

HTX 680 Applicator

332768B

EN

For fine finish spraying of high viscosity materials, such as mortars, mastics, and epoxies. Solvent compatible. For professional use only.

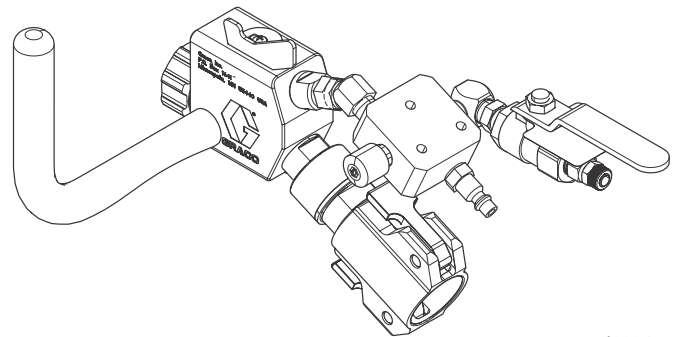
Model 24U209, Series A

1000 psi (7 MPa, 70 bar) Maximum Working Pressure
250 psi (1.7 MPa, 17 bar) Maximum Air Pressure



Important Safety Instructions

Read all warnings and instructions in this manual and in all supplied manuals. Save all instructions.




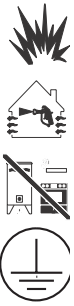

ti22247a

Contents

Warnings	2	Parts	10
Component Identification	5	Accessories	12
Flush Before Using Equipment	6	Technical Data	13
Pressure Relief Procedure	6	Graco Standard Warranty	14
Setup	6	Graco Information	14
Spraying	7		
Repair	9		








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>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Ground all equipment in the work area. See Grounding instructions. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are antistatic or conductive. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
	<p>SKIN INJECTION HAZARD</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. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Do not point dispensing device at anyone or at any part of the body. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.



WARNING

 	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • 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 Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS 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.
 	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read MSDSs to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>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.</p> <ul style="list-style-type: none"> • Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents. • Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.
	<p>SUCTION HAZARD</p> <p>Powerful suction could cause serious injury.</p> <ul style="list-style-type: none"> • Never place hands near the pump fluid inlet when pump is operating or pressurized.




Material Self-ignition

						
Some materials may become self-igniting if applied too thick. Read material manufacturer's warnings and material MSDS.						

Changing Materials

NOTICE
<p>Changing the material types used in your equipment requires special attention to avoid equipment damage and downtime.</p> <ul style="list-style-type: none"> • 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.

Grounding

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

Applicator: ground through connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

Object being sprayed: follow local code.

Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts grounding continuity.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the spray gun/dispense valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

Component Identification

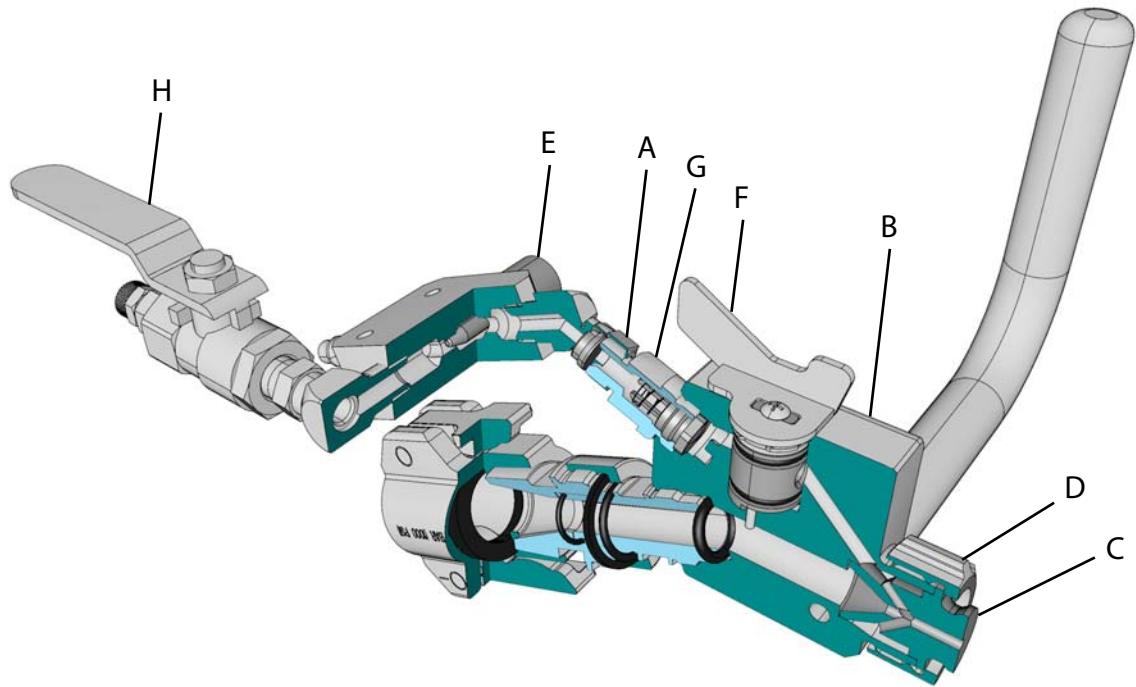


FIG. 1

Key:

- A Air Assist Air Line
- B Fluid and Air Manifold
- C Tip (Nozzle)
- D Tip Retainer
- E Needle Valve for Air Assist Flow Control
- F Air Assist Shutoff Ball Valve (allows some bleed air when turned off)
- G Air Check Valve
- H Air Pilot Valve for Remote Pump Operation

Flush Before Using Equipment

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Grounding** on page 4.

Pressure Relief Procedure



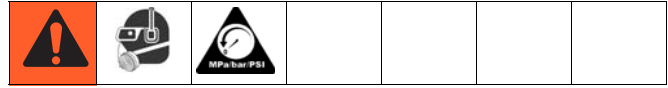
Follow the Pressure Relief Procedure whenever you see this symbol.



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. Shut off pump and sprayer.
2. Close applicator air valve.

Setup



NOTE: See **Parts** on page 10 for part references.

Install Applicator Air Nozzle (Air Spray)

1. Perform **Pressure Relief Procedure**, page 6.
2. Install air nozzle (117, 118, 119) into applicator (101).
3. Install retaining ring (108) over air nozzle. Tighten retaining ring.

Install Applicator Tip and Guard (Airless Spray)

NOTE: Airless spray is not recommended for high viscosity materials or for materials subject to “packing out”, such as mortar or cement mixes.

1. Perform **Pressure Relief Procedure**, page 6.
2. Install retaining ring (108) over adapter (102).
3. Using a pencil or similar object, insert seal (107a) into back of guard (107).
4. With retaining ring (108) on adapter (102), install guard (107) onto end of adapter (102).
5. With seal (103) in place between adapter (102) and applicator (101), place adapter (102) onto applicator (101) and tighten retaining ring.
6. Insert tip (116) in guard (107).

Install Applicator Fine Finish Kit

NOTE: Fine Finish spray is not recommended for high viscosity materials or for materials subject to “packing out”, such as mortar or cement mixes.

1. Perform **Pressure Relief Procedure**, page 6.
2. Install adapter (148a), disk (148c), and retaining nut (148b).

Spraying

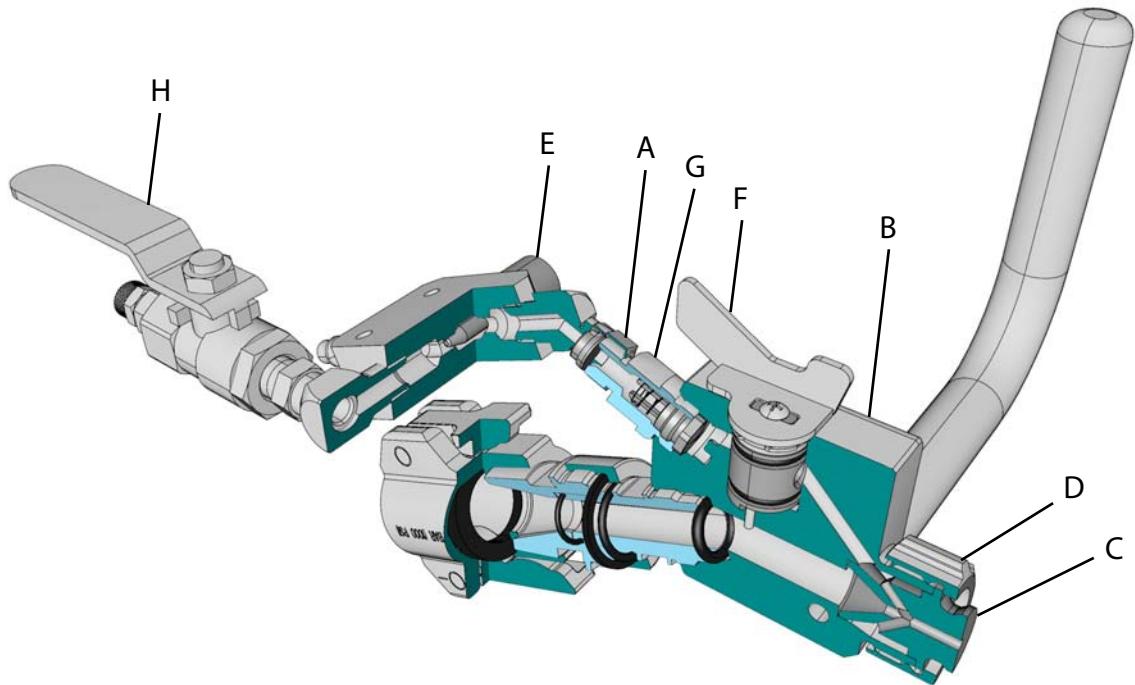


FIG. 2

Air Spray

When Spraying

1. Set material flow (see sprayer instruction manual for additional information).
2. Spray test pattern.
3. Turn air knob on and adjust, and/or select another air nozzle, for desired pattern.

NOTE: Air continues to flow when handle is in off position to keep material out of air passages.

General Adjustments

The spray pattern can be adjusted by changing:

- Tip (C) size
- Fluid flow
- Air flow, use needle valve (E)

The standard applicator adjustment is to fully open the air assist valve (F) while adjusting the needle valve (E) for the minimum air flow necessary for a good pattern.

Air bleeds from the applicator nozzle whenever the applicator air valve (F) is open. Close the valve to stop the air flow, if desired. Otherwise, the air valve can stay open during priming. Air must be on prior to fluid flow.

Adjusting the spray pattern requires testing to balance the fluid flow and the air to the applicator, and requires the correct tip size.

Air Flow Valve Adjustment

To decrease air flow, turn valve knob (E) clockwise.

To increase air flow, turn valve knob (E) counterclockwise.

Check material and thin as needed to maintain the proper consistency. The material may thicken as it sits and could slow down application or affect the spray pattern.

Flush and dry applicator thoroughly at the end of each use.

Air Spray Techniques

1. Test the spray pattern on cardboard. Hold the applicator 6-18 in. (150-450 mm) from the surface. Use this spraying distance for most applications.
2. Adjust fluid flow until material flow is adequate.
3. Adjust the applicator air assist needle valve to achieve a uniform round spray pattern.
4. Consider the size of aggregate in the material and the coarseness of the spray pattern. Larger nozzles allow heavier patterns.
5. Overlap each stroke 50%. A circular overlapping pattern may give the best results, and is obtained by grasping the flex-head and swinging the head around as the hose flexes.

When spraying small confined areas use the valve and knob to make fine adjustments without adjusting the pump.

Cleanup

Thoroughly flush applicator after each work session before fluid begins to cure in applicator. Remove check valve (215) and clean all residue from air passages. Store in a dry location. Do not leave the applicator or any parts in water or cleaning solvents.

NOTE: Check valve (215) will be damaged if any object is inserted into valve.

Airless Spray


NOTE: Airless spray is not recommended for high viscosity materials or for materials subject to “packing out”, such as mortar or cement mixes.


When Spraying (Airless)

1. Be sure the arrow shaped tip (116) faces forward (spray).
2. Hold applicator perpendicular and approximately 40 in. (1 m) from surface. Move applicator first, then open applicator to spray a test pattern.
3. Slowly increase pump pressure until coverage is uniform and even (see sprayer instruction manual for additional information).

Aligning Spray (Airless Spray)



1. Perform **Pressure Relief Procedure**, page 6.
2. Loosen guard retaining nut.
 - (3) Horizontal
 - (4) Vertical
3. Align guard (107) horizontally to spray a horizontal pattern.
 

ti11908a
4. Align guard (107) vertically to spray a vertical pattern.
 

ti11909a
4. Align guard (107) vertically to spray a vertical pattern.

Clearing Clogs (Airless Spray)



1. Perform **Pressure Relief Procedure**, page 6.
2. Rotate tip (116) 180°. Open applicator into hopper or onto ground to remove clog.
3. Rotate tip (116) 180° back to spray position.

Cleanup (Airless Spray)

Thoroughly flush applicator after each work session before fluid begins to cure in applicator. Remove check valve (215) and clean all residue from air passages. Store in a dry location. Do not leave the applicator or any parts in water or cleaning solvents.

NOTE: Check valve (215) will be damaged if any object is inserted into valve.

Repair

Spool Valve Repair



Before performing any maintenance or repair on applicator, read all warnings and perform **Pressure Relief Procedure** on page 6.

Spool Valve Removal

1. Remove screw (209) and handle (208) from spool (202).
2. Remove retaining ring (206) and bearing (205).
3. Remove spool (202) from housing (201).

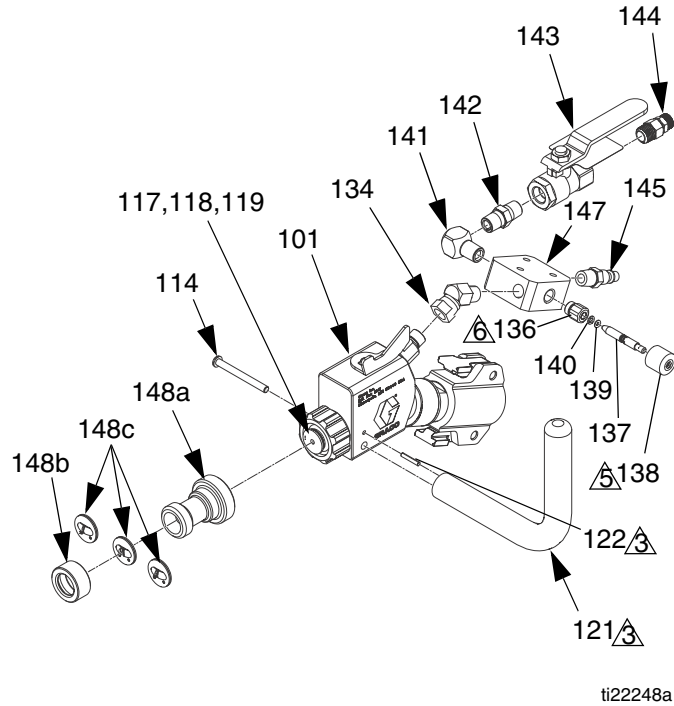
Spool Valve Installation

1. Apply grease to spool, o-rings and bearing and inside of housing.
2. Assemble o-rings (203) onto spool (202).
3. Install spool in housing (201) and install bearing (205). Secure with retaining ring (206).
4. Install handle (208) with screw (209).

NOTE: All sealing surfaces must be clean to prevent leaks and damage to equipment.

Parts

Model 24U209



Ref	Part	Description	Qty
122	---	PIN, dowel, 0.125 in. x 0.75 in.	1
134	110220	UNION, adapter, swivel	1
136	◆	NUT, packing	1
137	◆	NEEDLE, valve	1
138	◆	KNOB, adjusting	1
139	◆	PACKING, o-ring, buna-n	1
140	◆	WASHER, non-metallic	1
141	◆	FITTING, elbow, street	1
142	◆	FITTING, nipple, short	1
143	◆	VALVE, ball, vented, 1/4 in.	1
144	◆	FITTING, compress, 1/4 npt x 1/4 tube	1
145	◆	FITTING, line air	1
147	◆	MANIFOLD, air	1
148*	◆	KIT, Fine Finish Discs (see manual 310617)	1
148a*	◆	ADAPTER, nozzle	1
148b*	◆	NUT, retaining	1
148c*	◆	DISK (various sizes)	1

* Parts are shipped loose.

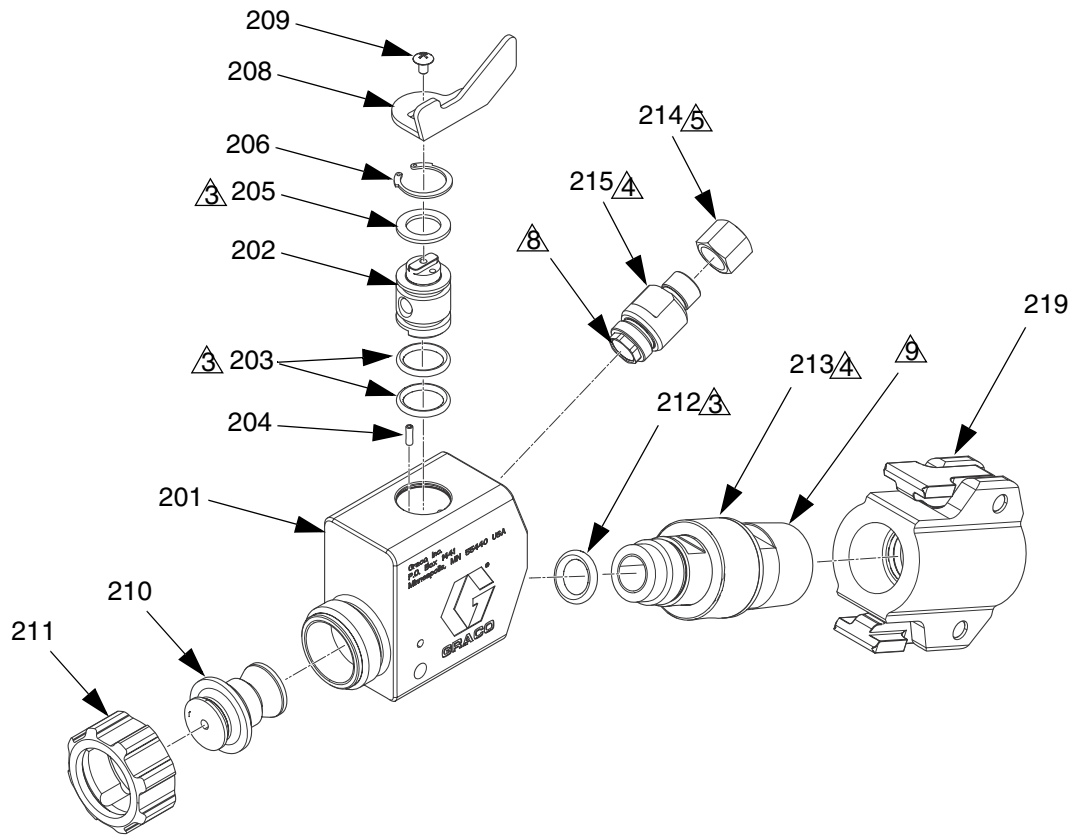
◆ Parts included in Needle Valve Kit 206264 (purchase separately). When received, unscrew assembly then install in manifold (114).

--- Not for sale.

- Ⓐ Assemble seal (103) to adapter.
- Ⓑ Secure pin (122) with adhesive (109) to bottom of bore in handle (121).
- Ⓒ Apply sealant (135) to all non-swiveling pipe threads.
- Ⓓ Turn needle fully counter-clockwise before screwing nut (136) into block (147).
- Ⓔ Apply medium strength threadlocker to external threads.
- Ⓕ Assemble items 136, 137, 139, and 140 before press fit of items 137 and 138.

Ref	Part	Description	Qty
101	24U217	APPLICATOR SUB-ASSEMBLY	1
110*	100633	TOOL, allen wrench (handle)	1
112*	248395	TOOL, drill, nozzle	1
113*	M70613	BRUSH, cleaning	1
114*	122521	SCREW, cap, button head	1
117*	248525	NOZZLE, 6 mm, round	1
118*	248526	NOZZLE, 8 mm, round	1
119*	248527	NOZZLE, 10 mm, round	1
121	---	HANDLE, texture applicator	1

Applicator Sub-Assembly 24U217 (101)

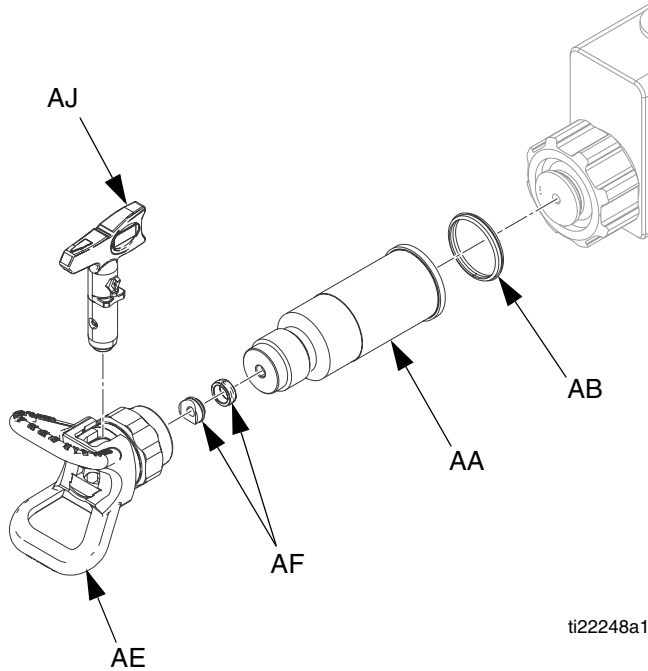


- Apply lithium grease liberally.
- Torque to 220-250 in-lb (25-28 N•m).
- Torque to 85-100 in-lb (10-11 N•m).
- Apply pipe sealant to chamfer of check valve (215).
- Apply pipe sealant to threads.

Ref	Part	Description	Qty	Ref	Part	Description	Qty
201	---	HOUSING, valve, applicator	1	214	---	NUT, cap, 1/4-18 npsm	1
202	15W372	SPOOL, valve	1	215	24U215	VALVE, check, air	1
203	119740	O-RING	2	219	289874	KIT, repair, coupler	1
204	---	PIN, drive	1	219a	16W507	KIT, gasket, nitrile, 6-pack	
205	15W376	WASHER, bearing	1				
206	122205	RING, retaining, internal	1				
208	15W377	HANDLE, valve	1				
209	113045	SCREW, sems, machine, phil- lips, truss	1				
210	248524	NOZZLE, 4 mm, round	1				
211	15Y137	RING, retaining, splined	1				
212	114315	PACKING, o-ring, PTFE	1				
213	24U216	SWIVEL	1				
						--- Not for sale.	

Accessories

RAC X Accessory Kit 24U337



Ref	Part	Description	Qty
AA	15D727	ADAPTER, GHD RAC	1
AB	15U687	SEAL, adapter, filter, texture	1
AC✘	15X791	PLUG, air passage	1
AD✘	15Y137	RING, retaining ring, splined	1
AE	246215	GUARD, RAC X	1
AF	246453	KIT, gasket and seat (5 sets)	1
AG✘	277789	SUPPORT, filter	2
AH✘	289922	KIT, repair, filter, 18 mesh	1
AI✘	289923	KIT, repair, filter, 30 mesh	1
AJ	LTX671	TIP, spray, latex, RAC X (671)	1

✘ Not shown.

Technical Data

HTX 680 Applicator		
	US	Metric
Maximum Fluid Working Pressure	1000 psi	6.9 MPa, 69 bar
Maximum Air Working Pressure	250 psi	1.7 MPa, 17 bar
Maximum Air Required (100 psi, needle full open)	30 standard cubic feet per minute	0.85 cubic meters per minute
Fluid Inlet Size	1 in.(m) cam and groove (Graco HP)	
Air Inlet Size	1/4 in. quick disconnect pin fitting	
Wetted Parts	Aluminum, stainless steel, solvent resistant elastomer, acetal, PTFE, nylon, nitrile	
Sound Data without Air (applicator only):†		
Sound Pressure Level	84dB(A)*	
Sound Power Level	83dB(A)*	
Sound Data with Air (applicator only):		
Sound Pressure Level	118dB(A)*	
Sound Power Level	118dB(A)*	
Notes		
* <i>Spraying simulated acoustical texture under typical conditions as specified by the material manufacturer.</i>		
† <i>Airless configuration.</i>		

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.

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.*

For patent information, see www.graco.com/patents.

Original instructions. This manual contains English. MM 332768

Graco Headquarters: Minneapolis
International Offices: Belgium, China, Japan, Korea

GRACO INC. AND SUBSIDIARIES • P.O. BOX 1441 • MINNEAPOLIS MN 55440-1441 • USA

Copyright 2013, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.

www.graco.com

Revised November 2013