

Installation and Operation Manual



HydraAIR™



PRGMAN-11
Version: C
April, 2025

Congratulations
on your new Paragon purchase

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Safety Notice

This manual is designed to be read in its entirety prior to installation or operation of this product.

Do NOT install or operate prior to reading this manual completely - injury or property damage can occur.

Use adequate protection and safety equipment while performing the steps indicated in this manual.

Protect against hazards involved during the installation and operation of this equipment.

Failure to read this manual completely or heed these warnings could result in serious bodily injury or loss of life.

For equipment covered specifically or indirectly in this operation manual, it is important that all personnel observe the appropriate safety precautions to minimize the risk of injury.

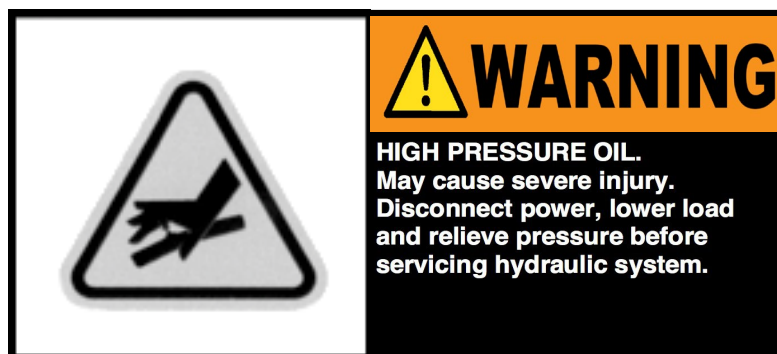
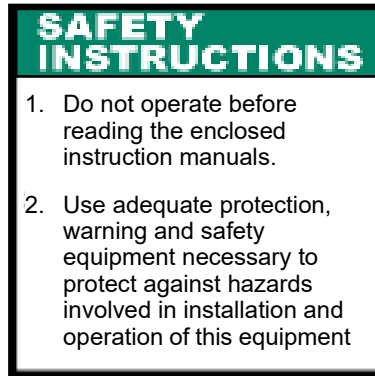
DO NOT....

- Attempt to install equipment with the truck engine running.
- Allow the truck engine to be started while personnel are under the vehicle or working on any equipment.
- Place any body part over any pneumatic (or hydraulic) leak or outlet while the equipment is in operation.
- Engage or disengage driven equipment by hand from under the vehicle while the engine is running.
- Use tools or equipment that are in poor or non-working condition.
- Remove, obscure, cover, or paint over any warning labels.

DO....

- Follow all safety rules and regulations as they apply to the equipment provided.
- Immobilize truck wheels with suitable chocks before working under the truck.
- Block any raised equipment before working on or under the equipment.
- Obtain proper training on tools and equipment that are required.
- Ensure all tools and components are in good working condition.
- Use all tools and equipment for its intended purpose only.
- Repair any leaks promptly.
- Remain a safe distance away from any moving components during operation.

Warnings



NOTICE

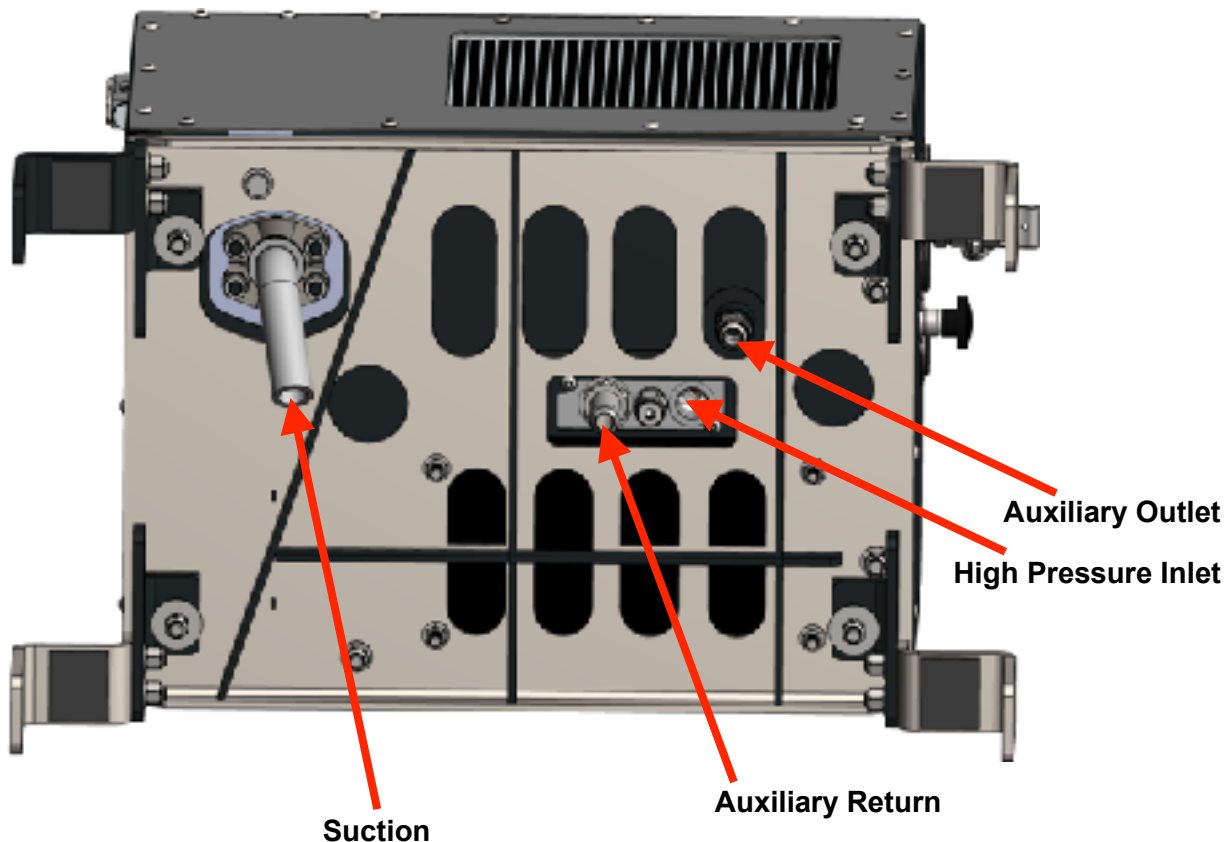
- Safety instruction tags and labels were attached to your unit prior to shipment. **DO NOT** remove, obscure, or cover in any manner
- Failure to heed these warnings could result in serious bodily injury to personnel operating or maintaining this equipment.

Pre-Installation Checklist

CAUTION: It is the installer's responsibility to ensure that the HydraAIR is mounted in a location providing proper clearance from any heat source(s).
Paragon recommends 12" from any exhaust opening, 6" from any other heat source(s).

1. Verify that there is no damage to any equipment prior to installation.
2. Verify correct Power Take-Off matches paperwork.
3. Verify correct Hydraulic Pump matches paperwork.
4. Shell Tellus S2 V 32 Non-Foaming Oil
(volume is dependent on installation location, typically 5~6 gallons).
5. Pre-plan hydraulic hose routing prior to installation to prevent complications during the installation process.

Fig. 1
HydraAir Port Location



The HydraAIR requires a minimum of 4" clearance from any obstruction or surface.

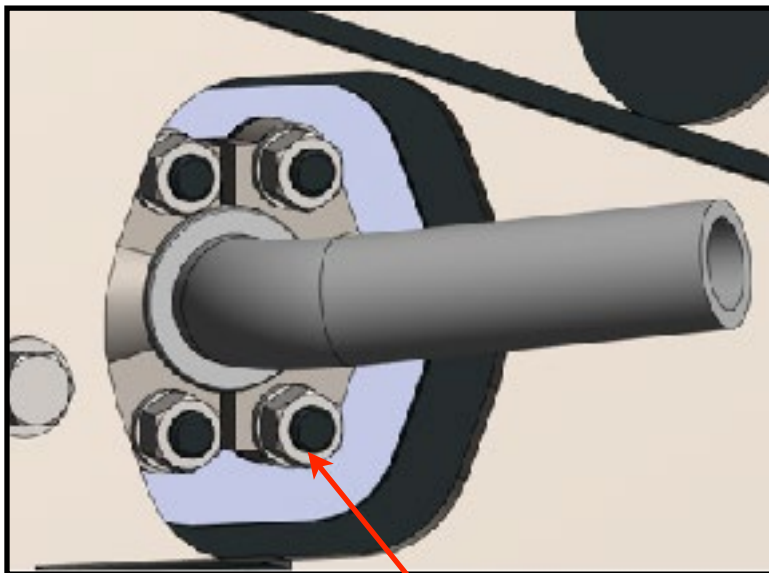
Initial Installation

Power Take Off & Hydraulic Pump

- Mount Power Take-Off and brace hydraulic pump per manufacturer's instructions.
- Ensure that the female spline of the power take off is filled with grease.
- Mount hydraulic pump to Power Take-Off unit using the fasteners supplied by manufacturer.

Mounting the HydraAIR

Fig. 2 **HydraAir Suction Fitting**



Note: Up to (2) gaskets can be used per unit as needed.

Ensure both O-ring and gasket are used in the suction connection.

Do Not use power tools to tighten suction fitting.

DO NOT exceed 55 ft-lbs of torque.

Ensure to torque evenly.

Initial Installation / Continued

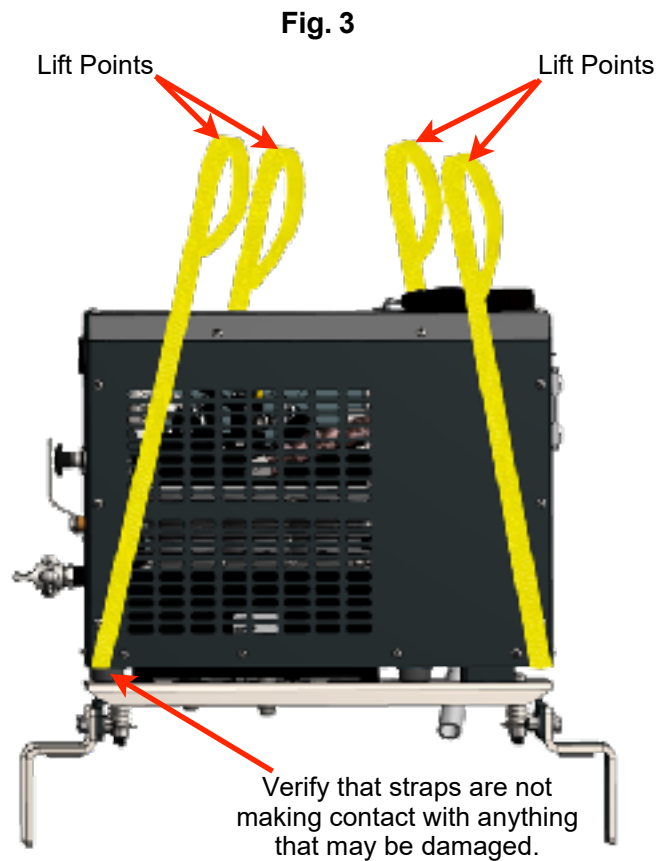
Mounting

1. Lift the HydraAir unit as shown using support straps.

Note: Ensure support straps are secure and clear from any pinch points or crush points prior to lifting.
(See Figure 3)

2. Lower the HydraAIR into place while being mindful of any hose connections or items that may make contact on the bottom of the unit (including the Code 61 suction connection).

DO NOT lower the unit completely at this time.

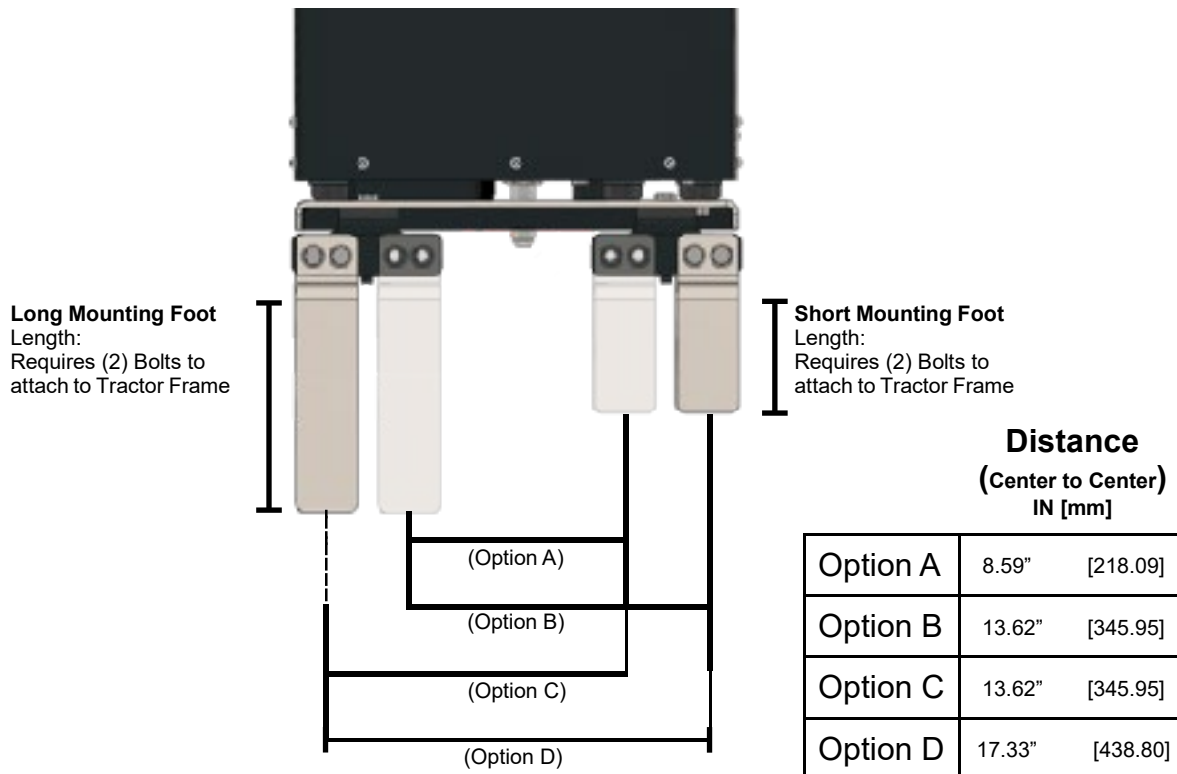


Initial Installation / Continued

Mounting Continued

3. Select the mounting feet (configuration) that will work the best for your installation. (See Figure 4)

Fig. 4

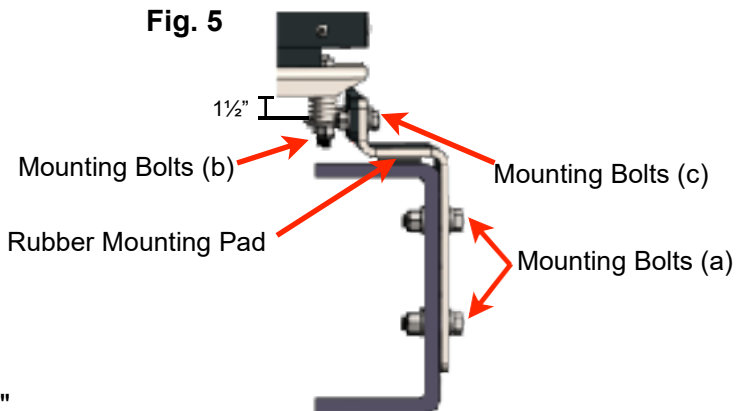


4. Tighten all Mounting Foot bolts at location (c).
5. Lower the HydraAIR completely until the rubber pads contact the frame rail. (See Figure 5)
6. Clamp all (4) mounting feet to the frame rail.
7. Drill bolt holes for mounting location (a).

Note: (2) holes per mounting foot, Minimum 9/16" Grade 5 bolts required

8. Fasten the HydraAIR to the frame.
9. Verify the spring at location (b) is compressed to 1-1/2", tighten as needed.

Fig. 5



Initial Installation / Continued

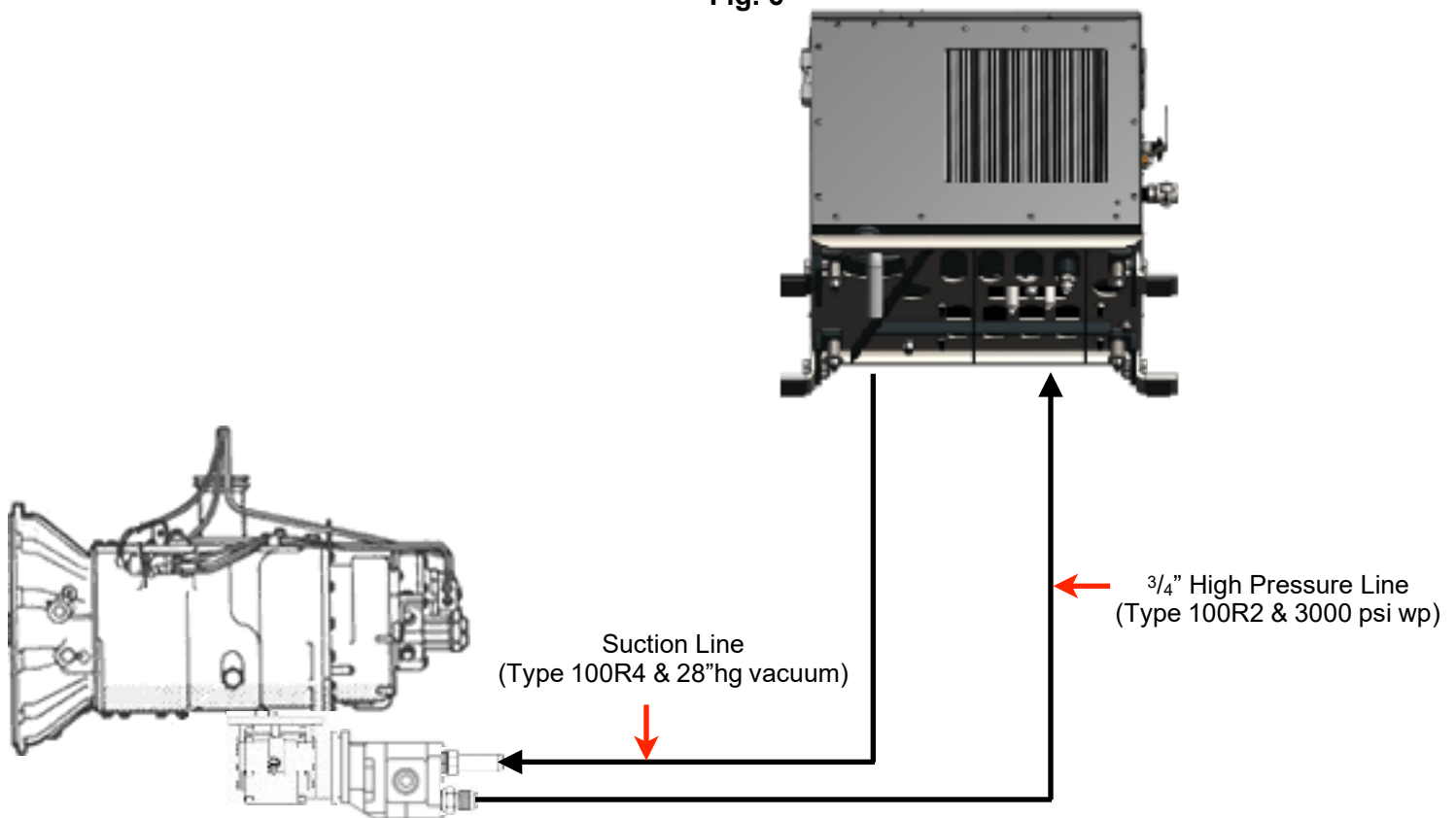
Hydraulic Hoses & Fittings

1. DO NOT use thread tape or pipe dope on hydraulic NPT connections; this will contaminate the hydraulic system. Use a hydraulic sealant for all NPT connections (Loctite number 545 or similar).
2. If high Pressure and Suction hoses are customer supplied, they will need to be measured onsite to fit according to system drawings and installation locations provided.
3. High pressure hoses must have a pressure rating equal or higher than the hydraulic system relief valve setting of 3000 psi.
4. The suction hose must be capable of operating in 28" Hg vacuum service.
5. Verify Code 61 orientation and torque nuts to 55 ft/lbs.

Note: Do NOT use any type of impacts to tighten the suction connection.

Note: Always double check Power Take-Off / Hydraulic Pump manuals for rotation to determine suction and pressure port location.

Fig. 6



Initial Start Up

Bleeding the Hydraulic System

1. Remove red hydraulic fill cap.
2. Fill HydraAIR with hydraulic fluid until sight glass reaches half way.

Note: Use only Shell Tellus S2 V 32 non-foaming hydraulic oil. (Or equivalent)

Note: It is recommended that the hydraulic oil be filtered while being added. (A clean paint filter will suffice.)

3. Replace fill cap.
4. Push the selector switch “in” to engage the auxiliary circuit.
Note: If the Auxiliary option is being used, it must be connected and allow oil to make a full loop during start-up procedure.
5. Start the truck engine.
6. Engage the PTO. (See PTO Owner's Manual)
7. Run for 5 - 10 seconds to eliminate air from the system.
8. Disengage the PTO.
9. Check hydraulic fluid level; fill back to 1/2 way on sight glass. (Repeat steps 6-10 as needed)
Note: Operate any auxiliary addition to ensure all hydraulic lines are completely filled.
10. Ensure the air valve is in the “Vent” position.
11. Engage the PTO. (See PTO Owner's Manual)
12. Pull the selector switch to engage the compressor.
13. Run for 5 - 10 seconds to eliminate air from the system.
14. Disengage PTO.
15. Check hydraulic fluid level; fill back to 1/2 way on sight glass. (Repeat steps 11-15 as needed)
16. Clean up any spilled oil from the filling process.
17. Check for any signs of leaks. (Address as needed)
18. Re-check oil level.

Operation

Auxiliary Operation

CAUTION: HydraAIR Auxiliary Out and Return, located on the bottom of the unit or on Feedthrough panel (if installed), must be connected to the receiving equipment or to the bypass line connecting the two (Figure 1) prior to using HydraAir in the AUX (push) position on the selector valve.

1. Ensure all connections are firmly in place.
2. Ensure the Compressor air flow control valve is in the “Vent” position.
3. Push the selector knob in all the way to the “AUX” position.
4. Engage the Power Take-Off (PTO).
5. Once complete, disengage the PTO.

Compressor Operation

1. Connect the air delivery hose to the HydraAir Pneumatic Connection and to the trailer.
2. Ensure the Compressor air flow control valve is in the “Vent” position.
3. Ensure the Selector knob is pulled out to the “Compressor” position.
4. Ensure all connections are firmly in place.
5. Slowly engage the Power Take-Off.
6. Slowly move the air flow control valve to the “Operate” position.
 - **The air flow control valve can be used to bleed off excess pressure and flow; slowly move the valve towards the “Vent” position and back, as desired. Do not exceed tank pressure rating.**
7. When complete with off-load, slowly move the air flow control valve handle back to the “Vent” position and disengage the PTO.

CAUTION: The air delivery line may still be under pressure. Wait for pressure to return to zero.

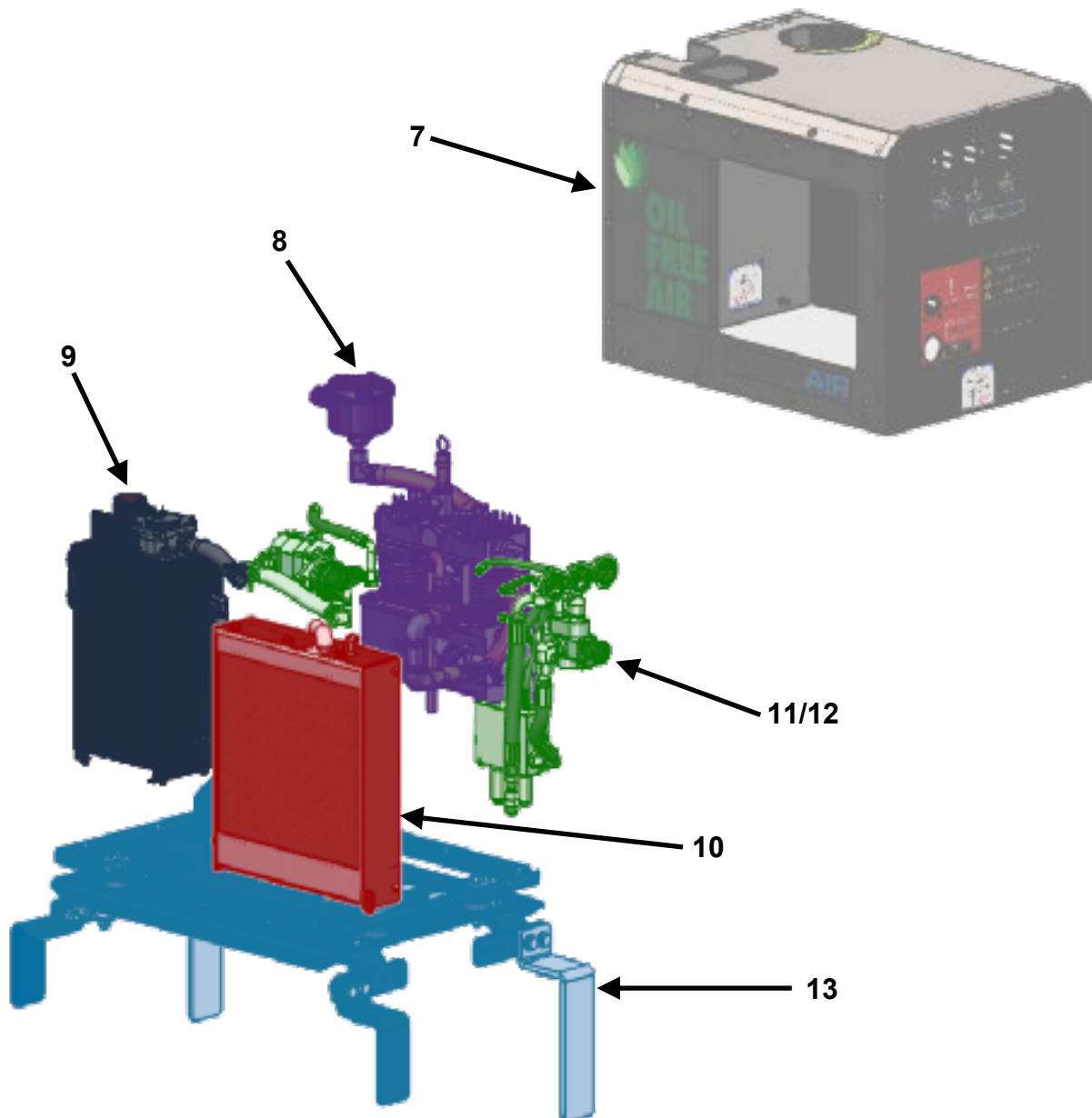
8. Complete the off-load per company policies.
9. Ensure the Power Take-Off is disengaged prior to moving the vehicle.

Maintenance Schedule

Interval	Item	
Daily	Hydraulic System	Check Oil level before operation. ** Correct level is to the center of the sight glass when hydraulic system is cold and not in operation.
Weekly	General	Visually inspect the system. (High pressure and suction hose, fittings, and mounting bolts)
3 Months	General	Inspect hydraulic motor couplings for damage, replace as needed. Check torque for mounting bolts (a) and (b). Adjust if required. Check tension of mounting bolt (c). Spring should be compressed to 1-1/2".
	Hydraulic System	Hydraulic Oil ** An oil analysis is recommended to determine the lifetime of the oil remaining.
6 Months	Change Air Filter Element.	Part # 575-009
	Hydraulic System	Change Hydraulic Oil Filter. Part # 350-001 - Hyd Filter Std Output (30 gpm models) Part # 350-000 - Hyd Filter High Output (42 gpm models) ** An oil analysis is recommended to determine the lifetime of the oil remaining.
	Power Take-Off Unit	Grease the Power Take-Off / Hydraulic Pump Splines.
Yearly	General	Check Compressor Relief Valve (part # 610-010) for correct operation.
	Pump	Inspect Hydraulic Pump Splines for wear.

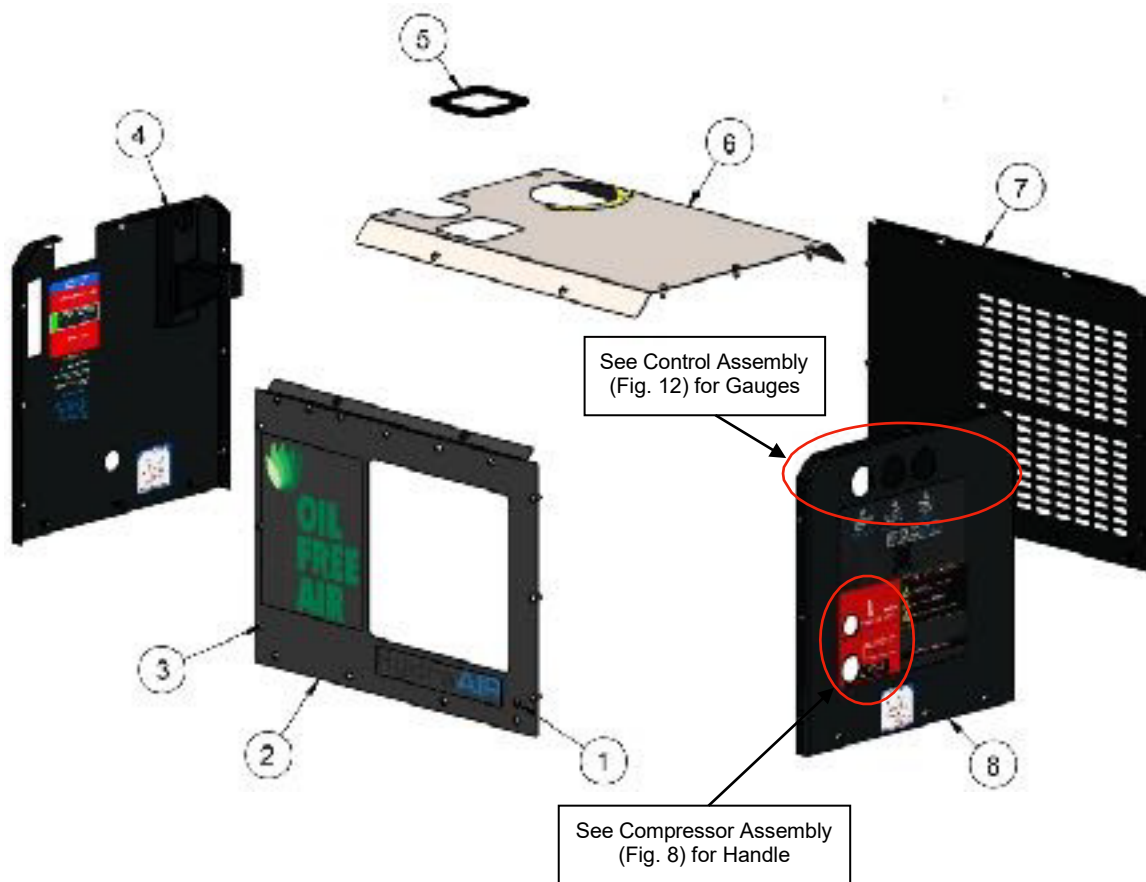
Component Breakdown

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Component Breakdown

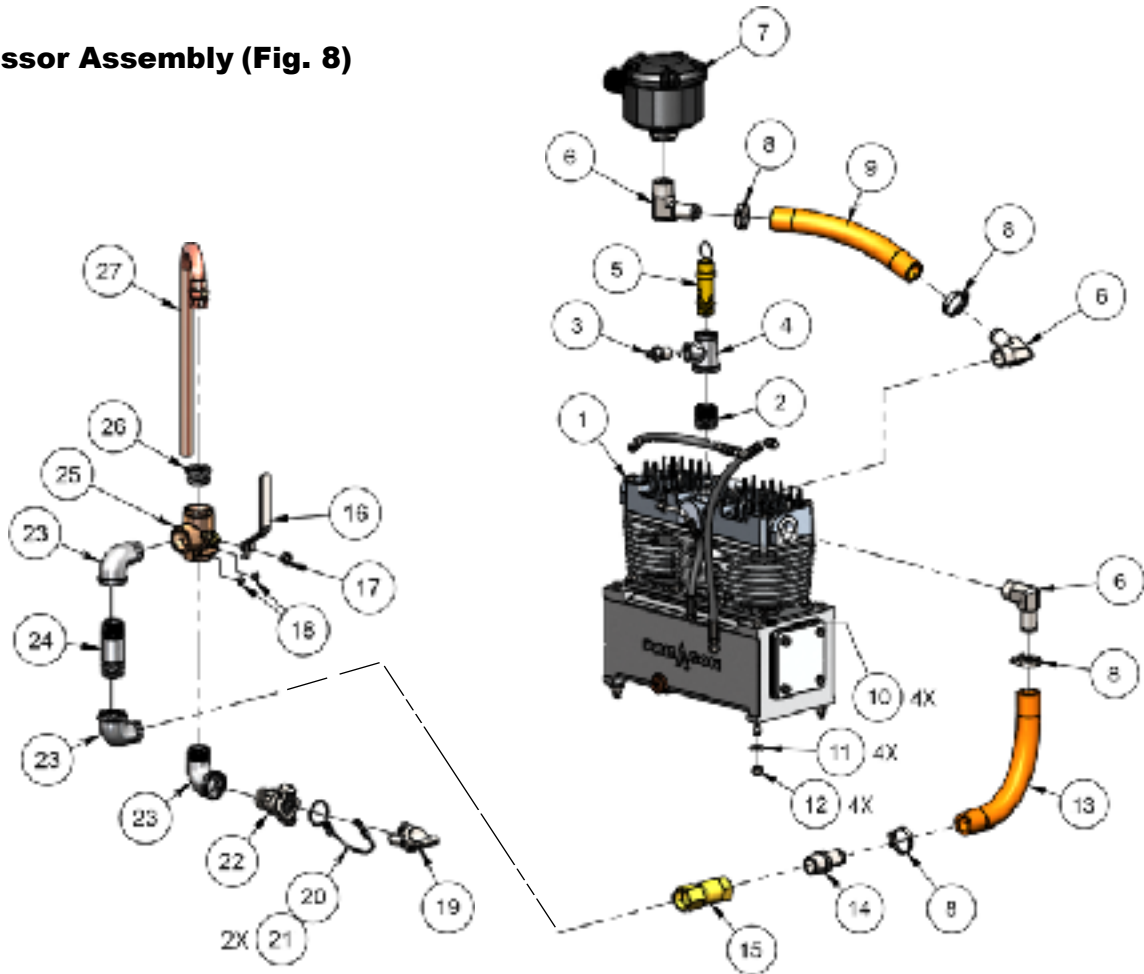
Cover Panel Assembly (Fig. 7)



Item	Part #	Description	Qty
1	214-013	Capscrew 5/16" x 1"	1
2	634-177	Front Panel Assy	1
3	214-012	Capscrew 5/16" x 3/4"	43
4	634-178	Driver Side Panel Assy	1
5	521-804	Filter Grommet	1
6	634-176	Top Cover Assy	1
7	523-034	Cover - Exhaust Side Panel	1
8	634-180	Pass. Side Panel Assy (High Output)	(1)
	634-179	Pass. Side Panel Assy (Standard)	1

Component Breakdown

Compressor Assembly (Fig. 8)

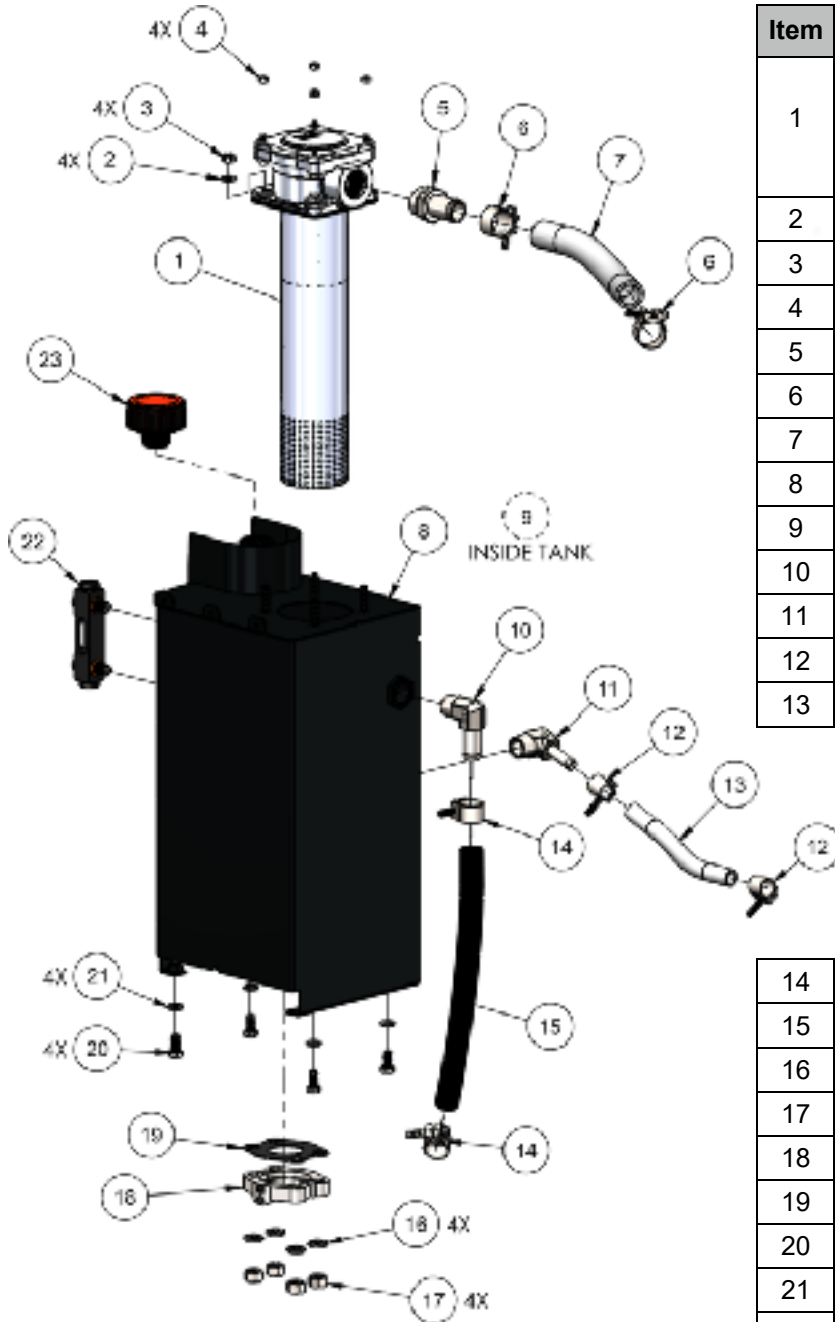


Item	Part #	Description	Qty
1	600-016	Compressor, Oil Free	1
2	535-008	Galvanized Nipped 1"	1
3	321-010	Adaptor -8	1
4	532-004	Tee 1"	1
5	610-010	Relief Valve 3/4" NPT Male	1
6	328-011	Hose Barb Elbow 16NPTM, 90 (Std Output)	3
	328-004	Hose Barb Elbow - 90 Deg. (High Output)	3
7	625-040	Filter Assembly	1
8	85233	Hose Clamp 1.06" - 1.5"	4
9	587-017	1" Hot Air Hose	1
10	228-060	Capscrew 3/8"	4
11	296-013	Flat Washer 3/8"	4
12	284-009	Hex Nut 3/8"	1
13	587-016	Hose 1x30'lg w/ Crimp (Std Output)	1
	587-017	1" Hot Air Hose (High Output)	1
14	85227	Hose Barb -12 (Std Output)	1
	327-001	Hose Barb -16 (High Output)	1

Item	Part #	Description	Qty
15	612-014	3/4" Check Valve (Std Output)	1
	612-022	1" Check Valve (High Output)	1
16	527-011	Handle - Air Selector Valve	1
17	284-011	Jam Nut 7/16" -20	1
18	299-000	Phillips Screw 10-24	2
19	534-002	Plug	1
20	582-002	Wire Rope 1/8"	1
21	582-003	Wire Rope Sleeve	2
22	534-003	Chicago Fitting 3/4"MNPT (Std Output)	1
	534-006	Chicago Fitting 1"MNPT (High Output)	1
23	533-026	3/4" Street Elbow (Std Output)	3
	533-010	1" Street Elbow (High Output)	3
24	535-015	Nipple 3/4" (Std Output)	1
	535-022	Nipple 1" (High Output)	1
25	816-005	Ball Valve 3/4" FNPT (Std Output)	1
	816-003	Ball Valve 1" FNPT (High Output)	1
26	536-000	Bushing 1" MNPT x 3/4" FNPT (High Output)	1
27	828-102	Tubing Assembly	1

Component Breakdown

Hydraulic Tank Assembly (Fig. 9)



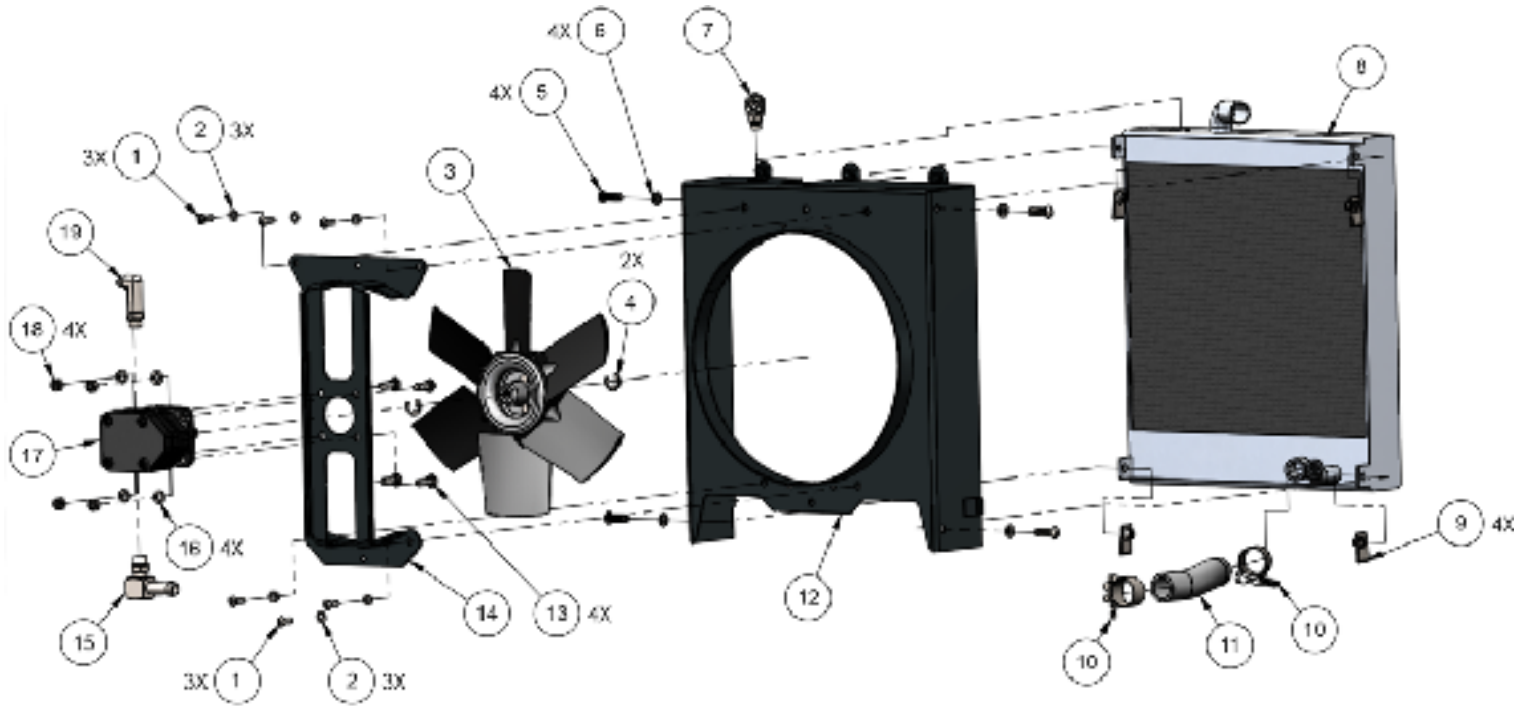
Item	Part #	Description	Qty
1	352-008	Hyd Filter/Diffuser (Std Output)	1
	352-009	Hyd Filter/Diffuser (High Output)	1
2	296-004	Flat Washer 5/16"	4
3	284-026	Hex Nut 5/16"	4
4	184-009	Nylock Nut M6x1.0	4
5	327-011	Hose Barb Straight -16	1
6	313-021	"T" Clamp -16	2
7	85244	Hyd. Hose - 1" Return	1
8	500-034	Body - Oil Tank	1
9	335-002	Check Valve	1
10	328-003	Hose Barb -12, 90 deg.	1
11	328-010	Hose Barb -8, 90 deg.	1
12	313-017	"T" Clamp -8	2
13	85236	Fan Motor Return	1

14	313-018	T" Clamp -12	2
15	85243-1	Hyd Hose - 3/4"	1
16	294-010	Lock Washer 1/2"	4
17	284-000	Hex Nut 1/2"	4
18	85213	Flange - Code 61 (Split)	2
19	526-003	Cd 61 Gasket 1-1/2" Buna	1
20	228-029	Capscrew 3/8"	4
21	294-009	Lock Washer 3/8"	4
22	355-007	Hyd Level Gauge 3" w/ Temp and Mtg Hardware	1
23	359-002	Hyd Breather Cap	1
*	351-004	Hyd Filter Assy (Std Output)	1
*	351-003	Hyd Filter Assy (High Output)	1

* Not shown

Component Breakdown

Cooler Assembly (Fig. 10)

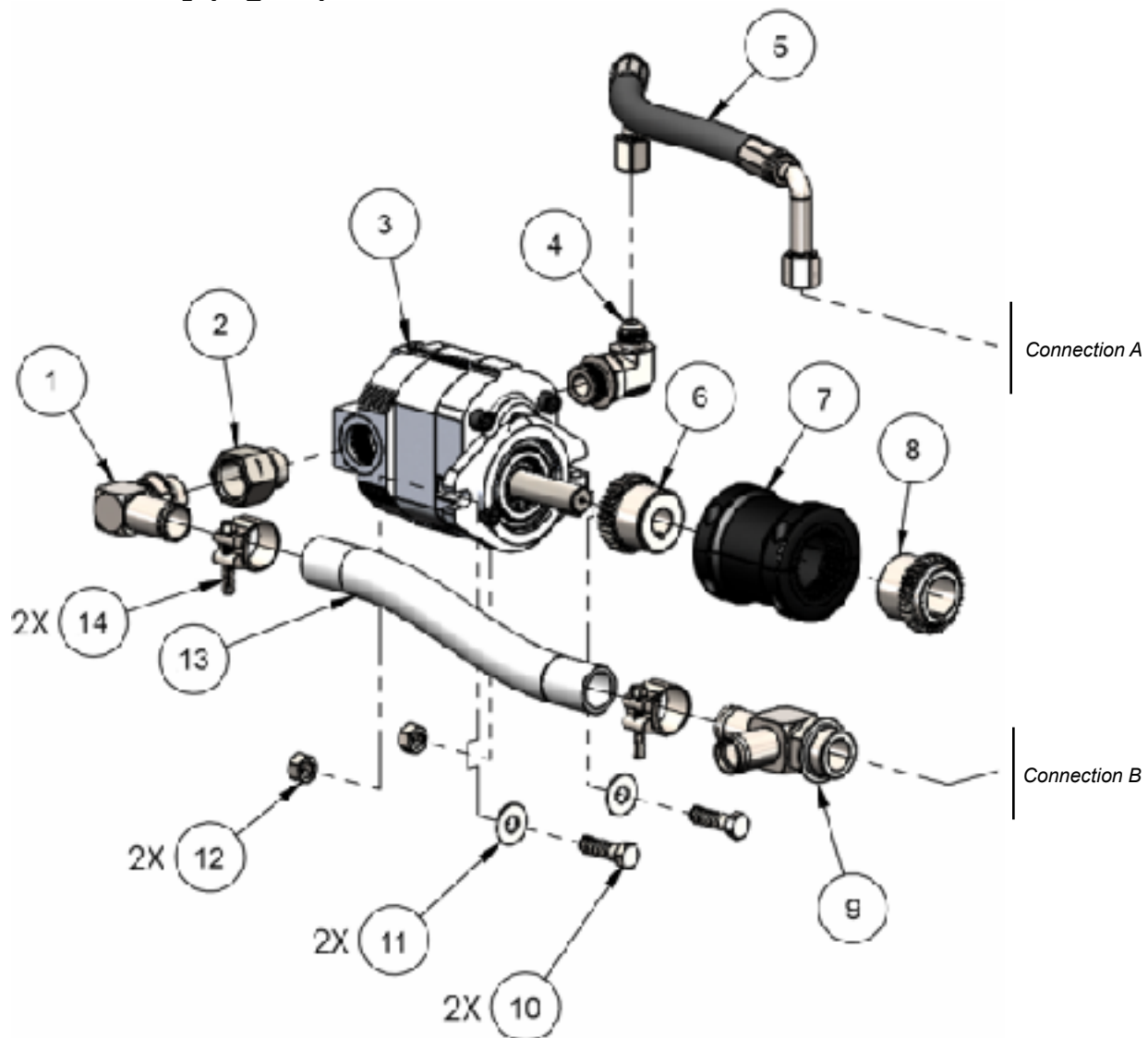


Item	Part #	Description	Qty
1	85230	Capscrew - 1/4-20	6
2	294-003	Washer Lock 1/4" SS	6
3	507-002	Fan	1
4	85258	Retaining Ring 1/2" - Fan Motor	2
5	214-013	Capscrew - 5/16"	4
6	294-004	Washer Lock 5/16" SS	4
7	322-040	Hyd Elbow -04, 90 deg.	1
8	370-005	Hyd Heat Exchanger	1
9	299-015	Clip Nut - 5/16"	4
10	313-021	Hyd "T" Clamp -16	2

Item	Part #	Description	Qty
11	85244	Hyd Hose - 1" Return	1
12	508-101	Bracket - Heat Exchanger Shroud	1
13	228-010	Capscrew - 5/16"	4
14	508-102	Bracket - Removable Fan Mount	1
15	85218	Elbow Hose Barb 8/6 SAE	1
16	294-008	Washer Lock 5/16 Zinc	4
17	300-007	Hyd Motor Fan	1
18	85234	Nut 5/16"	4
19	322-026	Hyd Fan Flow Control	1

Component Breakdown

Control Assembly (Fig. 11)

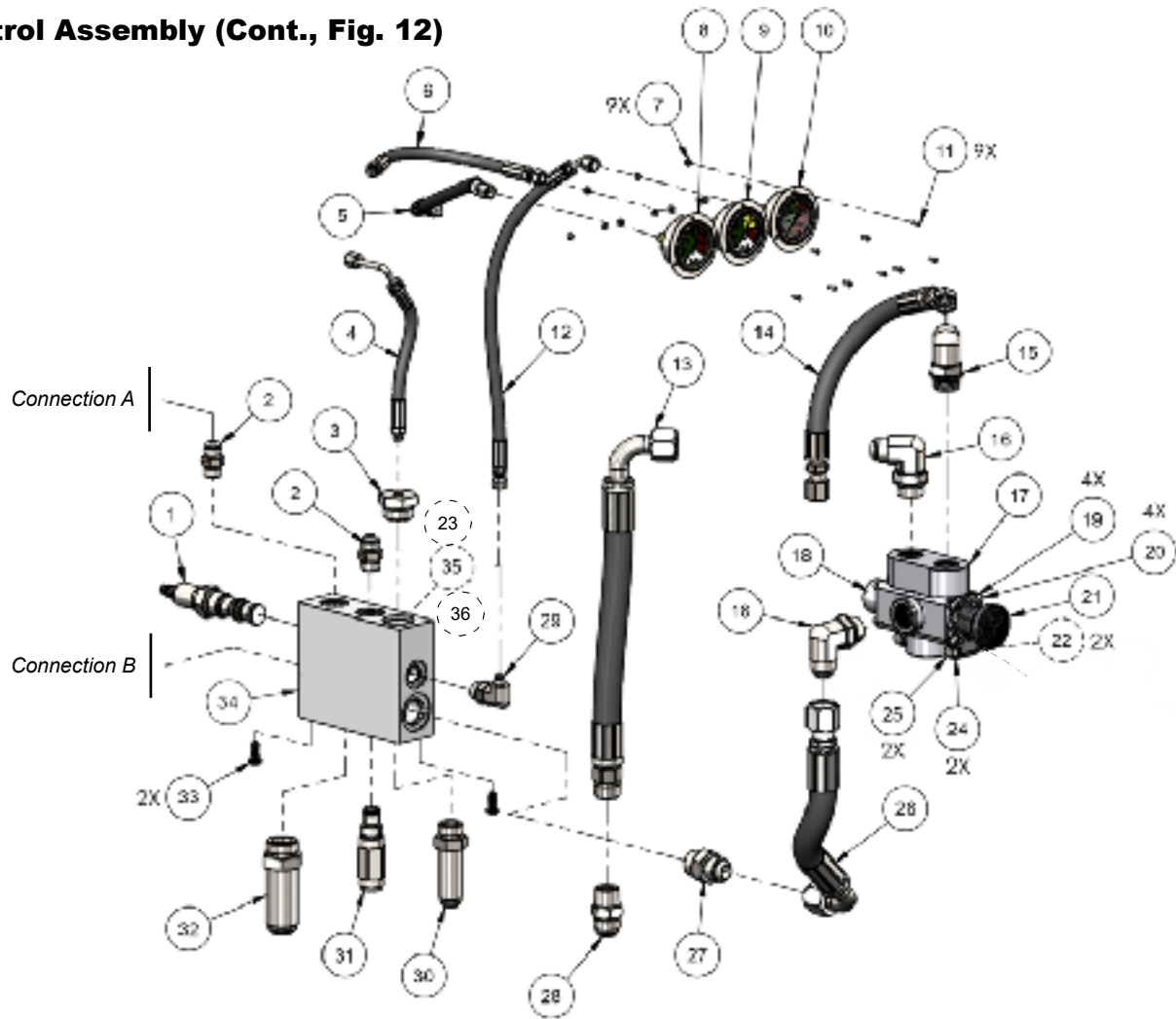


Item	Part #	Description	Qty
1	328-005	Hose Barb Elbow -12/-16	1
2	321-080	Adaptor -12	1
3	300-011	Hyd Motor 1.5ci	1
3	300-014	Hyd Motor 1.5ci w/ Fittings	1
4	322-017	Elbow -12 SAE	2
5	361-026	Hose Assy - Motor Feed	1
6	562-026	Coupler Hub w/ 3/16" Key	1
7	562-029	Coupler Sleeve Assy	1

Item	Part #	Description	Qty
8	562-028	Coupler Hub w/ 1/4" Key	1
9	329-800	Hose Barb Tee -16	1
10	228-066	Capscrew 7/16"	2
11	296-009	Flat Washer 7/16"	2
12	284-005	Hex Nut 7/16"	2
13	85244	Hose - 1" Return	1
14	313-021	"T" Clamp -16 Hose	2

Component Breakdown

Control Assembly (Cont., Fig. 12)

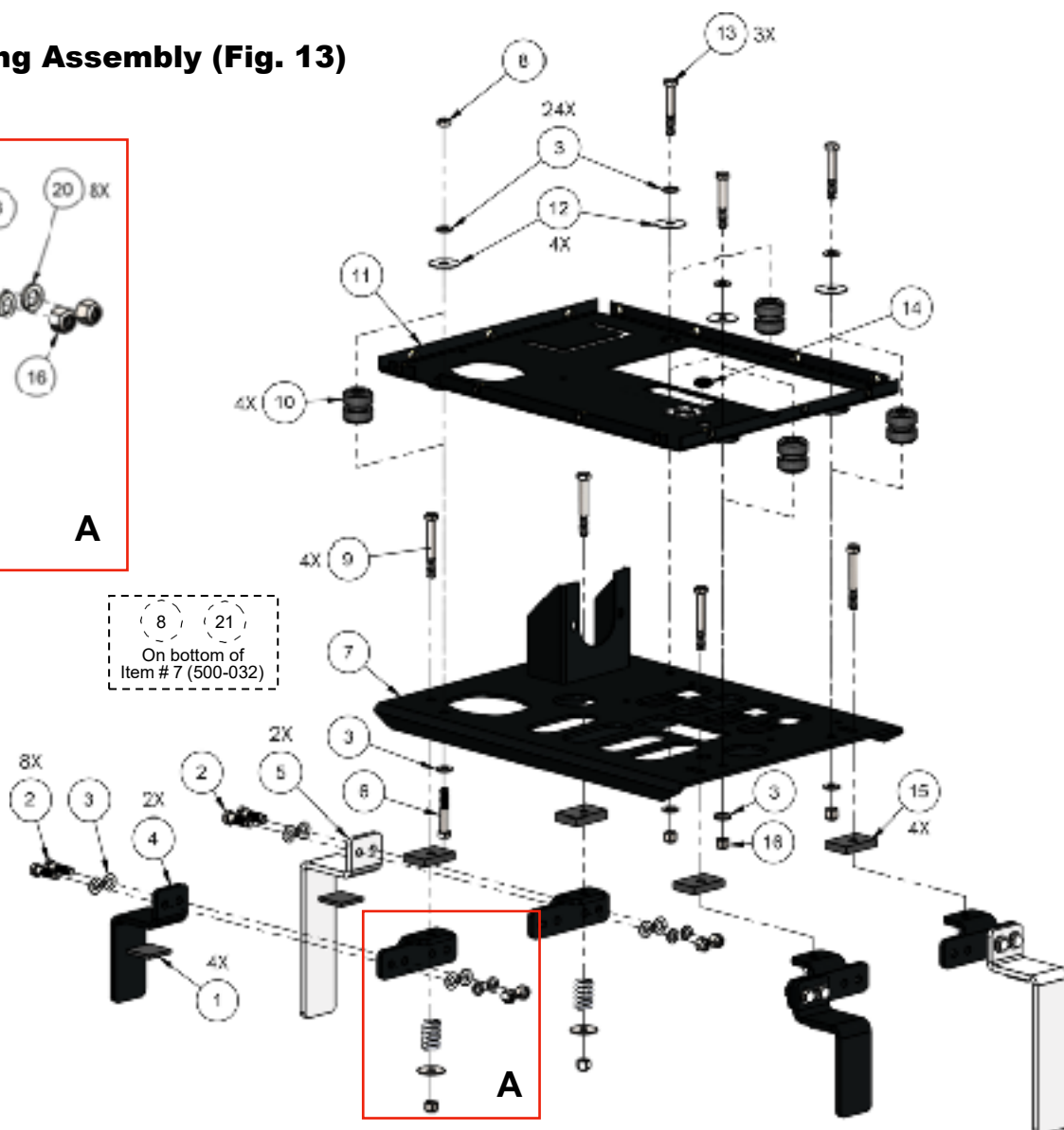
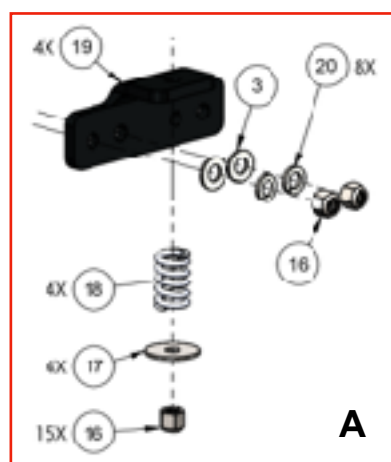


Item	Part #	Description	Qty
1	336-002	Hyd Flow Control (Std Output)	1
	336-003	Hyd Flow Control (High Output)	1
2	321-031	Adaptor -8	2
3	522-009	Cap, Block Fan Orifice	1
4	361-027	Hose Assy - Fan Feed	1
5	361-031	Hose Assy -4 LP	1
6	361-000	Hose Assy - Fan Motor Feed	1
7	284-020	Hex Nut #4-40	9
8	822-006	Pressure Gauge 0-60 PSI	1
9	353-001	Hyd Gauge 60 PSI	1
10	353-000	Hyd Gauge 3000 PSI	1
11	214-000	Capscrew 3/8"	9
12	361-003	Hose Assy -4 HP	1
13	361-030	Hose Assy -12 HP	1
14	361-028	Hose Assy -8 HP	1
15	322-017	Elbow -12 SAE	2
16	322-011	Elbow -12 SAE	2
17	334-009	Selector Valve	1
18	524-007	Rubber Boot Guard	1

Item	Part #	Description	Qty
19	294-003	Lock Washer 1/4"	4
20	214-001	Capscrew 1/4"	4
21	527-028	Manual Selector Knob	1
22	284-026	Hex Nut 5/16"	2
22	294-008	Lock Washer 5/16"	2
23	521-022	O-ring - Orifice Filter Cap	1
24	296-004	Washer 5/16"	2
25	228-011	Capscrew 5/16"	2
26	361-029	Hose Assy -12 HP	1
27	321-016	Adaptor -12 JICM	1
28	321-006	Adaptor -12 JICM	1
29	322-023	Elbow	1
30	321-052	Adaptor -12SAE	1
	85257	Relieve Valve - 2500 PSI	1
31	85304	Relieve Valve - 3000 PSI	1
32	321-085	Adaptor -16 SAE	1
33	214-012	Capscrew 5/16"	2
34	362-006	Hyd Control Block	1
35	580-015	Spring - Fan Orifice Filter	1
36	350-007	Filter Element - Orifice Filter	1

Component Breakdown

HydraAIR Mounting Assembly (Fig. 13)



Item	Part #	Description	Qty
1	571-074	Rubber Damper Pad	4
2	228-071	Capscrew	8
3	296-011	Flat Washer	24
4	508-100	Bracket - Lower Mounting	2
5	508-104	Bracket - Lower Mounting, long	2
6	228-079	Capscrew	1
7	500-032	Body Mainframe	1
8	284-016	Hex Nut	1
9	228-082	Capscrew	4
10	571-077	Rubber Isolation Mount	4
11	523-030	Cover - Bottom Panel	1

Item	Part #	Description	Qty
12	296-019	Flat Washer	4
13	228-081	Capscrew	3
14	521-813	Grommet - Vent Tube Outlet	1
15	571-078	Rubber Pad - Isolation Mount	4
16	284-014	Nylock Nut	15
17	296-018	Flat Washer	4
18	580-016	Mounting Spring	4
19	508-099	Bracket - Upper Mounting	4
20	294-010	Lock Washer	8
21	537-047	Label - Port Identification	1

Warranty Statement

PGWAR-1-100
Date Issued: 05/01/2025

GENERAL PROVISIONS AND LIMITATIONS

Paragon Tank Truck Equipment LLC (the "Company") warrants to each original retail purchaser ("Purchaser") of its products from the Company or its authorized distributor that such products are, at the time of delivery to the Purchaser, made with good material and workmanship. No warranty is made with respect to:

1. Any product which has been repaired or altered in such a way, in the Company's judgment, as to affect the product adversely.
2. Any product which has, in the Company's judgment, been subject to negligence, accident, improper storage, or improper installation or application.
3. Any product which has not been operated or maintained in accordance with the recommendations of the Company.
4. Components or accessories manufactured, warranted and serviced by others.
5. Any reconditioned or prior owned product.

Claims for items described in (4) above should be submitted directly to the manufacturer.

WARRANTY PERIOD

The Company's obligation under this warranty is limited to repairing or, at its option, replacing, during normal business hours at an authorized service facility of the Company, any part which in its judgment proved not to be as warranted within the applicable Warranty Period as follows.

Product Type	Warranty Duration
New	18 months from date of shipment, or 12 months after initial startup date, whichever occurs first.
Remanufactured	12 months from date of shipment, or 12 months after initial startup date, whichever occurs first.
Repair	12 months from date of shipment, or remaining warranty period, whichever is greater.

All product furnished by seller but manufactured by others bear only that manufacturer's standard warranty. Replacement parts not specifically called out in an above table are warranted for 90 days from shipment. Any disassembly or partial disassembly of any of the package components, or failure to return these "unopened" per Company instructions, will be cause for denial of warranty.

The Company reserves the right to withdraw the Warranty where evidence indicates application outside the stated performance area, or where there is evidence of abuse.

LABOR TRANSPORTATION AND INSPECTION

The Company will provide labor, by Company representative or authorized service personnel, for repair or replacement of any product or part thereof which in the Company's judgment is proved not to be as warranted. Labor shall be limited to the amount specified in the Company's labor rate schedule and would expressly exclude labor for the removal and reinstallation of the Paragon product from the customer's equipment.

Labor costs in excess of the Company rate schedules caused by, but not limited to, location or inaccessibility of equipment, or labor provided by unauthorized service personnel is not provided by this warranty.

All costs of transportation of product, labor or parts claimed not to be as warranted and, of repaired or replacement parts to or from such service facilities shall be borne by the Purchaser. The Company may require the return of any part claimed not to be as warranted to one of its facilities as designated by the Company, transportation prepaid by Purchaser, to establish a claim under this warranty.

If a warrantable complaint occurs within 90 days from shipment:

1. Freight will be reimbursed for both the replacement item and the returned suspect part (if Requested by Paragon). This allowance will cover only transportation via Paragon selected most economical method within the continental United States, Canada and Mexico. Premium transportation and/or handling charges will not be covered or pro-rated.
2. Concerning distributors in Canada & Mexico, reimbursement for duty and brokerage fees at actual cost that cannot be recovered from Customs Officials, but not to exceed 20% of the distributor net price, will be allowed for warrantable complaints within 90 days.
3. Copies of relative invoices must be provided with the submission of the claim to be considered.

Replacement materials provided under the terms of the warranty are warranted for the remainder of the Warranty Period of the product upon which installed to the same extent as if such parts were original components.

DISCLAIMER

THE FOREGOING WARRANTY IS EXCLUSIVE AND IT IS EXPRESSLY AGREED THAT, EXCEPT AS TO TITLE, THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY.

THE REMEDY PROVIDED UNDER THIS WARRANTY SHALL BE THE SOLE, EXCLUSIVE AND ONLY REMEDY AVAILABLE TO THE PURCHASER AND IN NO CASE SHALL THE COMPANY BE SUBJECT TO ANY OTHER OBLIGATIONS OR LIABILITIES. UNDER NO CIRCUMSTANCES SHALL THE COMPANY BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, EXPENSES, LOSSES OR DELAYS HOWSOEVER CAUSED.

No statement, representation, agreement, or understanding, oral or written, made by any agent, distributor, representative, or employee of the Company which is not contained in this Warranty will be binding upon the Company unless made in writing and executed by an officer of the Company.

This warranty shall not be effective as to any claim which is not presented within 30 days after the date upon which the product is claimed not to have been as warranted. Any action for breach of this warranty must be commenced within one year after the date upon which the cause of the action occurred.

Any adjustment made pursuant to this warranty shall not be construed as an admission by the Company that any product was not as warranted.



Paragon Tank Truck Equipment

www.paragondirect.com



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