Operation

Pro 230ES and Pro 270ES Electric Airless Sprayers

3A2813A

EN

For the application of architectural paints and coatings. For professional use only.

3000 psi (20.7 MPa, 207 bar) Maximum Working Pressure

Important Safety Instructions
Read all warnings and instructions in this manual and in other manuals. Save all instructions.

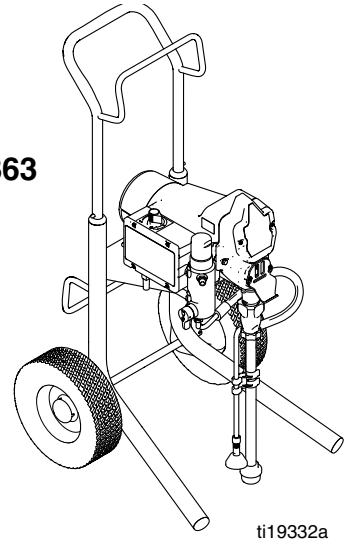
Related Manuals

3A2817

312830

312015

Pro 230ES
Model: 262863



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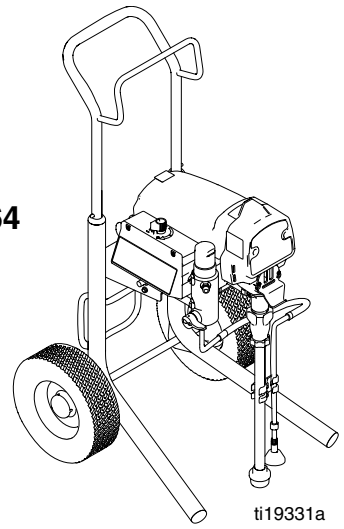
Pro 270ES
Model: 262864



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Intertek

PROVEN QUALITY. LEADING TECHNOLOGY.

Warnings

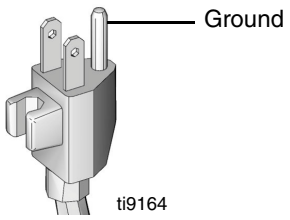
The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer 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.

WARNING

GROUNDING

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

- Improper installation of the grounding plug is able to result in a risk of electric shock.
- When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade terminal.
- The wire with insulation having an outer surface that is green with or without yellow stripes is the grounding wire.
- Check with a qualified electrician or serviceman when the grounding instructions are not completely understood, or when in doubt as to whether the product is properly grounded.
- Do not modify the plug provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.
- This product is for use on a nominal 120V circuit and has a grounding plug similar to the plug illustrated in the figure below.

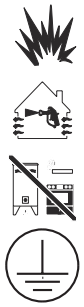


- Only connect the product to an outlet having the same configuration as the plug.
- Do not use an adapter with this product.

Extension Cords:

- Use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that accepts the plug on the product.
- Make sure your extension cord is not damaged. If an extension cord is necessary, use 12 AWG (2.5 mm^2) minimum to carry the current that the product draws.
- An undersized cord results in a drop in line voltage and loss of power and overheating.

WARNING



FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:

- Do not spray flammable or combustible materials near an open flame or sources of ignition such as cigarettes, motors, and electrical equipment.
- Paint or solvent flowing through the equipment is able to result in static electricity. Static electricity creates a risk of fire or explosion in the presence of paint or solvent fumes. All parts of the spray system, including the pump, hose assembly, spray gun, and objects in and around the spray area shall be properly grounded to protect against static discharge and sparks. Use Graco conductive or grounded high-pressure airless paint sprayer hoses.
- Verify that all containers and collection systems are grounded to prevent static discharge. Do not use pail liners unless they are antistatic or conductive.
- Connect to a grounded outlet and use grounded extensions cords. Do not use a 3-to-2 adapter.
- Do not use a paint or a solvent containing halogenated hydrocarbons.
- Keep spray area well-ventilated. Keep a good supply of fresh air moving through the area. Keep pump assembly in a well ventilated area. Do not spray pump assembly.
- Do not smoke in the spray area.
- Do not operate light switches, engines, or similar spark producing products in the spray area.
- Keep area clean and free of paint or solvent containers, rags, and other flammable materials.
- Know the contents of the paints and solvents being sprayed. Read all Material Safety Data Sheets (MSDS) and container labels provided with the paints and solvents. Follow the paint and solvents manufacturer's safety instructions.
- Fire extinguisher equipment shall be present and working.
- Sprayer generates sparks. When flammable liquid is used in or near the sprayer or for flushing or cleaning, keep sprayer at least 20 feet (6 m) away from explosive vapors.

ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

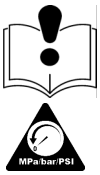
- Turn off and disconnect power cord before servicing equipment.
- Connect only to grounded electrical outlets.
- Use only 3-wire extension cords.
- Ensure ground prongs are intact on power and extension cords.
- Do not expose to rain. Store indoors.

WARNING

SKIN INJECTION HAZARD

High-pressure spray is able to inject toxins into the body and cause serious bodily injury. In the event that injection occurs, **get immediate surgical treatment.**

- Do not aim the gun at, or spray any person or animal.
- Keep hands and other body parts away from the discharge. For example, do not try to stop leaks with any part of the body.
- Always use the nozzle tip guard. Do not spray without nozzle tip guard in place.
- Use Graco nozzle tips.
- Use caution when cleaning and changing nozzle tips. In the case where the nozzle tip clogs while spraying, follow the **Pressure Relief Procedure,** page 9 for turning off the unit and relieving the pressure before removing the nozzle tip to clean.
- Do not leave the unit energized or under pressure while unattended. When the unit is not in use, turn off the unit and follow the **Pressure Relief Procedure,** page 9 for turning off the unit.
- Check hoses and parts for signs of damage. Replace any damaged hoses or parts.
- This system is capable of producing 3000 psi. Use Graco replacement parts or accessories that are rated a minimum of 3000 psi.
- Always engage the trigger lock when not spraying. Verify the trigger lock is functioning properly.
- Verify that all connections are secure before operating the unit.
- Know how to stop the unit and bleed pressure quickly. Be thoroughly familiar with the controls.



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 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,** page 9 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.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

WARNING

MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.

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 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.

RECOIL HAZARD

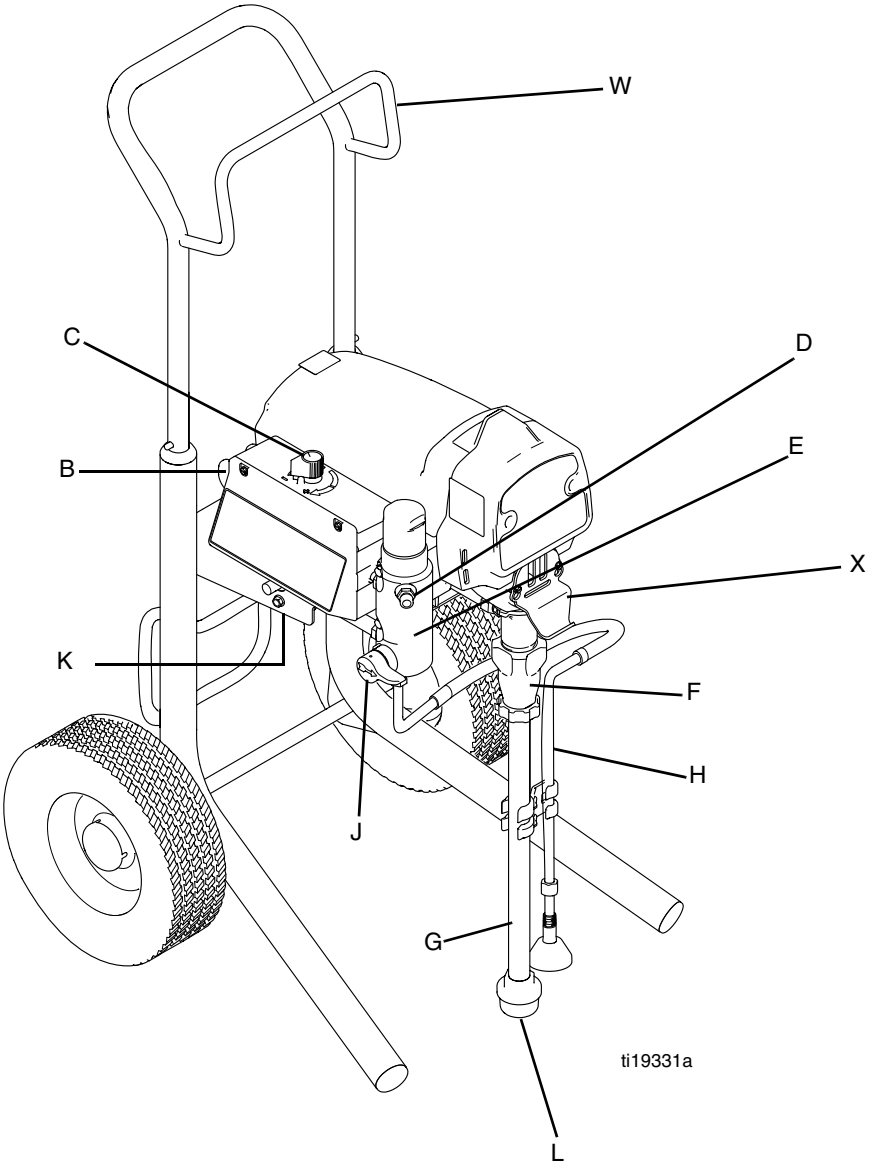
Gun may recoil when triggered. If you are not standing securely, you could fall and be seriously injured.

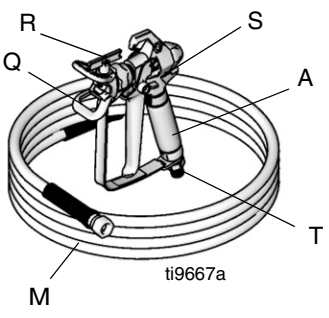
PERSONAL PROTECTIVE EQUIPMENT

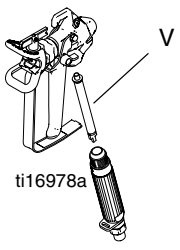
Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer

Component Identification





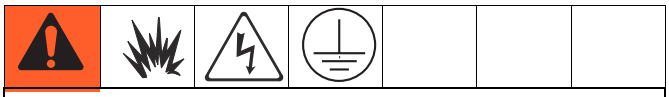


V (SG2/SG3)

A	Airless spray gun	Dispenses fluid.
B	Power switch	Turns sprayer ON and OFF.
C	Pressure control knob	Increases (clockwise) and decreases (counter-clockwise) fluid pressure in pump, hose, and spray gun.
D	Pump fluid outlet fitting	Threaded connection for paint hose.
E	Filter	Filters fluid coming out of pump to reduce tip plugging and improve finish.
F	Endurance™ Pump	Pumps and pressurizes fluid and delivers it to paint hose.
G	Suction tube	Draws fluid from paint pail into pump.
H	Prime tube (with diffuser)	Drains fluid in system during priming and pressure relief.
J	Prime/Spray valve	• In PRIME position (pointing down) directs fluid to prime tube. • In SPRAY position (pointing forward) directs pressurized fluid to paint hose. • Automatically relieves system pressure in overpressure situations.
K	Serial Tag (below sprayer frame)	Sprayer model and serial number information
L	Inlet screen	Prevents debris from entering pump.
M	Paint hose	Transports high-pressure fluid from pump to spray gun.
Q	Tip guard	Reduces risk of fluid injection injury.
R	Reversible spray tip	• Atomizes fluid being sprayed, forms spray pattern and controls fluid flow according to hole size. • Reversed, it unclogs plugged tips without disassembly.
S	Gun trigger safety lever	Prevents accidental triggering of spray gun.
T	Gun fluid inlet fitting	Threaded connection for paint hose.
V	Gun fluid filter	Filters fluid entering spray gun to reduce tip clogs.
W	Hose wrap Rack	Stows paint hose.
X	Pail hanger	For transporting pail by its handle.

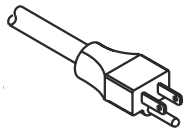
Installation

Grounding

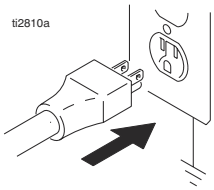


The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.

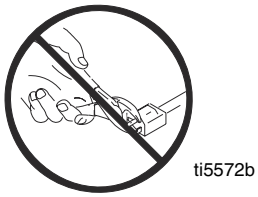
- The sprayer cord includes a grounding wire with an appropriate grounding contact.



- The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.



- Do not modify plug! If it will not fit in outlet, have grounded outlet installed by a qualified electrician. Do not use an adapter.



Thermal Overload

Motor has a thermal overload sensor to shut itself down if overheated. If unit overheats, perform **Pressure Relief Procedure**, page 9, and allow approximately 45 minutes for unit to cool before attempting to resume operation.

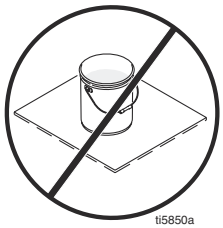
Power Requirements

- 100-120V units require 100-120 VAC, 50/60 Hz, 15A, 1 phase.
- Use an extension cord with an undamaged ground contact.
- If an extension cord is necessary, use a 3-wire, 12 AWG (2.5 mm^2) minimum.

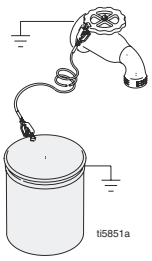
Pails

- **Solvent and oil/based fluids:** follow local code. Use only conductive metal pails, placed on a grounded surface such as concrete.

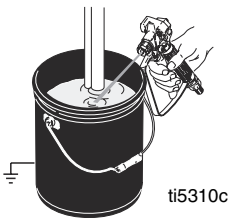
- Do not place pail on a nonconductive surface such as paper or cardboard which interrupts grounding continuity.



- **Grounding a metal pail:** connect a ground wire to the pail by clamping one end to pail and other end to a true earth ground such as a water pipe.



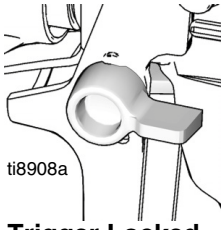
- **To maintain grounding continuity when flushing or relieving pressure:** hold metal part of spray gun firmly to side of a grounded metal pail. Then trigger gun.



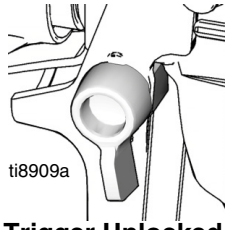
Operation

Trigger Lock

Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if dropped or bumped.



Trigger Locked



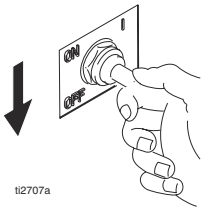
Trigger Unlocked

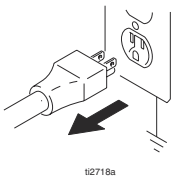
Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

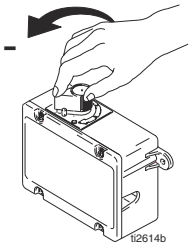
This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Turn power **OFF** and unplug sprayer.



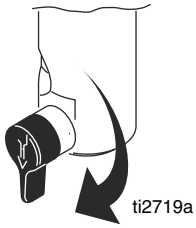


2. Turn pressure to lowest setting.



3. Trigger gun to relieve pressure.

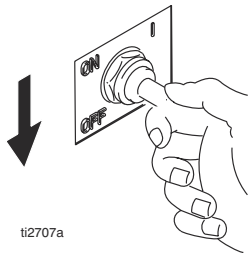
4. Turn prime valve down.



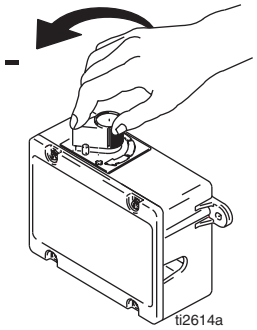
If you suspect spray tip or hose is completely clogged, or that pressure has not been fully relieved after following these steps, ***VERY SLOWLY*** loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Now clear tip or hose obstruction.

Setup

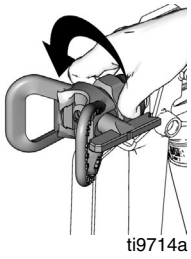
1. Turn OFF power switch.



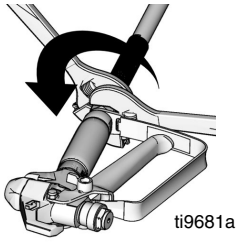
2. Turn Pressure Control Knob all the way left (counter-clockwise) to minimum pressure.



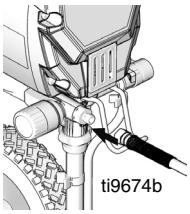
3. Unscrew tip and guard assembly from gun.



4. Uncoil hose and connect one end to gun. Use two wrenches to tighten securely

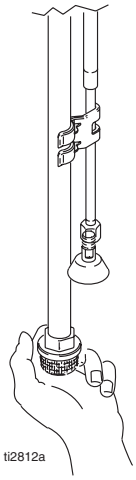


5. Connect other end of hose to sprayer.



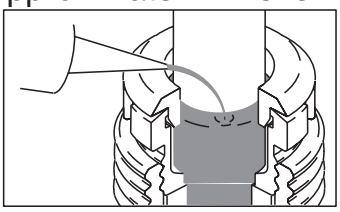
NOTE: If hose is already connected, make sure connections are tight.

6. Check inlet strainer for clogs and debris.



7. Fill throat packing nut with TSL to prevent premature packing wear. Do this each time you spray.

Approximate Fill Level



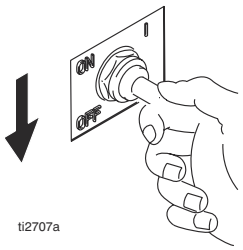
Prime and Flush Storage Fluid

Before you use your sprayer for the first time or begin a new spraying project, you need to prime the sprayer and flush the storage fluid out of the sprayer.

Oil- or Water-based Materials

- When spraying **water-based** materials, flush the system thoroughly with water.
- When spraying **oil-based** materials, flush the system thoroughly with mineral spirits or compatible, oil-based flushing solvent.
- To spray **water-based** materials **after spraying oil-based** materials, flush the system thoroughly with water first. The water flowing out of prime tube should be clear and solvent-free **before** you begin spraying the water-based material.
- To spray **oil-based** materials **after spraying water-based** materials, flush the system thoroughly with mineral spirits or a compatible oil-based flushing solvent first. The solvent flowing out of the prime tube should not contain any water.
- When flushing with solvents, ground pail and gun. Read Grounding and Electric Requirements, page 8.
- To avoid fluid splashing back on your skin or into your eyes, always aim gun at inside wall of pail.

1. Make sure the power switch is OFF and the sprayer is unplugged.



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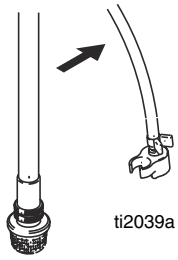
2. Separate prime tube (smaller) from suction tube (larger).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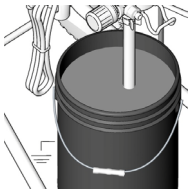
3. Place prime tube in waste pail.
4. Submerge suction tube in water or flushing solvent.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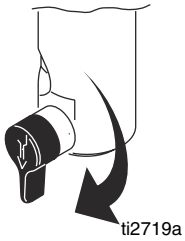
5. Turn Prime/Spray Valve to PRIME.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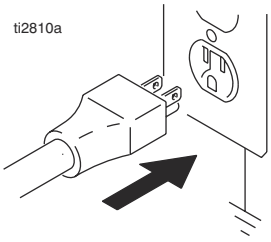
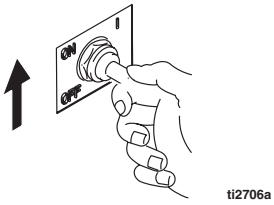
6. Plug sprayer in a grounded outlet.

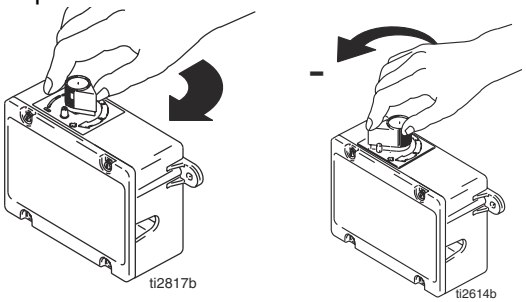

ti2810a

7. Turn power switch ON.



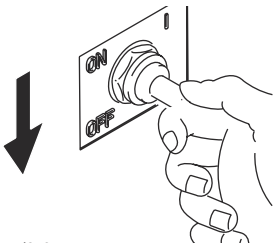
ti2706a

8. Increase pressure to start motor and allow fluid to circulate through drain tube for 15 seconds; then turn pressure down.

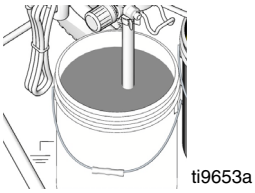


9. When sprayer starts pumping, flushing solvent and air bubbles will be purged from system. Allow fluid to flow out of prime tube, into waste pail, for 30 to 60 seconds.

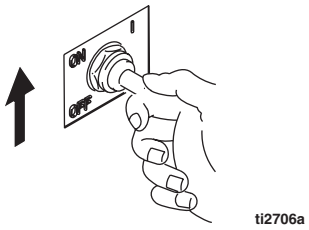
10. Turn power switch OFF.



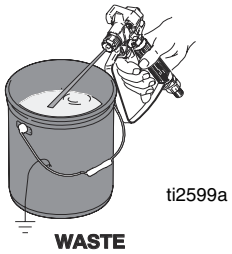
11. Transfer suction tube to paint pail and submerge suction tube in paint.



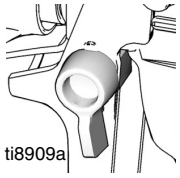
12. Turn power switch ON.



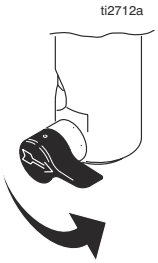
13. When you see paint coming out of prime tube:
    a. Point gun into waste pail.



    b. Unlock gun trigger lock.

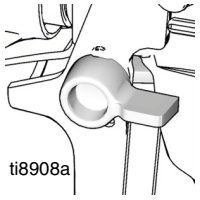


    c. Pull and hold gun trigger.
    d. Turn Prime/Spray valve to SPRAY.



14. Continue to trigger gun into waste pail until you see only paint coming out of gun.

15. Release trigger. Engage trigger lock.

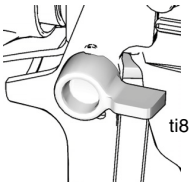


NOTE: Motor stopping indicates pump and hose are primed with paint. If motor continues to run the sprayer is not properly primed. To reprime, turn Prime/Spray valve to PRIME and repeat step 13.

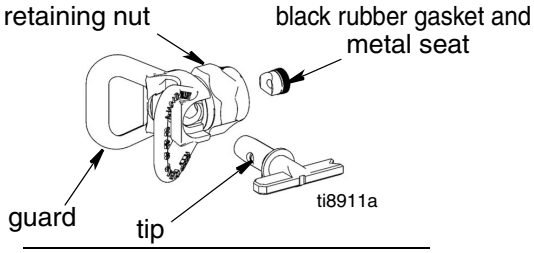
16. Transfer prime tube to paint pail and clip prime tube to suction tube.

Install Tip and Guard on Gun

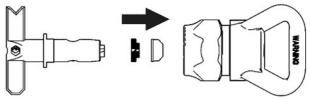
1. Engage trigger lock.



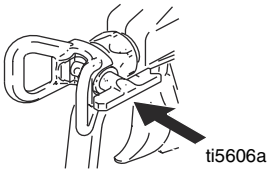
2. Verify tip and guard parts are assembled in order shown.



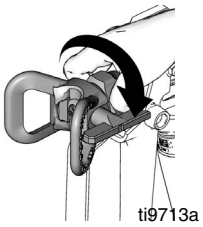
Use tip to align seat in guard



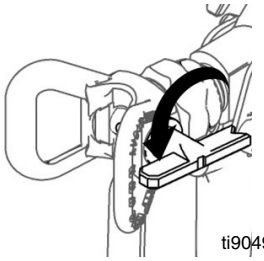
Tip must be pushed all the way into guard



3. Screw tip and guard assembly on gun. Tighten retaining nut.



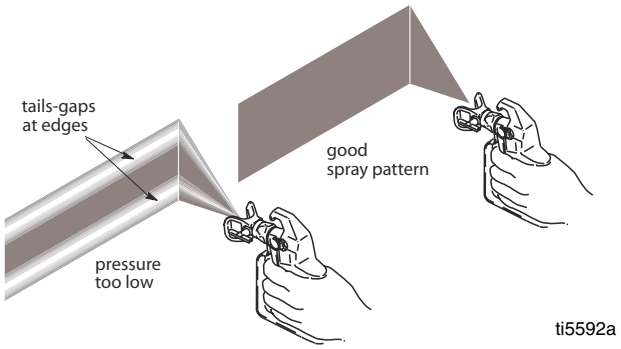
4. Ensure spray tip arrow is pointed forward to spray position.



Spraying Techniques

Preventing Excessive Tip Wear

- Spray should be atomized (evenly distributed, no gaps at edges). Start at low pressure setting, increase pressure a little at a time until you see a good spray pattern, without tails.
- Spray at lowest pressure that atomizes paint.
- If maximum sprayer pressure is not enough for a good spray pattern, tip is too worn.



NOTE: If tails persist when spraying at the highest pressure, a smaller tip is needed or the material may need to be thinned.

Adjust Spray Pressure

This sprayer is set up for most airless spraying applications.

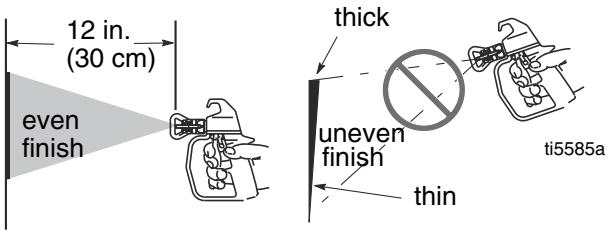
NOTE: Motor only runs when gun is triggered. Sprayer is designed to stop pumping when gun trigger is released.

- Turning knob to right (clockwise), increases pressure at gun.
- Turning it left (counter-clockwise), decreases pressure.
- General spraying instructions are provided in Getting Started section of this manual, page 14.

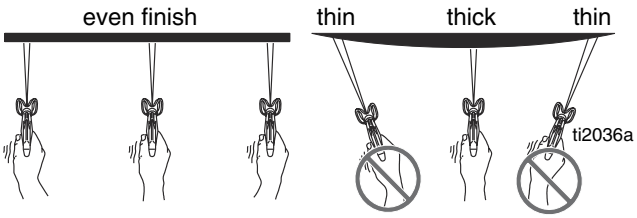
Getting Started

Use a piece of scrap cardboard to practice these basic spraying techniques before you begin spraying the surface.

- Hold gun 12 in. (30 cm) from surface and aim straight at surface. Tilting gun to direct spray angle causes an uneven finish.

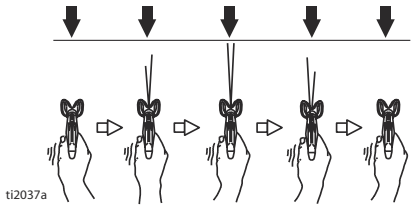


- Flex wrist to keep gun pointed straight. Fanning gun to direct spray at angle causes uneven finish.



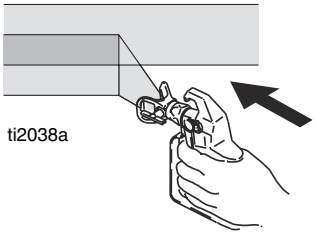
Triggering Gun

Pull trigger after starting stroke. Release trigger before end of stroke. Gun must be moving when trigger is pulled and released.



Aiming Gun

Aim tip of gun at bottom edge of previous stroke, overlapping each stroke by half.

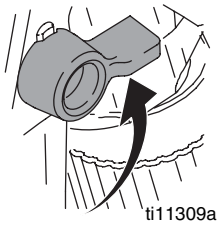


Unclogging Spray Tip

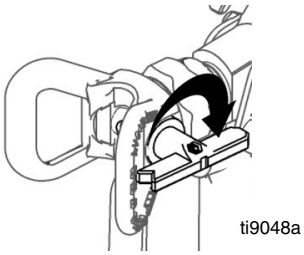
Do not operate or spray near children. Do not aim the sprayer at, or spray any person or animal. Keep hands and other body parts away from the discharge. For example, do not try to stop leaks with any part of the body.

Occasionally, debris from material can accumulate and clog the spray tip. Perform the following steps to unclog the tip.

1. To unclog tip obstruction, engage trigger lock.



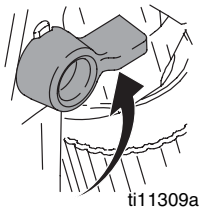
2. Reverse spray tip to UNCLOG position.

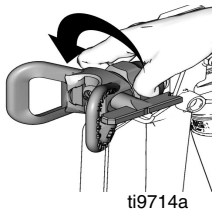


NOTE: Trapped pressure in the gun and paint hose may make the spray tip very difficult to turn. If so, perform the Pressure Relief Procedure, page 9, before rotating spray tip.

3. Aim gun at waste area, disengage trigger lock. Pull trigger to clear clog.

4. Engage trigger lock. Rotate spray tip back to SPRAY position.


ti11309a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5. Disengage trigger lock and resume spraying.


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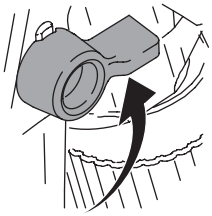
6. If the tip is still clogged, you may have to repeat steps 1 - 5 and rotate the tip from SPRAY to UNCLOG several times.

To help reduce tip clogs:

- strain the paint to remove debris
- repeat step 1 to relieve pressure
- remove and clean gun filter.

7. If obstruction is cleared, engage trigger lock and rotate arrow-shaped handle back to SPRAY position.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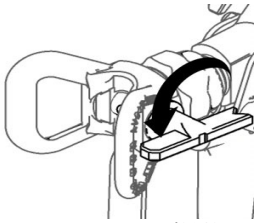
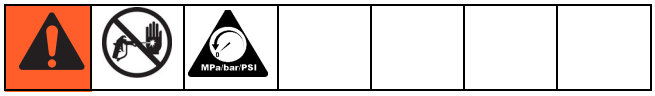

ti9049a

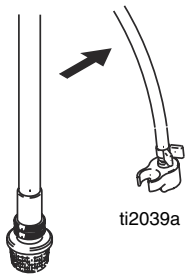
Shutdown and Cleaning

Flushing

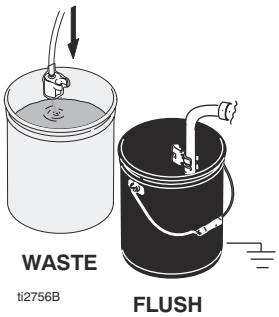
- For short term shutdown periods (overnight to two days) refer to Short Term Storage, page 19.
- For flushing after spraying oil-based coatings, use compatible oil-based flushing fluid or mineral spirits. Read Priming and Flushing Storage Fluid, page 11.
- For flushing after spraying water-based coatings, use water. Read Priming and Flushing Storage Fluid, page 11.



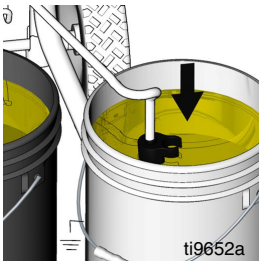
1. **Relieve pressure**, page 9.
2. Remove tip and guard assembly from gun and place in flushing fluid.
3. Lift suction tube and prime tube from paint pail. Let them drain into paint pail for a while.
4. Separate prime tube (smaller) from suction tube (larger).



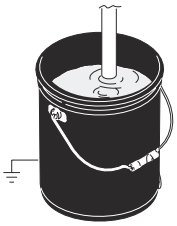
5. Place empty waste and water or solvent pails side by side.



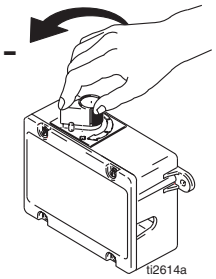
6. Place prime tube in waste pail.



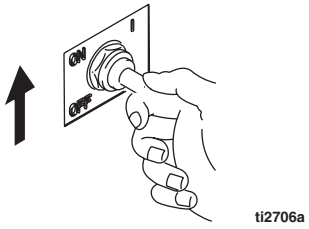
7. Submerge suction tube in water or flushing solvent.



8. Turn pressure control knob to minimum setting.

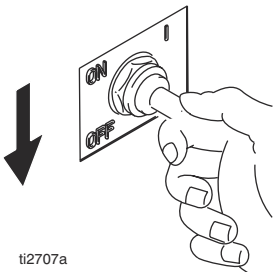


9. Turn power switch ON.



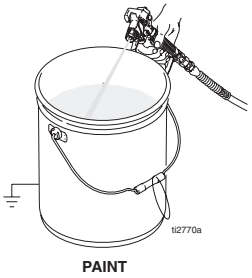
10. Flush until approximately 1/3 of the flushing fluid is emptied from the pail.

11. Turn power switch OFF.

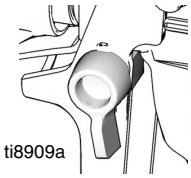


NOTE: Step 12 is for returning paint in hose back to paint pail. One 50-ft hose holds approximately 1-quart (1-liter) of paint.

12. To recover paint in hose:
    a. Point gun into paint pail.

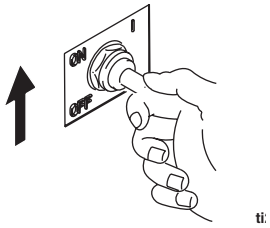


    b. Unlock gun trigger lock.



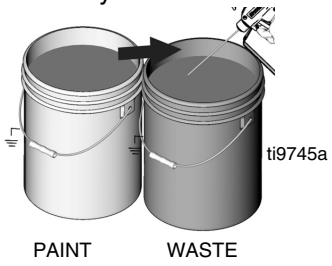
    c. Pull and hold gun trigger.
    d. Turn Prime/Spray valve to SPRAY.

    e. Turn power switch ON.

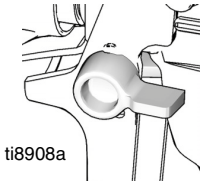


    f. Continue to hold gun trigger until you see paint diluted with flushing fluid starting to come out of gun.

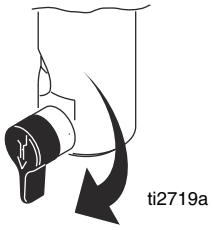
13. While continuing to trigger gun, quickly move gun to redirect spray into waste pail. Continue triggering gun into waste pail until flushing fluid dispensed from gun is relatively clear.



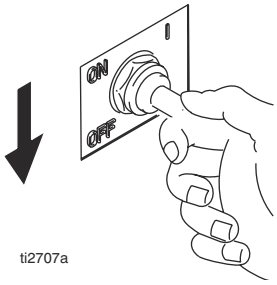
14. Stop triggering gun. Engage the trigger lock.



15. Turn prime/spray valve to Prime.



16. Turn power switch OFF.

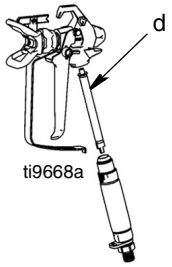


17. Clean gun filter and gun, page 18.

18. Fill unit with Pump Armor™ storage fluid. Read Long Term Storage, page 19.

Cleaning Gun

- Clean gun fluid filter (d) with water or flushing solvent and a brush every time you flush the system. Replace gun filter if damaged.



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- Remove tip and guard and clean with water or flushing solvent. A soft brush can be used to loosen and remove dried-on material if needed.


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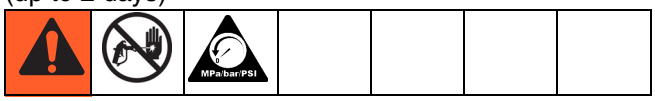
- Wipe paint off outside of gun using a soft cloth moistened with water or flushing solvent.

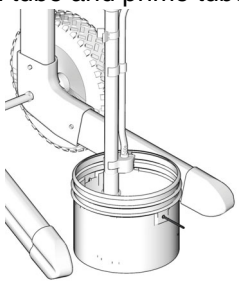
Storage

Short Term Storage

(up to 2 days)



1. **Relieve pressure**, page 9.
2. Leave suction tube and prime tube in paint pail.



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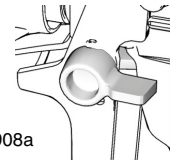
3. Cover paint pail and hoses tightly with plastic wrap.
4. Engage trigger lock.



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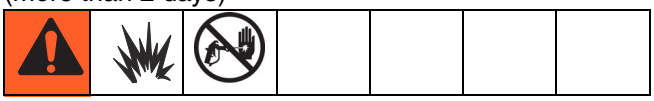
5. Leave gun attached to hose.
6. If you have not already cleaned them, remove tip and guard from gun and clean with water or flushing solvent. A soft brush can be used to loosen and remove dried-on material if needed.

ti9671a

7. Wipe paint off outside of gun using a soft cloth moistened with water or flushing solvent.

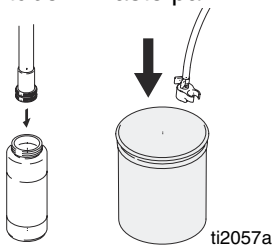
Long Term Storage

(more than 2 days)



NOTE: Always circulate Pump Armor storage fluid through system after cleaning. Water left in sprayer will corrode and damage pump. Follow Shutdown and Cleaning, page 16.

1. Place suction tube in Pump Armor storage fluid bottle and prime tube in waste pail.



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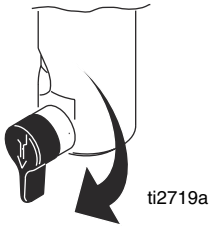
2. Turn Prime/Spray valve to PRIME.



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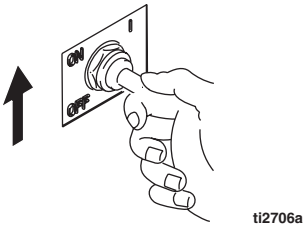
3. Turn power switch ON.



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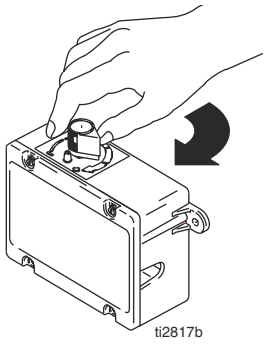
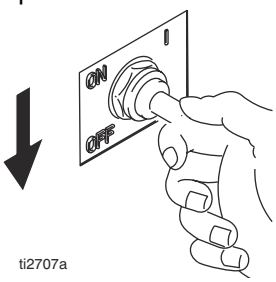
4. Turn pressure control knob clockwise until the pump turns on.



5. When storage fluid comes out of prime tube (5-10 seconds) turn power switch OFF.



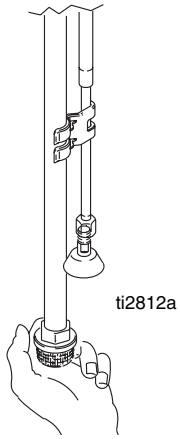
6. Turn Prime/Spray valve to SPRAY to keep storage fluid in sprayer during storage.

Stowing Sprayer

NOTICE

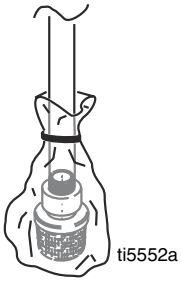
- Before storing sprayer make sure all water is drained out of sprayer and hoses.
- Do not allow water to freeze in sprayer or hose.
- Do not store sprayer under pressure.

1. Screw inlet screen onto suction tube.



2. Coil hose. Leave it connected to sprayer. Wrap hose around hose wrap bracket.

3. Secure a plastic bag around suction tube to catch any drips.



4. Store sprayer indoors.

Maintenance and Service

NOTICE

Protect the internal drive parts of this sprayer from water. Openings in shroud allow cooling of mechanical parts and electronics inside. If water gets into these openings, the sprayer could malfunction or be permanently damaged.

Caring for Sprayer

Keep sprayer and all accessories clean and in good working order.

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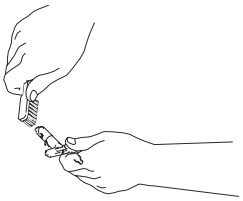
To avoid overheating motor, keep vent holes in shroud clear for air flow. Do not cover sprayer while spraying.

Paint Hoses

Check hose for damage every time you spray. Do not attempt to repair hose if hose jacket or fittings are damaged. Do not use hoses shorter than 25 ft (7.6 m). Wrench tighten, using two wrenches.

Tips

- Always clean tips with compatible solvent and brush after spraying.



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- Tips may require replacement after 15 gallons (57 liters) or they may last through 60 gallons (227 liters) depending on abrasiveness of paint.
- Do not spray with worn tip.

Pump Packings

When pump packings wear, paint will begin to leak down outside of pump.

- Replace pump packings at first sign of leaking or additional damage could occur.
- Purchase a pump repair kit and install according to instructions provided with kit.
- Consult a Graco authorized service center.

Troubleshooting

Check everything in this Troubleshooting Table before you bring the sprayer to a Graco authorized service center.

Problem	Cause	Solution
Power switch is on and sprayer is plugged in, but motor does not run, and pump does not cycle.	Pressure is set at zero pressure.	Turn pressure control knob clockwise to increase pressure setting.
	Motor or control is damaged.	Take sprayer to Graco authorized service center.
	Electric outlet is not providing power.	• Try a different outlet or plug in something that you know is working to test outlet. • Reset building circuit breaker or replace fuse.
	Extension cord is damaged.	Replace extension cord. Read Grounding and Electric Requirements, page 8.
	Sprayer electric cord is damaged.	Check for broken insulation or wires. Replace electric cord if damaged.
	Paint and/or water is frozen or hardened in pump.	Unplug sprayer from outlet. If frozen do NOT try to start sprayer until it is completely thawed or you may damage the motor, control board and/or drivetrain. Make sure power switch is OFF. Place sprayer in a warm area for several hours. Then plug in powercord and turn sprayer ON. Slowly increase pressure setting to see if motor will start. If paint is hardened in sprayer, pump packings, valves, drivetrain or pressure switch may need to be replaced. Take sprayer to Graco authorized service center.
Motor is hot and runs intermittently. Motor automatically shuts off due to excessive heat. Damage can occur if cause is not corrected. See Thermal Overload, page 8.	Vent holes in enclosure are plugged or sprayer is covered.	Keep vent holes clear of obstructions and overspray and keep sprayer open to air.
	Extension cord is too long or not a heavy enough gauge.	Replace extension cord. Read Grounding and Electrical Requirements, page 8.
	Unregulated electrical generator being used has excessive voltage.	Use electrical generator with a proper voltage regulator. Sprayer requires 120VAC, 60 Hz, 3000-Watt generator.

Problem	Cause	Solution
Pump does not prime.	Prime/Spray Valve is in SPRAY position.	Turn Prime/Spray Valve to PRIME position (pointing down).
	Inlet screen is clogged or suction tube is not immersed.	Clean debris off inlet screen and make sure suction tube is immersed in fluid.
	Pump was not primed with flushing fluid.	Remove suction tube from paint. Prime pump with water or solvent-based flushing fluid, page 11.
	Inlet valve check ball is stuck.	Remove suction tube and place a pencil into the inlet section to dislodge the ball, allowing pump to prime properly.
	Inlet valve check ball or seat is dirty	Remove inlet fitting. Clean or replace ball and seat.
	Outlet valve check ball is stuck.	Take sprayer to Graco authorized service center.
	Suction tube is leaking.	Tighten suction tube connection. Inspect for cracks or vacuum leaks.
	Pump does not prime with fluid.	Remove suction tube from paint. Prime pump with water or solvent-based flushing fluid.
	Fluids are viscous or sticky.	Thin paint per manufacturers guidelines.
Pump cycles but does not build up pressure.	Pump is not primed.	Prime pump.
	Inlet screen is clogged .	Clean debris off inlet screen and make sure suction tube is immersed in fluid.
	Suction tube is not immersed in paint.	Make sure suction tube is immersed in paint.
	Suction tube is leaking.	Tighten suction tube connection. Inspect for cracks or vacuum leaks. If cracked or damaged, replace suction tube.
	Prime/Spray Valve is worn or obstructed with debris.	Take sprayer to Graco authorized service center.
	Pump check ball is stuck.	Read ***Pump does not prime*** section in Troubleshooting, page 23.
Pump cycles, but paint only dribbles or spurts when spray gun is triggered.	Pressure is set too low.	Slowly turn Pressure Control Knob clockwise to increase pressure setting which will turn motor on to build pressure.
	Spray tip is clogged.	Unclog spray tip, page 14.
	Pump fluid filter is clogged.	Clean or replace pump fluid filter.
	Spray gun fluid filter is clogged.	Clean or replace gun fluid filter, page 18.
	Spray tip is too large or worn.	Replace tip.

Problem	Cause	Solution
Pressure is set at maximum but cannot achieve a good spray pattern.	Reversible spray tip is in UNCLOG position.	Rotate arrow-shaped handle on spray tip so it points forward in SPRAY position.
	Spray tip is too large for sprayer.	Select smaller spray tip.
	Spray tip is worn beyond capability of sprayer.	Replace spray tip.
	Extension cord is too long or not heavy enough gauge.	Replace extension cord. Grounding and Electrical Requirements, page 8.
	Spray gun fluid filter is clogged.	Clean or replace spray gun fluid filter, page 18.
	Pump fluid filter is clogged.	Clean or replace pump fluid filter.
	Inlet screen is clogged.	Clean debris off inlet screen.
	Pump valves are worn, or debris is clogging valve.	Check for worn pump valves. a. Prime sprayer with paint b. Trigger gun momentarily. When trigger is released, pump should cycle momentarily and stop. If pump continues to cycle, pump valves may be worn. c. Remove valves and check for debris.
	Material is too thick.	Thin material.
	Hose is too long (if extra section is added).	Remove section of hose.
Spray gun stopped spraying.	Suction tube is leaking, allowing air to enter.	Tighten suction tube connection. Inspect for cracks or vacuum leaks.
	Spray tip is clogged.	Unclog spray tip, page 14.
When paint is sprayed, it runs down the wall or sags.	Coat is going on too thick.	Move gun faster.
		Choose a tip with smaller hole size.
		Choose tip with wider fan.
		Make sure gun is far enough from surface.
When paint is sprayed, coverage is inadequate.	Coat is going on too thin.	Move gun slower.
		Choose tip with larger hole size.
		Choose tip with narrower fan.
		Make sure gun is close enough to surface.
Fan pattern varies dramatically while spraying. OR Sprayer does not turn on promptly when resuming spraying.	Pressure control switch is worn and causing excessive pressure variation.	Take sprayer to Graco authorized service center.

Problem	Cause	Solution
Cannot trigger spray gun.	Spray gun trigger lock is locked.	Rotate trigger safety lever to unlock trigger lock, page 9.
Paint is coming out of pressure control switch.	Pressure control switch is worn.	Take sprayer to Graco authorized service center.
Prime/Spray valve actuates automatically relieving pressure through prime tube.	System is over pressurizing.	Take sprayer to Graco authorized service center.
Paint leaks down outside of pump.	Pump packings are worn.	Replace pump packings.

Technical Data

	Pro 230ES	Pro 270ES
Working pressure range	0-3000 psi (0-21 MPa, 0-207 bar)	
Electric motor	11.0A (120 VDC) (permanent magnet DC, TEFC)	5.5A (330 VDC) (Permanent magnet brushless DC, TEFC)
Operating horsepower	1.0	1.4
Maximum delivery (with tip)	0.54 gpm (2.05 lpm)	0.70 gpm (2.65 lpm)
Paint hose	1/4 in. x 50 ft (6.4 mm x 15 m)	
Maximum tip hole size	0.023 in. (0.58 mm)	0.027 in. (0.69 mm)
Weight, sprayer only	66 lb (30 kg)	72 lb (33kg)
Weight, sprayer, hose & gun	69 lb (31.4 kg)	75 lb (34 kg)
Dimensions:		
Length	21 in. (53.3 cm)	
Width	20.5 in. (52.1 cm)	
Height	39.5 in. (100.3 cm)	
Height (handle retracted)	29.5 in (74.9 cm)	
Power cord	16 AWG, 3-wire, 10 ft (3.05 m)	14 AWG, 3-wire, 10 ft (3.05 m)
Fluid inlet fitting	7/8” - 14 UNF external thread	
Fluid outlet fitting	1/4 NPSM external thread	
Inlet screen (on suction tube)	#12 mesh (1675 micron)	
Wetted parts, pump & hose	zinc-plated carbon steel, nylon, stainless steel, PTFE, acetal, chrome plating, leather, UHMWPE, aluminum, carbide	
Wetted parts, gun	aluminum, brass, carbide, nylon, plated steel, stainless steel, UHMWPE, zinc	
Generator requirement	3000 Watt minimum	
Electrical power requirement	120 Vac, 60 Hz, 11A, 1 phase	
Storage temperature range ◆❖	-30° to 160°F (-35° to 71°C)	
Operating temperature range ✔	40° to 115°F (4° to 46°C)	

◆ When pump is stored with non-freezing fluid. Pump damage will occur if water or latex paint freezes in pump.

❖ Damage to plastic parts may result if impact occurs in low temperature conditions.

✔ Changes in paint viscosity at very low or very high temperatures can afftect sprayer performance.

Notes

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.

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For the latest information about Graco products, visit www.graco.com.

TO PLACE AN ORDER, contact your Graco distributor or call 1-800-690-2894 to identify the nearest distributor.

All written and visual data contained in this document reflects the latest product information available at the time of publication.
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For patent information, see www.graco.com/patents.

Original instructions. This manual contains English. MM 3A2813

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