



# VACMASTER® 23T TIER 4 DIESEL ABRASIVE VACUUMS



## PART NUMBERS AND SCHEMATICS GUIDE

## 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 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. 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.

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## PART NUMBERS

VACMASTER® 23T TIER 4 DIESEL ABRASIVE VACUUMS			
Part Numbers	Engine Type	Filter Style	Filter Bags Quantity
	Tier 4	Acrylic-Coated Filter Bags	
10106514	X	X	37



## SPECIFICATIONS

<b>Performance:</b>	MAX 3658 CFM
<b>Filter Cartridge Style:</b>	Acrylic-Coated Filter Bags 37 Required
<b>Filter Cleaning:</b>	Pulse System, 25–30 second intervals. Pulse Duration: 200–350 millisecond
<b>Vacuum</b>	27" Hg
<b>Ducting Connections:</b>	6" I.D. Inlet with 4" adapter
<b>Inspection Ports:</b>	One 10" Viewable to Filters with access ports to hopper
<b>Material Removal:</b>	Automatic Direct Dump
<b>Blower:</b>	Rotary lobe, positive displacement with jet inlet
<b>Engine:</b>	Diesel, Tier 4, 225 Horsepower
<b>Fuel Capacity:</b>	Capacity: 116 Gallons    Type: Diesel
<b>Air Compressor:</b>	On Board 13 CFM
<b>Electrical System:</b>	12-Volt DC
<b>Engine Protection:</b>	Engine Monitoring System with automatic shutdown
<b>Fluid Specifications:</b>	Hydraulic Oil: H46 or equivalent, 2 gallon capacity Diesel Fuel: See Engine Operator's Manual for type Grease/Lubricator: Shell Alvania Grease EP or equivalent Alcohol Evaporator: Alcohol 99 Isopropyl, 32 oz. capacity Vibrator Lubricator: 4 oz. pneumatic air tool oil Blower Oil: ROOTS™ synthetic lubricating oil
<b>Unit Dimensions:</b>	Weight: 13,950 pounds (empty) Length: 22' 4" Width: 8' 2" Height: 11' Raised Height: 18' 8" Dump Clearance: 8'

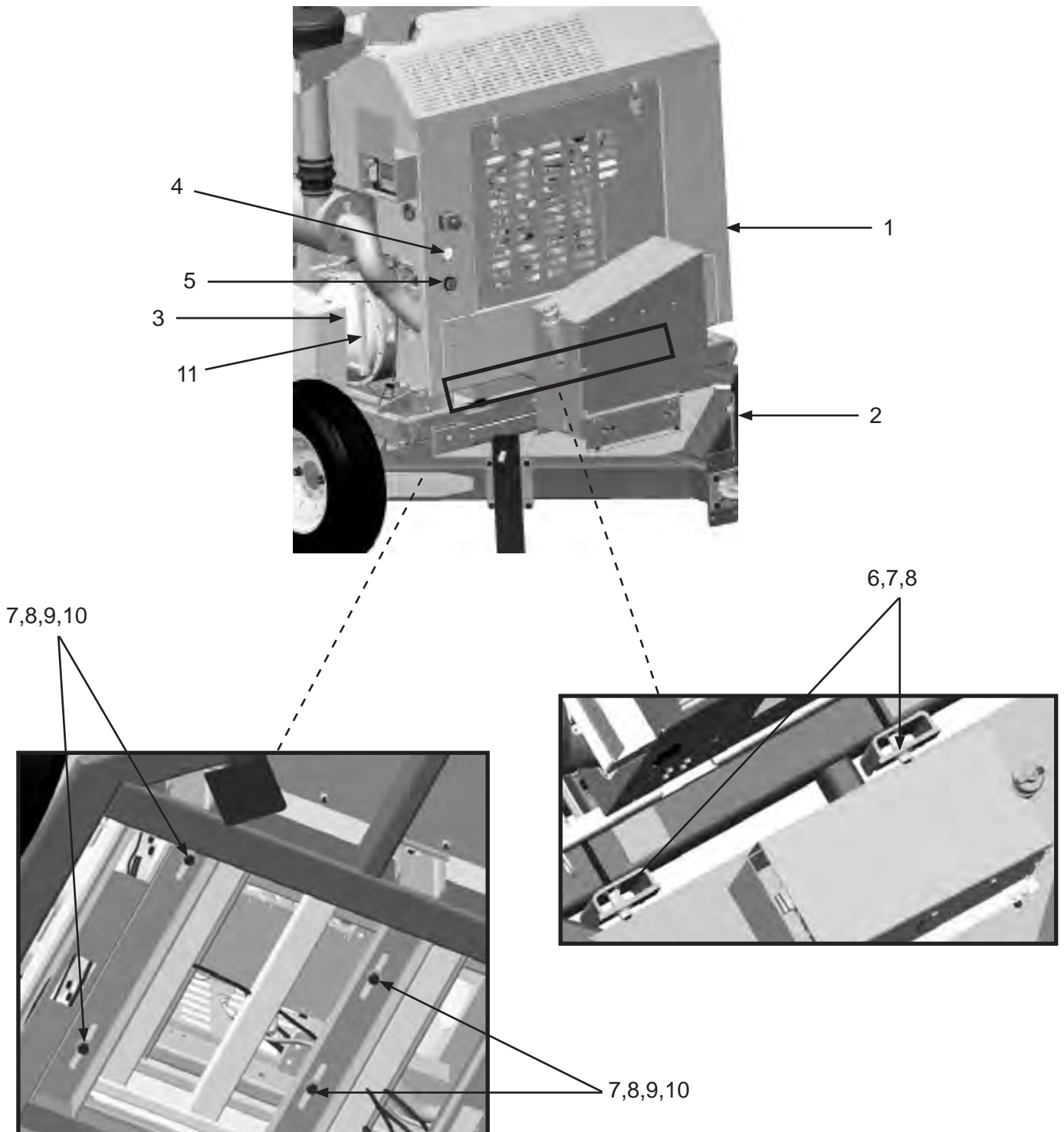
# ASSEMBLY PART NUMBERS AND SCHEMATICS

## Front Assembly

Item #	Part #	Description
<b>Fig. 1</b>		
1	10106516	Perkins Engine 225 HP Tier IV
2	10104776	20,000 lbs GVW Triple Axle Vacuum Trailer <i>(See Figure 18)</i>
3	10103986	Clutch
4	10104820	Panel Mount Pressure Gauge 0-160 PSI
5	10104821	Wema Analog Fuel Level Gauge
6	10103440R	3/4-10 UNC Grade 8 Draw Bolt <i>(Two Required)</i>
7	10103418	3/4" Washer - Grade 8 <i>(Four Required)</i>
8	10103420	3/4-10 UNC Grade 8 Nut <i>(Four Required)</i>
9	10103417	3/4-10 UNC x 1-3/4" Grade 8 Bolt <i>(Four Required)</i>
10	10103419	3/4" Lock Washer - HD <i>(Four Required)</i>
11	10104001	Shifting Lever For 10103986
—	10104126	Oil Filter
—	10103970	Perkins Key
—	10106701	Primary Fuel Filter
—	10106709	Secondary Fuel Filter
—	10106707	Outer Air Filter
—	10106708	Inner Air Filter

## PART NUMBERS AND SCHEMATICS

Figure 1: Front Assembly





## PART NUMBERS AND SCHEMATICS

### Rear Assembly

Item #	Part #	Description
<b>Fig. 2</b>		
1	10104673	0-50" Differential Pressure Gauge
2	10104705	3/8-16 Neck x 1" Bolt Zinc ( <i>12 Required</i> )
3	10104665	APV Series Piston Vibrator
4	10104506	Dump Door
5	10104411	Vacuum Hopper Cone
6	10106511	Vacuum Wear Door
7	10104638	Bulldog Trailer Jack
8	10104439	Hatch
9	10105334	Marco® Vacuum Light Bar
10	10104498	Vacuum Header
11	10104770	Blower Exhaust Silencer
12	10104771	Blower Intake Silencer
13	20PFHA60UA0406	1/4" (M) x 3/8" (F) 90° Swivel ( <i>Two Required</i> )
14	10104667	2.5" Pneumatic Cylinder
15	10104668	Piston Rod Clevis
16	10104507	Dump Arm
17	10104234	3/8-16 x 1-1/4 Hex Bolt Zinc ( <i>Four Required</i> )
18	10101942	3/8" Flat Washer - Galvanized ( <i>20 Req.</i> )
19	10101936	3/8" Lock Washer - Zinc ( <i>16 Required</i> )
20	10101938	3/8-16 Hex Nut ( <i>Four Req.</i> )
21 —	10104512 10104511	Dump Door Gasket Dump Door Internal Plate
22	20100160	1/2-13 x 4-1/2" Zinc Hex Bolt
23	10100674	1/2" Flat Washer ( <i>Two Required</i> )
24	20100124	1/2-13 Hex Lock Nut - Zinc
25	20PFHA60UA0406	1/4" M x 3/8" F 90° Swivel
26	1019044	1/4-20 x 1-3/4" Zinc Bolt ( <i>Two Required</i> )

Item #	Part #	Description
27	1012323	1/4-20 Zinc Lock Nut with Nylon Insert ( <i>Two Required</i> )
28	10104670	Solenoid
29	1019024	Breather Vent
30	10104674	Series MPR Mini Pressure Relief
31	10L803035	1/2" Close Nipple
32	1019025	1/2" Straight Conduit Body
33	10104703	Cord Grip, 1/2" Nylon .2-.47 Diameter
34	10104678	1/8" Pressure Gauge 100 PSI
35	1080050	1/4" Ball Valve
36	20PFHA60SG0406	1/4" (F) x 3/8" (F) Swivel Union ( <i>Two Required</i> )
37	20PFHA60SA0406	1/4" M x 3/8" F Swivel ( <i>Two Required</i> )
38	1014239	1/8" x 1/8" 90° Fitting
39	1011210	1/4" NPT x 1 1/2" Nipple
40	20PFHA60SA0806	1/2" (M) x 3/8" (F) Swivel Union
41	1011819	1/2" Street Elbow
42	20100571	1/2" NPT 3-Way Brass Ball Valve
43	1011818	1/2" x 1/4" Galvanized Bushing
44	10105189	Wear Door Liner
45	10105190	Wear Door
46	10101938	3/8 -16 Hex Nut Galv. ( <i>12 Required</i> )
47	10104637	6" Bandlock Clamp
48	10106513	6" Gasket
49	10104636	6" x 90° Elbow
50	20PFHA24SA0404	1/4" Hex Nipple
51	10104502	Dump Section Gasket
52	10104503	Vacuum Discharge Tube
53	10104426	Vacuum hopper Section Gasket



### Figure 2: Rear Assembly



## PART NUMBERS AND SCHEMATICS

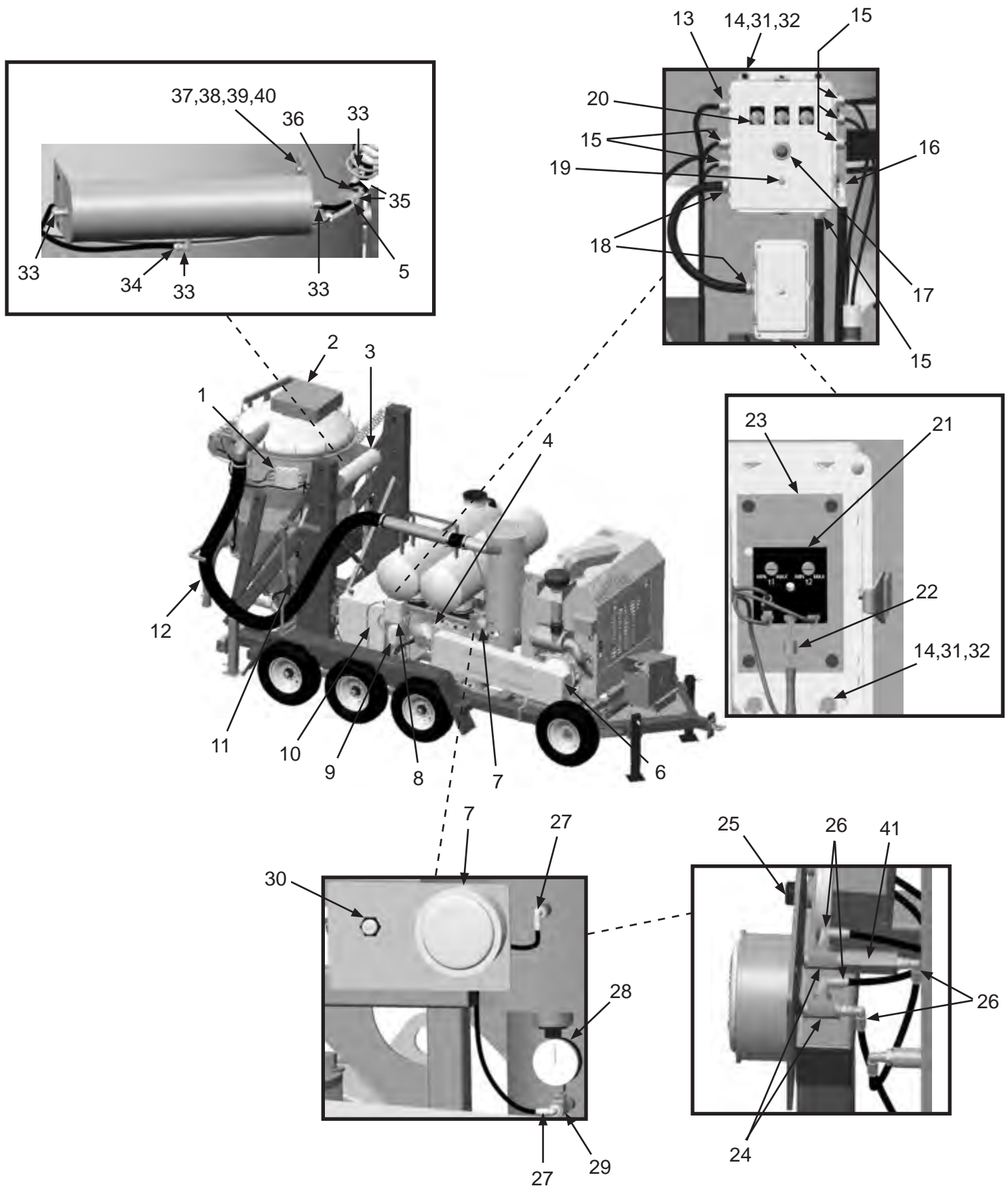
### Right Side Front Assembly

Item #	Part #	Description
<b>Fig. 3</b>		
1	10104614	Pulse Timer Control Box Enclosure
2	10104559	Vacuum Butterfly Cover
3	10104493	Vacuum Aux Header
4	10104777	Blower Top Shaft Left Discharge
5	20PFHA60SA0606	Union Swivel 3/8" (M) x 3/8" (F) <i>(Two Required)</i>
6	10104788	Vacuum Belt Guard Cover
7	10104673	0—50" Differential Pressure
8	10104614	10" x 8" x 4" Nema 4 Enclosure
9	10104615	8" x 4" x 5" Fiberglass Latch Enclosure
10	10104704	116 Gallon Rectangle Fuel Tank
11	10104674	Lubricator 1/2" NPT 156 CFM
12	10VH620B	6" I.D. Vacuum Hose 20' Section
13	20RCG5050	1/2" Npt x .5—.625 Diameter Cord Grip
14	20100125	1/4-20 x 3/4" Zinc Hex Bolt <i>(Eight Required)</i>
15	10104703	1/2" Npt x .2—.47 Diameter Nylon Cord Grip <i>(Three Required)</i>
16	20RST9050	90° Liquid Tite Connection Fitting
17	10104692	12-Volt Pilot Light - Red
18	20RST50	Straight Liquid Tite Connection Fitting <i>(Two Required)</i>
19	10104686	10 Amp Circuit Breaker
20	10103305	Selector Switch - 2-Way <i>(Three Required)</i>
21	10106818	Vacuum Control Timer
22	10104109	6 Amp 50-Volt Rectifier
23	10105193	Enclosure Panel
24	20PFHA25VJ02	1/8" Female Tee <i>(Two Required)</i>

Item #	Part #	Description
25	10104672	Differential Pressure Switch
26	20100579	1/4" O.D. Tube x 1/8" NPT PTC Swivel <i>(Four Required)</i>
27	20PFBA31095614	1/4" Tube x 1/4" NPT 90° Fitting <i>(Two Required)</i>
28	10104677	Liquid Filled Vacuum Gauge
29	1011844	1/4" Pipe Tee - Galvanized
30	10104073	1/2" Panel Lock Nut
31	10101940	1/4" Flat Washer - Galvanized <i>(Four Required)</i>
32	10101939	1/4-20 Stainless Steel Lock Nut with Nylon Insert <i>(Four Required)</i>
33	20PFHA60UA0606	3/8" (M) x 3/8" (F) 90° Swivel Union <i>(Four Required)</i>
34	10103631	3/8" Barb x 3/8" NPTF Brass <i>(Seven Required)</i>
35	1011809	3/8" NPT Tee <i>(Two Required)</i>
36	1011209	3/8" NPT Close Nipple
37	1011747	3/8-16 x 1" Bolt - Zinc <i>(Four Required)</i>
38	10101942	3/8" Flat Washer - Galvanized <i>(Four Required)</i>
39	10101936	3/8" Lock Washer - Zinc <i>(Four Required)</i>
40	10101938	3/8-16 Hex Nut - Galvanized <i>(Four Required)</i>
41	10108373	1/8" NPT Inline Air Filter
—	10106896	Blower Oil 100 <i>For below 0° F</i>
—	10106897	Blower Oil 150 <i>For 0 – 32° F</i>
—	10105254	Blower Oil 220 <i>For 32° – 90° F</i>
—	10106898	Blower Oil 320 <i>For above 90° F</i>

## PART NUMBERS AND SCHEMATICS

Figure 3: Right Side Front Assembly



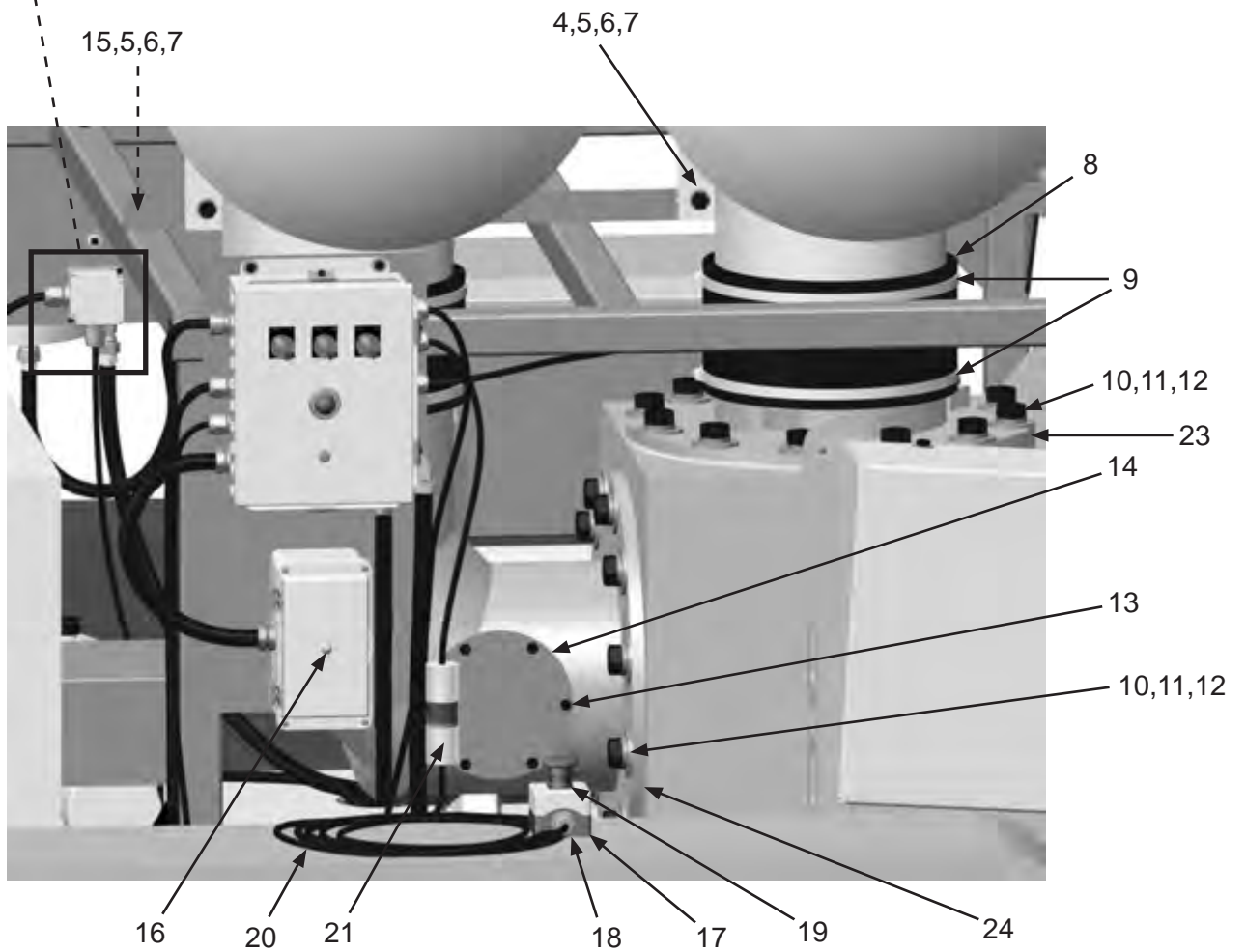
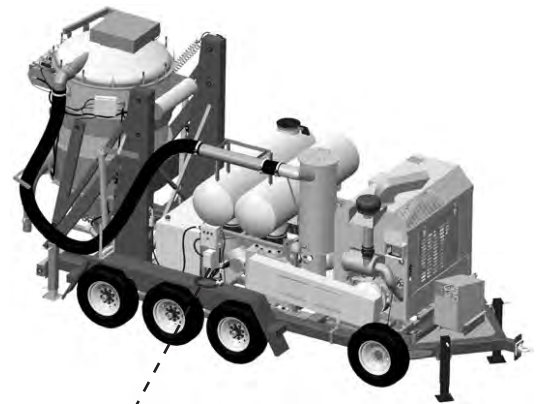
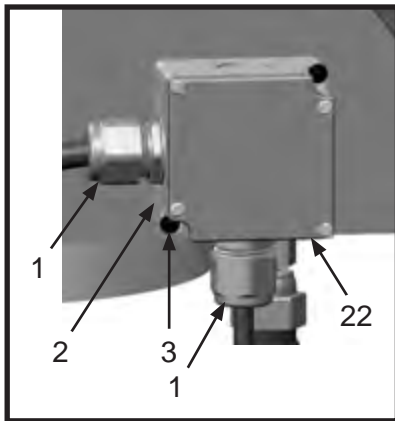
## PART NUMBERS AND SCHEMATICS

### Center Assembly

Item #	Part #	Description
<b>Fig. 4</b>		
1	10104703	1/2" Npt x .2—.47 Diameter Nylon Cord Grip <i>(Two Required)</i>
2	20000031	8-32 x 1-1/2" Machine Screw <i>(Two Required)</i>
3	10105897	Terminal Box
4	10101943	1/2-13 x 1-3/4" Hex Bolt <i>(Eight Required)</i>
5	10100674	1/2" Flat Washer <i>(22 Required)</i>
6	10100675	1/2" Lock Washer <i>(14 Required)</i>
7	10101941	1/2-13 Hex Nut - Galvanized <i>(14 Required)</i>
8	10104813	10-3/4 I.D. Hose <i>(Two Required)</i>
9	10103416	Banding Clamp <i>(Four Required)</i>
10	10104715	7/8-9 X 2" Grade 5 Zinc Bolt <i>(24 Required)</i>
11	10104716	7/8" Flat Washer - Zinc <i>(24 Required)</i>
12	10104717	7/8" Lock Washer - Zinc <i>(24 Required)</i>
13	1035045	5/16-18 x 1" Bolt <i>(Six Required)</i>
14	10103235	Cover
15	10101927	1/2-13 X 3" Galvanized Bolt <i>(Six Required)</i>
16	10108477	Led Indicator Light
17	10104071	E-Stop Control Station
18	10104703	Cord Grip Nylon 1/2"-NPT .2-.47 Diameter
19	10104063	Legend Plate - Emergency Stop
20	1015540	16/2 Xtreme Duty Power Cord - Red
21	1015551	Male Twist Lock Plug Two Prong
22	10105897	Enclosed Terminal Block - 4 Circuit
23	10104772	Blower Intake Silencer Adapter
24	10104773	Silencer Exhaust Elbow

## PART NUMBERS AND SCHEMATICS

Figure 4: Center Assembly





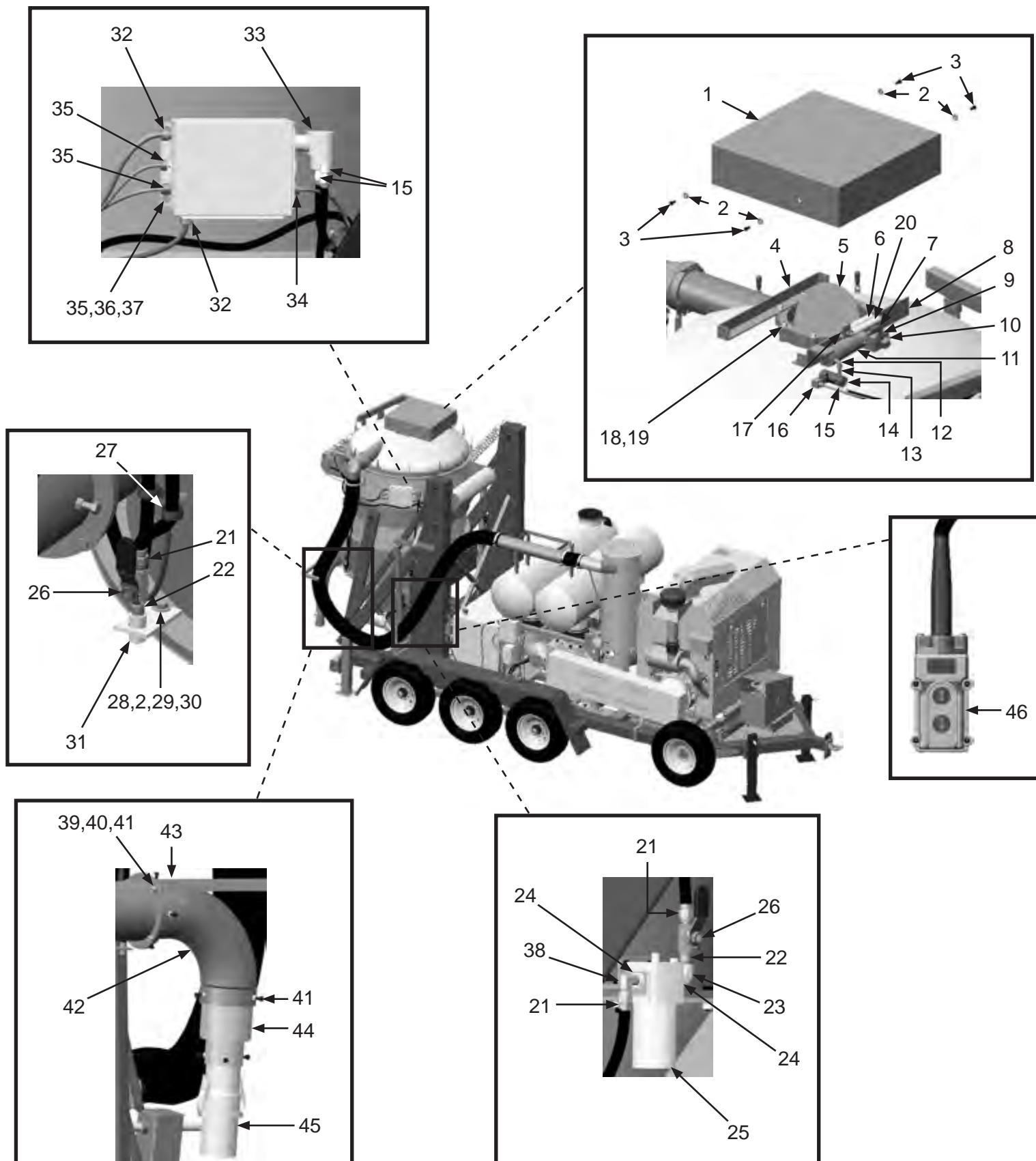
## PART NUMBERS AND SCHEMATICS

### Right Side Rear Assembly

Item #	Part #	Description	Item #	Part #	Description
<b>Fig. 5</b>			27	10103624	1" Rubber Cushioned Loop Clamp
1	10104559	Vacuum Butterfly Cover	28	1028617	3/8-16 x 1-3/4" Shoulder Bolt
2	10101942	3/8" Flat Washer - Galvanized (Five Required)	29	10101936	3/8" Lock Washer - Zinc
3	10103400	3/8-16 x 3/4" Bolt (Four Required)	30	10101938	3/8 -16 Hex Nut
4	10104554	Butterfly Cover Mount Weldment	31	10104597	Airline Drain
5	10104537	Betts 12" Butterfly	32	20RCG5050	1/2" Npt x .5—.625 Diameter Cord Grip (Two Required)
6	10107175	6.5" Extension Spring	33	10104671	Vibrator Solenoid
7	10104668	Piston Rod Clevis	34	10104703	1/2" Npt x .2—.47 Diameter Nylon Cord Grip (Three Required)
8	10104538	Vacuum Butterfly Cylinder Weldment	35	10101939	1/4-20 Stainless Steel Lock Nut with Nylon Insert (Four Required)
9	10104543	Butterfly Actuating Arm	36	10101940	1/4" Flat Washer - Galvanized (Four Required)
10	20100125	1/4-20 x 3/4" Zinc Hex Bolt	37	20100125	1/4-20 x 3/4" Zinc Hex Bolt (Four Required)
11	10104667	2.5" Pneumatic Cylinder	38	20PFHA60UA0606	3/8" (M) x 3/8" (F) 90° Swivel Union
12	1011824	1/4" Street Elbow	39	10101942	3/8" Flat Washer - Galvanized (Eight Required)
13	1011217	1/4" x 2" Nipple Galvanized	40	10101938	3/8 -16 Hex Nut Galvanized (Four Required)
14	10104669	Solenoid For Butterfly	41	1011747	3/8 -16 x 1" Bolt - Zinc (13 Required)
15	20PFHA60UA0406	1/4" (M) x 3/8" (F) 90° Swivel (Three Required)	42	10104546	Vacuum Inlet Elbow
16	10105287	Din Connector	43	10104496	Vacuum Inlet Insert
17	10104706	3/8-16 x 2-1/2" Thread Stud	44	10104550	Vacuum Inlet Adapter
18	10100674	1/2" Flat Washer (Eight Required)	45	10107797	4" Quick Disconnect Coupling Assy
19	20100124	1/2 - 13 Hex Lock Nut (Eight Required)	46	10107204	Remote Control Pendant
20	10107176	6.5" Long Extension Spring - Zinc			
21	20PFHA60SA0606	Union Swivel 3/8" (M) x 3/8" (F) (Three Required)			
22	1011209	3/8 NPT Close Nipple			
23	20PFHA25UG0606	3/8" Street Elbow			
24	20PFHA24SB0806	1/2" x 3/8" Reducing Bushing (Two Required)			
25	10104674	Lubricator, 1/2" NPT 156 CFM			
26	1080060	3/8" NPT Full Port Brass Ball Valve (Two Required)			

## PART NUMBERS AND SCHEMATICS

Figure 5: Right Side Rear Assembly





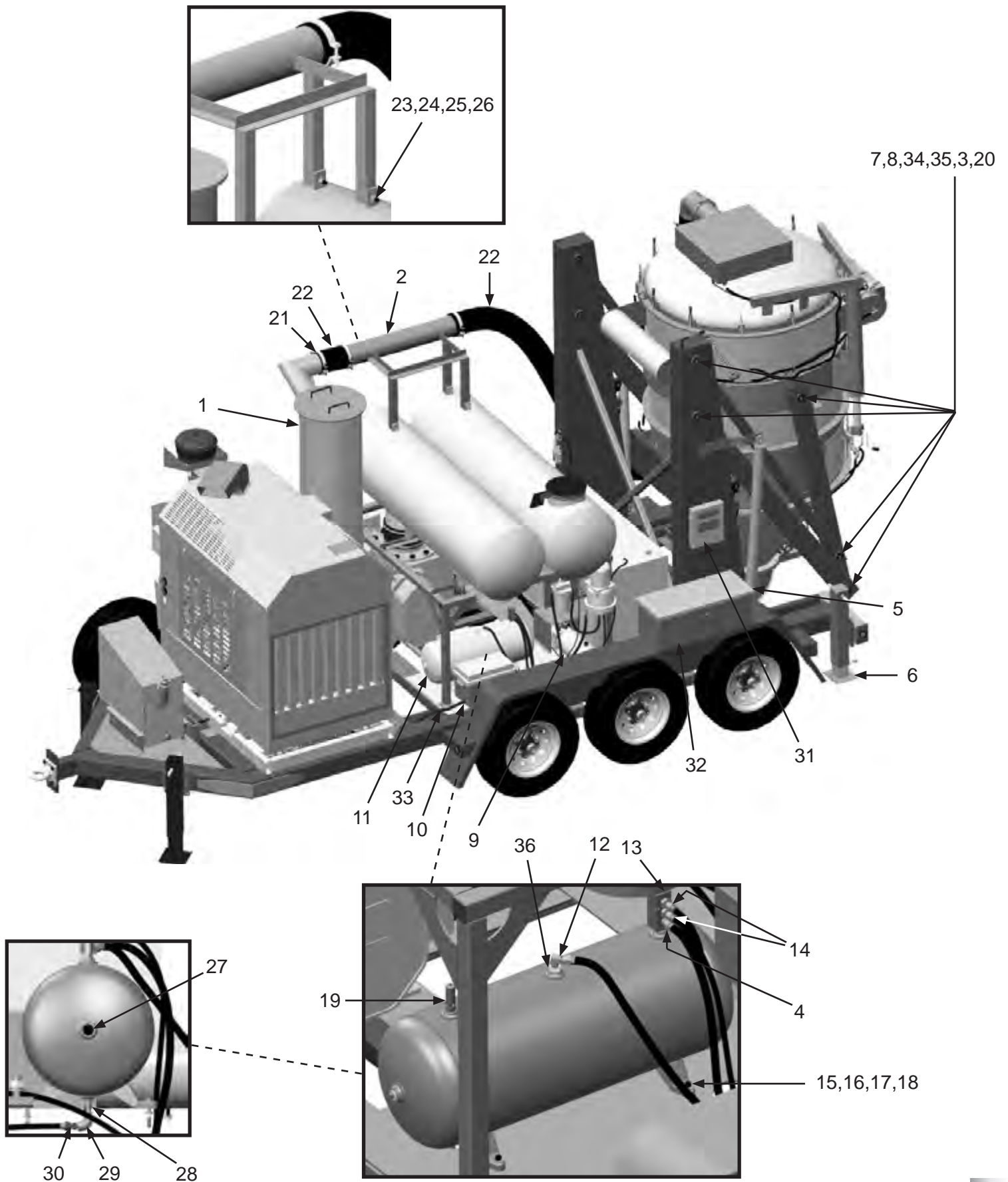
## PART NUMBERS AND SCHEMATICS

### Left Side Front Assembly

Item #	Part #	Description
<b>Fig. 6</b>		
1	10104766	Intake Filter Housing
2	10104795	Tube Extension Assembly
3	10106403	3/16" x 5/8" Dowel Pin
4	20PFHA60SA0606	3/8" (M) x 3/8" (F) Swivel Union
5	10104608	Support Arm
6	10104082	Jack Stand
7	10104600	Vacuum Pin Cap
8	10104602	Vacuum Shoulder Pin
9	10105779	12-Volt DC Hydraulic Power Unit
10	10103342	Battery Box
11	10104610	Horizontal Pressure Tank - 15 Gallon
12	20PFHA60UA0606	3/8" (M) x 3/8" (F) 90° Swivel Union
13	10104618	3 Outlet Pressure Manifold
14	20PFHA60SA0604	3/8" (M) x 1/4" (F) Swivel Union <i>(Two Required)</i>
15	1028617	3/8-16 x 1-3/4" Shoulder Bolt <i>(Four Required)</i>
16	10101942	3/8" Flat Washer - Galvanized <i>(Eight Required)</i>
17	10101936	3/8" Lock Washer - Zinc <i>(Four Required)</i>
18	10101938	3/8-16 Hex nut <i>(Four Required)</i>
19	10104681	1/2" NPT Pressure Relief Valve
20	10101061	5/8" Lock Washer
21	10104640	6" Double Bolt Clamp
22	10VH620B	6" I.D. x 20' Vacuum Hose
23	10101943	1/2-13 x 1-3/4" Hex Bolt <i>(Four Required)</i>
24	10100674	1/2" Flat Washer <i>(Eight Required)</i>
25	10100675	1/2" Lock Washer <i>(Four Required)</i>
26	10101941	1/2-13 Hex Nut - Galvanized <i>(Four Required)</i>
27	10DSHP75	3/4" Square Head Pipe Plug <i>(Two Required)</i>
28	1011217	Galvanized 1/4" x 2" Nipple
29	1011832	Galvanized 1/4" 90° Elbow
30	10SME025	1/4" NPT x 1/4" (F) Straight Swivel
31	10104273	Document Holder
32	10105896	Tool Box
33	10105865	Battery Cables, 156" Long
34	10104708	Straight Grease Zerk - 1/4-28
35	10106402	5/8-11 Grease Zerk Thru Bolt
36	20PFHA24SB0806	1/2" x 3/8" Reducing Bushing
—	10103341	Battery <i>(not shown)</i>

## PART NUMBERS AND SCHEMATICS

Figure 6: Left Side Front Assembly



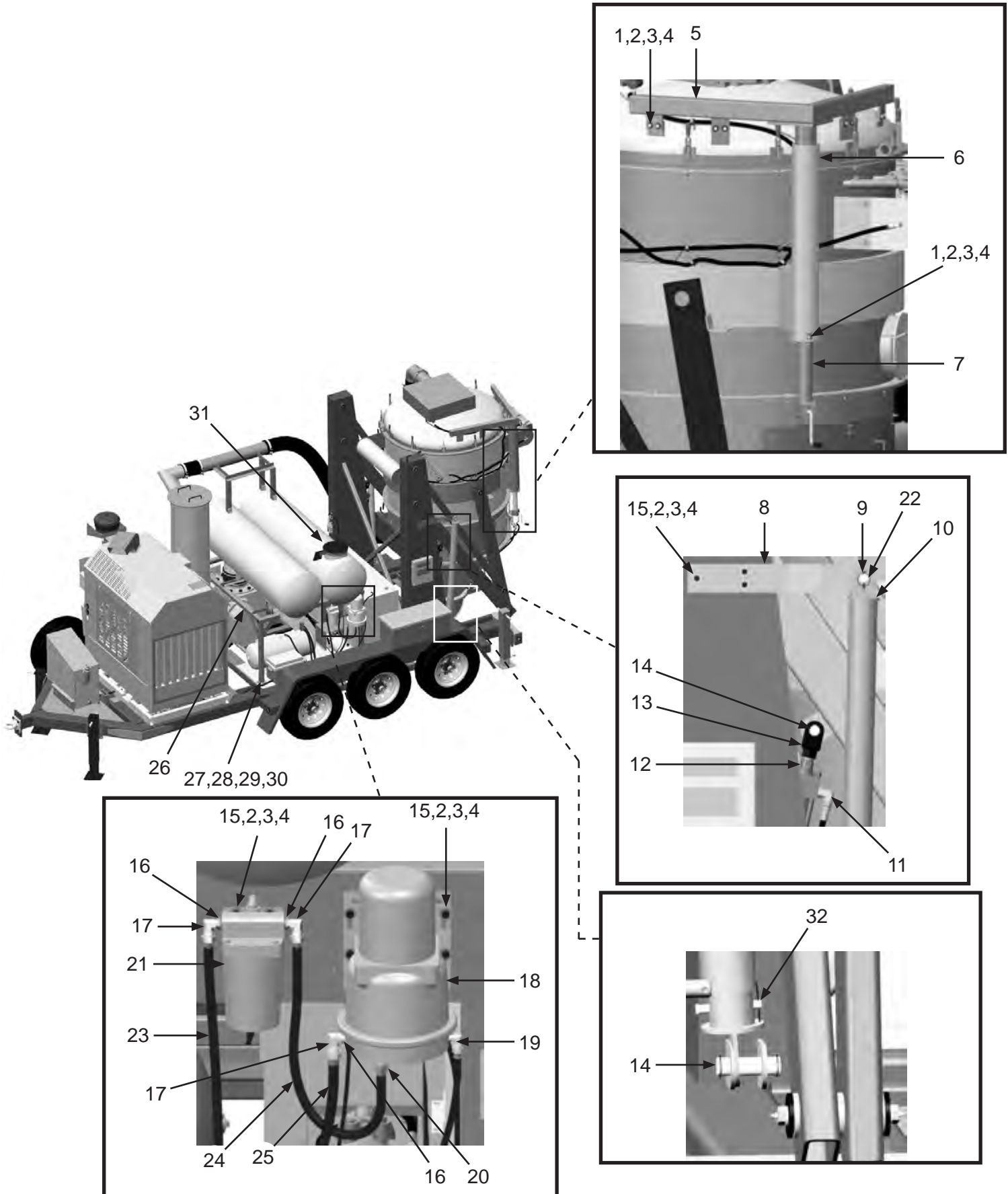
## PART NUMBERS AND SCHEMATICS

### Left Side Rear Assembly

Item #	Part #	Description
<b>Fig. 7</b>		
1	10104234	3/8-16 x 1-1/4" Hex Bolt Zinc <i>(Eight Required)</i>
2	10101942	3/8" Flat Washer - Galvanized <i>(40 Required)</i>
3	10101936	3/8" Lock Washer - Zinc <i>(11 Required)</i>
4	10101938	3/8 -16 Hex Nut <i>(11 Required)</i>
5	10104472	Vacuum Lid Lift
6	10104434	Vacuum Top Section
7	10104638	Bulldog Trailer Jack
8	10104728	Lift Arm Support Bracket <i>(Two Required)</i>
9	10104729	Lift Arm Support Bracket Pin <i>(Two Required)</i>
10	10104608	Support Arm Outer <i>(Two Required)</i>
—	10104605	Support Arm Inner <i>(Two Required) (not shown)</i>
11	10103308	Elbow - 90° - JIC 8 x SAE 10 <i>(Four Required)</i>
12	10104645	Vacuum Lift Cylinders <i>(Two Required)</i>
13	10104646	Lift Cylinder Clevis <i>(Two Required)</i>
14	10104647	1" x 3-1/8" Pin <i>(Two Required)</i>
15	1011747	3/8-16 x 1" Bolt <i>(12 Required)</i>
16	20PFHA24SB0806	1/2" x 3/8" Reducing Bushing <i>(Three Required)</i>
17	20PFHA60UA0606	3/8" (M) x 3/8" (F) 90° Swivel Union <i>(Three Required)</i>
18	10104611	Haldex Air Dryer
—	10106512	Desiccant Element Kit for Haldex Air Dryer
19	1012326	1/4" (M) x 1/4" (F) 90° Swivel Union
20	20PFHA60SA0806	1/2" (M) x 3/8" (F) Swivel Union
21	10104612	Haldex Alcohol Evaporator
22	10105290	3/16" x 1-5/8" Pin
23	10105838	1/2" x 168" Stainless Steel Braided Hose Assembly with 1/2" (M) NPT Ends
24	10104684	3/8" x 2' Braided Hose
25	10104683	3/8" x 4-1/2' Braided Hose
26	10104778	Silencer Mount
27	10101943	1/2-13 x 1-3/4" Hex Bolt <i>(Four Required)</i>
28	10100674	1/2" Flat Washer <i>(Eight Required)</i>
29	10100675	1/2" Lock Washer <i>(Four Required)</i>
30	10101941	1/2-13 Hex Nut - Galvanized <i>(Four Required)</i>
31	10104824	8" Raincap
32	10104709	1/2" x 3-1/2" Pin - Zinc
—	10105292	Alcohol 99 Isopropyl - 16 Oz

## PART NUMBERS AND SCHEMATICS

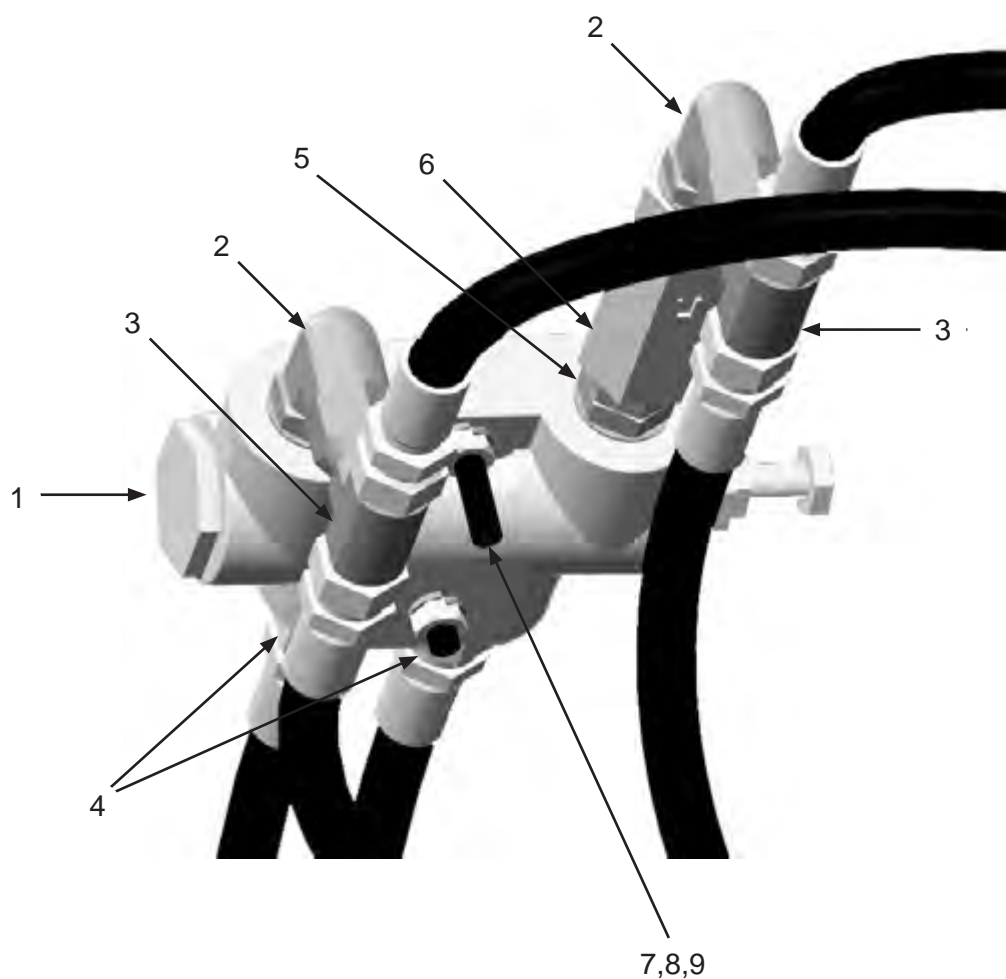
Figure 7: Left Side Rear Assembly



## PART NUMBERS AND SCHEMATICS

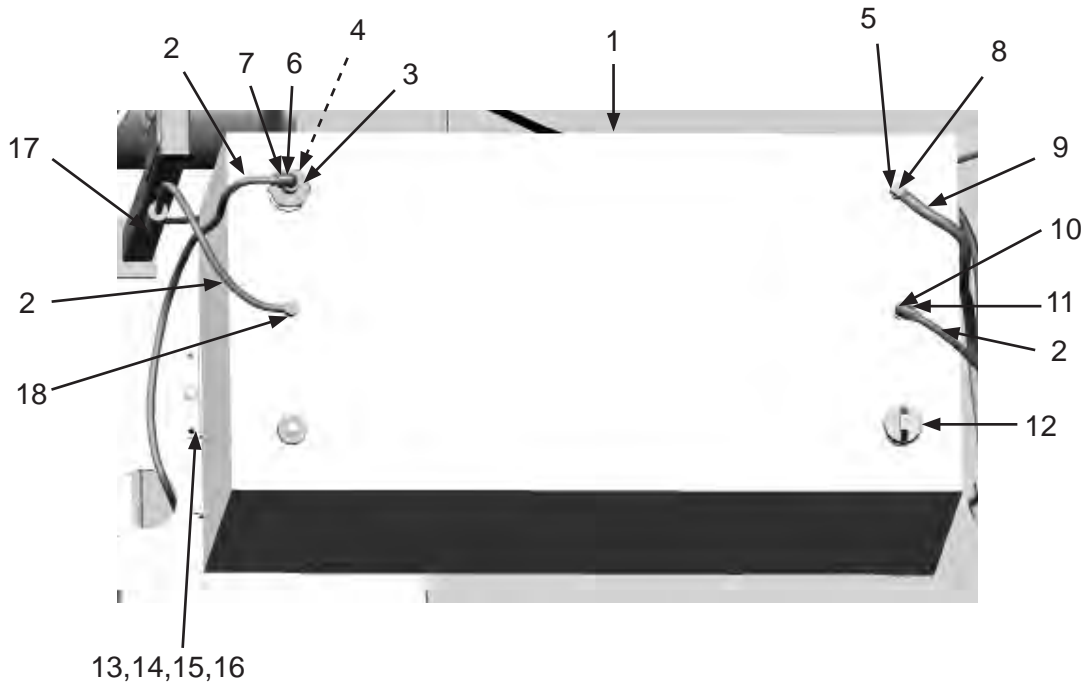
**Figure 8: Double Lock Valve Assembly**

Item #	Part #	Description
<b>Fig. 8</b>		
1	10104650	Double Lock Valve
2	10103309	Elbow - 90° - JIC 8 x SAE 8 <i>(Two Required)</i>
3	10105081	JIC 8 Tee <i>(Two Required)</i>
4	10104651	Union - Straight SAE 8 x JIC 8 <i>(Two Required)</i>
5	10103613	Union - Straight SAE 8 x SAE 8
6	10105288	Flow Restrictor SAE 8
7	10105286	5/16-18 x 2-1/2" Grade 5 Zinc Bolt <i>(Two Required)</i>
8	10L805014	5/16" Lock Washer <i>(Two Required)</i>
9	1035046	5/16-18 Nut <i>(Two Required)</i>



## PART NUMBERS AND SCHEMATICS

**Figure 9: Fuel Tank**



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

1	10104704	116 Gallon Rectangle Fuel Tank
2	10103423	3/8" I.D. Fuel Hose ( <i>Per Foot</i> )
3	10106484	Fuel Return Adapter
4	10106466	3/8" NPT x 18" Pipe Nipple - 304 Stainless Steel
5	10103617	Withdraw Tube - 16"
6	10106470	3/8" NPT Street Elbow - 304 Stainless Steel
7	10106469	3/8" Hose Barb X 3/8" NPT - 304 Stainless Steel
8	10106503	3/8" NPT x 1/2" Hose Barb - 304 Stainless Steel
9	10103619	1/2" Flexible Fuel Line ( <i>Per Foot</i> )
10	10106470	3/8" NPT Street Elbow - 304 Stainless Steel
11	10106469	3/8" Hose Barb x 3/8" NPT - 304 Stainless Steel
12	10103968	Locking Fuel Cap with Keys
13	10104234	3/8-16 x 1-1/4" Hex Bolt Zinc ( <i>Two Required</i> )
14	10101942	3/8" Flat Washer - Galvanized ( <i>Two Required</i> )
15	10101936	3/8" Lock Nut - Galvanized
16	1012318	3/8-16 Hex Nut - Zinc
17	10103620	3/8" Inline Filter
18	20PFHA60UA0606	3/8" (M) x 3/8" (F) 90° Swivel Union
—	10104631	Fuel Tank Rubber Cushioning Pad ( <i>not shown</i> )



## PART NUMBERS AND SCHEMATICS

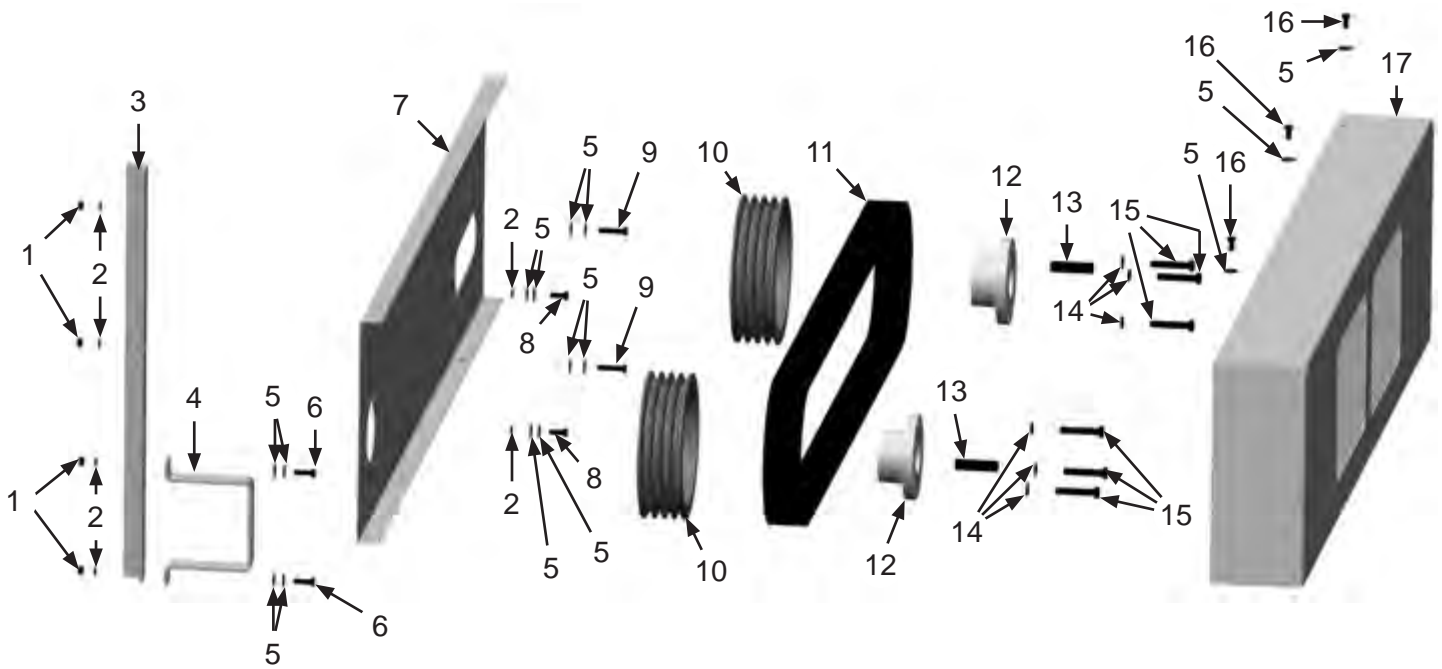
### Fan Belt Assembly

Item #	Part #	Description
<b>Fig. 10</b>		
1	10101938	3/8" Galvanized Hex Nut <i>(Four Required)</i>
2	10101936	3/8" Zinc Lock Washer <i>(Four Required)</i>
3	10104790	Vacuum Belt Guard Mount
4	10104793	Belt Guard Clamp
5	10101942	3/8" Galvanized Flat Washer <i>(15 Required)</i>
6	10104234	3/8-16 x 1-1/4" Hex Bolt Zinc <i>(Two Required)</i>
7	10104786	Belt Guard Back
8	1011747	3/8-16 x 1" Hex Bolt Zinc <i>(Two Required)</i>
9	1028617	3/8-16 x 1-3/4" Shoulder Bolt <i>(Two Required)</i>
10	10103486	Sheave 10.30" <i>(Two Required)</i>
11	10104815	4/5VP 1320 Banded Belt
12	10103485	Bushing 2.5" Bore <i>(Two Required)</i>
13	10103643	5/8" Key Cut <i>(Two Required)</i>
14	10100675	1/2" Lock Washer <i>(Six Required) (Included with Item 12)</i>
15	10102820	1/2-13 x 2-3/4" Grade 5 Hex Bolt <i>(Six Required) (Included with Item 12)</i>
16	10103400	3/8-16 x 3/4" Hex Bolt Zinc <i>(Three Required)</i>
17	10104788	Belt Guard Cover



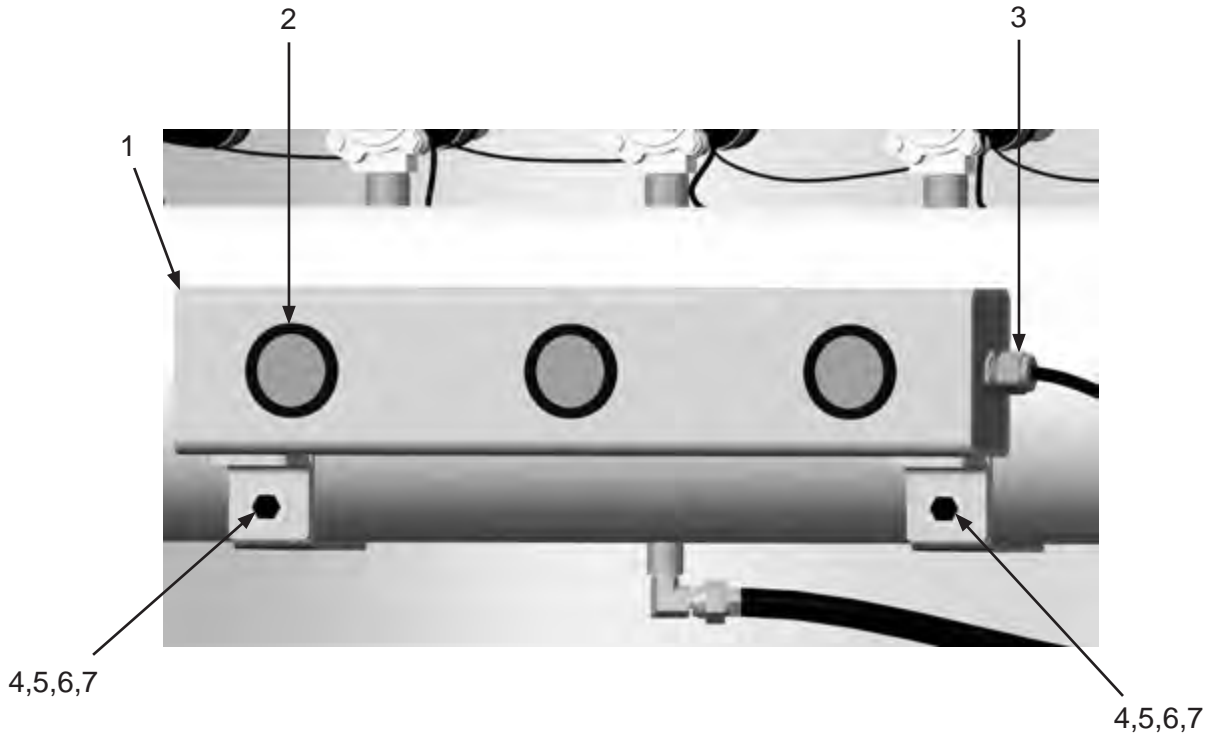
## PART NUMBERS AND SCHEMATICS

Figure 10: Fan Belt Assembly



## PART NUMBERS AND SCHEMATICS

Figure 11: Marco® Vacuum Light Bar



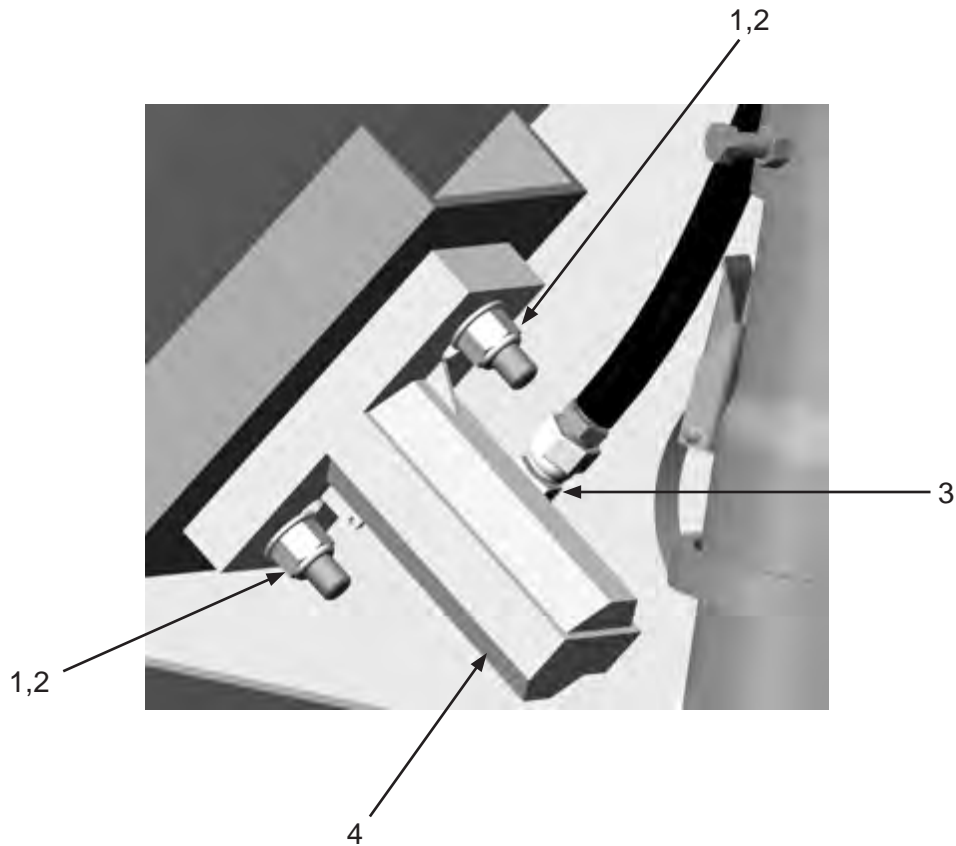
Item #	Part #	Description
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Fig. 11

1	10105334	Marco Vacuum Light Bar <i>(Includes Item #2)</i>
2	10104086	2" Round LED Red Clearance Light <i>(Three Required)</i>
3	10104703	Cord Grip, Nylon 1/2" NPT .2-.47 Diameter
4	10101942	3/8" Flat Washer - Galvanized <i>(Four Required)</i>
5	10101936	3/8" Lock Washer - Zinc <i>(Two Required)</i>
6	1011747	3/8-16 x 1" Bolt - Zinc <i>(Two Required)</i>
7	10101938	3/8-16 Hex Nut <i>(Two Required)</i>

## PART NUMBERS AND SCHEMATICS

Figure 12: Pneumatic Piston Vibrators



Item #	Part #	Description
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Fig. 12

1	20100124	1/2-13 Hex Lock Nut - Zinc <i>(Two Required)</i>
2	10100674	1/2" Flat Washer <i>(Two Required)</i>
3	20PFHA60UA0406	1/4" (M) x 3/8" (F) 90° Swivel Union
4	10104665	APV Series Piston Vibrator

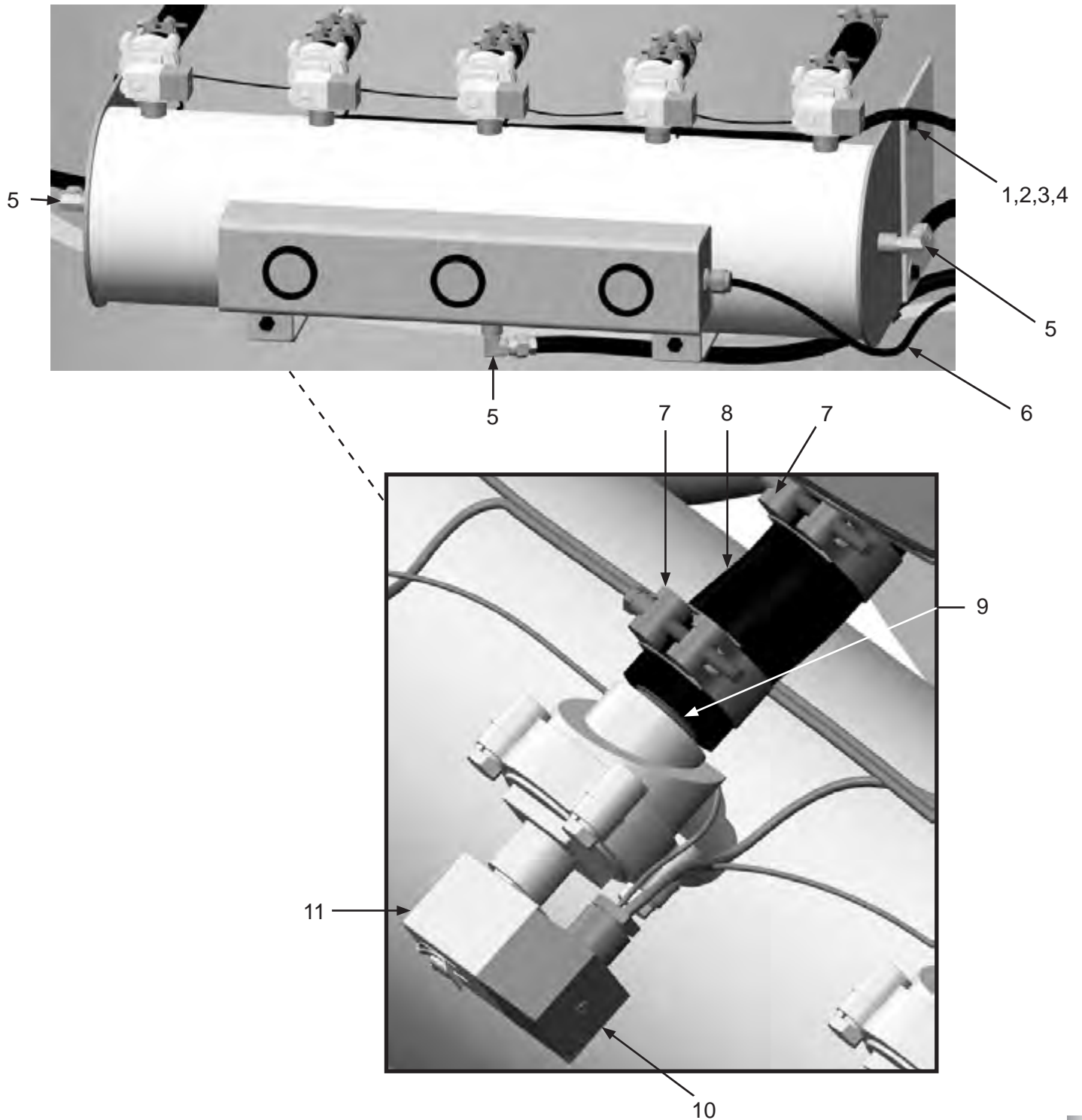
## PART NUMBERS AND SCHEMATICS

### Pulser System Assembly

Item #	Part #	Description
<b>Fig. 13</b>		
1	10101942	3/8" Flat Washer - Galvanized <i>(Eight Required)</i>
2	10101936	3/8" Lock Washer - Zinc <i>(Four Required)</i>
3	1011747	3/8-16 x 1" Bolt <i>(Four Required)</i>
4	10101938	3/8-16 Hex Nut <i>(Four Required)</i>
5	20PFHA60UA0606	3/8" (M) x 3/8" (F) 90° Swivel Union
6	10104498	Vacuum Header
7	10103736	T-Bolt Hose Clamp For 1" I.D. <i>(10 Required)</i>
8	10106509	Air Hose 1" ID 200 psi - Red
9	10104500	3/4" NPT x 1-1/2" Toe Nipple <i>(Five Required)</i>
10	10105287	Din Connector <i>(Included with Item #16) (Five Required)</i>
11	10104666	3/4" Diaphragm Valve with Solenoid <i>(Five Required)</i>
—	10107192	Pilot Valve Repair Kit
—	10107193	Diaphragm Repair Kit

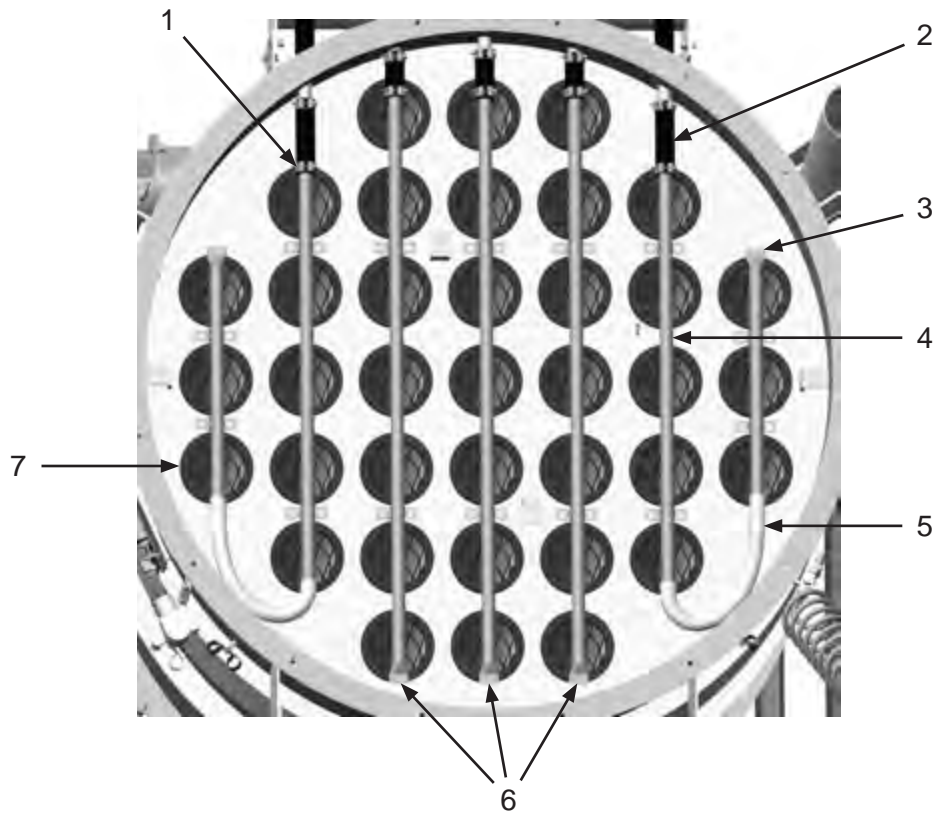
## PART NUMBERS AND SCHEMATICS

Figure 13: Pulser System Assembly



## PART NUMBERS AND SCHEMATICS

Figure 14: Filter Bag Pulsers



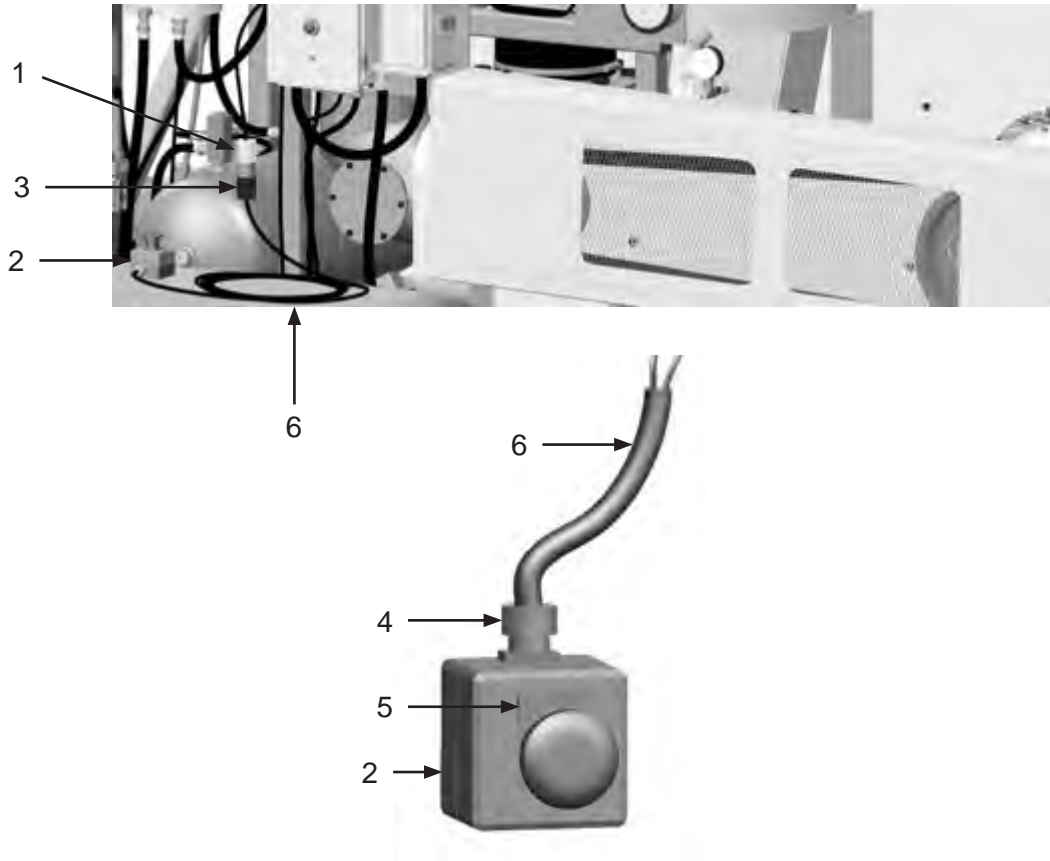
Item #	Part #	Description
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**Fig. 14**

1	10103736	T-Bolt Hose Clamp For 1" I.D. <i>(10 Required)</i>
2	10106509	1" 75W Marine Hose - 100 PSI
3	10104562	Pulser System Short Blowpipe <i>(Two Required)</i>
4	10104565	Pulser System Medium Blowpipe <i>(Two Required)</i>
5	10104680	1" Flexible Tubing For Blowpipes <i>(Two Required)</i>
6	10104567	Pulser System Long Blowpipe <i>(Three Required)</i>
7	10104633	Vacuum Baghouse Filter <i>(37 Required)</i>
—	10104634	Vacuum Baghouse Filter Cage <i>(37 Required)</i>

## PART NUMBERS AND SCHEMATICS

Figure 15: Emergency-Stop Station



Item #	Part #	Description
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Fig. 15

—	<b>10107200</b>	<b>Remote Emergency-Stop Station</b> <i>Includes Item #'s: 2, 4, 5, and 6 (100')</i>
1	1015552	Female twist lock plug two prong
2	10104071	E-Stop Control Station
3	1015551	Male Twist Lock Plug Two Prong
4	10104703	Cord Grip Nylon 1/2"-NPT .2-.47 Diameter
5	10104063	Legend Plate - Emergency Stop
6	1015540	16/2 Xtreme Duty Power Cord - Red
—	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>



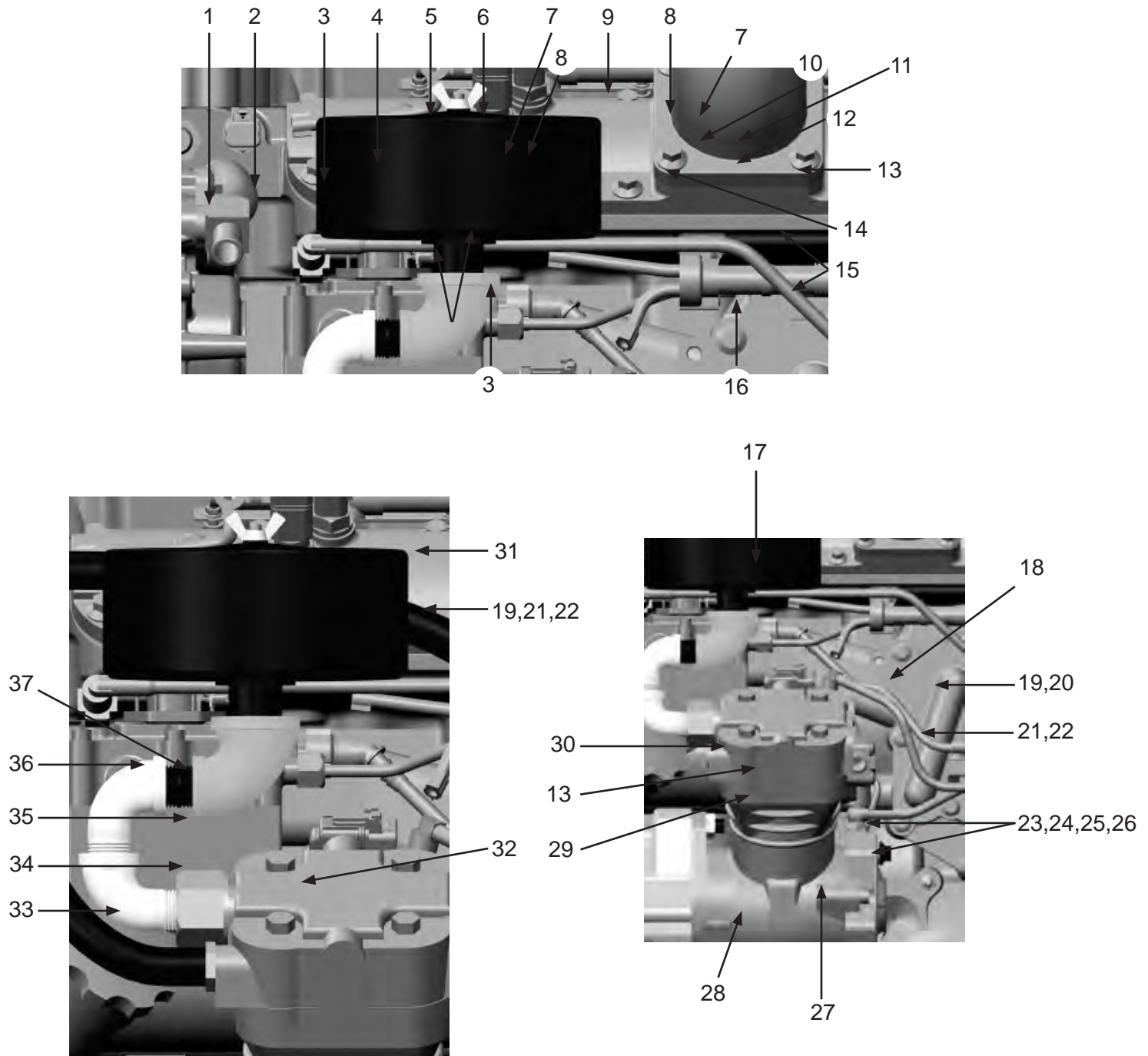
## PART NUMBERS AND SCHEMATICS

### Compressor Assembly

Item #	Part #	Description
<b>Fig. 16</b>		
1	10101062	5/8-16 Hex Nut - Galvanized
2	10106607	Compressor Gear
3	10106032	4" Centerline O-ring
4	10106605	Compressor Connection
5	10103507	1/2" Barb x 1/2" NPT F Brass Fitting
6	10106358	1/2" NPT F x M26 M Straight Adapter
7	10106604	M16-1.5 x 1/2" Barb
8	10106599	Compressor Sealing Washer
9	10106612	Compressor
10	20PFHA60SA0204	1/8" M x 1/4" F Swivel Union
11	10PAF025	1/4" x 1/4" NPT Push-on Fitting
12	10106041	1/2" NPT F x M22 M Straight Adapter
13	20PFHA60UA0808	1/2" M x 1/2" F 90° Swivel Union
14	10107487	M22 Bonded Seal
15	10106596	Compressor Bolt ( <i>Two Required</i> )
16	10106611	Compressor Cover Plate
17	10105870	35 SCFM Compact Filter Silencer
18	10108728	Filter Mount
19	10104234	3/8-16 x 1-1/4" Zinc Hex Bolt Grade 5
20	10101942	3/8" Galvanized Flat Washer
21	10101936	3/8" Zinc Lock Washer
22	1012318	3/8-16 Zinc Hex Nut
23	1014112	5/16-18 x 3-1/4" Grade 5 Hex Bolt
24	10L805003	5/16" Zinc Flat Washer
25	10L805014	5/16" Lock Washer
26	1035046	5/16-18 Nut
27	—	Compressor Governor ( <i>See Fig. 17</i> )
28	10AH012	1/2" I.D. Air Hose ( <i>Per Foot</i> )
29	10103507	1/2" x 20' Hydraulic Hose - 4500 PSI
30	1011812	1" M x 1/2" F Bushing
31	10108727	Fuel Filter Mount
32	10106609	Formed Compressor Coolant Hose
33	10106614	Formed Compressor Coolant Hose
34	10107389	1/2" NPT x 1/2" Barb 90° Elbow
35	20PFHA25VJ508	1/2" F Tee
36	20PFHA24SA0808	1/2" x 1/2" Hex Nipple
37	20PFHA25UG0808	1/2" M x 1/2" F 90° Elbow

## PART NUMBERS AND SCHEMATICS

Figure 16: Compressor Assembly



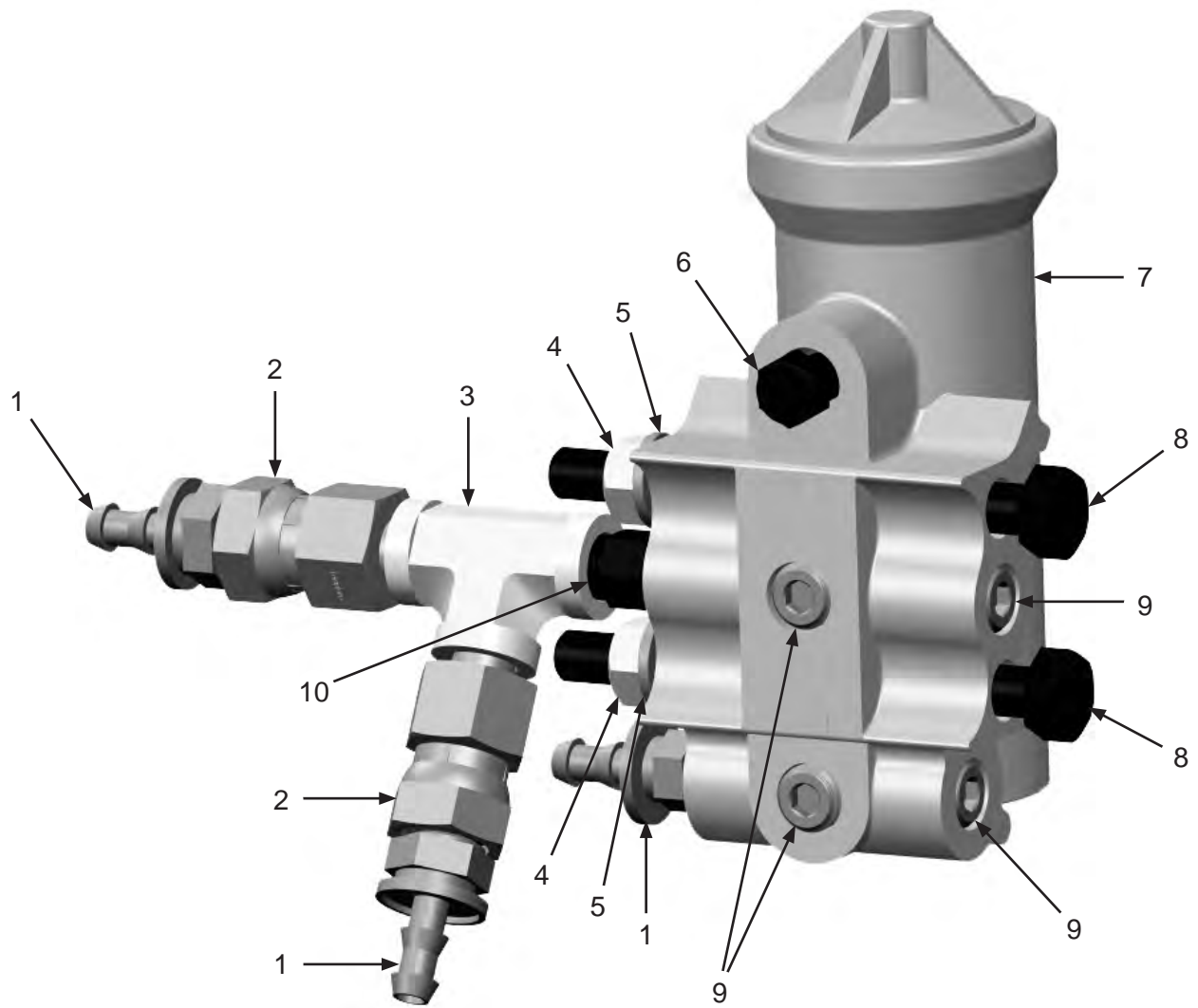
## PART NUMBERS AND SCHEMATICS

### Compressor Governor

Item #	Part #	Description
<b>Fig. 17</b>		
1	10PAF025	1/4" x 1/4" Push on Fitting <i>(Three Required)</i>
2	20PFHA60SA0204	1/8" (M) x 1/4" (F) Swivel Union <i>(Two Required)</i>
3	20PFHA25VJ02	1/8" Female Tee
4	1035046	5/16-18 Nut <i>(Two Required)</i>
5	10L805014	5/16" Lock Washer <i>(Two Required)</i>
6	1012905	1/8" Breather Muffler
7	10105816	Compressor Governor
8	1014112	5/16-18 x 3-1/4" Hex Bolt <i>(Two Required)</i>
9	10105717	1/8" Hollow Hex Pipe Plug Male <i>(Three Required)</i>
10	20PFHA24SA0202	1/8" Hex Nipple

## PART NUMBERS AND SCHEMATICS

Figure 17: Compressor Governor



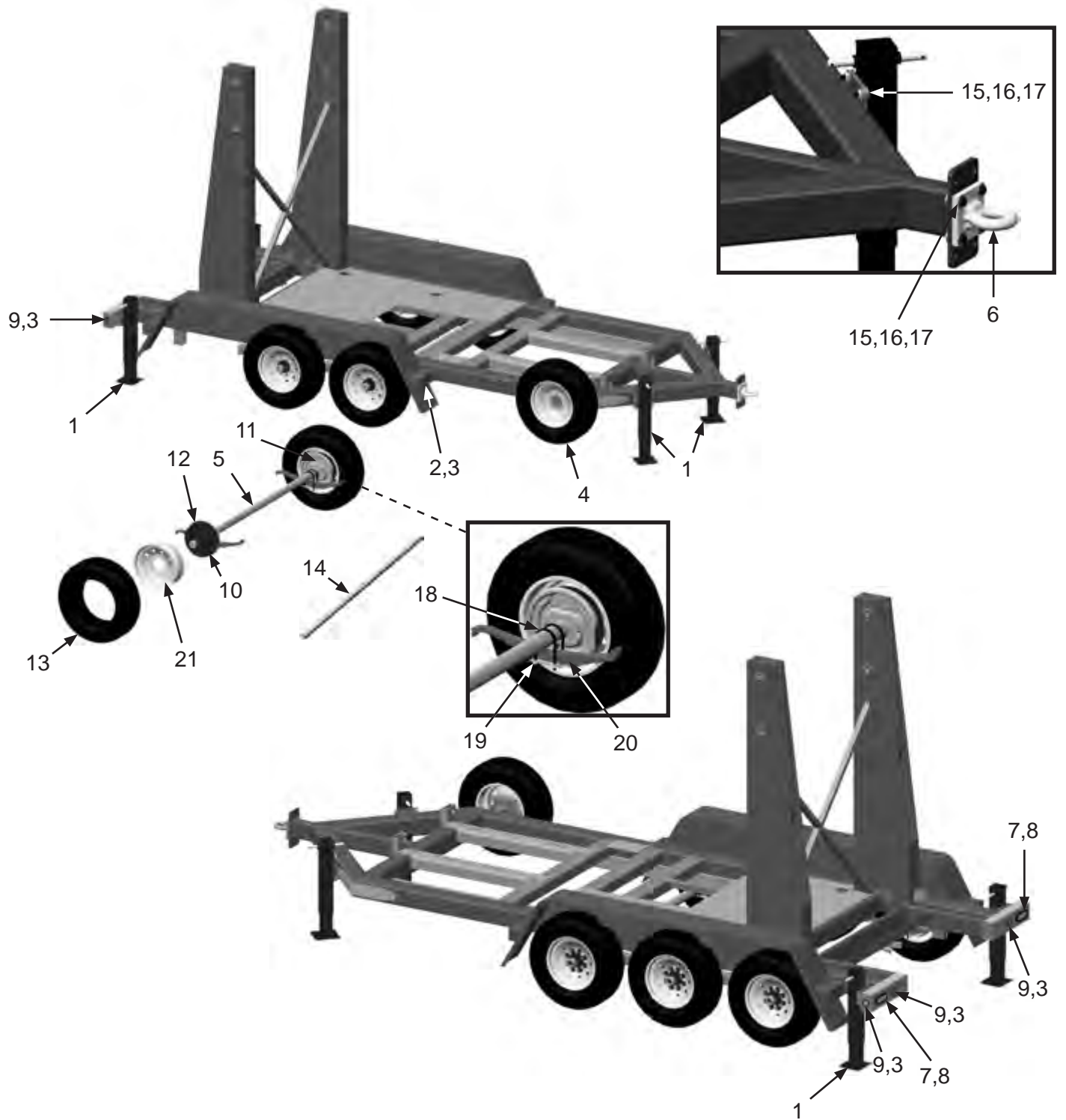
## PART NUMBERS AND SCHEMATICS

### Trailer

Item #	Part #	Description
<b>Fig. 18</b>		
—	<b>10104776</b>	<b>20,000 Lbs GVW Triple Axle Vacuum Trailer</b>
1	10104141	10,000 # Heavy Spring Loaded Jack <i>(Four Required)</i>
2	10104087	2" Round LED Amber Clearance Light <i>(Two Required)</i>
3	10104088	2" Round Rubber Grommet <i>(Six Required)</i>
4	10104089	16" with 8 Hole Pattern Rim with Tire <i>(Seven Required)</i>
5	10106084	7,000 # Axle With Electric Brakes, Complete With Hubs And Springs 89" HF x 71" SC
6	10104079	Pintle Hitch with Flat Plate
7	10104085	Oval Rubber Grommet <i>(Two Required)</i>
8	10104084	Oval LED Red Tail Light <i>(Two Required)</i>
9	10104086	2" Round LED Red Clearance Light <i>(Four Required)</i>
10	10106086	Axle Hub Only - No Bearings or Seal <i>(Two Required)</i>
11	10106087	Left-Hand Electric Brake Assembly <i>(Two Required)</i>
12	10106088	Right-Hand Electric Brake Assembly <i>(Two Required)</i>
13	10104096	Tire - ST235/80R/16 - 10-ply <i>(Seven Required)</i>
14	10106085	Axle Beam/Tube Only
15	10105746	5/8 x 2-1/2" Grade 8 Bolt <i>(20 Required)</i>
16	10105747	5/8 Reverse Lock Nut <i>(20 Required)</i>
17	10103398	5/8" Flat Washer <i>(40 Required)</i>
18	10106089	Trailer Axle U-Bolt
19	10106090	Trailer Axle U-Bolt Nut
20	10106091	Trailer Axle Leaf Spring
21	10107126	16" with 8 Hole Pattern Rim
—	10105826	Redline 12V - 5AH Battery Sealed
—	10104081	Breakaway Kit
—	10104142	Wire Harness - Complete <i>(Front, Middle &amp; Rear)</i>
—	10105827	Breakaway Switch with Pin
—	10104769	3/8" x 41" Safety Chain with Hook
—	10103879	2" x 6" x 6" Red/White Conspicuity Tape
—	10105829	Cable With Plug
—	10105826	Redline 12V - 5AH Battery Sealed

## PART NUMBERS AND SCHEMATICS

Figure 18: Trailer



## PART NUMBERS AND SCHEMATICS

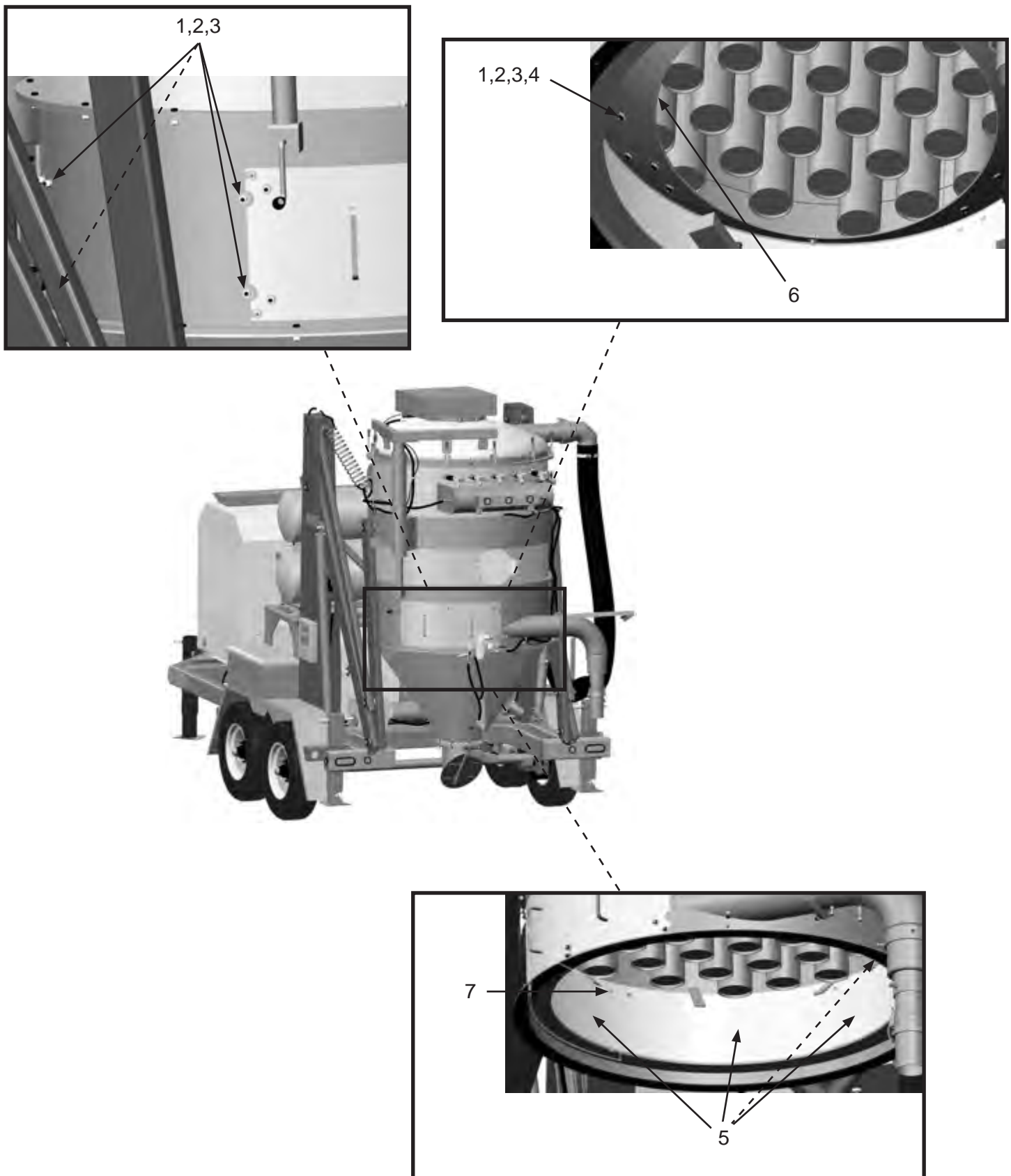
### Wear Plates and Baffles

Item #	Part #	Description
<b>Fig. 19</b>		
1	10101942	3/8" Flat Washer - Galvanized <i>(35 Required)</i>
2	10101936	3/8" Lock Washer - Zinc <i>(35 Required)</i>
3	10101938	3/8 -16 Hex Nut <i>(35 Required)</i>
4	1011747	3/8-16 x 1" Bolt <i>(15 Required)</i>
5	10104489	Vacuum Wear Plates <i>(Four Required)</i>
6	10104490	Vacuum Baffle <i>(Three Required)</i>
7	10104705	3/8-16 FH Sq Neck x 1" Bolt Zinc <i>(16 Required)</i>



## PART NUMBERS AND SCHEMATICS

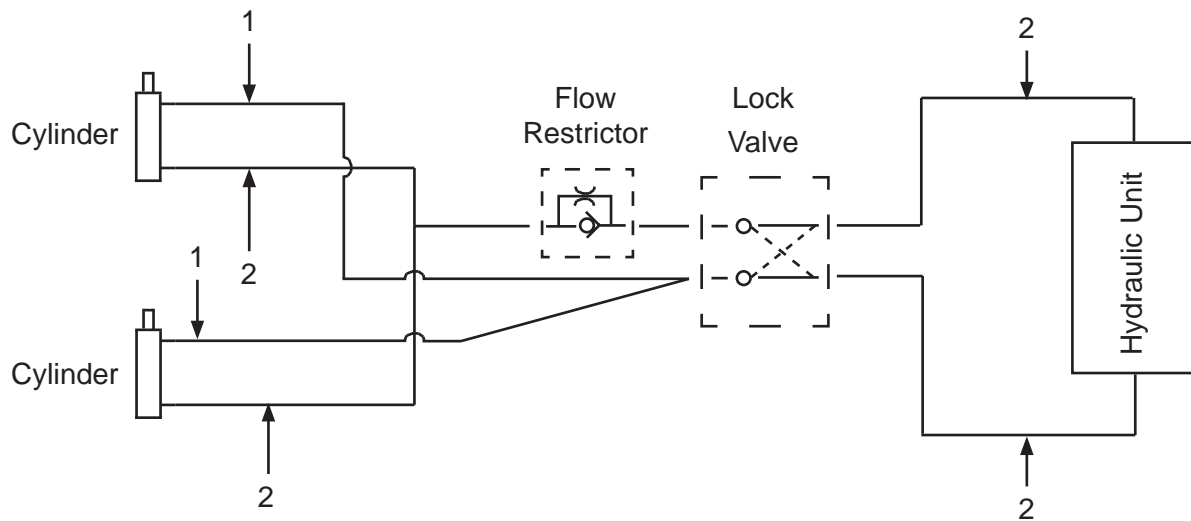
Figure 19: Wear Plates and Baffles



## PART NUMBERS AND SCHEMATICS

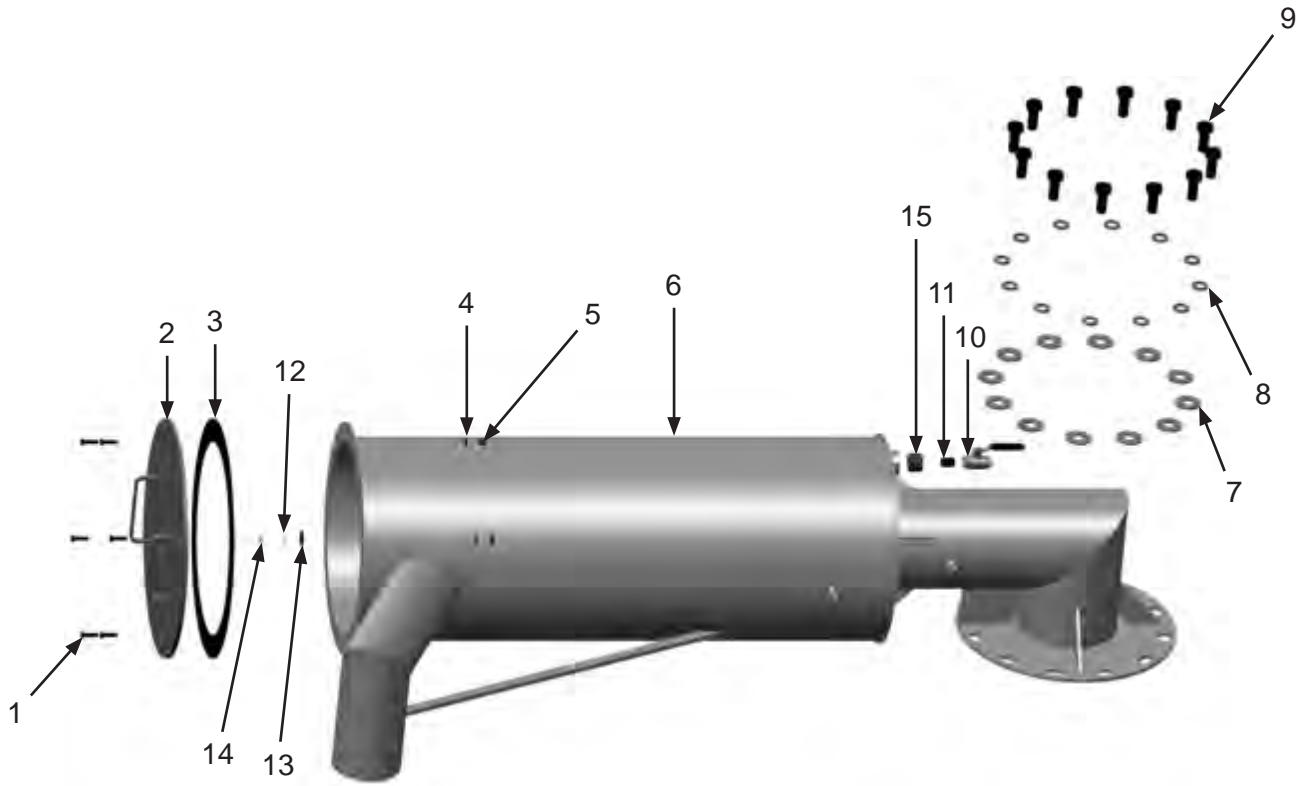
**Figure 20: Hydraulic Hoses**

Item #	Part #	Description
<b>Fig. 20</b>		
1	10104664	Hydraulic Hose 3/8" x 8' - 2600 PSI
2	10104663	Hydraulic Hose 3/8" x 5' - 2600 PSI



## PART NUMBERS AND SCHEMATICS

Figure 21: Intake Filter Housing



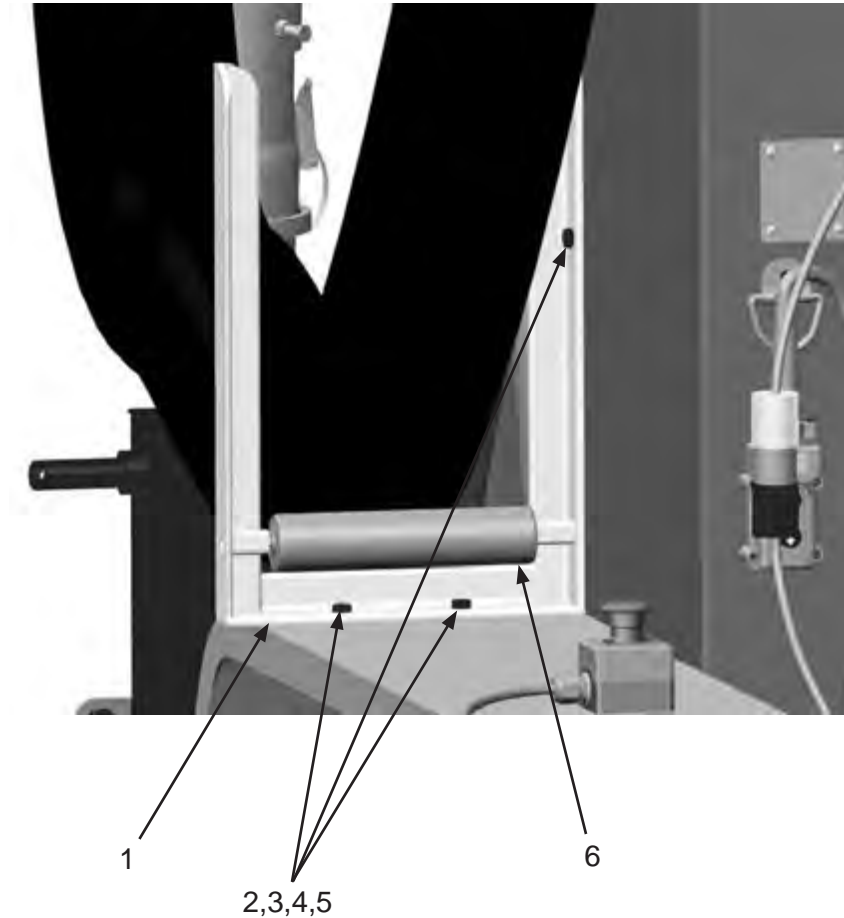
Item #	Part #	Description
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Fig. 21

1	10104234	3/8-16 x 1-1/4" Hex Bolt Zinc <i>(Six Required)</i>
2	10106508	Intake Filter Housing Cap
3	10104727	Air Filter Housing Gasket
4	10101936	3/8" Lock Washer - Zinc <i>(Four Required)</i>
5	10101938	3/8-16 Hex Nut - Galvanized <i>(Four Required)</i>
6	10107973	Intake Filter Housing
7	10104716	7/8" Flat Washer <i>(Six Required)</i>
8	10104717	7/8" Lock Washer <i>(Six Required)</i>
9	10104715	7/8-9 x 2" Zinc Bolt <i>(Six Required)</i>
10	10L363	1/2" NPT Full Port Ball Valve
11	10L803035	Galvanized 1/2" Close Nipple
12	10100674	1/2" Flat Washer
13	10102005	Rubber Washer 1.25 O.D. x .375 I.D. x .13
14	10101941	1/2-13 Hex Nut - Galvanized
15	1011820	1-1/4" x 1/2" Bushing - Galvanized
—	10102253	Filter Cartridge

## PART NUMBERS AND SCHEMATICS

Figure 22: Vacuum Hose Support Bracket



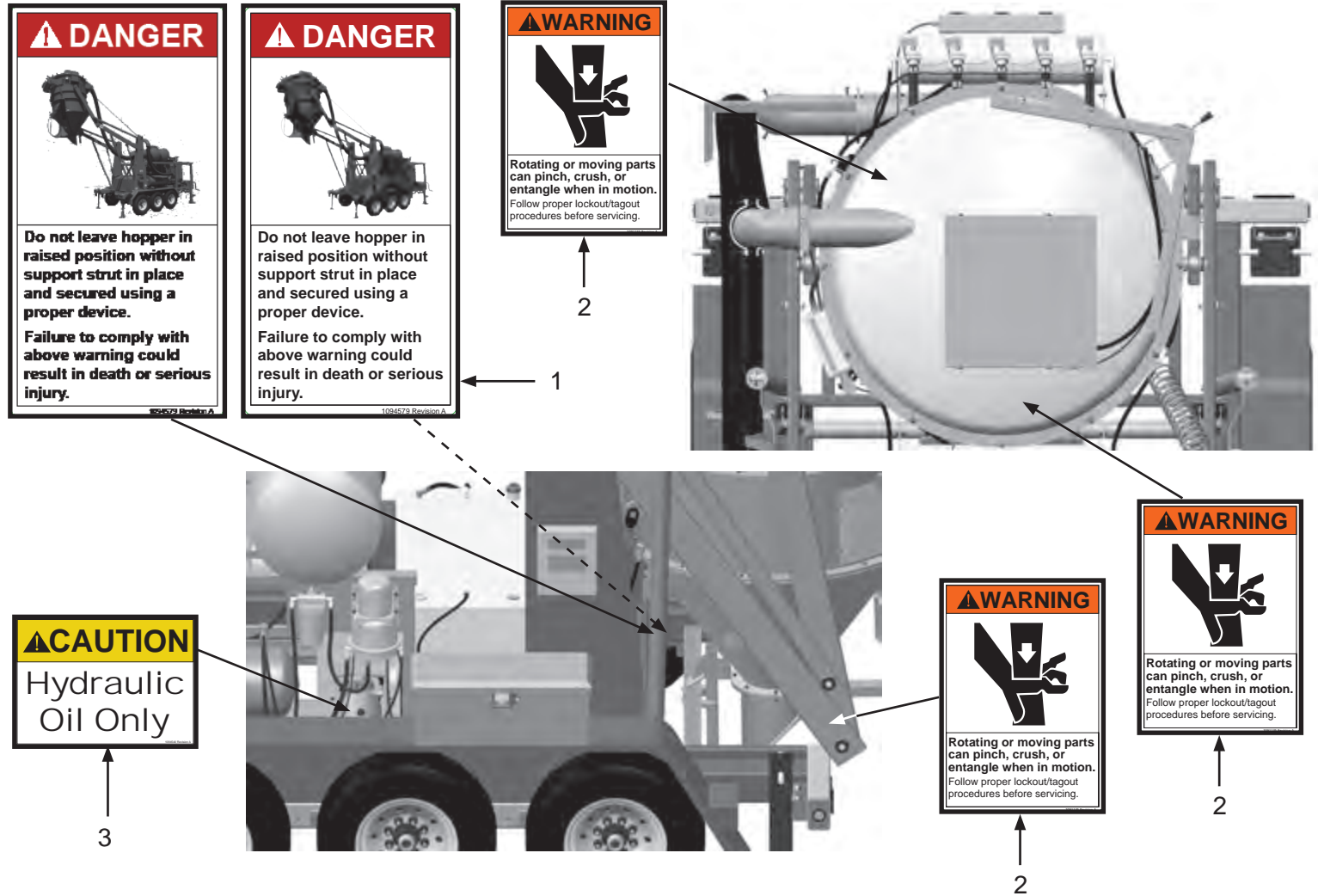
Item #	Part #	Description
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Fig. 22

1	10105264	Vacuum Hose Bracket
2	1011747	3/8-16 x 1" Bolt – Zinc ( <i>Three Required</i> )
3	10101942	3/8" Flat Washer – Galvanized ( <i>Three Required</i> )
4	10101936	3/8" Lock Washer – Zinc ( <i>Three Required</i> )
5	10101938	3/8-16 Hex Nut – Galvanized ( <i>Three Required</i> )
6	10106374	1.9" Diameter Conveyor Roller – 9" Long

## PART NUMBERS AND SCHEMATICS

Figure 23: Hazard Identification Decals



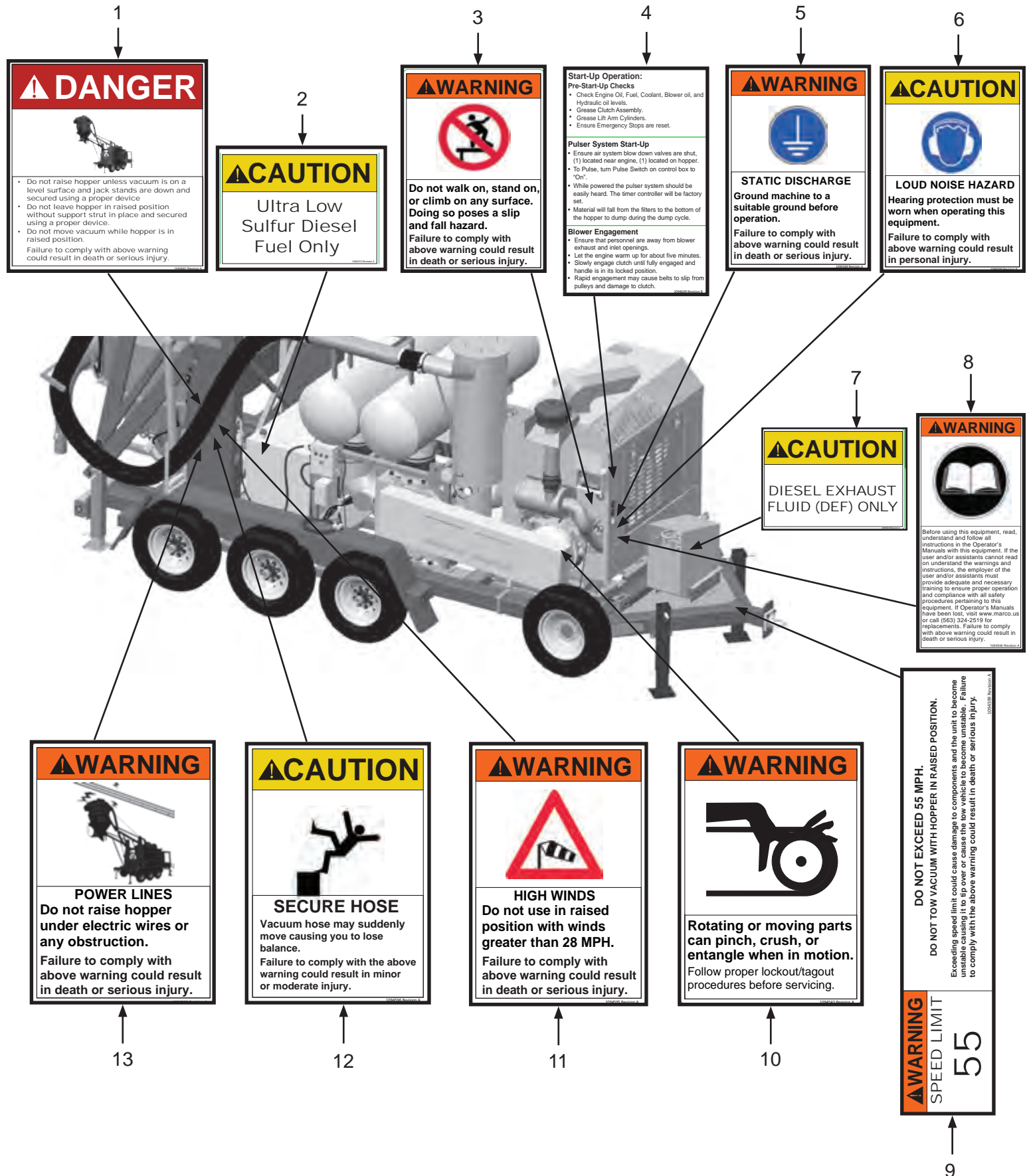
Item #	Part #	Description
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Fig. 23

1	1094579	Hopper Position Danger Decal
2	1091135	Rotating or Moving Parts Warning Decal
3	1094540	Hydraulic Oil Caution Decal

# PART NUMBERS AND SCHEMATICS

Figure 24: Hazard Identification Decals (Cont.)



## PART NUMBERS AND SCHEMATICS

**Figure 24: Hazard Identification Decals (Cont.)**

Item #	Part #	Description
<b>Fig. 24</b>		
1	1094587	Do Not Raise Hopper Danger Decal
2	1094570	Ultra Low Sulfur Diesel Fuel Only Caution Decal
3	1094591	Do Not Climb On Warning Decal
4	1094609	Start-Up Operation Decal
5	1094589	Static Discharge Warning Decal
6	1094590	Loud Noise Hazard Warning Decal
7	1094569	Diesel Exhaust Fluid Only Warning Decal
8	1094546	Read Manual Warning Decal
9	1094599	Speed Limit Warning Decal
10	1094543	Rotating or Moving Parts Warning Decal
11	1094595	High Winds Warning Decal
12	1094596	Secure Hose Caution Decal
13	1094592	Power Line Warning Decal



## PART NUMBERS AND SCHEMATICS

Figure 25: Hazard Identification Decals (Cont.)



## PART NUMBERS AND SCHEMATICS

**Figure 25: Hazard Identification Decals (Cont.)**

Item #	Part #	Description
<b>Fig. 25</b>		
1	1094594	Do Not Open Door Warning Decal
2	1094581	No Not Vacuum Flammable Material Danger Decal
3	1094579	Hopper Position Danger Decal
4	1091135	Rotating or Moving Parts Warning Decal
5	1094580	Stay Clear Warning Decal
6	1094586	Powerful Suction Warning Decal
7	1091054	Confined Space Warning Decal




## OPTIONAL ACCESSORIES








**Part  
Numbers**

Part Numbers	VACUUM HOSE						
	Vacuum Hose I.D.	Length	Vacuum HG	Cover Material	Reinforcement Material	Liner	Hose Color
10VH11250	1-1/2"	50 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Black
10VH225	2"	25 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH250	2"	50 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH200	2"	100 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH2550	2-1/2"	50 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH325	3"	25 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH350	3"	50 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH300	3"	100 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH425	4"	25 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH450	4"	50 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH400	4"	100 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH525	5"	25 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH550	5"	50 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH500	5"	100 Ft.	29"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH625	6"	25 Ft.	25"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH650	6"	50 Ft.	25"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH600	6"	100 Ft.	25"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH825	8"	25 Ft.	25"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue
10VH850	8"	50 Ft.	25"	Pliovic®	Pliovic® PVC Helix	Polyurethane	Blue

## OPTIONAL ACCESSORIES

	Part Numbers	VACUUM HOSE REDUCERS	
		Size	
	10106712	8" x 4"	
	10106716	6" x 4"	
	10106872	6" x 5"	

	Part Numbers	WYE ADAPTERS	
		Size	
	10106719	4" x 2" x 2"	
	10107485	6" x 2" x 2"	
	10106723	6" x 4" x 4"	
	10106727	8" x 4" x 4"	

	Part Numbers	VACUUM HOSE MENDERS			
		Vacuum Hose I.D.	Mender Length	Thickness	Material
	10HM2	2"	8"	1/8"	Steel
	10HM3	3"	9"	1/8"	Steel
	10HM4	4"	10"	1/8"	Steel
	10HM5	5"	11"	1/8"	Steel
	10HM6	6"	12"	1/8"	Steel
	10HM8	8"	14"	1/8"	Steel

## LITERATURE REFERENCES

### **Vacmaster® 23T Tier 4 Diesel Abrasive Vacuums**

106M163	Part Numbers & Schematics Guide – Vacmaster® 23T Tier 4 Diesel Abrasive Vacuums
1090163	Operator's Manual – Vacmaster® 23T Tier 4 Diesel Abrasive Vacuums
109V567	Operator's Manual – Perkins® Engine
109V520	Operator's Manual – Blower
109V040	Operator's Manual – Hydraulic Motor
109V582	Operator's Manual – Behnke Trailer

## MAINTENANCE NOTES

[illegible]

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[illegible]



## MAINTENANCE NOTES

[illegible]

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