assembly**



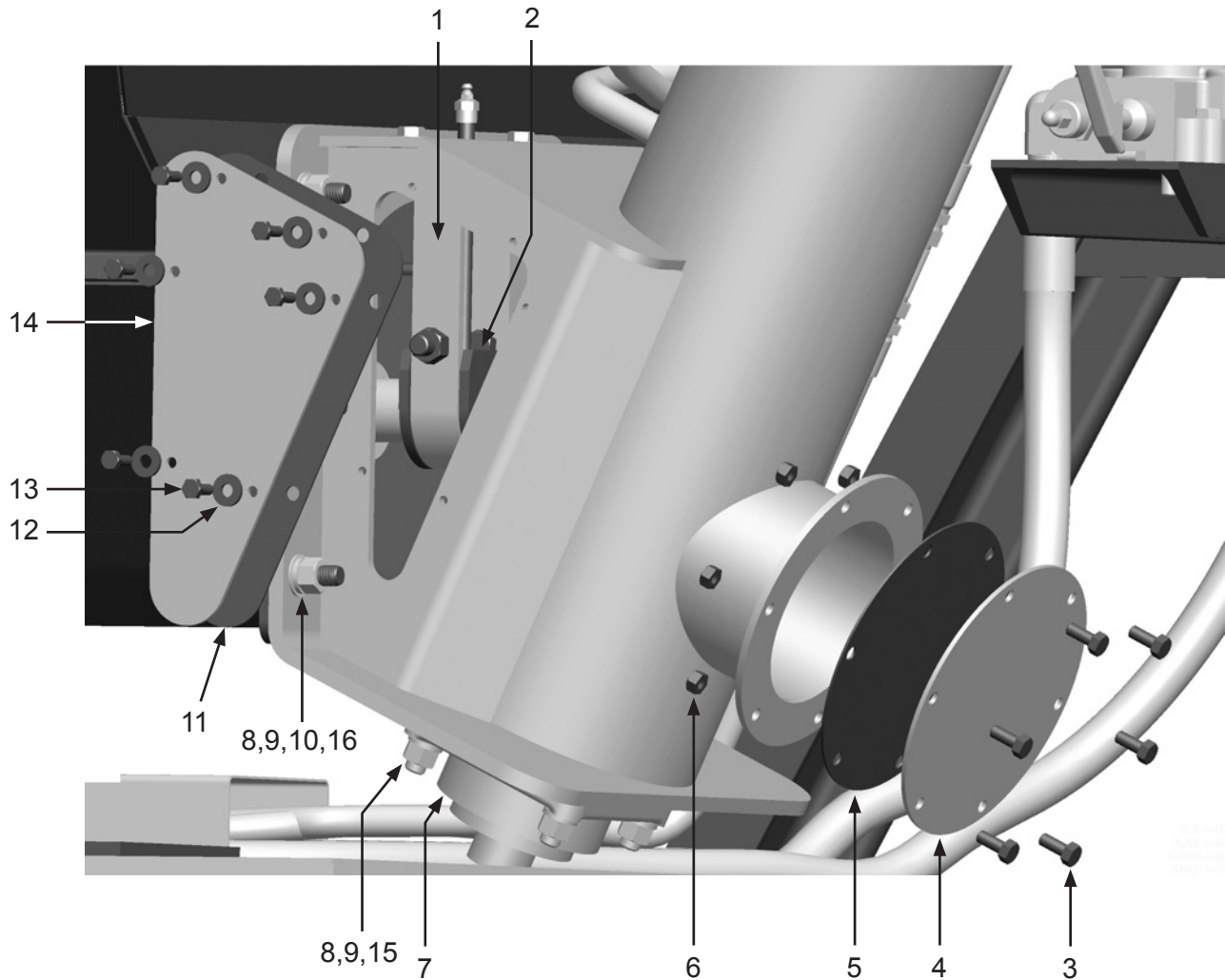
Item #	Part #	Description
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**Fig. 19**

1	10102970	Solenoid Enclosure Mount – Right
2	10103489	10 Solenoid Pilot Valve
3	10101942	3/8" Galvanized Flat Washer <i>(Four Required)</i>
4	10101936	3/8" Zinc Lock Washer <i>(Two Required)</i>
5	1012318	3/8-16 Hex Nut <i>(Two Required)</i>
6	1011747	3/8-16 x 1" Bolt
7	10103303	3/4" Conduit Hub
8	10103304	3/4" Flexible Conduit
9	10103322	1/4" O.D. Black Urethane Tubing <i>(Per Foot)</i>
10	20100579	1/4" O.D. Tube x 1/8" NPT Swivel <i>(10 Required)</i>
11	10102969	Solenoid Enclosure Mount – Left
—	10103955	Solenoid Valve <i>(10 Required)</i>
—	10103956	Solenoid Coil <i>(One Required per Solenoid)</i>
—	10103957	Solenoid Service Kit <i>Includes: O-ring, Plunger, Spring, Ferrule</i>

## PART NUMBERS AND SCHEMATICS

**Figure 20: Discharge Auger Clean-out Assembly**



Item #	Part #	Description
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**Fig. 20**

1	10102896	Bearing Hanger
2	10103413	Bearing
3	10101346	5/16-18 x 3/4" Bolt ( <i>Six Required</i> )
4	10103235	Auger Clean-out Cover
5	10103716	Neoprene Auger Clean-out Gasket
6	1035046	5/16-18 Nut ( <i>Six Required</i> )
7	10102880	Discharge Auger Lower Bearing Assembly
8	10101941	1/2-13 Galvanized Hex Nut ( <i>10 Required</i> )
9	10100675	1/2" Lock Washer ( <i>10 Required</i> )
10	10100674	1/2" Flat Washer ( <i>Six Required</i> )
11	10103717	Discharge Auger Side Gasket ( <i>Two Required</i> )
12	10101940	1/4" Galvanized Flat Washer ( <i>12 Required</i> )
13	20100125	1/4-20 x 3/4" Zinc Hex Bolt ( <i>12 Required</i> )
14	10103236	Discharge Auger Side Cover ( <i>Two Required</i> )
15	10102652	1/2-13 X 2-1/4" GR5 Bolt
16	10101943	1/2-13 X 1-3/4" Hex Bolt

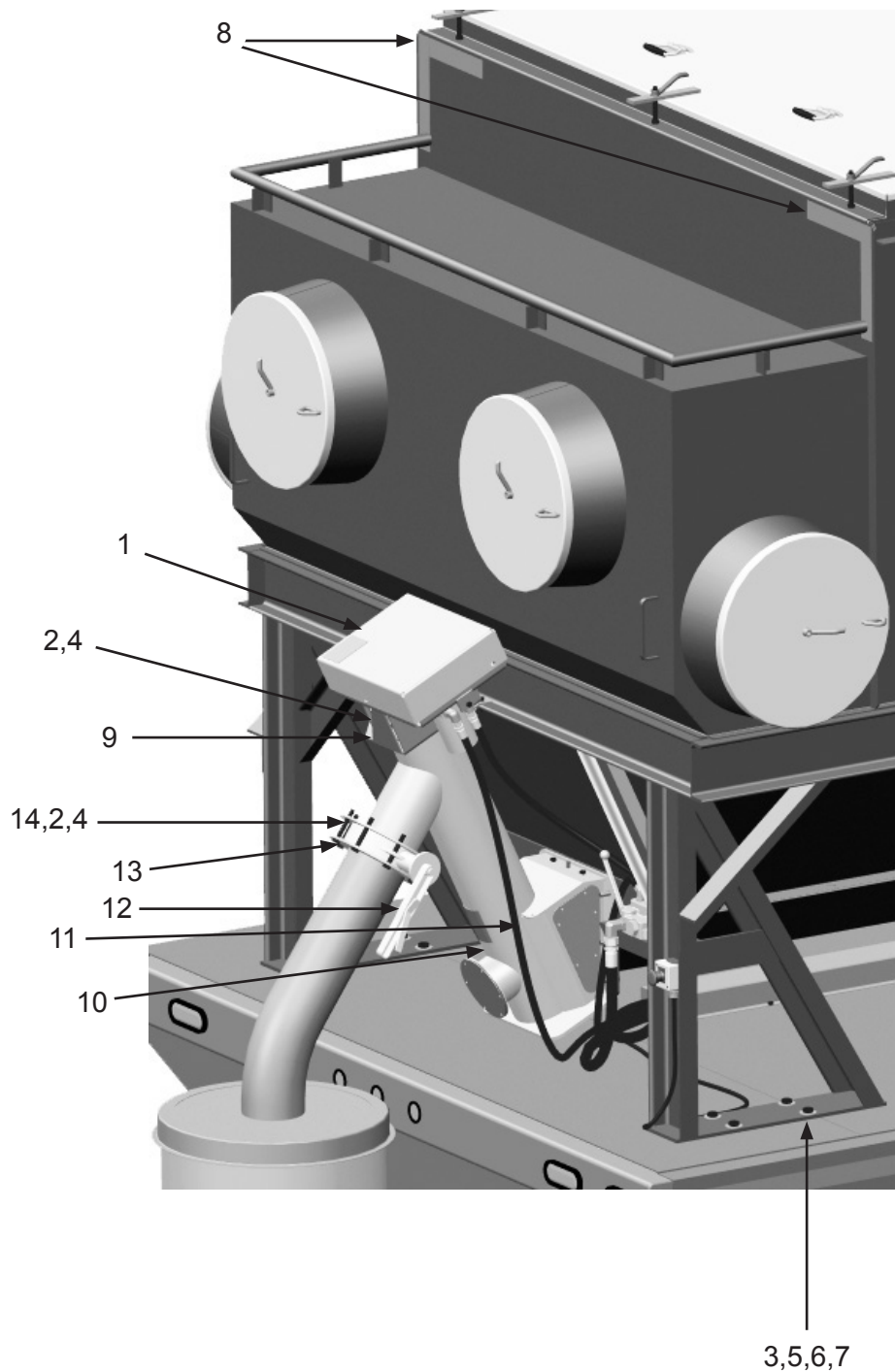
## PART NUMBERS AND SCHEMATICS

### Discharge Auger Assembly - Trailer

Item #	Part #	Description
<b>Fig. 21</b>		
1	10103363	Discharge Chain Cover
2	1014022	1/2-13 Hex Nut <i>(18 Required)</i>
3	10103393	Nut - 5/8-11 Grade 8 Zinc <i>(16 Required)</i>
4	10100675	1/2" Lock Washer <i>(Eight Required)</i>
5	10103397	5/8-11 x 2" Grade 8 Bolt- Zinc <i>(16 Required)</i>
6	10103398	Washer - 5/8" Grade 8 <i>(32 Required)</i>
7	10103399	Lock Washer - 5/8" Hd <i>(16 Required)</i>
8	10103880	White Conspicuity Tape (Per Inch)
9	10103359	Discharge Auger Motor Mounting Bracket
10	10105936	Short Discharge Auger <i>(See Fig. ??)</i>
11	10103411	1/2" I.D. x 4' Hydraulic Hose with Fittings
12	10103302	6" Series Wafer Butterfly Valve
13	10102971	Discharge Hose Connector
14	10102703	1/2-13 x 3-1/2" Grade 5 Bolt <i>(Eight Required)</i>
—	10103881	Red Conspicuity Tape (Per Inch)

## PART NUMBERS AND SCHEMATICS

Figure 21: Discharge Auger Assembly - Trailer



## PART NUMBERS AND SCHEMATICS

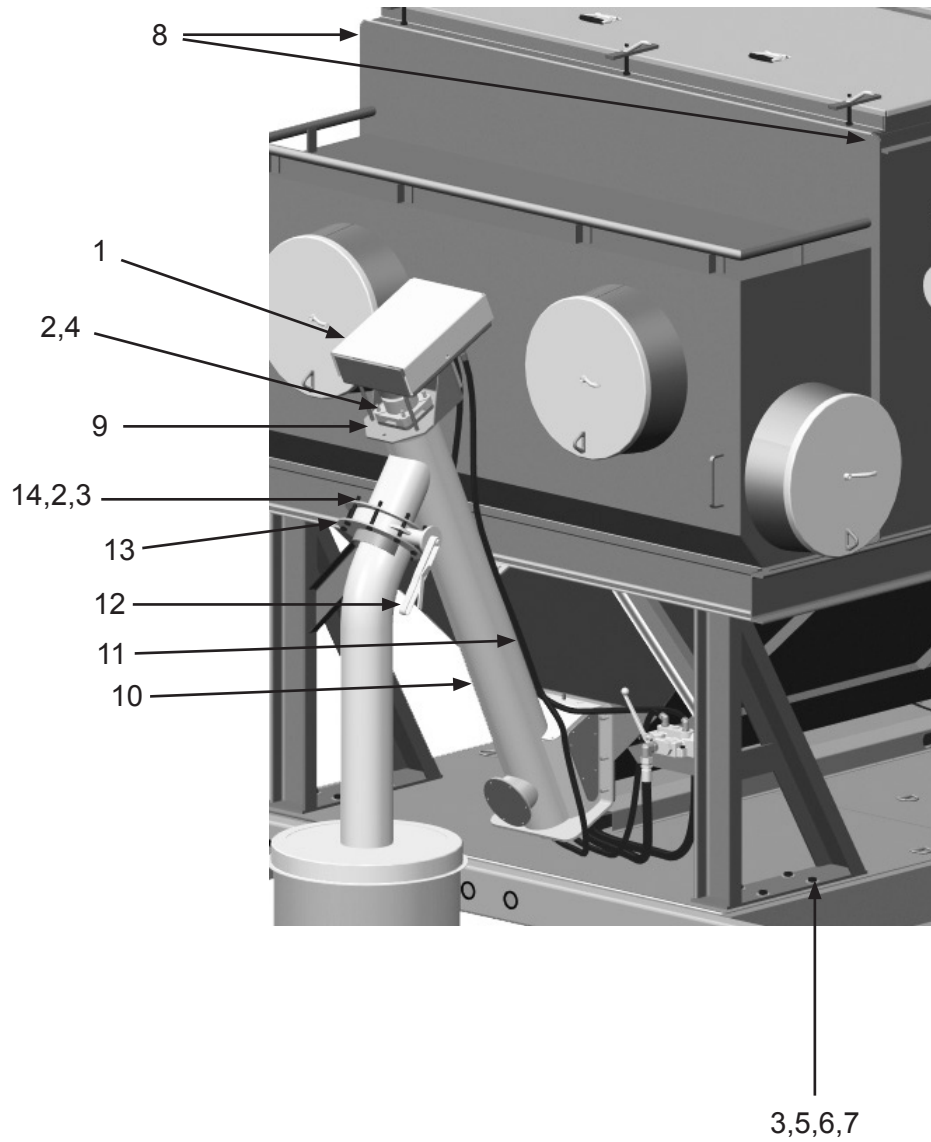
### Discharge Auger Assembly - Skid

Item #	Part #	Description
<b>Fig. 21</b>		
1	10103363	Discharge Chain Cover
2	1014022	1/2-13 Hex Nut <i>(18 Required)</i>
3	10103393	Nut - 5/8-11 Grade 8 Zinc <i>(16 Required)</i>
4	10100675	1/2" Lock Washer <i>(Eight Required)</i>
5	10103397	5/8-11 x 2" Grade 8 Bolt- Zinc <i>(16 Required)</i>
6	10103398	Washer - 5/8" Grade 8 <i>(32 Required)</i>
7	10103399	Lock Washer - 5/8" Hd <i>(16 Required)</i>
8	10103880	White Conspicuity Tape (Per Inch)
9	10103359	Discharge Auger Motor Mounting Bracket
10	10103216	Discharge Auger <i>(See Fig. ??)</i>
11	10103411	1/2" I.D. x 4' Hydraulic Hose with Fittings
12	10103302	6" Series Wafer Butterfly Valve
13	10102971	Discharge Hose Connector
14	10102703	1/2-13 x 3-1/2" Grade 5 Bolt <i>(Eight Required)</i>
—	10103881	Red Conspicuity Tape (Per Inch)



## PART NUMBERS AND SCHEMATICS

Figure 21: Discharge Auger Assembly - Skid



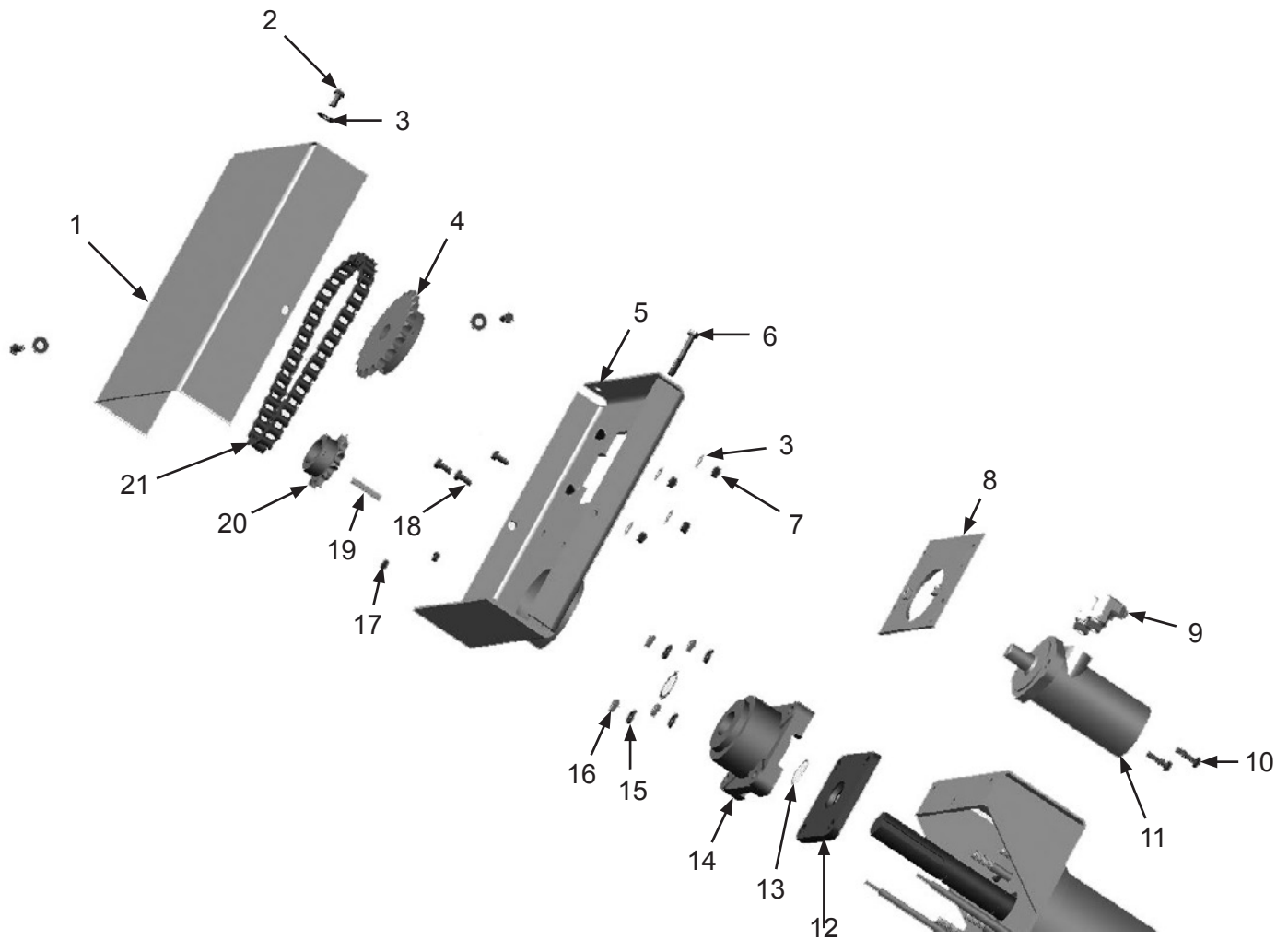
## PART NUMBERS AND SCHEMATICS

### Discharge Auger Drive Assembly

Item #	Part #	Description
<b>Fig. 22</b>		
1	10103363	Chain Cover
2	10103400	3/8-16 x 3/4" Bolt ( <i>Seven Required</i> )
3	10101942	3/8" Galvanized Flat Washer ( <i>Three Required</i> )
4	10104217	22-Tooth Sprocket
5	10104197	Chain Cover Base
6	10101933	3/8" - 16 X 2-1/2" Hex Bolt
7	1012318	3/8-16 Hex Nut ( <i>Four Required</i> )
8	10104199	Sliding Motor Mount
9	10103308	JIC 8 x SAE 10 90° Elbow ( <i>Two Required</i> )
10	10104234	3/8-16 x 1-1/4" Hex Bolt ( <i>Two Required</i> )
11	10102887	Hydraulic Motor
12	10102902	Seal Plate
13	10103605	Snap Ring ( <i>Two Required</i> )
14	10102903	Thrust Bearing
15	10100675	1/2" Lock Washer ( <i>Four Required</i> )
16	1014022	1/2-13 Hex Nut ( <i>Four Required</i> )
17	1035046	5/16"- 18 Nut ( <i>Two Required</i> )
18	10101346	5/16-18 X 3/4" L GR 5 Bolt ( <i>Three Required</i> )
19	10103641	3/8 Key Cut
20	10102886	13-Tooth Sprocket
21	10104191	Discharge Auger Chain Kit <i>Includes 60# Connecting Chain Link, 60# Cottered Roller Chain (Quantity of Three), and 60# Offset Chain Link.</i>
—	10103392	60# Connecting Chain Link
—	10103391	60# Cottered Roller Chain ( <i>Per Foot</i> )
—	10103614	60# Offset Chain Link
—	10103940	Seal Kit for Hydraulic Motor

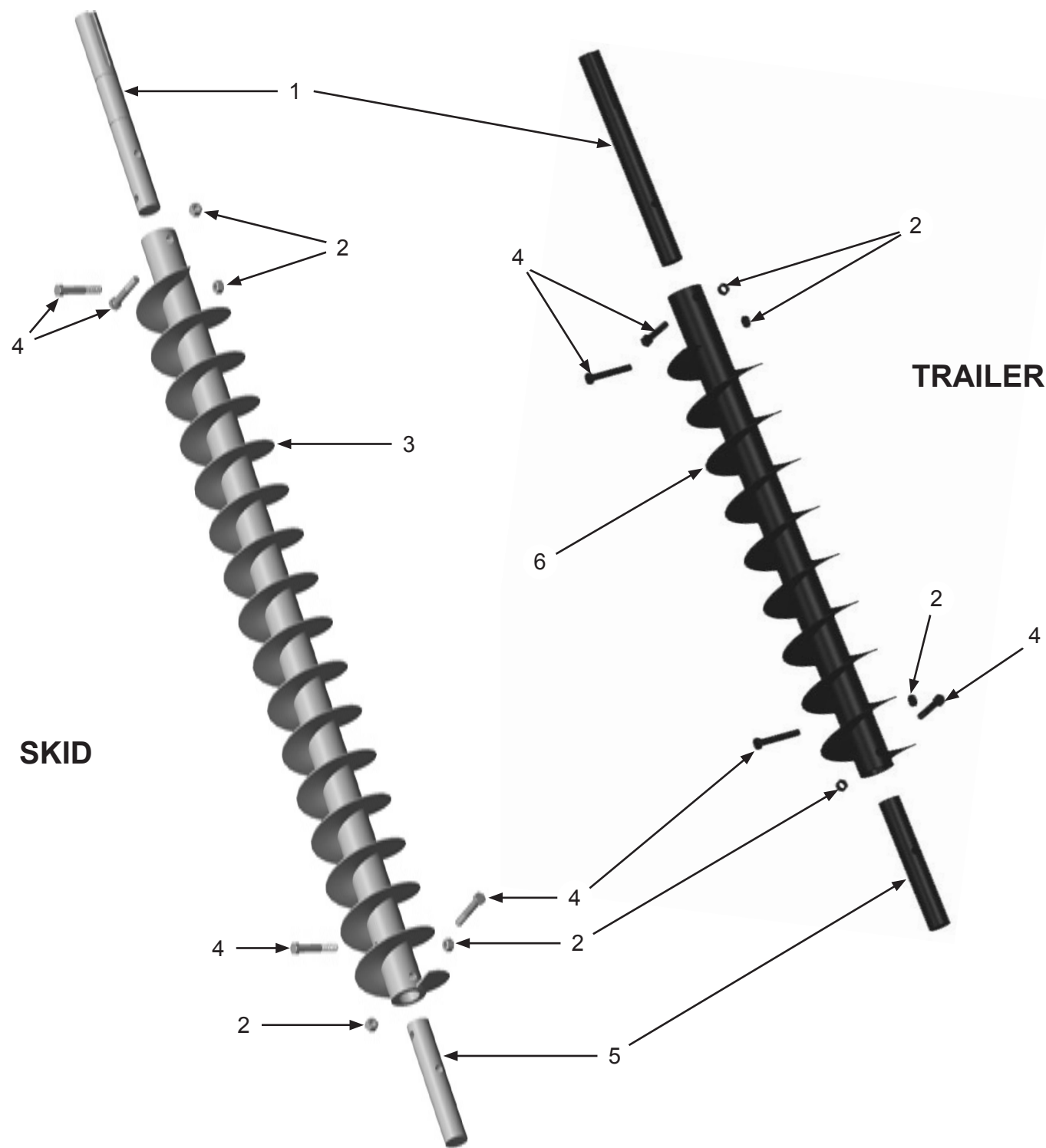
## PART NUMBERS AND SCHEMATICS

Figure 22: Discharge Auger Drive Assembly



PART NUMBERS AND SCHEMATICS

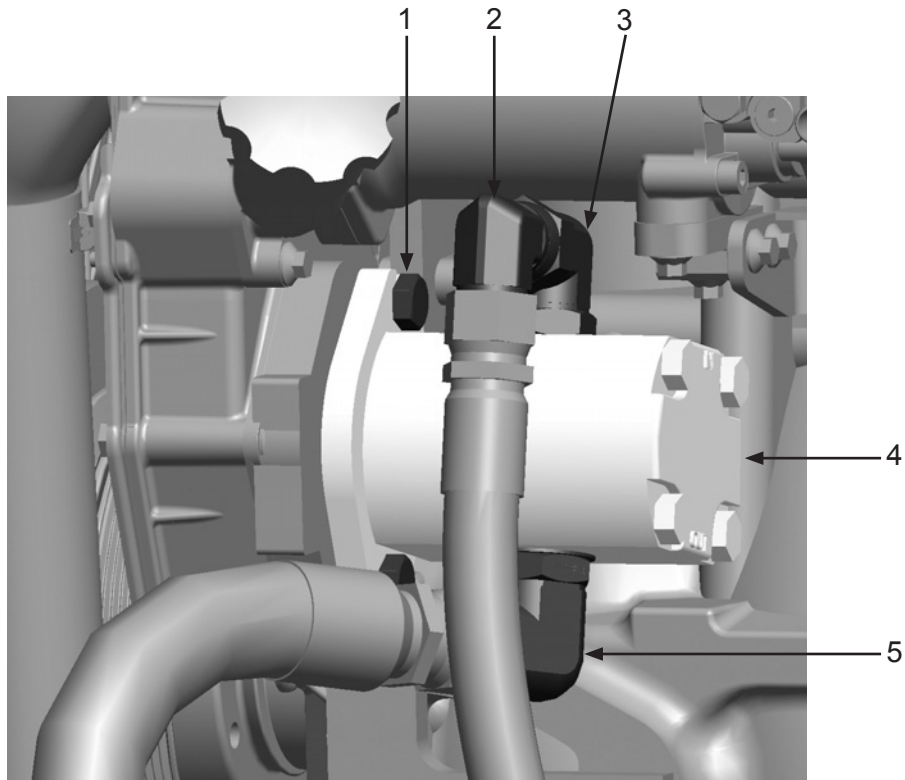
Figure 23: Discharge Augers



Item #	Part #	Description
<b>Fig. 23</b>		
1	10103306	Drive Shaft
2	1014022	1/2-13 Hex Nut ( <i>Four Required</i> )
3	10102883	58" x 6" Half Pitch Auger
4	10103401	1/2-13 x 3" Galvanized Bolt ( <i>Four Required</i> )
5	10102910	Auger Shaft End
6	10105943	34" x 6" Half Pitch Auger

## PART NUMBERS AND SCHEMATICS

Figure 24: Hydraulic Pump



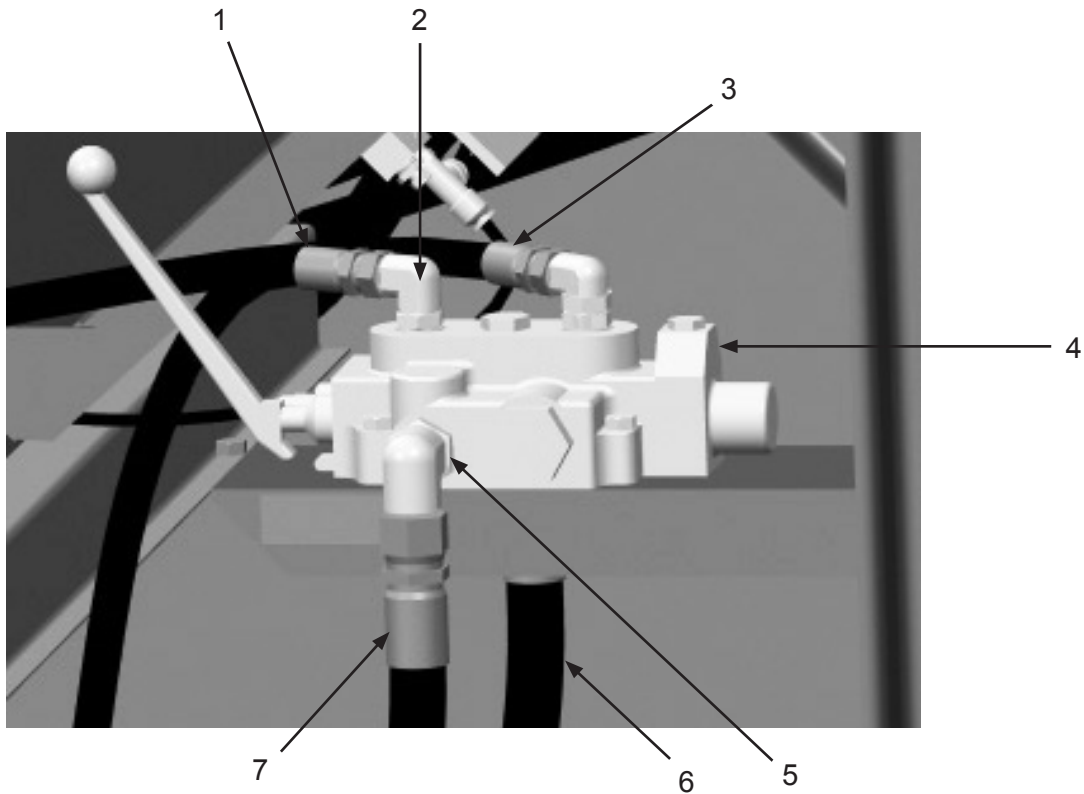
Item #	Part #	Description
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Fig. 24

1	10101943	1/2-13 x 1-3/4" Galvanized Hex Bolt <i>(Two Required)</i>
2	10103610	JIC 12 x JIC 12 90° Elbow
3	10103310	JIC 12 x SAE 12 90° Elbow
4	10103269	2B Series 2.08 CI/REV Gear Pump
5	10103311	JIC 6 x SAE 16 90° Elbow

## PART NUMBERS AND SCHEMATICS

**Figure 25: Hydraulic Control Assembly**



Item #	Part #	Description
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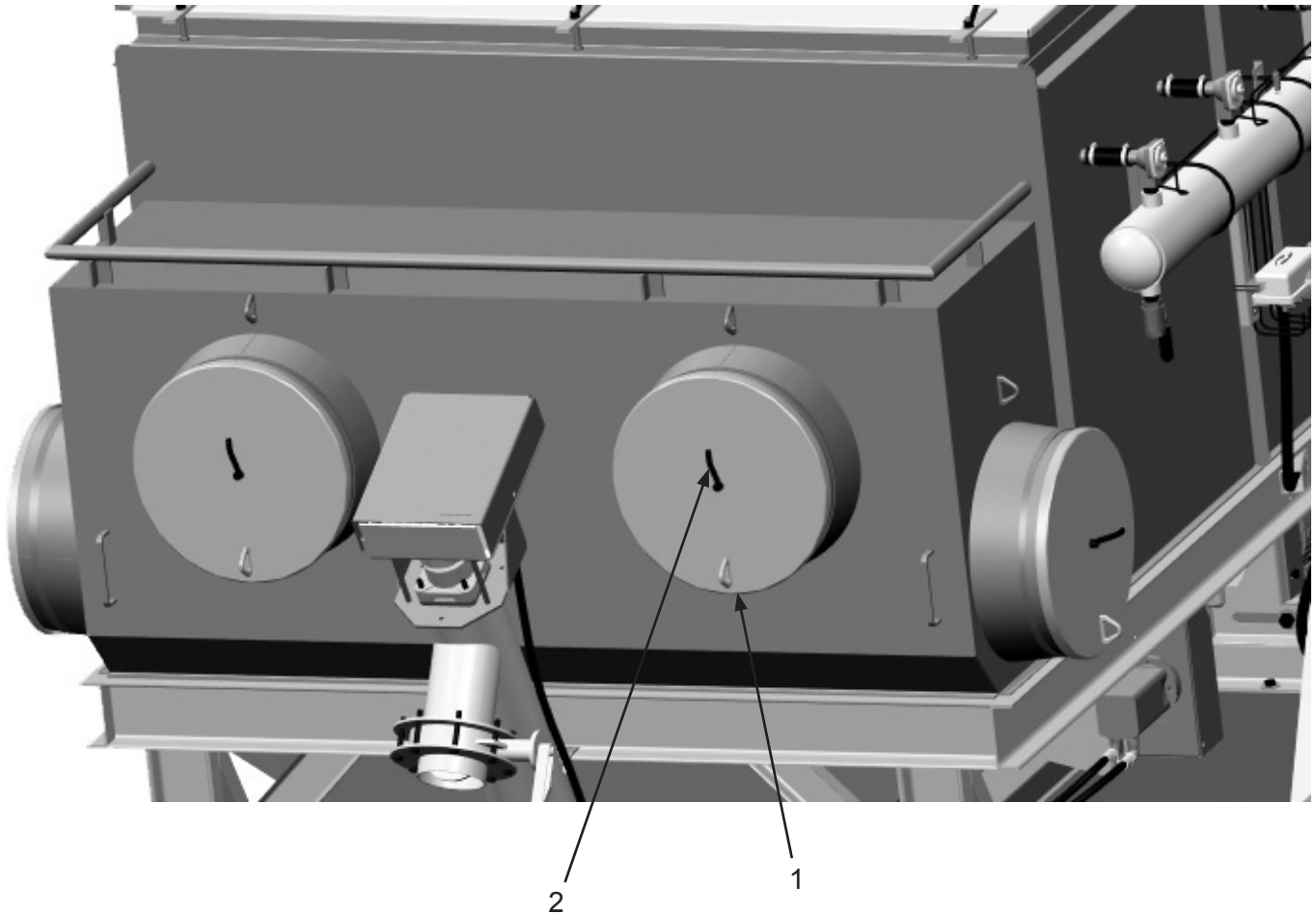
**Fig. 25**

1	10103408	1/2" X 12'6" Hydraulic Hose with Fittings
2	10103309	JIC 8 x SAE 8 90° Elbow ( <i>Two Required</i> )
3	10103409	1/2" X 7'1" Hydraulic Hose with Fittings
4	10103267	Cross Hydraulic Control Valve with Handle
5	10103310	JIC 12 x SAE 12 90° Elbow ( <i>Two Required. One not shown</i> )
6	10103707	3/4" I.D. x 17.7' Hydraulic Hose with Fittings
7	10103710	3/4" I.D. x 13' Hydraulic Hose with Fittings



## PART NUMBERS AND SCHEMATICS

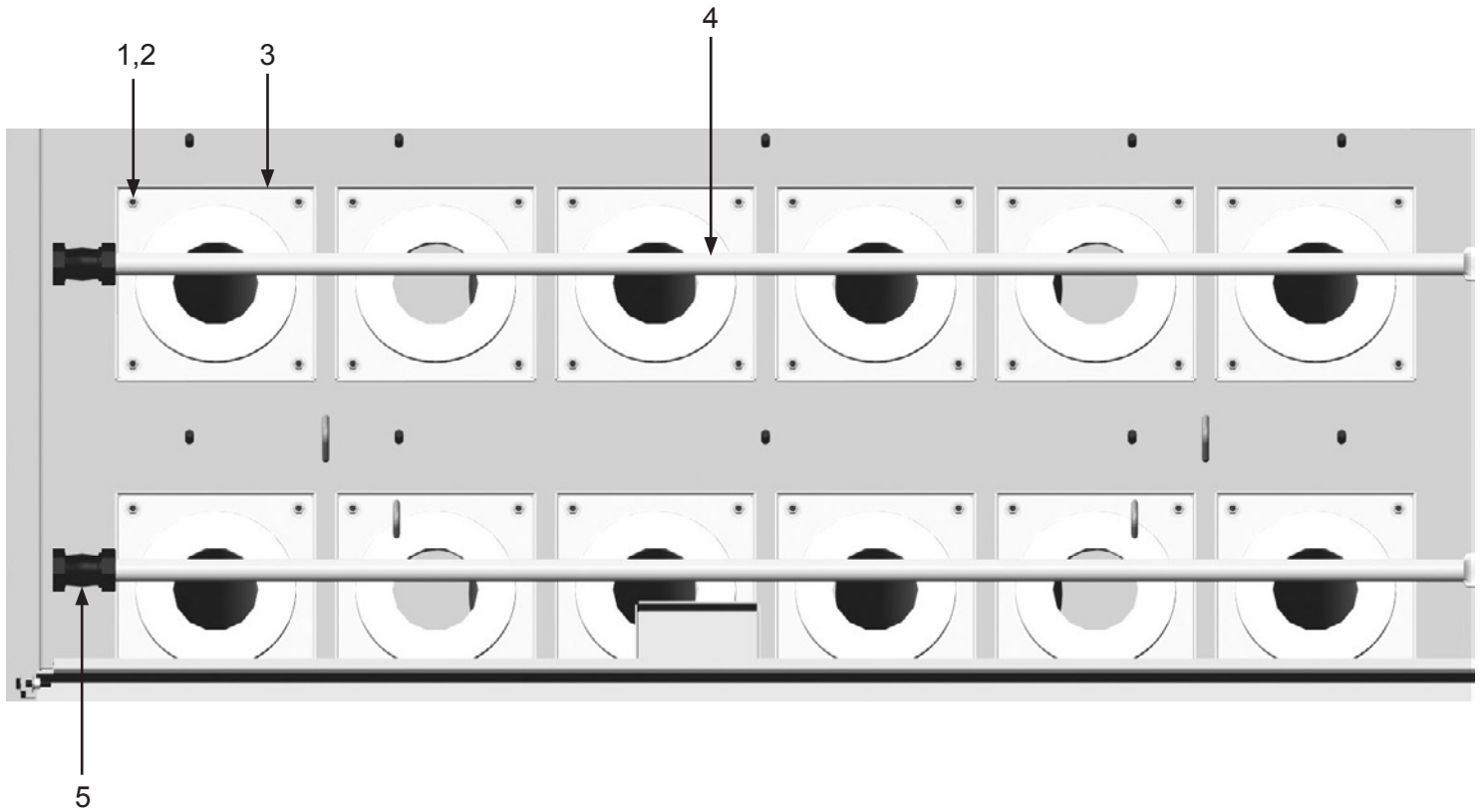
Figure 26: Inlet Door Assembly



Item #	Part #	Description
<b>Fig. 26</b>		
1	10105945	20" Inlet Cover ( <i>Four Required</i> )
2	10105960	3/8-16 Handle Zinc ( <i>Four Required</i> )

## PART NUMBERS AND SCHEMATICS

**Figure 27: Dust Collector Filter Cartridge Pulsers**



Item #	Part #	Description
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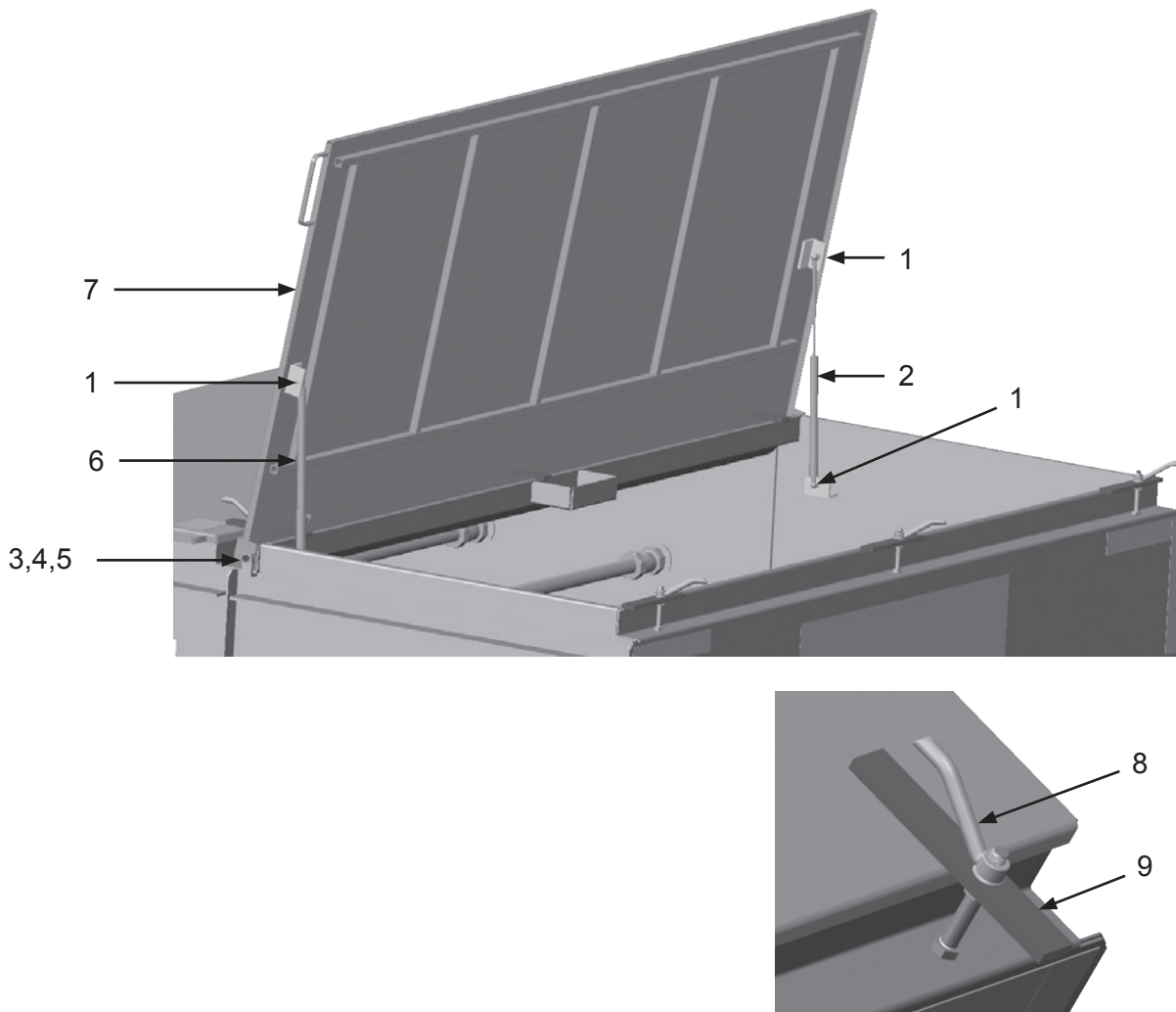
**Fig. 27**

1	10101942	3/8" Flat Washer (48 Required)
2	1012318	3/8" Hex Nut (48 Required)
3	10105939	Filter Bolt-Down (12 Required)
4	10105942	Small Filter Blowpipe (Two Required)
5	10102599	Compression Coupling Assembly (Two Required)

*Quantities specified are per hatch opening*

## PART NUMBERS AND SCHEMATICS

**Figure 28: Dust Collector Filter Cartridge Hatch Door**



Item #	Part #	Description
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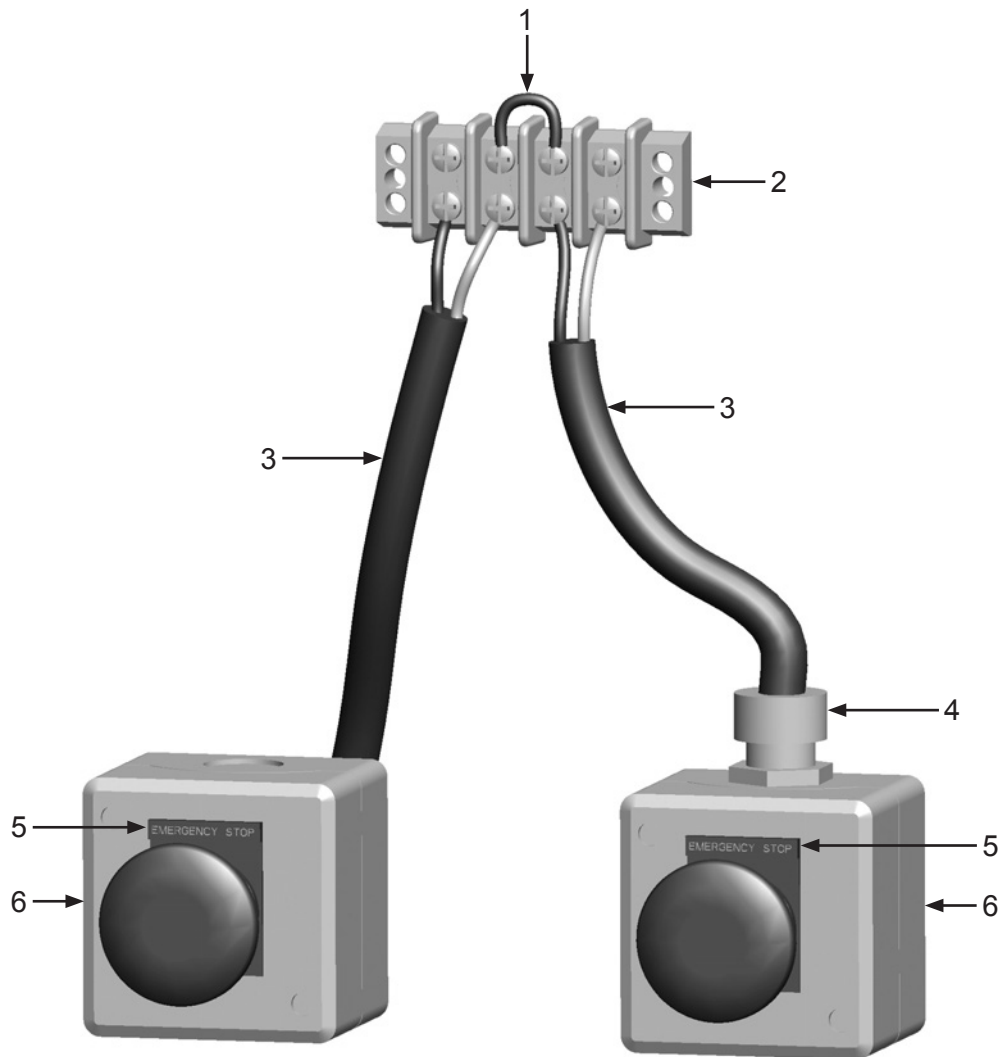
**Fig. 28**

1	1035046	5/16-18 Hex Nut ( <i>Four Required</i> )
2	10103454	Non-Locking Gas Spring
3	1028617	3/8-16 X 1-3/4" Shoulder Bolt ( <i>Two Required</i> )
4	10101942	3/8" Flat Washer ( <i>Four Required</i> )
5	10101938	3/8"-16 Hex Nut ( <i>Two Required</i> )
6	10103455	Locking Gas Spring
7	10102917	Hopper Lid
8	10103395	1/2-13 Zinc Plated Handle ( <i>Three Required</i> )
9	10104377	Latch Bar ( <i>Three Required</i> )

*Quantities specified are per hatch opening*

## PART NUMBERS AND SCHEMATICS

**Figure 29: Emergency-Stop Stations**



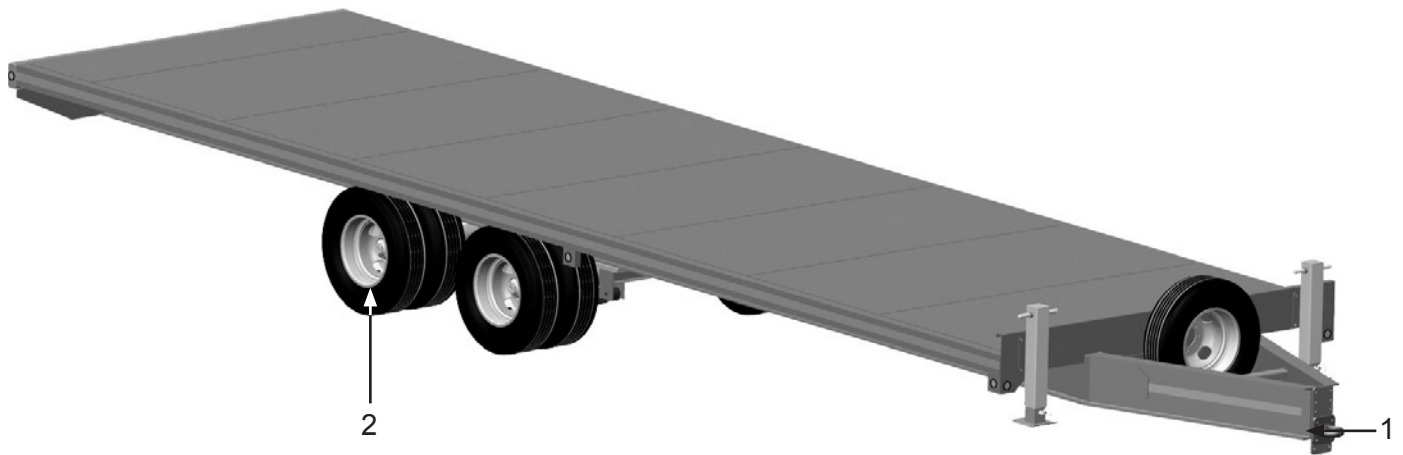
Item #	Part #	Description
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**Fig. 29**

1	20R12AWGBLACK	Stranded Wire - 12 AWG - Black
2	10104066	Terminal Strip - 4-Circuit - 30 amp
3	1015570	12/2 SO Electric Cord ( <i>Per Foot</i> )
4	1019048	1/2" NPT Cord Grip
5	10104063	Legend Plate - Emergency-Stop Station
6	10104071	Emergency-Stop Control Station ( <i>Two Required</i> )
—	1015009	8-32 x 1" Pan Head Phillips Screw ( <i>Four Required</i> )
—	20000021	8-32 Zinc Nut ( <i>Four Required</i> )
—	20000018	#8 Zinc Lock Washer ( <i>Four Required</i> )
—	20000019	#8 Zinc Flat Washer ( <i>Four Required</i> )

## PART NUMBERS AND SCHEMATICS

**Figure 30: Trailer**



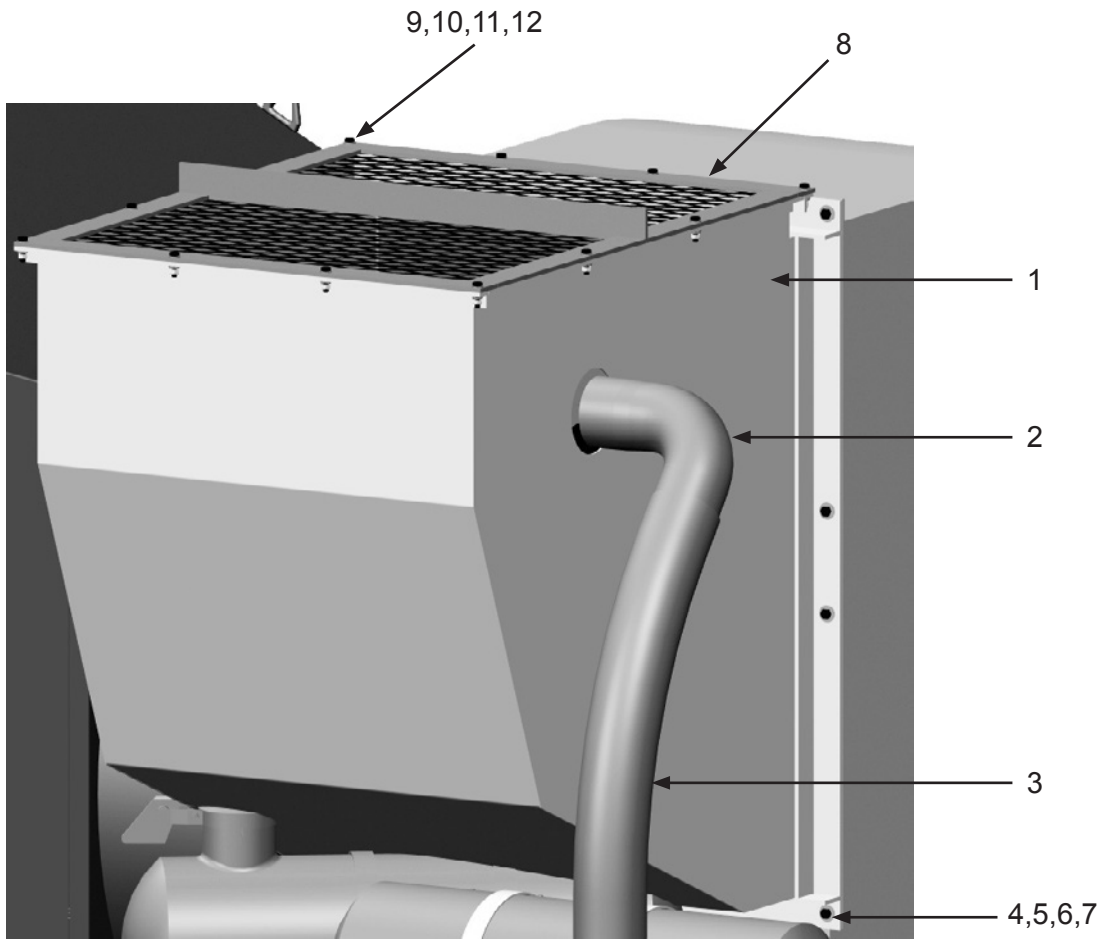
Item #	Part #	Description
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**Fig. 30**

1	10104079	Pintle Hitch with Flat Plate
2	10106290	16"- 8 Hole Pattern Rim with Tire <i>(Four Required)</i>
—	10104081	Breakaway Kit
—	10104135	Wire Harness
—	10104080	3/8" x 35" Chain with Hook
—	10104084	Red LED Oval Tail Light <i>(Four Required)</i>
—	10104085	Rubber Oval Grommet <i>(Four Required)</i>
—	10104086	2" Round Red LED Clearance Light <i>(Five Required)</i>
—	10104087	2" Round Amber LED Clearance Light <i>(Six Required)</i>
—	10104088	2" Round Rubber Grommet <i>(11 Required)</i>

## PART NUMBERS AND SCHEMATICS

**Figure 31: Fan Exhaust**



Item #	Part #	Description
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**Fig. 31**

1	10105951	Fan Exhaust Weldment
2	10103873	4" Exhaust Pipe Elbow
3	10105959	4" Flex Exhaust
4	10104234	3/8-16 x 1-1/4 Hex Bolt Zinc Gr 5
5	10101942	3/8" Flat Washer - Galvanized
6	10101936	3/8" Lock Washer - Zinc
7	1012318	3/8-16 HD Hex Nut
8	10103979	Bird Screen
9	1014019	5/16 18 x 1 1/4 Hex Bolt
10	10101935	5/16" Flat Washer - Galvanized
11	10L805014	5/16" Lock Washer
12	1035046	5/16-18 Nut



## MAINTENANCE NOTES

[illegible]

## MAINTENANCE NOTES

[illegible]

## 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](http://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](http://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](http://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](http://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](http://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](http://www.ansi.org)

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- 3425 East Locust Street  
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fax: 563.324.6258

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