

Instructions—Parts List



Divorced Design, 55 Gallon Drum Size, 2" npt Bung Mounting

5:1 Ratio Monark Pump

307044S

For transfer and supply of solventborne and waterborne finishing materials.

900 psi (6.2 MPa, 62 bar) Maximum Fluid Working Pressure

180 psi (1.2 MPa, 12 bar) Maximum Air Input Pressure

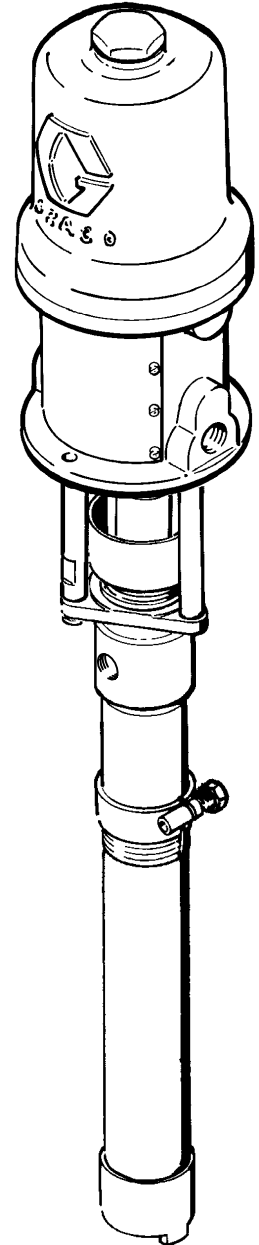
Part No. 218956, Series D

With PTFE Packings



Important Safety Instructions

Read all warnings and instructions in this manual.
Save these instructions.



2575



0359

PROVEN QUALITY. LEADING TECHNOLOGY



II 1/2 G Ex h IIB T2 Ga/Gb
ETL23ATEX0276

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Symbols

Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the corresponding instructions.

! WARNING



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. Refer to the **Technical Data** on page 18 for the maximum working pressure of this equipment.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a **900 psi (6.2 MPa, 62 bar) maximum working pressure**.
- Do not use hoses to pull equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 82°C (180°F) or below -40°C (-40°F).
- Wear hearing protection when operating this equipment.
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

⚠ WARNING



SKIN INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.



- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate surgical treatment.**
- Do not point the gun at anyone or at any part of the body.
- Do not put your hand or fingers over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Always have the tip guard and the trigger guard on the gun when spraying.
- Check the gun diffuser operation weekly. Refer to the gun manual.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 8 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.
- Use only Graco approved hoses. Do not remove any spring guard that is used to help protect the hose from rupture caused by kinks or bends near the couplings.



MOVING PARTS HAZARD

Moving parts, such as the air motor piston, can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before servicing the equipment, follow the **Pressure Relief Procedure** on page 8 to prevent the equipment from starting unexpectedly.

WARNING



FIRE AND EXPLOSION HAZARD

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.



- Ground the equipment and the object being sprayed. Refer to **Grounding** on page 5.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying immediately**. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the spray area.
- Extinguish all open flames or pilot lights in the spray area.
- Do not smoke in the spray area.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not operate a gasoline engine in the spray area.



TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

Installation

Grounding

To reduce the risk of static sparking, ground the pump, object being sprayed, and all other spray/dispensing equipment used or located in the spray/dispensing area. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this spray/dispensing equipment:

1. *Pump*: loosen the grounding lug locknut (W) and washer (X). Insert one end of a 12 ga. (1.5 mm²) minimum ground wire (Y) into the slot in lug (Z) and tighten the locknut securely. See Fig. 1. Connect the other end of the wire to a true earth ground.
2. Air hoses: use only electrically conductive air hoses.
3. Fluid hoses: use only electrically conductive fluid hoses.
4. Air compressor: follow manufacturer's recommendations.
5. Spray gun/dispensing valve: grounding is obtained through connection to a properly grounded fluid hose and pump.

6. Fluid supply container: according to your local code.
7. Object being sprayed: according to your local code.
8. All solvent pails used when flushing, according to your local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts the grounding continuity.
9. To maintain grounding continuity when flushing or relieving pressure, always hold a metal part of the gun/valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

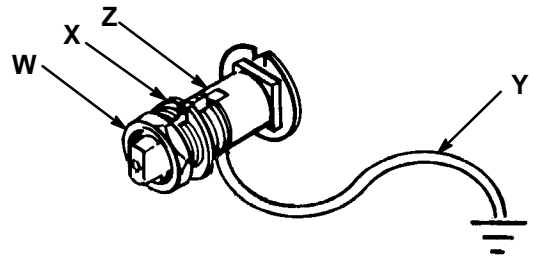
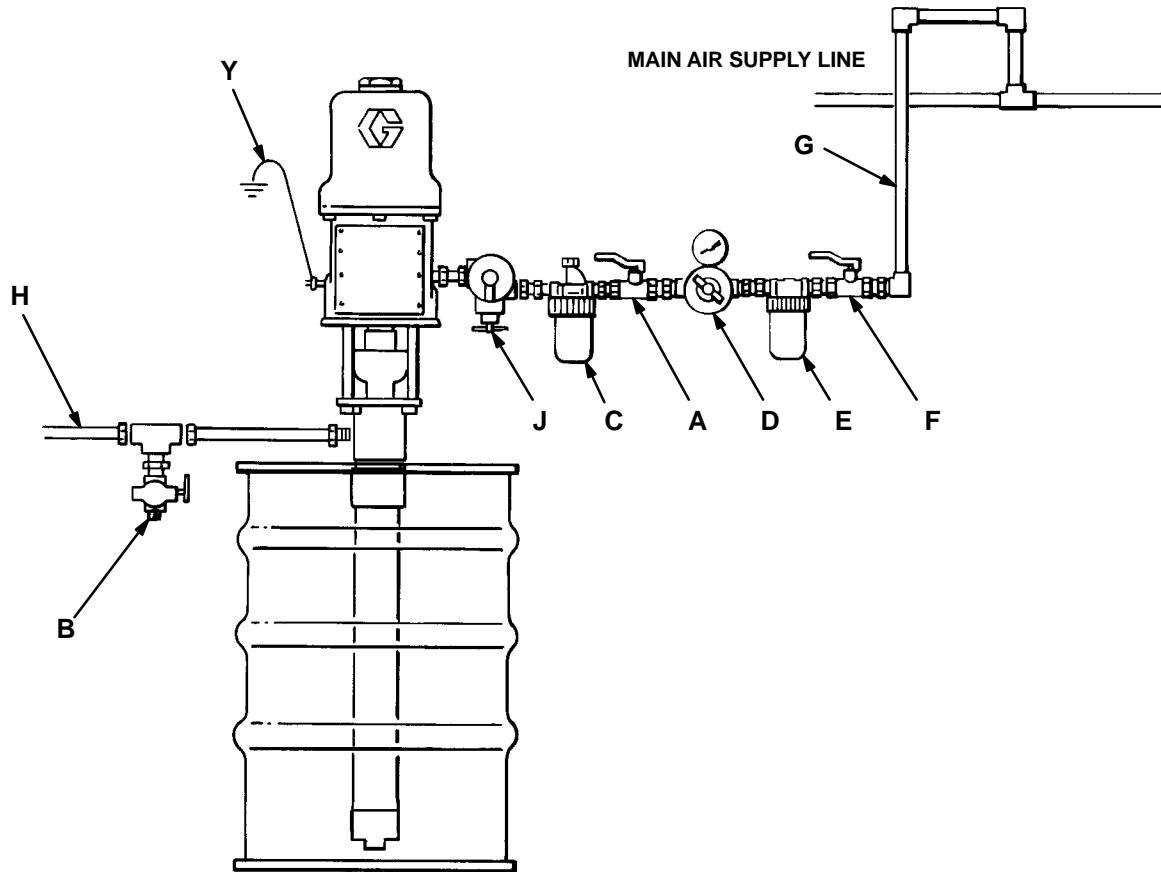


Fig. 1

Installation

Typical Installation



KEY

- A Bleed-Type Master Air Valve (required, for pump)
- B Fluid Drain Valve (required)
- C Air Line Lubricator
- D Pump Air Regulator
- E Air Line Filter
- F Bleed-Type Master Air Valve (for accessories)
- G Electrically Conductive Air Line
- H Electrically Conductive Fluid Line
- J Pump Runaway Valve
- Y Ground Wire (required)

Installation

NOTE: Reference numbers and letters in parentheses in the text refer to the callouts in the figures and parts drawing.

The Typical Installation shown on page 6 is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to suit your particular needs.

System Accessories

See the Typical Installation on page 6.

WARNING

Two accessories are required in your system: a bleed-type master air valve (A) and a fluid drain valve (B). These accessories help reduce the risk of serious injury including fluid injection, splashing in the eyes or on the skin, and injury from moving parts if you are adjusting or repairing the pump.

The bleed-type master air valve relieves air trapped between this valve and the pump after the air regulator is shut off. Trapped air can cause the pump to cycle unexpectedly. Locate the valve close to the pump.

The fluid drain valve assists in relieving fluid pressure in the displacement pump, hose, and gun. Triggering the gun to relieve pressure may not be sufficient.

Mounting Accessories

Mount the pump to suit the type of installation planned. The pump dimensions and mounting hole layout are shown on page 18.

The bung adapter has 2" npt threads. Install the pump in the drum cover until it is 1/2" (13 mm) from the bottom of the drum, then tighten the bung adapter.

Air and Fluid Hoses

Be sure all air and fluid hoses are properly sized and pressure-rated for your system. Use only electrically conductive air and fluid hoses. Fluid hoses must have spring guards on both ends.

Connect an electrically conductive fluid hose (H) to the pump's 3/4 npt(f) fluid outlet.

Connect an electrically conductive 3/8 in. ID (minimum) air hose (G) to the pump's 3/8 npt(f) air inlet.

Air Line

Install the following accessories in the order shown in the Typical Installation, using adapters as necessary:

- **A pump runaway valve (J)** senses when the pump is running too fast and automatically shuts off the air to the motor. A pump which runs too fast can be seriously damaged. Install closest to the pump air inlet.
- **An air line lubricator (C)** provides automatic air motor lubrication.
- **A bleed-type master air valve (A)** is required in your system to relieve air trapped between it and the motor when the valve is closed (see the **WARNING** at left). Be sure the bleed valve is easily accessible from the pump, and is located downstream from the air regulator.
- **An air regulator (D)** controls pump speed and outlet pressure by adjusting the air pressure to the pump. Locate the regulator close to the pump, but upstream from the bleed-type master air valve.
- **An air line filter (E)** removes dirt and moisture from the compressed air supply.
- **A second bleed-type air valve (F)** isolates the air line accessories for servicing. Locate upstream from all other air line accessories.

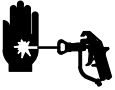
Fluid Line

- **A fluid drain valve (B)** is required in your system to relieve fluid pressure in the hose and gun (see the **WARNING** at left). Install the drain valve pointing down, but so the handle points up when opened.

Operation

Pressure Relief Procedure

WARNING



SKIN INJECTION HAZARD

Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying/dispensing,
- check or service any of the system equipment,
- or install or clean the spray tip/nozzle.

1. Lock the spray gun/dispensing valve trigger safety.
2. Close the pump air regulator.

3. Close the bleed-type master air valve (required in your system).
4. Unlock the gun/valve trigger safety.
5. Hold a metal part of the gun/valve firmly to the side of a grounded metal pail, and trigger the gun/valve to relieve pressure.
6. Lock the gun/valve trigger safety.
7. Open the drain valve (required in your system), having a container ready to catch the drainage.
8. Leave the drain valve open until you area ready to spray/dispense again.

If you suspect that the spray tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip/nozzle or hose.

Operation

Flush the Pump Before Using

The pump is tested in lightweight oil, which is left in to protect the pump parts. To prevent contamination of fluid, flush the pump with a compatible solvent before using it.

Fill the wet-cup 1/2 full with Graco Throat Seal Liquid (TSL) or a compatible solvent. Keep the cup half-filled at all times to help prevent the fluid you are pumping from drying on the exposed displacement rod and damaging the throat packings.

Starting and Adjusting the Pump

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

1. See the Typical Installation on page 6. Be sure the air regulator (D) and bleed-type master air valve (A) are closed. Do not install the spray tip yet!
2. Hold a metal part of the spray gun/dispensing valve firmly to the side of a grounded metal pail and hold the trigger open. Then open the pump's bleed-type master air valve (A). Now slowly open the air regulator (D) until the pump starts, about 40 psi (280 kPa, 2.8 bar).
3. Cycle the pump slowly until all air is pushed out and the pump and hoses are fully primed. Release the gun/valve trigger and lock the trigger safety. The pump should stall against pressure when the trigger is released.

4. **Relieve the pressure.**

5. With the pump and lines primed, and with adequate air pressure and volume supplied, the pump will start and stop as the gun/valve is opened and closed. In a circulating system, the pump will run continuously and will speed up or slow down as the system demands until the air supply is shut off. Always use the lowest air pressure necessary to get the desired results. Higher pressures waste fluid and cause premature wear of the pump packings and spray tip/nozzle.

WARNING

Never exceed the *Maximum Working Pressure* of the lowest rated component in the system, to reduce the risk of component rupture which can cause serious injury, including fluid injection or splashing in the eyes or on the skin.

6. Never allow the pump to run dry of the fluid being pumped. A dry pump will quickly accelerate to a high speed, possibly damaging itself. A pump runaway valve (J), which shuts off the air supply to the pump if the pump accelerates beyond the pre-set speed is available. If your pump accelerates quickly or is running too fast, stop it immediately and check the fluid supply. If the supply container is empty and air has been pumped into the lines, refill the container and prime the pump and the lines with fluid, or flush and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system.

Maintenance

Check Valve Adjustment

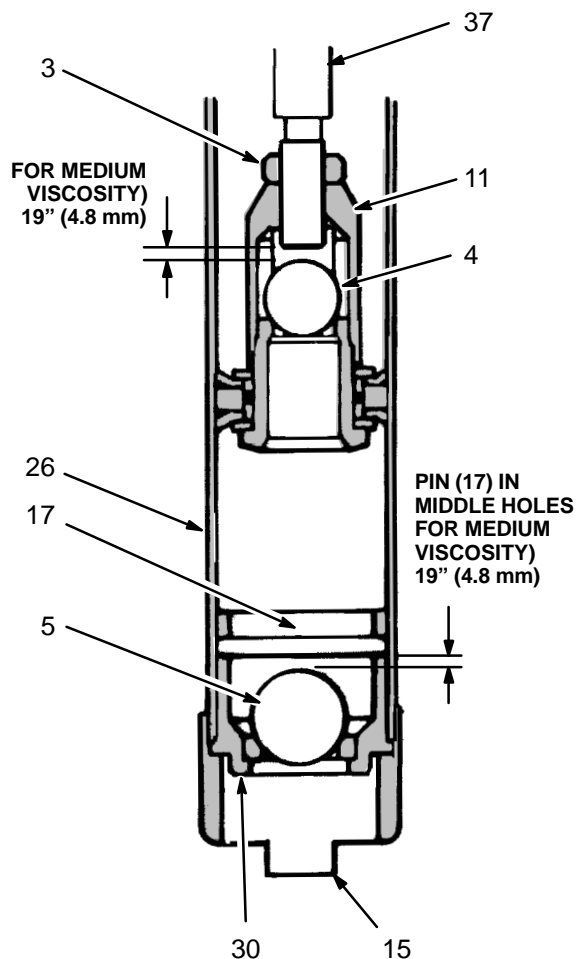
⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

The piston and intake check valves are set for medium viscosity fluids. To adjust the valves, first **relieve the pressure**, then disassemble the pump as described in the Service section on page 12.

Remove the ball stop pin (17) from the intake valve seat (30). Move the pin to a higher set of holes to increase the ball travel for heavier fluids, or to a lower set of holes to decrease the ball travel for lighter fluids.

To adjust the piston ball travel, loosen the locknut (3) and turn the piston (11) counterclockwise to increase the ball travel and clockwise to decrease the ball travel. For medium viscosity fluid, the ball travel should be 0.19" (4.8 mm). See Fig. 2.



Shutdown and Care of the Pump

⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

For overnight shutdown, always **relieve the pressure**. Always stop the pump at the bottom of its stroke to prevent the fluid from drying on the exposed displacement rod and damaging the throat packings.

Keep the packing nut/wet-cup 1/2 filled with Graco Throat Seal Liquid (TSL) or compatible solvent to help prolong packing life. Adjust the packing nut (35) weekly so it is just tight enough to prevent leakage; do not overtighten. **Relieve the pressure** before adjusting the packing nut. Then use a spanner wrench or a 0.25" (6.3 mm) diameter rod to tighten the nut. See Fig. 3.

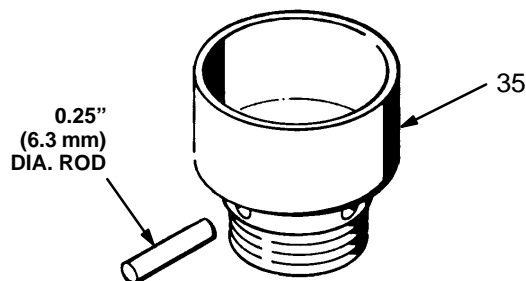


Fig. 3

If you are pumping fluid which dries, hardens, or sets-up, flush the system with a compatible solvent as often as necessary to prevent a buildup of the fluid in the pump or hoses.

⚠ CAUTION

Never leave the pump or hoses filled with water or air. To help prevent corrosion, flush the water and all air out of the system and leave it filled with mineral spirits or an oil-based solvent. Be sure to **relieve the pressure** after flushing.

Flushing

To reduce the risk of fluid injection injury, static sparking, or splashing, **relieve the pressure** and remove the spray tip (airless spray guns or spray valves only) before flushing. Hold a metal part of the gun/valve firmly to the side of a grounded metal pail and use the lowest possible fluid pressure when flushing.

Lubrication

The accessory air line lubricator (C) provides automatic air motor lubrication. For daily, manual lubrication, disconnect the regulator, place about 15 drops of light machine oil in the pump air inlet, reconnect the regulator and turn on the air supply to blow oil into the motor.

Troubleshooting

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

Before servicing this equipment always make sure to **relieve the pressure**.

Check all possible problems and solutions before disassembling the pump.

Problem	Cause	Solution
Pump fails to operate	Restricted line or inadequate air supply	Clear line; increase air supply.
	Insufficient air pressure; closed or clogged air valves, etc.	Open air valve, clean if necessary.
	Exhausted fluid supply	Refill; purge all air from the pump and fluid lines.
	Damaged air motor	Service air motor. See manual 307043.
Pump operates, but output low on both strokes	Restricted line or inadequate air supply	Clear line; increase air supply.
	Insufficient air pressure; closed or clogged air valves, etc.	Open air valve, clean if necessary.
	Exhausted fluid supply	Refill; purge all air from pump and fluid lines.
	Clogged fluid line, valves, gun, etc.	Clear.*
	Fluid check valves need adjustment	Adjust. See page 10.
	Loose packing nut or worn throat packings	Tighten packing nut. Replace throat packings.
	Damaged cylinder o-rings	Clear; service.
Pump operates, but output low on down stroke	Held open or worn intake valve	Clear; service.
	Damaged cylinder o-rings	Replace.
Pump operates, but output low on up stroke	Held open or worn fluid piston valve or packings	Clear; service.
Erratic or accelerated operation	Exhausted fluid supply	Refill; purge all air from pump and fluid lines.
	Fluid check valves need adjustment	Adjust. See page 10.
	Held open or worn intake valve	Clear; service.
	Held open or worn fluid piston valve or packings	Clear; service.

* To determine if the fluid hose or gun is obstructed, first **relieve the pressure**. Disconnect the fluid hose and place a container at the pump fluid outlet to catch any fluid. Turn on the air just enough to start the pump (about 20–40 psi [140–280 kPa, 1.4–2.8 bar]). If the pump starts when the air is turned on, the obstruction is in the fluid hose or gun.

Service

Before You Repair the Pump

- Be sure you have all the necessary repair parts on hand to reduce down time.
- Packing repair kit 208520 is available. Refer to the Parts List on page 17. For the best results, use all the new parts in the kit. Reference numbers with and dagger, for example (13†), indicate that a part is included in the repair kit.
- Always be sure to replace the glands when replacing the packings.
- Clean all parts as you disassemble the pump, and inspect them for wear or damage. Replace parts as needed. Scoring or irregular surfaces on the displacement rod or polished inner wall of the cylinder cause premature packing wear and leaking. Check these parts by rubbing a finger on the surface and by holding the parts up to a light at an angle.

Repair

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

1. Flush the pump, if possible. Stop the pump at the bottom of its stroke. **Relieve the pressure.** Disconnect the hoses. Remove the pump from its mounting.
2. Unscrew the intake valve housing (15). Remove the valve seat (30), pin (17), and ball (5). See Fig. 4.
3. Apply very low air pressure to the motor to force the piston to the bottom of the stroke.
4. Unscrew the cylinder (26) and slide it down just past the coupling nut (25). See Fig. 6.
5. Unscrew the coupling nut (25) and push the piston assembly through the bottom of the cylinder.
6. Hold the piston housing (11) with a wrench and screw the piston seat (10) out of the housing.
7. Remove the ball, washers, packings, spacers, and o-ring from the piston seat.
8. Assemble a washer (29), packing (13†), o-ring (8†), spacer (14), packing (13†), and washer (29) onto the piston seat (10). See the piston detail in Fig. 4 for the proper direction of these parts.
9. Place the ball (4) on the piston seat (10) and screw the seat firmly into the piston housing (11).
10. Check the piston ball travel. For medium viscosity fluid, the clearance should be 0.19" (4.8 mm). See Fig. 4. Refer also to Check Valve Adjustment on page 10.

NOTE: For air motor parts and service information, refer to manual 307-043.

Service

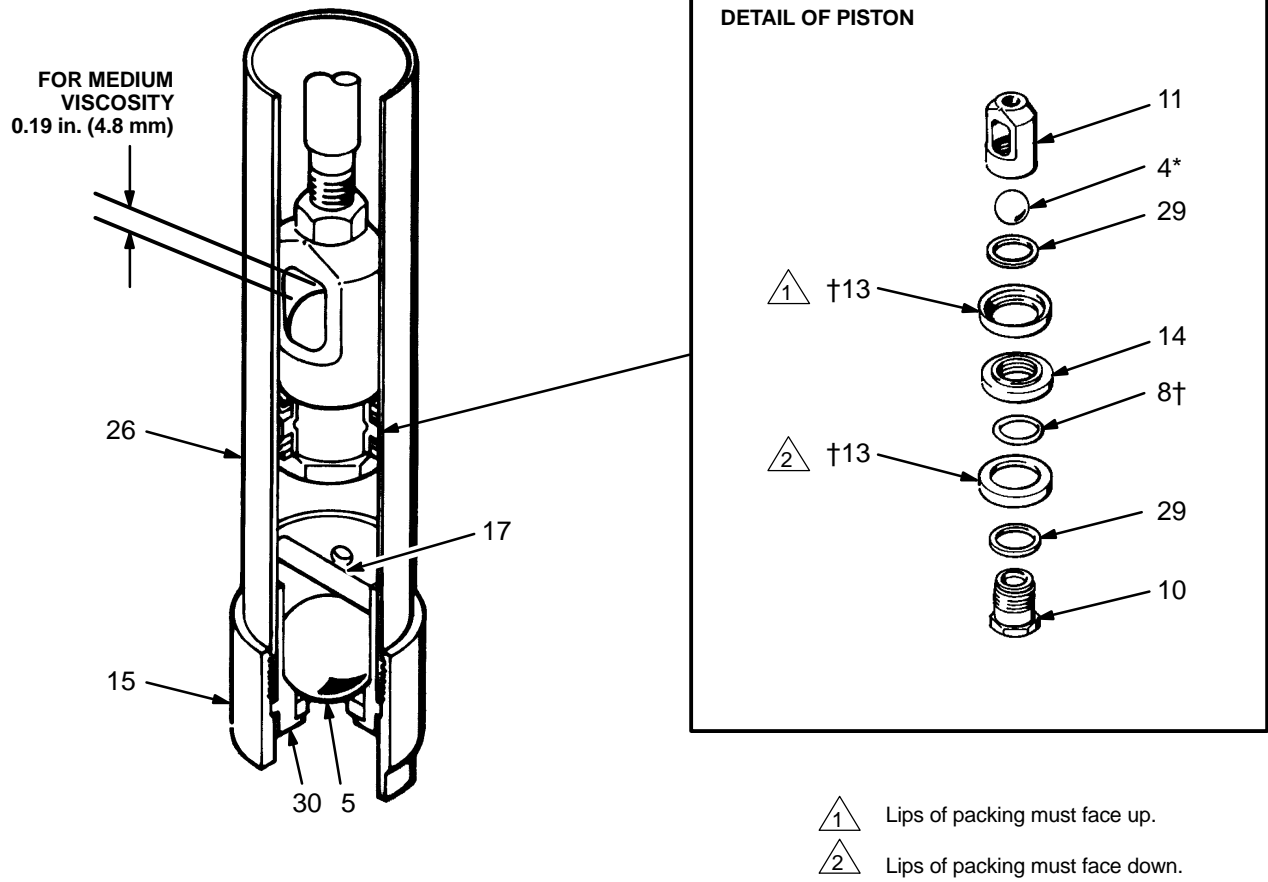


Fig. 4

Service

11. Remove the cotter pin (2) from the top of the displacement rod (27) and unscrew the rod. Remove the tie rod nuts (6) and pull the pump housing (36) off the tie rods (24). See Fig. 6.
12. Loosen the packing nut (35) and push the rod (27) through the bottom of the pump housing (36). Check the outer surface of the rod for scoring or wear.
13. Remove the packing nut (35), glands (23, 21), bearings (22) and packings (19) from the pump housing.
14. See Fig. 6. Install the male gland (21†). Then install the PTFE v-packings (19†) one at a time, making sure the lips of the v-packings are facing down. Install the female gland (23†) and the two bearings (22†). The bearings should have a gap of 0.020–0.050 in. (0.508–1.27 mm) when installed. Install the packing nut (35) loosely.
15. Lubricate the displacement rod (27) and slide it down through the top of the pump housing (36).
16. Clamp the pump cylinder (26) in a vise. Inspect the inner surface for scoring or wear. Lubricate the top inside diameter of the cylinder with light machine oil.
17. A special assembly tool, Part No. 168085, should be used to install the piston assembly into the cylinder. This tool is made from 0.016" (0.41 mm) shim stock and helps protect the edges of the packings from damage during reassembly. Place the tool around the piston packings as shown in Fig. 5. Start the bottom packings (13a) into the cylinder and then remove the tool.

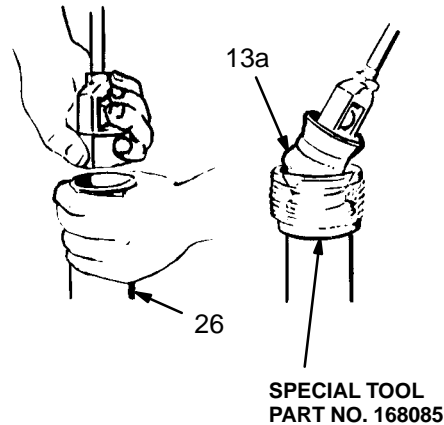


Fig. 5

18. Join the coupling nut (25) and displacement rod (27) and tighten securely.
19. Install the o-ring (9) around the top of the displacement rod (27). Position the pump housing (36) on the tie rods (24). Screw the rod (27) into the motor and install the pin (2). Screw the tie rod nuts (6) onto the tie rods (24) and torque to 10–15 ft-lb (14–20 N•m).
20. Install a new o-ring (20) in the bottom of the pump housing (36), then screw the cylinder (26) into the housing.
21. Install the intake valve ball (5) in the valve seat (30). Insert the pin (17) in the proper set of holes (see Check Valve Adjustment on page 10). Place the seat in the valve housing (15) and screw the housing firmly onto the cylinder.
22. Reconnect the pump grounding wire if it was disconnected during service. Fill the wet-cup 1/2 full with TSL or compatible solvent.

Service

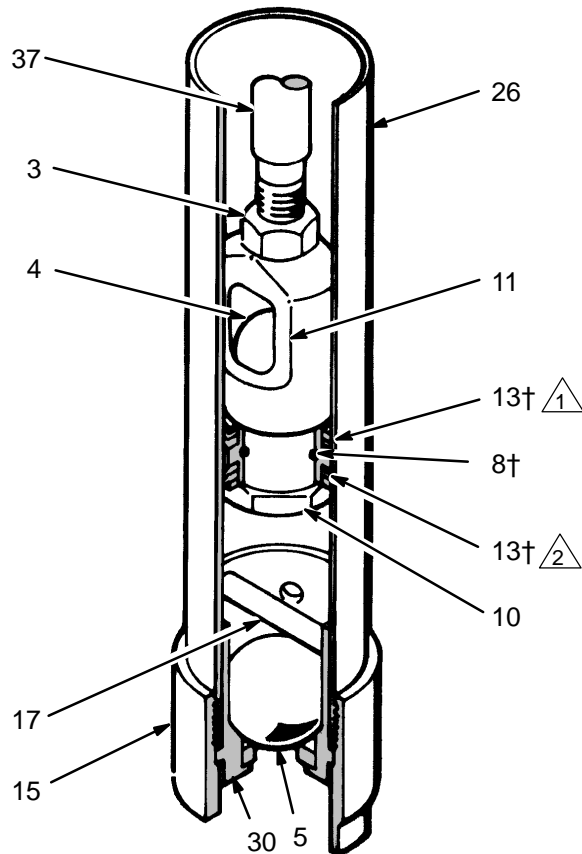
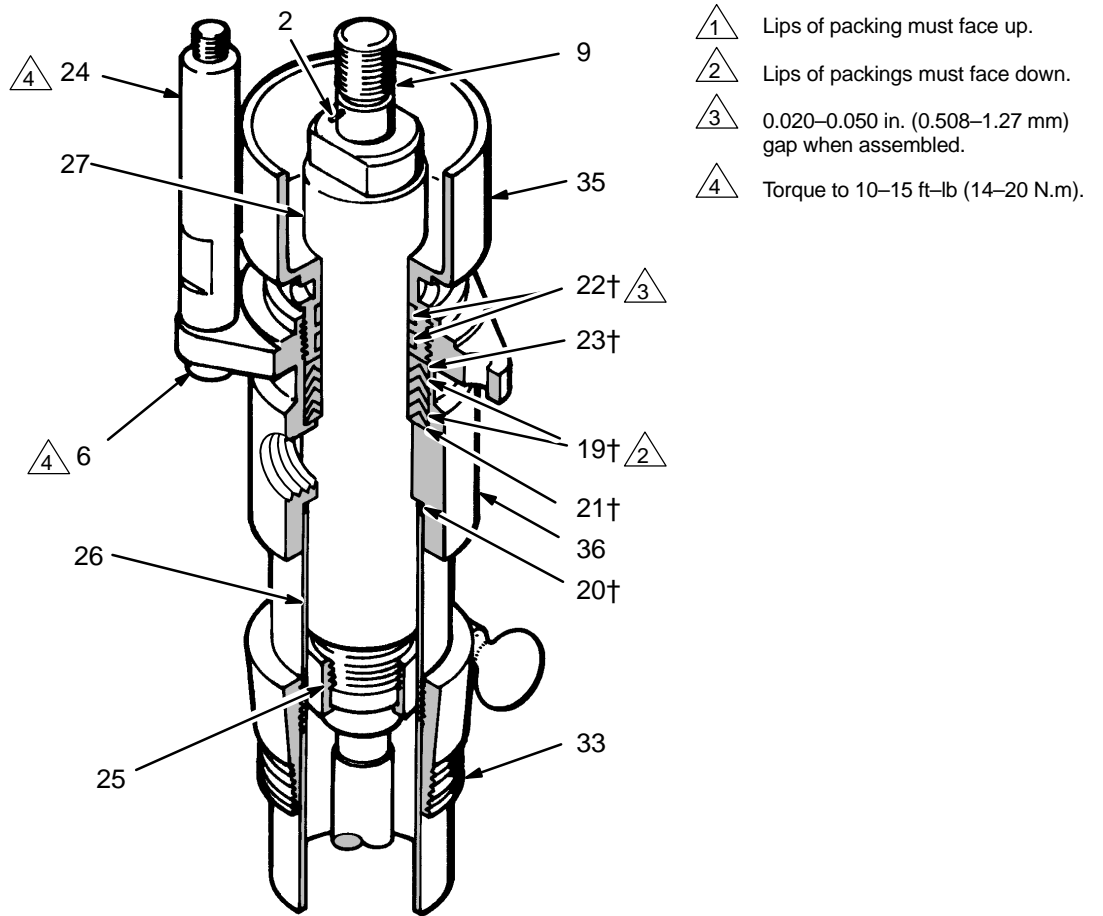
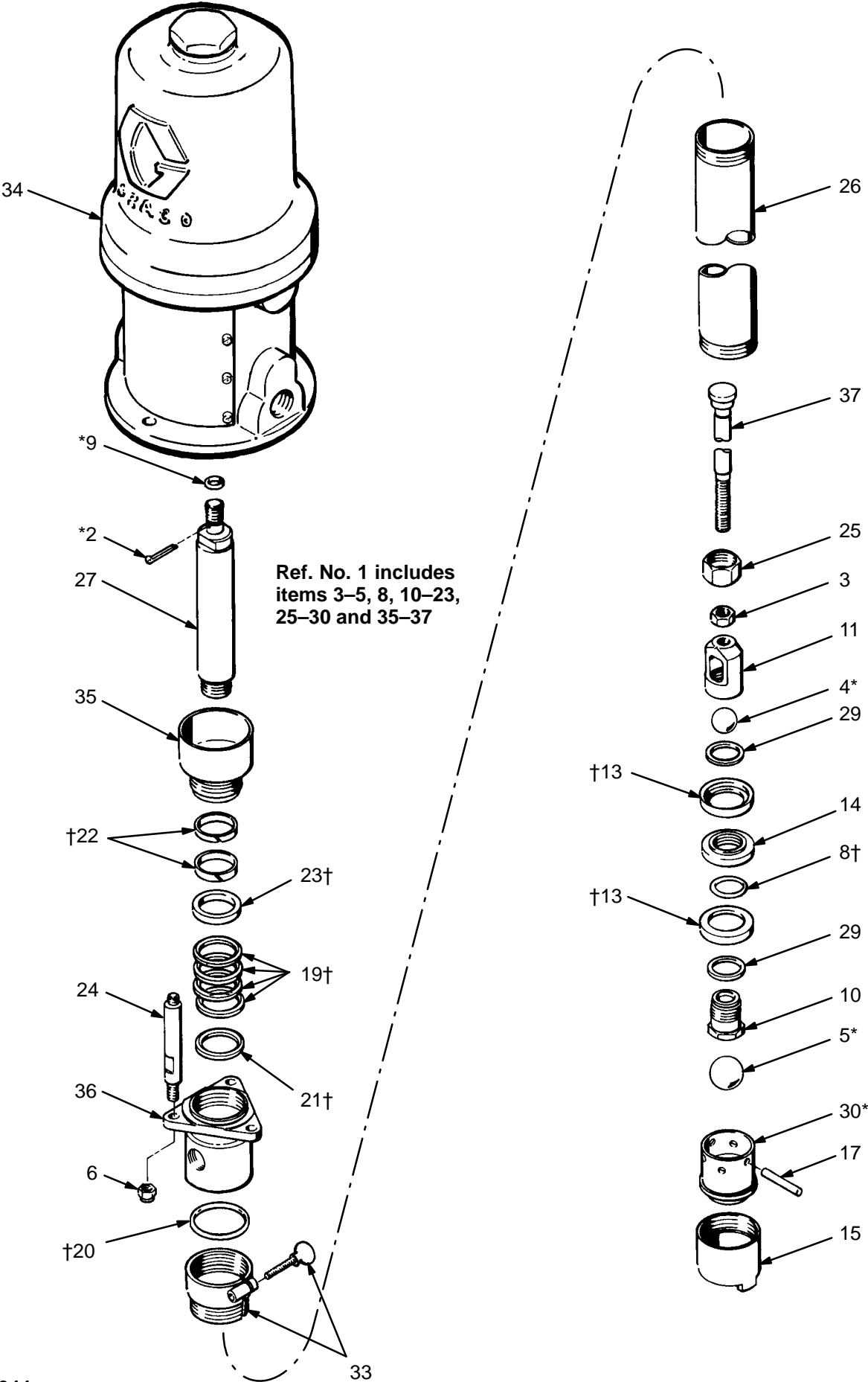


Fig. 6

Parts



Parts

Model 218956, Series D

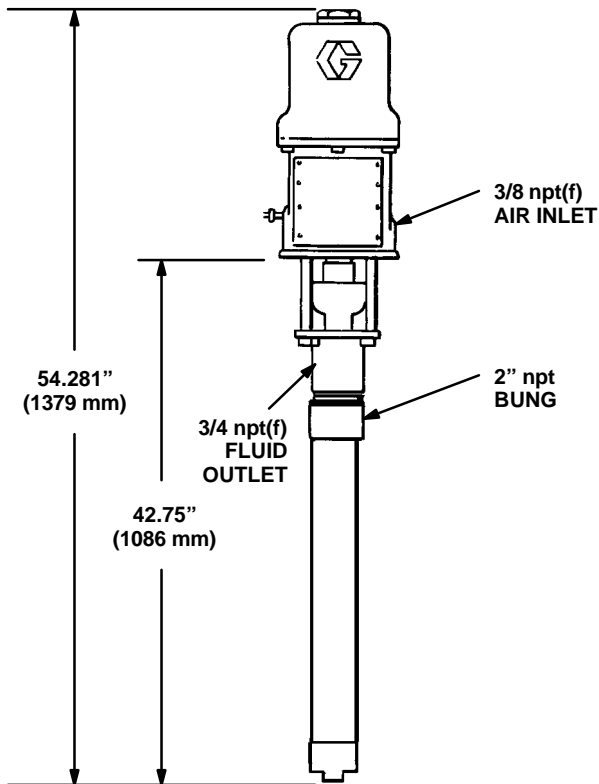
Includes items 1–37

Ref No.	Part No.	Description	Qty.	Ref No.	Part No.	Description	Qty.
1	220465	DISPLACEMENT PUMP Series D Includes items 3–5, 8, 10–23, 25–30, and 35–37	1	20†	164782	O-RING, PTFE	1
2*	100103	PIN, cotter; 0.12" (3.2 mm) dia.; 1/5" (38 mm) long	1	21†	164837	GLAND, male	1
3	100111	NUT, jam; 0.5–20	1	22†	165287	BEARING, PTFE	2
4*	100279	BALL, steel; 0.88" (22.4 mm) dia.	1	23†	165288	GLAND, female	1
5*	101178	BALL, steel; 1.25" (31.8 mm) dia	1	24	24B189	KIT, tie rod	3
6	101566	NUT, lock; 0.19 thd	3	25	166033	NUT, swivel	1
8†	164623	O-RING, PTFE	1	26	24C504	CYLINDER, stainless steel	1
9*	156082	O-RING, nitrile rubber	1	27	24C496	ROD, displacement	1
10	156989	SEAT, piston	1	29	171594	WASHER, backup	2
11	157184	HOUSING, piston	1	30*	204762	SEAT, intake valve	1
13†	162871	PACKING, cup; PTFE	2	33	222308	ADAPTER, bung; with screw	1
14	158857	SPACER, packing	1	34	205997	AIR MOTOR; See manual 307043 for parts	1
15	159839	HOUSING, intake valve	1	35	208312	NUT, packing	1
17	160726	PIN, stop	1	36	192188	HOUSING, outlet; 3/4 npt(f)	1
19†	162866	V-PACKING; PTFE	4	37	208314	ROD, piston	1

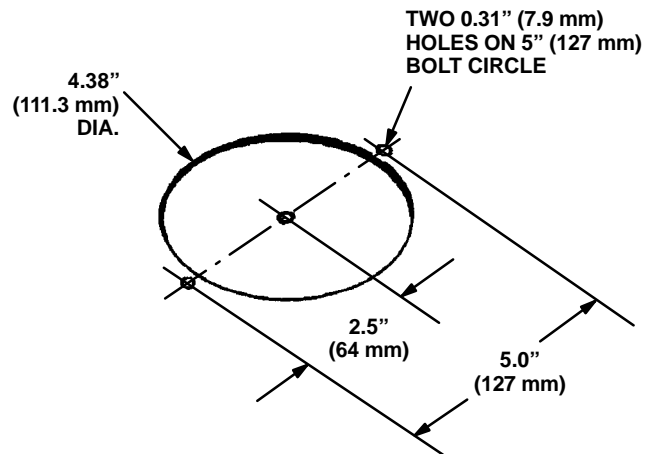
* Recommended tool box spare parts. Keep these parts on hand to reduce down time.

† Included in Repair Kit 208520.

Dimensions



Mounting Hole Layout



Technical Data

Category	Data
Maximum Fluid Working Pressure	900 psi (6.2 MPa, 62 bar)
Maximum Air Input Pressure	180 psi (1.2 MPa, 12 bar)
Pump Cycles per Gallon (3.8 liters)	28
Maximum Recommended Pump Speed	66 cycles per min; 2.5 gpm (9.5 liters/min)
Recommended Speed for Optimum Pump Life	12–25 cycles/min; 0.5–0.9 gpm (1.9–3.3 liters/min)
Air Consumption	approx. 8 scfm (0.23 m ³ /min) at 1 gpm (3.8 liters/min) at 100 psi (0.7 MPa, 7 bar) air pressure
Maximum Displacement Pump Operating Temperature	250° F (121° C)
Maximum Air Motor Operating Temperature	200° F (93° C)
Wetted Parts	Carbon Steel; 304 Grade Stainless Steel; Chrome Plating; PTFE

Notes

The Graco Standard Warranty

Graco warrants all equipment 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.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

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.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS

The parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Information

For the latest information about Graco products, visit www.graco.com.

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-328-0211 Toll Free

612-623-6921

612-378-3505 Fax

All written and visual data contained in this document reflects the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

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