Instructions-Parts

Ink Supply Pump

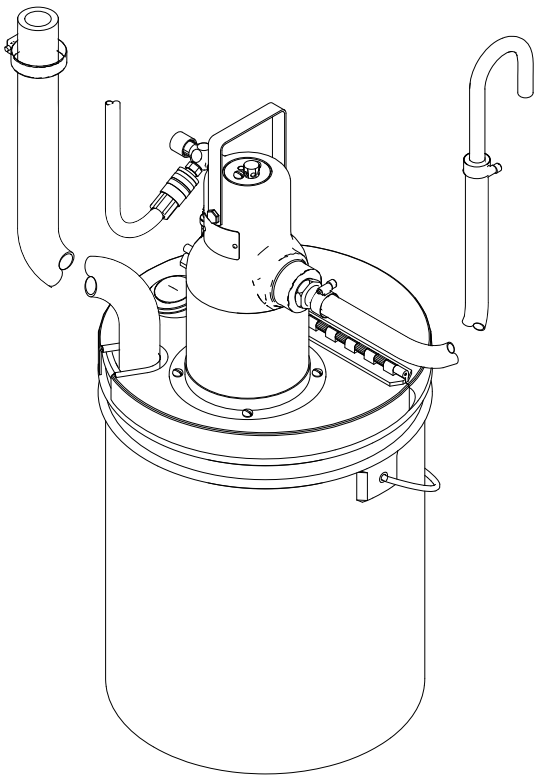
306805L
EN

Air-powered pump for use in a circulating system to supply ink from a 5 gallon (19 liter) pail to a printing press ink fountain. For professional use only.

Important Safety Instructions
Read all warnings and instructions in this manual. **Save these instructions.**

90 psi (0.6 MPa, 6 bar) Maximum Fluid Working Pressure
Model 226237, Series A

Includes Bare Pump Model 205459, Series H



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Contents

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

WARNING




FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Ground all equipment in the work area. See **Grounding** instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.


MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.

TOXIC FLUID OR FUMES

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read MSDSs to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

PERSONAL PROTECTIVE EQUIPMENT

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

WARNING

PRESSURIZED EQUIPMENT HAZARD

Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.

- Follow the **Pressure Relief Procedure** when you stop spraying/dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

Installation

This pump is designed for use in a circulating supply system from a 5 gal. (19 liter) ink pail to a printing press ink fountain.

NOTE: Letters and numbers in the text refer to Figs. 1–7 and the Parts Drawing.

To adapt the pump to a 3 gal. (11.4 liter) pail, remove the bypass tube (56) and extension tube (55). Screw the fluid intake strainer (15) directly into the fluid intake. See Fig. 1.

Fasten the pump mounting collar (61) to the pail cover (60) with the screws (63), washers (64) and nuts (62). Mount the cover on the pail. Lower the pump into the pail.

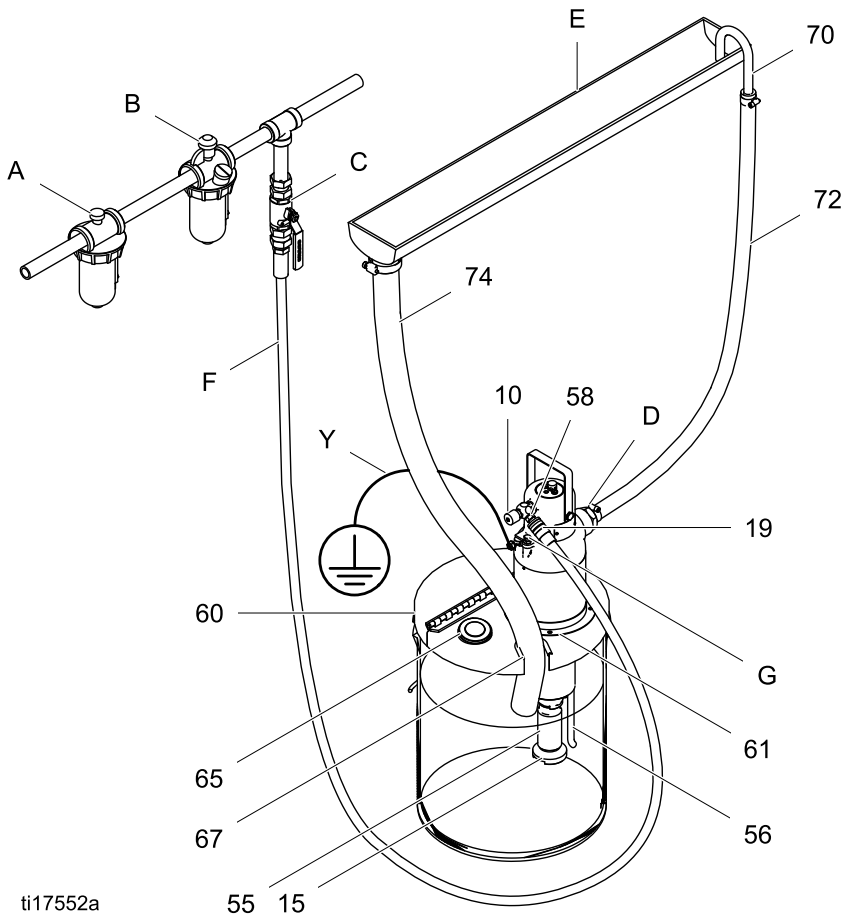


Figure 1 Typical Installation

Key for Fig. 1	
A	Air Line Filter
B	Air Line Lubricator
C	Bleed-Type Master Air Valve
D	Pump Outlet Port
E	Ink Fountain
F	Air Hose
G	Solvent Port
10	Air Control Valve
15	Intake Strainer
19	Air Line Coupler

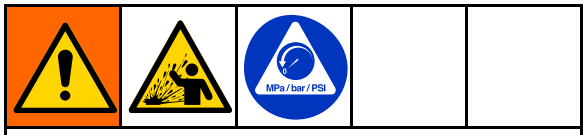
55	Extension Tube
56	Bypass Tube
58	Air Line Pin Fitting
60	Cover
61	Mounting Collar
65	Cover Plug
67	Hose Guard
70	Nozzle
72	Supply Hose
74	Return Hose

System Accessories

See Fig. 1. The Typical Installation is only an example; your Graco representative can provide assistance in helping you set up a system which meets your needs.

NOTE: To ensure maximum pump performance, be sure that all accessories used are properly sized to meet the system's requirements.

1. In the air line, install an air line filter (A) to remove harmful dirt and moisture from the compressed air supply.
2. Downstream from the filter, install an air line lubricator (B), which provides automatic lubrication to the air motor.
3. Within easy reach of the pump, install a bleed-type master air valve (C, required).



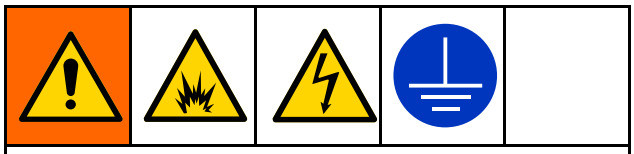
A bleed-type master air valve is required in your system to help reduce the risk of serious bodily injury, such as splashing of fluid in the eyes or on the skin, or injury from moving parts if you are adjusting or repairing the pump. The bleed-type master air valve relieves air trapped between it and the pump after the pump is shut off. Trapped air can cause the pump to cycle unexpectedly and result in serious bodily injury, including amputation.

4. If you are using an agitator, remove the plug (65) from the pail cover (60) and install the agitator in the hole.

Connect the Hoses

1. Screw the male end of the fluid supply hose (72) into the outlet port (D) of the pump. Hook the nozzle (70) on the other end of the hose on the ink fountain (E). Clamp one end of the return hose (74) to the ink fountain drain, and place the other end in the pail through the hole, making sure the hose guard (67) is in place.
2. Screw the air line coupler (19) onto the air hose (F), but do not connect it to the pin fitting (58) on the pump's air control valve (10) yet.
3. If you are using a drip feed or automatic system to add solvent to the ink, connect the solvent line to the 1/8 npt(f) solvent port (G) on the pump.

Grounding



This equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.

Static electricity is created by the high velocity flow of fluid through the pump and hose. When static electricity is discharged, sparking occurs. Sparks can ignite fumes from solvents, the ink, dust particles, and other flammable substances, resulting in fire or explosion and serious bodily injury.

In a low pressure system, static sparking is generally not a problem. However, some simple precautions should be taken to reduce the risk. Check your local code for detailed grounding instructions for your area and type of equipment, and ground all of this equipment:

1. **Pump:** Use a ground wire and clamp as shown in Fig. 2. Graco Part No. 237569 Ground Wire is available separately. Loosen the grounding lug locknut (W) and washer (X). Insert one end of a 12 ga. (1.5 mm^2) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. Connect the other end of the ground wire to a true earth ground. See Fig. 1.

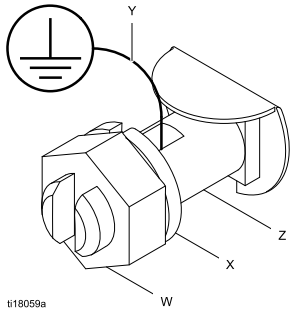


Figure 2 Ground the Pump

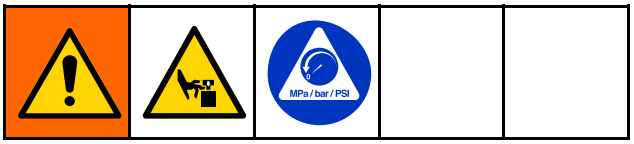
2. **Air compressor:** Follow the manufacturer's recommendations.
3. **Printing press and ink fountain:** Follow local code.
4. **All solvent pails used when flushing:** Follow local code. Use only metal pails, which are conductive. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.
5. **To maintain grounding continuity when flushing or relieving pressure:** Always hold the metal nozzle firmly to the side of a grounded metal pail.

Operation

Flush Pump Before Using

Pumps are tested with lightweight oil which is left in to protect the pump parts. To prevent contamination of the ink, flush the pump with a compatible solvent before using it. See Flushing, page 10. Also flush thoroughly when changing colors.

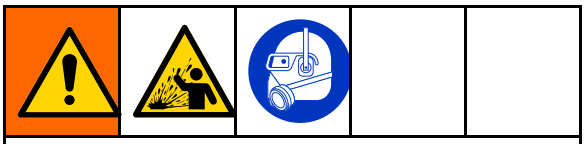
Pressure Relief Procedure



1. Shut off the air to the pump.
2. Turn off the bleed-type master air valve (C).
3. Let the fluid in the system drain from the fluid hose.
4. If you suspect that the hose is completely clogged or that pressure has not been fully relieved after following the steps above, **very slowly** loosen the hose end coupling and relieve pressure gradually, then loosen completely. Now clear the hose.

Starting and Adjusting the Pump

1. Check the level and viscosity of the ink in the pail. Add solvent as recommended by the ink manufacturer.
2. See Fig. 3. Pour 1 oz (30 ml) of solvent into the solvent port (SP) of the pump, to fill the wet-cup (41) prior to initial use. Thereafter, be sure the wet-cup is filled with solvent and that no ink dries on the displacement rod (18). Dried ink will damage the packings.
3. Place the cover and pump on the ink pail. Hook the curved nozzle (70) on the supply hose (72) onto the ink fountain. Insert the return hose (74) in the return port of the cover.
4. Close the master air valve (C) and the pump's air control valve (10). Connect the air line coupler (19) to the pin fitting (58) on the air control valve.
5. Open the master air valve (C) and slowly open the air control valve until the pump is delivering ink at the desired rate. Always use the lowest pressure necessary to get the desired results.



Never exceed the 180 psi (1.2 MPa, 12 bar) maximum air pressure to the pump, to avoid damage to the pump and to reduce the risk of component rupture which can cause extremely serious bodily injury, including splashing of fluid in the eyes or on the skin.

6. Never allow the pump to run dry of ink. A dry pump will quickly accelerate to a high speed, possibly damaging itself. If your pump accelerates quickly or is running too fast, stop it immediately and check the ink supply. If the pail is empty and air has been pumped into the lines, prime the pump and the lines with ink, or flush and leave filled with compatible solvent. Be sure to eliminate all air from the fluid system.

Maintenance

Shutdown and Care of the Pump

At the end of each day, follow the Pressure Relief Procedure, page 8 .

Flush the system as often as necessary to prevent ink from drying in the pump or hoses. Dried ink can damage the packings when the pump is restarted.

If you are not using an automatic air line lubricator, remove the air line coupler (19) and add a few drops of oil to the air line as needed, to lubricate the air motor. See Fig. 3.

If the solvent is not added to the ink automatically, pour at least 1 oz. (30 ml) of solvent into the solvent port (SP) whenever solvent is added to the ink pail. See Fig. 3.

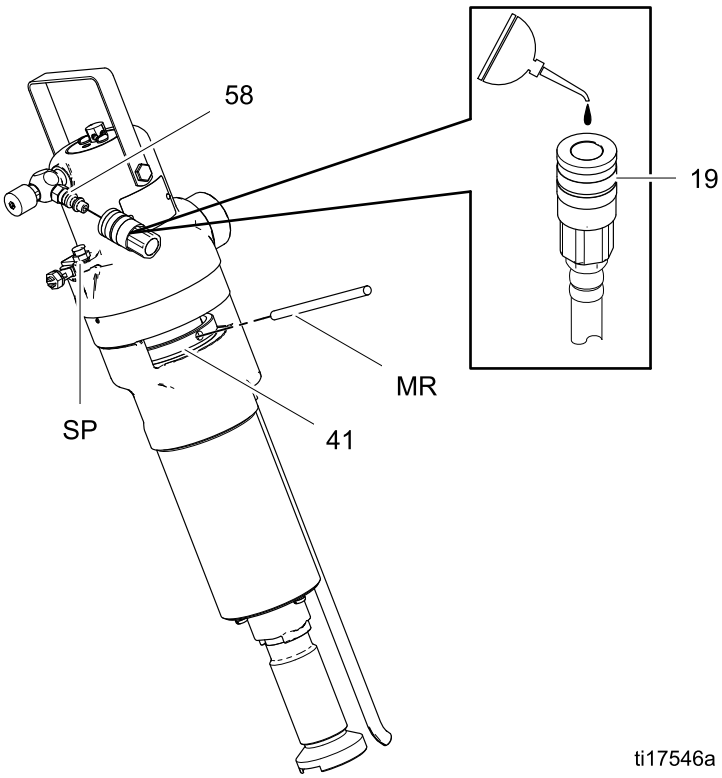


Figure 3 Solvent Port and Packing Nut

When shutting down for a short time, add 1 oz. (30 ml) of solvent into the solvent port (SP). For a long shutdown, flush the pump. Ink must not be allowed to dry in the pump.

After each week of operation, follow the Pressure Relief Procedure, page 8 , lift the pump from the pail and check the tightness of the packing nut/wet-cup (41). The nut should be just tight enough to prevent leaking. If it is too tight it will cause premature packing wear. To turn the nut, insert a 1/4 in. (6 mm) diameter metal rod (MR) in one of the holes of the nut.

Flushing

Raise the hinged part of the pail cover and hook the nozzle of the supply hose to the pail. Use the handle (54) to lift the pump out of the pail and operate it until as much of the ink as possible has been pumped out. Drain the remaining ink from the supply hose. See Fig. 4.

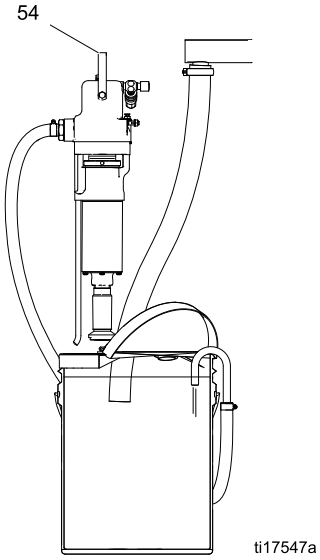


Figure 4 Drain the Ink

Set the pump upright in an **empty** solvent pail. Pour solvent into the pail until the solvent level (SL) is even with the top of the packing nut/wet-cup (41). See Fig. 5.

NOTICE

Never completely immerse the pump in solvent, or allow the solvent level to rise above the packing nut window. Doing so will damage the air motor.

Run the pump slowly for several minutes, to clean the inside of the pump and hose.

Lift the pump from the solvent pail with the handle (54) and continue pumping until all solvent is forced from the pump and hose. Then carefully tip the pump sideways to empty solvent from the packing nut/wet-cup (41).

Repeat this procedure until the pump is completely clean.

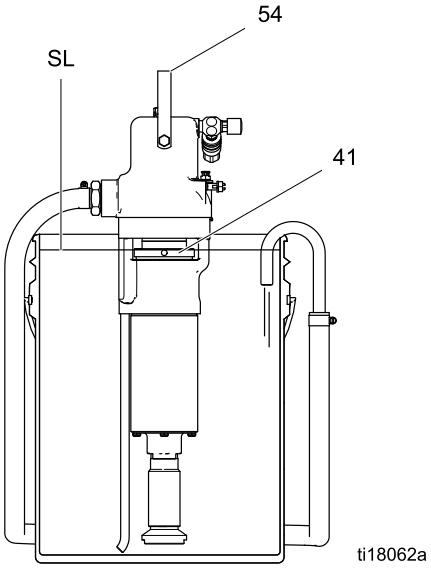
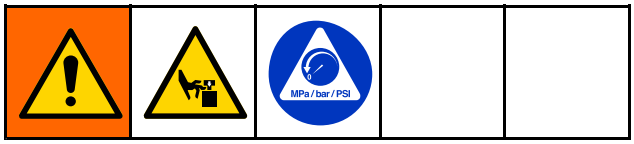


Figure 5 Flush with Solvent

Troubleshooting



NOTE: Check all possible remedies before disassembling the pump.

Problem	Cause	Solution
Fluid leaks around displacement rod.	Loose packing nut or worn throat packings.	Tighten, replace.
Erratic or accelerated pump operation.	Ink supply exhausted.	Replace or refill pail.
	Clogged or worn fluid piston.	Clear, replace.
	Clogged screen or worn intake valve.	Clear, replace.
	Air cylinder spring broken.	Replace.
Output low on downstroke only.	Clogged or worn air piston or packing.	Clear, replace.
	Clogged screen or worn intake valve.	Clear, replace.
Output low on upstroke only.	Clogged or worn air piston or packing.	Clear, replace.
	Clogged or worn fluid piston.	Clear, replace.
Output low on both strokes.	Restricted air supply.	Clear.
	Closed or clogged air control valve.	Open, clear.
	Clogged supply hose.	Clear.
	Clogged or worn air piston or packing.	Clear, replace.
	Ink supply exhausted.	Replace or fill pail.
	Clogged or worn fluid piston.	Clear, replace.
	Clogged screen or worn intake valve.	Clear, replace.
	Loose packing nut or worn throat packings.	Tighten, replace.
	Tight packing nut.	Loosen.

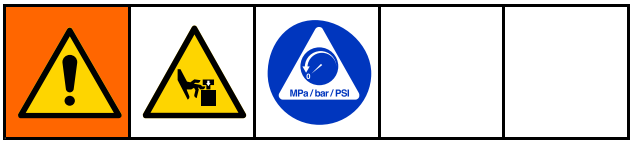
Problem	Cause	Solution
Pump does not operate.	Restricted air supply.	Clear.
	Closed or clogged air control valve.	Open, clear.
	Clogged supply hose.	Clear.
	Clogged or worn air piston or packing.	Clear, replace.
	Clogged or worn fluid piston.	Clear, replace.
	Clogged screen or worn intake valve.	Clear, replace.
	Pump seized by dry ink.	Service, clean.

Repair

Before you Start

1. Repair Kit 214972 is available. For the best results, use all the parts in the kit. Parts included in the kit are marked with an asterisk, for example (27*).
2. To reduce downtime, be sure you have all necessary repair parts available. Recommended tool box spare parts are listed in the Parts List.
3. Whenever you replace the packings, also replace the glands and bearing.
4. When cleaning parts, use a compatible solvent. Inspect parts for wear or damage and replace as necessary.

Disassembly



1. If possible, flush the pump before servicing. Relieve the pressure. Disconnect all hoses.
2. Clamp the pump head (36) in a vise. Unscrew the bypass tube (56). Unscrew the fluid intake strainer assembly (15) and the extension tube (55) if used from the intake housing (37). Remove the screen (16) from the strainer housing (17) and clean. See Fig. 7 on page 17.
3. Use a wrench on the intake valve housing (37) to unscrew the fluid cylinder (50) from the pump head (36). Do not use a wrench on the cylinder, as damage will result. Pull the cylinder straight off to avoid scratching the inner surface.
4. Remove the four screws (20) and washers (22) from the bottom of the cylinder (50). Push the intake valve housing (37) up and out of the cylinder, being careful not to scratch the inner cylinder surface. Inspect the o-ring (51) at the bottom of the cylinder.
5. Remove the retaining ring (26), stop ring (45), and valve plate (46) from the intake valve housing (37). The valve plate and stop ring may be inverted during reassembly if they are worn.
6. Insert a metal rod 1/4 in. (6 mm) in diameter in the slots at the base of the displacement rod (18), to keep it from turning. Use a wrench to screw the piston (47) out of the rod (18).
7. Remove the packing retainer ring (49) and cup packing (48) from the piston body (47). Also remove the retaining ring (26), stop ring (45), and valve plate (46). The valve plate and stop ring may be inverted during reassembly if they are worn.

8. Remove the two screws (20) and washers (22) holding the air cap (9) to the piston rod (43). Inspect the o-rings (31, 35) under the air cap. Insert a 1/4 in. (6 mm) diameter metal rod into one of the holes in the packing nut/wet-cup (41) and loosen it. Pull the displacement rod (18) and piston rod (43) out the bottom of the pump head (36). The spacer washer (42) will come out with the piston rod.
9. Remove the packings (39), glands (38, 40), and bearing (44) from the pump throat. Clean and inspect all parts.
10. Unscrew the displacement rod cap (57) from the displacement rod (18). Pull the piston rod (43) out the top of the displacement rod (18).
11. See Fig. 7. Use wrenches on the flats of the piston rod (43) and the air valve and piston assembly (2) to unscrew the piston from the rod. Remove the washer (30), spring (29), and rod cap (57) from the piston rod (43). Remove the o-ring (27), v-packing (34), and backup (33) from the displacement rod cap (57).
12. See Fig. 6. Disassemble the air valve and piston assembly (2) and inspect the plates (6, 7) for dirt that will hold the valve open and cause continuous exhausting of air. Clean the parts with a compatible solvent and a soft brush. Blow dry. If one of the spacers (4) needs replacement, replace all three.

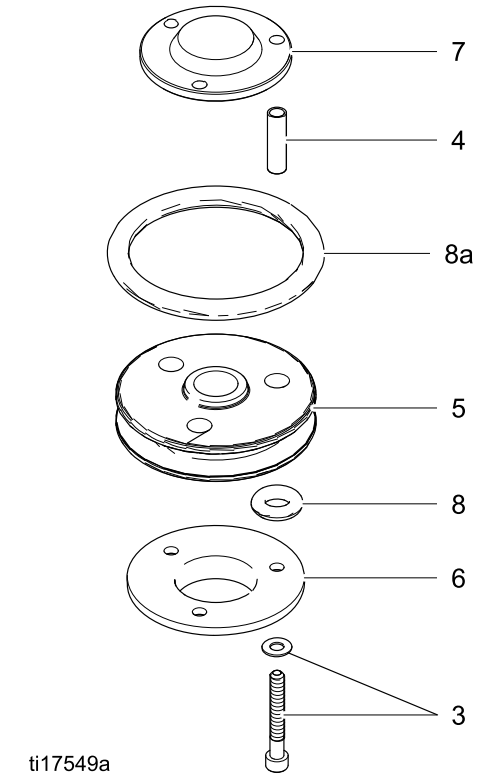


Figure 6 Air Valve and Piston Assembly

13. Check the surfaces of the displacement rod (18) and piston rod (43) for wear or scoring by running a finger over the surface or holding the part up to the light at an angle. Scoring of these parts will damage the packings.
14. Remove the tapered spring (28) from the base of the displacement rod (18) by catching the spring at its base with a hooked wire and jerking sharply upward. Be careful not to scratch the polished surface of the displacement rod.

Reassembly

1. Reinstall the tapered spring (28) in the displacement rod (18) by snapping it in place. Be careful not to scratch the polished surface of the rod.
2. Reinstall the backup packing (33*) and v-packing (34*) in the displacement rod cap (57). The lips of the v-packing must face down. Fit the o-ring (27*) in place on the outside of the rod cap (57). Slide the rod cap and the spring (29) onto the piston rod (43).
3. Reassemble the air valve and piston assembly (2). See Fig. 6. Remember that if one spacer (4) needs replacement, all three must be replaced. Reinstall the washer (30) on the piston rod (43) and then screw the air valve and piston assembly (2) onto the piston rod. Use wrenches and tighten only enough to form an air-tight seal.
4. Carefully slide the piston rod (43) into the displacement rod (18). Screw the displacement rod cap (57) into the displacement rod (18).
5. Reinstall the throat packings one at a time in the following order: female gland (38*), bearing (44*), three v-packings (39*) with the lips facing down, and the male gland (40).
6. Push the piston rod (43) and displacement rod (18) assembly up into the pump head (36) until it reaches the top. Use the 1/4 in. (6 mm) diameter rod to tighten the packing nut/wet-cup just tight enough to prevent leaking.
7. Ensure that the o-rings (31*, 35*) at the top of the pump head are in position and fasten the air cap (9) to the piston rod (43) using the two screws (20) and washers (22).
8. Reinstall the valve plate (46), stop ring (45), and retaining ring (26) in the piston body (47). The valve plate and stop ring may be inverted if they are worn.
9. Reinstall the cup packing (48*) and retainer ring (49) on the piston body (47), with the lips of the packing facing up. Screw the piston body into the displacement rod (18) and tighten with a wrench.
10. Reinstall the valve plate (46), stop ring (45) and retaining ring (26) in the intake valve housing (37). If the valve plate or stop ring are worn they may be inverted.
11. Be sure the o-ring (51) is in position at the bottom of the cylinder (50). Lower the valve housing (37) into the cylinder, being careful not to scratch the cylinder's smooth inner surface. Fasten the intake housing to the cylinder with the four screws (20) and washers (22).
12. Carefully raise the cylinder (50) up over the displacement rod (18) and screw it into the pump head (36). To tighten, use a wrench on the intake valve housing (37). Never use a wrench on the cylinder.
13. Reinstall the screen (16) in the strainer housing (17). Screw the strainer assembly (15) into the extension tube (55, if used), and then screw these parts into the intake valve housing (37).
14. Screw the bypass tube (56) into the pump head (36). Reconnect the ground wire if it was disconnected during service. Reconnect all hoses.

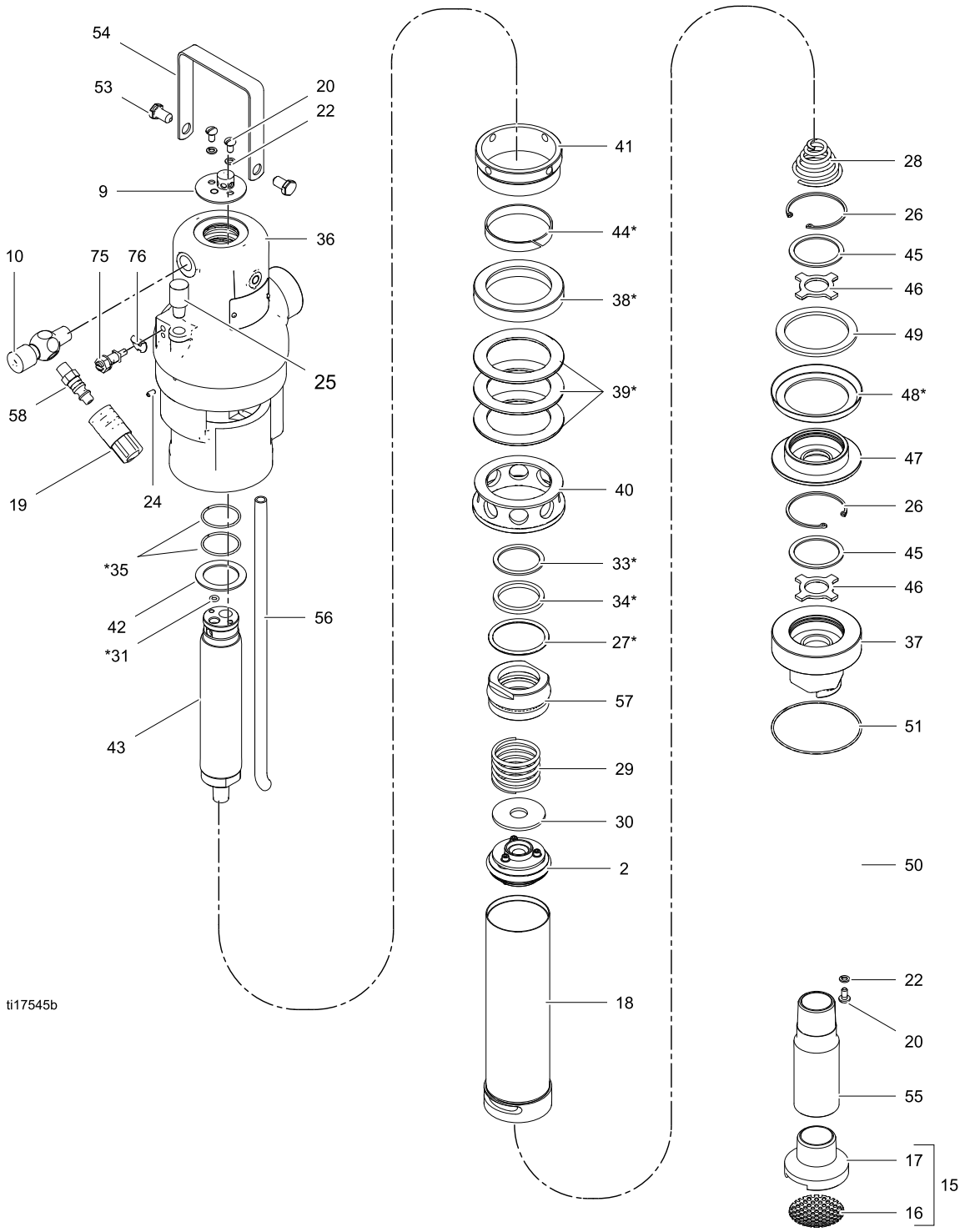


Figure 7 Pump Repair

Parts

Model 226237 Ink Supply Pump, Series A
Includes items 1–76. See page 20.
Model 205459 Bare Pump, Series H
Includes items 2–58, 75, 76. See page 21.

Ref. No.	Part No.	Description	Qty
1	205459	1/2:1 RATIO TRANSFER PUMP; includes items 2–58, 75, 76. See page 21.	1
2	220168	AIR VALVE AND PISTON ASSY; includes items 3–8. See page 22.	1
3	220884	SCREW, socket hd, cap, with gasket; no. 6–32 x 1 in. (25 mm)	3
4	181485	SPACER, valve plate	3
5	189210	PISTON, air	1
6	181487	PLATE, intake valve	1
7	162729	PLATE, exhaust valve	1
8	108358	O-RING; fluoroelastomer	3
8a	108357	O-RING, fluoroelastomer	1
9	206485	AIR CAP	1
10	206264	AIR VALVE ASSY; includes items 11a-14. See page 22.	1
11a	166529	VALVE, needle	1
11b	166532	NUT, packing	1
11c	164698	KNOB, adjusting	1
12	157628	O-RING, nitrile rubber	1
13	165722	BODY, valve	1
14	166531	WASHER, split ring; nylon	1
15	206488	FLUID INTAKE STRAINER ASSY; includes items 16, 17	1
16	166162	SCREEN, strainer	1
17	166163	HOUSING, strainer	1
18	207669	DISPLACEMENT ROD	1
19	114558	COUPLER, air line	1
20	100268	SCREW, rd hd mach; no. 10–24 x 3/8 in. (10 mm)	6
21	100403	PLUG, pipe; 1/8 npt	1
22	100020	WASHER, spring lock; no. 10	6
24	102203	PIN, roll; 1/8 in. (3 mm) dia; 5/16 in. (8 mm)	1
25	17L890	COVER, solvent port; 1/8 npt(m)	1
26	102229	RING, retaining	2
27*	156633	O-RING; nitrile rubber	1
28	157630	SPRING, tapered helical compression	1
29	157633	SPRING, helical compression	1
30	157872	WASHER, valve trip	1
31*	158486	O-RING, nitrile rubber	1
32	172479	LABEL, warning	1
33*	163010	BACK-UP, packing	1
34*	163011	V-PACKING; nitrile rubber	1
35*	166080	O-RING; nitrile rubber	2
36	166139	HEAD, pump	1
37	166140	HOUSING, intake valve	1
38*	166164	GLAND, female	1
39*	166165	V-PACKING; ptfe	3
40	166166	GLAND, male	1
41	166167	NUT, packing	1
42	166168	WASHER, spacer	1
43	166169	ROD, air piston	1
44*	166170	BEARING; ptfe	1
45	166172	RING, valve stop	2
46	166173	PLATE, valve	2
47	166174	BODY, piston	1
48*	166175	PACKING, cup; ptfe	1
49	166176	RING, packing retainer	1
50	166177	CYLINDER, fluid	1
51	166178	O-RING, nitrile rubber	1

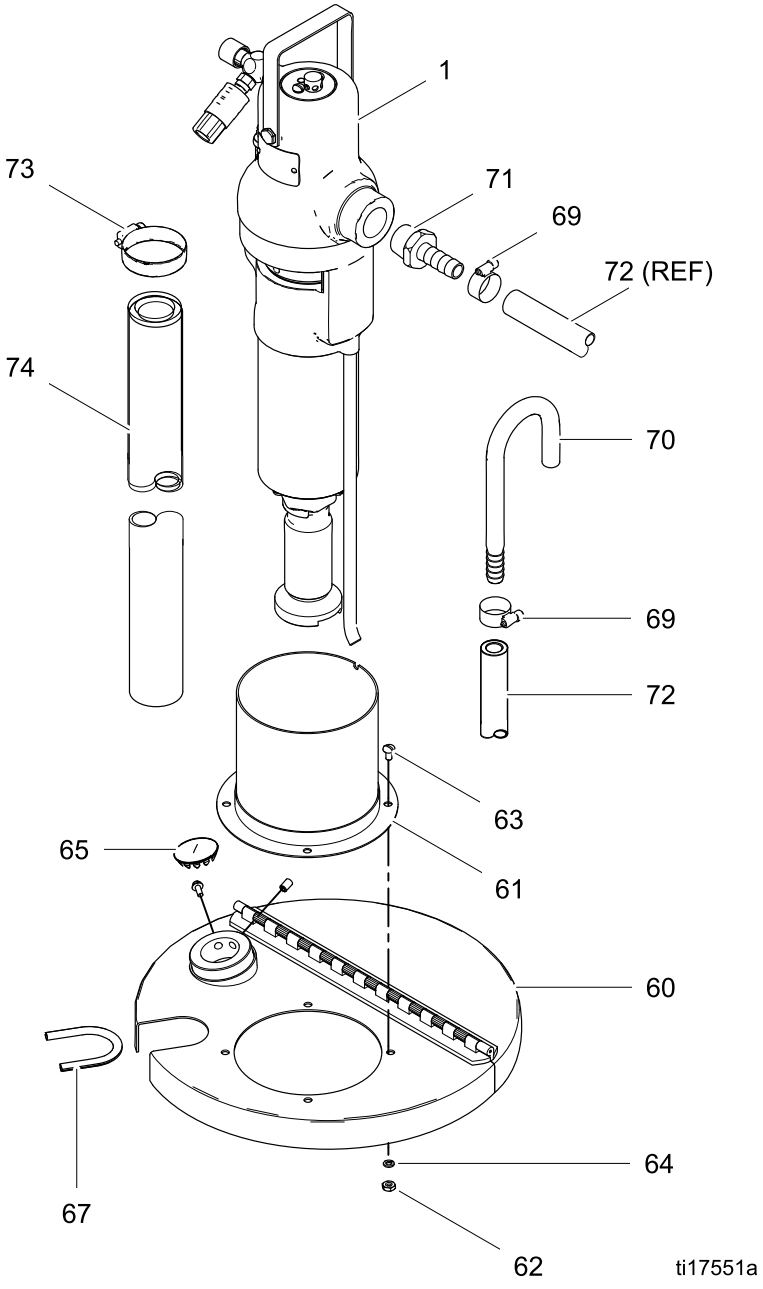
Ref. No.	Part No.	Description	Qty
53	166464	SCREW, handle	2
54	166465	HANDLE, pump lift	1
55	167344	TUBE, inlet extension	1
56	167345	TUBE, bypass	1
57	168236	CAP, displacement rod	1
58	169969	FITTING, air line	1
60	206489	PAIL COVER, 5 gal. (19 liter)	1
61	206490	PUMP MOUNTING COLLAR	1
62	100179	NUT, hex; no. 10–24	4
63	100268	SCREW, rd hd mach; no. 10–24 x 3/8 in. (10 mm)	4
64	100020	WASHER, spring lock; no. 10	4
65	101342	BUTTON, plug; for 1–1/4 in. (31 mm) dia. hole	1
66	101962	SETSCREW, socket hd; 1/4–20 x 5/8 in. (16 mm)	2
67	166186	GUARD, hose	1
69	102473	CLAMP, hose	2
70	162678	NOZZLE, hose	1
71	166181	STUD, hose	1
72	167343	HOSE; 1/2 in. (13 mm) ID; 10 ft (3.05 m)	1
73	101368	CLAMP, hose; for 2–1/8 in. (54 mm) OD hose	1
74	166264	HOSE, return; 1–1/4 in. (31 mm) ID; 10 ft (3.05 m)	1
75	104029	LUG, grounding	1
76	104582	WASHER, tab	1

* These parts are included in Repair Kit 214972.

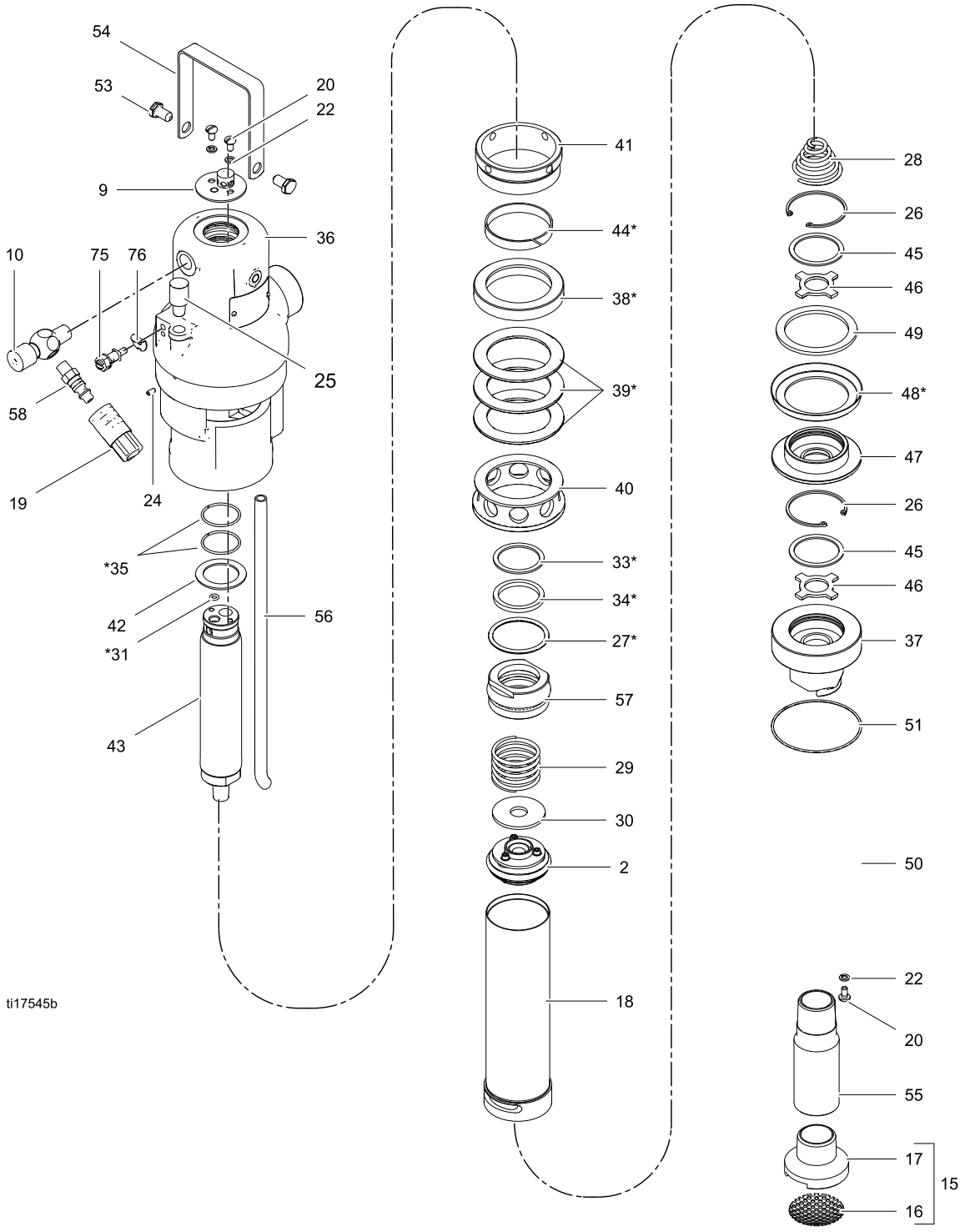
Replacement Danger and Warning labels, tags, and cards are available at no cost.

✓ Recommended tool box spare parts. Keep on hand to reduce down time.

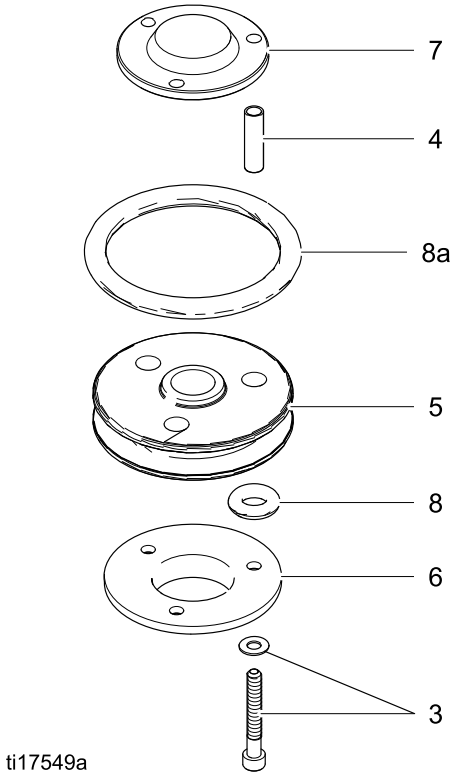
Model 226237 Ink Supply Pump



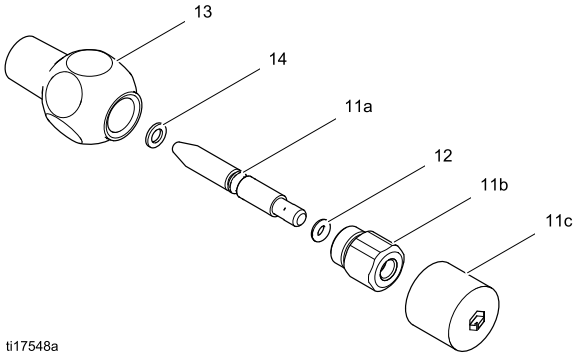
Model 205459 Bare Pump



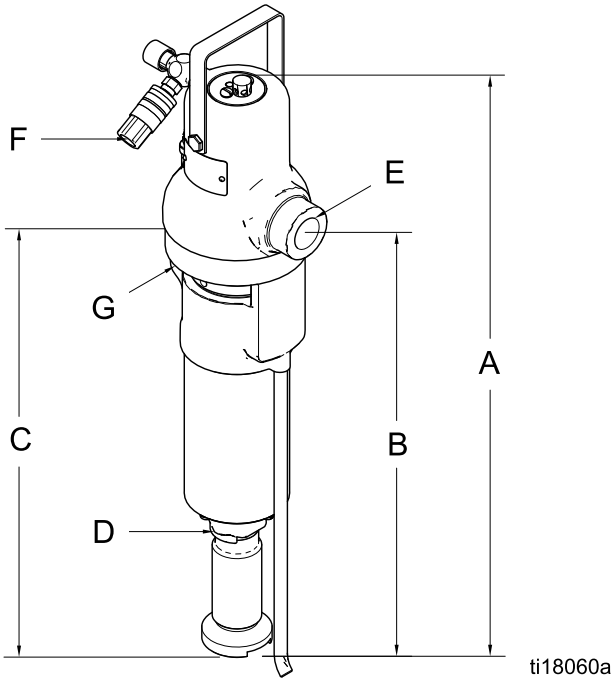
220168 Air Valve and Piston



206264 Air Valve Assembly



Dimensions



A, in. (mm)	B, in. (mm)	C, in. (mm)	D (Fluid Inlet)	E (Fluid Outlet)	F (Air Inlet)	G, Mounting Hole Diameter, in. (mm)
21.5 (546)	17.25 (438)	16.31 (415)	1 in. npt	3/4 npt	1/4 npt	4.37 (111)

Technical Data

226237 Ink Supply Pump		
	U.S.	**Metric**
Ratio	1/2:1	
Maximum Fluid Working Pressure	90 psi	0.6 MPa, 6 bar
Air Operating Range	40–180 psi	0.28–1.25 MPa, 2.8–12.5 bar
Air Consumption	1 cfm per gallon pumped at 100 psi : up to 10 cfm with pump operated within recommended range	0.01 m^3/min/liter at 0.7 MPa (7 bar): up to 0.28 m^3/min with pump operated within recommended range
Pump Cycle Rate	9 cycles per gallon	2.37 cycles per liter
Maximum Recommended Pump Speed	90 cycles per minute: 10 gpm	90 cycles per minute: 37.8 liter/min
Fluid Inlet	1 in. npt(f)	
Fluid Outlet	3/4 npt(f)	
Air Inlet	1/4 npt(f)	
Weight	23 lb	10.4 kg
Wetted Parts	Aluminum, stainless steel, PTFE	

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Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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Original Instructions. This manual contains English. MM 334188

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