# **INSTRUCTIONS-PARTS LIST**



308748 Rev. C



CE

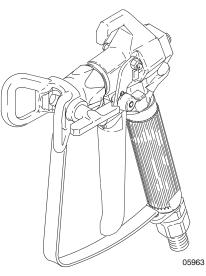
This manual contains important warnings and information. READ AND KEEP FOR REFERENCE.

# **Contractor FTx-E Airless Spray Gun**

248 bar (24.8 MPa, 3600 psi) MAXIMUM WORKING PRESSURE

Model 239516, Series A Includes *Performance Series* RAC<sup>®</sup> DripLess<sup>™</sup> Guard, 517 size

Includes *Performance Series* RAC<sup>®</sup> DripLess <sup>™</sup> Guard, SwitchTip<sup>™</sup>, and 4-finger trigger.



Model 239516

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# Symbols

### Warning Symbol

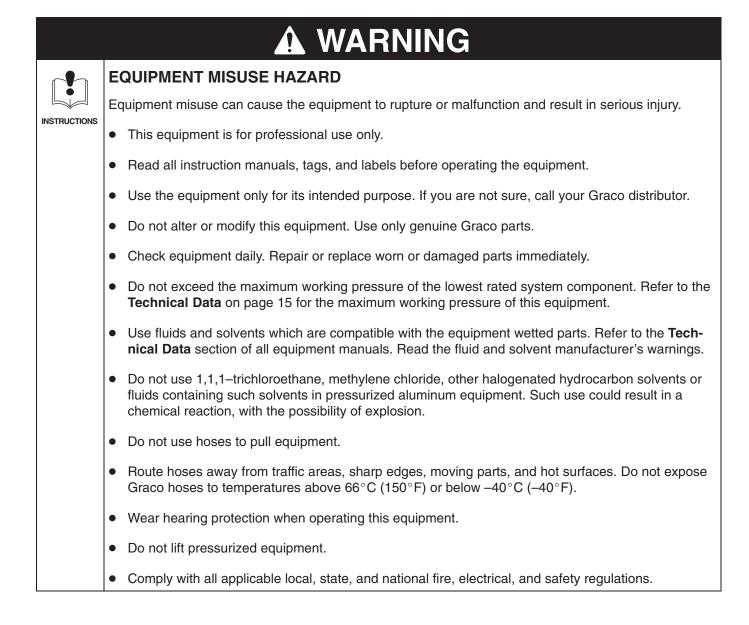
### WARNING

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.



# 

	INJECTION HAZARD					
<b>-</b>	Spray from the gun, leaks or ruptured components can inject fluid into your body and cause extreme 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. <b>Get immediate medi-</b> cal attention.					
WHA-	<ul> <li>Do not point the gun at anyone or at any part of the body.</li> </ul>					
	<ul> <li>Do not put your hand or fingers over the spray tip.</li> </ul>					
	<ul> <li>Do not stop or deflect leaks with your hand, body, glove or rag.</li> </ul>					
	• Do not "blow back" fluid; this is not an air spray system.					
	<ul> <li>Always have the tip guard and the trigger guard on the gun when spraying.</li> </ul>					
	Check the gun diffuser operation weekly. See page 8.					
	Be sure the gun trigger safety operates before spraying.					
	<ul> <li>Lock the gun trigger safety when you stop spraying.</li> </ul>					
	<ul> <li>Follow the Pressure Relief Procedure on page 5 if the spray tip clogs and before cleaning, checking or servicing the equipment.</li> </ul>					
	Tighten all fluid connections before operating the equipment.					
	<ul> <li>Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.</li> </ul>					
	• Fluid hoses must have spring guards on both ends, to help protect them from rupture caused by kinks or bends near the couplings.					
	MOVING PARTS HAZARD					
	Moving parts can pinch or amputate your fingers.					
	<ul> <li>Keep clear of all moving parts when starting or operating the pump.</li> </ul>					
	<ul> <li>Before servicing the equipment, follow the Pressure Relief Procedure on page 5 to prevent the equipment from starting unexpectedly.</li> </ul>					
2.	RECOIL HAZARD					
$\mathbf{r}$	Due to the high pressure fluid emitted, a strong recoil action may occur when you trigger this gun. If you are unprepared, your hand could be forced back toward your body or you could lose your balance and fall, resulting in serious injury.					

### 



### 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.

- 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.
- Electrically disconnect all equipment in the spray area.
- 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 operating or if fumes are present.
- Do not operate a gasoline engine in the spray area.
- Ground the equipment and the object being sprayed. Refer to your pump instruction manual.

	TOXIC FLUID HAZARD				
Õ		azardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, haled, 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.			

### **System Requirements**

### WARNING

Keep the wallet-sized warning card provided with this gun with the operator at all times. The card contains important treatment information should an injection injury occur. Additional cards are available at no charge from Graco Inc.

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Be sure your system has a bleed-type master air valve (pneumatic pumps only) and a pressure drain valve. These accessories help reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, if you are adjusting or repairing the pump or gun.

- 1. The <u>bleed-type master air valve</u> (air-powered pumps only) relieves air trapped between this valve and the pump after the air regulator is shut off. Trapped air can cause the pump to cycle unexpectedly.
- 2. The <u>pressure drain valve</u> assists in relieving fluid pressure in the displacement pump, hose and gun: triggering the gun to relieve pressure may not be sufficient.
- 3. Strain the fluid you are spraying if it contains particles which could clog the spray tip.

### Grounding

To reduce the risk of static sparking, ground the sprayer and all other spray equipment used or located in the spray area. Check your local electrical code for detailed grounding instructions for your area and type of equipment.

### WARNING

#### INJECTION HAZARD

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 tip.

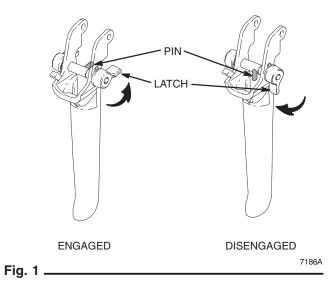
### **Pressure Relief Procedure**

- 1. Engage the gun safety latch.
- 2. Turn the ON/OFF switch to OFF.
- 3. Unplug the power supply cord.
- 4. Disengage the gun safety latch. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.
- 5. Engage the gun safety latch.
- 6. Open the system pressure drain valve. Leave the pressure drain valve open until you are ready to spray again.

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 to relieve pressure gradually, then loosen completely. Now clear the tip or hose obstruction.

### How to Use the Gun Trigger Safety

- 1. To engage the gun trigger safety, turn the latch counterclockwise toward the handle until the detent of the latch locks on and the pin is at a right angle with the gun body. See Fig. 1.
- 2. To disengage the gun trigger safety, turn the latch clockwise away from the handle to unlock the detent of the latch and turn the pin  $180^{\circ}$  from the gun body.

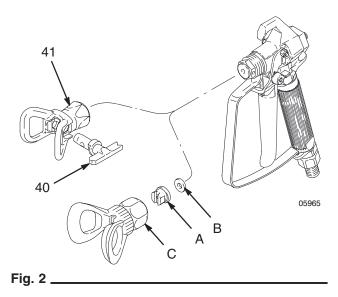


### How to Use the Gun

- 1. Connect a grounded fluid hose to the gun inlet. See Fig. 2
- 2. With no tip installed, start the pump. Flush the pump according to the instructions supplied with it. Prime the system with the fluid.
- Follow the Pressure Relief Procedure on page 5. Be sure the gun trigger safety is engaged. See Fig. 1.
- Graco Flat Tip Style Dripless<sup>™</sup> Guard Install the tip (A) and the gasket (B) in the nut of the tip guard (C). Screw the assembly firmly onto the gun. Tighten the assembly with a wrench. See Fig. 2.

**NOTE:** If the gasket (B) is not installed, the gun will leak.

5. <u>Reverse-A-Clean (RAC) IV Model 239516</u> Install the RAC IV SwitchTip (40) and the tip guard (41). See manual 308644, supplied. See Fig. 2.



 Start the pump. Adjust the fluid pressure until the spray is completely atomized. Use the lowest pressure necessary to get the desired results. Higher pressure may not improve the spray pattern and will cause premature tip wear and pump wear.

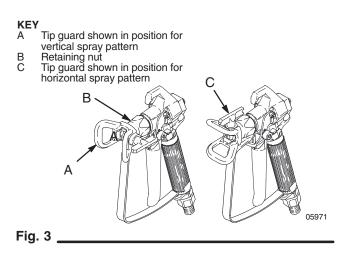
- If adjusting the pressure does not give a good spray pattern, follow the Pressure Relief Procedure on page 5 and then try another tip size.
- 8. Use a full-open, full-close triggering action. Hold the gun about 12 in. (305 mm) from and at right angles to the work surface. Don't swing the gun in an arc. Practice to find the best length and speed of stroke.

#### How to Adjust the Spray Pattern

- To adjust the spray pattern direction, follow the **Pressure Relief Procedure** on page 5. Loosen the tip guard retaining nut (B). Turn the tip guard/ tip groove horizontally (C) for a horizontal pattern and vertically (A) for a vertical pattern. Tighten the nut. See Fig. 3.
- 2. The spray tip orifice and spray angle determines the coverage and size of pattern. When more coverage is needed, use a larger spray tip rather than increasing fluid pressure.

### 

The openings in the tip guard reduce paint buildup on the tip guard while spraying. Any damage to the sharp edges of the openings causes paint to collect at that area. Never hang the gun by the tip guard.



### How to Clean the Spray Tip and Clear a Spray Tip Obstruction

### A WARNING

To reduce the risk of fluid injection or splashing in the eyes or on the skin, **do not** hold a hand, body or rag in front of the spray tip when cleaning or checking a clogged tip. Point the gun toward the ground or into a waste container when checking to see if the spray tip is cleared.

DO NOT try to "blow back" paint; this is NOT an air spray gun.

DO NOT wipe fluid buildup off the gun or spray tip until pressure is relieved.

#### Cleaning during the day.

- 1. Follow Pressure Relief Procedure on page 5.
- 2. Clean the front of the tip frequently during the day to help reduce buildup. Also clean the tip and tip guard at the end of each work day. Use a solventsoaked brush to clean the spray tip.

#### Clearing an obstruction.

If the spray tip clogs while spraying, immediately stop spraying, then:

#### Gun with Standard Flat Tip and Guard

1. Lock the gun trigger safety, open the pressure drain valve.

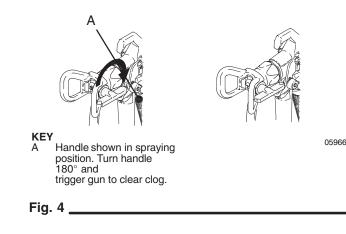
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Never soak the entire gun in solvent. Prolonged exposure to solvent can ruin the packings.

2. Remove the spray tip and blow out the obstruction by applying air to the front of the spray tip. Or, let the spray tip and gun nozzle soak to dissolve the obstruction. If it won't dissolve, jar it out by tapping the back of the spray tip against a flat surface.

#### Gun with RAC IV Tip and Guard; Models 239516

- 1. Lock the gun trigger safety. Rotate the RAC IV tip handle 180°. See Fig. 4.
- 2. Unlock the gun trigger safety. Trigger the gun into a pail or onto the ground to remove the clog.
- 3. Lock the gun trigger safety. Rotate the tip handle to the spraying position.
- 4. If the tip is still clogged, lock the gun trigger safety, shut off the sprayer and disconnect the power source, and open the pressure drain valve to relieve pressure. Clean the spray tip as shown in manual 308644, supplied with the RAC IV.



#### How to Check the Gun Diffuser Operation

Check the diffuser operation weekly. The gun diffuser/ seat (A) breaks up spray and reduces the risk of fluid injection when the tip is not installed. Perform the test below. If it fails, replace the entire Needle Kit, Part No. 218070, as instructed on page 10. Diffuser/seats are not sold separately since the gun will leak if an old needle is used with a new diffuser/seat.

- 1. Follow Pressure Relief Procedure on page 5.
- 2. Remove the tip guard and spray tip.
- 3. Start the sprayer and adjust it to the lowest pressure.
- 4. Aim the gun into a grounded metal pail while holding it firmly to the pail. Trigger the gun. If the fluid emitted *is not* diffused into an irregular stream, replace the entire needle kit immediately. See Fig. 5.

#### How to Clean the Filter (See Fig. 6.)

Clean the filter assembly (17) daily, as follows:

- 1. Follow Pressure Relief Procedure on page 5.
- 2. Push up on the trigger guard (12) and swing it away from the trigger (5).
- Unscrew the gun handle (6) from the housing (26). Remove the filter and clean it in compatible solvent.

4. Apply lithium-base grease to the threads of the gun handle (14) and reassemble the gun.

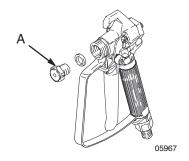
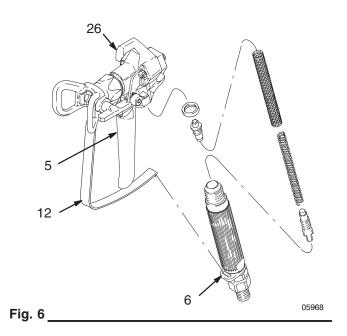


Fig. 5 \_



### How to Flush the Gun

### A WARNING

To reduce the risk of serious bodily injury, including splashing fluid in the eyes or on the skin, or static electric discharge when flushing:

discharge when flushing:

- Be sure the entire system, including flushing pails, are properly grounded.
- Remove the tip guard and spray tip.
- Maintain metal to metal contact between the gun and the flushing pail.
- Use the lowest possible pressure.

Always flush the pump and the gun before the fluid being sprayed can dry in it.

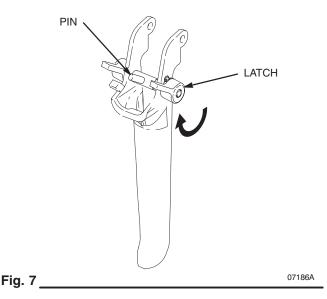
**NOTE:** If it is available, the flushing procedure provided in your pump or sprayer manual should be used instead of this procedure.

- 1. Follow Pressure Relief Procedure on page 5.
- 2. Remove the tip guard and spray tip. Soak and clean the parts.
- 3. Put the pump intake in a grounded pail of water or solvent.
- 4. Start the pump at its lowest pressure.
- 5. Trigger the gun into the original pail. When water or solvent appears, release the trigger.
- 6. Follow the **Pressure Relief Procedure**, page 5.

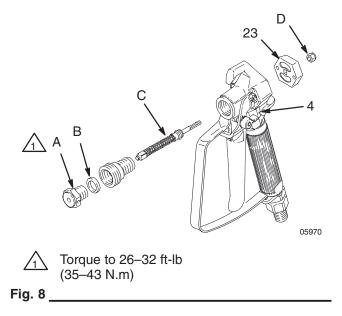
### **WARNING**

Do not spray paint from the gun with the gun safety latch set to the cleaning position.

- 7. Trigger the gun. Rotate the latch clockwise all the way up to the cleaning position as shown in Fig. 7. Release the trigger. The gun is now in continuous cleaning mode without the need to manually trigger the gun.
- 8. Aim the gun into the solvent pail. Start the pump at its lowest pressure. Circulate the fluid until the system is thoroughly flushed.
- Trigger the gun and turn the latch counterclockwise to rotate the pin parallel with the gun. Release the trigger to stop flushing.
- 10. Follow the **Pressure Relief Procedure**, page 5.



# Service



**NOTE:** The needle (C), diffuser/seat (A), gasket (B) and locknut (D) must be replaced together. They are included in Repair Kit 218070.

#### Disassembly (See Fig. 8)

- 1. Follow the **Pressure Relief Procedure** on page 5.
- 2. Remove the tip guard assembly. See Fig. 2.
- 3. Squeeze the trigger while unscrewing the diffuser/ seat (A) and gasket (B).
- 4. Remove the locknut (D) and end cap (23).
- 5. Tap the rear of the gun with a plastic mallet to push the needle assembly out the front.

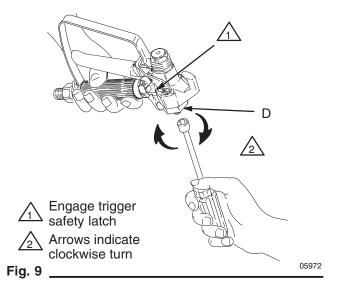
#### Reassembly (See Fig. 8)

- 1. Guide the threaded end of the needle assembly into the front of the gun.
- 2. Install the end cap, aligning its guides with the holes in the rear of the gun. Install the locknut (D) loosely.
- Squeeze the trigger while installing the gasket (B) and diffuser/seat (A). Torque the diffuser seat to 26–32 ft-lb (35–43 N.m).

- 4. If the gun handle (6) was removed, hand tighten it into the fluid housing (26); it should fit easily.
- 5. Adjust the needle before using the gun. Procedure below.
- 6. Be sure the trigger guard and tip guard are installed before using the gun.

### Adjusting the needle (See Fig. 9)

- 1. Engage the gun safety latch.
- 2. Hold the gun with the nozzle straight up.
- Hold your finger against the trigger with light pressure. Turn the locknut (D) clockwise until you feel the trigger depress slightly.
- 4. Turn the adjusting nut 3/4 turn *counterclockwise*.
- 5. Connect the fluid hose. Install the tip guard and prime the system. Trigger the gun and release it. The fluid flow should stop immediately. Engage the safety latch and try to trigger the gun. No fluid should flow. If the gun fails either test, relieve pressure, disconnect the hose and readjust the needle.



## Service

### **Replace Swivel**

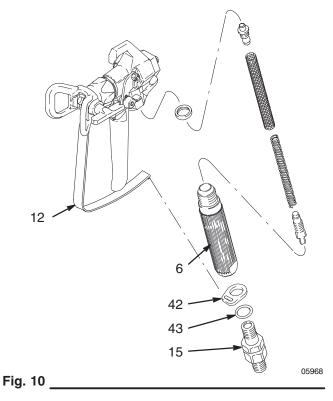
(See Fig. 10)

#### Disassembly

- 1. Follow Pressure Relief Procedure on page 5.
- 2. Push up on trigger guard (12) and swing trigger guard away from trigger (5).
- 3. Unscrew gun handle (6) from housing (26). Remove filter and clean in compatible solvent.
- 4. Remove swivel (15), guard retainer (42) and cushion o-ring (43).
- 5. Save guard retainer and cushion o-ring.

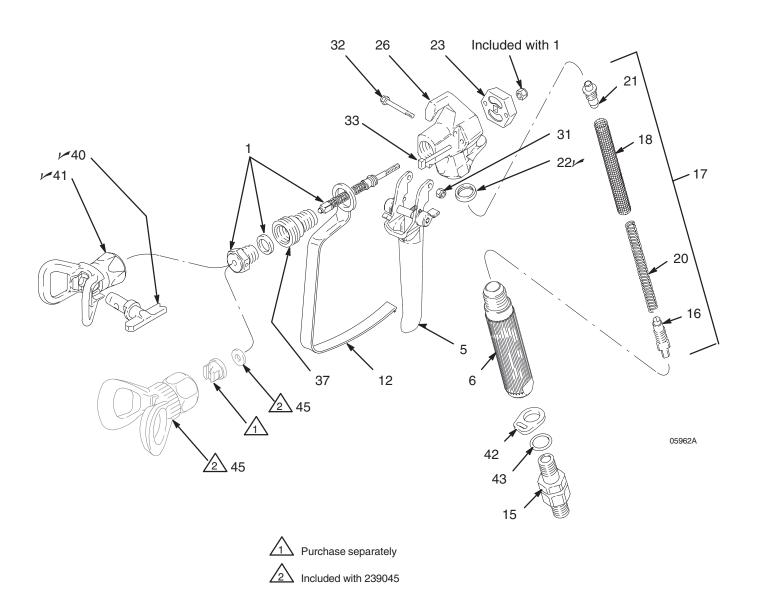
### Reassembly

- 1. Clean internal thread of handle (6).
- 2. Install guard retainer (42), cushion o-ring (43) and swivel (15).
- 3. Apply PST pipe seal (included in Swivel Kit 238817) to external thread of swivel (15) that connects to handle (6).
- 4. Install swivel (15) into handle (6). Torque swivel to 250 in-lb.
- 5. Engage trigger guard (12) to retainer guard (42).



## **Parts Drawing**

Model 239516, Series A



# **Parts List**

#### Model 239516, Series A

Ref.				Ref.			
No.	Part No.	Description	Qty.	No.	Part No.	Description	Qty.
1	218070	NEEDLE-DIFFUSER/SEAT KIT	1	31	105334	LOCKNUT; M4 x 0.7 thread	1
5	239520	4-FINGER TRIGGER (standard)	1	32	177538	TRIGGER STUD	1
6	195788	HANDLE, round	1	33	179737	ACTUATOR PIN	2
11	187348	COVER, warning	1	37	195419	NEEDLE HOUSING	1
12	195495	TRIGGER GUARD	1	39	222385	WARNING CARD (not shown)	1
15	238200	SWIVEL, gun	1	40	274517	SWITCHTIP SPRAY TIP, SZ 517	1
16	179750	SPRING RETAINER	1	41	237859	Performance Series RAC	1
17	218131	FLUID FILTER ASSEMBLY	1			DripLess Guard	
		(standard 50 mesh) includes				See manual 308644 for other tip sizes	1
		replaceable items 16, 18, 20, 21	1	42	113409	RETAINER, guard	1
18	179731	STRAINER ELEMENT	1	43	104938	O-RING, cushion	1
		(standard 50 mesh)		45	220251	KIT, tip guard	1
20	179763	SPRING	1				
21	179722	SPRING RETAINER (color coded blue	e)	🔺 Re	eplacement	Danger and Warning labels, tags	; and
		(for standard 50 mesh filter)	1	ca	Irds are ava	nilable at no cost.	
221	179733	GASKET	1				
23	191244	END CAP	1	μ Κέ	eep these s	pare parts on hand to reduce dow	/n
26	190973	FLUID HOUSING	1	tin	ne.		

## Accessories

### FILTERS

3000 psi (210 bar) Maximum Working Pressure.

Adequate filtering is important for a good surface finish and to minimize tip clogging. Elements are available in various mesh sizes.

Filter elements and assemblies

- 224455 Two, 50 mesh elements, (179731)
- 224456 Two, 100 mesh elements, (179732)
- **218131** 50 mesh filter assembly; includes spring, 50 mesh element and two spring retainers
- **218133** 100 mesh filter assembly; includes spring, 100 mesh element and two spring retainers

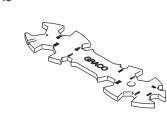
### TOOLS

#### Nylon Brushes

Use to thoroughly clean the gun's fluid passages.

101891	0.375" (9 mm) dia.
101892	0.625" (16 mm) dia.
	Superior Superior

Wrench 171147 Fits all hexes on the gun.

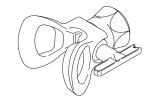


### **TIP GUARDS**

These tip guards fit all Graco airless spray guns. Choose the one that's right for your application. One of these tip guards is included with every Graco airless gun.

**237859** *Performance Series* RAC<sup>®</sup> DripLess<sup>™</sup> Guard.

Order SwitchTip separately. See your distributor for available sizes.



220222 Sta

Standard DripLess<sup>™</sup> Tip Guard. Order flat tip separately. See your distributor for available sizes.



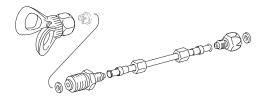
222674 Heavy Duty RAC<sup>®</sup> DripLess<sup>™</sup> Tip Guard. Order SwitchTip separately. See your distributor for available sizes.

### FINE FINISH RAC TIPS

These tips provide and extremely fine finish with more consistent material thickness. See your distributor for available sizes.

### TIP EXTENSIONS

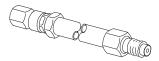
These tip extensions extend tip from the spray gun to spray hard to reach areas.



223390	12 inch extension
223391	18 inch extension
223392	24 inch extension

### **HEAVY DUTY EXTENSIONS**

Provides extended spraying for hard to reach applications.



224413	12 inch extension

224414 18 inch extension

**224415** 36 inch extension

- 224416 72 inch extension
- **236406** Includes 18 in. and 36 in. heavy duty extension; RAC IV dripless tip guard; 180° directional nozzle; and 45° swivel.

# **Technical Data**

Maximum Working Pressure 248 bar
(24.8 MPa, 3600 psi)
Fluid Orifice Size
Wetted Parts Stainless steel, Polyethylene,
Aluminum, Polyurethane, Nylon, PTFE®
Brass, Tungsten carbide, UHMW
Weight
Inlet 1/4 npsm(m)swivel
Maximum Material Temperature 50°C (120°F)
Sound Data
Sound Pressure Level 78 dB(A)*†
Sound Power Level 87 dB(A)†
* Measured at 1 meter
† Measured while spraying waterbase paint – gravity
1.36 through a 517 tip at 207 bar (20.7 MPa, 3,000 psi).

## Graco Phone Number

*TO PLACE AN ORDER*, contact your Graco distributor, or call this number to identify the distributor closest to you: **1–800–690–2894 Toll Free.** 

PTFE ®

Per ISO 3744

## **Graco 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. 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 or 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.

#### FOR GRACO CANADA CUSTOMERS

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#### ADDITIONAL WARRANTY COVERAGE

Graco does provide extended warranty and wear warranty for products described in the "Graco Contractor Equipment Warranty Program".

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.

> Sales Offices: Minneapolis, Detroit Foreign Offices: Belgium, Korea, Hong Kong, Japan

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