

**Model: PF56131-8 (475)
15 gal (56.8 l) Fluid Dispenser**

01/2024 – Rev. 03

For Spare Parts, Operations & Service Manuals or Service Needs
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01	08/2023	Original release
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This product can not be modified without the written approval of Tronair, Inc. Any modifications done without written approval voids all warranties and releases Tronair, Inc., its suppliers, distributors, employees, or financial institutions from any liability from consequences that may occur. Only Tronair OEM replacement parts shall be used.



CAUTION!

Aircraft manufacturer's specifications and instructions must be followed. In the event of contradiction between aircraft manufacturer's specifications and Malabar's, aircraft manufacturer's will prevail.

1.0 PRODUCT INFORMATION

1.1 DESCRIPTION

The Malabar Model PF56131-8 is a 15 gallon fluid dispenser used to service various commercial aircraft. The air pump and hand pump dispenser consists of a reservoir, pump assembly with relief valve, filter assembly, fluid meter, gauge, a fluid delivery hose and a return fluid hose with fluid sight and pressure gauge.

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

Tronair / Malabar International
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301
E-mail: sales@tronair.com
Website: www.tronair.com

1.4 SPECIFICATIONS

FluidMIL-PRF-87252 (PAO)
Reservoir capacity.....15 gal (56.8 l)
Hand pump displacement per stroke4 cubic in (65.5 cc)
Hand pump relief valve set at.....100 ± 10 psig (1034 ± 69 kPa)
Air operated hydraulic pump flow rate4.5 gpm (17 lpm)
Air inlet pressure90-110 psig (620-758 kPa)
Air pressure relief valve set at125 psig (862 kPa)
Pump outlet pressure100 psig (690 kPa)
Air consumption50 scfm (.024 scms)
Fill hose length.....120 in (3048 mm)
Return hose length.....113 in (2870 mm)
Net weight (empty).....110 lbs (49.9 kg)
Filter rating2 micron nominal

2.0 SAFETY INFORMATION

2.1 USAGE AND SAFETY INFORMATION

To ensure safe operations please read the following statements and understand their meaning. Also refer to your equipment manufacturer's manual for other important safety information. This manual contains safety precautions which are explained below. Please read carefully.



WARNING!

Warning is used to indicate the presence of a hazard that can cause **severe personal injury, death, and/or substantial property damage** if the Warning Notice is ignored.



CAUTION!

Caution is used to indicate the presence of a hazard, which will or can cause **minor personal injury or property damage** if the Caution Notice is ignored.

3.0 PREPARATION PRIOR TO FIRST USE

The unit is shipped fully assembled and tested. Air and fluid reliefs are factory installed, set and tested. Fill reservoir at fillport with approved fluid. Fill lubricator with SAE #10 oil. Remove any port plugs and/or plugs on nose ends. Connect air supply to fluid dispenser. Ensure ball valve on return hose on rear of unit is closed. Route fluid delivery hose end back to fillport. Operate hand pump a few strokes and slowly open air inlet valve and operate air pump assembly for approximately 30 seconds to bleed all air out of the system. The unit is now ready for use.

4.0 TRAINING

4.1 TRAINING REQUIREMENTS

The employer of the operator is responsible for providing a training program sufficient for the safe operation of the unit.

4.2 TRAINING PROGRAM

The employer provided operator training program should cover safety procedures concerning use of the unit in and around the intended aircraft at the intended aircraft servicing location.

4.3 OPERATOR TRAINING

The operator training should provide the required training for safe operation of the unit.

NOTE: Maintenance and Trouble Shooting are to be performed by a skilled and trained technician.

5.0 OPERATION

1. Connect the fill hose to the aircraft service point.
2. Connect the return hose, and open ball valve, as applicable. If return hose is not connected, be sure ball valve is closed.
3. Use full steady pumping strokes when operating hand pump or connect air supply (90-110 psig) to the 1/4" NPT inlet to the air valve (50 scfm required). Air relief valve (Figure 2A, item 29) must remain properly installed. Do not attempt to remove air relief valve.



CAUTION!

Air relief valve must be installed at all times. If air relief valve is removed, it is possible to over pressurize the pneumatic system which could cause equipment failure and possible bodily injury.

4. Slowly open air valve to operate air pump and dispense fluid. Air valve may be used to control air motor speed. Replenish as required. When replenishing is completed, immediately close air inlet valve.
5. Disconnect the fill and/or return hose(s) from the aircraft service point, disconnect air supply, replace the dust plug and store unit in a dry, dust free location.

6.0 TROUBLE SHOOTING:

If pump assembly loses prime, pressure or volume output:

1. Check fluid level.
2. Dirt or foreign particles may be lodged in valve body or adapter assembly. Clean with solvent and dry with compressed air. Replace o-rings before reassembling.
3. Check condition of filter element. Replace as required.
4. Oil screen may be clogged. Clean with solvent and dry with compressed air.
5. Hand pump relief valve may need to be reset. Adjust relief valve per overhaul instructions.
6. Piston o-ring may be worn. Replace per overhaul instructions.
7. Air motor air pressure may be too low. Increase supply air pressure.
8. Hand pump or air pump check valve malfunction. Replace appropriate check valve.
9. Hydraulic hose, fittings or tubing may be leaking. Tighten or replace as required.

7.0 MAINTENANCE**7.1 SERVICING**

The frequency of filter change depends on operating conditions. Generally, changes should be made every 3-4 months. Refer to item 72 in figure 1A to change element.

7.2 REPAIR AND REPLACEMENT

No definite time schedule can be established for the overhaul of the hand pump assembly for the replacement of the various moving parts. The number of times the hand pump assembly is operated materially affect the life of the working parts. The moving piston o-ring seal (item 17) and scraper (item 12) are normally the first to wear (see figure 2B). This is usually indicated by leakage of fluid past the plunger (item 5). It is advisable to overhaul the hand pump assembly immediately if leakage is discovered as described in overhaul instructions. A repair parts kit (P/N PF15-35PK) is available and recommended to keep on hand at your facility. Refer to parts list for the complete list of parts contained in the repair parts kit.

7.3 OVERHAUL INSTRUCTIONS

During overhaul, replace all parts that do not pass the following inspection requirements. Each time the pump assembly is disassembled, carefully inspect for the following:

1. Inspect interior walls of cylinder and outer walls of plunger and piston for smoothness and freedom from rust, pits, scratches and excessive wear.
2. Check oil screen for cleanliness.
3. Regardless of apparent condition, replace all o-rings, scrapers, retaining rings, gaskets, roll pins, flathead pins, cotter pins, ball valves and filter element.
4. Coat all o-rings and back-up rings with compatible fluid prior to assembly.
5. Clean all metal parts with clean solvent and dry with compressed air. Lubricate all threads.
6. Use Teflon tape carefully on all pipe threads. Remove excess tape because it can clog valves and passages.
7. If ball valves do not seat properly, they may need to be resealed by tapping the ball into the valve seat with a brass rod cupped at one end.

7.3.1 Hand Pump Disassembly (see figure 2)

1. Remove fourteen bolts and lockwashers (figure 1B, items 87 & 67) from cover and lift pump assembly and gasket (figure 1A, items 54 & 61) from tank (figure 1A, item 53).
2. Remove handle (item 8) and pump link (item 7) by removing cotter pins (items 15) and flathead pins (items 14).
3. Remove tubing (item 46).
4. Unscrew nipple (Figure 2B, item 33) and attached parts (items 31, 32, 33, 43 and 45) from valve body (item 20). Pull out valve body (item 20), adapter (item 22), nipple (item 34) and oil screen (item 23) from cylinder (item 6). Remove o-ring (item 17) from valve body.
5. Unscrew adapter (item 22), nipple (item 34) and oil screen (item 23) from valve body (item 20). Remove o-ring (item 21) and ball (item 30).
6. Tap out roll pin (item 13) from plunger (item 5) and slip off collar (item 10).
7. Pull plunger (item 5) and piston (item 16) out of cylinder (item 6).
8. Remove retaining ring (item 19) from plunger (item 5) and slide piston (item 16) off. Remove o-ring (item 18) from plunger and o-ring (item 17) from piston.
9. Unscrew cylinder (item 6) from cover (item 1).
10. Remove retaining ring (item 11) and scraper (item 12) from cover (item 1).

7.3.2 Hand Pump Reassembly (see figure 2)

1. Install scraper (item 12) and retaining ring (item 11) onto cover (item 1).
2. Screw cylinder (item 6) onto cover (item 1).
3. Install o-ring (item 18) onto plunger (item 5). Next install o-ring (item 17) onto piston (item 16). Finally install piston onto plunger and secure with retaining ring (item 19).
4. Slide plunger (item 5) and piston (item 16) assembly into cylinder (item 6).
5. Slide collar (item 10) onto plunger (item 5) and install roll pin (item 13) through both.
6. Install o-ring (item 17) onto valve body (item 20). Next install o-ring (item 21) onto adapter (item 22). Place steel ball (item 30) into valve body (item 20). Attach adapter (item 22), nipple (item 34) and oil screen (item 23) to valve body (item 20). Install the entire assembly into the cylinder (item 6) and align thread with hole in cylinder.
7. Attach nipple (item 33) and connected parts (items 31, 32, 33, 43 and 45) to valve body (item 20) and cylinder (item 6).
8. Attach tubing (item 46).
9. Install handle (item 8), pump link (item 7), flathead pins (items 14) and cotter pins (items 15).
10. Place gasket (Figure 1A, item 61) and pump assembly on tank (Figure 1A, item 54). Install fourteen bolts and lockwashers (Figure 1B, items 87 & 67) and secure pump assembly to the tank.

7.3.3 Relief Valve Setting (see figure 2B, item 31)



CAUTION!

The relief valve should not be adjusted unless absolutely necessary. If adjustment is required, proceed as follows:

1. Remove pump assembly and gasket from tank as described in 7.3.1 step 1.
2. Install shut off valve (eg. ball valve, not included with unit) to the end of the hose assembly (figure 1A, item 60).
3. Connect air supply to fluid dispenser. Ensure ball valve on return hose on rear of unit is closed. Route fluid supply hose end back to fillport. Operate hand pump a few strokes and slowly open air inlet valve and operate air pump assembly for approximately 30 seconds to bleed all air out of the system. Close shutoff valve.
4. Using flat blade screwdriver, adjust relief valve to 120 ± 10 psig.
5. Remove shut off valve from hose assembly.
6. Attach gasket and pump assembly to tank as described in 7.3.2 step 10.

8.0 PROVISION OF SPARES

8.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

Tronair / Malabar International
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301
E-mail: sales@tronair.com
Website: www.tronair.com



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8.2 RECOMMENDED SPARE PARTS LISTS

Reference the following page(s) for Replacement Parts and Kits available.

Refer to figure 1A and 1B for unit assembly or figure 2A and 2B for pump assembly.

9.0 IN SERVICE SUPPORT

Contact Malabar, Inc. for technical services and information. See Section 1.3 – Manufacturer.

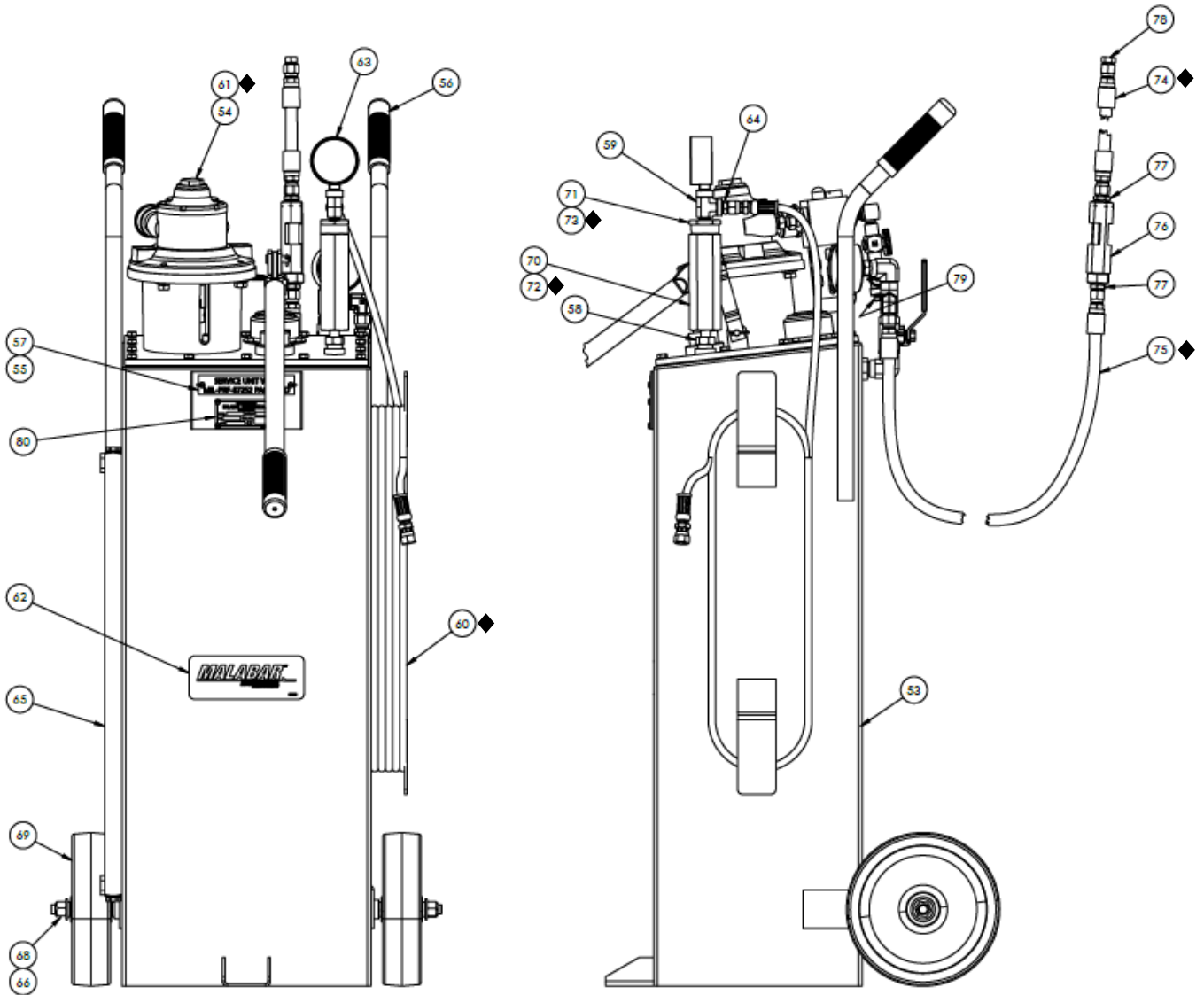
10.0 GUARANTEES/LIMITATION OF LIABILITY

- I. Seller warrants each new product of its manufacture to be free from defects in material or workmanship, under proper, reasonable, and normal use and service.
- II. The warranty period shall be as follows:
 - A. For Malabar equipment, with the exception of Tripod Jacks, the warranty period is one (1) year after date of shipment.
 - B. For Malabar Tripod Jacks, the warranty period is three (3) years after date of shipment.
- III. Where Buyer claims an alleged defect in material or workmanship and so advises Seller in writing within ten (10) days after discovery thereof, then and in such event, Buyer shall return said equipment, transportation prepaid, to the Seller, provided such return is timely and within the above-mentioned warranty period. This warranty and liability of the Seller is expressly limited solely to replacement or repair of defective parts or goods, and return at Buyer's expense to Buyer after finding by Seller the product was defective prior to original shipment or, at the option of Seller, to providing refund to Buyer of the purchase price for said product.
- IV. It is further expressly understood and agreed that:
 - A. THERE IS NO WARRANTY, REPRESENTATION OF CONDITION OF ANY KIND, EXPRESS OR IMPLIED, (INCLUDING NO WARRANTY OF MERCHANTABILITY OR OF FITNESS) EXCEPT THAT THE MATERIAL SHALL BE OF THE QUALITY SPECIFIED IN APPLICABLE SPECIFICATIONS, AND NONE SHALL BE IMPLIED BY LAW. Except as otherwise provided herein, quality shall be in accordance with Seller's specifications. Final determination of the material for the use contemplated by Buyer is the sole responsibility of Buyer and Seller shall have no responsibility in connection with such suitability, and
 - B. Buyer's sole and exclusive remedy shall be repair or replacement of defective parts or goods by the Seller. Should the goods, in the judgment of Seller, preclude the remedying of the warranted defects by repair or replacement, the Buyer's sole and exclusive remedy shall be the refund of the purchase price, and
 - C. Seller shall not be liable for prospective profits or special, indirect or consequential damages, nor shall any recovery of any kind against Seller be greater in amount than the purchase price of the specific material sold and causing the alleged loss, damage or injury. Buyer assumes all risk and liability for loss, damage or injury to persons or property of Buyer or others arising out of use or possession of any product or part sold hereunder, and
 - D. Seller shall in no way be deemed or held to be obligated, liable or accountable upon or for any guarantees or warranties, express or implied, or created by statute or by operation of law or otherwise, in any manner of form beyond its express agreement above set forth, and
 - E. No warranty herein shall apply to any product which shall have been repaired or altered, unless such alteration or repair has been made by Seller or if, after return to and inspection by Seller, the product is found by Seller to have been subject to misuse, negligence or accident, and
 - F. No warranty of any nature is made by Seller as to any component forming a part of the product sold and Buyer shall receive only such warranties offered by such other manufacturer of such component, and
 - G. Seller does not assume nor does Seller authorize any other person to assume for it any other liability or make any warranty in connection with the sale of its products.

Parts List – Figure 1A

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

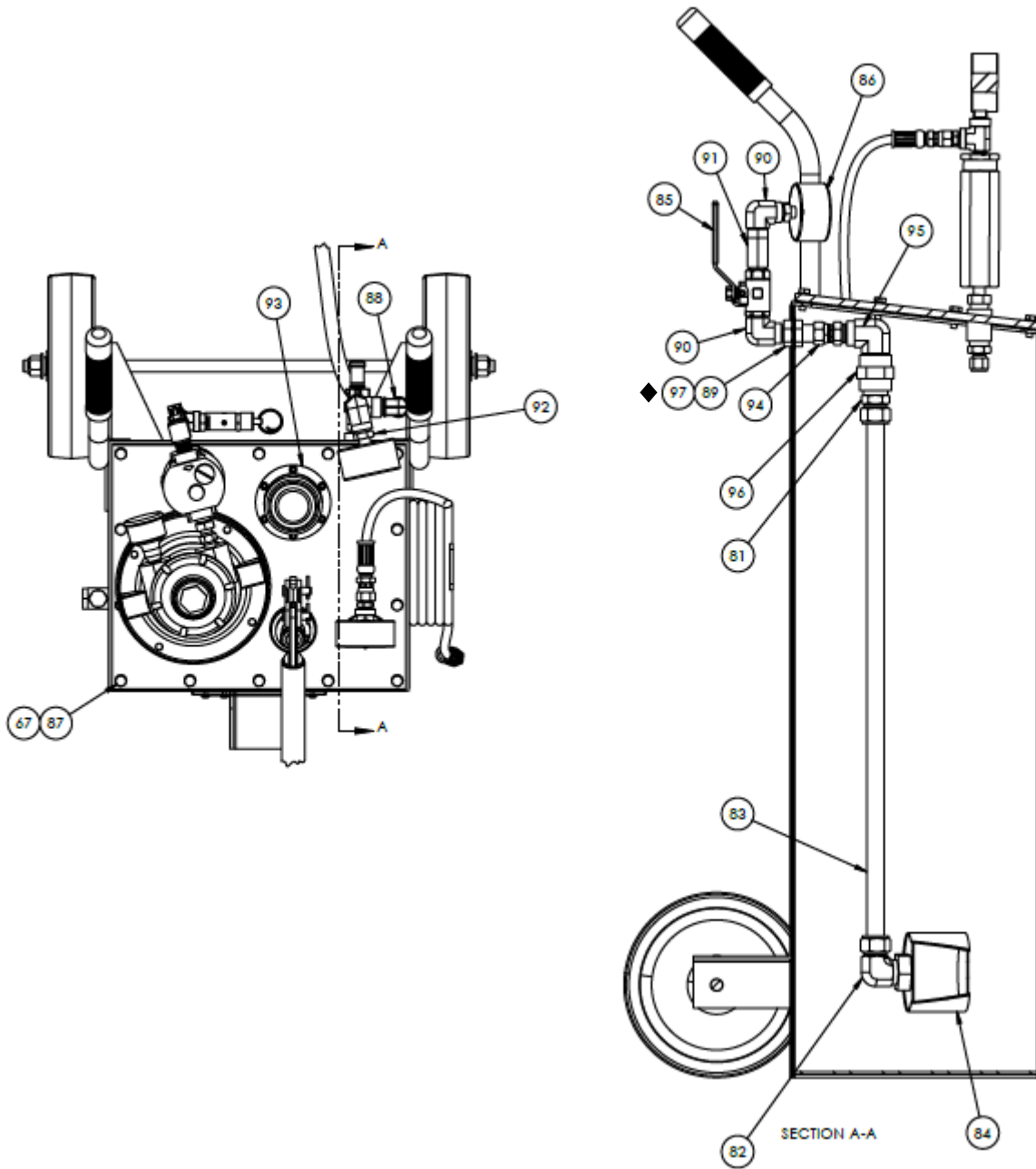
◆ PART OF REPAIR PARTS KIT



Parts List – Figure 1B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

◆ PART OF REPAIR PARTS KIT



Parts List – Figure 1A & 1B

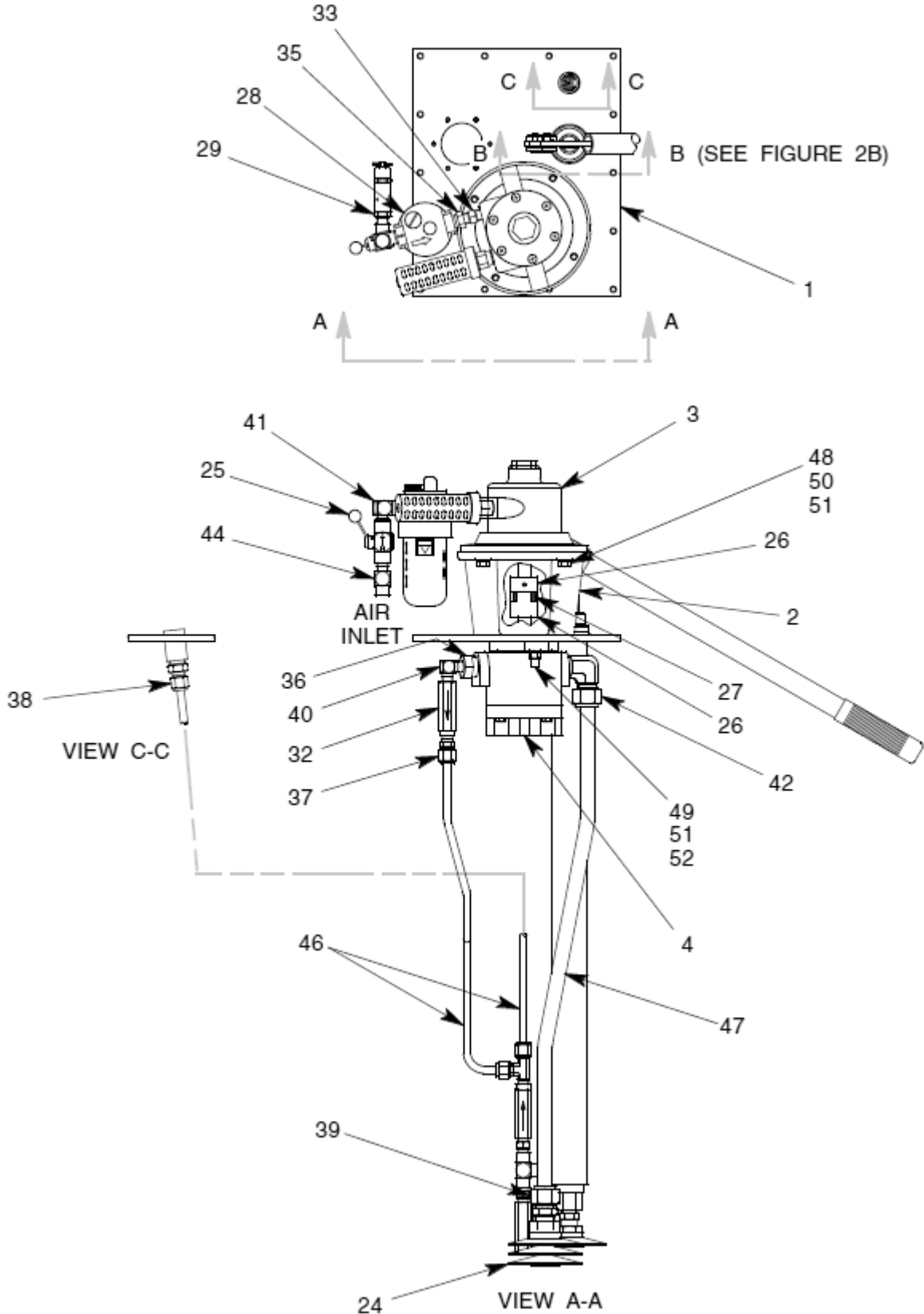
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
53	PF56107-R	15 GALLON TANK WELDMENT W/ HOLE	1
54	PF56132	15 GALLON PUMP ASSEMBLY, NON SKYDROL	1
55	397-010	SELF TAPPING SCREW, #6 x 1/4 LG	6
56	494-006	HANDLE GRIP	2
57	PF56166	PLACARD, SKYDROL LD4	1
58	711-079	NIPPLE, 1/2 MPT x 1/4 MPT	1
59	713-048	TEE, RUN, 1/4 NPT	1
60	TF-1039-38-74.0	SUPPLY HOSE ASSEMBLY	1
61	PF56108	GASKET	1
62	55998	STICKER, MALABAR	1
63	482-020	ANALOG GAUGE 0-300 PSI	1
64	721-004	CONNECTOR, 3/8 37° x 1/4 MPT	1
65	484-012	FLUID LEVEL GAUGE	1
66	362-005	FLAT WASHER, 1/2 SAE	2
67	363-001	SPLIT LOCKWASHER, 1/4	14
68	355-011	NUT, 1/2-13 LOCKNUT	2
69	492-002	WHEEL	2
70	PF101161	FILTER HOUSING BODY	1
71	PF101163	FILTER HOUSING END CAP	1
72	481-006	FILTER ELEMENT, STANDARD, NON-SKYDROL	1
73	55925-025	O-RING	1
74	TF-1043-06-48.0	ASSEMBLY, RETURN HOSE, 48 IN.	1
75	TF-1043-06-60.0	ASSEMBLY, RETURN HOSE, 60 IN.	1
76	484-013	RETURN FLUID SIGHT GLASS	1
77	N-2009-10-SS	CONNECTOR, MALE	2
78	N-2014-05-S	PLUG, 3/8 37°	1
79	N-2206-03-S	PLUG, HEX HEAD	1
80	55997-2	NAME PLATE	1
81	721-035	CONNECTOR, 3/4 T X 3/4 MPT	1
82	722-042	ELBOW, 3/4 T X 3/4 MPT	1
83	732-032	TUBE, 3/4 X .035 W	1
84	HC-1029	DIFFUSER	1
85	HC-1425-02	VALVE, BALL	1
86	HC-1444	GAUGE, PRESSURE, 0-60 PSI	1
87	321-087	HHCS, 1/4-28 x 3/4 LG	14
88	N-2005-10-S.	ELBOW, MALE	1
89	N-2025-06-S	FITTING, BULKHEAD	1
90	N-2200-06	ELBOW, STREET 3/8 NPT	2
91	N-2209-06-S	TEE, STREET	1
92	N-2210-05-S	REDUCER, PIPE THREAD	1
93	PF55447	FILLPORT ASSEMBLY	1
94	N-2030-05-S	SWIVEL, #8 JIC X 1/2 NPT	1
95	N-2200-13-S	ELBOW, STREET	1
96	484-21212	3/4-14 NPT COUPLING	1
97	G-1280-13	WASHER, SEALING	1

Parts List – Figure 2A

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

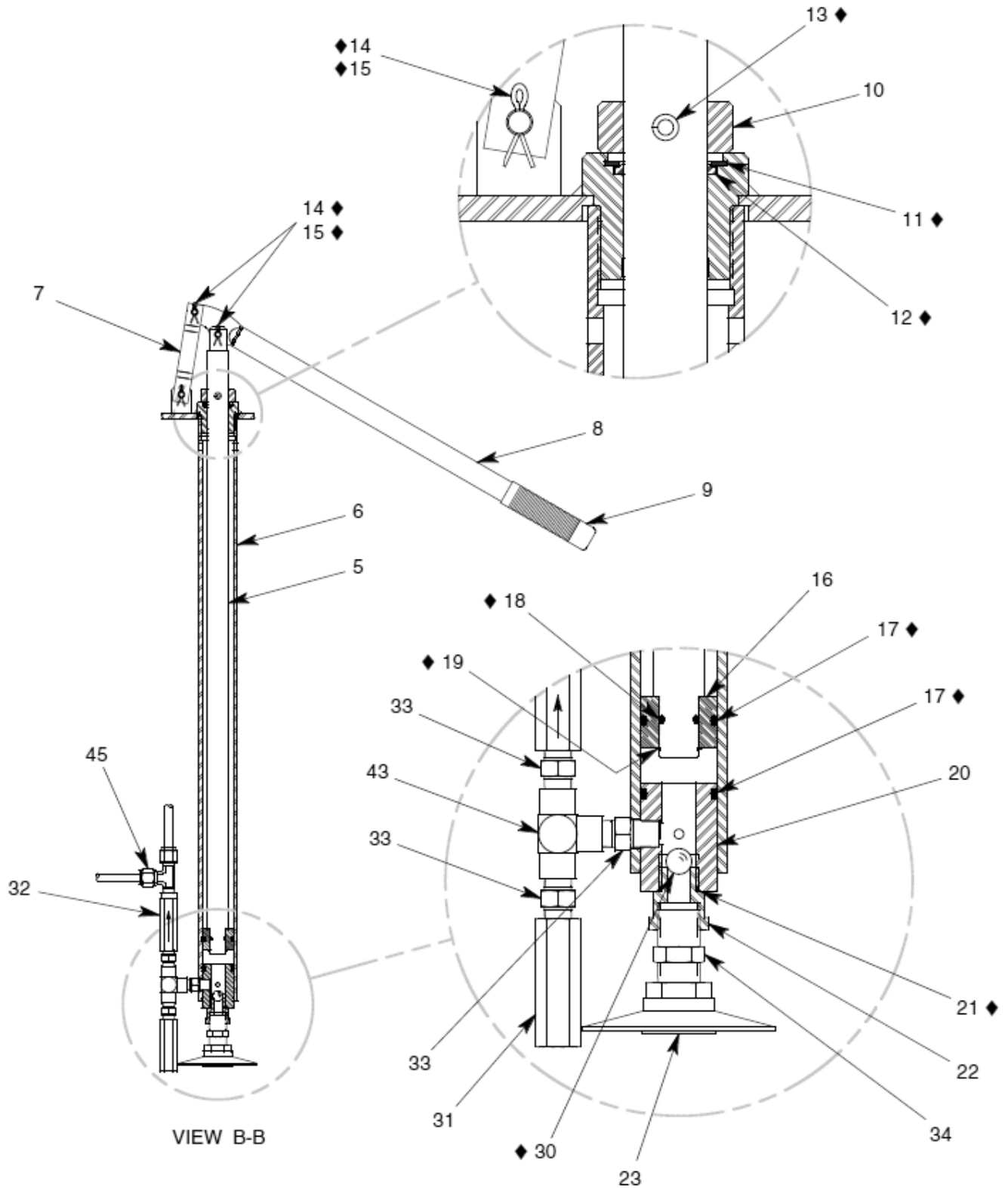
◆ PART OF REPAIR PARTS KIT



Parts List – Figure 2B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

◆ PART OF REPAIR PARTS KIT



VIEW B-B

Parts List – Figure 2A & 2B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
	PF56132	PUMP ASSEMBLY; consists of:	
1	PF56110	COVER	1
2	438-005	PUMP/MOTOR ADAPTER	1
3	438-003	AIR MOTOR WITH MUFFLER	1
4	45-5000-36	HYDRAULIC PUMP	1
5	PF55487	PLUNGER	1
6	PF55486	CYLINDER	1
7	55615	LINK	1
8	PF55495	HANDLE	1
9	494-002	HANDLE GRIP	1
10	PF55491	COLLAR	1
11	55926-137	RETAINING RING	1
12	55911-9	SCRAPER	1
13	371-007	ROLL PIN, 5/16 DIA x 1-1/2 LG	1
14	373-008	PIN, FLTHD, 5/16 DIA x 29/32 LG	3
15	372-001	COTTER PIN, 3/32 DIA x 3/4 LG	3
16	PF55488	PISTON	1
17	55925-218	O-RING	2
18	55925-112	O-RING	1
19	55924-75	RETAINING RING	1
20	PF55489	VALVE BODY	1
21	MS28778-8	O-RING	1
22	PF55490	ADAPTER	1
23	481-002	OIL SCREEN	1
24	481-081	OIL SCREEN	1
25	422-039	AIR VALVE	1
26	432-013	HALF COUPLING, 5/8 DIA	2
27	432-018	HYTREL SPIDER	1
28	471-002	LUBRICATOR	1
29	425-011	AIR RELIEF VALVE, 125 PSIG	1
30	412-006	BALL, 1/2 DIA	1
31	PF56114	RELIEF VALVE	1
32	422-013	CHECK VALVE	2
33	711-003	NIPPLE, 1/4 MPT	4
34	711-001	NIPPLE, 1/2 MPT	1
35	714-009	REDUCER, 3/8 MPT x 1/4 FPT	1
36	714-007	REDUCER, 3/4 MPT x 1/4 FPT	1
37	721-009	CONN., 3/8 T x 1/4 MPT	1
38	721-007	CONN., 3/8 T x 1/2 MPT	1
39	721-035	CONN., 3/4 T x 3/4 MPT	1
40	712-022	ELBOW, 1/4 MPT	1
41	712-004	ELBOW, 3/8 MPT x 1/4 MPT	1
42	722-042	ELBOW, 3/4 T x 3/4 MPT	1

Parts List – Figure 2A & 2B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
43	713-002	TEE, 1/4 FPT	1
44	713-048	TEE, RUN, 1/4 NPT	1
45	723-009	TEE, 3/8 T x 3/8 T x 1/4 MPT	1
46	732-002	TUBE, 3/8 T x .049 WALL	AR
47	732-032	TUBE, 3/4 T x .035 WALL	AR
48	321-011	HHCS, 3/8-16 x 1" LG	4
49	331-044	SHSS, 3/8-16 x 2" LG	2
50	362-003	FLAT WASHER, 3/8 SAE	4
51	363-003	SPLIT LOCKWASHER, 3/8	6
52	351-002	HEX NUT, 3/8-16	2

Parts List – PF15-35PK Repair Parts Kit

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
11	55926-137	RETAINING RING	1
12	55911-9	SCRAPER	1
13	371-007	ROLL PIN, 5/16 DIA x 29/32 LG	1
14	373-008	FLAT HEAD PIN, 5/16 DIA	3
15	372-001	COTTER PIN, 3/32 DIA x 3/4 LG	3
17	55925-218	O-RING	2
18	55925-112	O-RING	1
19	55924-75	RETAINING RING	1
21	MS28778-8	O-RING	1
30	412-006	STEEL BALL, 1/2 DIA	1
60	TF-1039-38-74.0	SUPPLY HOSE ASSEMBLY	1
61	PF56108	GASKET	1
72	481-006	FILTER ELEMENT	1
73	55925-025	O-RING	1
74	TF-1043-06-48.0	RETURN HOSE ASSEMBLY, 48 IN.	1
75	TF-1043-06-60.0	RETURN HOSE ASSEMBLY, 60 IN.	1
97	G-1280-13	SEALING WASHER	1