

## Model: PF56103-1PWS 2 gal (7.6 l) Fluid Dispenser

01/2024 – Rev. 02

**For Spare Parts, Operations & Service Manuals or Service Needs**  
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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 PF56103-1PWS is a 2 gal (7.6 l) fluid dispenser used to service various aircraft. The hand pump dispenser consists of a reservoir, pump assembly, relief valve, water stop filter assembly, resettable fluid meter, pressure gauge and a fluid delivery hose with a coupling. The integral waste tank is graduated and has a vent, return hose with a coupling, fluid sight and drain plug.

**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@malabar.com  
Website: www.malabar.com

**1.4 SPECIFICATIONS**

Fluid ..... MIL-PRF-7808 Grade 4 fluid or MIL-PRF-23699 fluid  
Delivery tank fluid capacity ..... 2 gal (7.6 l)  
Waste tank fluid capacity ..... 2 qt (1.9 l)  
Pump outlet pressure ..... 100 psig (689 kPa)  
Volume per stroke ..... 2.5 cubic in (41 cc)  
Relief valve setting ..... 125 ± 10 psig (862 ± 69 kPa)  
Fill hose length ..... 84 in (2134 mm)  
Return hose length ..... 84 in (2134 mm)  
Net weight (empty) ..... 25 lbs (11.3 kg)  
Filter rating ..... 1 micron nominal  
Fluid tank color ..... green  
Waste tank color ..... translucent

**2.0 SAFETY INFORMATION**

**2.1 USAGE AND SAFETY INFORMATION**

To insure 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!**

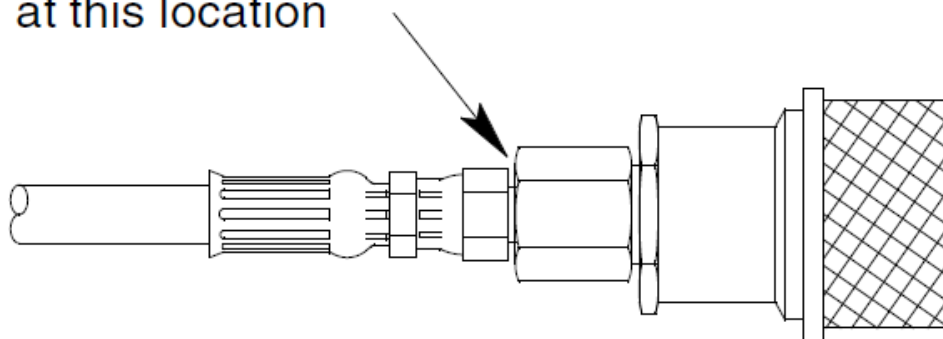
Caution is used to indicate the presence of a hazard, which will or can cause **minor personal injury or property damage** if the Caution Notice is ignored.

### 3.0 PREPARATION PRIOR TO FIRST USE

The Flush/Fill procedure outlined below is intended to flush any residual impurities out of the Engine, IPP and ESG Servicing Unit and to verify that fluid pumped from the Servicing Unit meets JSF Propulsion requirements for purity.

1. This service unit can be used with either MIL-PRF-7808 grade 4 or MIL-PRF- 23699 fluid. The fluid placard (figure 1A, item 11) is engraved on both sides. Remove the placard and reattach showing the appropriate fluid if necessary.
2. Remove fillport cap (figure 1B, item 1) and fill Serving Unit with two gallons of new MIL-PRF-7808 grade 4 fluid or two gallons of new MIL-PRF-23699 fluid. Replace fillport cap.
3. Remove the fill hose quick disconnect (QD) fitting (figure 1C, item 4) from fill hose in location as shown in figure below. Ensure there is no debris remaining at fitting interface and set QD aside to prevent contamination. Wipe down hose end with a lint free cloth as required.

**Remove QD from hose  
at this location**



4. Place Servicing Unit fill hose into a waste MIL-PRF-7808 grade 4 or MIL-PRF- 23699 fluid container without hose end touching side of container.
5. Empty MIL-PRF-7808 grade 4 fluid or MIL-PRF-23699 fluid from Servicing Unit by vigorously pumping handle until fluid tank is empty. Some residual fluid will remain in bottom of Servicing Unit.
6. Reassemble fill hose quick disconnect (QD) fitting onto fill hose. Torque hose onto QD at 40 in-lbs.
7. Wipe down dust plug (figure 1B, item 10) attached to Serving Unit carrying handle with a lint free cloth as required and install fill hose quick disconnect (QD) fitting onto dust plug. Return equipment to user.

### 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. Remove fill hose quick disconnect (QD) fitting from dust plug and connect the fill hose quick disconnect (QD) fitting to the aircraft pressure service point.
2. Remove return hose quick disconnect (QD) fitting from dust plug and connect the return hose quick disconnect (QD) fitting to the aircraft overflow service point.
3. Use full steady pumping strokes when operating pump assembly during replenishing.
4. Disconnect the fill hose quick disconnect (QD) fitting and the return hose quick disconnect (QD) fitting from the aircraft service points, attach fittings to the dust plugs and store the unit in a dry, dust free location.

## 6.0 MAINTENANCE

### 6.1 SERVICING

The frequency of filter change depends on operating conditions. Generally, changes should be made every 3-4 months or sooner if more than normal resistance is felt on the pumping stroke at low pressure. Refer to item 10 in figure 3 to change element. Proper element must be installed, otherwise unit will not pump fluid.

**NOTE: The relief valve should not be removed. The relief valve is set to by-pass oil back to the reservoir at 125 ± 10PSIG.**

### 6.2 REPAIR AND REPLACEMENT

No definite time schedule can be established for the overhaul of the pump assembly for the replacement of the various moving parts. The number of times the pump assembly is operated materially affect the life of the working parts. The moving piston seal (item 6) and rod seal (item 11) are normally the first to wear. This is usually indicated by leakage of fluid past the piston or rod. It is advisable to change piston seal (item 6), rod seal (item 11) and gasket (item 16) immediately if leakage is discovered. A repair parts kit (P/N PF2-69PK) is available and recommended to keep on hand at your facility. Refer to Repair Parts Kit for the complete list of parts contained in the kit.

## 7.0 PROVISION OF SPARES

### 7.1 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@malabar.com](mailto:sales@malabar.com)

Website: [www.malabar.com](http://www.malabar.com)

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### 7.2 RECOMMENDED SPARE PARTS LISTS

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

Refer to figure 1A, 1B & 1C for unit assembly, figure 2 for pump assembly or figure 3 for filter assembly.

## 8.0 IN SERVICE SUPPORT

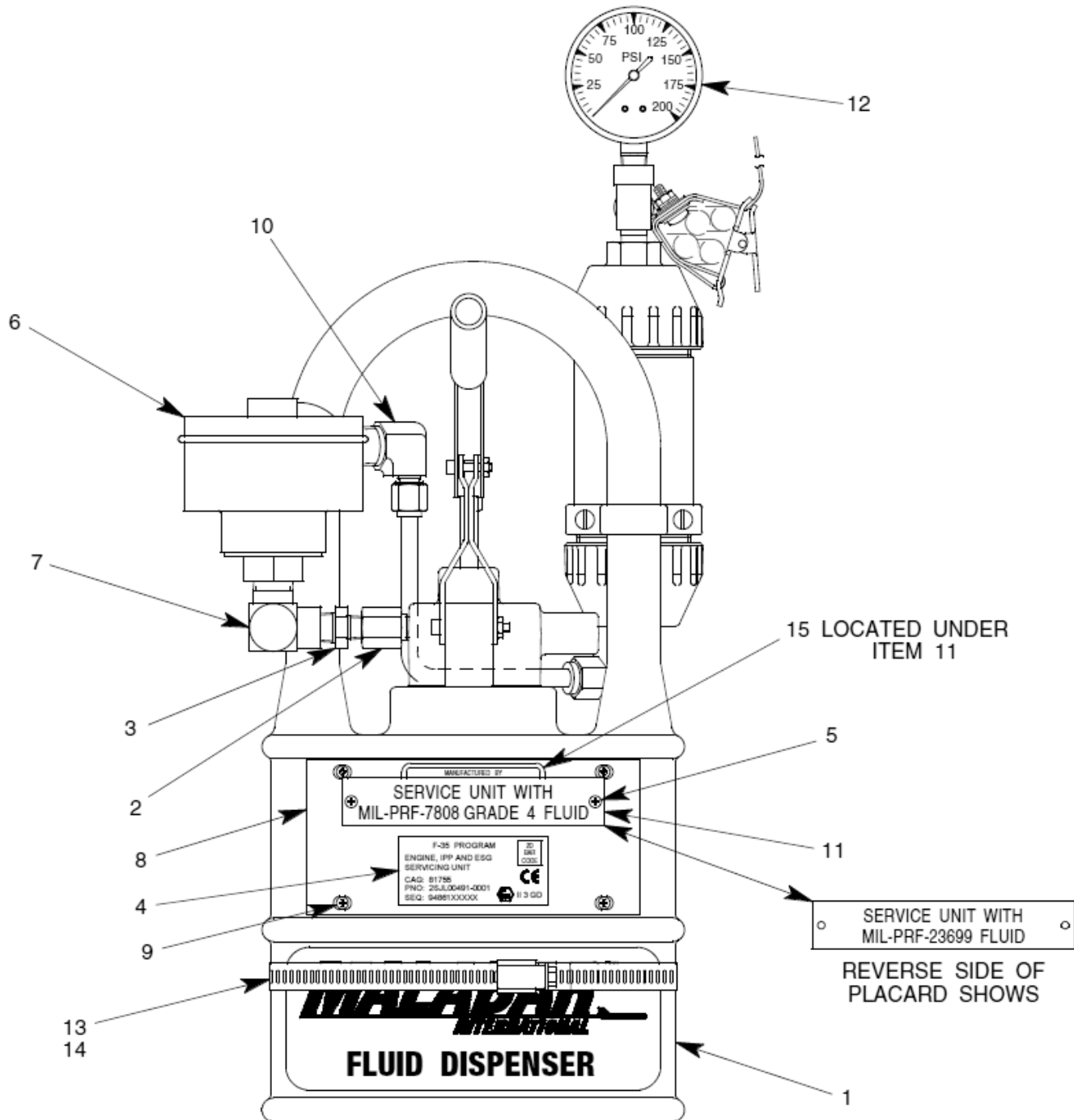
Contact Malabar, Inc. for technical services and information. See Section 1.3 – Manufacturer.

**9.0 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.





### Parts List – Figure 1A

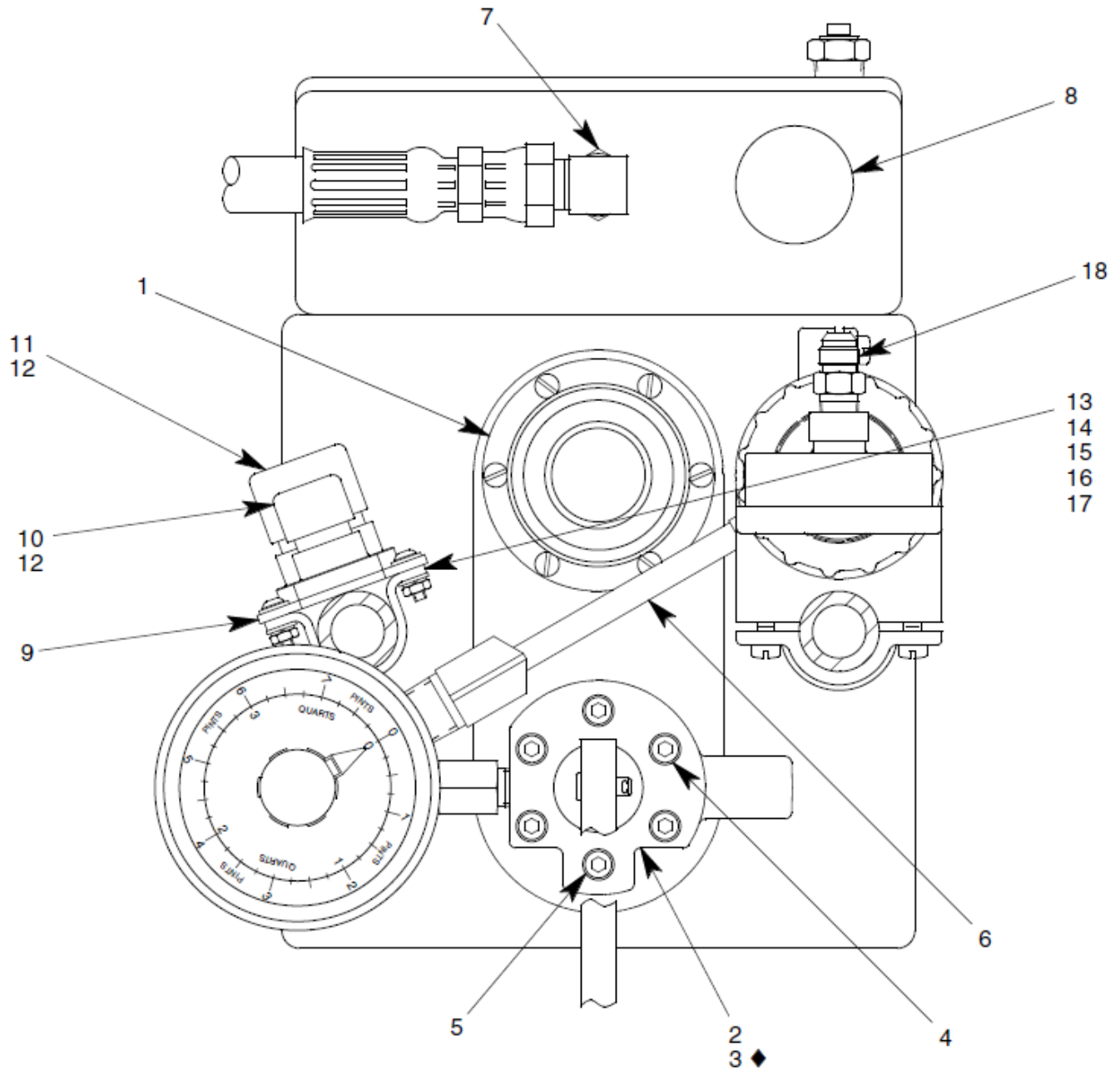
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
1	PF55838-3	FLUID TANK	1
2	714-017	BUSHING, 1/4 NPT	1
3	711-018	NIPPLE, 3/8 MPT x 1/4 MPT	1
4	PF56250	IUID PLACARD	1
5	397-010	SELF TAPPING SCREW, 6-32	2
6	486-024	FLUID METER, QUARTS/PINTS	1
7	712-032	ELBOW, 1/2 MPT x 3/8 FPT	1
8	PF56249	PLACARD PLATE	2
9	344-011	FHCS, 6-32 x 7/16 LG	4
10	722-125	ELBOW, 3/8 37° x 1/2 MPT	1
11	PF56170	PLACARD, FLUID	1
12	482-082	GAUGE, 0-200 PSIG	1
13	PF56125	HOSE BAND	1
14	394-060	HOSE BAND CLAMP	1
15	PF56172	STICKER, MALABAR P/N	1

### 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 1B

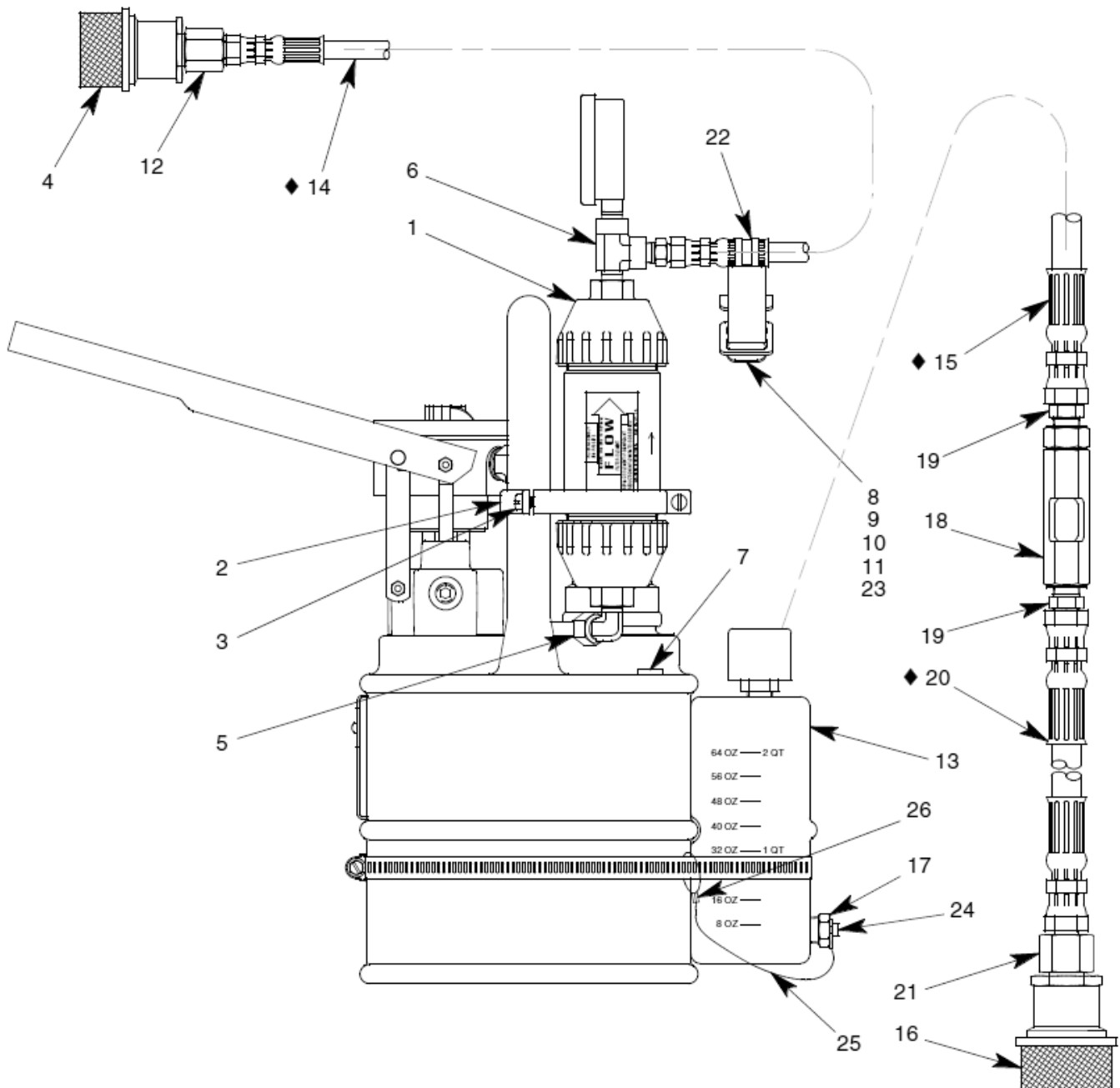
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
1	PF55447	FILLPORT ASSEMBLY	1
2	PF55845-3	PUMP ASSEMBLY	1
3	PF55672	GASKET	1
4	323-038	SHCS, 1/4-28 x 1 3/4 LG	5
5	323-063	SHCS, 1/4-28 x 1" LG	1
6	PF56174-1	HOSE ASSEMBLY	1
7	722-087	ELBOW, 1/2 37° x 3/8 MPT	1
8	483-017	VENT WITH BAFFLE	1
9	PF56173	DUST CAP MOUNT PLATE	1
10	722-087	ELBOW, 1/2 37° x 3/8 MPT	1
11	483-017	VENT WITH BAFFLE	1
12	PF56173	DUST CAP MOUNT PLATE	2
13	722-087	ELBOW, 1/2 37° x 3/8 MPT	2
14	483-017	VENT WITH BAFFLE	4
15	PF56173	DUST CAP MOUNT PLATE	8
16	722-087	ELBOW, 1/2 37° x 3/8 MPT	4
17	483-017	VENT WITH BAFFLE	4
18	PF56173	DUST CAP MOUNT PLATE	1

## Parts List – Figure 1C

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

### ♦ PART OF REPAIR PARTS KIT



### Parts List – Figure 1C

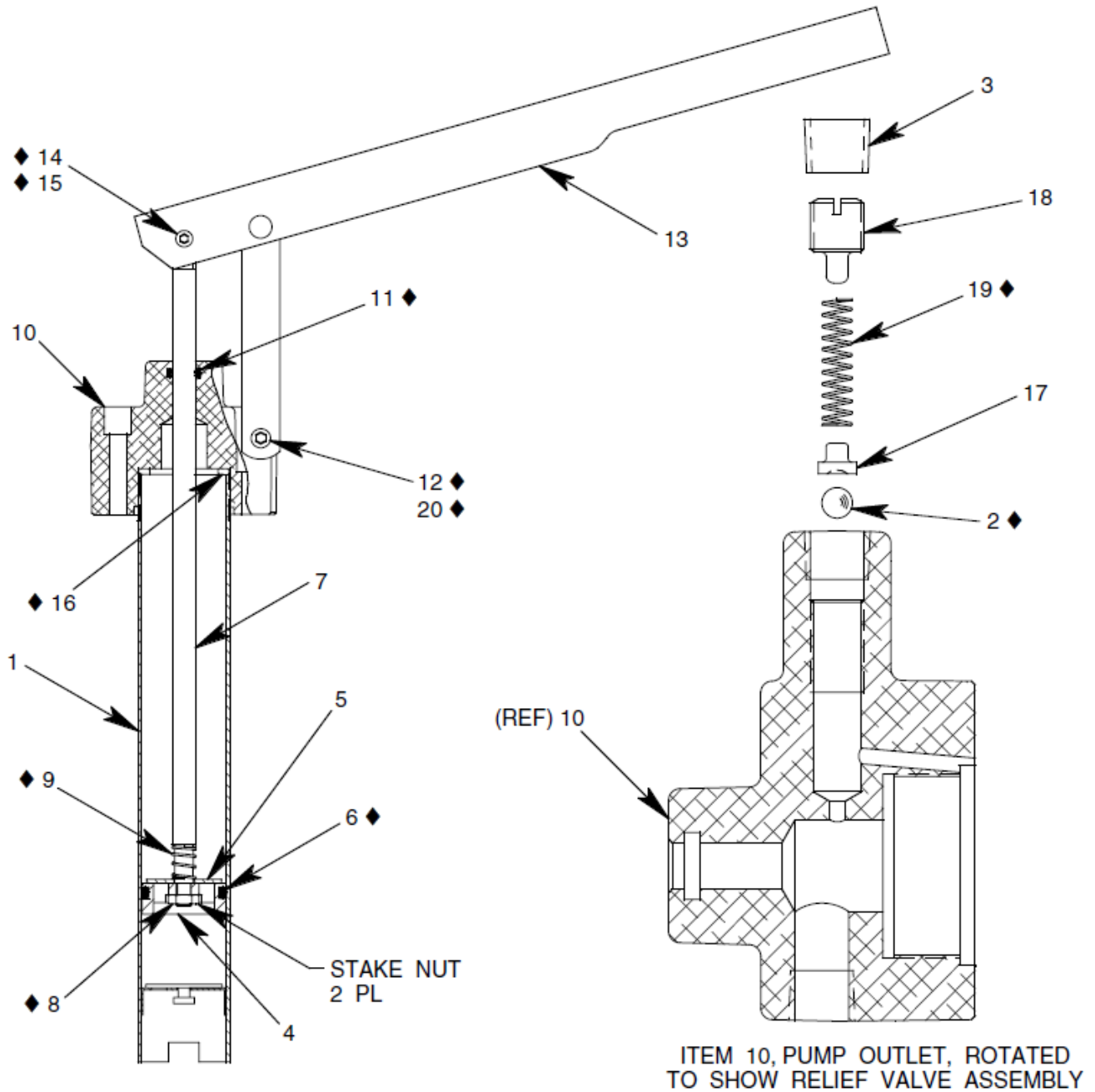
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
1	PF55873	WATER STOP FILTER ASSEMBLY	1
2	PF55871-1	YOKE CLAMP	1
3	342-010	FHCS, 1/4-20 x 1" LG	3
4	736-118	COUPLING (MS24475-1)	1
5	722-005	ELBOW, 3/8 37° x 1/2 MPT	1
6	713-048	TEE, 1/4 NPT	1
7	717-007	PLUG, 3/8 MPT	1
8	363-001	SPLIT LOCKWASHER, 1/4	1
9	341-010	RHCS, 1/4-20 x 3/4 LG	1
10	362-001	FLAT WASHER, 1/4 SAE	1
11	351-001	HEX NUT, 1/4-20	1
12	729-115	REDUCER, 3/8 37° x 5/8 37°	1
13	PF56117	WASTE TANK	1
14	TF-1039-38-84.0	HOSE ASSEMBLY	1
15	PF56124-2	HOSE ASSEMBLY	1
16	PF56270	OVERFILL COUPLING	1
17	PF56176	PLUG	1
18	484-013	FLUID SIGHT	1
19	721-132	CONN., 1/2 37° x 3/8 MPT	2
20	PF56124-1	HOSE ASSEMBLY	1
21	729-105	REDUCER, 1/2 37° x 3/4 37°	1
22	394-058	LOOP STRAP, 5/8 DIA	1
23	837724	HOSE STRAP	1
24	330-016	SHSS, 3/16 DIA x 1/4 LG, 8-32	1
25	491-053	CABLE, NYLON, 12" LG	1
26	491-028	CRIMP SLEEVE	2

## Parts List – Figure 2

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

### ♦ PART OF REPAIR PARTS KIT



## Parts List – Figure 2

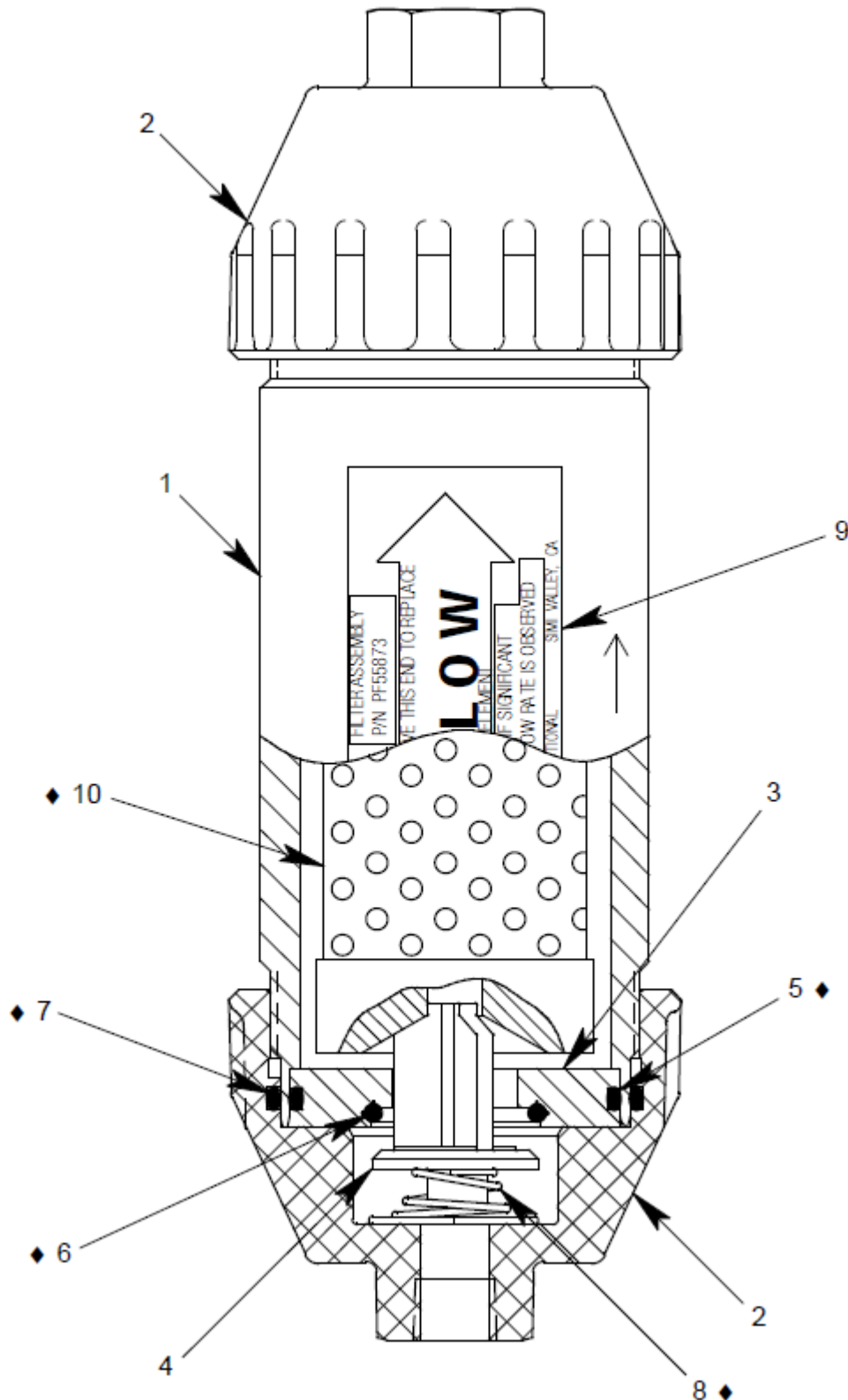
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
	<b>PF55845-3</b>	<b>PUMP ASSEMBLY</b> ; <i>consists of:</i>	
1	PF53376	TUBE ASSEMBLY	1
2	412-004	STEEL BALL, 1/4 DIA	1
3	717-006	PLUG, 1/4 NPT	1
4	PF53379	PISTON	1
5	PF53380	PISTON CHECK DISC	1
6	55925-216	O-RING	1
7	PF53378	PUMP PISTON ROD	1
8	352-011	HEX JAM NUT, 1/4-28	1
9	PF53406	SPRING	1
10	PF55820-1	PUMP OUTLET	1
11	55925-110	O-RING	1
12	373-006	FH PIN, 1/4 DIA x 1 9/32 LG	1
13	494-017	HANDLE ASSEMBLY	1
14	341-028	SHSS, 3/16 DIA X 1/2 LG	1
15	355-034	LOCKNUT, 8-32	1
16	PF54063	GASKET	1
17	55153	SPRING GUIDE	1
18	55148	SET SCREW	1
19	495-038	SPRING	1
20	355-035	LOCKNUT, 10-32	1

### Parts List – Figure 3

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

◆ PART OF REPAIR PARTS KIT





### Parts List – Figure 3

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

Item	Part Number	Description	Qty
	<b>PF55873</b>	<b>FILTER ASSEMBLY</b> ; <i>consists of:</i>	
1	PF55849	FILTER HOUSING	1
2	PF55852	FILTER HOUSING	2
3	PF55853	RETAINER DISC	1
4	PF55850	RETAINER VALVE	1
5	55925-135	O-RING	1
6	55925-120	O-RING	1
7	55925-140	O-RING	2
8	495-039	SPRING	1
9	PF55872	DECAL, FLOW	1
10	481-068	FILTER ELEMENT	1

### Parts List – PF2-69PK Repair Parts Kit

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

Part Number	Description	Qty
TF-1039-38-84.0	HOSE ASSEMBLY	1
PF56124-1	HOSE ASSEMBLY	1
PF56124-2	HOSE ASSEMBLY	1
55925-216	O-RING	1
55925-110	O-RING	1
PF53406	SPRING	1
341-028	SOCKET HEAD SHOULDER SCREW, 3/16 DIA x 1/2 LG, 8-32	1
341-029	SOCKET HEAD SHOULDER SCREW, 1/4 DIA x 1 1/4 LG, 10-32	1
355-034	LOCKNUT, 8-32	1
355-035	LOCKNUT, 10-32	1
352-011	HEX JAM NUT, 1/4-28	1
PF54063	GASKET	1
495-038	SPRING	1
412-004	STEEL BALL, 1/4 DIA	1
55925-135	O-RING	1
55925-120	O-RING	1
55925-140	O-RING	2
495-039	SPRING	1
481-068	FILTER ELEMENT	1
PF55672	GASKET	1