



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

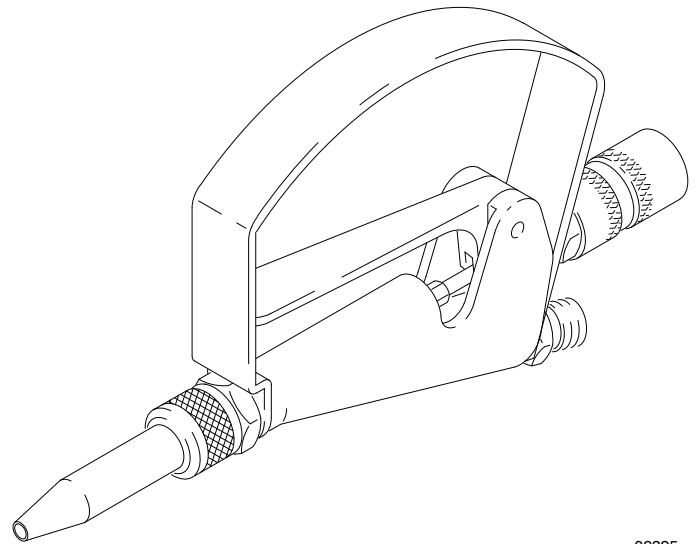
INSTRUCTIONS

Extrusion Flo-Valve

Model 204-355, Series K

3000 psi (210 bar) Maximum Working Pressure

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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



INJECTION HAZARD

Spray from the valve, 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 medical attention.**
- Do not point the valve at anyone or at any part of the body.
- Do not put your hand or fingers over the valve nozzle.
- 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 trigger guard on the valve when dispensing.
- Be sure the valve trigger safety operates before dispensing.
- Lock the valve trigger safety when you stop dispensing.
- Follow the **Pressure Relief Procedure** on page 5 if the valve nozzle 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.



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.

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.
- 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).
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



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. Refer to **Grounding** on page 4.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop dispensing 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 dispensed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Before operating this equipment, electrically disconnect all equipment in the dispense area.
- Before operating this equipment, extinguish all open flames or pilot lights in the dispense area.
- Do not smoke in the dispense area.
- Do not turn on or off any light switch in the dispense area while dispensing or while operating if fumes are present.
- Do not operate a gasoline engine in the dispense area.

Installation

General Information

NOTE: Reference numbers and letters in parentheses in the text refer to the callouts in the parts drawing, page 7. Parts included in repair kit 207–160 are indicated with a † for example (4†).

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 3.

1. *Pump:* use a ground wire and clamp as shown in your separate pump manual.
2. *Fluid hoses:* use only grounded fluid hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity. Check the electrical resistance of your fluid hoses at least once a week. If your hose does not have a tag on it which specifies the maximum electrical resistance, contact the hose supplier or manufacturer for the maximum resistance limits. If the hose resistance exceeds the recommended limits, replace it immediately.
3. *Air compressors and hydraulic power supplies:* ground the equipment according to the manufacturer's recommendations.
4. *Flo-valve:* ground through connection to a properly grounded fluid hose and pump.
5. *Fluid supply container:* Ground according to your local code.
6. *Flammable liquids in the spray area:* must be kept in approved, grounded containers. Do not store more than the quantity needed for one shift.
7. *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.
8. *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.

Operation

Pressure Relief Procedure

WARNING



INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or dispensing 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 dispensing,
- check or service any of the system equipment,
- or install or clean the nozzle.

1. Fully release the valve trigger and turn the valve trigger safety (22) fully clockwise.
2. Shut off the fluid supply pump.
3. Hold a metal part of the gun firmly to the side of a grounded metal pail, disengage the trigger safety and trigger the valve to relieve pressure.
4. Fully release the valve trigger and release the trigger safety.
5. Open the pump drain valve to help relieve pressure in the pump, hose, and valve. 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.

Operation

WARNING

To reduce the risk of serious injury, whenever the valve is not in use, engage the trigger safety by turning the safety knob (22) clockwise all the way.

Adjust the pump to the minimum speed necessary to deliver the material at a satisfactory rate.

If desired, further adjustment of the flow rate may be obtained by turning the hex portion of the safety assembly in or out.

Flow Rate Adjustment

To dispense material, squeeze the trigger (15) all the way. Flow begins with the slightest pressure and continues until the trigger is released.

Lubrication and Care

Keep the valve clean, and oil the exposed portion of the valve stem with a light, high grade machine oil daily.

Service

Valve Seat and Stem 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.

If flow continues after the trigger (15) is released, it may be due to poor adjustment, obstructions, or worn or damaged parts.

For proper adjustment, there should be from 0.12 in. to 0.31 in. (3.2 to 7.9 mm) handle end play. To adjust, remove the safety assembly (22) and squeeze the handle to move the adjusting nut out of the housing. Loosen the cap screw in the adjusting nut and unscrew the nut a few turns. Push the valve stem in so its tip is against the seat and adjust the nut in or out until there is 0.12 in. to 0.31 in. (3.2 to 7.9 mm) handle end play. Move the nut out of the housing, tighten the cap screw, and reinstall the parts in the housing.

CAUTION

The hard carbide portion of the seat and stem is easily damaged. Take care not to damage this part of the valve.

To remove an obstruction or repair the valve, **relieve the pressure** and disconnect the hose. Disassemble, clean and inspect the parts. Replace any worn or damaged parts and reassemble. Adjust the handle end play as explained at left.

Valve Stem Packing Replacement.

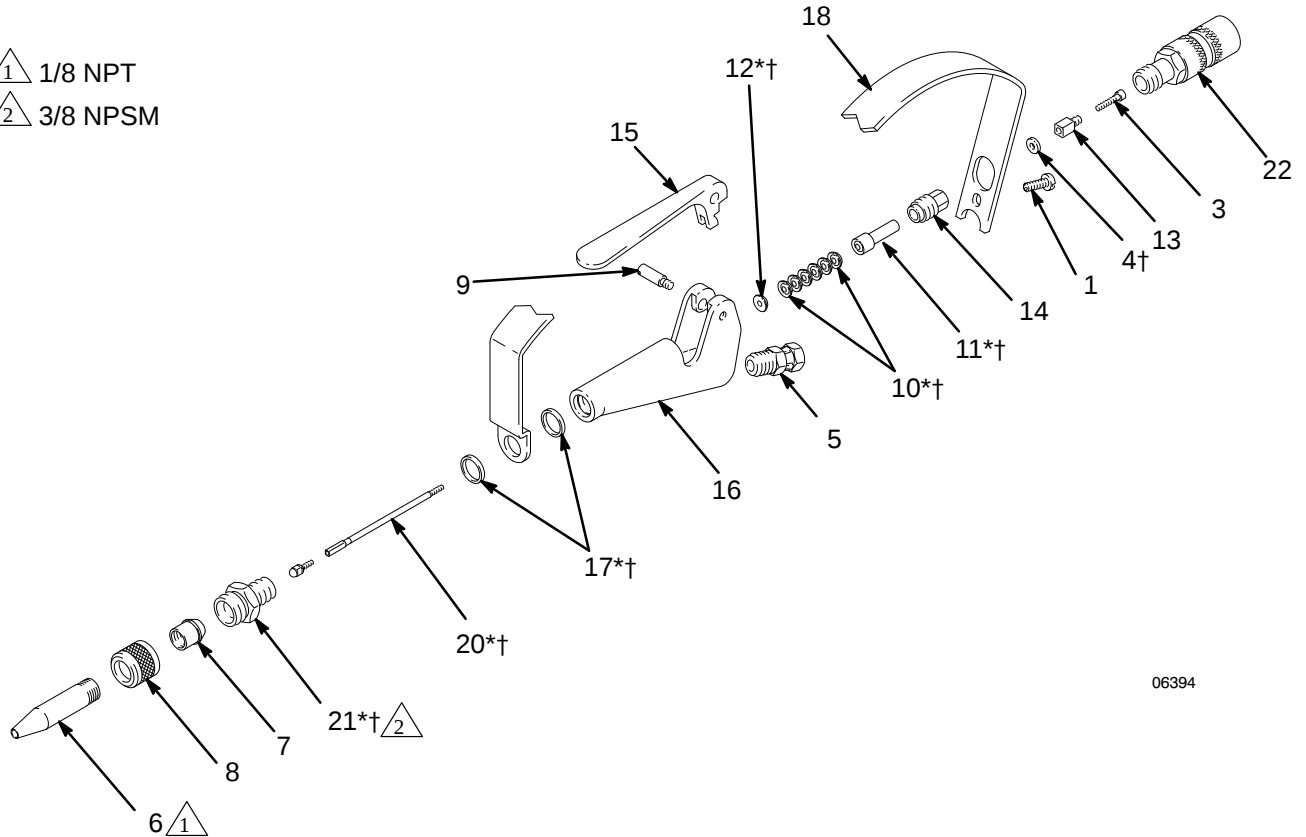
WARNING

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

Material leaking past the packings may be due to a loose packing screw (14) or to worn or damaged packings (10*†) or stem (20*†). Remove the handle and tighten the packing screw. If the leak continues, **relieve the pressure**, disconnect the hose, and disassemble the gun. Replace parts as necessary and reassemble the gun.

Parts

- △₁ 1/8 NPT
△₂ 3/8 NPSM



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Parts List

Ref. No.	Part No.	Description	Qty.
1	100-036	SCREW, mach; No. 10-24 x 0.5"	1
3	104-301	SCREW, soc hd cap; No. 5-20 x 0.625"	1
4†	151-395	WASHER, steel	1
5	157-705	UNION, swivel; 3/8 npsm swivel x 1/4 npt(m)	1
6	161-505	NOZZLE; .09" (2.4 mm) ID	1
7	161-506	ADAPTER, nozzle	1
8	161-507	RETAINER, tip	1
9	165-086	SCREW, pivot	1
10*†	165-672	V-PACKING; PTFE	6
11*†	165-674	GLAND, packing; female	1
12*†	165-675	GLAND, packing; male	1
13	165-676	NUT, adjusting	1
14	165-677	SCREW, packing	1
15	165-678	TRIGGER	1
16	165-679	HOUSING, valve	1
17*†	168-845	GASKET, copper	2
18	224-707	GUARD, trigger	1
20*†	204-629	STEM, valve	1
21*†	208-063	SEAT, valve	1
22	210-170	SAFETY, trigger	1

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

† These parts are included in repair kit 207-160.

Accessories

Nozzle Part No.	Orifice Diameter
607-665	0.125 in. (3.175 mm)
680-517	0.062 in. (1.575 mm)
680-544	0.078 in. (1.981 mm)
164-799	0.055 in. (1.397 mm)

Technical Data

Height 9.25 in. (235 mm)
Width 5.25 in. (133.4 mm)
Weight 2 lb (.9 kg)

Graco Warranty and Disclaimers

WARRANTY

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. 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.

For Sales to Canadian Customers:

Except as expressly stated herein, Graco makes no representations, warranties or conditions, express, implied or collateral, concerning any goods or services sold, and **GRACO SHALL NOT BE LIABLE IN ANY MANNER FOR** any other representation, warranty or condition of any kind, whether arising by operation of law or otherwise, including but not limited to, **WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

LIMITATION OF LIABILITY

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or for 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.

Manual Change Summary

- The entire manual was revised electronically.
- Ref. No. 18 (GUARD, trigger) was changed from 168–846 to 224–707
- The accessory nozzles were added to page 7.

Sales Offices: Atlanta, Chicago, Detroit, Los Angeles

Foreign Offices: Belgium, Canada, England, Korea, Switzerland, France, Germany, Hong Kong, Japan

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