

Express 190 Electric Airless Sprayers

334117A

EN

*For professional use only.
Not approved for use in explosive atmospheres or hazardous locations.
For portable airless spraying of architectural paints and coatings.*

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

17A322, 17C121 (120V) Express 190: North/South America

17A323, 17C122 (230V) Express 190: Europe

17A324, 17C123 (230V) Express 190: Asia

17C117, 17C120 (230V) Express 190: South America



Important Safety Instructions

Read all warnings and instructions in this manual and related manuals.
Be familiar with the controls and the proper usage of the equipment.
Save these instructions.

Related Manuals:



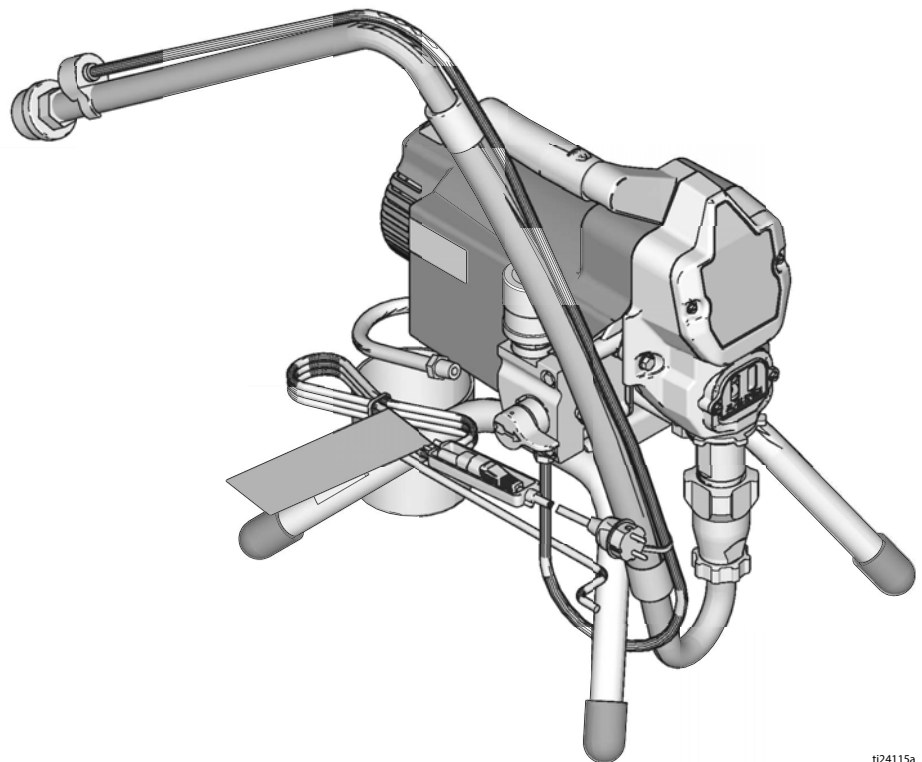
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Warnings

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

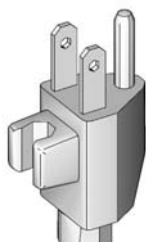


GROUNDING

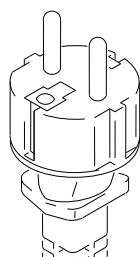
This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into 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 or 230V circuit and has a grounding plug similar to the plugs illustrated in the figure below.

120V US



230V



- 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 grounding plug and a grounding 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 mm²) 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.

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** 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** 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 3300 psi (227 bar, 22.7 MPa). Use Graco replacement parts or accessories that are rated a minimum of 3300 psi (227 bar, 22.7 MPa).
- 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.

! WARNING



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Always wear appropriate gloves, eye protection, and a respirator or mask when painting.
- Do not operate or spray near children. Keep children away from equipment at all times.
- Do not overreach or stand on an unstable support. Keep effective footing and balance at all times.
- Stay alert and watch what you are doing.
- 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** for turning off the unit.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not kink or over-bend the hose.
- Do not expose the hose to temperatures or to pressures in excess of those specified by Graco.
- Do not use the hose as a strength member to pull or lift the equipment.
- Do not spray with a hose shorter than 25 feet.
- 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.



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.
- Wait five minutes after disconnecting power cord before servicing large capacitor units.



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.



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.

WARNING



PERSONAL PROTECTIVE EQUIPMENT

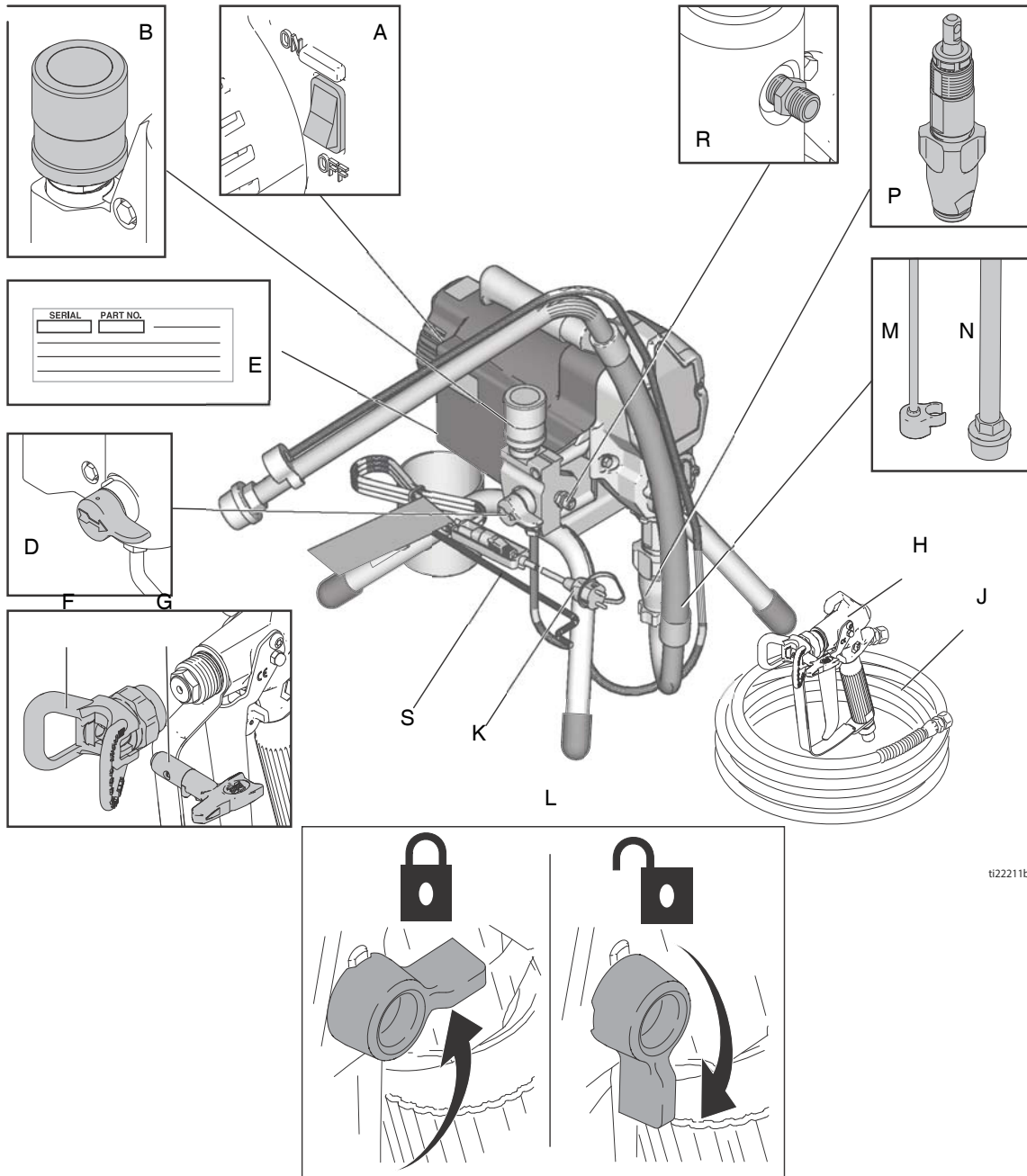
Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:

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

CALIFORNIA PROPOSITION 65

This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

Component Identification







ti22211b

A	ON/OFF Switch
B	Pressure Control
D	Prime Valve
E	Model/Serial Tag
F	Guard
G	Tip
H	Gun

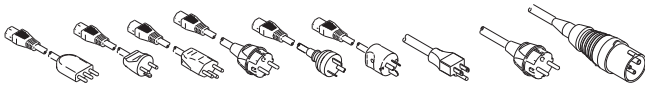
J	Fluid Hose
K	Power Cord
L	Trigger Lock
M	Drain Hose
N	Suction Hose
P	Pump
R	Fluid Outlet
S	Power Cord Wrap

Grounding

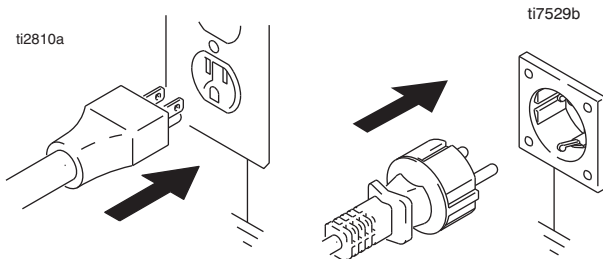
							
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The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric 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 the plug provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.

Power Requirements

- 100-120V units require 100-120 VAC, 50/60 Hz, 11A, 1 phase.
- 230V units require 230 VAC, 50/60 HZ, 7.5A, 1 phase.

Extension Cords

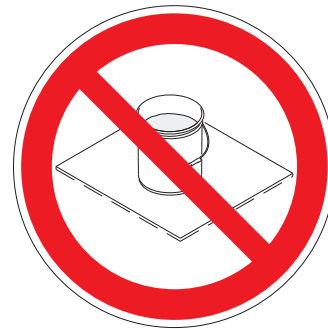
Use an extension cord with an undamaged ground contact. If an extension cord is necessary, use a 3-wire, 12 AWG (2.5 mm²) minimum.

NOTE: Smaller gauge or longer extension cords may reduce sprayer performance.

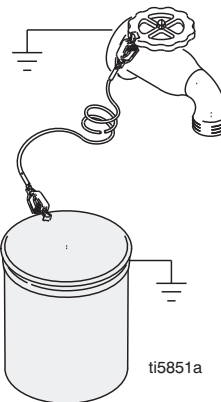
Pails

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

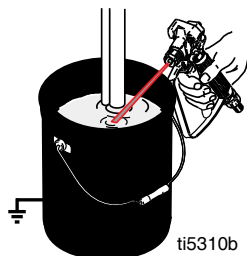
Do not place pail on a nonconductive surface such as paper or cardboard which interrupts grounding continuity.



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

Pressure Relief Procedure

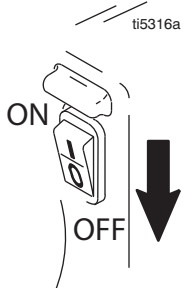


Follow the Pressure Relief Procedure whenever you see this symbol.

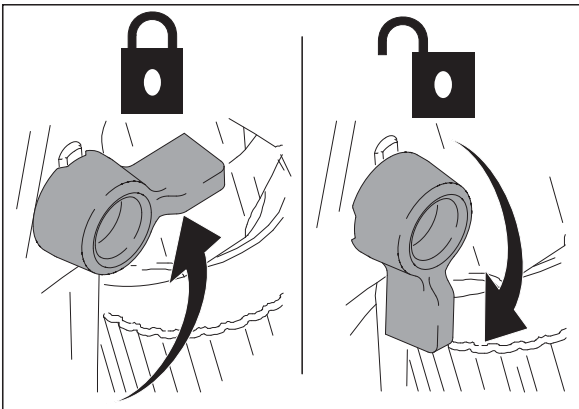


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

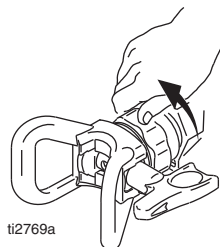
1. Turn power **OFF**. Wait 7 seconds for power to dissipate.



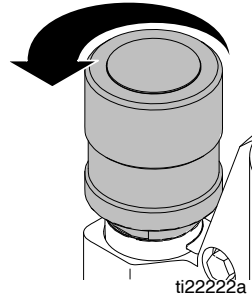
2. Engage trigger lock.



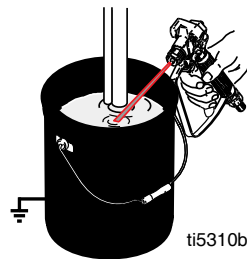
3. Remove tip guard.



4. Turn pressure control to lowest setting. Disengage trigger lock.

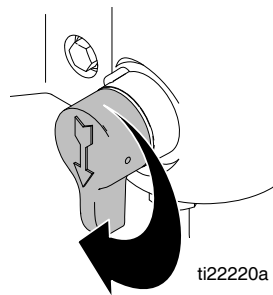


5. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.



6. Engage trigger lock.

7. Put drain tube in pail. Turn prime valve down. Leave prime valve in drain position until you are ready to spray again.



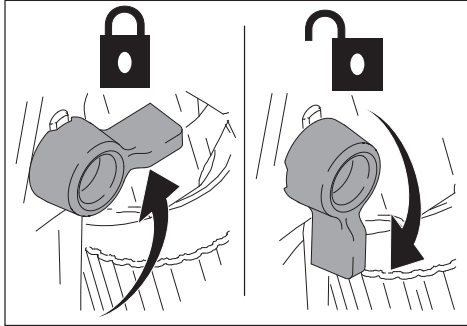
8. Turn power switch **OFF**, if unit is being shut down or will be left unattended.

9. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved:

- a. **VERY SLOWLY** loosen tip guard retaining nut or hose end coupling to relieve pressure gradually.
- b. Loosen nut or coupling completely.
- c. Clear hose or tip obstruction.

Trigger Lock

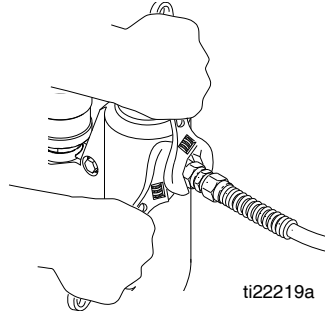
Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if dropped or bumped.



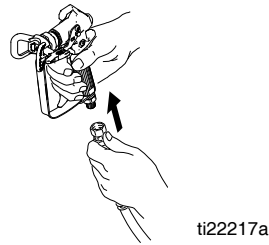
Setup



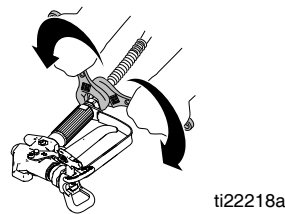
1. Connect Graco airless hose to sprayer. Tighten securely.



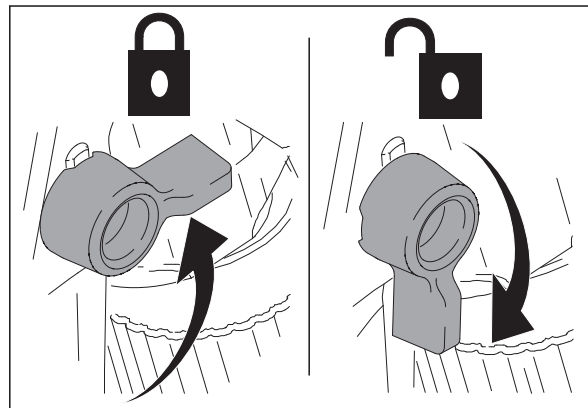
2. Connect other end of hose to gun.



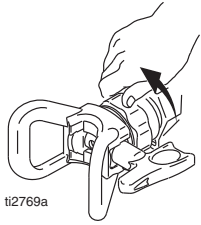
3. Tighten securely.



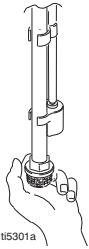
4. Engage trigger lock.



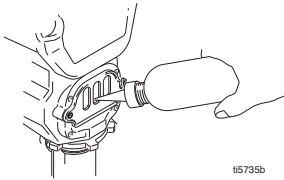
5. Remove tip guard.



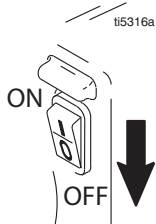
6. Check inlet strainer for clogs and debris.



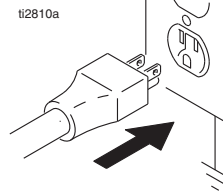
7. Fill throat packing nut with TSL to prevent premature packing wear. Do this each time you spray.



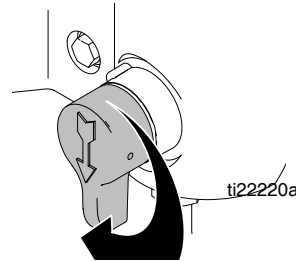
8. Turn power OFF.



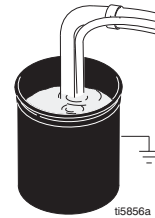
9. Plug power supply cord into a properly grounded electrical outlet.



10. Turn prime valve down.



11. Place siphon tube set in grounded metal pail partially filled with flushing fluid. See **Grounding**, page 10. Perform steps 1- 6 of **Startup**, page 12, to flush out storage oil shipped in sprayer. Use water to flush water-based paint or mineral spirits to flush oil-based paint and storage oil.

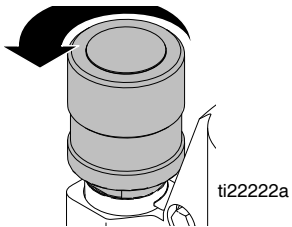


Flush

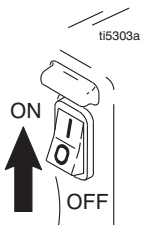
Startup



1. Perform **Pressure Relief Procedure**, page 9.
2. Turn pressure control to lowest pressure.

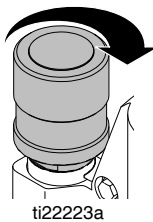


3. Turn power **ON**.

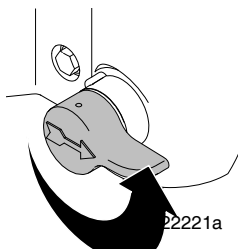


4. Increase pressure 1/4 turn to start motor. Allow fluid to circulate through drain tube for 15 seconds.

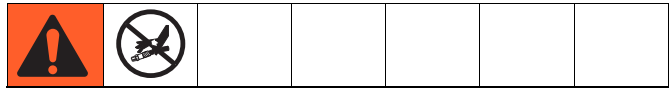
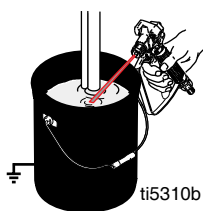
1/4 turn



5. Turn prime valve horizontal. Disengage trigger lock.



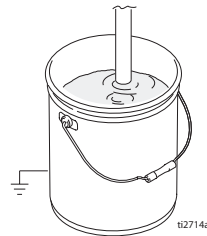
6. Hold gun against grounded metal flushing pail. Trigger gun and flush 1 minute.



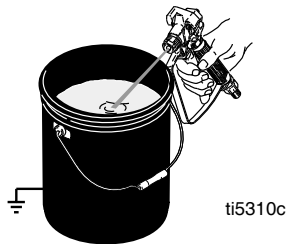
High-pressure spray is able to inject toxins into the body and cause serious bodily injury. Do not stop leaks with hand or rag.

7. Inspect for leaks. If leaks occur, perform **Pressure Relief Procedure**, page 9. Tighten fittings.

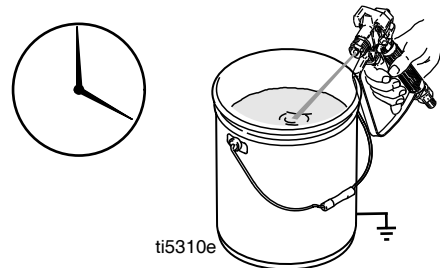
8. Place siphon tube in paint pail.



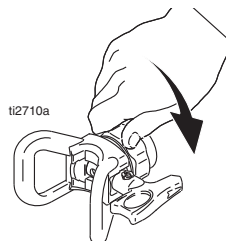
9. Trigger gun again into flushing pail until paint appears.



10. Move gun to paint pail and trigger for 20 seconds. Engage trigger lock.

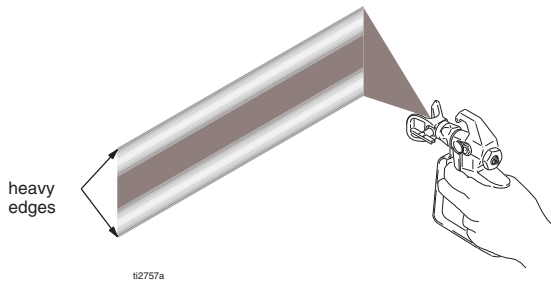


11. Screw tip assembly onto gun. Tighten. For gun assembly instructions, see separate gun manual.

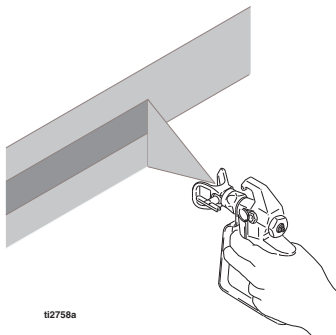


Spray

1. Spray test pattern. Adjust pressure to eliminate heavy edges.



2. Use smaller tip size if pressure adjustment cannot eliminate heavy edges.
3. Hold gun perpendicular, 10-12 in. (25-30 cm) from surface. Spray back and forth; overlap by 50%.

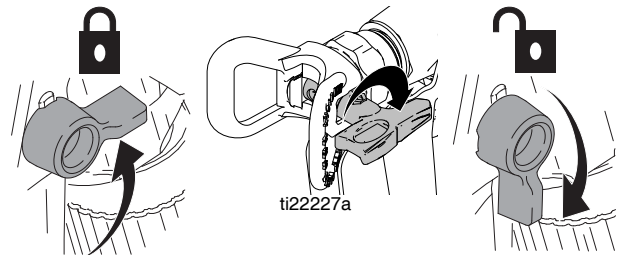


4. Trigger gun after moving. Release trigger before stopping. For additional spraying information, see separate gun manual.

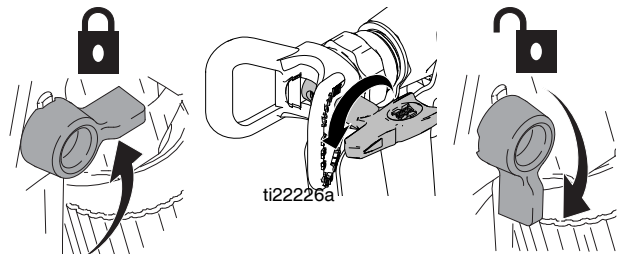
Clear Tip Clog



1. Release trigger. Engage trigger lock. Rotate Spray Tip. Disengage trigger lock. Trigger gun at waste area to clear clog.



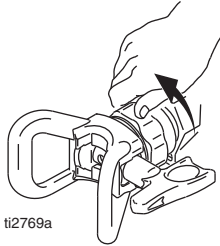
2. Engage trigger lock. Return Spray Tip to original position. Disengage trigger lock and continue spraying.



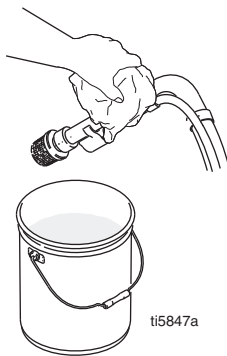
Cleanup



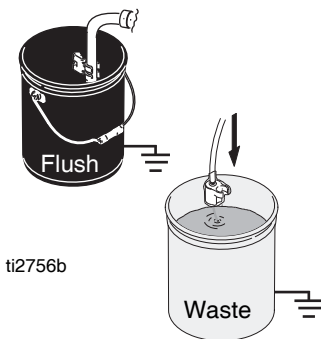
1. **Relieve Pressure**, page **Pressure Relief Procedure**, page 9.
2. Remove guard and Spray Tip. For additional information, see separate gun manual.



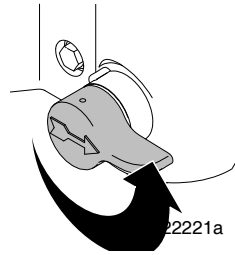
3. Remove siphon tube set from paint. Wipe excess paint off outside of tubes.



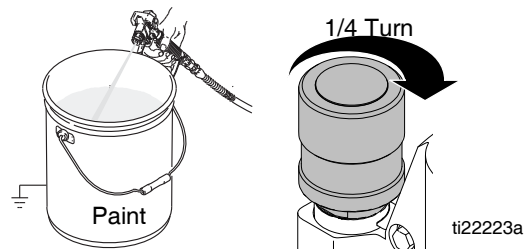
4. Place siphon tube in flushing fluid. Use water for water base paint and mineral spirits for oil base paint. Place drain tube in waste pail.



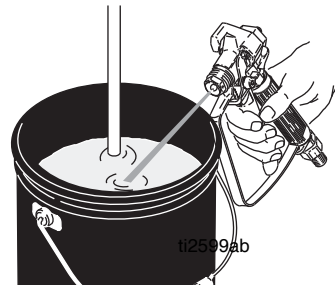
5. Turn prime valve horizontal.



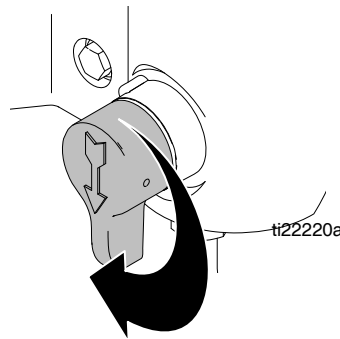
6. Hold gun against paint pail. Disengage trigger lock. Trigger gun and increase pressure until the pump runs steady and flushing fluid appears.



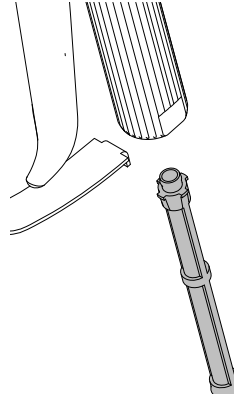
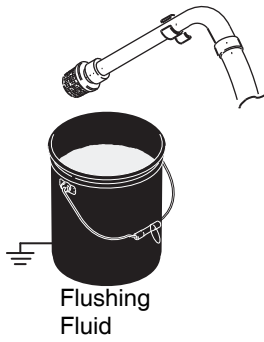
7. Stop triggering gun. Move gun to waste pail, hold gun against pail, trigger gun to thoroughly flush system.



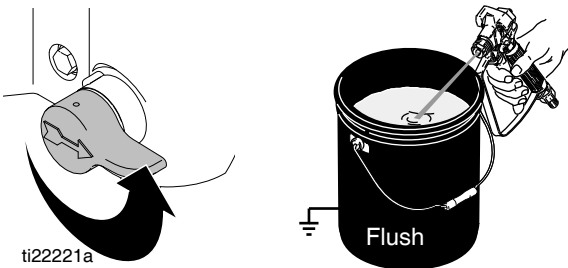
8. While continuing to trigger gun, turn prime valve down. Then, release gun trigger. Allow flushing fluid to circulate until fluid coming out of drain tube is clear.



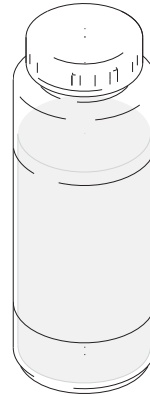
9. Raise siphon tube above flushing fluid.



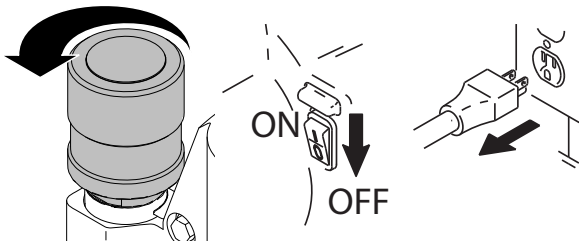
10. Close prime valve. Trigger gun into flushing pail to purge fluid from hose.



13. If flushing with water, flush again with mineral spirits or Pump Armor to leave a protective coating to prevent freezing or corrosion.



11. Turn pressure control knob all the way down and power switch OFF. Unplug sprayer.



14. Wipe sprayer, hose and gun with a rag soaked in water or mineral spirits.



12. Remove filter from gun if installed. Clean and inspect. Install filter. See separate gun manual.

Technical Specifications

Express 190 Electric Airless Sprayers		
	U.S.	Metric
Sprayer		
Power requirements	100/120V AC, 50/60 hz, 11A, 1 phase 230V AC, 50/60 Hz, 7.5 A, 1 phase	
Generator required	3000 w minimum	
Maximum working pressure	3000 psi	207 bar, 20.7 MPa
Cycles per gallon/liter*	680	180
Maximum delivery	0.38 gpm	1.44 lpm
Maximum tip size	0.019 in	
Fluid outlet npsm	1/4 in.	
Wetted parts	zinc and nickel-plated carbon steel, nylon, stainless steel, PTFE, Acetal, leather, UHMWPE, aluminum, tungsten carbide	
Dimensions		
Stand:		
Length	15.75 in.	40.0 cm
Width	14.0 in.	35.6 cm
Height	17.0 in.	43.0 cm
Weight	31.0 lb	14.1 kg
Noise (dBa)		
Sound power	100 dBa	
Sound pressure	90 dBa	
Notes		
* Startup pressures and displacement per cycle may vary based on suction condition, discharge head, air pressure, and fluid type.		
Sound pressure measured 3.3 ft (1 meter) from equipment.		
Sound power measured per ISO-3744.		

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.

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