

# FUSION™

## ADJUSTABLE FLOW CAP KIT

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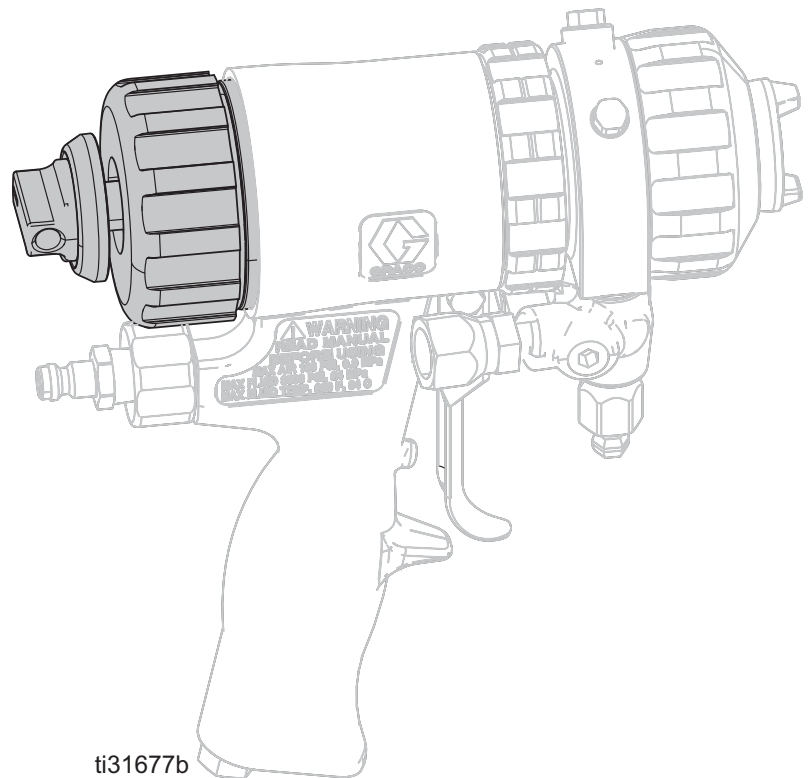
*To allow variable flow to the Fusion AP gun. For use with Fusion AP gun only.  
For professional use only. Not approved for use in explosive atmosphere locations.*

Model 25D632



### Important Safety Instructions

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



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## Related Manuals

The following manual provides information for the Fusion AP gun. Visit [www.graco.com](http://www.graco.com) for the most current manual revisions.

Manual	Description
309550	Fusion AP Gun

# Warnings

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

 <h2 style="margin: 0;">WARNING</h2>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well-ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking).</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Never spray or flush solvent at high pressure.</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive.</li> <li>• <b>Stop operation immediately</b> if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>
	<p><b>SKIN INJECTION HAZARD</b></p> <p>High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Engage trigger lock when not dispensing.</li> <li>• Do not point dispensing device at anyone or at any part of the body.</li> <li>• Do not put your hand over the fluid outlet.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop dispensing and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses and couplings daily. Replace worn or damaged parts immediately.</li> </ul>



# WARNING



## EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

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



## PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Do not use chlorine bleach.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.





## TOXIC FLUID OR FUMES HAZARD

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

- Read Safety Data Sheets (SDSs) for handling instructions and to know the specific hazards of the fluids you are using, including the effects of long-term exposure.
- When spraying, servicing equipment, or when in the work area, always keep work area well-ventilated and always wear appropriate personal protective equipment. See **Personal Protective Equipment** warnings in this manual.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

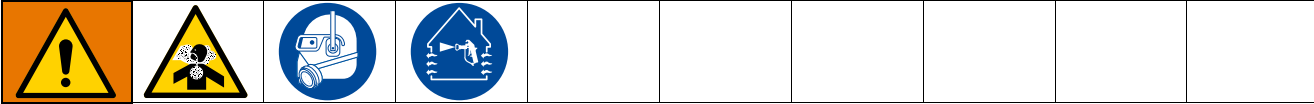
 **WARNING**

	<p><b>BURN HAZARD</b> Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"><li>• Do not touch hot fluid or equipment.</li></ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b> Always wear appropriate personal protective equipment and cover all skin when spraying, servicing equipment, or when in the work area. Protective equipment helps prevent serious injury, including long-term exposure; inhalation of toxic fumes, mists or vapors; allergic reaction; burns; eye injury and hearing loss. This protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"><li>• A properly fitting respirator, which may include a supplied-air respirator, chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority.</li><li>• Protective eyewear and hearing protection.</li></ul>

# Important Isocyanate (ISO) Information

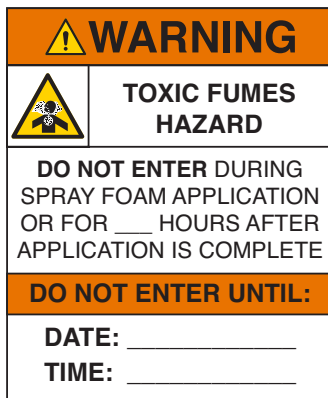
Isocyanates (ISO) are catalysts used in two component materials.

## Isocyanate Conditions



Spraying or dispensing fluids that contain isocyanates creates potentially harmful mists, vapors, and atomized particulates.

- Read and understand the fluid manufacturer’s warnings and Safety Data Sheets (SDSs) to know specific hazards and precautions related to isocyanates.
- Use of isocyanates involves potentially hazardous procedures. Do not spray with this equipment unless you are trained, qualified, and have read and understood the information in this manual and in the fluid manufacturer’s application instructions and SDSs.
- Use of incorrectly maintained or mis-adjusted equipment may result in improperly cured material, which could cause off gassing and offensive odors. Equipment must be carefully maintained and adjusted according to instructions in the manual.
- To prevent inhalation of isocyanate mists, vapors and atomized particulates, everyone in the work area must wear appropriate respiratory protection. Always wear a properly fitting respirator, which may include a supplied-air respirator. Ventilate the work area according to instructions in the fluid manufacturer’s SDSs.
- Avoid all skin contact with isocyanates. Everyone in the work area must wear chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority. Follow all fluid manufacturer recommendations, including those regarding handling of contaminated clothing. After spraying, wash hands and face before eating or drinking.
- Hazard from exposure to isocyanates continues after spraying. Anyone without appropriate personal protective equipment must stay out of the work area during application and after application for the time period specified by the fluid manufacturer. Generally this time period is at least 24 hours.
- Warn others who may enter work area of hazard from exposure to isocyanates. Follow the recommendations of the fluid manufacturer and local regulatory authority. Posting a placard such as the following outside the work area is recommended:



## Material Self-ignition



Some materials may become self-igniting if applied too thick. Read material manufacturer’s warnings and Safety Data Sheets (SDSs).

## Keep Components A and B Separate



Cross-contamination can result in cured material in fluid lines which could cause serious injury or damage equipment. To prevent cross-contamination:

- **Never** interchange component A and component B wetted parts.
- Never use solvent on one side if it has been contaminated from the other side.

## Moisture Sensitivity of Isocyanates

Exposure to moisture (such as humidity) will cause ISO to partially cure, forming small, hard, abrasive crystal that become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity.

<b>NOTICE</b>
<p>Partially cured ISO will reduce performance and the life of all wetted parts.</p> <ul style="list-style-type: none"> <li>• Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. <b>Never</b> store ISO in an open container.</li> <li>• Keep the ISO pump wet cup or reservoir (if installed) filled with appropriate lubricant. The lubricant creates a barrier between the ISO and the atmosphere.</li> <li>• Use only moisture-proof hoses compatible with ISO.</li> <li>• Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.</li> <li>• Always lubricate threaded parts with an appropriate lubricant when reassembling.</li> </ul>

**NOTE:** The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

## Foam Resins with 245 fa Blowing Agents

Some foam blowing agents will froth at temperatures above 90°F (33°C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

## Changing Materials

### **NOTICE**

Changing the material types used in your equipment requires special attention to avoid equipment damage and downtime.

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- When changing between epoxies and urethanes or polyureas, disassemble and clean all fluid components and change hoses. Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.



# Grounding

<p>The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.</p>				

Check your local electrical code and proportioner manual for detailed grounding instructions.

Ground the spray gun through connection to a Graco-approved grounded fluid supply hose.

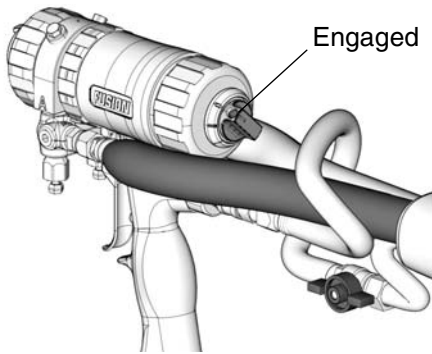
# Piston Safety Lock

Engage piston safety lock whenever you stop spraying to avoid accidental triggering.

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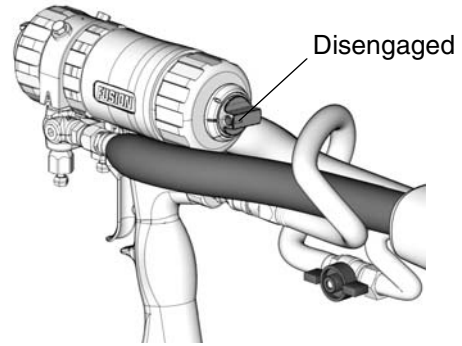
## Engage

To engage piston safety lock, push knob in and turn clockwise. If engaged, the gun will not actuate.



## Disengage

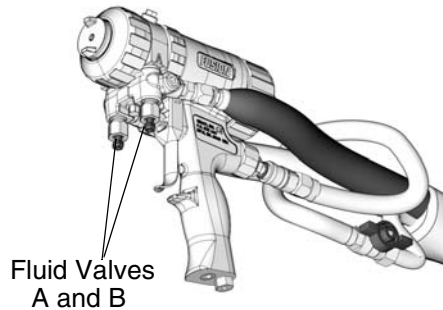
To disengage the piston safety lock, push the knob in and turn counterclockwise until it pops out. There will be a gap between the knob and gun body.



## Loss of Air Pressure

In the event of loss of air pressure, the gun will continue to spray. To shut the gun off, do one of the following:

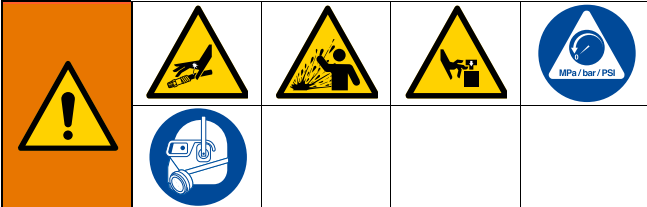
- Push in the safety lock
- Close fluid valves A and B



# Pressure Relief Procedure

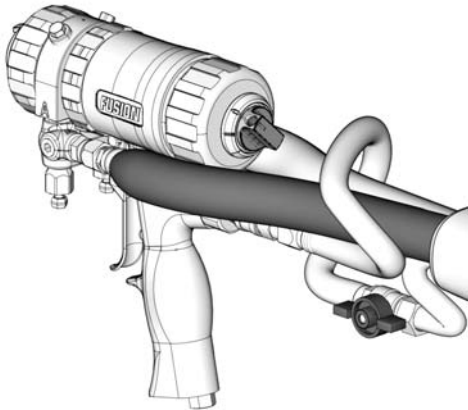


Follow the Pressure Relief Procedure whenever you see this symbol.



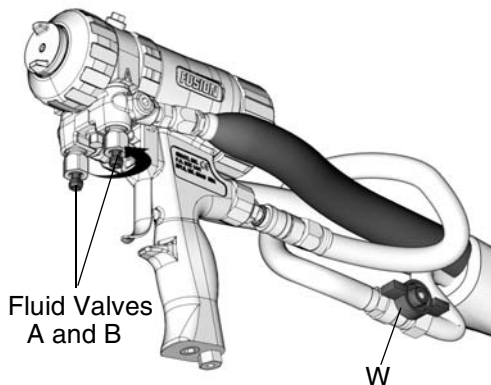
This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Engage the piston safety lock (see page 9).

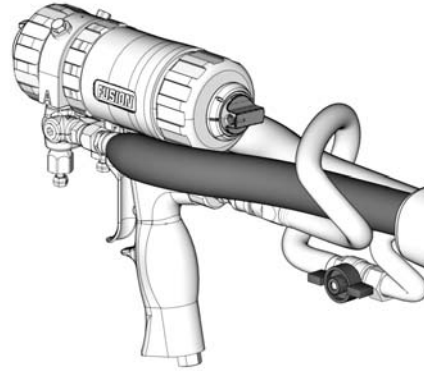


**NOTE:** Air supply is required for gun actuation. Do not disconnect the gun air supply until fluid pressure is relieved.

2. Close fluid valves A and B. Leave air valve (W) open.



3. Disengage the piston safety lock (see page 9).



4. Trigger the gun onto cardboard or into a waste container to relieve pressure.

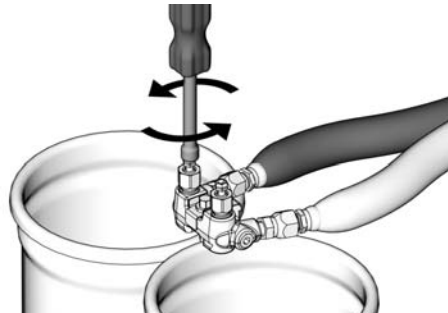


5. Engage the piston safety lock (see page 9).



Fluid in the hose and proportioner is still under pressure. Follow the Pressure Relief Procedure in the proportioner manual.

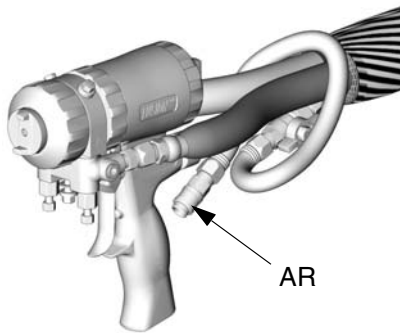
To relieve pressure in the hose manifold after the gun is removed, place the fluid manifold over containers facing away from you. Make sure the fluid valves are closed. Very slowly open the fluid manifold valves 2 to 2-1/2 turns. Under high pressure, fluid will spray sideways from the fluid ports.



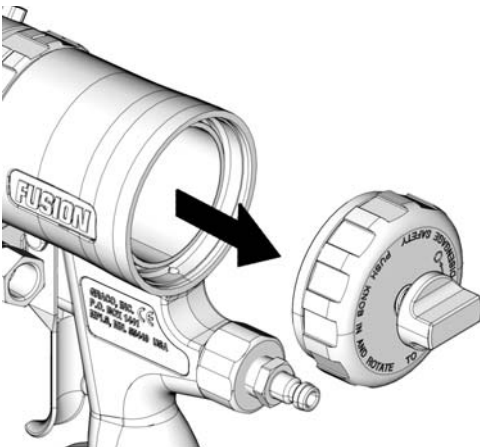
# Assembly



1. Perform the **Pressure Relief Procedure** on page 10.
2. Perform the pressure relief procedure on the system. See the system manual for more information.
3. Disconnect the air fitting (AR).



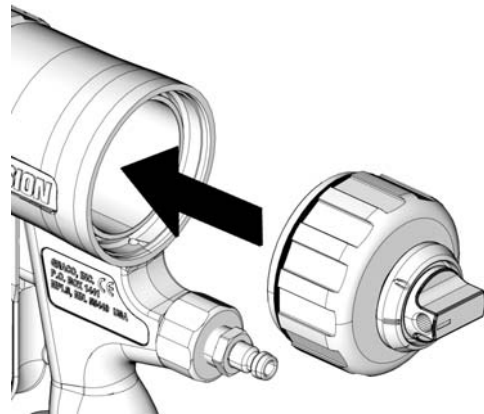
4. Remove the safety stop assembly.



5. Apply lubricant to the adjustable flow cap o-ring.



6. Install adjustable flow cap and hand-tighten.



7. Reconnect the air fitting.

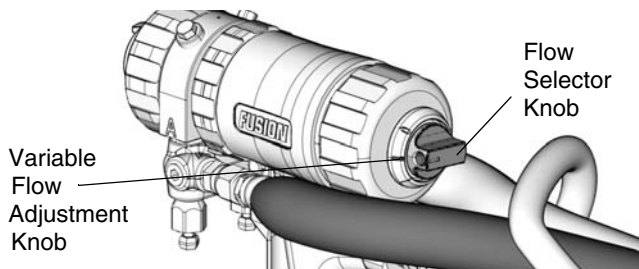
**NOTE:** For additional information, including operation instructions, see **Variable Flow** on page 12.

# Operation



## Variable Flow Adjustment Knob

The variable flow feature is designed to provide immediate adjustment between a full flow pattern (determined by mix chamber size) and a user defined reduced flow pattern.



## Flow Selector Knob

### OFF

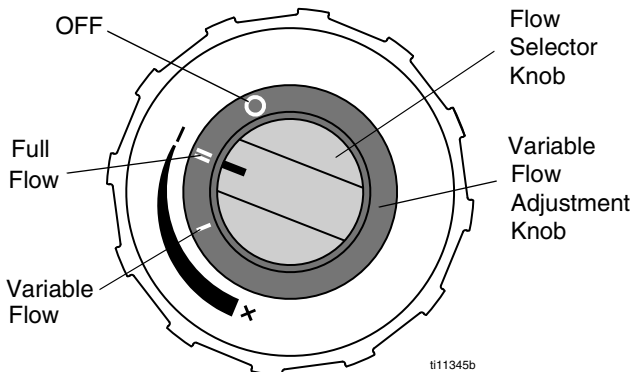
Denoted with "0". When the Flow Selector Knob is in the Off position, the gun will not actuate. Use this setting when not spraying to prevent accidental actuation.

### Full Flow

Denoted with "II". When the Flow Selector Knob is in the Full Flow position, the gun will dispense at the full volume flow allowed by the mix chamber. Use this setting for normal spraying.

### Variable Flow

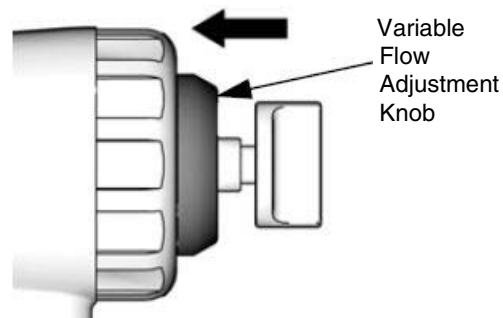
Denoted with "I". When the Flow Selector Knob is in the Reduced Flow position, the gun will dispense at a reduced flow volume. The reduced flow can be adjusted, see **Change Flow Selector Knob**. Use this setting for smaller jobs without changing the mix chamber.



## Change Flow Sector Knob

1. Turn the air valve (W) OFF.
2. Turn the flow selector knob to the variable flow position.
3. *To increase variable flow:* push in and turn the variable flow knob counterclockwise.

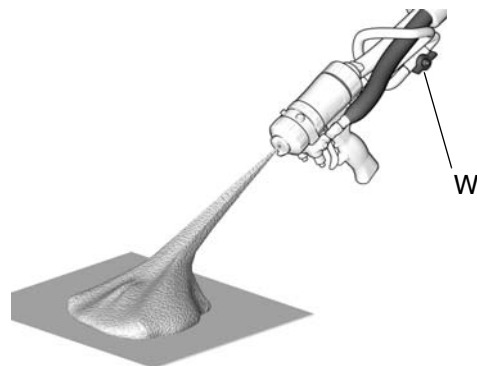
*To decrease variable flow:* push in and turn the variable flow knob clockwise.



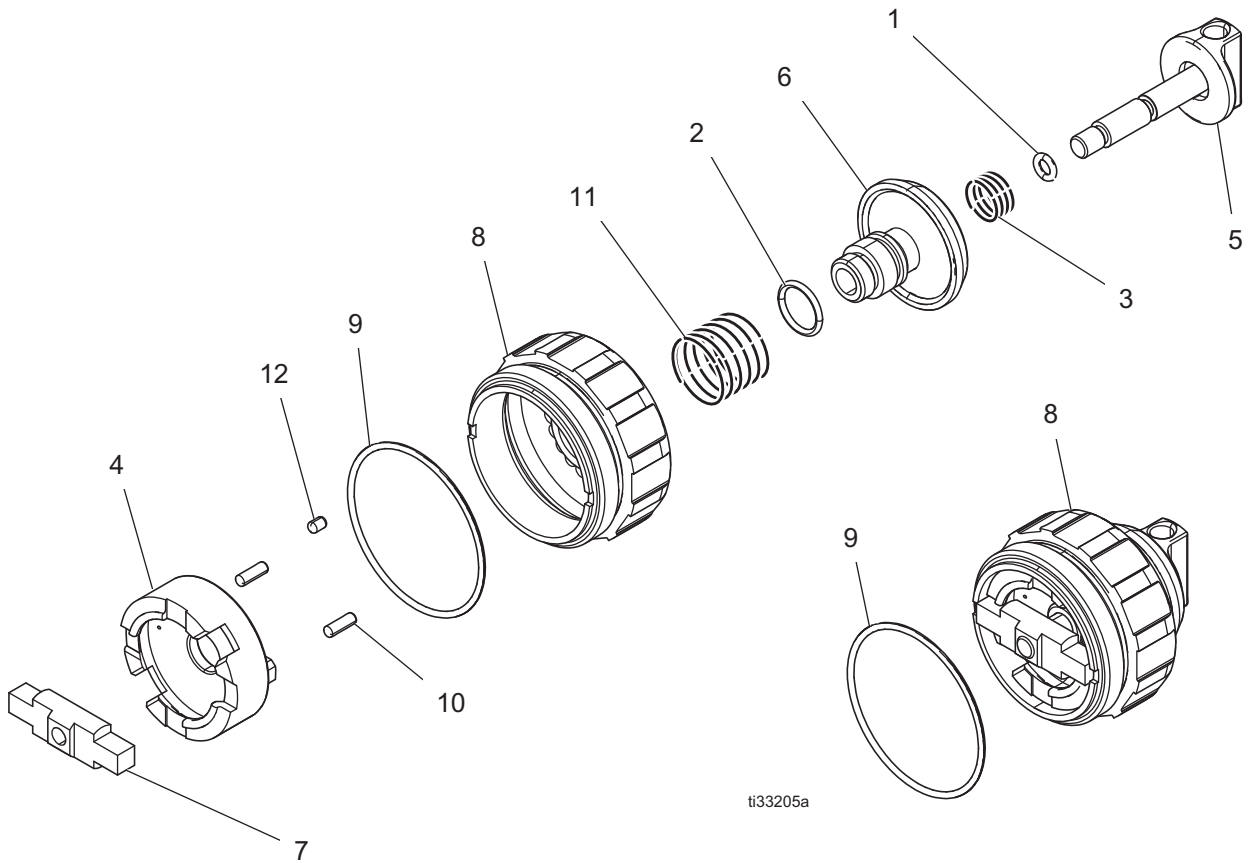
**NOTE:** The variable flow adjustment knob cannot be adjusted when the flow selector knob is in the OFF position.

**NOTE:** The flow selector knob and flow adjustment knob will both move together while increasing and decreasing variable flow. The variable flow adjustment knob locks into detents every 15°. Make sure the knob is locked into a detent before proceeding to step 5.

4. Turn the air valve (W) ON, and open fluid valves. Verify that the flow selector knob is set to the variable flow position.
5. Test the spray pattern on a piece of cardboard. Repeat steps 1 - 6 until the desired spray pattern is achieved.



# Parts



## Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
1	112319	PACKING, o-ring	1	7	17S645	BAR, piston stop, variable flow, AP	1
2	113746	PACKING, o-ring	1	8	17S643	CAP, variable flow, AP	1
3	114070	SPRING, compression	1	9	117612	O-RING	1
4	17S644	SEAT, variable flow, AP	1	10	121407	PIN, dowel, precision	2
5	17U143	KNOB, flow selector, Fusion, AP	1	11	121409	SPRING, compression	1
6	17U142	KNOB, flow adjustment, variable flow, AP	1	12	121551	PIN, dowel, 0.125 x 0.188	1

# Graco Standard Warranty

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

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](http://www.graco.com).

For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

**TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.**

**Phone: 612-623-6921 or Toll Free: 1-800-328-0211 Fax: 612-378-3505**

*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.*

Original instructions. This manual contains English. MM 3A5616

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