Operation, Parts, Repair

695 Electric Airless Sprayer

3A4399A

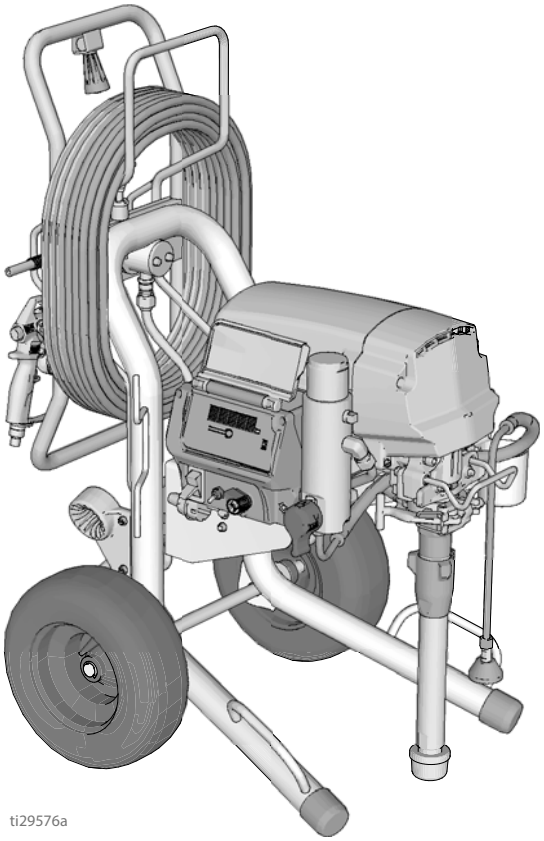
EN

For Portable Airless Spraying of Architectural Coatings and Paints.
For professional use only. Not approved for use in explosive atmospheres or hazardous locations.

3300 psi (227 bar, 22.7 MPa) Maximum Working Pressure

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.



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PROVEN QUALITY. LEADING TECHNOLOGY.

Table of Contents

Models

695 ProContractor	
Model	**Voltage**
24Z584	230

Warnings

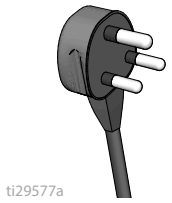
The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer 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 230V circuit and has a grounding plug similar to the plugs 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 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 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 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.
- Do not spray flammable or combustible liquids in a confined area.
- Keep spray area well-ventilated. Keep a good supply of fresh air moving through the area.
- Sprayer generates sparks. keep pump assembly in a well ventilated area at least 20 feet (6 m) away from the spray area when spraying, flushing, cleaning or servicing. Do not spray pump assembly.
- Do not smoke in the spray area or spray where sparks or flame is present.
- 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 Safety Data Sheets (SDS) 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.

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.
- Equipment maintains pressure after power is shut off. Do not leave the equipment energized or under pressure while unattended. Follow the **Pressure Relief Procedure** when the equipment is unattended or not in use, and before servicing, cleaning, or removing parts.
- 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 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.
- Do not use chlorine bleach.
- 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.

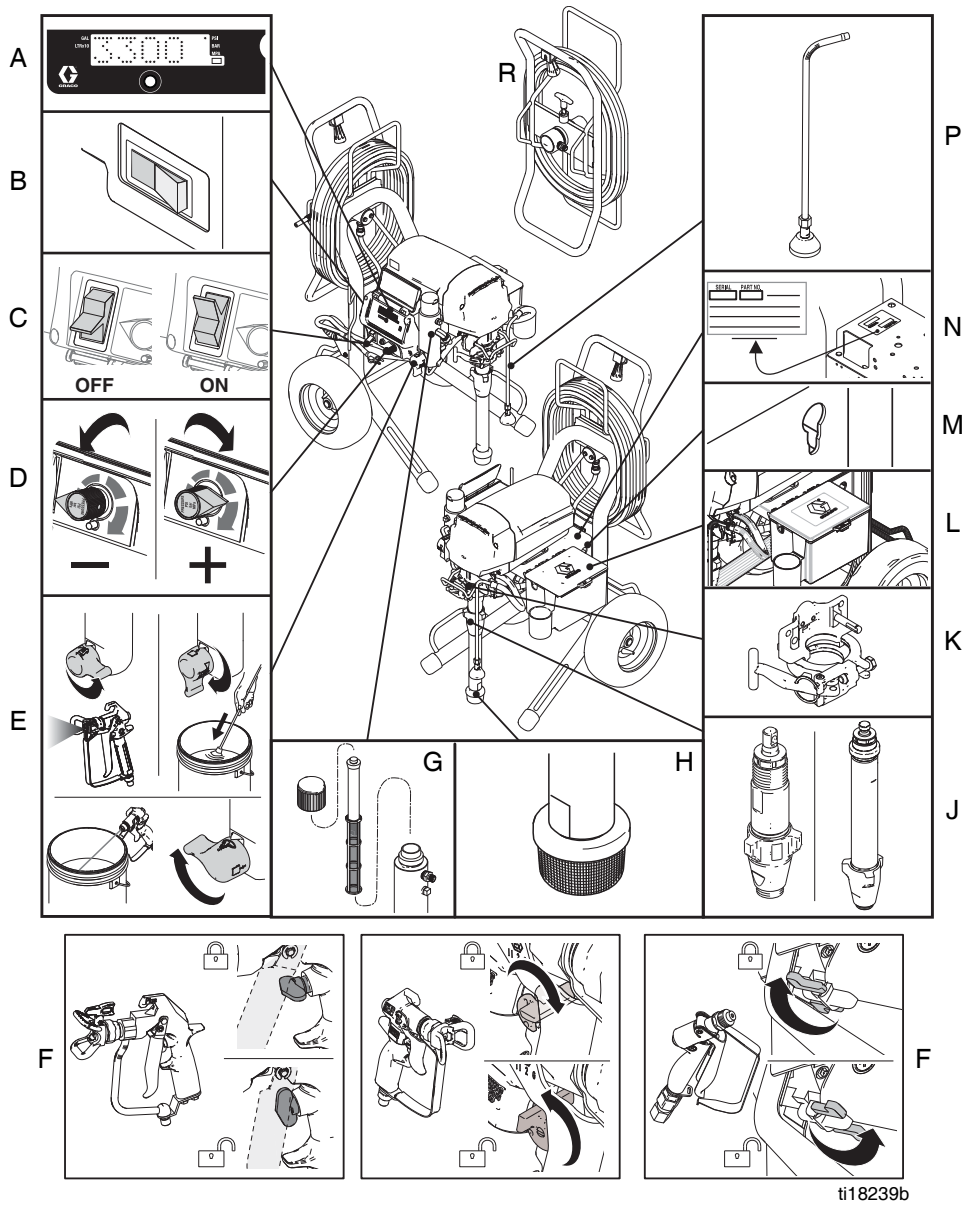
PERSONAL PROTECTIVE EQUIPMENT

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

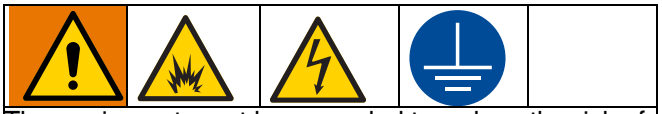
695 ProContractor Models:



A	Smart Control 3.0 Display
B	Amp Switch (not available on all units)
C	ON/OFF Switch
D	Pressure Control
E	Spray / Prime / Fast Flush
F	Trigger Lock
G	Filter
H	Strainer

J	Pump
K	ProConnect™ II
L	Tool Box
M	Rod Pull Feature
N	Unit / Serial Tag
P	Drain Tube
R	QuikReel

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. Do not use the sprayer if the electrical cord has a damaged ground 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.

Power Requirements

230V units require 220-240 VAC, 50 Hz, 10A-16A

Extension Cords

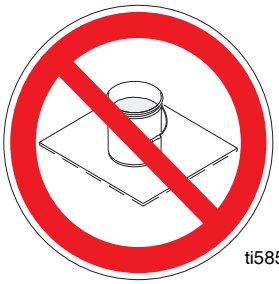
Use an extension cord with an undamaged ground contact.

If an extension cord is necessary, use a 3-wire, 12 AWG (2.5 mm^2) minimum. Longer cords and higher gauge cords 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.



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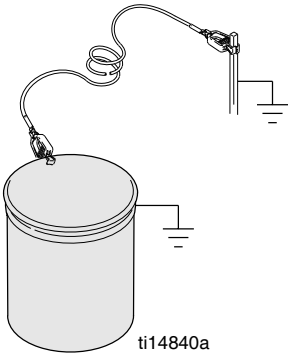
Grounding a metal pail: connect a ground wire to the pail by clamping one end to pail and other end to a true earth ground.



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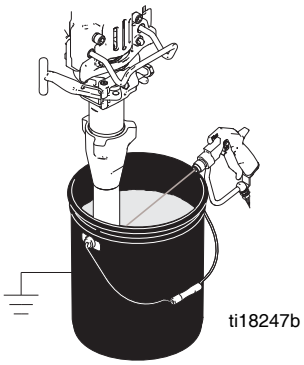
To maintain grounding continuity when flushing or relieving pressure: hold metal part of spray gun firmly to side of a grounded metal pail. Then trigger gun.



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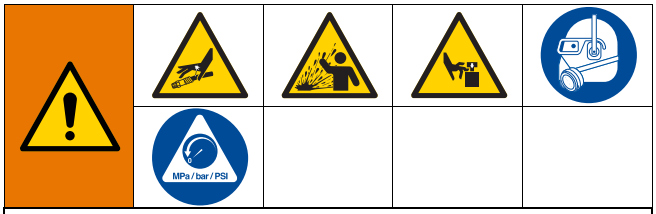
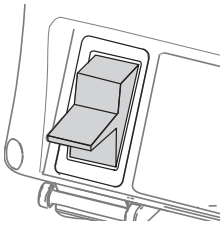
Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

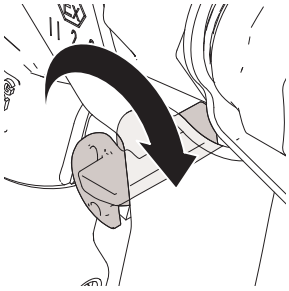


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

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



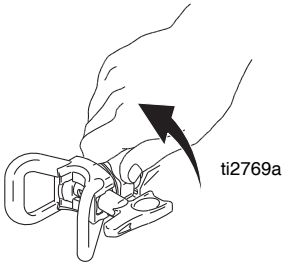
2. Engage trigger lock. Always engage the trigger lock when sprayer is stopped to prevent the gun from being triggered accidentally.



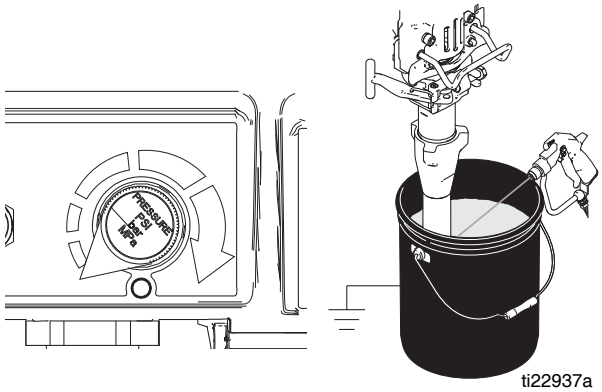
Trigger Locked (no spray)

Trigger Unlocked (spray)

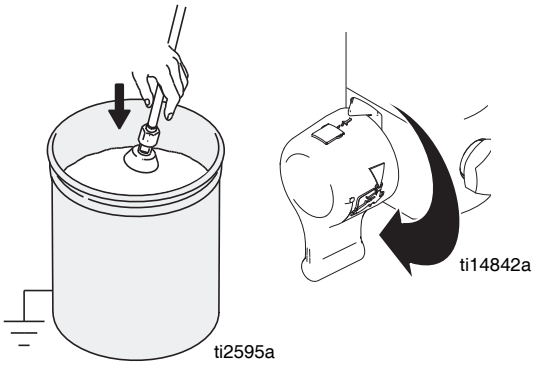
3. Remove guard and SwitchTip.



4. Turn pressure to lowest setting. Trigger gun to relieve pressure.

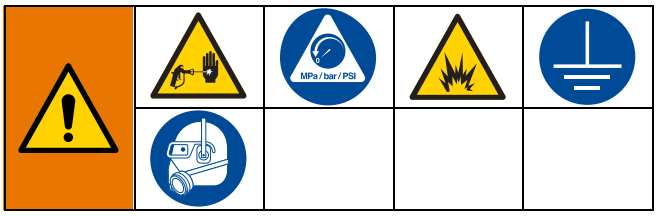


5. Put drain tube in pail. Turn prime valve down to DRAIN position. Leave prime valve in DRAIN position until you are ready to spray again.

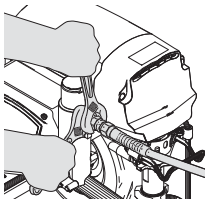


6. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved:
   a. VERY SLOWLY loosen the tip guard retaining nut or the hose end coupling to relieve pressure gradually.
   b. Loosen the nut or coupling completely.
   c. Clear hose or tip obstruction.

Setup



1. Connect Graco airless hose to sprayer. Tighten securely.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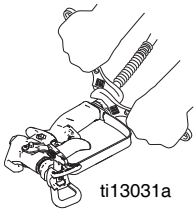
2. Connect whip hose (if applicable) and gun to other end of hose. Tighten securely.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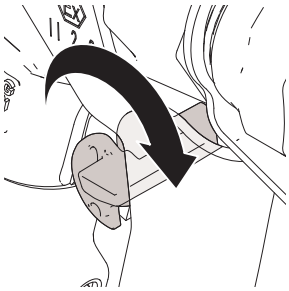
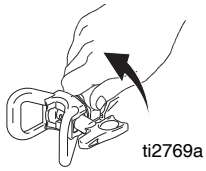
3. Engage trigger lock.


Trigger Locked (no spray)


Trigger Unlocked (spray)

4. Remove tip guard.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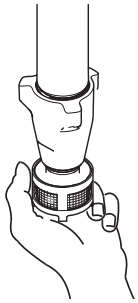
5. Check inlet strainer for clogs and debris.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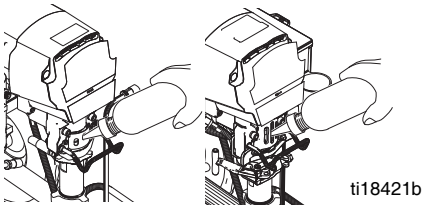
6. Fill throat packing nut with Graco TSL to prevent premature packing wear. Do this each time you spray.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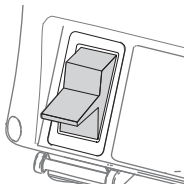
7. Turn power OFF.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8. Plug power supply cord into a properly grounded electrical outlet.

9. Turn prime valve down to DRAIN position.


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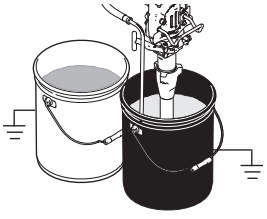
10. Place pump in grounded metal pail partially filled with flushing fluid. Attach ground wire to pail and to true earth ground. Perform steps 1 - 5 of **Startup** to flush out storage oil shipped in sprayer. Use water to flush water-base paint and mineral spirits to flush oil-base paint and storage oil.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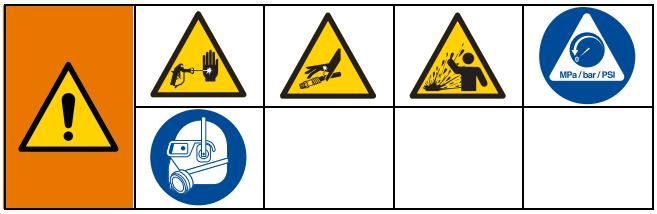
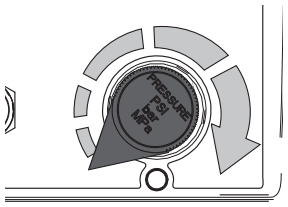
Startup



1. Perform **Pressure Relief Procedure**, page 8.
2. Turn pressure control to lowest pressure.



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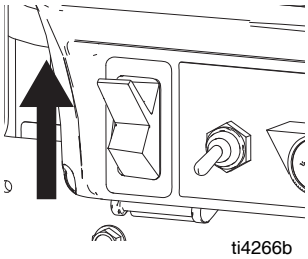
3. Turn power **ON**.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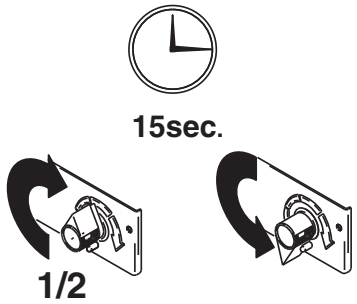
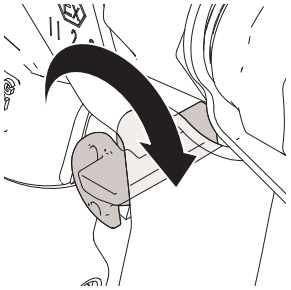
4. Increase pressure 1/2 turn to start motor and allow fluid to circulate through drain tube for 15 seconds; turn pressure down.

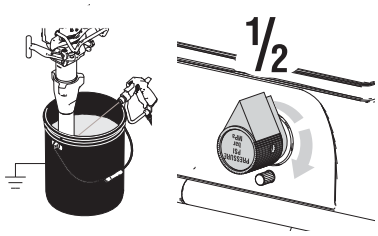


5. Turn prime valve forward to SPRAY position. Disengage trigger lock.


Trigger Locked (no spray)


Trigger Unlocked (spray)

6. Hold gun against grounded metal flushing pail. Trigger gun and increase fluid pressure 1/2 turn. Flush 1 minute.



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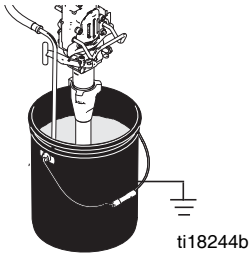
High-pressure spray is able to inject toxins into the body and cause serious bodily injury. Do not stop leaks with hand or rag.

7. Inspect for leaks. If leaks occur, perform **Pressure Relief Procedure**, page 8. Tighten fittings. Perform **Startup**, steps 1 - 5. If no leaks, proceed to step 7.
8. Place pump in paint pail.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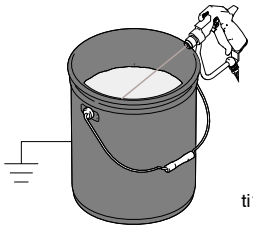
9. Trigger gun again into flushing pail until paint appears. Move gun to paint pail and trigger for 20 seconds.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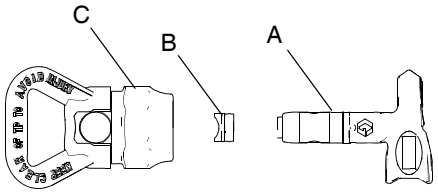
10. Engage trigger lock. Assemble tip and guard, see instructions on next page.

Switch Tip Installation

1. Perform **Pressure Relief Procedure**, page 8.
2. Use spray tip (A) to insert OneSeal™ (B) into guard (C).



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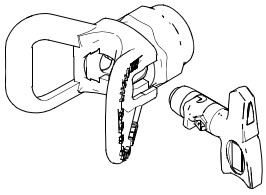
3. Insert Switch Tip.



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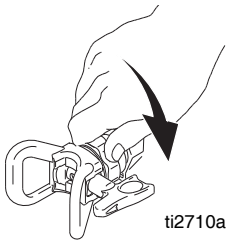
4. Screw assembly onto gun. Tighten.



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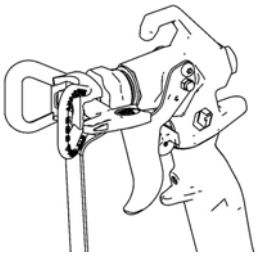
Aligning Spray

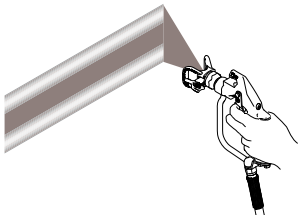
1. Loosen guard retaining nut.
2. Align tip guard horizontally to spray a horizontal pattern.

3. Align tip guard vertically to spray a vertical pattern.



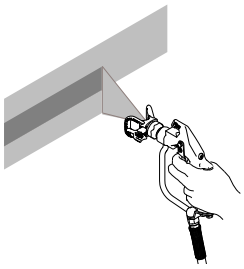
Spray

1. Spray test pattern. Increase pressure to eliminate heavy edges. Use smaller tip size if pressure adjustment can not eliminate heavy edges.



ti18243a

2. Hold gun perpendicular, 10-12 in. (25-30 cm) from surface. Spray back and forth. Overlap by 50%. Trigger gun after moving and release before stopping.

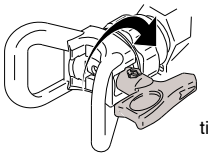


ti18242a

Clear Tip Clog

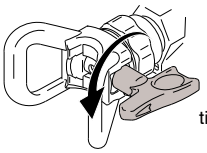
To avoid serious injury from skin injection do not put your hand in front of the spray tip when installing or removing the spray tip and tip guard.

1. Release trigger, engage trigger lock. Rotate SwitchTip. Disengage trigger lock. Trigger gun to clear clog.



ti13033a

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

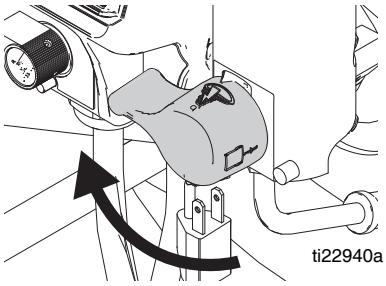


ti13034a

Fast Flush

To flush the hose and gun at an accelerated speed, perform the following steps:

1. Perform steps 1 - 3 of **Cleanup**, page 18.
2. Squeeze gun trigger and turn prime valve down to DRAIN position and then over to FAST FLUSH.



ti22940a

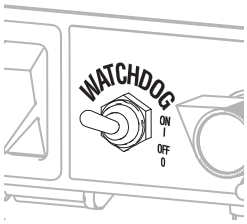
3. Continue flushing system until fluid appears clear.

WatchDog™ Protection System

Pump stops automatically when material pail is empty.

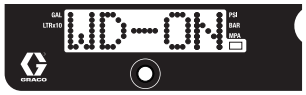
To Activate:

1. Perform **Startup**.



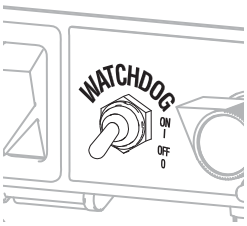
ti22938a

2. Turn WatchDog switch ON and **WD ON** displays. **EMPTY** displays/flashes and pump stops when Watchdog protection system detects an empty material pail.



ti22033a

3. Turn WatchDog switch OFF. Add material or reprime sprayer. Turn pump switch OFF and ON to reset WatchDog protection system. Turn WatchDog switch back ON to continue to monitor material level.

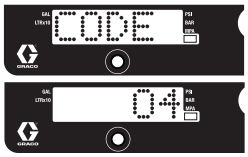
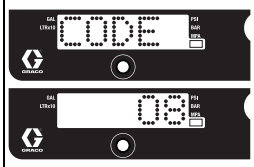
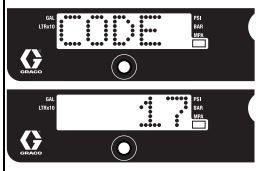


ti22939a

ProGuard

This sprayer protects itself against high and low voltage. If the sprayer is plugged into a power source that is too low or too high the sprayer will stop operating.

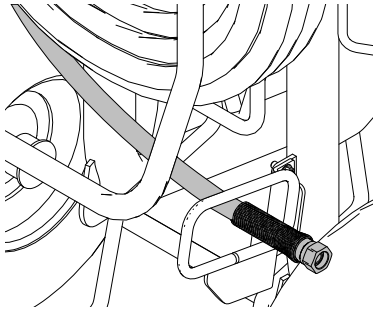
One of three error codes will be displayed:

Error Code	Definition
	**Multiple incoming voltage surges detected - unplug sprayer and locate good voltage supply to prevent damage to electronics.** Typical cause of this error is plugging into a circuit that is higher than the rated voltage of the sprayer. Find a circuit that supplies the correct voltage.
	**Incoming voltage too low for sprayer operation - unplug sprayer and locate good voltage supply to prevent damage to electronics.** Typical cause of this error is other equipment on the same circuit or generator frequently turning on/off under load. Find a circuit that is dedicated to the sprayer.
	**Sprayer plugged into wrong voltage - unplug sprayer and locate correct voltage supply.** Typical cause of this error is a GFCI box that is wired for the wrong voltage (240V vs. 120V). No damage has occurred to the sprayer. Find a circuit with the correct voltage and the sprayer will run correctly.

Hose Reel

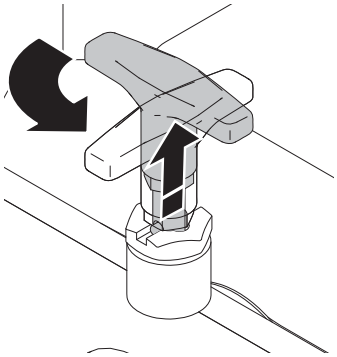
Moving parts can pinch, cut or amputate fingers and other body parts. To avoid injury from moving parts, be sure to keep your head clear of hose reel while winding up hose.

1. Make sure hose is routed through hose guide.



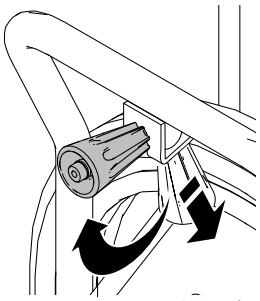
ti18241a

2. Lift and turn pivot lock 90° to unlock hose reel. Pull on hose to remove it from hose reel.

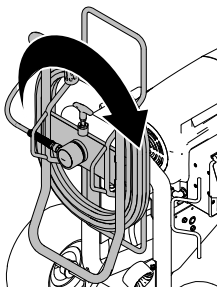


ti13501c

3. Pull reel handle up and turn clockwise to reel in hose.



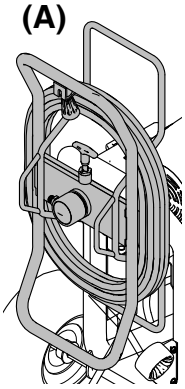
ti13503b



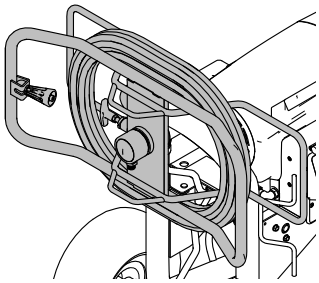
ti13502b

NOTE: The hose reel can be locked into two positions: Usage (A) and Storage (B).

(A)



(B)

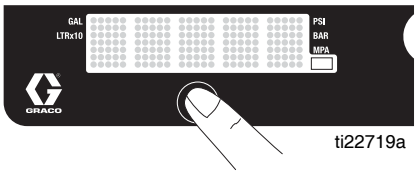


ti13563b

Digital Tracking System

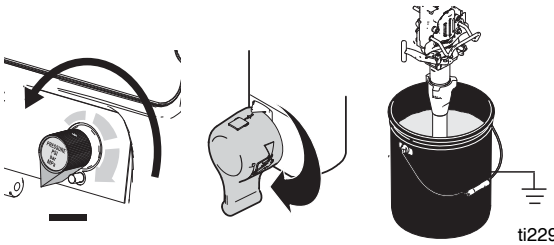
Operation Main Menu

Short press to move to next display. Press and hold (5 seconds) to change units or reset data.



ti22719a

1. Turn pressure to lowest setting. Trigger gun to relieve pressure. Turn prime valve down to DRAIN position.

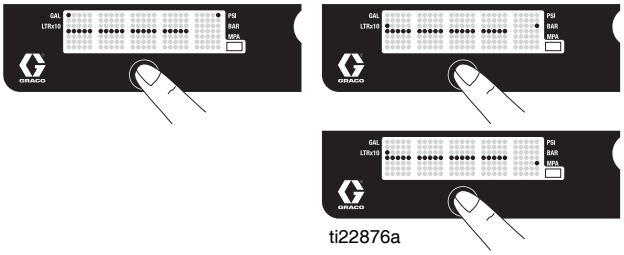

ti22941a

2. Turn power ON. Pressure display appears. Dashes will not appear unless pressure is less than 200 psi (14 bar, 1,4 MPa).

ti22942a

Change Display Units

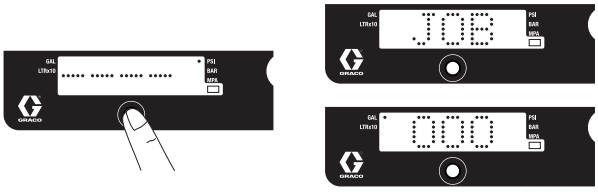
Press and hold DTS button for 5 seconds to change pressure units (**psi, bar, MPa**) to desired units. Selection of bar or MPa changes **gallons** to **liters x 10**. To change display units DTS must be in pressure display mode and pressure must be at zero.



ti22876a

Job Gallons

1. Short press DTS button to move to Job Gallons (or liters x 10).



ti22717a

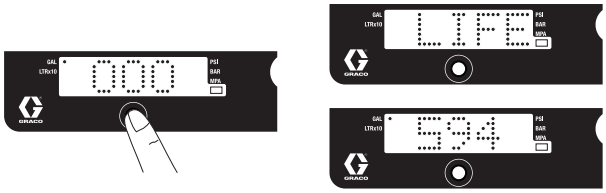
NOTE: JOB scrolls past, then the number of gallons sprayed above 400 psi (28 bar, 2.8 MPa) for Mark VII and Mark X displays; 1000 psi (70 bar, 7 MPa) for all other models.

2. Press and hold to reset to zero.

Lifetime Gallons

1. Short press DTS button to move to Lifetime Gallons (or liters x 10).

NOTE: LIFE scrolls briefly, then the number of gallons sprayed above 400 psi (28 bar, 2.8 MPa) for Mark VII and Mark X displays; 1000 psi (70 bar, 7 MPa) for all other models.

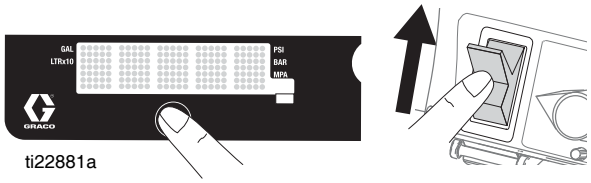


ti22718a

Secondary Menu - Stored Data

1. Perform **Pressure Relief,** steps 1 - 4 if they have not already been done.

2. Turn power switch on while holding DTS button down.



ti22881a

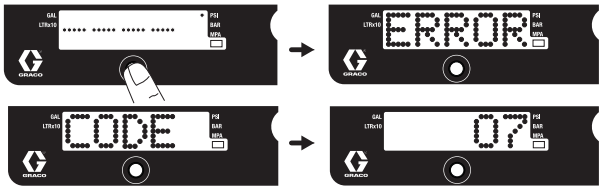
3. **SERIAL NUMBER** scrolls past and then serial number (e.g. 00001) displays.

ti22720a

4. Short press DTS button and **MOTOR HOURS** scrolls past and then total motor run hours are displayed.

ti22721a

5. Short press DTS button. **LAST CODE** scrolls by and last code is displayed; e.g. **E=07** (see Repair manual).

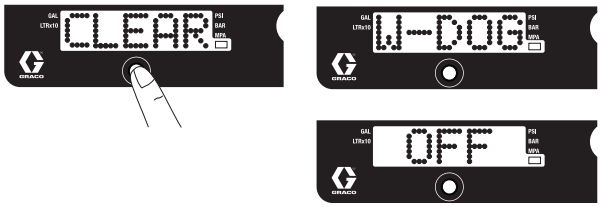


ti22722a

6. Press and hold DTS button to clear code to zero.

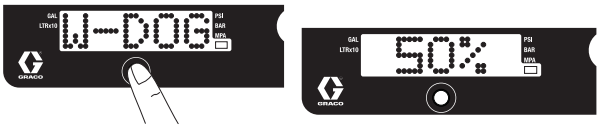
ti22723a

7. Short press DTS button. **W-DOG** scrolls past then **OFF** displays if watchdog switch is OFF. **ON** displays if Watchdog switch is ON.



ti22724a

8. Press and hold (8 seconds) DTS button to move to WatchDog Trigger % menu. Continue to hold DTS button and Watchdog can be set to trigger at 30, 40, 50, or 60% of current sprayer pressure setting. Release DTS button when desired % is displayed. Default is 50%.



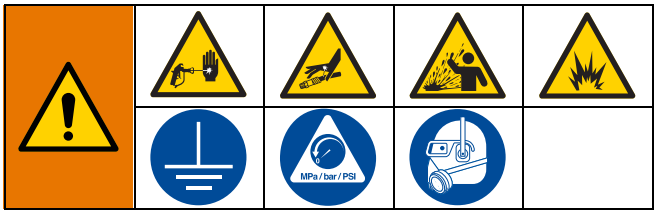
ti22725a

9. Short press to move to **SOFTWARE REV**.

10. Short press DTS button. **MOTOR ID RESISTOR** scrolls by and model code number (see below).

Motor ID Number	Models
0	695

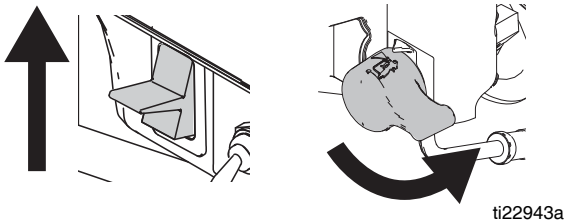
Cleanup



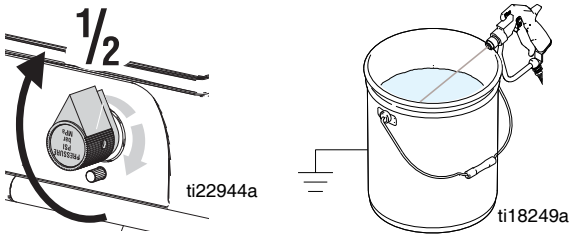
1. Perform **Pressure Relief Procedure** (page 8), steps 1 - 4. Remove tip guard from gun.

   NOTE: Use water for water-base material, mineral spirits for oil-base material, or other solvents recommended by manufacturer.

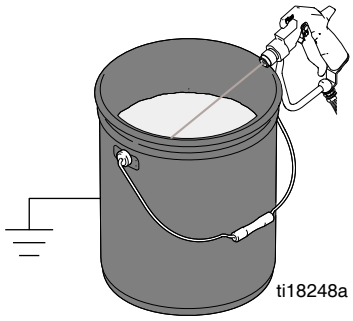
2. Turn power **ON**. Turn prime valve forward to SPRAY position.



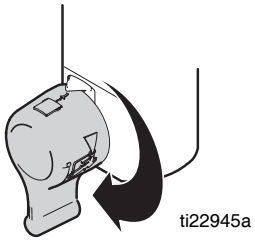
3. Increase pressure to 1/2. Hold gun against pail. Disengage trigger lock. Trigger gun until flushing fluid appears.



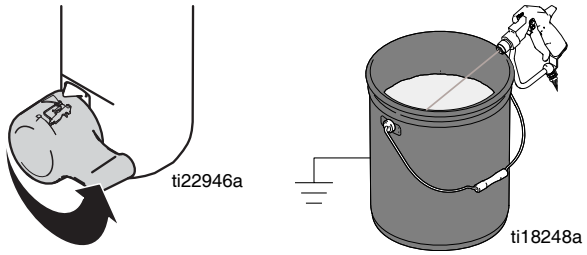
4. Move gun to waste pail, hold gun against pail, trigger gun to thoroughly flush system. Release trigger and engage trigger lock.



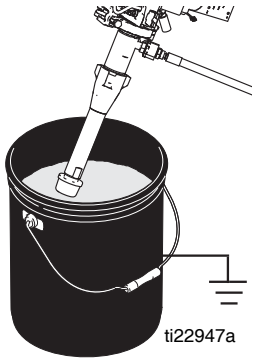
5. Turn prime valve down to DRAIN position and allow flushing fluid to circulate until flushing fluid appears clear.



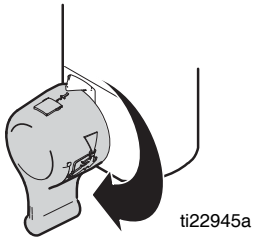
6. Turn prime valve forward to SPRAY position. Trigger gun into flushing pail to purge fluid from hose.



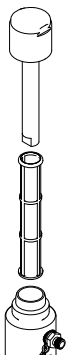
7. Raise pump above flushing fluid and run sprayer for 15 to 30 seconds to drain fluid. Turn power OFF.

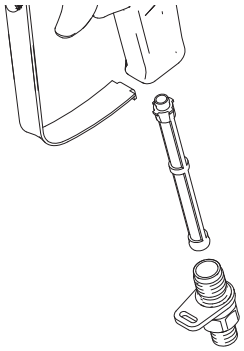


8. Turn prime valve down DRAIN position. Unplug sprayer.



9. Remove filters from gun and sprayer, if installed. Clean and inspect. Install filters.


ti13454a

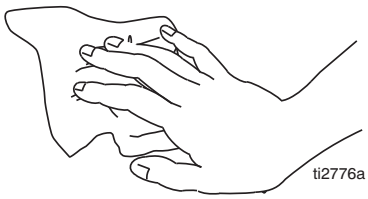

ti15018a

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


ti2895a

Pump Armor

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


ti2776a

Maintenance

Routine maintenance is important to ensure proper operation of your sprayer. Maintenance includes performing routine actions which keep your sprayer in operation and prevents trouble in the future.

Activity	Interval
Inspect/clean sprayer filter, fluid inlet strainer, and gun filter.	Daily or each time you spray
Inspect motor shield vents for blockage.	Daily or each time you spray
Fill TSL by adding through TSL fill point.	Daily or each time you spray
Check sprayer stall. With sprayer gun NOT triggered, sprayer motor should stall and not restart until gun is triggered again. If sprayer starts again with gun NOT triggered, inspect pump for internal/external leaks and check prime valve for leaks.	Every 1000 gallons (3785 liters)
Throat packing adjustment When pump packing begins to leak after extended use, tighten packing nut down until leakage stops or lessens. This allows approximately 100 gallons of additional operation before a repacking is required. Packing nut can be tightened without 0-ring removal.	As necessary based on usage

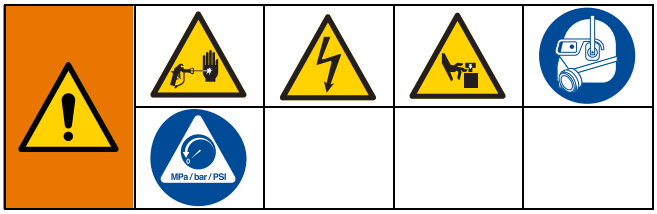
Cleaning/Replacing Gun Filter

A plugged filter reduces gun performance. Clean filter after each use. See **Spray Gun Parts**, page 38 for reference numbers.

1. Perform **Pressure Relief Procedure**, page 8. Engage trigger lock (2).
2. Disconnect fluid hose from gun at swivel (8).
3. Disconnect trigger guard (19) from guard retainer (10).
4. Unscrew handle (7) from gun (1).
5. Remove filter (5) through top of handle (7).
6. Inspect filter (5) for damage to the filter mesh. Replace the filter if the filter mesh has holes or voids.
7. Clean filter (5). Use a soft brush to loosen and remove excess debris.
8. Inspect handle bore (7) for damage. Replace the handle bore if it is corroded or pitted and check material for compatibility with aluminum.
9. Insert clean filter (5) into handle (7).
10. Reattach handle (7) to gun (1). Tighten securely.
11. Reconnect trigger guard (19) to guard retainer (10).

Troubleshooting

Mechanical/Fluid Flow



Perform **Pressure Relief Procedure**; page 8.

TYPE OF PROBLEM	WHAT TO CHECK If check is OK, go to next check	WHAT TO DO When check is not OK, refer to this column
For units with display: CODE XX is displayed. **For units with no display:** ProGuard status light is blinking or the light is off and there is power to the sprayer.	Fault condition exists	Determine fault correction from table, page 23.
Pump output is low	Spray tip worn	Follow **Pressure Relief Procedure**, page 8, then replace tip.
	Spray tip clogged	Relieve pressure. Check and clean spray tip.
	Paint supply	Refill and reprime pump.
	Intake strainer clogged	Remove and clean, then reinstall
	Intake valve ball and piston ball are not seating properly	Remove intake valve and clean. Check balls and seats for nicks; replace if necessary; see pump manual. Strain paint before using to remove particles that could clog pump.
	Fluid filter, tip filter, or tip is clogged or dirty.	Clean filter; see operation manual.
	Prime valve leaking	Relieve pressure. Repair prime valve.
	Verify pump does not continue to stroke when gun trigger is released. (Prime valve not leaking.)	Service pump; see pump manual.
	Leaking around throat packing nut which may indicate worn or damaged packings.	Replace packings; see pump manual. Also check piston valve seat for hardened paint or nicks and replace if necessary. Tighten packing nut/wet-cup.

TYPE OF PROBLEM	WHAT TO CHECK If check is OK, go to next check	WHAT TO DO When check is not OK, refer to this column
Pump output is low	Pump rod damage	Repair pump. See **Pump**, page 40.
	Low stall pressure	Turn pressure knob fully clockwise. Make sure pressure control knob is properly installed to allow full clockwise position. If problem persists, replace pressure transducer.
	Piston packings are worn or damaged	Replace packings; see pump manual.
	O-ring in pump is worn or damaged	Replace o-ring. See **Pump**, page 40.
	Intake valve ball is packed with material	Clean intake valve; see pump manual.
	Pressure setting is too low	Increase pressure. See **Pump**, page 40.
	Large pressure drop in hose with heavy materials	Use larger diameter hose and/or reduce overall length of hose.
Motor runs but pump does not stroke	Displacement pump pin damaged or missing; see pump manual.	Replace pump pin if missing. Be sure retainer spring is fully in groove all around connecting rod; see pump manual.
	Connecting rod assembly damaged; see pump manual.	Replace connecting rod assembly. See **Pump**, page 40.
	Gears or drive housing damaged.	Inspect drive housing assembly and gears for damage and replace if necessary. See **Pump**, page 40.
Excessive paint leakage into throat packing nut	Throat packing nut is loose	Remove throat packing nut spacer. Tighten throat packing nut just enough to stop leakage.
	Throat packings are worn or damaged	Replace packings. See **Pump**, page 40.
	Displacement rod is worn or damaged	Replace rod. See **Pump**, page 40.
Fluid is spitting from gun	Air in pump or hose	Check and tighten all fluid connections. Cycle pump as slowly as possible during priming.
	Tip is partially clogged	Clear tip. See **Clear Tip Clog**, page 12.
	Fluid supply is low or empty	Refill fluid supply. Prime pump; see pump manual. Check fluid supply often to prevent running pump dry.
Pump is difficult to prime	Air in pump or hose	Check and tighten all fluid connections. Cycle pump as slowly as possible during priming.
	Intake valve is leaking	Clean intake valve. Be sure ball seat is not nicked or worn and that ball seats well. Reassemble valve.
	Pump packings are worn	Replace pump packings. See **Pump**, page 40.
	Paint is too thick	Thin the paint according to supplier recommendations.
No display, sprayer operates	Display is damaged or has bad connection	Check connections. Replace display.

Electrical

Symptom: Sprayer does not run, stops running, or will not shut off.

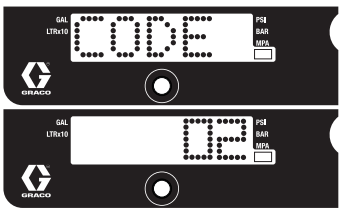
Perform **Pressure Relief Procedure**; page 8.

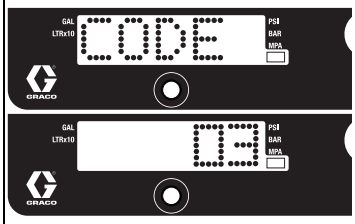
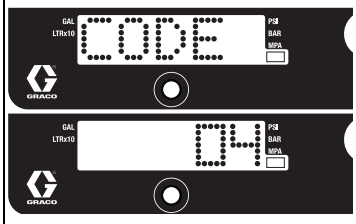
1. Plug sprayer into correct voltage, grounded outlet.
2. Set power switch OFF for 30 seconds and then ON again (this ensures sprayer is in normal run mode).
3. Turn pressure control knob clockwise 1/2 turn.
4. View digital display.

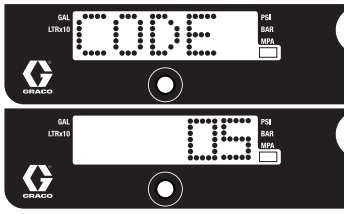
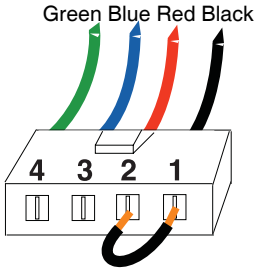
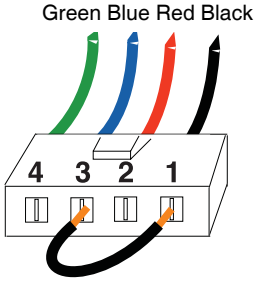
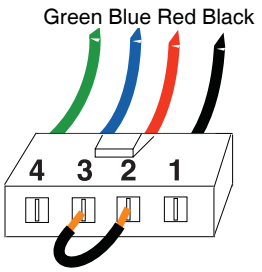
Keep clear of electrical and moving parts during troubleshooting procedures. To avoid electrical shock hazards when covers are removed for troubleshooting, wait 5 minutes after unplugging power cord for stored electricity to dissipate.

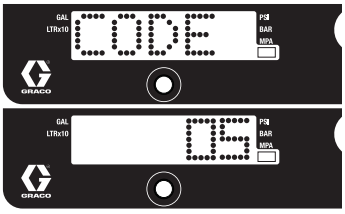
ProGuard Status Light **Control Board Status Light**

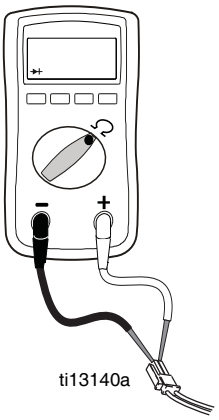
If there is a voltage supply issue (CODE 04, 08, or 17), the ProGuard status light will blink continuously when the ON/OFF switch is ON. To determine which code (or any other code besides voltage supply) refer to the control board status light. Turn the ON/OFF switch OFF, remove the control cover then turn power back ON. Observe the status light. Blinking LED total count equals the error code (for example: two blinks equals CODE 02).

TYPE OF PROBLEM	WHAT TO CHECK	HOW TO CHECK
Sprayer does not run at all Display is blank ProGuard status light and control board status light never light	See flow chart, page 29.	
Sprayer does not run at all Display shows CODE 02  Control board status light blinks 2 times repeatedly	Check transducer or transducer connections	1. Make sure there is no pressure in the system (see **Pressure Relief Procedure**, page 8). Check fluid path for clogs, such as clogged filter. 2. Use airless paint spray hose with no metal braid 1/4 in. x 50 ft minimum. Smaller hose or metal braid hose may result in high-pressure spikes. 3. Set sprayer to OFF and disconnect power to sprayer. 4. Check transducer and connections to control board. 5. Disconnect transducer from control board socket. Check that transducer and control board contacts are clean and secure. 6. Reconnect transducer to control board socket. Connect power, set sprayer ON and control knob 1/2 turn clockwise. If sprayer does not run properly, set sprayer to OFF and go to next step. 7. Install new transducer. Connect power, set sprayer ON and control knob 1/2 turn clockwise. Replace control board if sprayer does not run properly.

TYPE OF PROBLEM	WHAT TO CHECK	HOW TO CHECK
Sprayer does not run at all Display shows CODE 03  Control board status light blinks 3 times repeatedly	Check transducer or transducer connections (control board is not detecting a pressure signal).	1. Set sprayer to OFF and disconnect power to sprayer. 2. Check transducer and connections to control board. 3. Disconnect transducer from control board socket. Check to see if transducer and control board contacts are clean and secure. 4. Reconnect transducer to control board socket. Connect power, set sprayer ON and control knob to 1/2 turn clockwise. If sprayer does not run, set sprayer to OFF and go to next step. 5. Connect a confirmed working transducer to control board socket. 6. Set sprayer ON and control knob to 1/2 turn clockwise. If sprayer runs, install new transducer. Replace control board if sprayer does not run. 7. Check transducer resistance with ohmmeter (less than 9k ohm between red and black wires and 3-6k ohm between green and yellow wires).
Sprayer does not run at all Display shows CODE 4  Control board status light blinks four times repeatedly	Check voltage supply to the sprayer (control board is detecting a multiple voltage surges).	1. Set sprayer to OFF and disconnect power to sprayer. 2. Locate a good voltage supply to prevent damage to electronics.

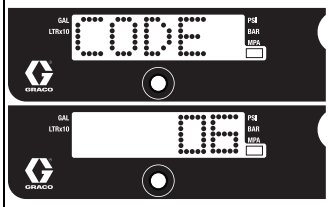
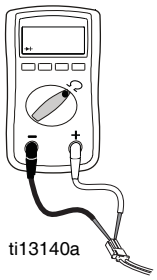
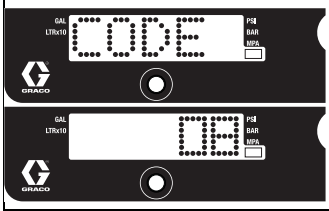
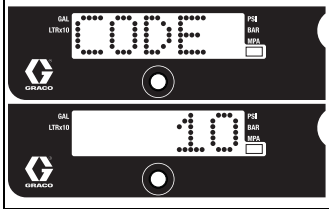
TYPE OF PROBLEM	WHAT TO CHECK	HOW TO CHECK
Sprayer does not run at all Display shows CODE 05  Control board status light blinks 5 times repeatedly	Control is commanding motor to run but motor shaft does not rotate. Possibly locked rotor condition, an open connection exists between motor and control, there is a problem with motor or control board, or motor amp draw is excessive.	1. Remove pump and try to run sprayer. If motor runs, check for locked or frozen pump or drive train. If sprayer does not run, continue to step 2. 2. Set sprayer to OFF and disconnect power to sprayer. 3. Disconnect motor connector(s) from control board socket(s). Check that motor connector and control board contacts are clean and secure. If contacts are clean and secure, continue to step 4. 4. Set sprayer to OFF and spin motor fan 1/2 turn. Restart sprayer. If sprayer runs, replace control board. If sprayer does not run, continue to step 5. 5. **Perform Spin Test:** Test at large 4-pin motor field connector. Disconnect fluid pump from sprayer. Test motor by placing a jumper across pins 1 & 2. Rotate motor fan at about 2 revolutions per second. A cogging resistance to motion should be felt at the fan. The motor should be replaced if no resistance is felt. Repeat for pin combinations 1 & 3 and 2 & 3. Pin 4 (the green wire) is not used in this test. If all spin test is positive, continue to step 6. **STEP 1:**  **STEP 2:**  **STEP 3:** 

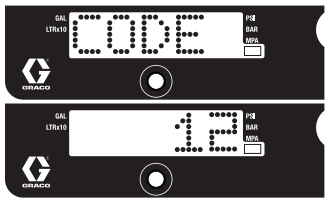
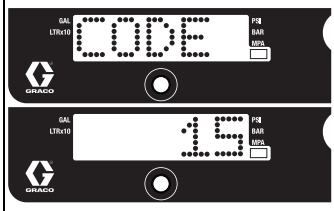
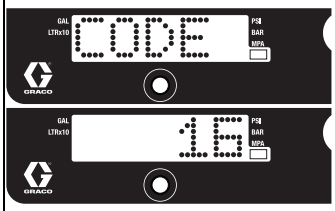
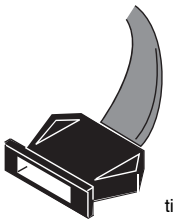
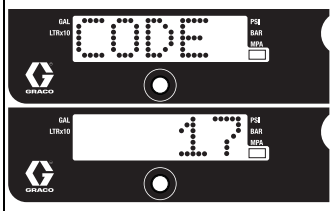
<table>
<tr><th>TYPE OF PROBLEM</th><th>WHAT TO CHECK</th><th>HOW TO CHECK</th></tr>
<tr><td>Sprayer does not run at all
Display shows CODE 05
 
</td><td rowspan="2">Control is commanding motor to run but motor shaft does not rotate. Possibly locked rotor condition, an open connection exists between motor and control, there is a problem with motor or control board, or motor amp draw is excessive.</td><td>6. Perform Field Short Test: Test at large 4-pin motor field connector. There should not be continuity from pin 4, the ground wire, and any of the remaining 3 pins. If motor field connector tests fail, replace motor.

7. Check Motor Thermal Switch: Unplug thermal wires. Set meter to ohms. Meter should read the proper resistance for each unit (see table below).</td></tr>
<tr><td>Control board status light blinks 5 times repeatedly</td><td> 

ti13140a

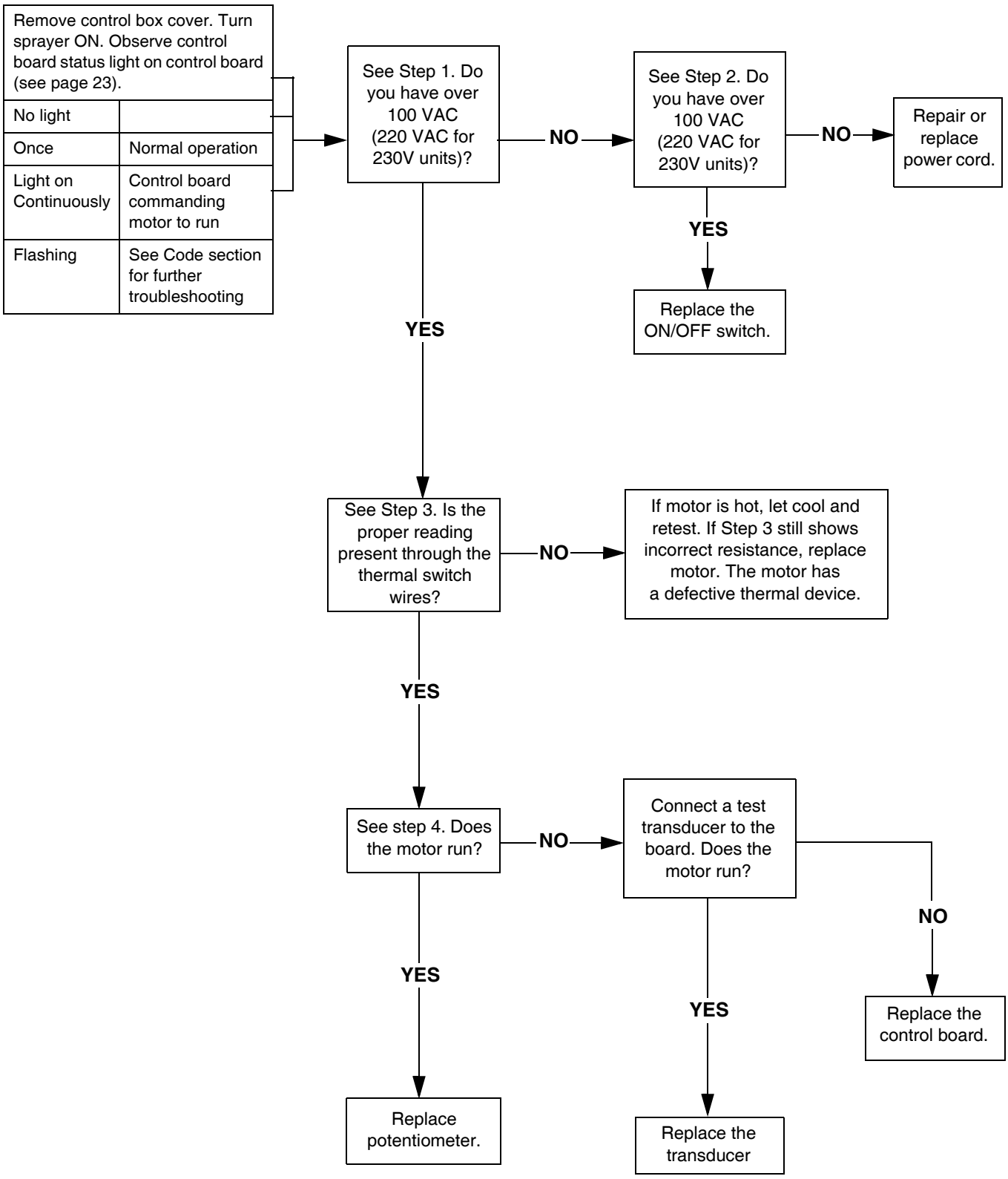
<table><tr><th colspan="2">Resistance Table:</th></tr><tr><td>695/240V</td><td>0 ohms</td></tr></table></td></tr>
</table>

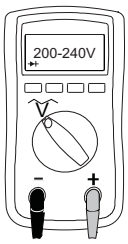
TYPE OF PROBLEM	WHAT TO CHECK	HOW TO CHECK
Sprayer does not run at all Display shows CODE 06  Control board status light blinks 6 times repeatedly	Allow sprayer to cool. If sprayer runs when cool, correct cause of overheating. Keep sprayer in cooler location with good ventilation. Make sure motor air intake is not blocked. If sprayer still does not run, follow Step 1.	**NOTE:** Motor must be cooled down for the test. 1. Check thermal device connector (yellow wires) at control board. 2. Disconnect thermal device connector from control board socket. Make sure contacts are clean and secure. Measure resistance of the thermal device. If reading is not correct, replace motor. **Check Motor Thermal Switch:** Unplug thermal wires. Set meter to ohms. Meter should read the proper resistance for each unit (see table below).  ti13140a **Resistance Table:** 695/240V: 0 ohms 3. Reconnect thermal device connector to control board socket. Connect power, turn sprayer ON and control knob 1/2 turn clockwise. If sprayer does not run, replace control board.
Sprayer does not run at all Display shows CODE 08  Control board status light blinks eight times repeatedly	Check voltage supply to the sprayer (incoming voltage too low for sprayer operation)	1. Set sprayer to OFF and disconnect power to sprayer. 2. Remove other equipment that uses the same circuit. 3. Locate a good voltage supply to avoid damage to electronics.
Sprayer does not run at all Display shows CODE 10  Control board status light blinks 10 times repeatedly	Check to see if control board is over heating.	1. Make sure motor air intake is not blocked. 2. Make sure fan has not failed. 3. Make sure control board is properly connected to back plate and that conductive thermal paste is used on power components. 4. Replace control board. 5. Replace motor.

TYPE OF PROBLEM	WHAT TO CHECK	HOW TO CHECK
Sprayer does not run at all Display shows CODE 12  Control board status light blinks 12 times repeatedly	Excessive current protection enabled	1. Cycle power on and off.
Sprayer does not run at all Display shows CODE 15  Control board status light blinks 15 times repeatedly	Check the connections above the motor	1. Set sprayer to OFF and disconnect power to sprayer. 2. Remove motor shroud. 3. Disconnect motor control and inspect for damage at connectors. 4. Reconnect motor control. 5. Turn power on. If code continues, replace motor.
Sprayer does not run at all Digital display shows CODE 16  Control board status light blinks 16 times repeatedly	Check the connections. Control is not receiving a motor position sensor signal	1. Turn power OFF. 2. Disconnect motor position sensor and inspect for damage at connectors.  ti18685a 3. Reconnect sensor. 4. Turn power ON. If code continues, replace motor.
Sprayer does not run at all Display shows CODE 17  Control board status light blinks 17 times repeatedly	Check voltage supply to the sprayer (sprayer plugged into wrong voltage)	1. Set sprayer to OFF and disconnect power to sprayer. 2. Locate a good voltage supply to avoid damage to electronics.

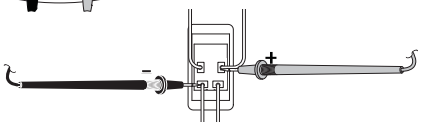
Sprayer Will Not Run

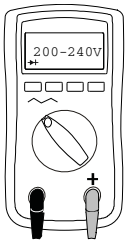
(See following page for steps)



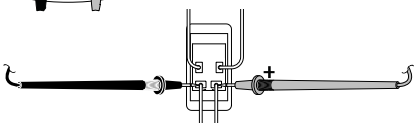


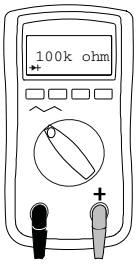
STEP 1:
Plug power cord in and turn switch ON. Connect probes to on/off switch. Turn meter to AC Volts.



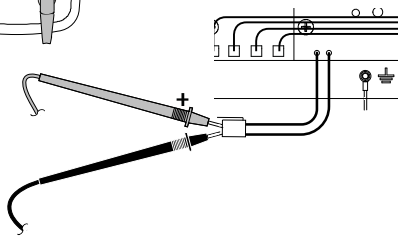


STEP 2:
Plug power cord in and turn switch ON. Connect probes to on/off switch. Turn meter to AC Volts.

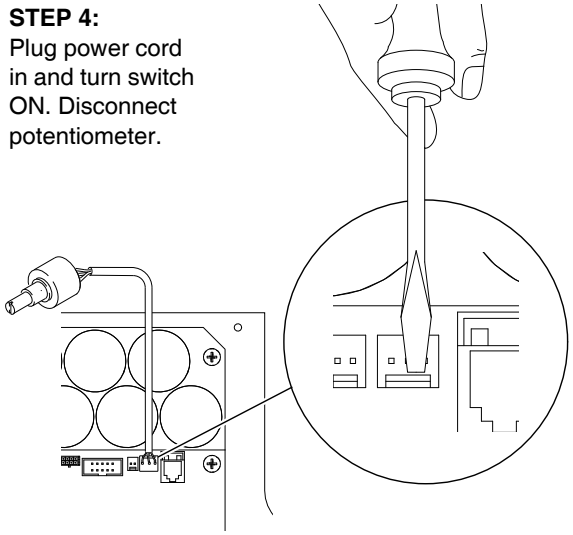




STEP 3:
Check motor thermal switch. Unplug yellow wires. Meter should read according to Resistance Table on page 26.
NOTE: Motor should be cool during reading.



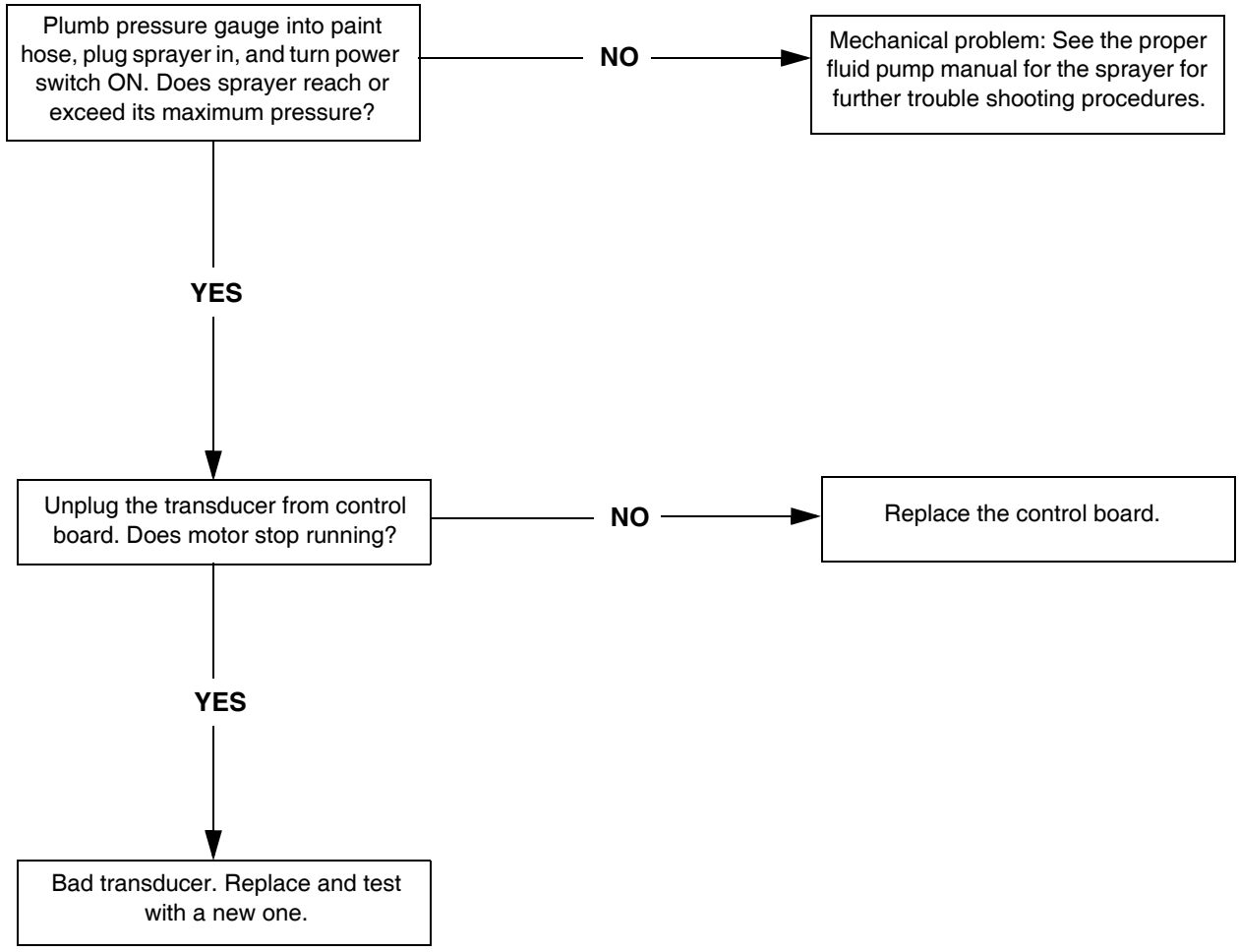
STEP 4:
Plug power cord in and turn switch ON. Disconnect potentiometer.



Sprayer Will Not Shut Off

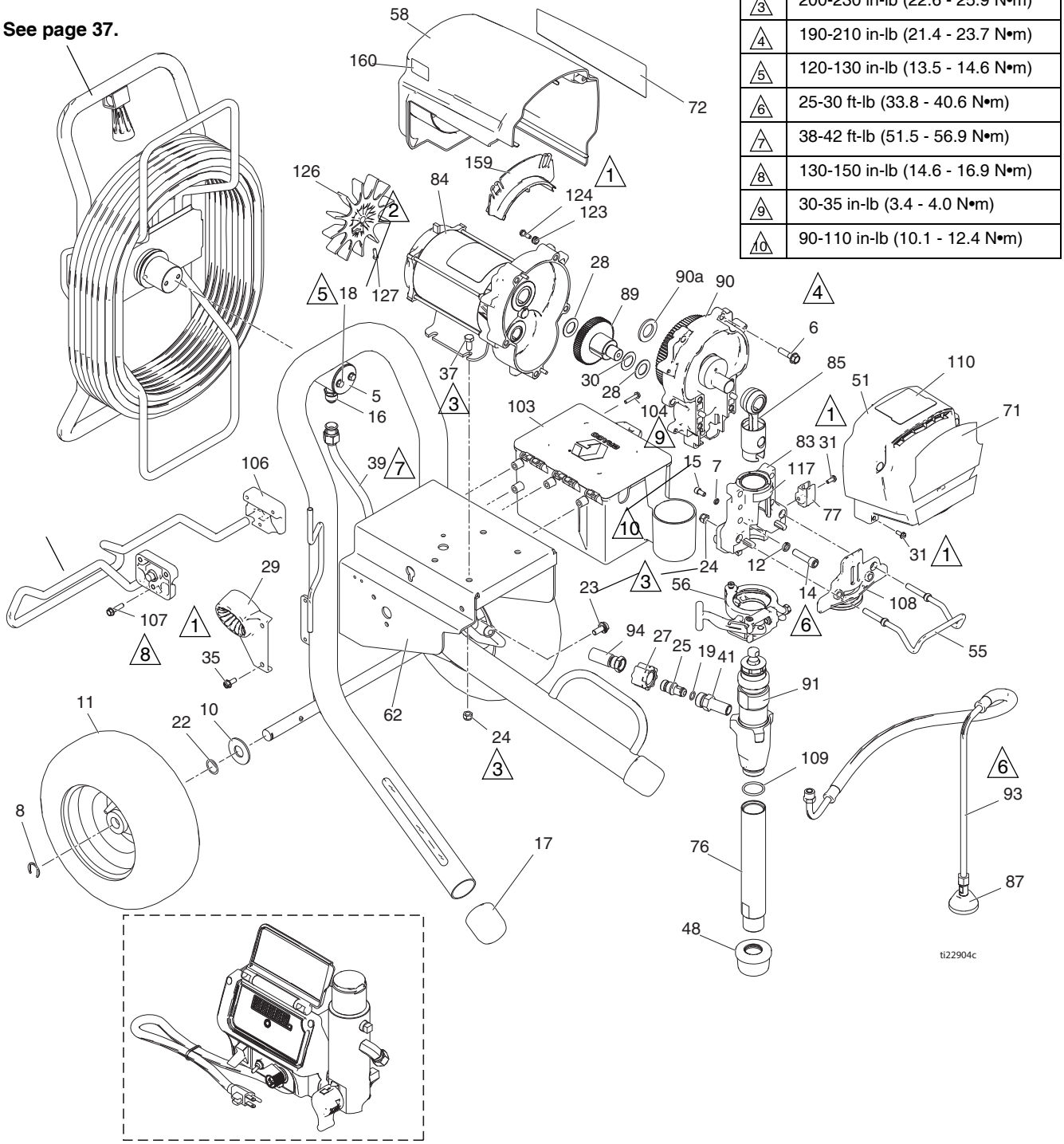
1. Perform **Pressure Relief Procedure**; page 8. Leave prime valve open and power switch OFF.
2. Remove control box cover so the control board status light can be viewed if available.

Troubleshooting Procedure



695 ProContractor Parts

Ref.	Torque
1	40-45 in-lb (4.5 - 5.0 N•m)
2	9-11 in-lb (1.0 - 1.2 N•m)
3	200-230 in-lb (22.6 - 25.9 N•m)
4	190-210 in-lb (21.4 - 23.7 N•m)
5	120-130 in-lb (13.5 - 14.6 N•m)
6	25-30 ft-lb (33.8 - 40.6 N•m)
7	38-42 ft-lb (51.5 - 56.9 N•m)
8	130-150 in-lb (14.6 - 16.9 N•m)
9	30-35 in-lb (3.4 - 4.0 N•m)
10	90-110 in-lb (10.1 - 12.4 N•m)



See pages 34 - 35.

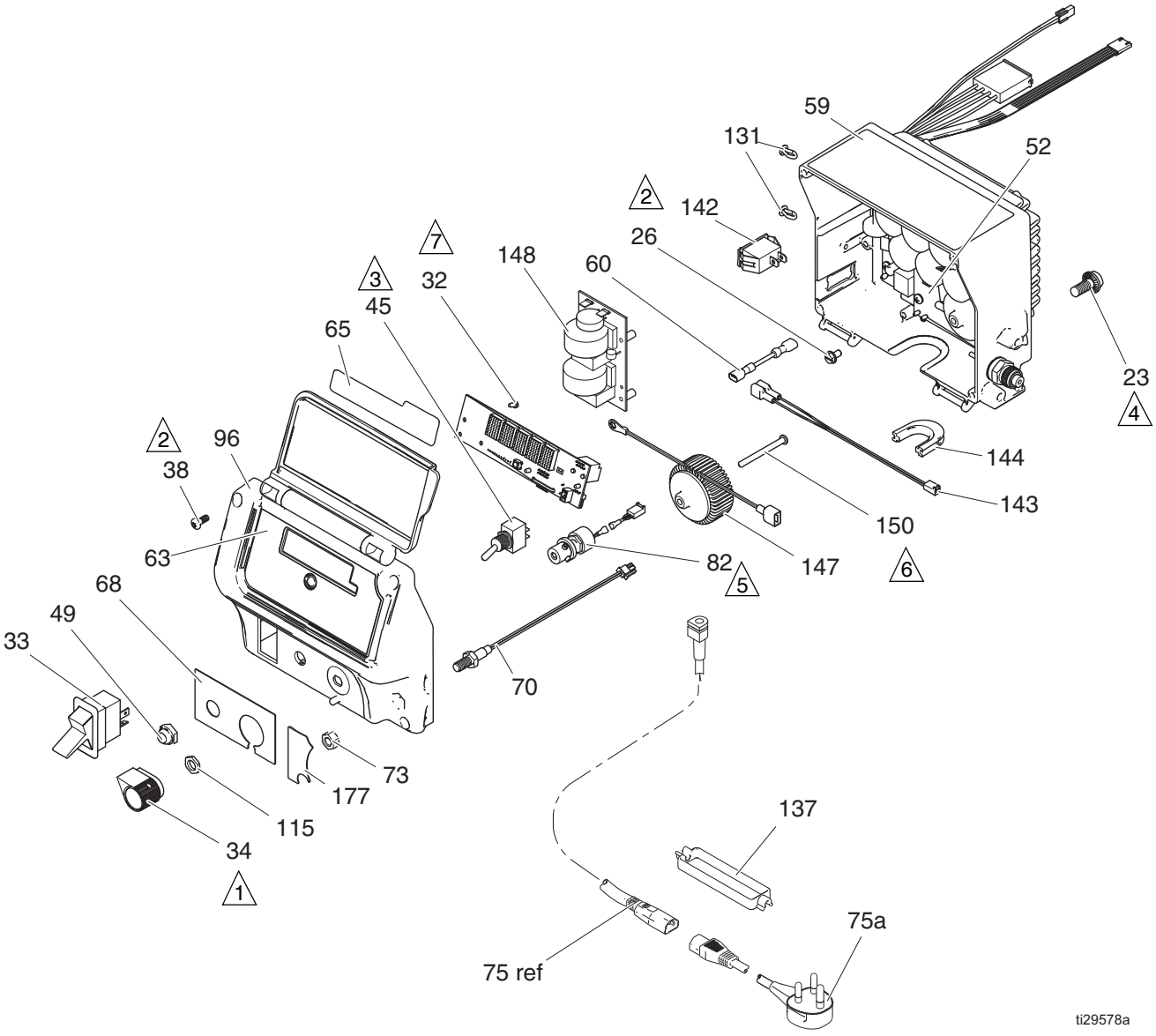
695 ProContractor Parts List

Ref.	Part	Description	Qty.
5	16C975	PLATE, pivot	1
6	15C753	SCREW, mach, hex wash hd	5
7	105510	WASHER, lock, spring	2
8	15E891	CLIP, retaining	2
10	156306	WASHER, flat	2
11	119420	WHEEL, pneumatic	2
12	106115	WASHER, lock (hi-collar)	4
14	110141	SCREW, cap, sch	4
15	101550	SCREW, cap, sch	2
16	121311	FITTING, connector	1
17	276974	CAP, leg	2
18	260212	SCREW, hex washer hd	2
19	107505	PACKING, o-ring	1
22	116038	WASHER, wave spring	2
23	117791	SCREW, cap tri lobe	2
24	111040	NUT, lock, nylon, thin pattern	6
25	16X833	FITTING, QD	1
27	120583	NUT, hand	1
28	114672	WASHER, thrust	2
29	278083	GUIDE, hose, platinum	1
30	114699	WASHER, thrust	1
31	118444	SCREW, mach, slot hex wash hd	5
35	117633	SCREW, slot hex wash hd	2
37	100057	SCREW, cap, hex hd	4
39	24V095	TUBE, formed, ultra, platinum	1
41	16Y579	FITTING	1
48	189920	STRAINER, (1-11 1/2 npsm)	1
51	24V023	COVER, drive, plastic, painted; *includes 31*	1
55	16C457	HANGER, pail	1
56	16X322	CLAMP, pump	1
58	287281	SHIELD, motor, painted; *includes 123, 124*	1
62	24Y427	FRAME, platinum, 695/795	1
71	17N236	LABEL, brand, front	1
72	17N237	LABEL, brand, side	1
76	248214	TUBE, intake; *includes 109*	1
77	16X203	CLIP, drain line	1
83	24V087	HOUSING, bearing; *includes 7, 12, 14, 15, 24, 31, 55, 56, 77, 108, 117*	1
84	257185	MOTOR, electric	1
85	24V084	ROD, connecting	1
87	241920	DEFLECTOR, threaded	1
89	287289	GEAR, combination; *includes 28, 30*	1
90	24V032	HOUSING, drive, M1; *includes 6, 36, 90a*	1
90a	107089	WASHER, race, thrust	1
91	16X414	PUMP, displacement *includes 41, 109*	1
93	244240	HOSE, drain, ultra hi-boy; *includes 87*	1
94	16X904	HOSE, coupled	1
103	287253	TOOL BOX; *includes 104*	1
104	118852	SCREW, thd forming, hex washer hd	3
105	16X697	HANGER, stand	1
106	15C982	CAM, cart	2
107	114531	SCREW, mach, hex washer hd	4
108	16X228	SHIELD, pump rod	1
109	118494	PACKING, o-ring	1
110	16X981	LABEL, ProContractor Series	1
117	187437	LABEL, torque	1
123	276980	GROMMET, cover	2
124	119250	SCREW, shoulder	2
126	15D088	FAN, motor	1
127	115477	SCREW, mach, torx pan hd	1
128▲	222385	TAG, warning (not shown)	1
159	278075	BRACKET, wire	1
160	15Y118	LABEL, Made in the USA	1

▲ *Extra Danger and Warning tags and labels available free.*

Control Box

Ref.	Torque
1	10-15 in-lb (1.1 - 1.7 N•m)
2	40-45 in-lb (4.5 - 5.0 N•m)
3	22-28 in-lb (2.4 - 3.1 N•m)
4	200-230 in-lb (22.6 - 25.9 N•m)
5	30-35 in-lb (3.3 - 3.9 N•m)
6	15-20 in-lb (1.7 - 2.2 N•m)
7	2-3 in-lb (0.23 - 0.34 N•m)



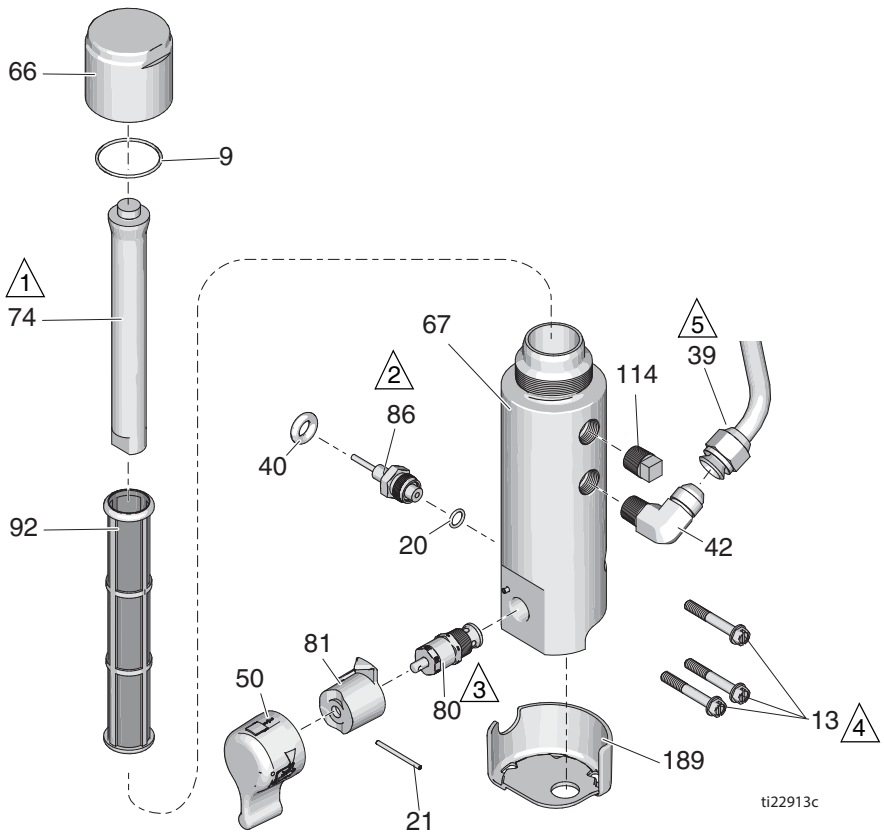
Control Parts List

Ref.	Part	Description	Qty.
23	117791	SCREW, cap, flange head	2
26	114391	SCREW, grounding	1
32	115522	SCREW, mach, pnh	3
33	15D527	SWITCH, rocker, 230V	1
34	116167	KNOB, potentiometer	1
38	16V095	SCREW, #10, taptite phil	4
45	119541	SWITCH, toggle, (ProContractor/IronMan series)	1
49	195428	BOOT, toggle	1
52	24P848	CONTROL, board, 240V; *includes 23, 26, 60, 131, 142, 144, box not sold separately*	1
59▲	16Y762	LABEL, warning, Asia/ANZ	1
60	16T541	JUMPER WIRE (Japanese models)	1
63	16X796	LABEL, LCD	1
65	16X797	LABEL, control box cover	1
68	16Y789	LABEL, control	1
70	122507	SWITCH, reed	1
	16Z019	LIGHT, ProGuard	1
73	100187	NUT	1
75	15D529	CORD, power, MultiCord	1
75a	17N232	CORDSET, adapter, India	1
82	256219	POTENTIOMETR, assembly	1
88	16Y496	DISPLAY	1
96	24V061	COVER, control *includes 32, 38, 63, 65, 68*	1
115	15C973	GASKET	1
131		SCREW/PLUG	2
	119228	Europe/Asia/Australia	
	16T482	Japan	
137	195551	RETAINER, plug adapter	1
142	16T483	SWITCH/PLUG	1
143	15G935	CONNECTOR, electrical	1
144		STRAIN RELIEF	1
	16T546	695	
	16T547	695/795/1095 Japanese Models	
145	117745	BUSHING, strain relief (Mark VII/Mark X Models	1
147	24V030	KIT, repair, coil; *includes 150*	1
148	24R598	BOARD, filter, 230V	1
149	117625	NUT, locking	1
150	16U215	SCREW, machine, flat head	1
177	16Y790	LABEL, blank, elec	1

▲ *Extra Danger and Warning tags and labels available free.*

Filter

Ref.	Torque
1	90-110 in-lb (10.1 - 12.4 N•m)
2	35-45 ft-lb (47.4 - 61.0 N•m)
3	190-210 in-lb (21.4 - 23.7 N•m)
4	100-120 in-lb (11.2 - 13.5 N•m)
5	38-42 ft-lb (51.5 - 56.9 N•m)

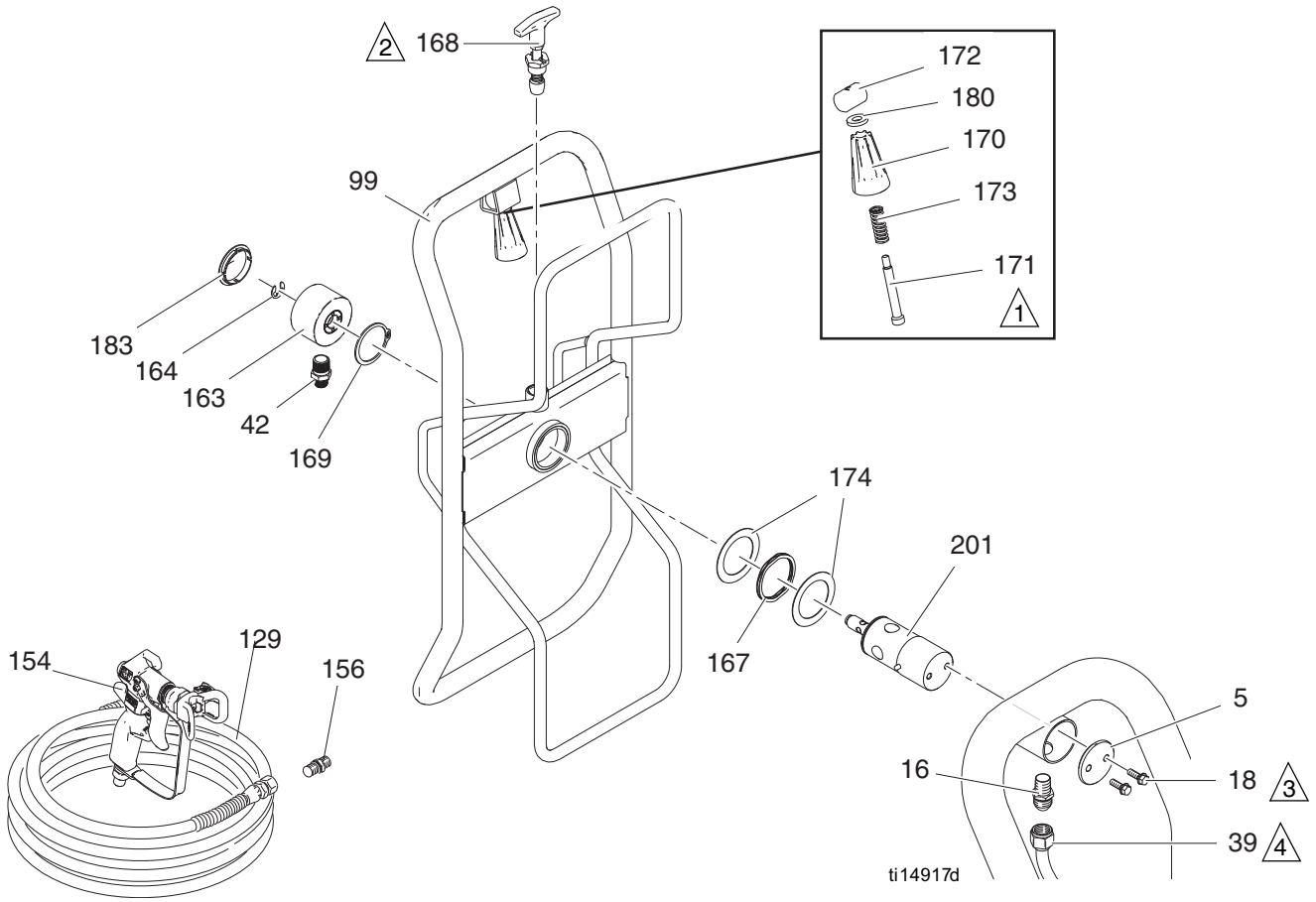


Parts List

Ref.	Part	Description	Qty.
9	117285	PACKING, o-ring	1
13	16U013	SCREW, cap, socket head	3
20	111457	PACKING, o-ring	1
21	15C972	PIN, grooved	1
39	24V095	TUBE, formed, ultra platinum	1
40	121889	GROMMET, transducer	1
42	125926	FITTING	1
50	24E233	KIT, handle; *includes 21, 81*	1
66	15C765	CAP, filter	1
67	16T543	BASE, filter	1
74	15C766	TUBE, diffusion	1
80	24B156	VALVE, prime, HD	1
81	24D286	BASE, valve	1
86	243222	TRANSDUCER, pressure control; *includes 20*	1
92		FILTER, fluid	1
	244071	30 mesh	
	244067	60 mesh, original equipment	
	244068	100 mesh	
	244069	200 mesh	
114	104813	PLUG, pipe, 3/8	1
172	193709	SEAT, valve	1
173	193710	SEAL, seat, valve	1
189	17A197	GUARD, base, filter	1

Hose Reel and Gun

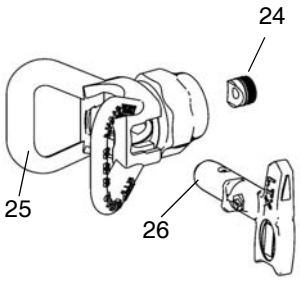
Ref.	Torque
1	130-150 in-lb (14.6 - 16.9 N•m)
2	25-35 ft-lb (33.8 - 47.4 N•m)
3	120-130 in-lb (13.5 - 14.6 N•m)
4	38-42 ft-lb (51.5 - 56.9 N•m)

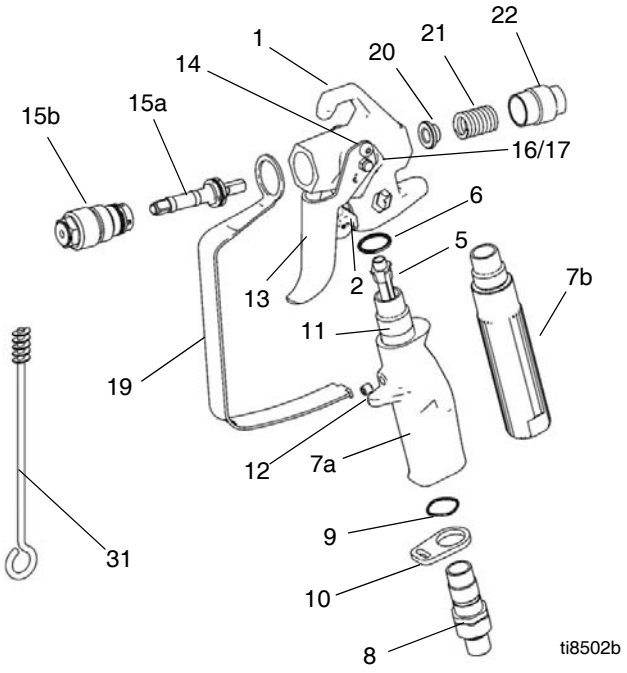


Parts List

Ref.	Part	Description	Qty.
5	16C975	PLATE, Pivot Mount	1
16	121311	FITTING, Connector, NPT x JIC	1
18	260212	SCREW, Hex Washer HD	2
39	24V095	TUBE, Formed, Ultra, Platinum	1
42	164672	ADAPTER	1
99	24B691	REEL, hose, ultra	1
129	240794	HOSE, coupled	1
154	288427	GUN, spray, for parts see page 38	1
156	162453	ADAPTER	1
163	24B248	CAP, swivel, complete	1
164	122347	RING, retaining, external	1
167	122534	SPRING, wave	1
168	24E400	PIN, pop, lock out	1
169	122524	RING, retaining, external	1
170	278085	HANDLE, swivel	1
171	122518	PIN	1
172	15X618	NUT, pin	1
173	122542	SPRING	1
174	122607	WASHER, flat	2
178	189018	SWIVEL	1
180	122669	WASHER	1
183	122787	CAP	1
201	24E016	TUBE, Hose Reel, Pivot	1

Spray Gun Parts





Ref.	Part	Description	Qty.
1	289914	HOUSING, assy., FTX	1
5	287032	FILTER, 60 mesh	1
	287033	FILTER, 100 mesh	1
	287034	FILTER, 60 and 100 mesh combo	1
6	120777	PACKING, o-ring	1
7		HANDLE	1
7b	15J736	FTX-A Gun (not shown)	1
8	288811	SWIVEL, assy, gun	1
9	120733	O-RING, urethane, clear	1
10	15J706	RETAINER, guard, trigger	1
11	15J698	TUBE, handle, Contractor Gun	1
12	120834	SCREW, set, Contractor Gun	1
13	15J769	TRIGGER, FTX Gun, 4-finger (not shown)	1
14	117602	SCREW, shoulder, pan hd	2
15	288488	KIT, needle, repair *includes 15a, 15b*	1
15a		NEEDLE, assembly	1
15b		DIFFUSER, assembly	1

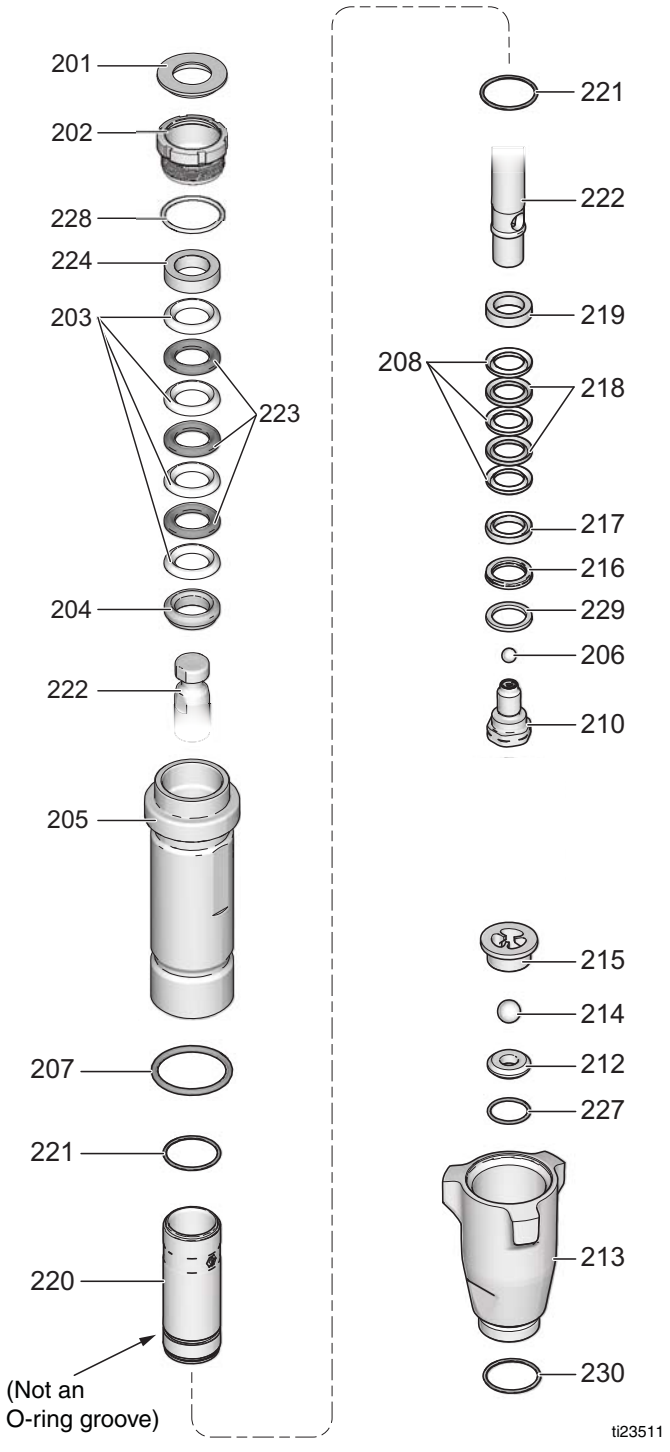
Ref.	Part	Description	Qty.
16	15J696	PIN, trigger (page 40)	1
17	105334	NUT, lock, hex (page 40)	1
19	15J464	GUARD, trigger	1
20	15J528	GUIDE, spring	1
21	121093	SPRING, compression	1
22	15B549	NUT, end	1
24	246453	OneSeal™, RAC X (5-pack)	1
25	246215	GUARD, RAC X	1
26	LTX515	TIP, spray 515, RAC X	1
	LTX517	TIP, spray 517, RAC X	1
31	119799	BRUSH, cleaning	1
34▲	222385	CARD, medical alert (not shown)	1

▲*Replacement Warning labels, tags and cards are available at no cost.*

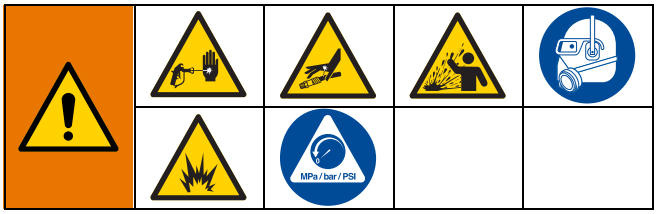
Pump Parts

Ref.	Part	Description	Qty.
201*	179810	SEAL, throat	1
202	193046	NUT, packing	1
203*	192692	V-PACKING, throat, V-Max, UHMWPE, blue	3
204*	15C987	GLAND, male, throat,	1
205	16X450	CYLINDER, pump, Model 16X414	1
206		BALL check	1
	105444*	Model 16X414 (Stainless steel)	
	119259†	Model 16X418 (Ceramic)	
207*	156593	PACKING, o-ring	1
208*	192693	V-PACKING, piston, V-MAX, UHMWPE, blue	3
210	287877	VALVE, piston	1
212	239922	KIT, seat, carbide *includes 214, 215, 227*	1
213	15C785	VALVE, intake (foot)	1
214	105445	BALL, check, inlet (Stainless steel)	1
215	192624	GUIDE, ball	1
216*	118503	WIPER, piston	1
217*	178969	GLAND, female, piston	1
218*	178939	V-PACKING, leather, piston	2
219*	196880	GLAND, male, piston	1
220	248209	SLEEVE, cylinder	1
221*	108526	O-RING, ptfe	1
222	16X434	ROD, piston	1
223*	178940	V-PACKING, leather, throat	2
224*	15C988	GLAND, female, throat	1
227	107079	O-RING, ptfe	1
228*	158776	O-RING	1
229*	15C997	WASHER, backup	1
230*	118494	O-RING, fluoroelastomer	1

** These parts are also included in Repair Kit 248212, which may be purchased separately.*



Repair

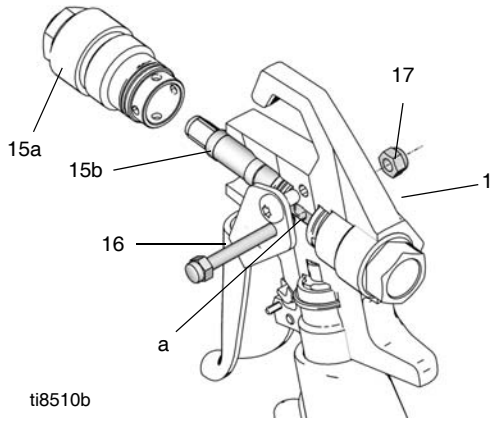


Gun

Tools needed:

- 8-inch adjustable wrench
- 1/4-inch nut driver

Replace Needle



1. Perform **Pressure Relief Procedure**, page 8. Set trigger lock (2).
2. Remove tip (26) and guard (25) from gun (1).
3. Disconnect fluid hose from gun at swivel (8).
4. Remove nut (17) and trigger pin (16).
5. Unscrew diffuser (15a) from front of gun (1).
6. Remove needle assembly (15b) through front of gun (1).
7. Use a soft brush to clean out internal passages of gun.
8. Grease o-rings of new needle using a non-silicon grease.
9. Guide new needle (15b) through front of gun (1) making sure the flat sides (a) of the needle assembly face the sides of gun housing.
10. Install diffuser (15a). Torque diffuser to 26-30 ft-lbs (35.25 - 43.38 N•m).
11. Replace pin (16) and nut (17).

Pump

Pump repair kit 248212.

Tools Needed

- Vise
- 12 in. adjustable, open-end wrench (2)
- Hammer (20 oz maximum)
- Small screwdriver
- Throat Seal Liquid
- Pick or long small screwdriver

Cleaning and Inspecting Parts

Clean and inspect parts. Pay particular attention to the ball seats in the intake valve and piston, which must have no nicks or wear, and to the inside of the sleeve and the outside of the piston rod, which must not be worn or scratched. Replace worn or damaged parts.

COMPONENT RUPTURE HAZARD

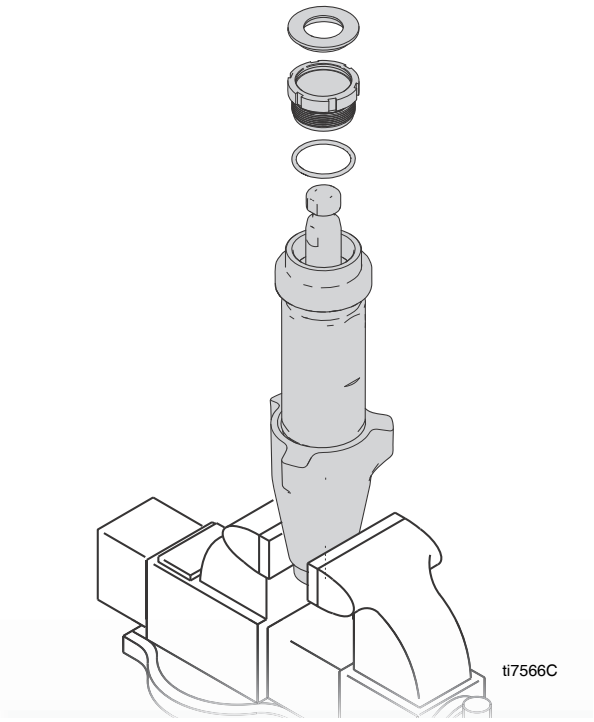
To reduce the risk of serious injury from pressurized fluid, never use sharp or pointed tools to remove sleeve. If the sleeve cannot be removed easily, return the sleeve and cylinder to a Graco distributor for removal.

NOTE: Remove and clean sleeve when repacking pump.

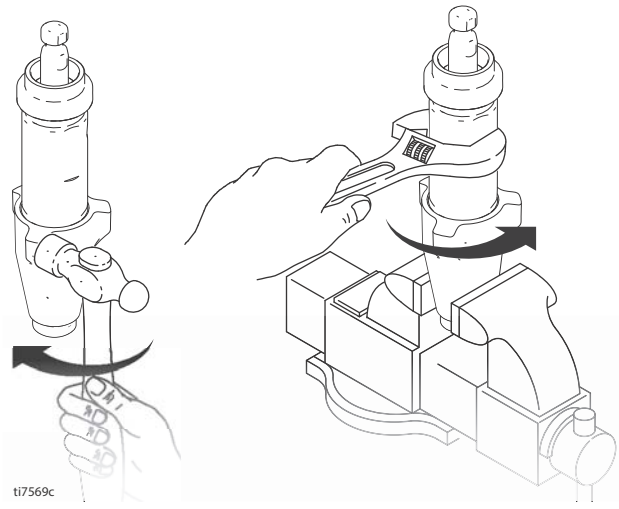
Repair When Pump is Separated From Sprayer

Disassembling the Pump

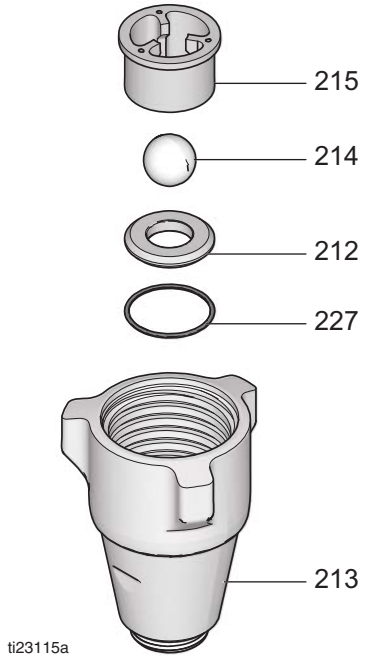
1. Remove packing nut (202) and o-ring (228).



2. Unscrew intake valve from cylinder.

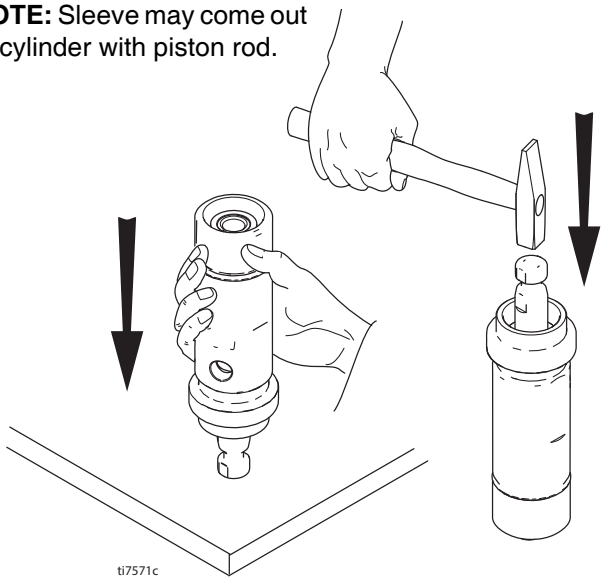


3. Disassemble intake valve. Clean and inspect o-ring (227). **NOTE:** A pick may be required to remove o-ring.

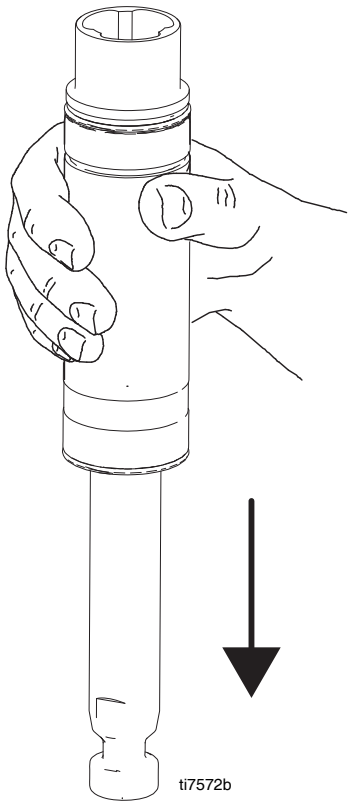


4. Tap piston rod out of cylinder with a hammer or flip over and tap piston rod out against a bench.

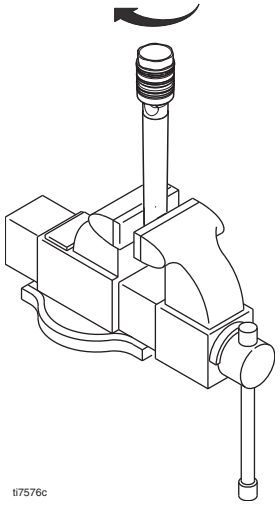
NOTE: Sleeve may come out of cylinder with piston rod.



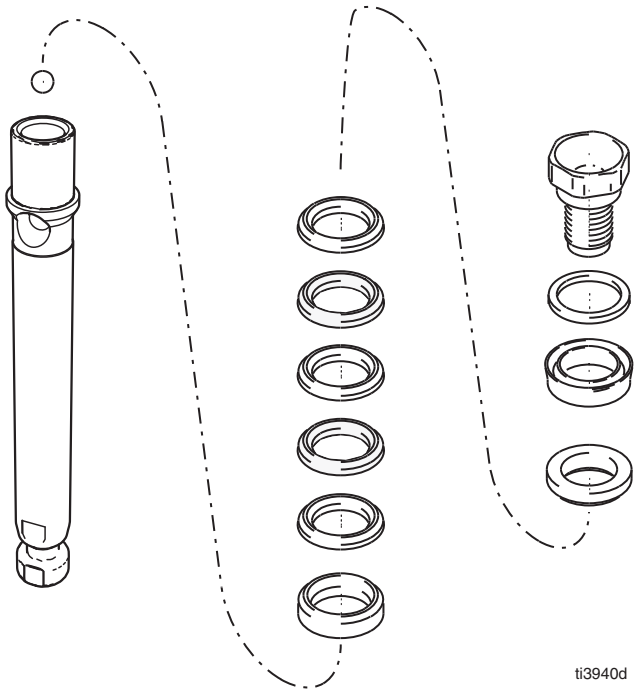
5. Remove piston rod from sleeve, or remove sleeve from cylinder.



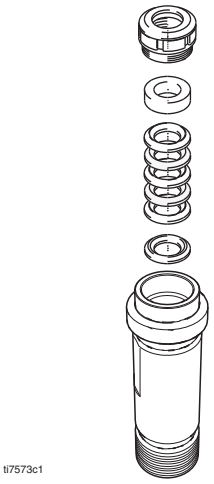
6. Unscrew piston valve from piston rod. Clean and inspect parts. The piston has a special thread locking/sealing patch. Do not remove the patch. The patch allows four disassembly/assembly procedures before it is necessary to apply thread sealant to the threads.



7. Remove packings and glands from piston rod.

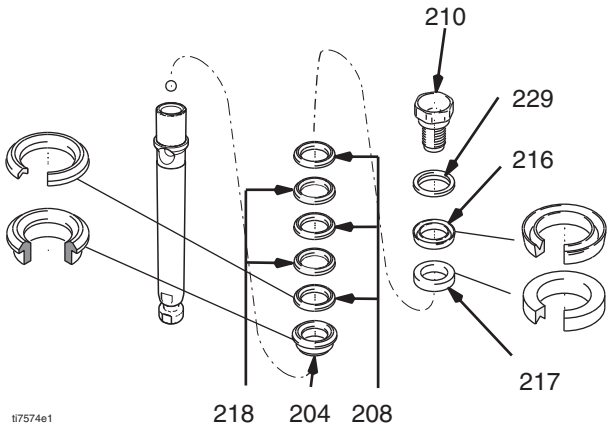


8. Remove throat packings and glands from cylinder. Discard throat packings and glands.

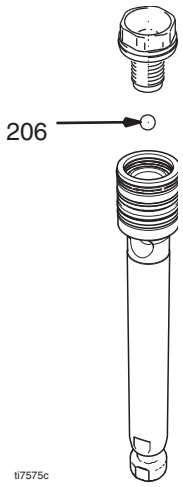


Assembling the Pump

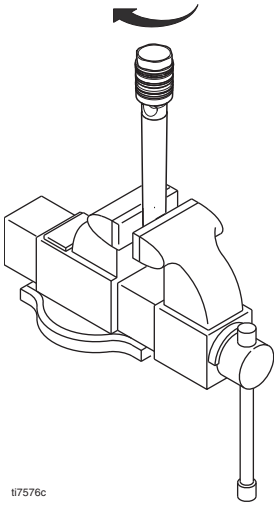
1. Soak all leather packings in SAE 30W oil for 1 hour minimum prior to assembly. Stack male gland (204) on piston rod. Alternately stack UHMWPE (208) and leather (218) packings (note orientation) on piston rod. Install female gland (217). Install piston wiper (216) (note orientation) and backup washer (229) on piston valve, threads are good for four repackings. Use thread sealant on piston valve threads after four repackings.



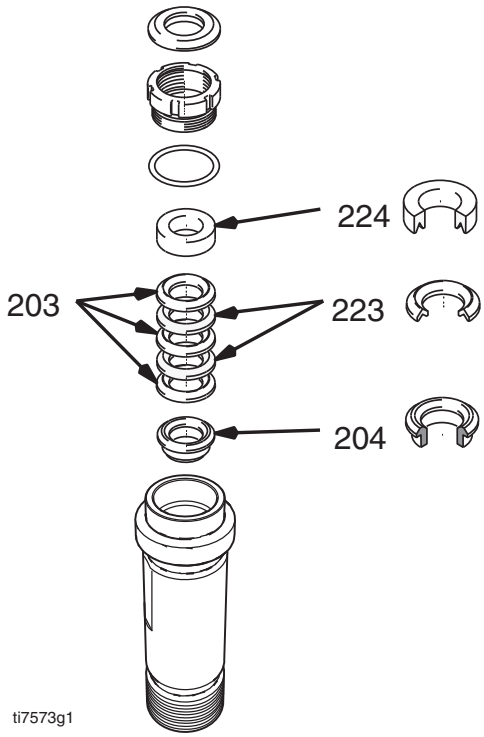
2. Install ball (206) in piston rod. If thread sealant is applied to piston valve threads, make sure that none gets on ball.



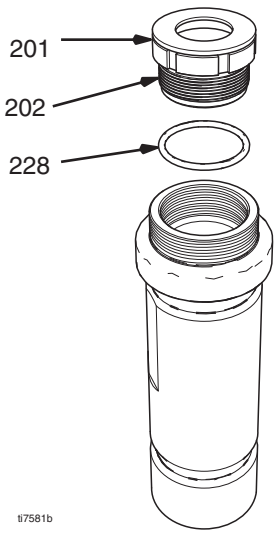
3. Torque piston valve to piston rod to 27 +/-3 ft-lb. (36.1 +/-4.1 N•m).



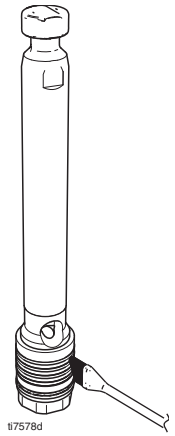
4. Soak all leather packings in SAE 30W oil for one hour minimum prior to assembly. Place male gland (204) in cylinder. Alternately stack UHMWPE (203) and leather packings (223) (note orientation). Place female gland (224) in top of cylinder seat packings.



5. Install seal (201) into packing nut (202). Install o-ring (228) onto packing nut. Loosely install packing nut into cylinder.



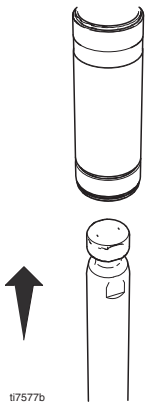
6. Grease piston packings.



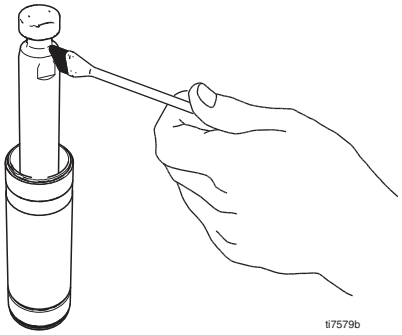
NOTICE

Do not slide piston assembly into top of sleeve as this may damage piston packing.

7. Slide piston assembly into bottom of sleeve.

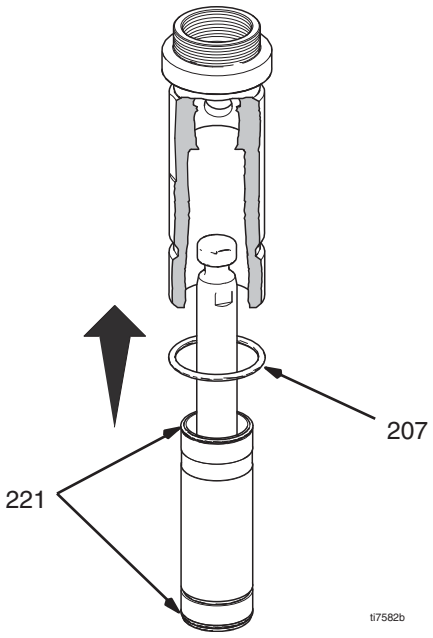


8. Grease top inch or two of piston rod that will go through the cylinder throat packings.

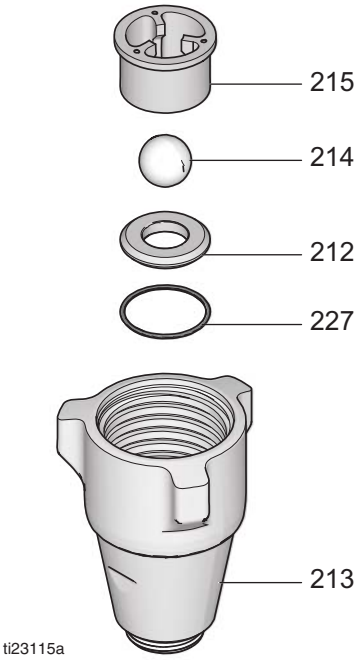


9. Grease o-rings (221) and place on sleeve. Slide sleeve/piston rod assembly into bottom of cylinder. Replace o-ring (207) if desired.

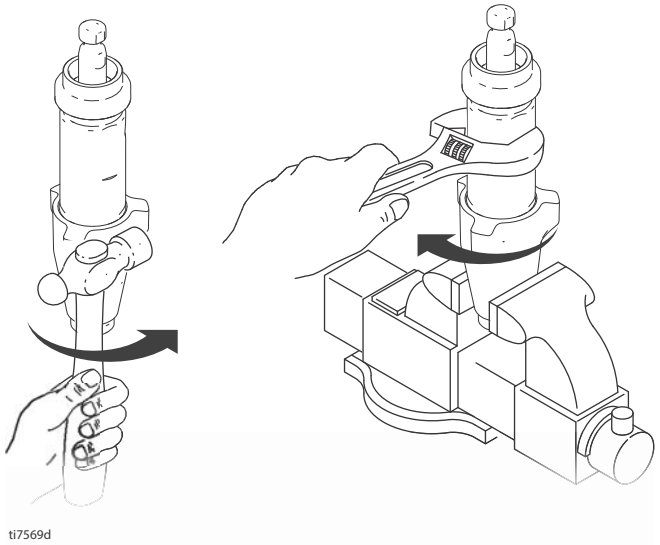
   NOTE: O-ring (207) is not required for safe pump operation.



10. Reassemble intake valve with new o-ring (227), seat (212) and ball (214). Seat may be flipped over and used on other side. Clean seat thoroughly.

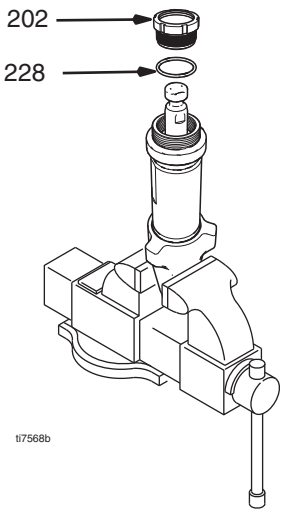


11. Install intake valve on cylinder. If a wrench is used torque to 67 +/- 5 ft-lb (90.8 +/-6.8 N•m).



12. Torque packing nut (202) to 100 +/- 10 in-lb (11.3 +/-1.1 N•m).

13. Remove o-ring (228) when pump packings begin to leak after extended use. Then tighten packing nut down until leakage stops or lessens. This allows approximately 100 gallons of additional operation before a repacking is required.



Technical Data

695 Sprayers		
	U.S.	**Metric**
Sprayer		
Maximum Delivery	0.75 gpm	2.8 lpm
Maximum Tip Size	0.031	0.031
Fluid Outlet npt(f)	3/8 in.	
Fluid Inlet	1-5/16-12 un(m)	
Cycles	226 per gallon	60 per liter
Generator Minimum	5000 W	5000 W
230V, A, Hz	9, 50/60	9, 50/60
Dimensions		
Weight:	111 lb	50 kg
Height:	39 in.	99 cm
Length:	22.5 in.	57.2 cm
Width:		
Wetted parts	zinc- and nickel-plated carbon steel, nylon, stainless steel, PTFE, Acetal, leather, UHMWPE, aluminum, tungsten carbide, PEEK, brass, chrome plating, fluoroelastomer, polyethylene	
Noise Level:		
Sound Power	91 dBa*	91 dBa*
Sound Pressure	82 dBa*	82 dBa*
	*per ISO 3744; measured at 3.1 ft	*per ISO 3744; measured at 1 m

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.

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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.

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