



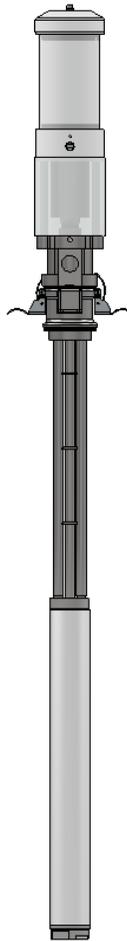
POLYURETHANE
MACHINERY CORPORATION

P-52 High Output 2:1 Transfer Pump Service Manual

Ref. # 202825

Revision 1.2

2/22/2024



FOR PROFESSIONAL USE ONLY
Not approved for use in European explosive atmosphere locations

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I. Table of Contents

| | | |
|------------|--|-----------|
| I. | Table of Contents | 2 |
| II. | List of Figures | 3 |
| 1 | WARRANTY | 4 |
| 2 | SAFETY AND HANDLING | 6 |
| 2.1 | Symbol Definition..... | 7 |
| 3 | TECHNICAL SPECIFICATIONS | 8 |
| 4 | OPTIONAL EQUIPMENT | 10 |
| 5 | TYPICAL INSTALLATION LAYOUT | 11 |
| 6 | INSTALLATION | 12 |
| 7 | OPERATION | 14 |
| 7.1 | Startup..... | 14 |
| 7.2 | Shutdown..... | 14 |
| 8 | MAINTENANCE | 15 |
| 8.1 | Disassembly..... | 15 |
| 8.2 | Maintenance Kits..... | 18 |
| 9 | PARTS IDENTIFICATION | 19 |
| 9.1 | Transfer Pump Assembly (202806)..... | 19 |
| 9.2 | Pump Rod Assembly (202812)..... | 21 |
| 9.3 | Air Motor to Pump Assembly (202815)..... | 22 |
| 9.4 | Air Cylinder Cap Assembly (202817)..... | 23 |
| 9.5 | Air Motor Assembly (PU-04000-01)..... | 24 |
| 9.6 | Foot Valve Assembly (PU-04000-45)..... | 25 |
| 9.7 | Tool Kit (PU-04000-94)..... | 26 |
| 10 | TRANSFER PUMP PACKAGES | 26 |

II. List of Figures

| | |
|---|----|
| Figure 1: P-52 Transfer Pump Dimensions..... | 8 |
| Figure 2: P-52 Performance..... | 9 |
| Figure 3: Typical Installation with Proportioner..... | 11 |
| Figure 4: Install Pump in Drum | 12 |
| Figure 5: Install Air and Fluid Fittings..... | 12 |
| Figure 6: Ground Wire | 13 |
| Figure 7: Wet Tube | 13 |
| Figure 8: Foot Valve Housing | 15 |
| Figure 9: Loosen Plunger Top | 16 |
| Figure 10: Remove Air Motor..... | 16 |
| Figure 11: Fluid Seals Orientation..... | 17 |
| Figure 12: P-52 Transfer Pump Assembly | 19 |
| Figure 13: Pump Rod Assembly | 21 |
| Figure 14: Air Motor to Pump Assembly | 22 |
| Figure 15: Air Cylinder Cap Assembly | 23 |
| Figure 16: Air Motor Assembly..... | 24 |
| Figure 17: Foot Valve Assembly..... | 25 |
| Figure 18: Tool Kit..... | 26 |

1 WARRANTY

Polyurethane Machinery Corporation (hereinafter “PMC”) provides this **LIMITED WARRANTY** (hereinafter “Warranty”) to the original purchaser (hereinafter “Customer”) covering this equipment and the original PMC manufactured accessories delivered with the equipment (hereinafter “Product”) against defects in material or workmanship of the Product (hereinafter “Defect” or “Defective”) for a period of one (1) year from the date of first purchase as shown on the original PMC invoice (hereinafter “Warranty Period”)

If during the Warranty Period under normal use, the Product is suspected by Customer to be Defective in material or workmanship, it is Customer’s responsibility to contact a PMC distributor and return the Product to PMC via the distributor as directed. If PMC determines that the Product is Defective and that such Defect is covered by this Warranty, PMC will credit Customer for the reasonable freight charges incurred by Customer in returning the Defective Product to PMC, and PMC (or its authorized agent) will, at PMC’s option, repair or replace the Product, subject to the following:

1. Original Invoice: The original invoice must be kept as proof of the date of first sale and the Product serial number. The Warranty does not cover any Product if the Original Invoice appears to have been modified or altered, or when the serial number on the Product appears to have been altered or defaced.
2. Product Maintenance: It is the Customer’s responsibility to maintain the Product properly. See your maintenance schedule and owner’s manual for details. The Warranty does not cover an improperly maintained Product.
3. Non-PMC Components and Accessories: Non-PMC manufactured components and accessories that are used in the operation of the Product are not covered by this Warranty. Such components and accessories shall be subject to the warranty offered to the Customer, if any, by the original manufacturer of such component or accessory.
4. Other Warranty Exclusions: The Warranty does not cover any Product that PMC determines has been damaged or fails to operate properly due to misuse, negligence, abuse, carelessness, neglect, or accident. By way of example only, this includes:
 - Normal wear and tear.
 - Improper or unauthorized installation, repair, alteration, adjustment, or modification of the product.
 - Use of heating devices, pumping equipment, dispensers, or other parts or accessories with the product that have not been approved or manufactured by PMC.
 - Failure to follow the operating instructions and recommendations provided by PMC.
 - Cosmetic damage.
 - Fire, flood, “acts of God”, or other contingencies beyond the control of PMC.

THE WARRANTY DESCRIBED HEREIN IS THE EXCLUSIVE REMEDY FOR THE CUSTOMER AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, AND THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. TO THE FULLEST EXTENT PERMITTED BY LAW, PMC SHALL NOT BE RESPONSIBLE, WHETHER BASED IN CONTRACT, TORT (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE), WARRANTY OR ANY OTHER LEGAL OR EQUITABLE GROUNDS, FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, LOST PROFITS, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, WHETHER TO PERSON OR PROPERTY, ARISING FROM OR RELATING TO THE PRODUCT, EVEN IF PMC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

- Non-Warranty Service by PMC: If PMC determines that the suspected Defect of the Product is not covered by this Warranty, disposition of the Product will be made pursuant to the terms and conditions of PMC's written estimate on a time and materials basis.
- Continuing Warranty for Products Repaired or Replaced under Warranty: Following the repair or replacement of a Product covered by this Warranty, such Product will continue to be subject to the original Warranty for the remainder of original Warranty Period or for three (3) months from the repair or replacement date, whichever is longer.
- No Rights Implied: Nothing in the sale, lease or rental of any Product by PMC shall be construed to grant any right, interest, or license in or under any patent, trademark, copyright, trade secret or other proprietary right or material owned by anyone; nor does PMC encourage the infringement of same.
- Exclusive Warranty: This writing is the final, complete, and exclusive expression of the Warranty covering the Product. Any statements made by PMC, its employees or agents that differ from the terms of this Warranty shall have no effect. It is expressly understood that Customer's acceptance of this Warranty, by performance or otherwise, is upon and subject solely to the terms and conditions hereof, and any additional or different terms and conditions proposed or expressed by Customer or anyone, whether in writing or otherwise, are null and void unless specifically agreed to in writing by an Officer of PMC.

2 SAFETY AND HANDLING

This chapter contains important information on the safety, handling, and use of your P-52 Transfer Pump.

| | |
|---|---|
|  | <p>Before installing and/or operating the P-52 Transfer Pump, carefully read all the technical and safety documentation included in this manual. Pay special attention to the information in order to know and understand the operation and the conditions of use of the P-52 Transfer Pump. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the P-52 Transfer Pump.</p> |
|---|---|

Keep this Operations Manual for future consultation of useful information. If you lose this manual, ask for a new copy from your PMC Service Center or go online at our web site (www.polymac-usa.com).

The P-52 Transfer Pump has been designed and built for use in a 55-gallon drum supplying a proportioner for spray foam or coatings. The pump is intended for use with polyurea chemical systems, polyurethane foam chemical systems, and some two-component epoxy systems. Always use liquids and solvents that are compatible with the unit. In the event of doubt, consult your authorized PMC distributor.

When working with the P-52 Transfer Pump, it is recommended that the operator wear suitable clothing and elements of personal protection, including, without limitation, gloves, protective goggles, safety footwear and face masks. Use breathing equipment when working with the P-52 Transfer Pump in enclosed spaces or in areas with insufficient ventilation. The introduction and follow-up of safety measures must not be limited to those described in this manual. Before starting up the P-52 Transfer Pump, a comprehensive analysis must be made of the risks derived from the products to be mixed and the working environment.

| | |
|---|--|
|  | <p><i>To prevent possible injury caused by incorrect handling of the raw materials and solvents used in the process, carefully read the Safety Data Sheet (SDS) provided by your supplier. Deal with the waste caused according to current regulations.</i></p> |
|  | <p><i>To avoid damage caused by the impact of pressurized fluids, do not open any connection, or perform maintenance work on components subject to pressure until the pressure has been completely eliminated.</i></p> |
|  | <p><i>Use suitable protection when operating, maintaining or being present in the area where the equipment is functioning. This includes, but is not limited to, the use of protective goggles, gloves, shoes, and safety clothing and breathing equipment.</i></p> |
|  | <p><i>To prevent serious injury through crushing or amputation, do not work with the equipment without the safety guards installed on the moving parts. Make sure that all the safety guards are completely reinstalled at the end of the repair or maintenance work of the equipment.</i></p> |
|  | <p><i>To prevent serious injury and or chemical contamination, do not operate the P-52 Transfer Pump while not properly installed in a drum.</i></p> |

2.1 Symbol Definition

WARNING! Symbol is presented in front of information to alert of a situation that might cause serious injuries if the instructions are not followed.

CAUTION! Symbol is presented in front of information that indicates how to avoid damage to the pump or how to avoid a situation that could cause issues.

NOTE! Symbol is presented in front of relevant information of a procedure being carried out.

| Symbols – Instructions and Drawing Views | |
|---|---|
|  | Apply blue threadlocker Loctite 243 (or 242) to indicated threads according to manufacturer's instructions. |
|  | Apply red threadlocker Loctite 263 (or 262) to indicated threads according to manufacturer's instructions. |
|  | Apply PTFE tape thread sealant to indicated threads according to manufacturer's instructions. |
|  | Apply Lubriplate 630-AA lubricant to indicated seal, o-ring, or bore. |

3 TECHNICAL SPECIFICATIONS

| | |
|----------------------------|--|
| Pressure Ratio | 2.2:1 |
| Output (Continuous Duty) | 5.5 GPM [20.8 LPM] |
| Output (Intermittent Duty) | 10 GPM [37.9 LPM] |
| Cycles per Gallon/Liter | 26.5 cycles/gal [7.0 cycles/L] |
| Stroke Length | 2.8 in [71 mm] |
| Max. Air Inlet Pressure | 120 PSI [8.27 bar] |
| Air Inlet Port | 1/4 NPT - Female |
| Fluid Outlet Port | 3/4 NPT - Female |
| Weight | 25 lbs [11.3 kg] |
| Air Consumption | 2.2 CFM per gal @ 100 PSI [275 cc/s per L @ 7 bar] |

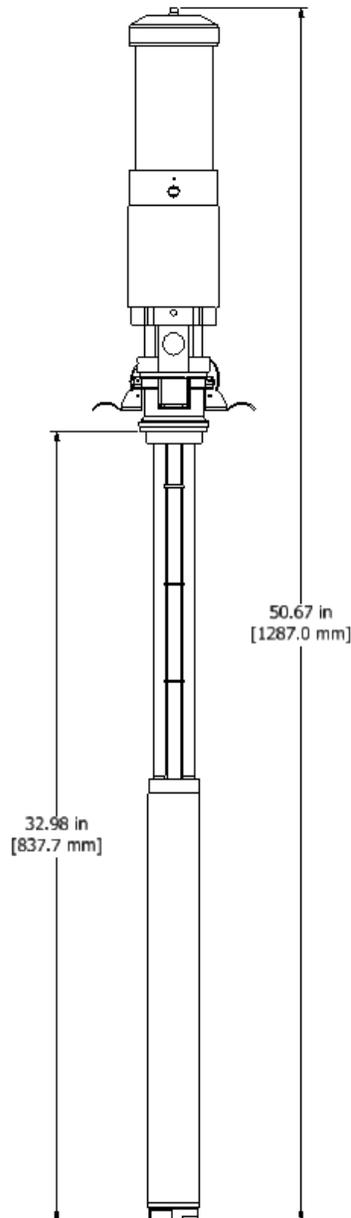


Figure 1: P-52 Transfer Pump Dimensions

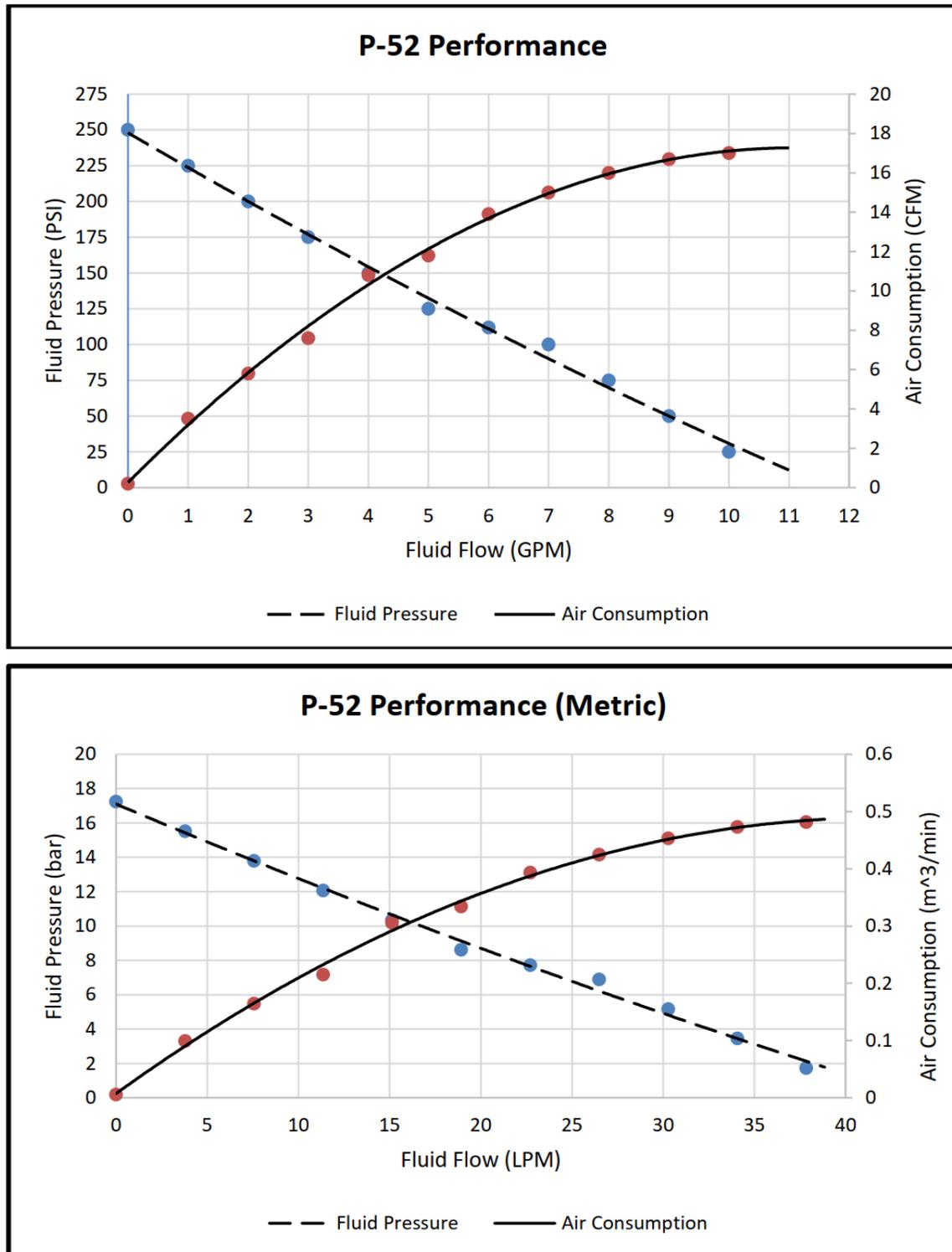


Figure 2: P-52 Performance

***Performance Test Factors:**

- ¹Inlet Air Pressure: 110 PSI [7.6 bar]
- ²Test Fluid: Hydraulic Oil (Mobil DTE24)

4 OPTIONAL EQUIPMENT

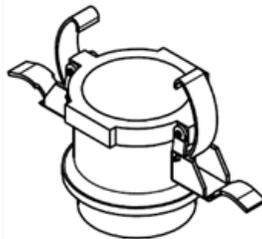
Air Hose Assembly

| PART NUMBER | DESCRIPTION |
|-------------|--------------------------------|
| MA-00035A | TRANSFER PUMP AIR HARNESS; HYD |
| MA-00037A | TRANSFER PUMP AIR HARNESS; AIR |

Fluid Supply Hose Assembly

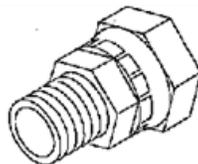
| PART NUMBER | DESCRIPTION |
|---------------|--------------------------|
| MA-00026 | 3/4X10' POLY SUPPLY HOSE |
| MA-00026-15 | 3/4X15' POLY SUPPLY HOSE |
| MA-00026-25 | 3/4X25' POLY SUPPLY HOSE |
| MA-00026-30 | 3/4X30' POLY SUPPLY HOSE |
| MA-00026-A | 3/4X10' ISO SUPPLY HOSE |
| MA-00026-A-15 | 3/4X15' ISO SUPPLY HOSE |
| MA-00026-A-25 | 3/4X25' ISO SUPPLY HOSE |
| MA-00026-A-30 | 3/4X30' ISO SUPPLY HOSE |

Bung Adapter



| PART NUMBER | DESCRIPTION |
|-------------|------------------------|
| PU-04000-33 | ASSEMBLY, BUNG ADAPTER |

Swivel Unions



| PART NUMBER | DESCRIPTION |
|-------------|---------------------|
| PU-179-5 | 3/4 NPTM X 1/2 NPTF |
| PU-179-6 | 3/4 NPTM X 3/4 NPTF |

5 TYPICAL INSTALLATION LAYOUT

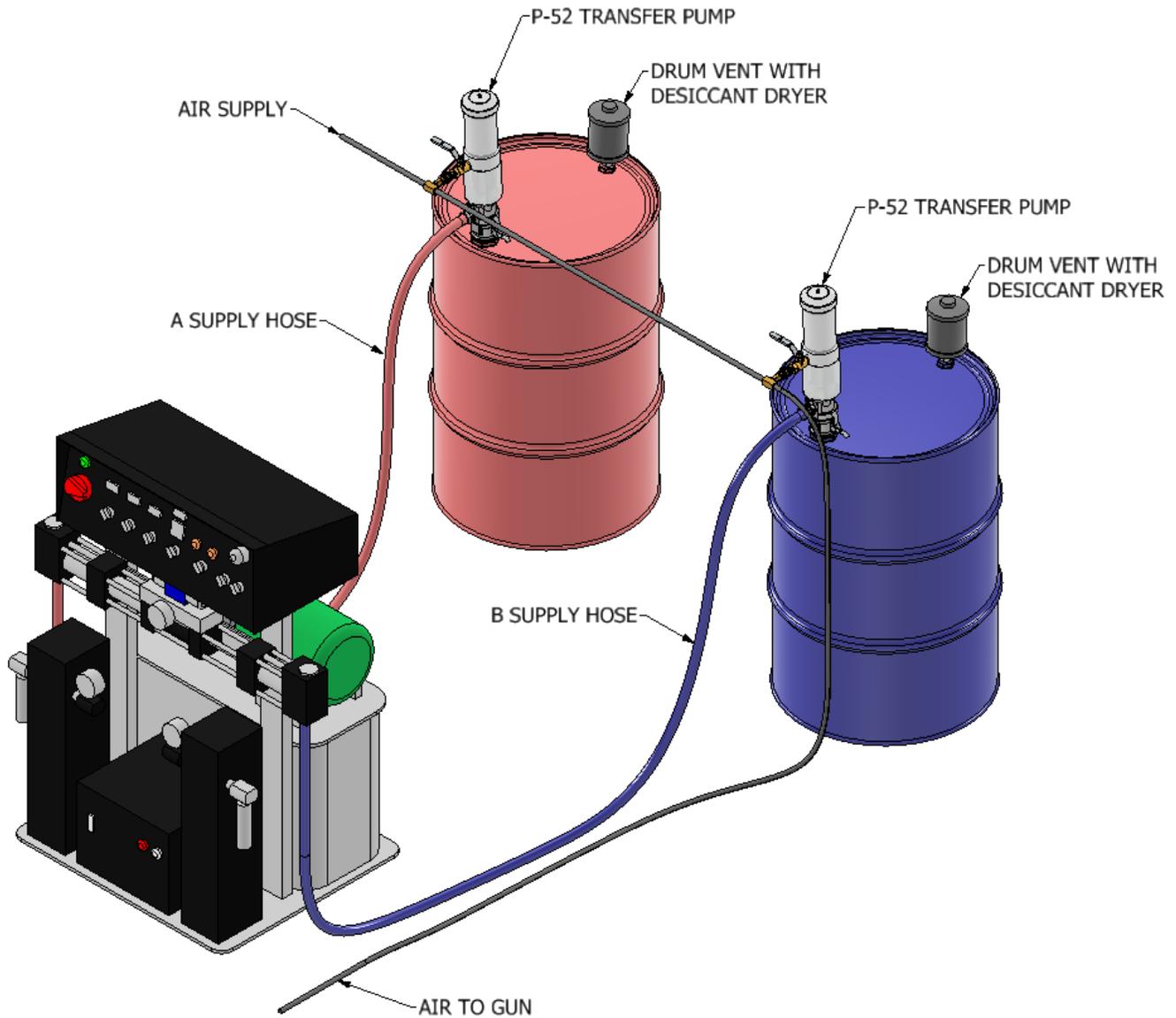


Figure 3: Typical Installation with Proportioner

CAUTION! The drums used with the P-52 Transfer Pump must be vented to prevent the pump from pulling a vacuum on the drum. To prevent issues with the process chemical, the vent should include a desiccant dryer or other means of preventing ingress of moisture/contaminants.

6 INSTALLATION

1. Make sure the Gasket (PU-04000-40) is in place on the threaded end of the Bung Adapter. Screw the Bung Adapter tightly into the bunghole of the drum. With the second Gasket (PU-04000-40) in place on the pump body, insert the Transfer Pump through the Bung Adapter and lock it in place using the toggle clamps.

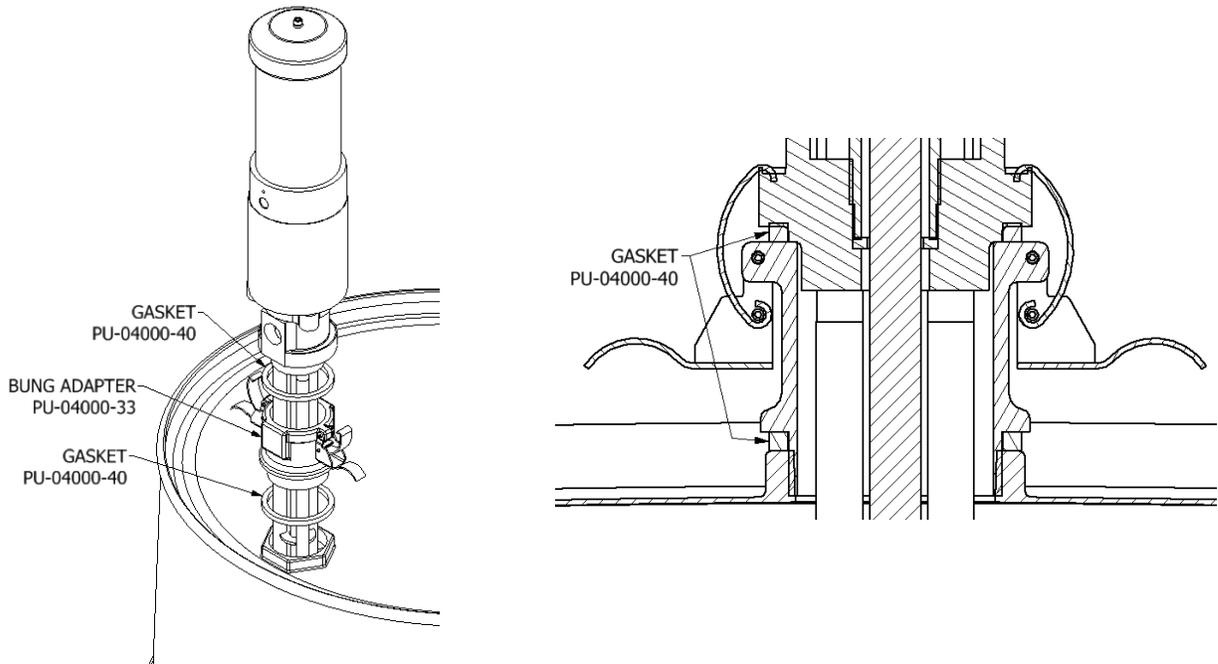


Figure 4: Install Pump in Drum

2. Apply thread sealant to the male threads of the Air Inlet Valve and Quick Disconnect Plug. Install as shown in the air inlet port.
3. Apply thread sealant to the male threads of the fluid outlet swivel fitting (not supplied as part of the pump assembly). Install as shown in the fluid outlet port.

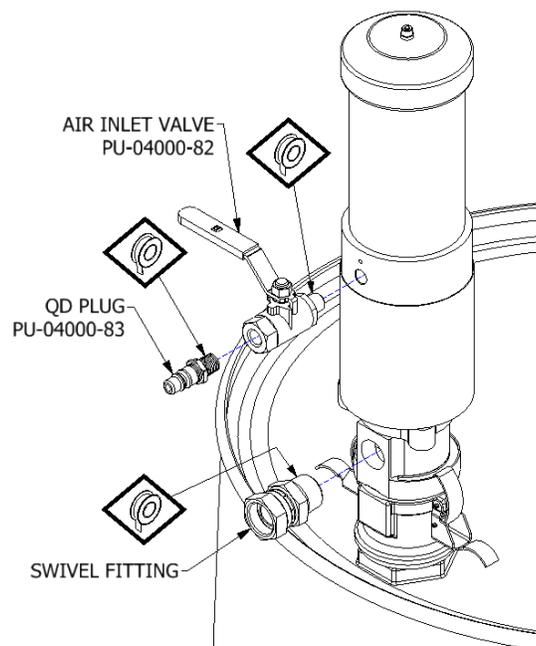


Figure 5: Install Air and Fluid Fittings

4. Install air and fluid lines. Ensure supply air is turned off and air inlet valve is closed when installing. PMC recommends using a 3/8" ID or larger air line to deliver air to the transfer pump.

WARNING! Whenever flammable materials are used with the transfer pump, always connect a grounding wire to the air motor. Consult the National Electric Code, State, and Local Codes for additional information.

5. Connect a ground wire to the grounding lug in accordance with national, state, and local electrical codes.

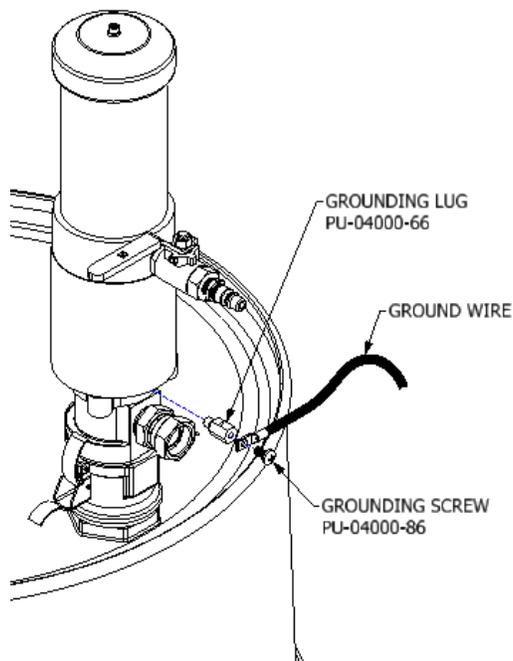


Figure 6: Ground Wire

6. The transfer pump installation is now complete.

CAUTION! The transfer pump incorporates a wet tube to prevent build-up of chemical and debris on the pump rod, which could damage the seals/packings as the pump operates.

NOTE! The wet tube must be full when storing a transfer pump outside of the protected environment of a sealed drum without first thoroughly flushing and cleaning the pump. When installing a transfer pump into a partially filled drum with fluid level below the top of the wet tube opening, manually fill the tube with the proper chemical prior to inserting the transfer pump into the drum. If a drum with a transfer pump installed tips over, ensure that the wet tube is full after righting the drum.

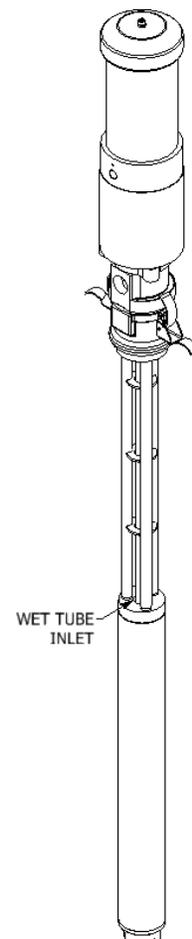


Figure 7: Wet Tube

CAUTION! The P-52 Transfer Pumps are used for both Isocyanate and Polyol. Once a pump is used for either chemical, it should not be used with the other. To reduce the possibility of inadvertently mixing at the transfer pumps, PMC recommends color coding the transfer pumps at or before first use: red for Isocyanate (A) and blue for Polyol (B).

7 OPERATION

7.1 Startup

1. Ensure the main air supply is SHUT OFF before startup.
2. Ensure that the air inlet valve at each transfer pump is closed.
3. Connect the air line quick disconnect socket to the plug in the air inlet valve.
4. Turn on the main air supply.
5. SLOWLY open the air inlet valve until the transfer pump begins to cycle slowly. Use the air inlet valve to control the pump speed.

WARNING! Never allow the pump to run dry of pumping material. A dry pump will accelerate to a high speed and possibly cause personal injury and/or damage to the pump. If the pump accelerates quickly or starts running too fast, stop it immediately and inspect. Do not attempt to operate the pump when it is not securely mounted in a drum. Do not operate the pump without the supplied pinch guard in place. Keep hands clear of the pump in operation as personal injury may occur.

7.2 Shutdown

1. Close the air inlet valve.
2. Disconnect the main air supply coupler from the air inlet valve.
3. Ensure the air inlet valve is not pointed towards any personnel or equipment. Slowly open the air inlet valve to bleed off all pressure from the transfer pump air motor.
4. Once the transfer pump air motor is fully depressurized, close the air inlet valve.
5. For extended shutdown periods, flush, disassemble, and thoroughly clean the transfer pump before storing in a dry place.

8 MAINTENANCE

WARNING! Always disconnect the main air supply and relieve all air and hydraulic pressures before servicing the pump.

NOTE! Do not overtighten threads of the P-52 Transfer Pump.

NOTE! When using a repair kit to service the pump, use all the parts provided in the kit regardless of the condition of the old ones. This will reduce the possibility of having to rebuild the pump sooner than normal.

8.1 Disassembly

1. Remove the Pinch Guard (202820) and place the transfer pump in a soft-jawed vice.

CAUTION! Do not clamp the transfer pump tightly. Clamp in a solid area (air motor base or solid part of the pump body weldment). Do not clamp the three material transfer tubes or apply force to the pump rod or other moving parts.

2. Remove the air bleed plug (PU-04000-57 & PU-04000-77) from the air cylinder cap (PU-04000-17).

NOTE! This is to ensure there is no pressure remaining in the air motor. Remember to reinstall the bleed plug when reassembling the pump.

3. Remove the foot valve housing (PU-04000-55) using a 1-5/8" open-end wrench.

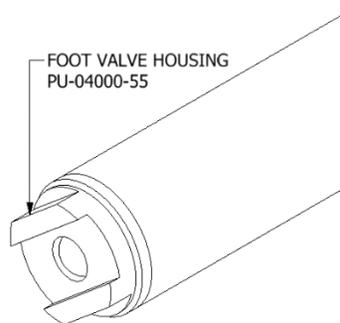


Figure 8: Foot Valve Housing

NOTE! It may be necessary to place a strap wrench around the suction tube (PU-04000-75A) when removing the foot valve housing.

4. Using a strap wrench, loosen the air cylinder assembly (202817) from the air cylinder base (PU-04000-49).

- Using two 5/16" diameter pins (PU-04000-106, in tool kit), unthread the plunger top (PU-04000-60) from the displacement plunger (202818).

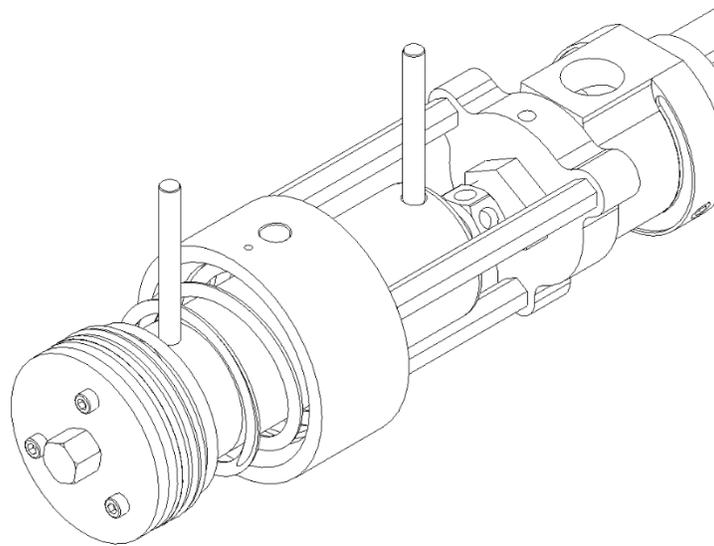


Figure 9: Loosen Plunger Top

- Remove the dowel pin (PU-04000-79) and pull the plunger top/air motor off the pump rod.

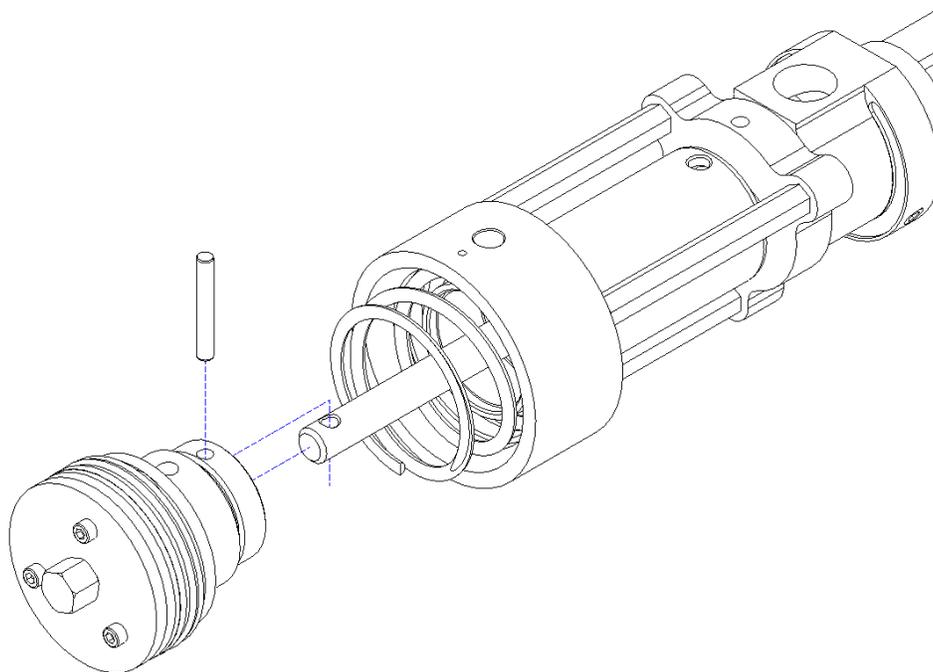


Figure 10: Remove Air Motor

- Push the pump rod assembly (202812) out of the bottom of the suction tube.

8. Inspect and replace the pump rod seals/packings.

NOTE! When replacing the seals/packings, pay careful attention to orientation of the parts.

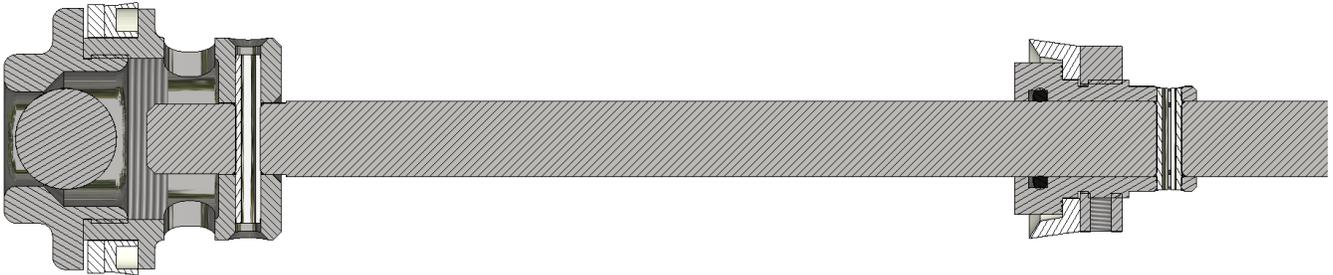


Figure 11: Fluid Seals Orientation

9. Reassemble the pump in reverse order.

8.2 Maintenance Kits

KT-GHO (Full Transfer Pump Rebuild Kit)

| PART NUMBER | DESCRIPTION | QTY |
|-------------|------------------------|-----|
| KT-GHO-L | LOWER PUMP REBUILD KIT | 1 |
| KT-GHO-U | UPPER PUMP REBUILD KIT | 1 |

KT-GHO-L (Lower Pump Rebuild Kit)

| PART NUMBER | DESCRIPTION | QTY |
|-------------|------------------------------|-----|
| PU-04000-40 | O-RING, SQUARE, -332, BUNA | 2 |
| PU-04000-42 | O-RING, -113, VITON | 1 |
| PU-04000-46 | ROLL PIN, 3/16" DIA X 1-1/4" | 1 |
| PU-04000-47 | ROLL PIN, 3/16" DIA X 3/4" | 1 |
| PU-04000-64 | SEAL RETAINER | 1 |
| PU-04000-65 | SEAL EXPANDER | 1 |
| PU-04000-67 | WEAR RING | 1 |
| PU-04000-68 | GASKET, TEFLON | 1 |
| PU-04000-69 | PISTON CUP PACKING | 1 |
| PU-04000-70 | U-CUP | 1 |
| PU-04000-71 | FE PACKING | 2 |
| PU-04000-85 | WIPER, AN-2 HYTREL | 1 |
| PU-04000-88 | O-RING, -136, EPR | 1 |
| PU-04000-91 | O-RING, -032, VITON | 2 |
| PU-04000-92 | SNAP RING | 1 |
| PU-04000-93 | E CLIP | 1 |

KT-GHO-U (Upper Pump Rebuild Kit)

| PART NUMBER | DESCRIPTION | QTY |
|-------------|----------------------------------|-----|
| 203662 | GASKET, TOP, AIR MTR VALVE | 1 |
| 203663 | GASKET, BOTTOM, AIR MTR VALVE | 3 |
| 203664 | SPACER, AIR MTR VALVE | 3 |
| GP-LOCTITE | LOCTITE 242 | 1 |
| PU-04000-09 | WEAR RING | 1 |
| PU-04000-10 | U-CUP, 3 X 2 9/16 X 7/32 BUNA | 1 |
| PU-04000-14 | O-RING, -018, VITON | 1 |
| PU-04000-72 | COMPRESSION SPRING | 1 |
| PU-04000-80 | O-RING, -223, EPR | 1 |
| PU-04000-81 | O-RING, SQUARE, -336, BUNA | 2 |
| PU-04000-84 | U-CUP, 2 1/2 x 2 1/8 x 3/16 BUNA | 1 |

9 PARTS IDENTIFICATION

9.1 Transfer Pump Assembly (202806)

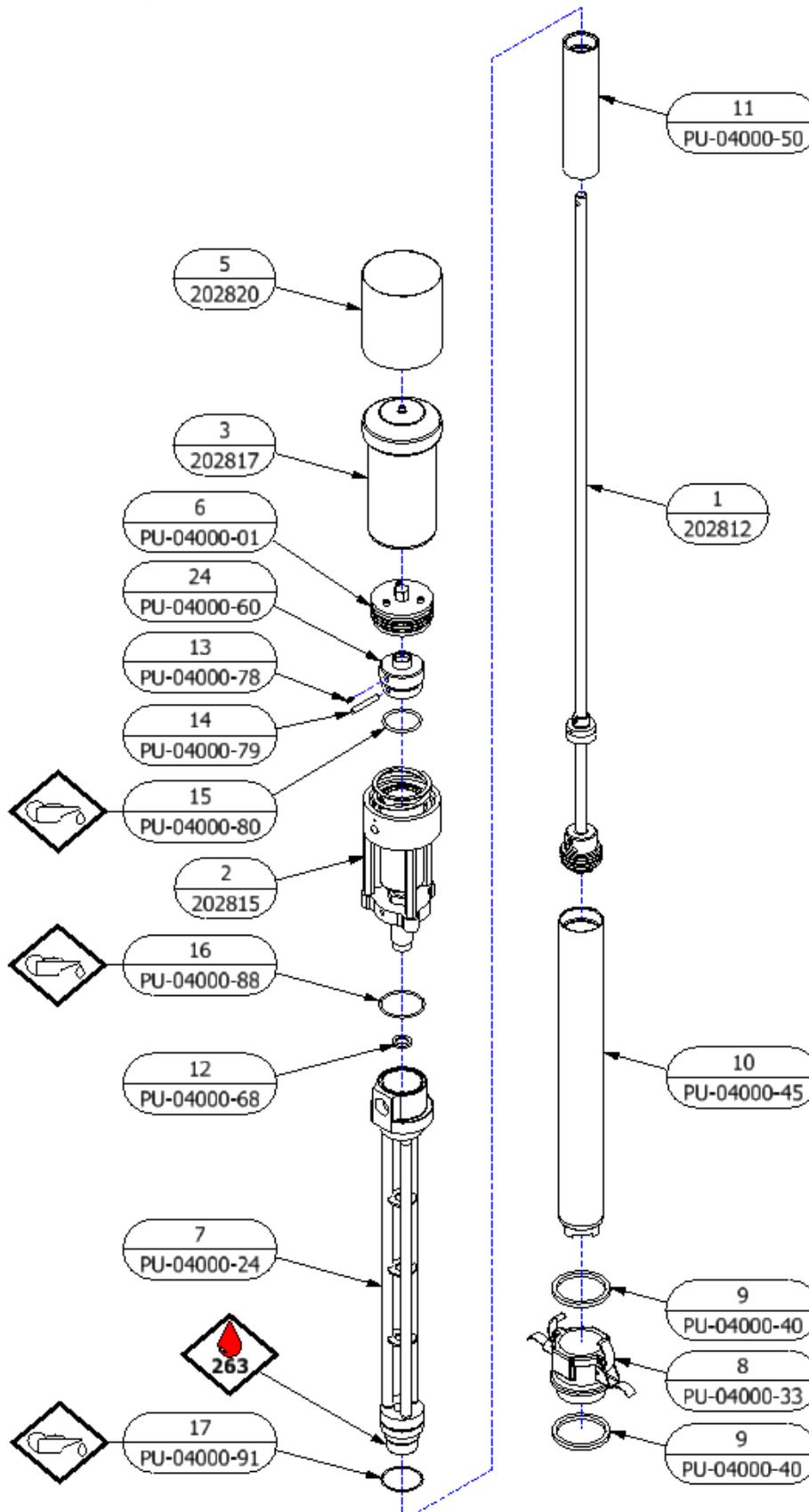


Figure 12: P-52 Transfer Pump Assembly

| P-52 Transfer Pump (202806) | | | |
|------------------------------------|--------------------|-------------------------------|------------|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 202812 | ASSEMBLY, PUMP SHAFT | 1 |
| 2 | 202815 | AIR MOTOR TO PUMP ASSY | 1 |
| 3 | 202817 | AIR CYLINDER CAP ASSY | 1 |
| 5 | 202820 | P-52, PINCH GUARD | 1 |
| 6 | PU-04000-01 | AIR MOTOR ASSY | 1 |
| 7 | PU-04000-24 | GHO 2:1 PUMP BODY | 1 |
| 8 | PU-04000-33 | BUNG ADAPTER ASSY | 1 |
| 9 | PU-04000-40 | O-RING, SQUARE, -332, BUNA | 2 |
| 10 | PU-04000-45 | ASSY FOOT VALVE | 1 |
| 11 | PU-04000-50 | LOWER COMPRESSION TUBING, GHO | 1 |
| 24 | PU-04000-60 | PLUNGER TOP | 1 |
| 12 | PU-04000-68 | GASKET, TEFLON | 1 |
| 13 | PU-04000-78 | SET SCREW, #10-32 X 0.375 | 1 |
| 14 | PU-04000-79 | 1/4 x 1-3/4 DOWEL PIN | 1 |
| 15 | PU-04000-80 | O-RING, -223, EPR | 1 |
| 16 | PU-04000-88 | O-RING, -136, EPR | 1 |
| 17 | PU-04000-91 | O-RING, -032, Viton | 1 |
| 18 | PU-04000-94 | TOOL KIT | 1 |

9.2 Pump Rod Assembly (202812)

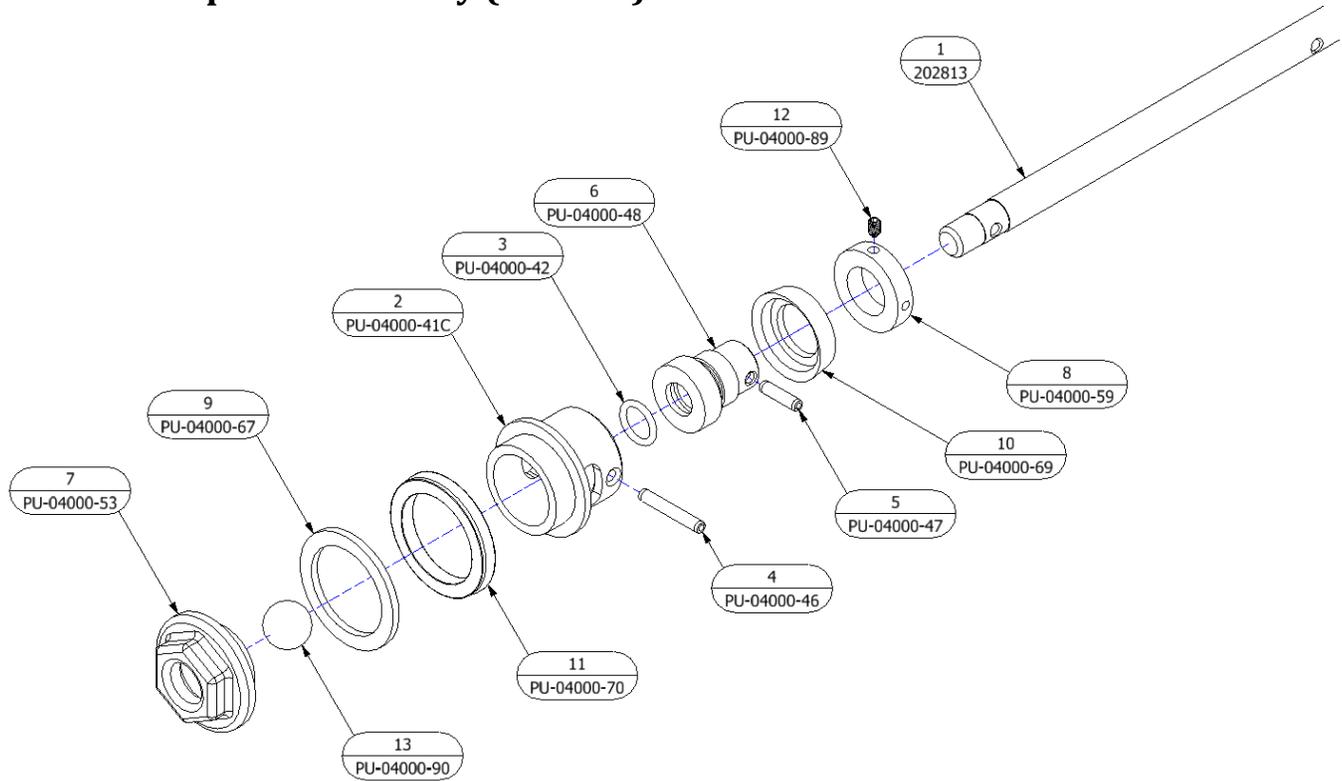


Figure 13: Pump Rod Assembly

| Pump Rod Assembly (202812) | | | |
|----------------------------|--------------|-------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 202813 | P-52, PUMP SHAFT | 1 |
| 2 | PU-04000-41C | BOTTOM PISTON HOUSING | 1 |
| 3 | PU-04000-42 | O-RING, -113, Viton | 1 |
| 4 | PU-04000-46 | ROLL PIN, 3/16" DIA X 1-1/4" | 1 |
| 5 | PU-04000-47 | ROLL PIN, 3/16" DIA X 3/4" | 1 |
| 6 | PU-04000-48 | PISTON, UPPER | 1 |
| 7 | PU-04000-53 | PISTON VALVE CAP | 1 |
| 8 | PU-04000-59 | U-CUP, RETAINING COLLAR | 1 |
| 9 | PU-04000-67 | WEAR RING | 1 |
| 10 | PU-04000-69 | PISTON CUP PACKING | 1 |
| 11 | PU-04000-70 | U-CUP | 1 |
| 12 | PU-04000-89 | SET SCREW, SOFT POINT, #10-32 | 1 |
| 13 | PU-04000-90 | SS BALL, 3/4 DIAMETER | 1 |

9.3 Air Motor to Pump Assembly (202815)

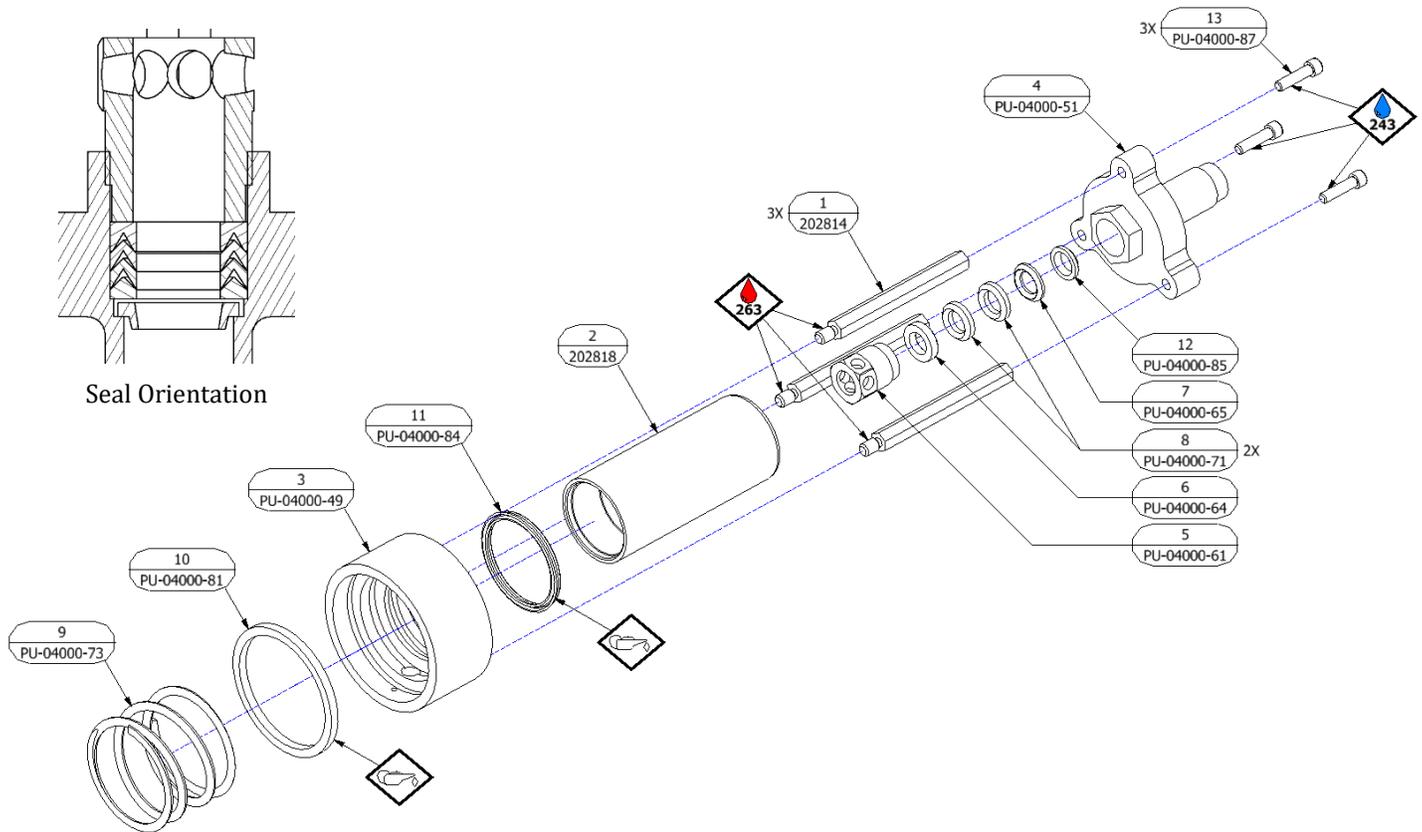


Figure 14: Air Motor to Pump Assembly

| Air Motor to Pump Assembly (202815) | | | |
|-------------------------------------|-------------|----------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 202814 | P-52, THREADED STANDOFF | 3 |
| 2 | 202818 | P-52, PLUNGER, DISPLACEMENT | 1 |
| 3 | PU-04000-49 | AIR CYLINDER BASE | 1 |
| 4 | PU-04000-51 | AIR CYLINDER MOUNTING FLANGE | 1 |
| 5 | PU-04000-61 | NUT, PACKING | 1 |
| 6 | PU-04000-64 | SEAL RETAINER | 1 |
| 7 | PU-04000-65 | SEAL EXPANDER | 1 |
| 8 | PU-04000-71 | FE PACKING | 2 |
| 9 | PU-04000-73 | SPRING | 1 |
| 10 | PU-04000-81 | O-RING, SQUARE, -336, BUNA | 1 |
| 11 | PU-04000-84 | U-CUP, 2 1/2 x 2 1/8 x 3/16 BUNA | 1 |
| 12 | PU-04000-85 | WIPER, AN-2 HYTREL | 1 |
| 13 | PU-04000-87 | SHCS, 1/4-20 x 1.000, BO | 3 |

9.4 Air Cylinder Cap Assembly (202817)

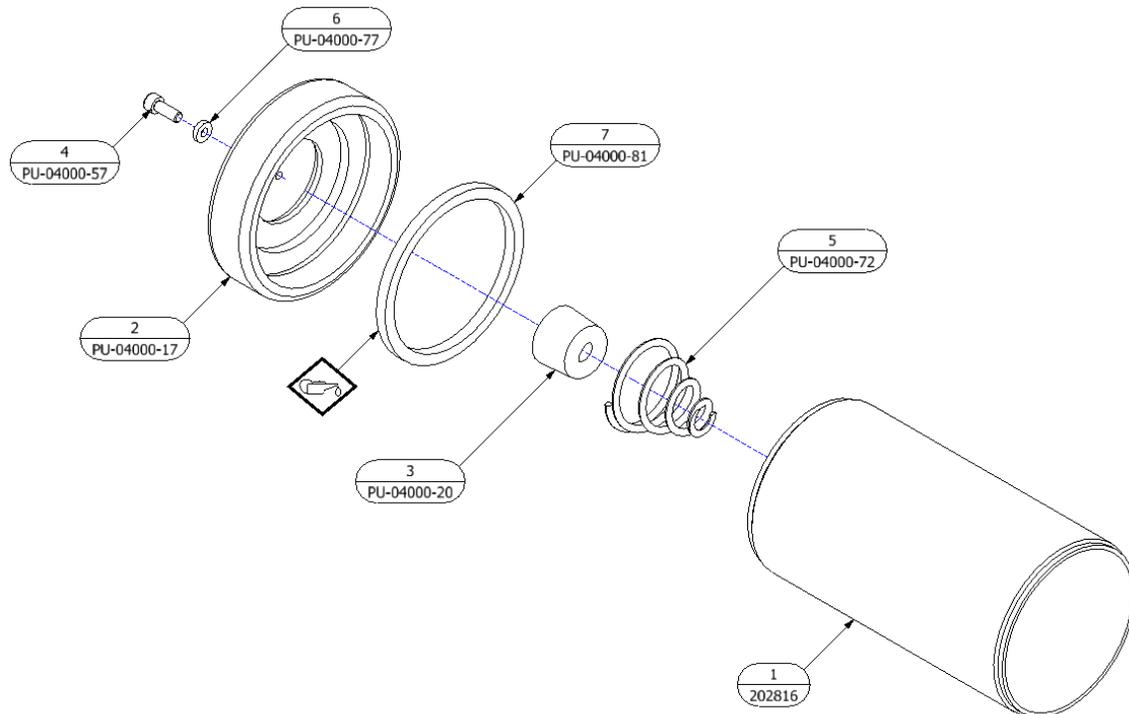


Figure 15: Air Cylinder Cap Assembly

| Air Cylinder Cap Assembly (202817) | | | |
|---|--------------------|------------------------------|------------|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 202816 | P-52, AIR CYLINDER | 1 |
| 2 | PU-04000-17 | AIR CYLINDER CAP | 1 |
| 3 | PU-04000-20 | BUMPER, 1-1/8 DIA X 21/32 H | 1 |
| 4 | PU-04000-57 | SHCS, #10-32 x 0.500, 316 SS | 1 |
| 5 | PU-04000-72 | COMPRESSION SPRING | 1 |
| 6 | PU-04000-77 | FIBER WASHER, 1/2 X 169 | 1 |
| 7 | PU-04000-81 | O-RING, SQUARE, -336, BUNA | 1 |

9.5 Air Motor Assembly (PU-04000-01)

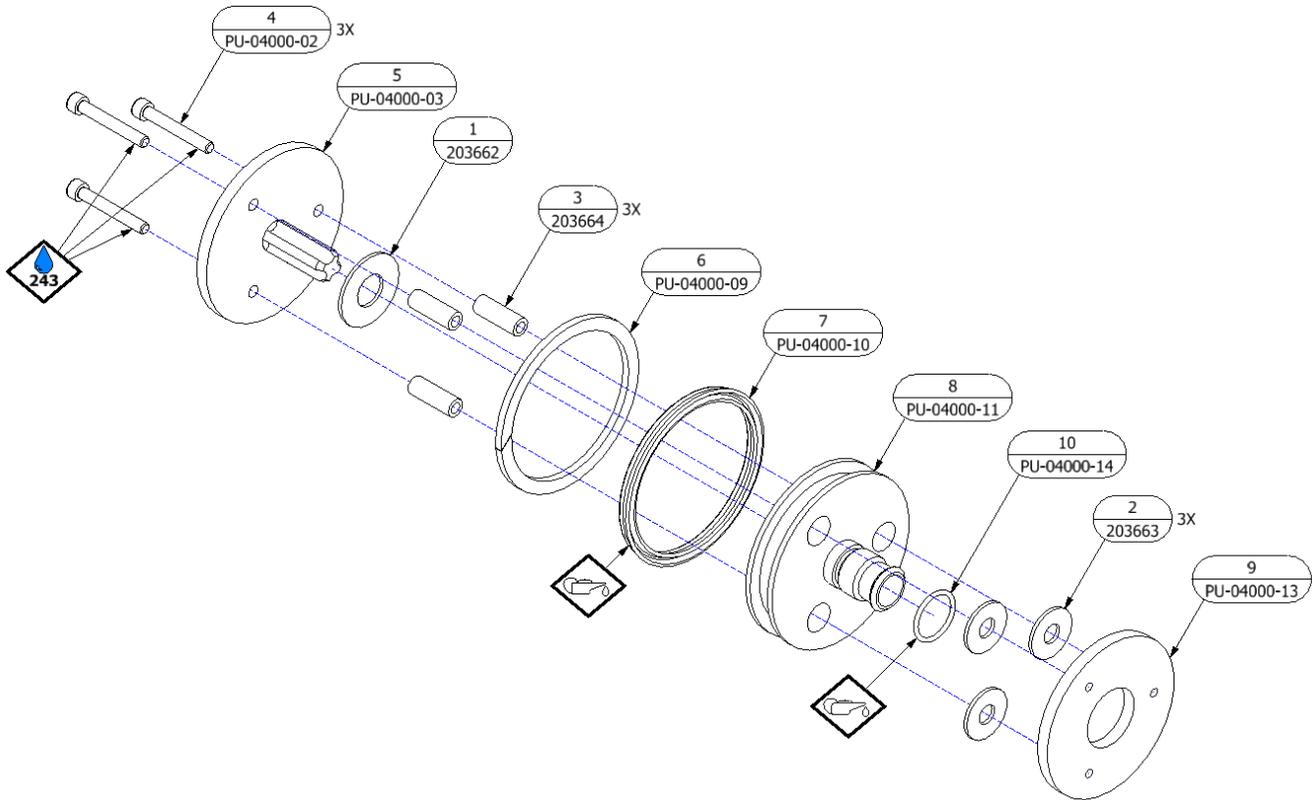


Figure 16: Air Motor Assembly

| Air Motor Assembly (PU-04000-01) | | | |
|----------------------------------|-------------|-------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 203662 | GASKET, TOP, AIR MTR VALVE | 1 |
| 2 | 203663 | GASKET, BOTTOM, AIR MTR VALVE | 3 |
| 3 | 203664 | SPACER, AIR MTR VALVE | 3 |
| 4 | PU-04000-02 | SHCS, #10-32 x 1.375, 18-8 SS | 3 |
| 5 | PU-04000-03 | UPPER AIR VALVE ASSEMBLY | 1 |
| 6 | PU-04000-09 | WEAR RING | 1 |
| 7 | PU-04000-10 | U-CUP, 3 X 2 9/16 X 7/32 BUNA | 1 |
| 8 | PU-04000-11 | AIR PISTON, GHO | 1 |
| 9 | PU-04000-13 | LOWER AIR VALVE, GHO | 1 |
| 10 | PU-04000-14 | O-RING, -018, Viton | 1 |

9.6 Foot Valve Assembly (PU-04000-45)

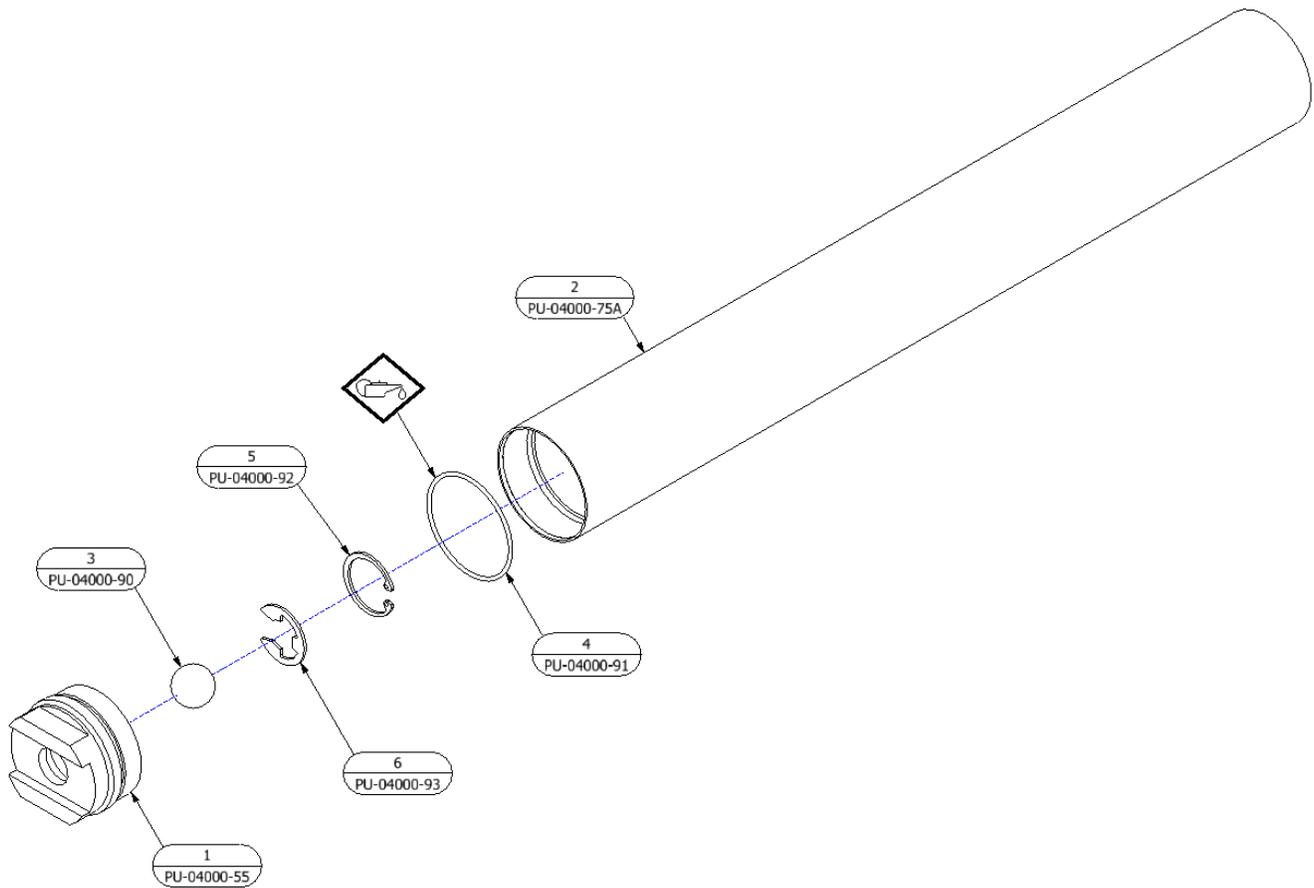


Figure 17: Foot Valve Assembly

| Foot Valve Assembly (PU-04000-45) | | | |
|-----------------------------------|--------------|-------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | PU-04000-55 | FOOT VALVE HOUSING, GHO | 1 |
| 2 | PU-04000-75A | SUCTION TUBE, GHO | 1 |
| 3 | PU-04000-90 | SS BALL, 3/4 DIAMETER | 1 |
| 4 | PU-04000-91 | O-RING, -032, Viton | 1 |
| 5 | PU-04000-92 | SNAP RING | 1 |
| 6 | PU-04000-93 | E-RING | 1 |

9.7 Tool Kit (PU-04000-94)

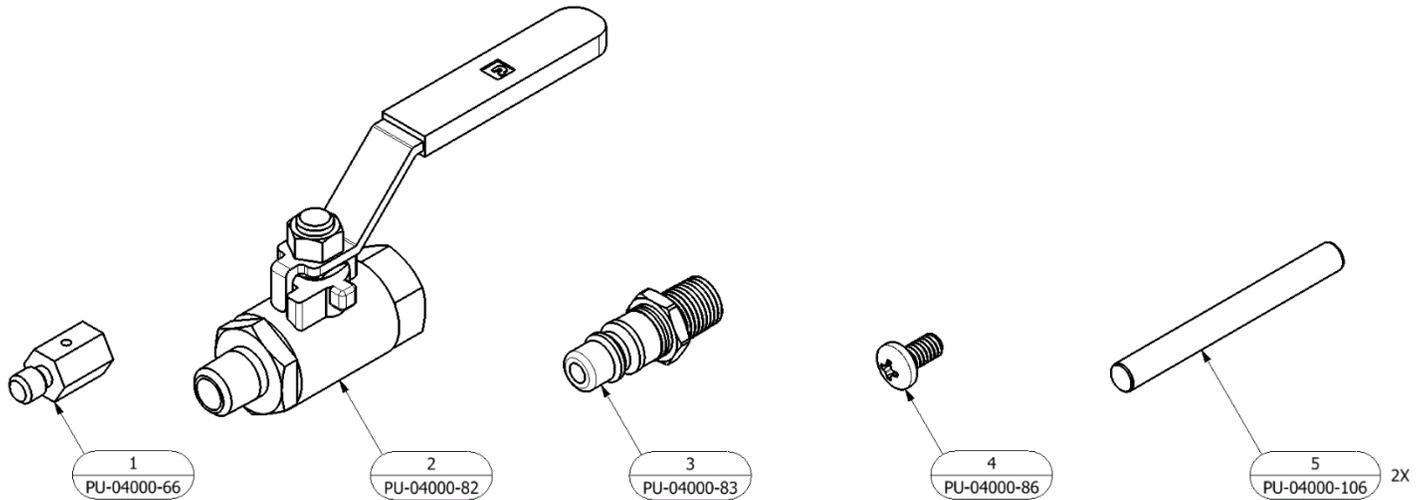


Figure 18: Tool Kit

| Tool Kit (PU-04000-94) | | | |
|------------------------|--------------|----------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | PU-04000-66 | GROUNDING LUG | 1 |
| 2 | PU-04000-82 | VALVE,BALL,1/4NPT,MF,250psi,BR | 1 |
| 3 | PU-04000-83 | QD, PLUG, 3/8 IND x 1/4 MPT, STL | 1 |
| 4 | PU-04000-86 | 1/4-20 x .5 MACHINE SCREW | 1 |
| 5 | PU-04000-106 | SPANNER PIN | 2 |

10 TRANSFER PUMP PACKAGES

| P-52 Pump Package, Air Machine (202823) | | | |
|---|-------------|--------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 202322 | 3/4X10' POLY SUPPLY HOSE | 1 |
| 2 | 202323 | 3/4X10' ISO SUPPLY HOSE | 1 |
| 3 | 202806 | P-52 TRANSFER PUMP | 2 |
| 4 | MA-00037A | TRANSFER PUMP AIR HARNESS; AIR | 1 |
| 5 | PU-179-5 | 3/4 NPT X 1/2 NPT (F) | 1 |
| 6 | PU-179-6 | 3/4 NPT X 3/4 NPT (F) | 1 |

| P-52 Pump Package, Hydraulic Machine (202824) | | | |
|---|-------------|--------------------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 202322 | 3/4X10' POLY SUPPLY HOSE | 1 |
| 2 | 202323 | 3/4X10' ISO SUPPLY HOSE | 1 |
| 3 | 202806 | P-52 TRANSFER PUMP | 2 |
| 4 | MA-00035A | TRANSFER PUMP AIR HARNESS: HYD | 1 |
| 5 | PU-179-5 | 3/4 NPT X 1/2 NPT (F) | 1 |
| 6 | PU-179-6 | 3/4 NPT X 3/4 NPT (F) | 1 |