

President 10:1 Ratio Powerflo System

306472 Rev.H

5 Gallon (19 Liter) or 10 Gallon (38 Liter) Portable Cart-Mounted System

1750 psi (121 bar) Maximum Working Pressure

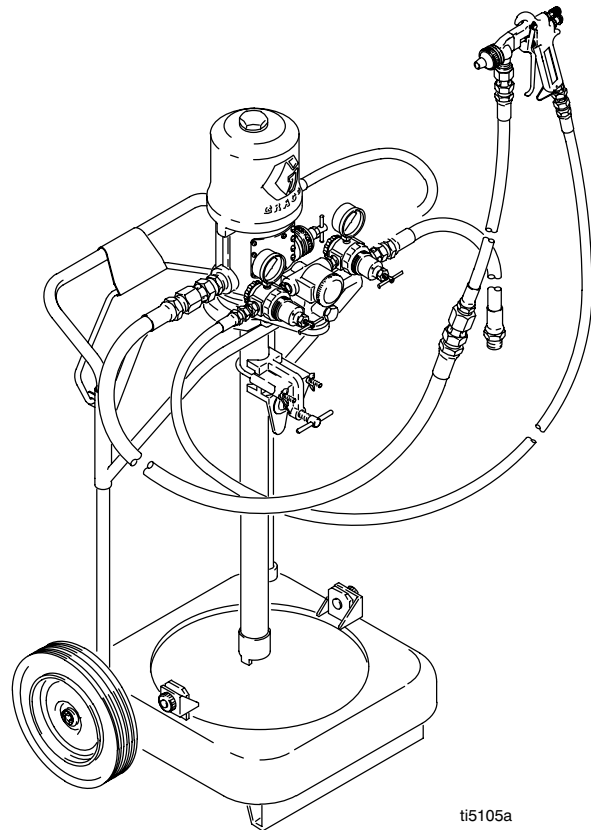
175 psi (12.1 bar) Maximum Air Input Pressure

Model 225841 Spray System

With Evenflo® Control and Spray Gun.



Read warnings and instructions.
See page 2 for table of contents.



ti5105a

Related Manuals

Spray Gun	306494
Evenflo® Automatic Pressure Control ..	306479
10:1 President Pump	306726

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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 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 not sure, call your Graco distributor.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the **Technical Data** for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- 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.
- Handle hoses carefully. Do not pull on hoses to move equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 66°C (150°F) or below -40°C (-40°F).
- Wear hearing protection when operating this equipment.
- Do not move cart during operation or when pressurized to avoid tipping.
- Do not move or lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

WARNING



INJECTION HAZARD

Spray from the gun, 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 is a serious injury. The injury may look like just a cut, but it is a serious injury. Get immediate medical attention.
- 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 if the spray tip clogs and before cleaning, checking or servicing the equipment.
- 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.



MOVING PARTS HAZARD

Moving parts can pinch or amputate your fingers.

- Keep clear of all moving parts when starting or operating the pump.
- Before checking or 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.
- Before operating this equipment, electrically disconnect all equipment in the spray area.
- Before operating this equipment, 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 spraying or while operating 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

General Information

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

NOTE: Always use Genuine Graco Parts and Accessories, available from your Graco distributor.

Grounding

**WARNING**

**FIRE AND EXPLOSION HAZARD**
Before operating the pump, ground the system as explained below. Also read the section **FIRE OR EXPLOSION HAZARD** on page 4.

1. *Pump:* use a ground wire and clamp as shown in Fig. 1. 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. Connect the other end of the wire to a true earth ground. Order part number 222011 Grounding Clamp and Wire.
2. *Air and fluid hoses:* use only electrically conductive hoses.
3. *Air compressor:* follow manufacturer's recommendations.

4. *Spray gun or dispensing valve:* ground through connection to a properly grounded fluid hose and pump.
5. *Object being sprayed:* follow your local code.
6. *Solvent pails used when flushing:* follow 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.
7. *To maintain grounding continuity when flushing or relieving pressure,* hold a metal part of the spray gun firmly to the side of a grounded *metal* pail, then trigger the gun.

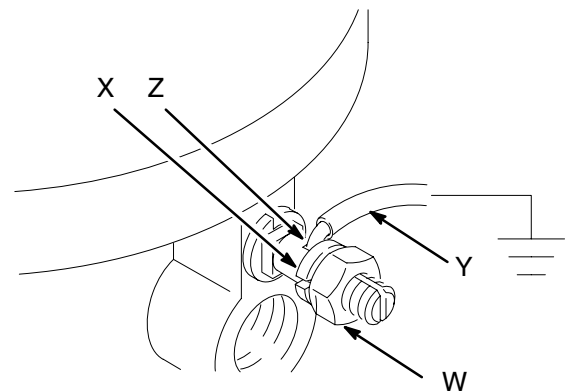


Fig. 1

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Installation

Typical Installation

Slide the truck handle (206) through the elevator (304) slide tubes and into the truck base sockets. Tighten the setscrews (205) in the sockets as shown in Fig. 4.

Mount the Evenflo Control (1) to the pump, using the screws supplied with it to attach the mounting plate to the pump base. Remove the screw and lockwasher from the bottom of the control. Position the control over the small hole of the mounting plate and reinstall the lockwasher and screw.

Connect the air and fluid hoses to the Evenflo Control and the gun as shown in Fig. 2 and Fig. 4. Tape the air and fluid hoses every 18 in. (457 mm) for easier handling.

For automatic air motor lubrication, install an air line lubricator between the pump air inlet and hose (E). Otherwise, just connect the 18 in. (457 mm) hose (E) from the Evenflo Control to the swivel air inlet of the pump. For manual air motor lubrication, see **MAINTENANCE**, page 10.

On the main air supply line, install an air line filter (B) to remove harmful dirt and contaminants from your compressed air supply. Also install a bleed-type master air valve (A).

WARNING

A bleed-type master air valve (A) is required in your system to reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes, and injury from moving parts, if you are adjusting or repairing the pump. Order Part No. 107142

This valve relieves air trapped between the valve and the pump after the air supply is shut off. Trapped air may cause the pump to cycle unexpectedly. Locate the valve within easy access of the pump.

Connect the air hose (12*†) from the 1/2 npt(f) Evenflo swivel air inlet to the main air supply line. Then connect the hose's ground wire (C) to a true earth ground.

Remove the cover from a 5 or 10 gallon supply pail. Secure the pail to the truck base using the long clamps (305) for 5 gallon (19 liter) pails and the short clamps (208) for 10 gallon (38 liter) pails as shown in Fig. 2. Secure the thumbnuts (207).

Unhook the elevator and lower the pump into the pail.

Ground the pump as explained on page 5.

Installation

Key

- A Bleed-type Master Air Valve
- B Air Filter
- C Air Hose Ground Wire
- E 18" Hose
- 1 Evenflo Control
- 5 3/4" Union
- 6 3/8" Union
- 7 Swivel Union
- 8 Nipple
- 9 1" ID Fluid Hose
- 10 3/4" ID Fluid Hose
- 11 3/4 x 1" Union
- 12 Air Supply Hose
- 13 Gun Air Hose
- 14 Pump
- 15 Hand Spray Gun
- 205 Screw
- 206 Handle
- 207 Nut
- 208 Clamp
- 302 Screw
- 303 Lock washer
- 304 Frame
- 305 Clamp

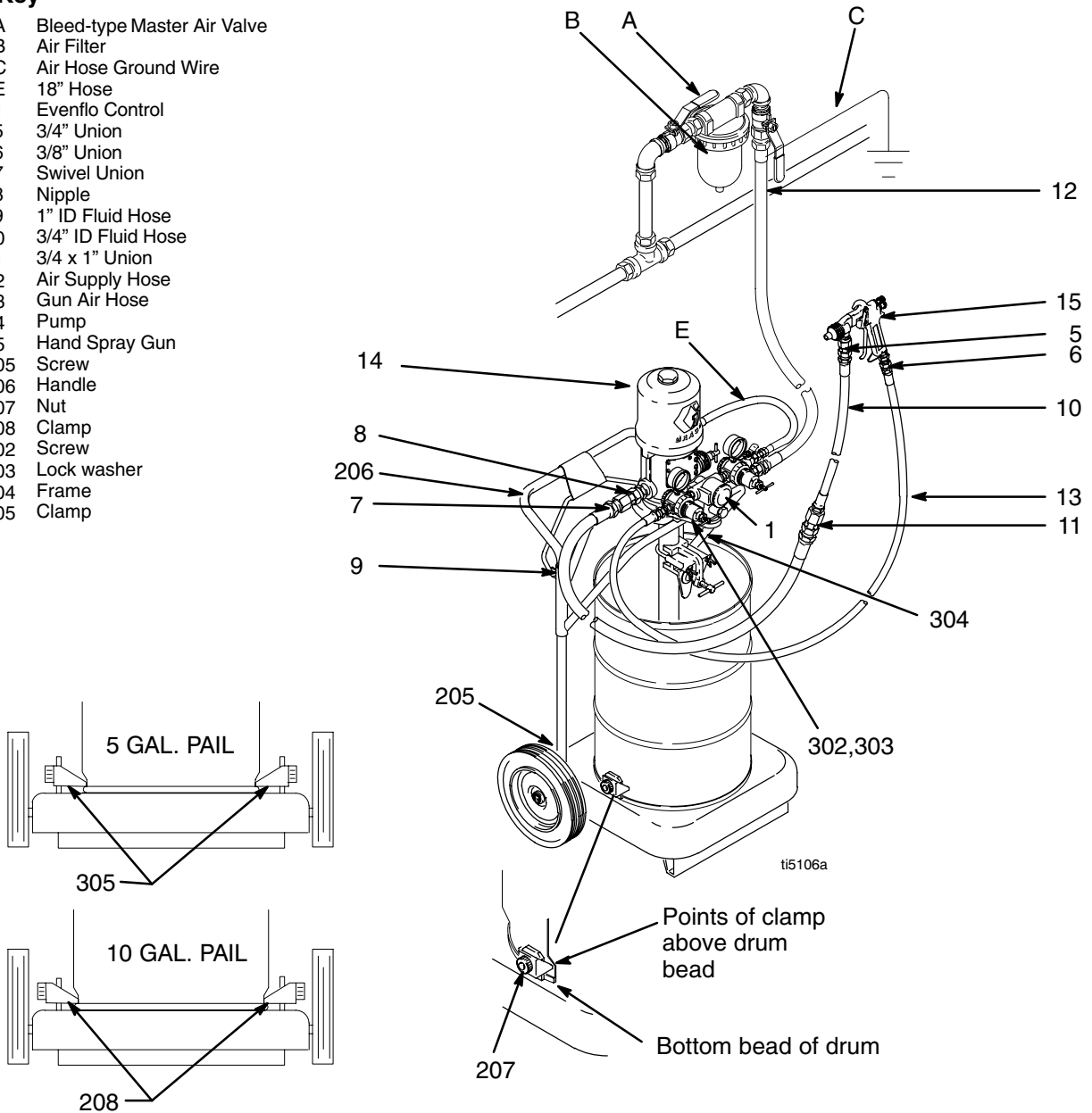


Fig. 2

Operation

Pressure Relief Procedure

With the Evenflo control, its bypass valve, and the pump Relax-A-Valve properly set, fluid pressure is relieved from the pump and hose each time you release the gun trigger. Always engage the gun trigger safety when you stop spraying. To relieve air pressure, close the Evenflo regulators and open the bleed-type master air valve.

WARNING



INJECTION HAZARD

If you suspect that the Evenflo system is not properly set, or that pressure is not fully relieved, the system pressure must

*be manually relieved to prevent the system from starting or spraying accidentally. 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,
- check or service any of the system equipment,
- or install or clean the spray tips.

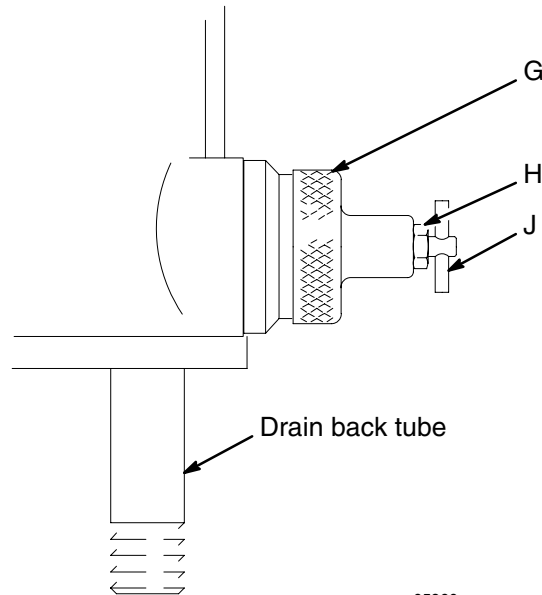
1. Close the air regulators.
2. Open the bleed-type master air valve.
3. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
4. Lock the gun trigger safety.
5. Carefully loosen a fluid hose fitting and relieve pressure gradually.

*If you suspect that the spray tip 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 or hose.*

Relax-A-Valve Automatic Position

To set the pump Relax-A-Valve (G) in the automatic position, loosen the locknut (H), turn the T-handle (J) clockwise as far as possible, and then back-off the handle four turns and tighten the nut. See Fig. 3.

NOTE: Every time you resume spraying, ensure that the Relax-A-Valve is in the automatic position.



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Fig. 3

Operation

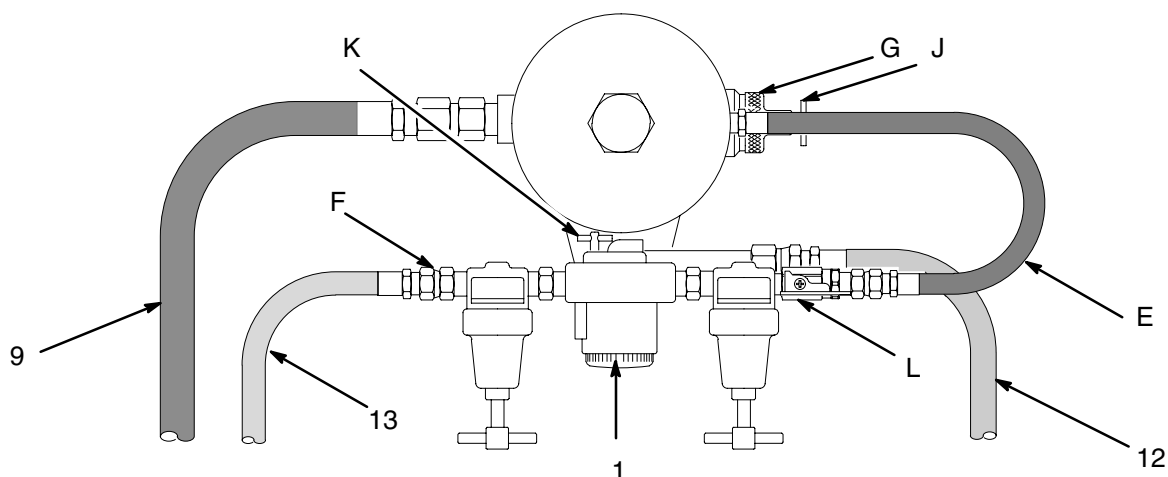


Fig. 4

Mixing by Circulation (Fig. 4)

1. Close the Evenflo bypass valve (K) by turning the valve handle clockwise.
2. Turn both air regulator handles counterclockwise to the free position.
3. Disconnect the gun air atomizing hose (13*) from the left air regulator.
4. Open the Relax-A-Valve handle (J) fully counterclockwise.
5. Open the bleed-type master air valve (A).
6. Turn the left regulator handle clockwise until air bleeds slightly through the open union (F).
7. Turn the right regulator handle clockwise to start the pump. Increase the air pressure until the pump circulates fluid through the Relax-A-Valve return (drain back) tube at the desired rate.
8. After mixing, turn both regulator handles counterclockwise to the free position, connect the air atomization hose (13*) to the left regulator, and set the pump Relax-A-Valve in the automatic position.
4. Set the Relax-A-Valve (G) to automatic.
5. Open the Evenflo ball valve (L) (handle parallel to body), and the bleed-type master air valve (A).
6. Set the atomizing air pressure to the gun at 40 psi (2.8 bar) by turning the left regulator handle clockwise.
7. Direct the gun back into the pail. Release the trigger safety and trigger the gun. Set the right air regulator to 30 psi (2.1 bar). The pump will operate, filling the hose and gun.
8. Adjust the right regulator to the lowest pressure necessary for the desired delivery rate; this varies according to the fluid being pumped and other system characteristics.
9. Release the gun trigger, engage the trigger safety, and install the air cap.
10. Release the trigger safety and trigger the gun. Adjust the left regulator until the fluid is properly atomized. To minimize overspray, use the lowest pressure necessary for good atomization.
11. Adjust the Evenflo bypass valve (K).
 - a. Be sure the Relax-A-Valve (G) is set in the automatic position.
 - b. Be sure regulated air pressure is being supplied to the gun and pump.
 - c. Open the bypass valve (K) **four** full turns counterclockwise from the closed position.
 - d. Trigger the gun, directing the spray into the pail. If the pump does not operate, release the trigger and close the bypass valve 1/4 turn clockwise.
 - e. Trigger the gun again. Repeat step d until the pump starts when the gun is triggered.

Pump Operation (Fig. 4)

NOTE: Fluid can be mixed by circulating it before spraying. See **Mixing by Circulation**.

1. Engage the gun trigger safety. Remove the gun air cap; this prevents fluid from being forced back into the gun's air passages.
2. Turn the Evenflo bypass valve (K) fully in to close it.
3. Set both regulators in the free position by turning the handles fully counterclockwise.

Maintenance

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. Remove and clean the strainer in the Evenflo body, add light oil to the screen cavity and re-assemble every day.
2. If the pump was not flushed and has not been operated for more than one day, disconnect the spray gun fluid hose, turn on the pump, and pump out a small quantity of fluid. This removes any fluid that has set-up in the hose.
3. Whenever you are done spraying for the day, **relieve the pressure**. Cover the pail to protect it from contaminants and air, which may cause the fluid to harden.

NOTE: Be sure you flush the system thoroughly before any fluid has a chance to set-up or harden.

Air Motor Lubrication

If your system does not include an automatic lubricator, remove the hose (E) to the pump air inlet. Place 15 drops of light machine oil in the inlet. Reattach the hose and turn on the air to blow the oil into the motor. Repeat this process *every day*.

Flushing

WARNING



FIRE AND EXPLOSION HAZARD

Before flushing, read the section **FIRE OR EXPLOSION HAZARD** on page 4.



Be sure the entire system and flushing pails are properly grounded. Refer to **Grounding** on page 5.

Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency. Always flush the pump before fluid dries on the displacement rod.

CAUTION

Never leave water or water-base fluid in the pump overnight. If you are pumping water-base fluid, flush with water first, then with a rust inhibitor such as mineral spirits. Relieve the pressure, but leave the rust inhibitor in the pump to protect the parts from corrosion.

WARNING

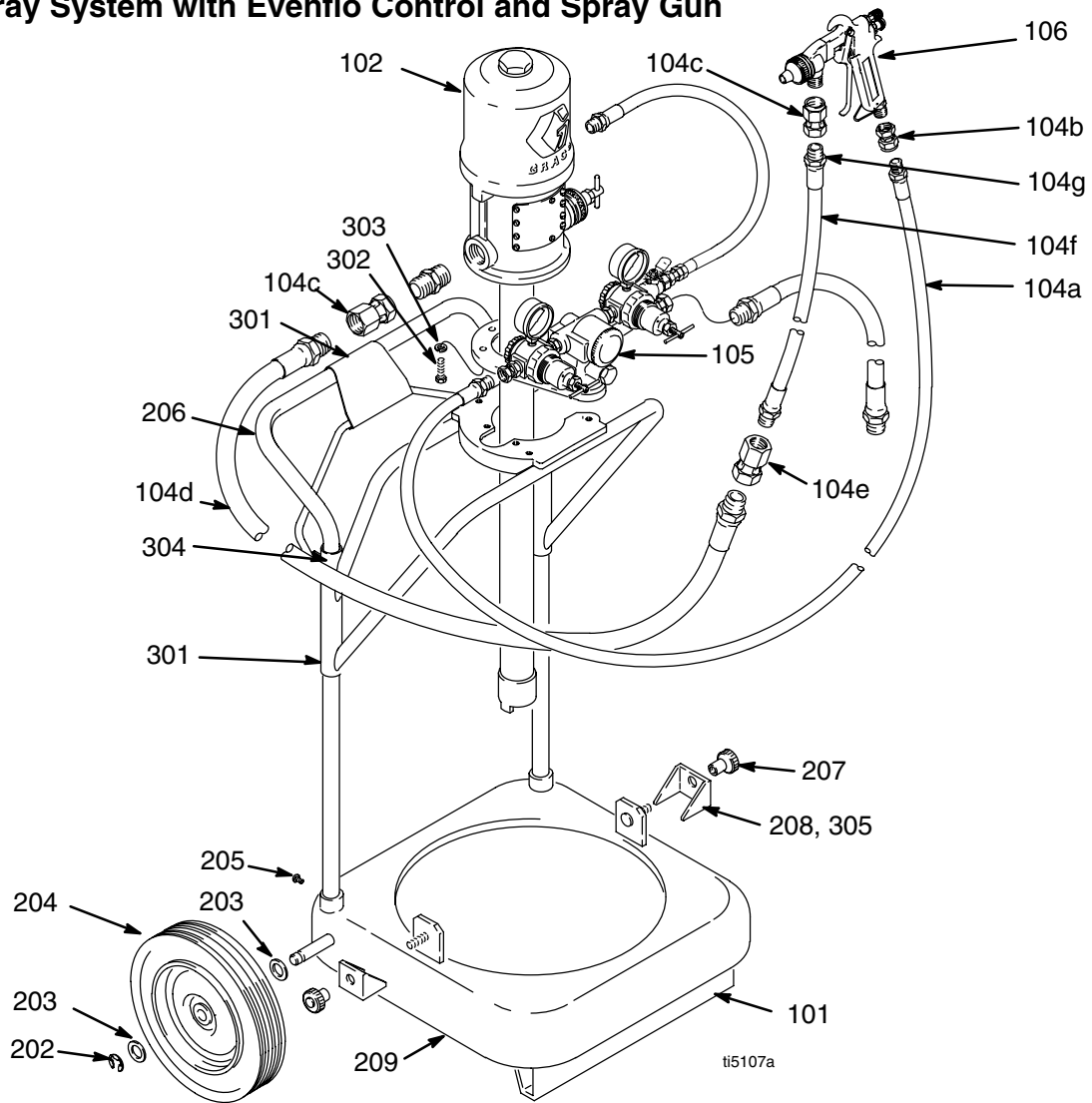
To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 8.

1. **Relieve the pressure.**
2. Remove the spray gun and clean it according to the supplied instructions.
3. Raise the pump out of the supply pail and hook the elevator on the truck handle.
4. Remove the supply pail. Wipe excess fluid off of the pump. Place the pump in a grounded metal flushing container, with enough compatible solvent for flushing the entire system.
5. Open the bleed-type master air valve, the pump Relax-A-Valve, and start the pump. Circulate the solvent for at least 15 minutes.
6. Close the Relax-A-Valve. Direct the fluid hose into the fluid supply pail. Start the pump. When the solvent appears at the hose end, quickly transfer the hose to the flushing pail and allow the pump to circulate solvent through the pump and hose until clean.
7. **Relieve the pressure.**

Parts

Model 225841

Spray System with Evenflo Control and Spray Gun



Parts

Model 225841 Spray System with Evenflo Control and Spray Gun

Ref No.	Part No.	Description	Qty.	Ref No.	Part No.	Description	Qty.
101	203650	TRUCK, portable		107	158256	SWIVEL, union (not shown)	1
		Includes items 202 to 209	1				
102	205627	PUMP, 10:1 President				Ref No. 101	
		See manual 306726 for parts	1			Portable Truck	
103	203664	ELEVATOR				Includes Items 202 to 209	
		Includes items 301 to 305	1				
104	203271	HOSE KIT		202	101242	RING, retaining	1
		Includes items 104a to 104g	1	203	154636	WASHER	4
104a	214651	. HOSE, air; cpld 3/8 npt (mbe).		204	101251	WHEEL	2
		1/2" ID; 17 ft (5.1 m) lg, static free	1	205	100609	SCREW, machine, slotted, pan hd;	
104b	156173	. UNION, str adapter; 3/8 npt (f) x				1/4-20 UNC-2a x 3/8"	2
		3/8 npt (f) swivel	1	206	159924	HANDLE, truck	1
104c	156172	. UNION, str adapter; 3/4 npt (f) x		207	159912	NUT, thumb	2
		3/4 npt (f) swivel	1	208	159913	CLAMP, holddown, 10 gal. (38 liter)	2
104d	215239	. HOSE, fluid; cpld 3/4 npt (mbe), 3/4"		209	203651	BASE, truck	1
		ID; 15 ft (4.5 m) lg	1				
104e	158556	. COUPLING, hex, pipe;				Ref No. 103	
		3/4 x 1/2 npt (fbe)	1			Elevator Assembly	
104f	214601	. HOSE, fluid; 1/2" ID; cpld				Includes Items 301 to 305	
		1/2" npt (mbe) 24" (610 mm)lg	1	301	203666	HANGER, elevator	1
104g	100896	. BUSHING, hex, pipe; 3/4 to 1/2 npt	1	302	101120	SCREW, machine, slotted, pan hd;	
105	202844	"EVEN-FLO" CONTROL				1/4-20 UNC-2a x 1.25"	4
		See manual 306479 for parts	1	303	100016	LOCKWASHER, 1/4"	4
106	204000	SPRAY GUN		304	203665	FRAME, elevator	1
		See manual 306494 for parts	1	305	159952	CLAMP, holddown, 5 gal. (18 liter)	2

Technical Data

Maximum fluid working pressure	1750 psi (121 bar)
Pump air pressure range	40–180 psi (2.8–12 bar)
Maximum gun air pressure	100 psi (7 bar)
Continuous duty delivery*	3 gpm (12 liter/min)
Air Consumption*	13 cfm (0.35 m ³ /min) at 3 gpm (12 liter/min) at 100 psi (7 bar)
Wetted parts	416 Stainless Steel, Nitralloy, Tungsten Carbide Steel, Aluminum, Copper, Buna-N, Nitrile Rubber Leather
Sound Data**	Sound Pressure Level 98 dB(A) Sound Power Level 112.6 dB(A)
Weight	90 lb (41 Kg)

* Additional CFM of air is required for spray gun.

** Sound Level measured at maximum system conditions (225841: 175 psi, 1750 psi fluid). Sound Level measured per ISO 3744–1981.

Dimensions

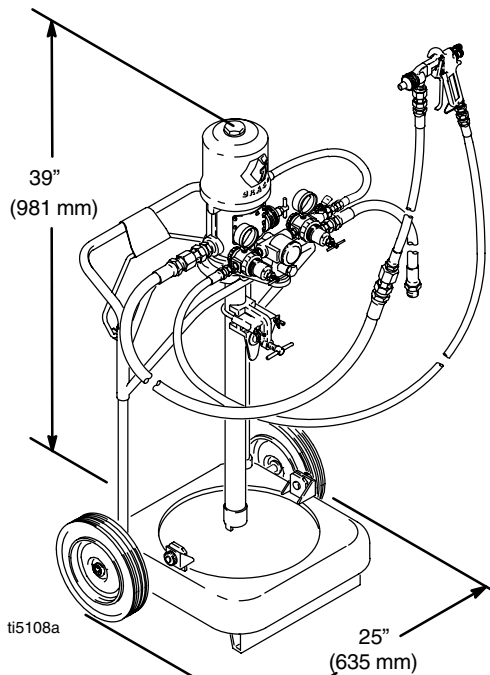


Fig. 5

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

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Graco Information

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

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Sales Office: Minneapolis
International Offices: Belgium, Korea, Hong Kong, Japan

www.graco.com

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