



This manual contains important warnings and information.
READ AND KEEP FOR REFERENCE.

INSTRUCTIONS

First choice when
quality counts.™

Rev. B
Supersedes Rev A

Pistol-Grip Mastic Flo-Gun

4050 psi (27.6 MPa, 276 bar) Maximum Working Pressure

Model 224-526, Series A

Basic Gun

Model 224-472

Complete Gun with Wand and Spray Tip

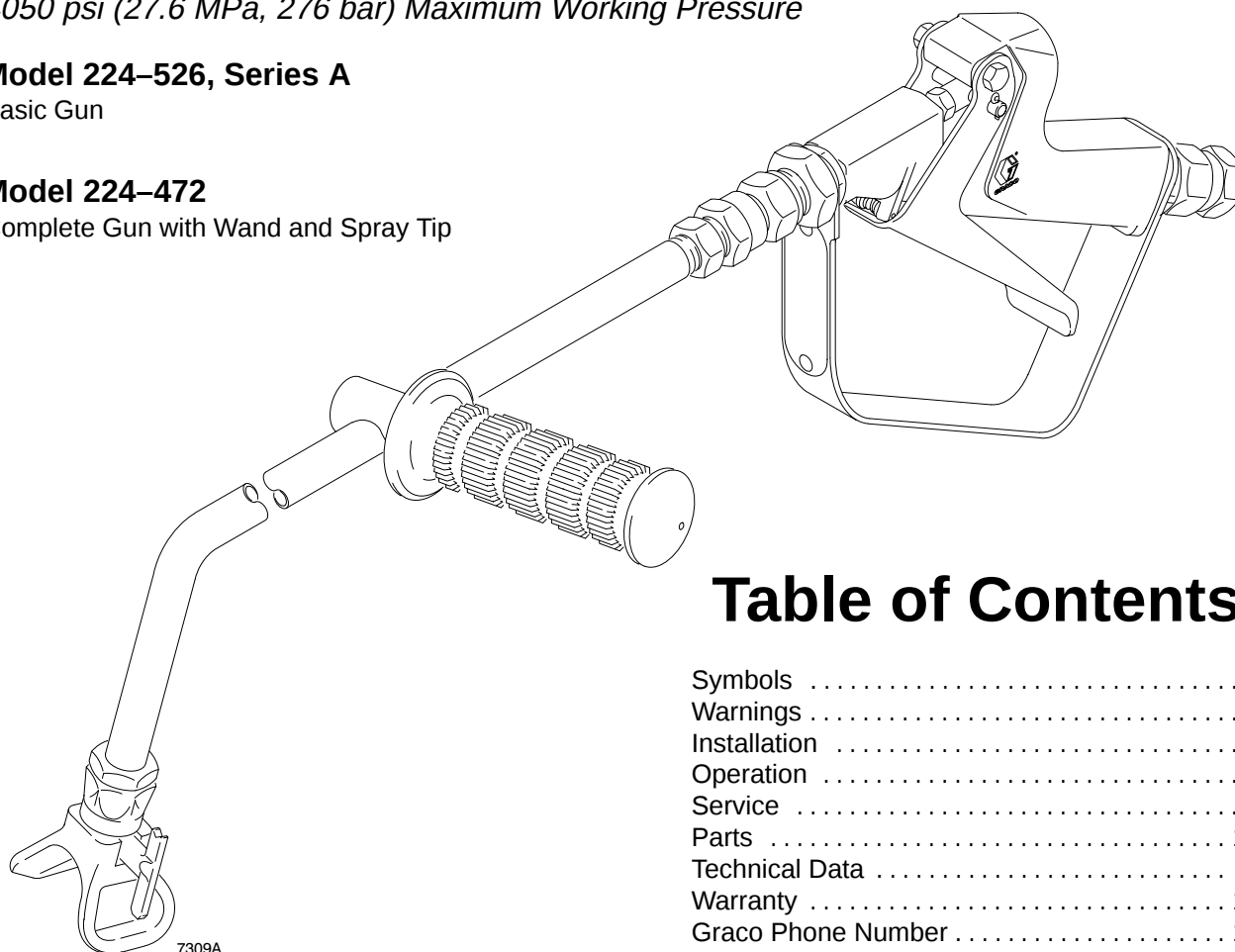


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! WARNING

This gun is factory set to close at 1500 psi (10.2 MPa, 102 bar). If you are using this gun with a system that produces more than 1500 psi (10.2 MPa, 102 bar), adjust the spring pressure according to the stall pressure of your pump, but do not exceed the gun's maximum working pressure of 4050 psi (27.6 MPa, 276 bar). See the procedure on page 7.

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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



INJECTION HAZARD

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

- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate medical attention.**
- Do not point the gun tip at anyone or at any part of the body.
- Do not put hand or fingers over the spray nozzle.
- Do not stop or deflect fluid 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 spraying valve when spraying.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun/valve trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 5 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.
- Tighten all the 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.



TOXIC FLUID HAZARD

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

- Know the specific hazards of the fluid you are using. Read the fluid manufacturer’s warnings.
- Store hazardous fluid in an approved container. Dispose of the hazardous fluid according to all local, state, and national guidelines.
- Wear appropriate protective clothing, gloves, eyewear, and respirator.

Warnings are continued on the next page.

⚠ WARNING



FIRE AND EXPLOSION HAZARD

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

- Ground the equipment and the object being sprayed. See **Grounding** on page 4.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or the fluid being sprayed.
- Extinguish all the open flames or pilot lights in the spray area.
- Electrically disconnect all the equipment in the spray area.
- Keep the dispensing area free of debris, including solvent, rags, and gasoline.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not smoke in the spray area.
- Do not operate a gasoline engine in the spray area.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.



INSTRUCTIONS



EQUIPMENT MISUSE HAZARD

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

- This equipment is for professional use only.
- Read all the 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 the equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. This Flo-Gun has a **4050 psi (27.6 MPa, 276 bar) maximum working pressure**.
- Use fluids that are compatible with the equipment wetted parts. See the **Technical Data** section of all the equipment manuals. Read the fluid manufacturer's warnings.
- Route the hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 180°F (82°C) or below -40°F (-40°C).
- Do not use the hoses to pull equipment.
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and other safety regulations.



MOVING PARTS HAZARD

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

- Do not operate the equipment with the air motor plates removed.
- Keep clear of any moving parts when starting or operating the equipment.

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, ground the system as explained below. Also read the section **FIRE AND EXPLOSION HAZARD** on page 3.



To reduce the risk of static sparking, ground the pump and all other components used or located in the spray/dispensing area. Check your local electrical code for detailed instructions for your area and type of equipment and be sure to ground all of these components.

- *Air compressor and hydraulic power supply:* ground according to local code and manufacturer's recommendations.
- *Fluid hoses:* use only grounded hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity.
- *Dispensing valve:* obtain grounding through connection to a properly grounded fluid hose and pump.
- *Fluid supply container:* according to local code.
- *Object being sprayed:* according to local code.
- *All solvent pails used when flushing,* according to 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.
- *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a grounded metal waste container, then trigger the gun.
- *Pump:* ground the pump by connecting a grounding wire (12 ga minimum) from the pump's grounding lug to a true earth ground.

Operation

Pressure Relief Procedure

 **WARNING**

 **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 dispensing,
- check or service any of the system equipment,
- or install or clean the fluid nozzles.

1. Fully release the gun trigger to set the safety latch.
2. Disconnect the power source.
3. Hold a metal part of the gun firmly to the side of a grounded metal waste container. Disengage the safety latch by pushing the latch in as you trigger the gun to relieve fluid pressure.
4. Fully release the gun trigger to set the safety latch.
5. Open the pump drain valve to help relieve fluid pressure in the pump, hose, and gun. Triggering the gun to relieve pressure may not be sufficient. Have a container ready to catch the drainage.
6. Leave the drain valve open until you are ready to dispense again.

If you suspect that the nozzle or 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 nozzle or hose obstruction.

Operation

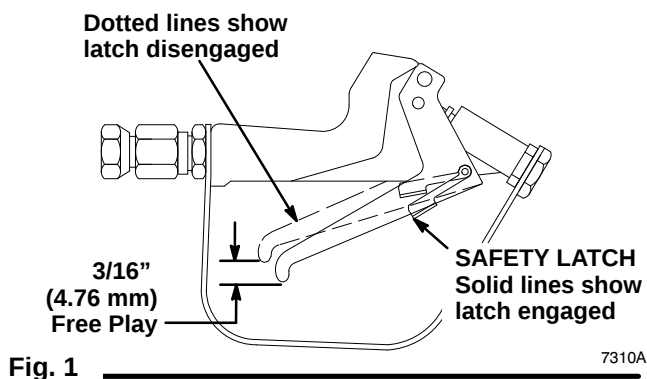
⚠ WARNING

To reduce the risk of serious injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, always follow the **Pressure Relief Procedure** on page 5 when checking, adjusting, servicing, or shutting off any part of the system.

Check the free play of the trigger before operating the gun

A properly adjusted trigger ensures that the flow of fluid is stopped completely when the trigger is released.

1. Hold the gun horizontally as shown. With the safety latch off (see the dotted lines), squeeze the trigger just until you feel resistance. See Fig. 1.
2. Allow the trigger to fall forward, which engages the safety latch (see the solid lines). The distance the trigger moves in the free play, which should be $\frac{3}{16}$ in. See Fig. 1.
3. If the free play is not $\frac{3}{16}$ in., see **Adjust the Trigger Free Travel** on page 8.



Check for proper spring tension

1. See **Adjusting the Spring Tension** on page 7.

To engage the gun safety latch

1. Tip the gun forward and fully release the trigger. See Fig. 2.

To disengage the gun safety latch

1. Push the latch in as you squeeze the trigger. See Fig. 2.

⚠ WARNING

Hold the handle of the wand firmly when triggering the gun to reduce the risk of it kicking back from the surge of pressure, which could cause serious injury.

To dispense fluid

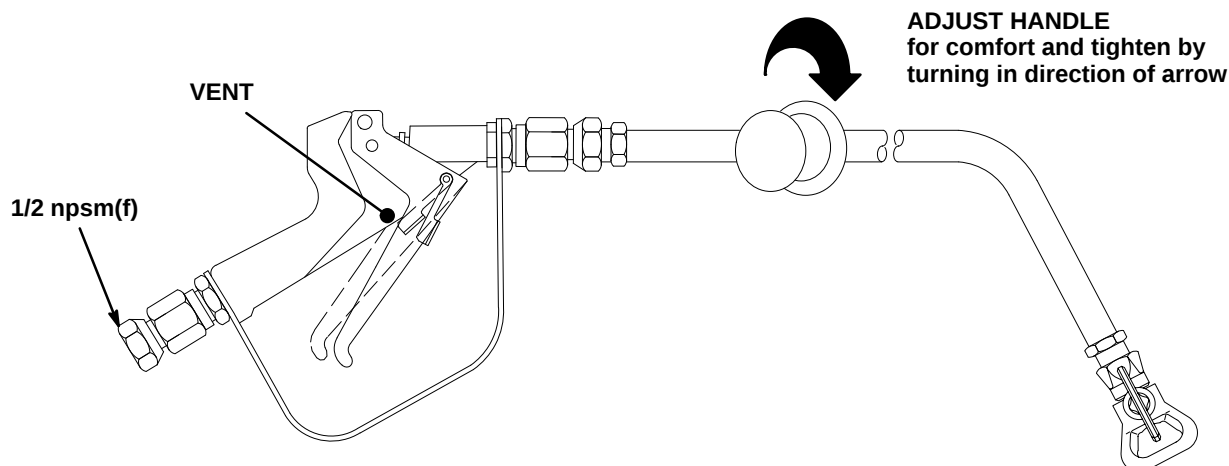
1. Start the supply pump and squeeze the trigger. Fluid flow begins with the slightest pressure and stops when the trigger is released.

To adjust the flow rate

1. Adjust the pump speed to obtain the desired flow rate; always use the lowest pressure necessary. The pressure adjustment will depend on the hose length, viscosity of the fluid, and the nozzle size.

⚠ CAUTION

Periodically inspect the vent for build-up of fluid, which could indicate an internal leak. See Fig. 2. Service the valve needle and packing as needed.



Service

Note: The numbers in parentheses in the text refer to reference numbers in the parts drawing and list.

Adjusting the Spring Tension (Fig. 3)

WARNING

Proper spring tension ensures that the fluid flow stops when the trigger is released, to reduce the risk of injury from fluid injection. The spring tension is factory-set at 1500 psi (10.2 MPa, 102 bar). It can be adjusted up to 4050 psi (27.6 MPa, 276 bar), depending on the normal operating pressure of your system.

Proper spring tension also minimizes operator fatigue by reducing trigger pull.

1. Connect the hose to the gun. Prime the pump with the material you are spraying. Set the pump at your normal operating pressure.
 - a. To set the spring tension at or above 1500 psi (10.2 MPa, 102 bar): Trigger and release the gun; the gun should shut off. If the gun does not shut off, turn the adjustment screw (16) in just until it does, then turn the screw another 1/2 turn.
 - b. To adjust the spring tension lower than 1500 psi (10.2 MPa, 102 bar): Back the adjustment screw (16) out until the gun does not shut off, then turn the screw in 1/2 turn.
2. Trigger the gun several times to be sure it shuts off consistently.

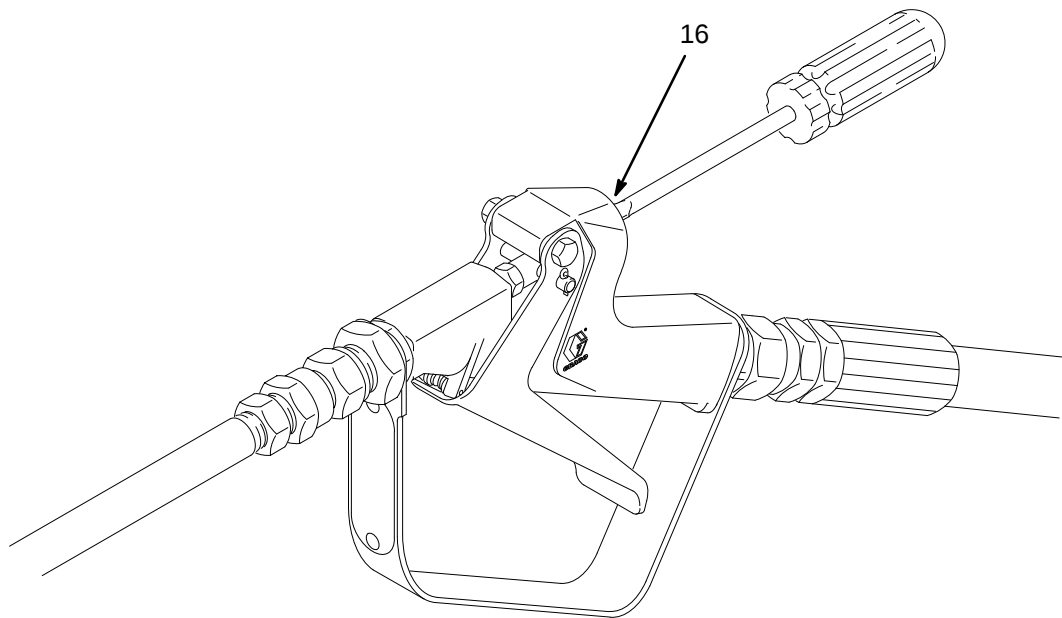


Fig. 3

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Service

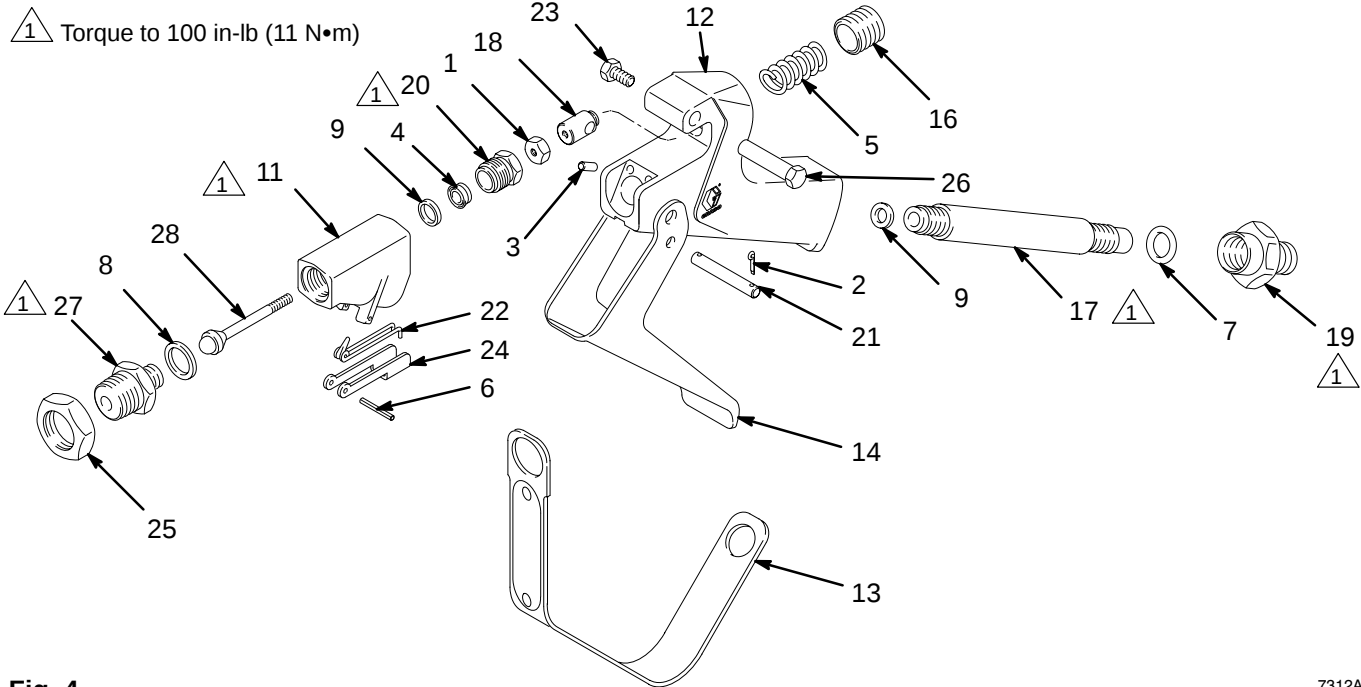


Fig. 4

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Valve Seat and Needle Replacement

If fluid continues to flow after the trigger is released, the gun valve may be obstructed or need adjustment. The valve stem (28) or valve seat (27) may be worn or damaged. See Fig. 4.

Adjusting the Trigger Free Travel

⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 5.

1. **Relieve the pressure.**
2. Disconnect the gun from the hose.
3. Squeeze the gun trigger. Remove the valve seat (27). Let the spring (5) push the valve stem (28) forward and then loosen the nut (1). See Fig. 4.
4. Remove the actuating pin (21). Turn the adjusting nut (18) out a couple of turns. See Fig. 4.
5. Reassemble the gun and check the free play of the trigger. It should be approximately 3/16 inch (4.76 mm). See Fig. 2.
6. Repeat the procedure, turning the adjusting nut (18) as needed, until the correct free travel is obtained.

Inspecting for Obstruction or Damage

⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 5.

1. **Relieve the pressure.**
2. Disconnect the hose from the gun.

⚠ CAUTION

Squeeze the trigger when removing the valve seat (27). Handle the valve seat and valve stem (28) carefully to avoid damaging the hard carbide portion of these parts.

3. Disassemble the gun. See Fig. 2.
4. Clean and inspect the parts. Replace any worn or damaged parts and reassemble the gun.
5. Adjust the free travel of the trigger as instructed at left.

Service

Valve Needle and Packing Replacement

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 5.

1. If fluid leaks past the v-block packing (4), the seal housing (20) may be loose, or the v-block packing (4) or valve stem (28) may be worn. Tighten the seal housing. See Fig. 5.
2. If the gun still leaks, **relieve the pressure**.

3. Disconnect the hose from the gun. Disassemble the gun and replace the v-block packing (4) and the copper gasket (9). See Fig. 5.

CAUTION

When tightening the bushing (19), be sure to grip the gun body (11), not the handle (12). This reduces the chance of loosening the connections and damaging the gun.

 Torque to 100 in-lb
(11 N•m)

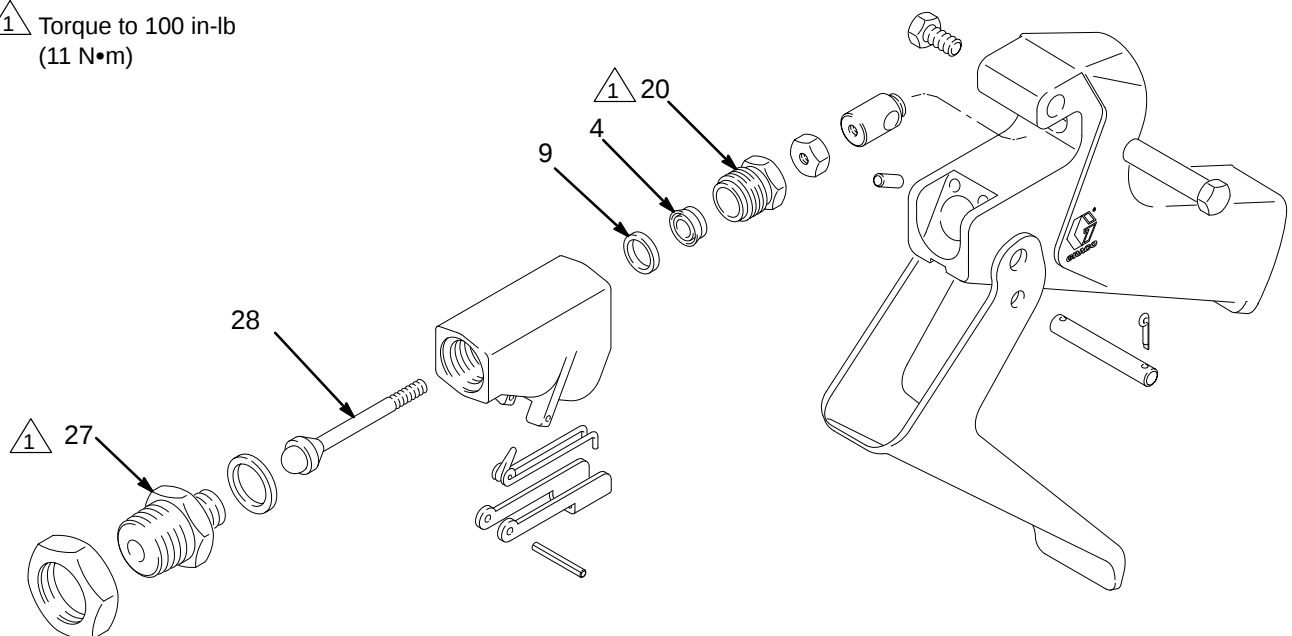
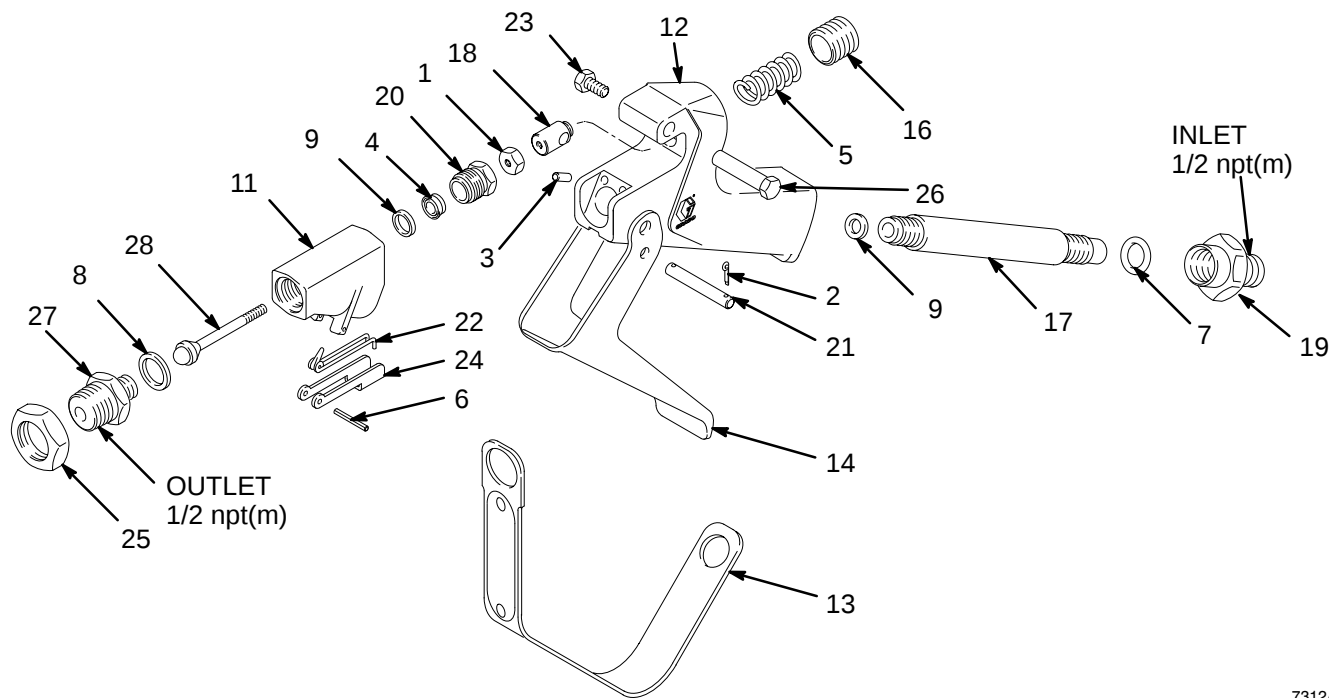


Fig. 5

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Parts

Model 224-526 Basic Gun



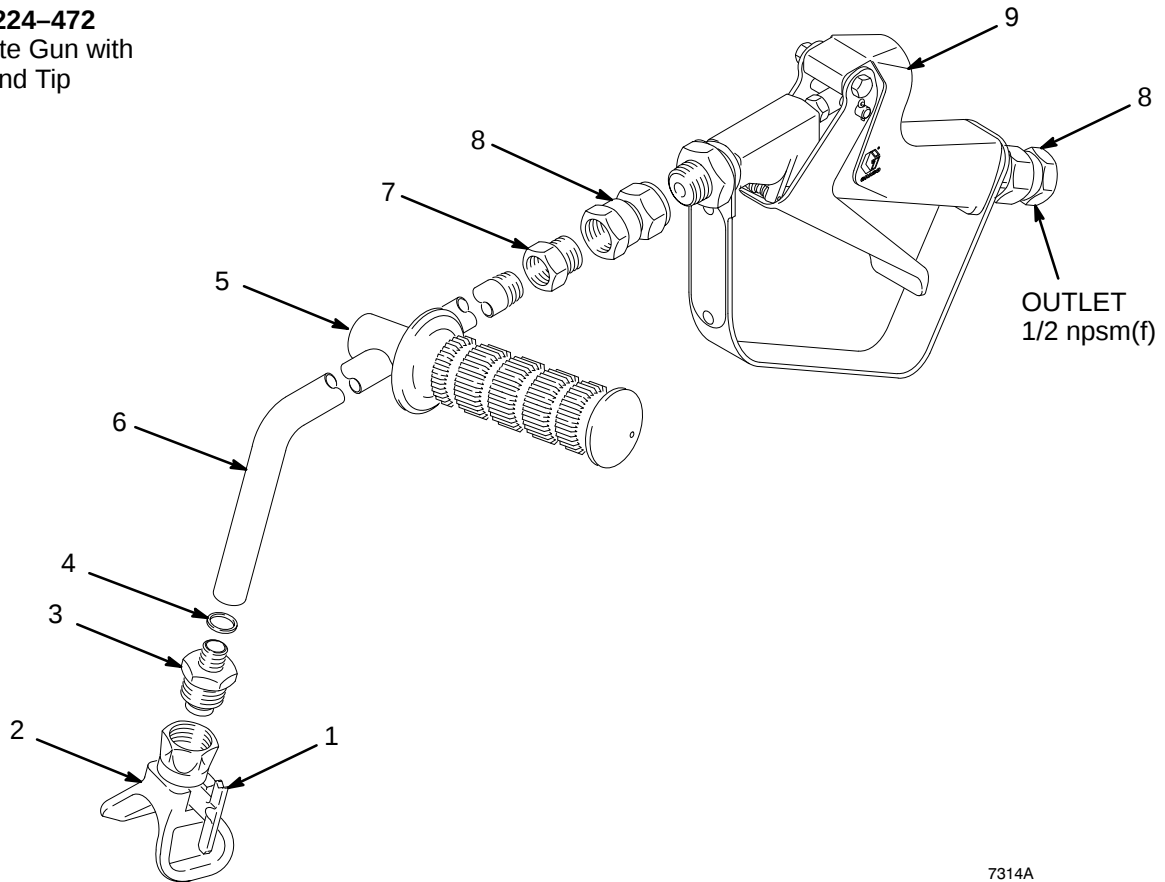
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Ref No.	Part No.	Description	Qty.	Ref No.	Part No.	Description	Qty.
1	100-975	NUT, hex; No. 5-40	1	16*	168-685	SCREW, spring adjusting	1
2	101-421	PIN, cotter; 0.062" (1.59 mm) x 0.375" (9.52 mm)	2	17	187-143	TUBE, insert	1
3	102-232	PIN, spring; 0.094" (2.38 mm) x 0.25" (6.4 mm)	2	18*	168-687	NUT, adjusting	1
4*	102-921	SEAL, v-block; polyurethane	1	19	187-255	NIPPLE, adapter, 1/2 npt(m)	1
5*	102-924	SPRING, compression	1	20	168-689	HOUSING, seal	1
6*	102-925	PIN, spring	1	21	187-340	PIN	1
7*	154-771	O-RING; nitrile rubber	1	22*	168-691	SPRING, safety	1
8*	156-766	GASKET, copper; valve seat	1	23*	168-692	PIN, pivot	1
9*	160-079	GASKET, copper; gun body	2	24	168-693	LATCH, safety	1
10	102-299	RIVET	2	25	187-142	NUT, jam, 1/2 npsm	1
11	168-674	BODY, gun	1	26	203-953	SCREW, lock	1
12	187-336	HANDLE	1	27	224-447	SEAT, valve, 1/2 npt(m)	1
13	187-209	GUARD, trigger	1	28*	215-224	STEM, valve	1
14	168-682	TRIGGER	1				
15	187-145	PLATE, warning	1				

* Recommended "Tool Box" spare parts. Keep these spare parts on hand to reduce down time.

Parts

Model 224-472
Complete Gun with
Wand and Tip



Ref No.	Part No.	Description	Qty.	Ref No.	Part No.	Description	Qty.
1	GHD-861	SPRAY TIP	1	6	187-167	TUBE	1
2	222-674	RAC IV	1	7	158-212	BUSHING, 1/2 npt(m) x 3/8 npt(f)	1
3	187-177	ADAPTER, valve seat	1	8	155-865	UNION ADAPTER, 1/2 npt(f) x 1/2 npsm(f) swivel	2
4	168-845	GASKET, copper	1				
5	111-346	HANDLE, adjustable	1	9	224-526	MASTIC FLOW GUN	1

Technical Data

Category	Data
Maximum Working Pressure	4050 psi (27.6 MPa, 276 bar)
Inlet Port Size	<i>Basic Gun:</i> 1/2 npt(m) <i>Complete Gun:</i> 1/2 npsm(f)
Outlet Port Size	<i>Basic Gun:</i> 1/2 npt(m)
Wetted Parts	Steel, Tungsten Carbide, Copper, Buna-n, Polyurethane, Stainless Steel
Height	5.25" (133 mm)
Length	10.25" (260 mm)
Weight	2.22 lb (1 kg)

The Graco Warranty and Disclaimers

Graco warrants all equipment listed in this manual which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor 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.

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, gas engines, 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.

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Graco Phone Number

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:
1-800-367-4023 Toll Free.

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