

Contractor King™ Sprayers and Sprayer Packages

3A9121D

EN

High pressure spray packages for applying high performance coatings. For professional use only.



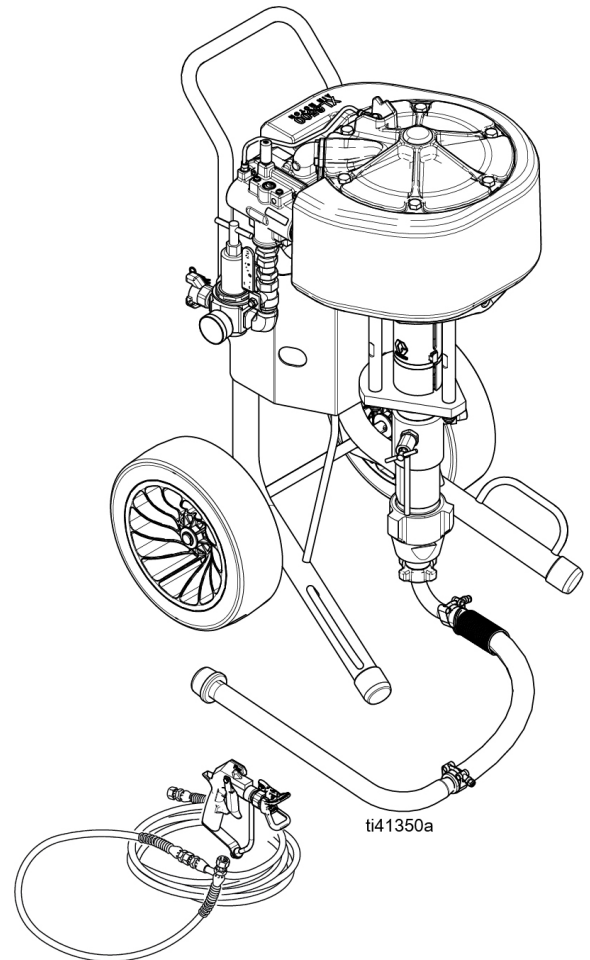
Important Safety Instructions

Read all warnings and instructions in this manual and related manuals before using the equipment. Save these instructions.

See page 3 for model information, including maximum working pressure and approvals.

Related Manuals

Manual in English	Description
311254	Silver Gun and Silver HP Gun
3A9122	Lower Manual (pump)
333507	Hopper Kit
3A9126	Zinc Circulation Kit - 4500 psi (1.03 MPa, 10.3 bar)
3A9127	Air Filter Lubrication, Air Regulation Kits
3A9129	Lift Ring Kit
3A9128	Paint Filter Kit
3A2954	Viscon HF Heater
309524	Vison HP Heater
3A9161	Contractor King Heater Mounting





Questions?
Des questions? ¿Tiene preguntas?
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Contents

Models	3	Repair	23
Gun and Hose Bundles	3	Clean Regulator	23
Warnings	4	Remove Lower	24
Component Identification	7	Prepare to Service Lower.....	24
System Components	8	Remove Pump	25
Bleed Type Master Air Valve (B).....	8	Install Pump	26
Air Pressure Relief Valve (D).....	8	Troubleshooting - Air Motor	27
Air Filter and Water Separator (X).....	8	Air Motor Repair	29
Air Regulator Adjustment (G).....	8	Ice in Air Motor.....	29
Fluid Drain/Purge Valve (J).....	8	Repair Air Valve	29
De-Ice Control (T).....	8	Replace Pilot Valve.....	31
Grounding	9	Disassemble the Air Motor.....	31
Setup	10	Reassemble the Air Motor	32
Pressure Relief Procedure	11	Piston Seal Replacement.....	33
Clearing a Clogged Tip	12	Parts	36
Flush	13	Contractor King Parts.....	36
Prime	16	Contractor King Parts List	37
Spray	18	XL6500 Air Motor Parts	38
Shutdown	18	XL6500 Air Motor Parts List	39
Maintenance	19	Air Valve Parts (17V344 - Standard Valve).....	40
Preventative Maintenance Schedule	19	Air Valve Parts List	41
Daily Maintenance	19	Performance Charts	42
Lifetime Service Maintenance	19	Calculate Fluid Outlet Pressure	42
Corrosion Protection	19	Calculate Pump Air Flow/Consumption.....	42
Motor Lubrication.....	19	45:1.....	42
Add Lubrication	19	60:1.....	43
Recycling and Disposal	20	70:1.....	43
End of Life Disposal.....	20	Technical Specifications	44
Run Motor Manually	20	California Proposition 65	45
Troubleshooting - General	22	Graco Standard Warranty	46

Models







	Sprayer Model	Description	Gun	Hose (Whip Hose)	Pressure Ratio	Pump Size	Maximum Working Fluid Pressure
 <p>II 2 G Ex h IIA 230°C (T2) Gb X</p>	279005	Bare	N/A	N/A	45:1	290 cc	4500 psi
	279006	Complete	Silver - 2 finger trigger	3/8 in. x 50 ft (1/4 in. x 6 ft)			
	279026		Silver - 4 finger trigger				
	279007	Big 150	Silver - 2 finger trigger	3/8 in. x 150 ft (1/4 in. x 6 ft)			
	279027		Silver - 4 finger trigger				
	279010	Bare	N/A	N/A	60:1	220 cc	6000 psi
	279011	Complete	Silver HP - 2 finger trigger	3/8 in. x 50 ft (1/4 in. x 6 ft)			
	279028		Silver HP - 4 finger trigger				
	279012	Big 150	Silver HP - 2 finger trigger	3/8 in. x 150 ft (1/4 in. x 6 ft)			
	279029		Silver HP - 4 finger trigger				
	279013	Bare	N/A	N/A	70:1	180 cc	7250 psi
	279014	Complete	Silver HP - 2 finger trigger	3/8 in. x 50 ft (1/4 in. x 6 ft)			
	279030		Silver HP - 4 finger trigger				
	279022	Big 150	Silver HP - 2 finger trigger	3/8 in. x 150 ft (1/4 in. x 6 ft)			
279031	Silver HP - 4 finger trigger						

Gun and Hose Bundles

Kit	Gun (Model #)	Hose (Whip Hose)	Maximum Working Pressure psi (MPa, bar)
Contractor King 45:1			
19D624	Silver - 2 finger trigger (273329)	3/8 in. x 50 ft (1/4 in. x 6 ft)	4500 (31 MPa, 310 bar)
19D626	Silver - 4 finger trigger (273346)	3/8 in. x 50 ft (1/4 in. x 6 ft)	4500 (31 MPa, 310 bar)
19D646	Silver - 2 finger trigger (273329)	3/8 in. x 150 ft (1/4 in. x 6 ft)	4500 (31 MPa, 310 bar)
19D650	Silver - 4 finger trigger (273346)	3/8 in. x 150 ft (1/4 in. x 6 ft)	4500 (31 MPa, 310 bar)
Contractor King 60:1 and 70:1			
19D625	Silver HP - 2 finger trigger (273334)	3/8 in. x 50 ft (1/4 in. x 6 ft)	7250 (50 MPa, 500 bar)
19D627	Silver HP - 4 finger trigger (273335)	3/8 in. x 50 ft (1/4 in. x 6 ft)	7250 (50 MPa, 500 bar)
19D647	Silver HP - 2 finger trigger (273334)	3/8 in. x 150 ft (1/4 in. x 6 ft)	7250 (50 MPa, 500 bar)
19D651	Silver HP - 4 finger trigger (273335)	3/8 in. x 150 ft (1/4 in. x 6 ft)	7250 (50 MPa, 500 bar)

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.

 <h1 style="margin: 0;">WARNING</h1>	
   	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well-ventilated area. • Eliminate all ignition sources, such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static sparking). • Ground all equipment in the work area. See Grounding instructions. • Never spray or flush solvent at high pressure. • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
	<p>FIRE AND EXPLOSION HAZARD</p> <p>Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Clean plastic parts only in well-ventilated area. • Do not clean with a dry cloth. • Do not operate electrostatic guns in equipment work area.

! WARNING



SKIN INJECTION HAZARD

High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**



- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Do not point gun at anyone or at any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.



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.
- Equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.



- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Specifications** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Specifications** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

WARNING



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 Safety Data Sheets (SDSs) 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.

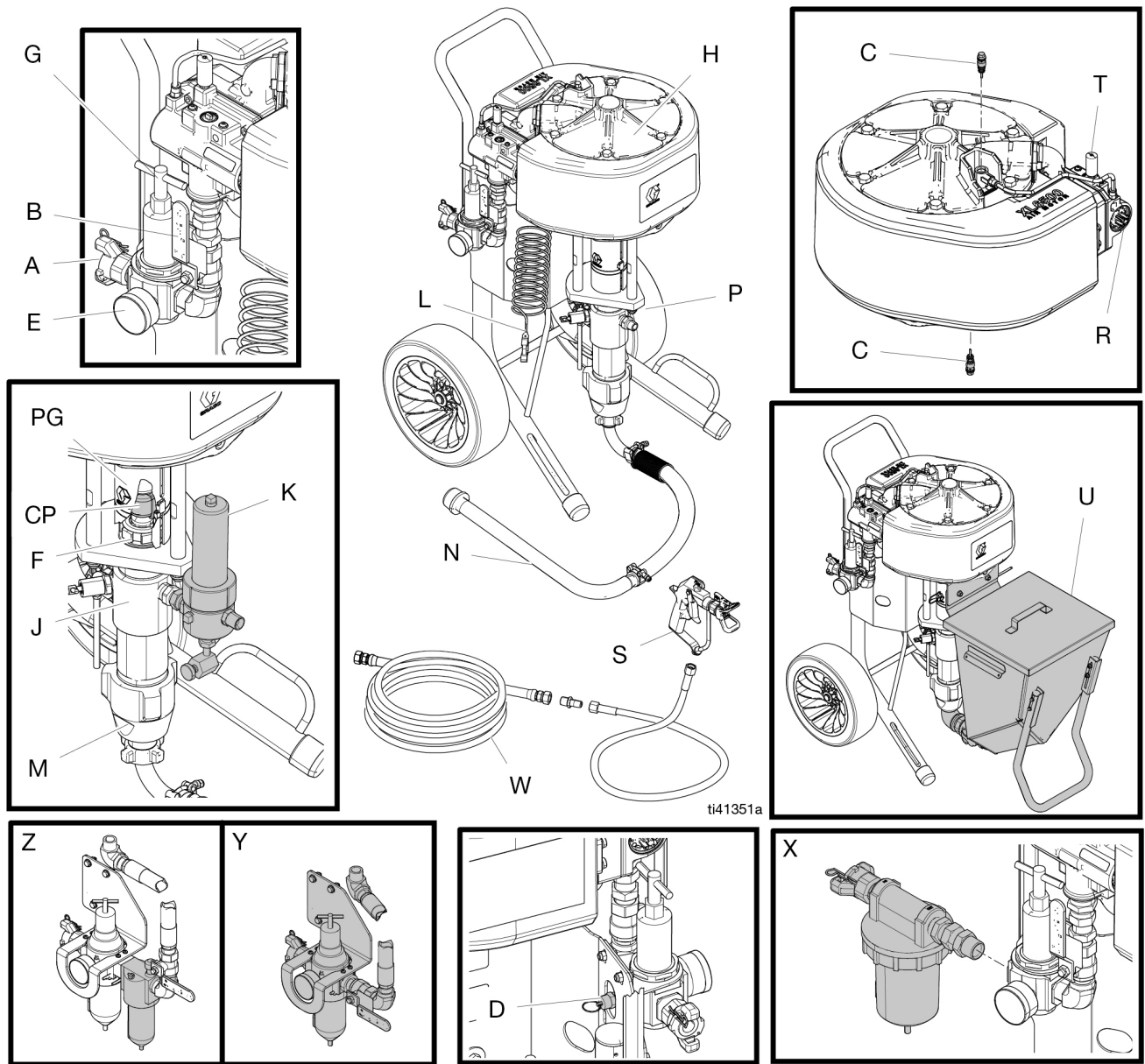


PERSONAL PROTECTIVE EQUIPMENT

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. 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



t141351a

A	Air Inlet, 1 in. npt(f) on claw fitting
B	Bleed Type Master Air Valve
C	Pilot Valve
CP	Pump Coupling (located under pump guard PG)
D	Air Pressure Relief Valve
E	Air Pressure Gauge
F	Packing Nut
G	Air Regulator Adjustment
H	Air Motor
J	Fluid Drain / Purge Valve
K	Fluid Filter (sold separately)
L	Grounding Wire

M	Pump
N	Suction Hose with Swivel and Tube
P	Pump Fluid Outlet
PG	Pump Guard
R	Manual Override Buttons
S	Spray Gun
T	De-Ice Control (bleed air)
U	Hopper Kit (sold separately)
W	Fluid Hose
X	Filter and Water Separator Kit (sold separately)
Y	Regulator / Air Filter / Water Kit (sold separately)
Z	Oiler (sold separately)

System Components

Bleed Type Master Air Valve (B)

(This component is required, do not remove)



Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing fluid or moving parts. Perform the **Pressure Relief Procedure**, page 11, to remove trapped air.

- Be sure the valve is easily accessible from the pump and located downstream from the air regulator.
- Required in your system to relieve air trapped between it and the air motor when the valve is closed.
 - Open the valve to supply air to the motor.
 - Close the valve to shut off air to the motor, and bleed any trapped air from the motor.

Air Pressure Relief Valve (D)

(This component is required, do not remove)

Automatically opens to relieve air pressure if the supplied pressure exceeds the rated limit.

Air Filter and Water Separator (X)

Remove harmful dirt from compressed air supply. A minimum of 40 micron filter should be used if filtration is necessary.

NOTE: X, Y, and Z are sold separately.

Air Regulator Adjustment (G)

Adjusts air pressure to the motor and fluid outlet pressure of pump. Locate it close to the pump. Read air pressure on air pressure gauge (E).

Fluid Drain/Purge Valve (J)

(This component is required, do not remove)

Open valve to relieve pressure and when flushing or priming pump. Close valve when spraying.

De-Ice Control (T)

Turn bleed air knob (open) to reduce icing.

Grounding



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

Pump: use ground wire and clamp (supplied). Connect ground wire (L) to ground stud on the air motor. Connect ground clamp to a true earth ground.

Air and fluid hoses: use only electrically conductive hoses with a maximum of 500 ft. (150 m) combined hose length to ensure grounding continuity. Check electrical resistance of hoses. If total resistance to ground exceeds 29 megohms, replace hose immediately.

Air compressor: follow manufacturer's recommendations.

Spray gun / Dispense valve: ground through connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

Object being sprayed: follow local code. Do not use with dispense valve.

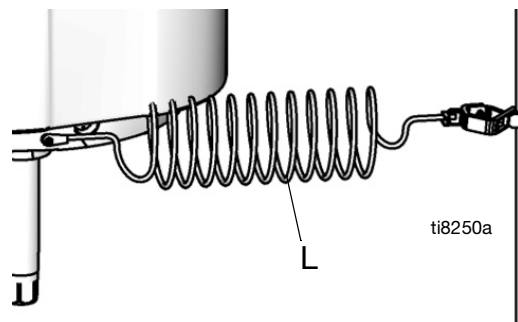
Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

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

Grounding Installation

Tools Required:

- Grounding wires and clamps for pails
 - Two 5 gallon (19 liter) metal pails
1. Verify the ground wire (244524) (L) is attached to the ground stud on the air motor.



2. Connect the other end of the ground wire to a true earth ground.
3. Ground the object being sprayed, fluid supply container, and all other equipment in the work area. Follow your local code. Use only electrically conductive air and fluid hoses.
4. Ground all solvent pails. Use only metal pails, which are conductive, placed on a grounded surface. Do not place pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

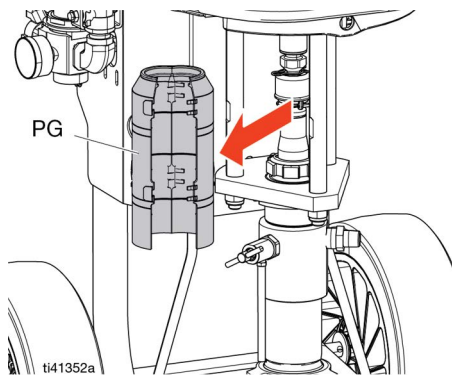
Setup

<p>To avoid tip over, ensure cart is on a flat and level surface. Failure to do so could result in injury or damage to equipment.</p>				

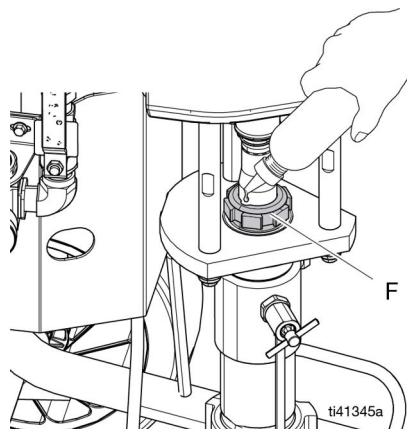
Tools Required:

- Two adjustable wrenches
- Non-sparking hammer or plastic mallet
- Torque wrench
- Flathead screwdriver

1. Ground sprayer (see **Grounding**, page 9).
2. Use a flathead screwdriver to remove pump guard (PG).



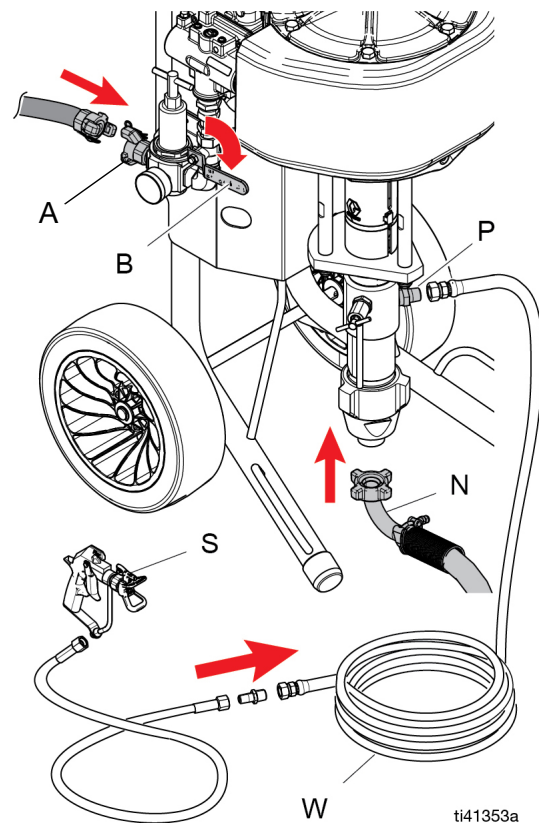
3. Check packing nut (F). Remove packing nut cover and fill with Throat Seal Liquid (TSL). Replace cover, torque packing nut (F) to 105-145 ft-lb (155-185 N•m).



4. Replace pump guard (PG).
5. Attach suction hose (N) and tighten.
6. Attach electrically conductive fluid hose (W) to pump outlet (P) and tighten.
7. Attach electrically conductive fluid hose (W) to gun (S) and tighten. Check that all pressure connections are tight.
8. Attach an air compressor hose to the air inlet claw fitting (A).


<p>To help prevent injury from a whipping air hose, if disconnected while pressurized, install a hose restraint (whip check) between the supply hose and claw fitting (A).</p>				

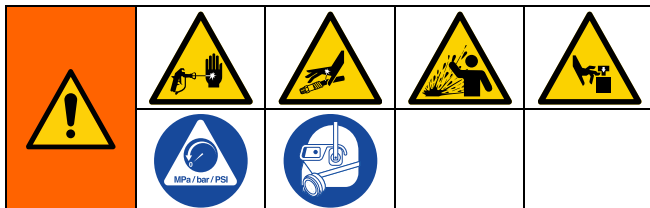
9. Close the bleed type master air valve (B). Purge the air supply hose.



10. Flush and prime before using. See **Flush**, page 13, and **Prime**, page 16.

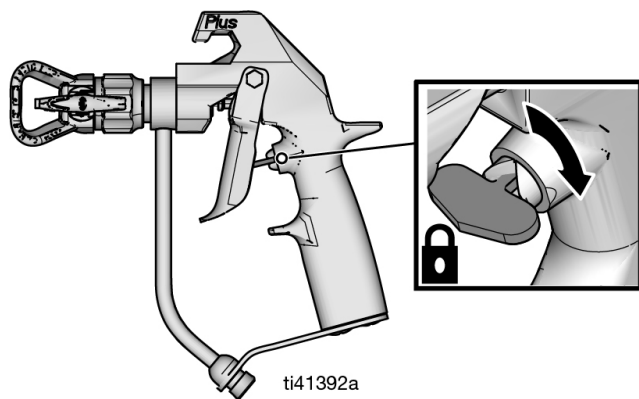
Pressure Relief Procedure

 Follow the Pressure Relief Procedure whenever you see this symbol.

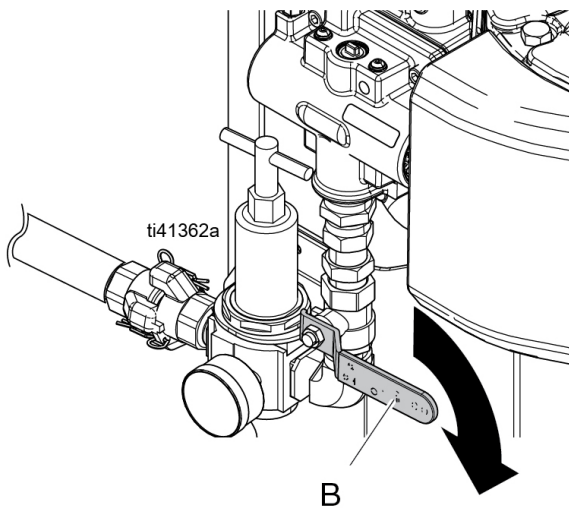


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing equipment.

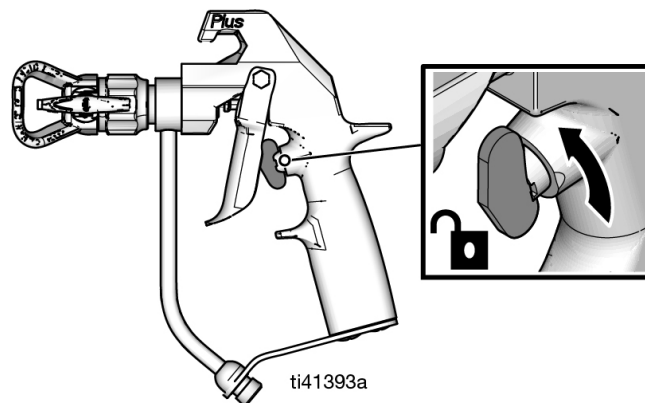
1. Engage gun trigger lock.



2. Close bleed type master air valve (B).

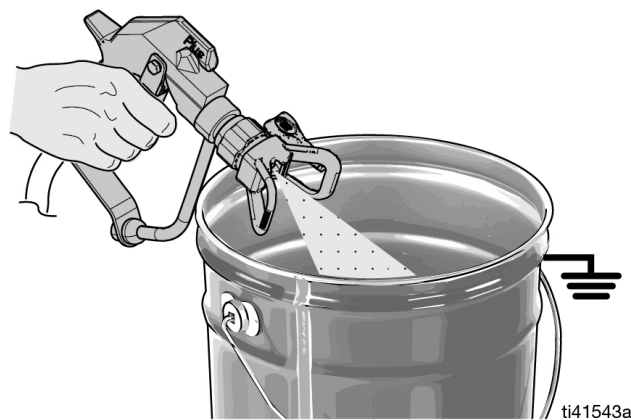


3. Disengage gun trigger lock.



4. Hold a metal part of the gun firmly against a grounded metal pail. Trigger the gun until pressure is relieved.

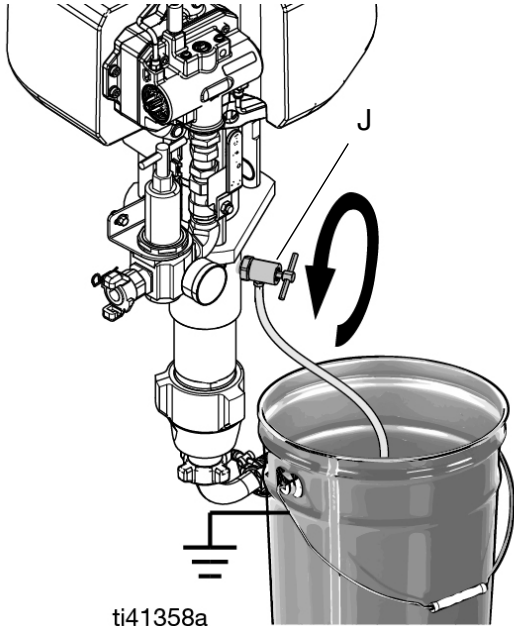
NOTE: If fluid does not flow from gun, see **Clearing a Clogged Tip**, page 12.



5. Engage trigger lock.

Clearing a Clogged Tip

6. Drain fluid. To drain fluid, slowly open all fluid drain valves, including fluid drain/purge valve (J), in system into a waste pail. If there is a return tube, open return line ball valve. Close valve after fluid is drained.

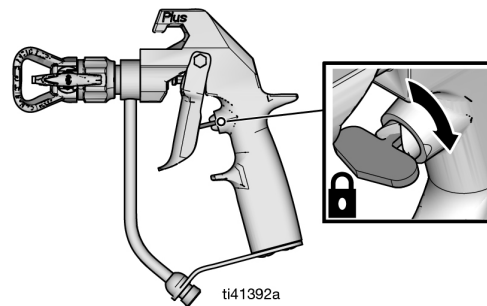


7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved.
 - a. VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually.
 - b. Loosen nut or coupling completely.
 - c. Clear hose or tip obstruction.

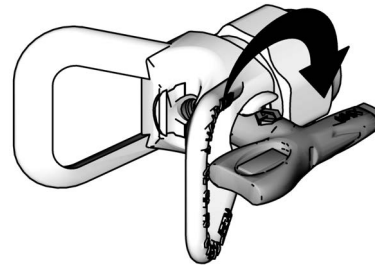
Clearing a Clogged Tip



1. Engage trigger lock.



2. Rotate tip 180° so arrow on tip cylinder faces backward.



3. Disengage trigger lock.
4. Trigger gun into pail to remove clog.
5. Engage trigger lock, then rotate tip 180° back to spray position.
6. If tip is still clogged, follow the **Pressure Relief Procedure**, page 11, then remove and clean the spray tip.

Flush

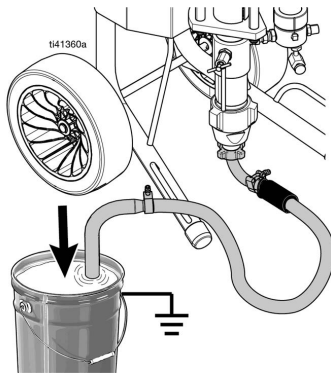


Flush the Pump:

- Before first use
- When changing fluids
- Before repairing equipment
- Before fluid dries or settles out in a dormant pump (check the pot life of catalyzed fluids)
- At the end of the day
- Before storing the pump

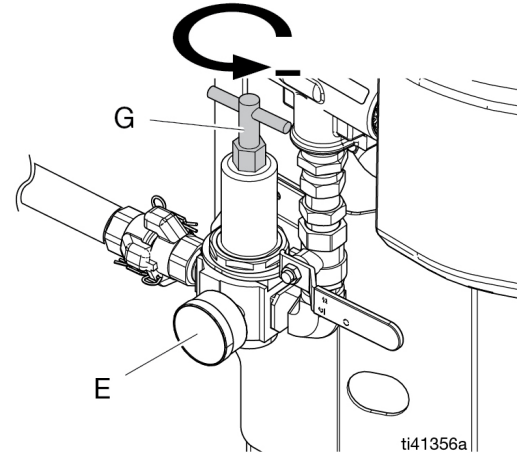
Flush at the lowest pressure possible. Flush with a fluid that is compatible with the fluid you are pumping and with the wetted parts in your system. Check with your fluid manufacturer or supplier for recommended flushing fluids and flushing frequency.

1. Perform **Pressure Relief Procedure**, page 11.
2. Remove tip and tip guard from gun.
3. If desired, remove fluid filter (sold separately). Reinstall filter cap after removing fluid filter.
4. Connect the ground wire (L) and clamp to a true earth ground.
5. Place suction tube in a compatible solvent.

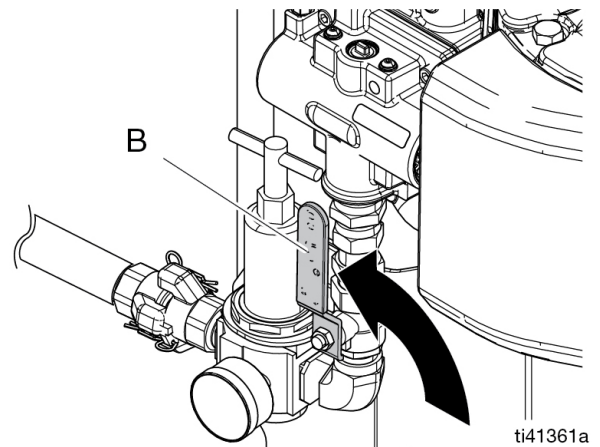


NOTE: Do not stretch hose tight. Let it hang to assist fluid flow into the pump.

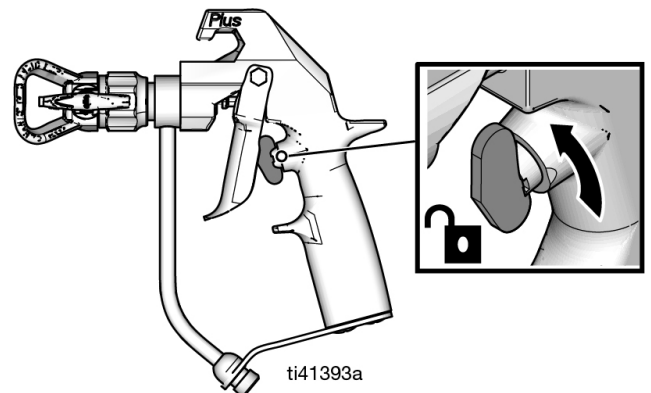
6. Turn air regulator adjustment knob (G) counterclockwise until air pressure gauge (E) reads zero.



7. Open bleed type master air valve (B).



8. Flush hose and gun:
 - a. Disengage gun trigger lock. Hold the gun against a grounded metal pail.



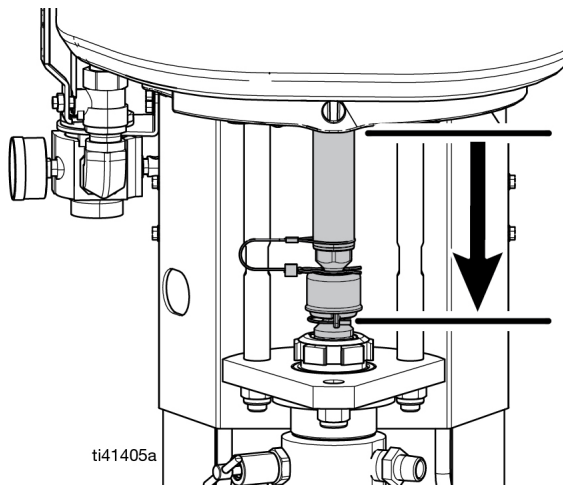
Flush

- b. Trigger gun, slowly turn air regulator adjustment knob (G) clockwise until pump begins to cycle and a steady stream comes from gun. Trigger gun for 10-15 seconds during initial setup. If flushing material, trigger gun until clean solvent flows from gun.

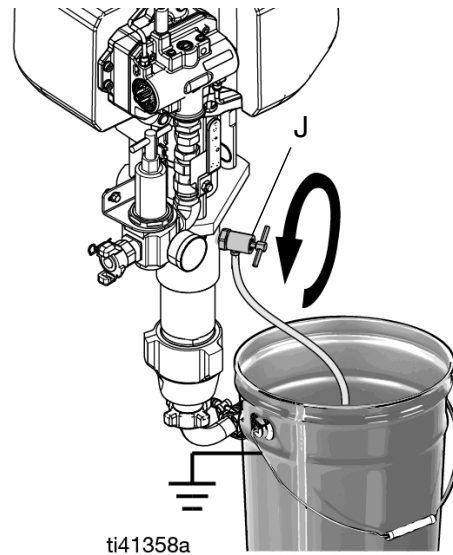


- c. After solvent is running clean, turn the air regulator adjustment knob (G) counterclockwise until it stops and the gauge reads zero. The pump will stop. Once the material stops flowing, release the trigger and engage the trigger lock.

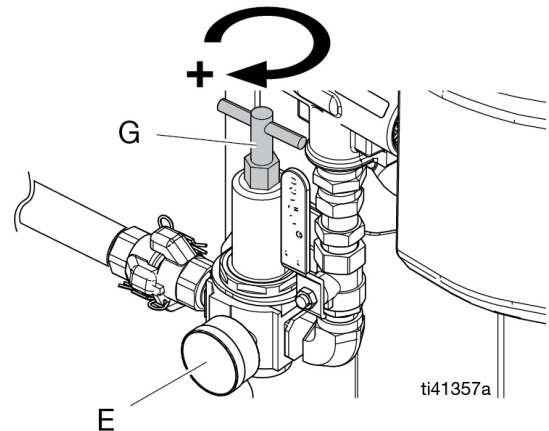
NOTE: When shutting down the unit for the day, stop the pump with the rod buried in the pump.



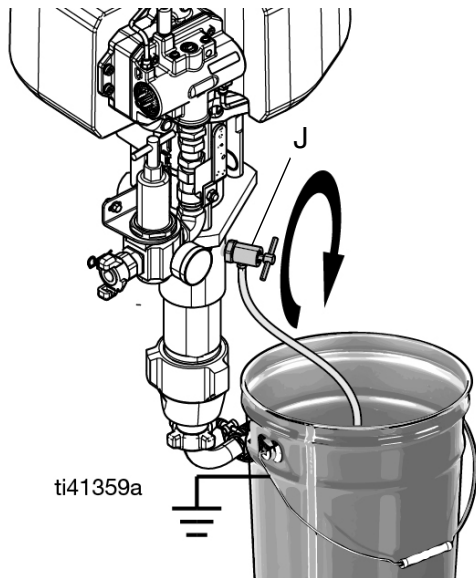
- d. Close the bleed type master air valve.
9. If flushing through drain/purge valve:
 - a. Place drain tube in a grounded waste pail. Open fluid drain/purge valve (J) slightly by rotating counterclockwise.



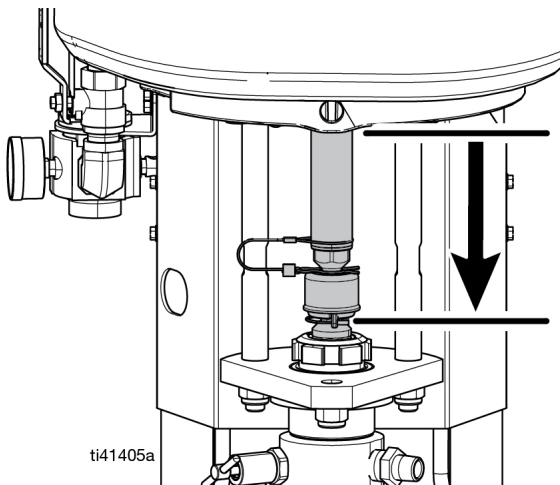
- b. Turn air regulator adjustment knob (G) counterclockwise until air pressure gauge (E) reads zero
- c. Open bleed type master air valve (B).
- d. Start the pump by rotating the air regulator adjustment knob (G) clockwise until pump begins to move.



- e. When clean solvent flows from drain tube close fluid drain/purge valve (J) by rotating clockwise. Pump will stall.



- f. Stop the pump with the rod buried in the pump.

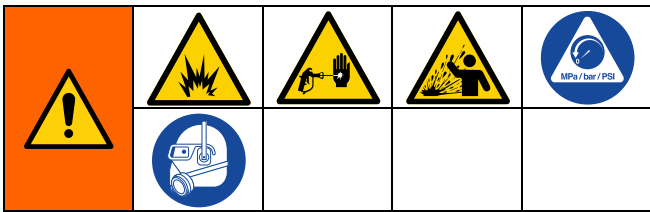


- g. Turn the air regulator adjustment knob (G) counterclockwise until air pressure gauge (E) reads zero.
- h. Close bleed type master air valve (B).

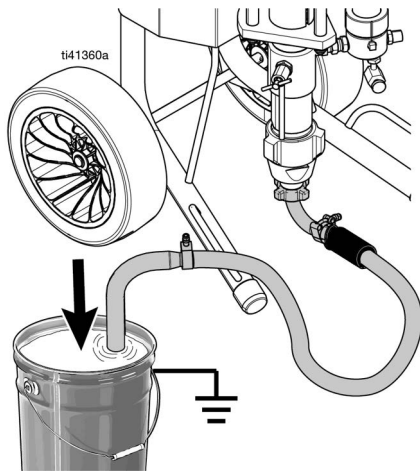
10. Perform **Pressure Relief Procedure**, page 11.

11. If equipped, remove fluid filter (sold separately) and soak in solvent. Replace filter cap.

Prime

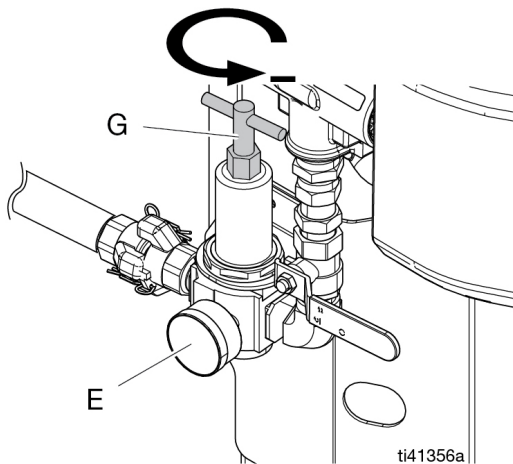


1. Perform the **Pressure Relief Procedure**, page 11.
2. Engage the gun trigger lock. Remove tip and tip guard from gun.
3. Place suction tube in the material that will be sprayed.

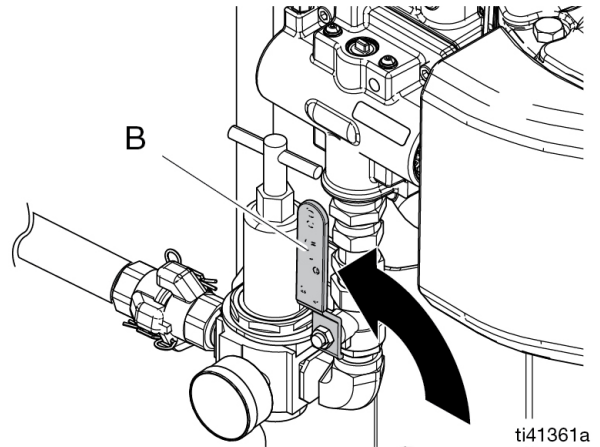


NOTE: Do not stretch hose tight. Let it hang to assist fluid flow into the pump.

4. Turn air regulator adjustment knob (G) counterclockwise until air pressure gauge (E) reads zero.



5. Open bleed type master air valve (B).



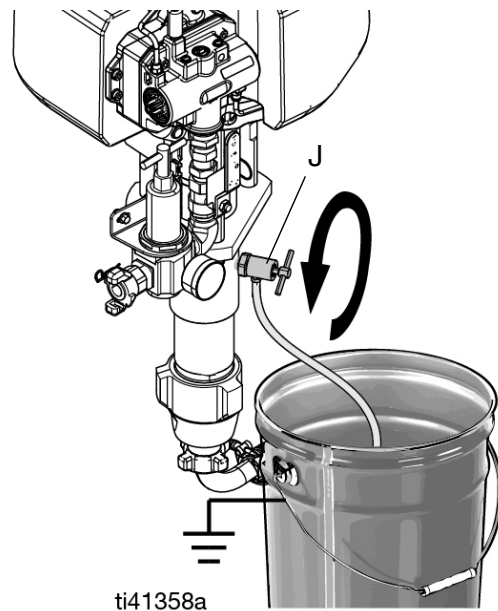
6. Prime through drain valve if necessary.

NOTE: Usually required for high viscosity materials.

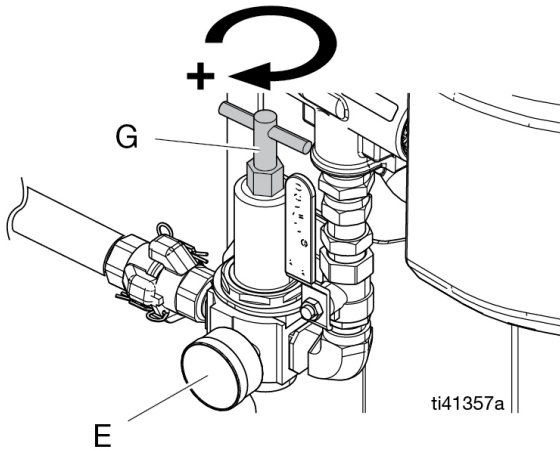
NOTICE

Do not prime pump through drain/purge valve using two-component materials. Mixed two-component materials will harden in valve and result in clogging.

- a. Place drain tube in a grounded waste pail. Open drain/purge valve (J) by slightly rotating counterclockwise.



- b. Start the pump by rotating the air regulator adjustment knob (G) clockwise until pump begins to move.

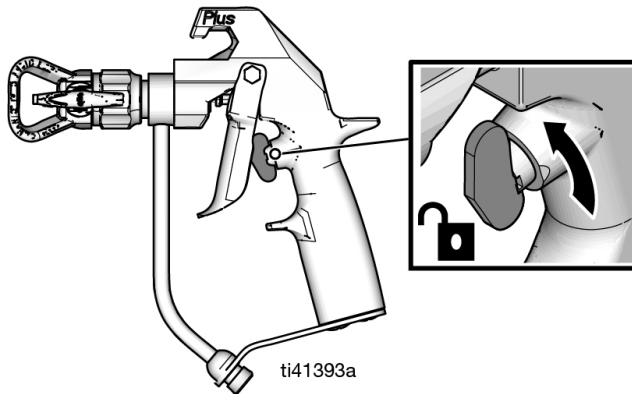


- b. Trigger gun, slowly open air regulator adjustment knob (G) until pump begins to cycle and a steady stream comes from gun. Trigger gun for 10-15 seconds.



7. Prime hose and gun:

- a. Disengage gun trigger lock. Hold the metal part of the gun against a grounded metal pail.



- c. Engage trigger lock.
- d. The equipment is now ready to spray; proceed to the **Spray**, page 18.

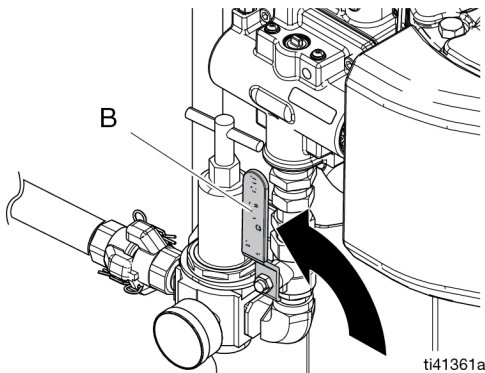
Spray



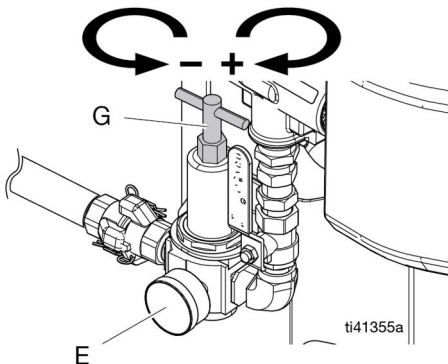
NOTICE
Running the pump while dry will cause the pump to quickly accelerate to a high speed and cause damage. To avoid damage, do not allow pump to run dry.

NOTE: When spraying in enclosed areas, such as storage tanks, locate the pump outside the area.

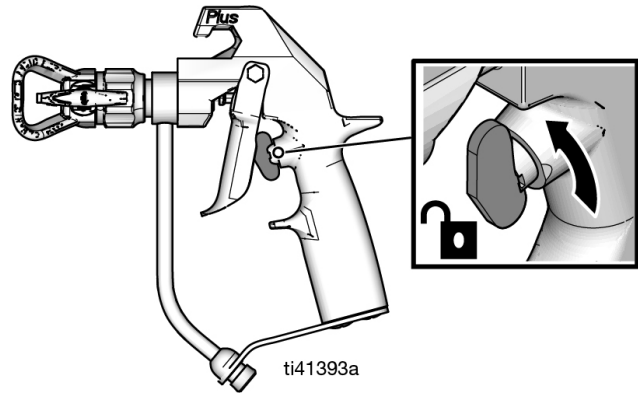
1. Perform **Prime**, page 16.
2. Perform **Pressure Relief Procedure**, page 11.
3. Install tip and tip guard on gun.
4. Turn air regulator adjustment knob (G) counterclockwise to decrease pressure to zero.
5. Open bleed type master air valve (B).



6. Turn air regulator adjustment knob (G) until air pressure gauge (E) reads desired pressure. Turn clockwise to increase pressure, counterclockwise to decrease pressure.



7. Disengage gun trigger lock.



8. Spray a test pattern. Read fluid manufacturer's recommendations. Adjust pressure as necessary.



Shutdown



NOTICE
Leaving water or water-based fluid in the pump overnight can cause the equipment to rust or corrode. If you are pumping water-based fluid, flush with water first, then with a rust inhibitor such as mineral spirits. Relieve pressure, but leave rust inhibitor in pump to protect parts from corrosion.

Perform **Prime**, page 16.

Always flush the pump before the fluid dries on the displacement pump rod. Perform the **Flush** procedure on page 13.

Turn off and relieve air pressure in the air supply hose.

Maintenance

Preventative Maintenance Schedule

The operating conditions of your particular system determine how often maintenance is required. Establish a preventive maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your system.

Daily Maintenance

NOTE: For over night shutdown, stop pump at bottom of its stroke to prevent fluid from drying on exposed displacement rod and damaging throat packings.

1. Perform the **Flush** procedure on page 13.
2. Perform the **Prime** procedure on page 16.
3. Check packing nut. Adjust packings and replace TSL as necessary. Torque to 105-145 ft-lb (155-185 N•m).
4. Perform **Clean Regulator** procedure on page 23.
5. If equipped, drain water from air filter.
6. Clean suction tube using a compatible solvent. It is recommended that you clean the outside of the sprayer using a cloth and compatible solvent.
7. Check hoses, tubes, and couplings. Tighten all fluid connections before each use.
8. If equipped, clean fluid line filter.

Lifetime Service Maintenance

Replace leather packings every five years or less based on use.

Corrosion Protection

Always flush the pump before the fluid dries on the displacement rod. Never leave water or water-based fluid in the pump overnight.

NOTICE

Leaving water or water-based fluid in the pump overnight can cause the equipment to rust or corrode. When pumping water-based fluid, flush with water first, then with a rust inhibitor such as mineral spirits. Relieve pressure, but leave rust inhibitor in pump to protect parts from corrosion.

Motor Lubrication

Graco does not require lubrication beyond the grease installed at the factory or through regular maintenance. With good quality compressed air and normal ambient conditions.

However, if any of the following criteria apply to your system, you will benefit from installing a 3/4 in. air line lubricator in the air line before the air motor or from occasionally adding oil to the air inlet line.

- Air supply does not contain any oil.
- Air supply is very wet.
- Air supply is very dry.
- Air motor is run at low air pressure.
- Air motor is run in unusually hot or cold environments.

Areas that benefit from lubrication:

- Main piston o-rings (13)
- Sliding valve spool (304, 306)
- Motor detent assembly (305)
- Motor shaft seal (4)

Add Lubrication

Methods for adding lubrication are described below.

Lubricate Air Valve

Perform these steps annually, or more often depending on your duty cycle, air pressure, and air quality. Use a high quality lithium-based grease.

- Remove and disassemble the air valve (see **Remove Pump**, page 25).
- Grease all visible moving parts, especially detent and valve pistons.

Add Accessory Air Lubricator for Motor Lubrication

- To add a lubricator with kit 19D955.
- Add oil to line for whole motor lubrication. Disconnect air line close to the motor and add 1-2 cc of SW30 oil.

NOTE: Adding oil to the air motor will result in some oil being present in the exhaust air.

Recycling and Disposal

At the end of the product's useful life, dismantle and recycle it in a responsible manner.

- Perform **Pressure Relief Procedure**, page 11.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.

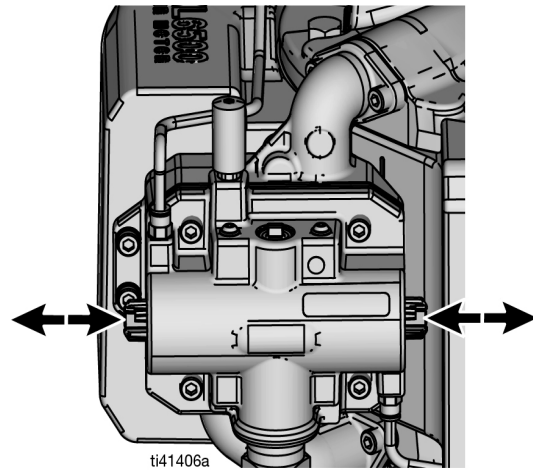
End of Life Disposal

If the sprayer is in a condition that it can no longer operate, the sprayer should be taken out of service and dismantled. Individual parts should be sorted by material and disposed of properly.

Run Motor Manually



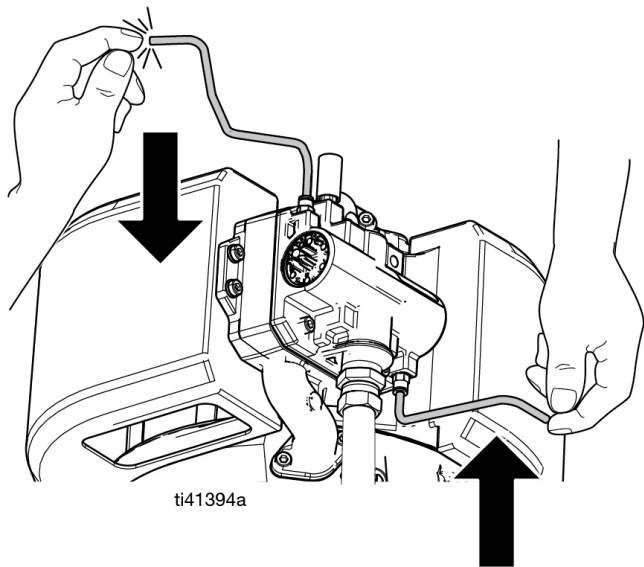
Use the manual override buttons (R) on each end of the air valve to physically move the internal main shuttle valve from one position to the other. Run the motor manually to:



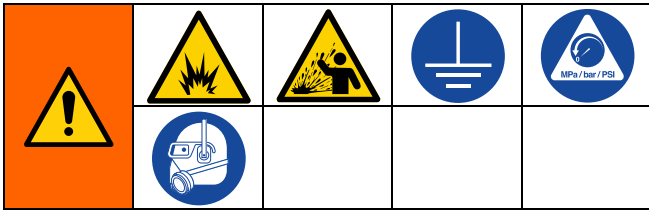
- Move the valve off center due to ice or debris.
 - Flush a pump if a pilot valve is plugged, stuck in the open position, or the pilot signal is leaking
1. Lower the air pressure to approximately 30–40 psi (206 kPa, 2.06 bar – 276 kPa, 2.75 bar) to manually operation the buttons.
 2. If a pilot valve is plugged:
 - a. Press the button on the end where the motor stopped. This will cause the motor to run another cycle.
 - b. Press the button again to finish flushing.

3. If a pilot valve is stuck in the open position or the pilot signal is leaking:
 - a. Press the button on the opposite end from where the motor stopped and hold it in. This will cause the motor to stroke to the other end.
 - b. Release the button to allow the motor to stroke back.

NOTE: For pilot valve issues, the motor can also be manually operated by disconnecting the pilot tube from the pilot valve and controlling the pilot signal exhaust with your finger.



Troubleshooting - General



NOTE: To find parts lists for the parts identified in the troubleshooting tables, see page numbers listed in the table below.

1. Perform **Pressure Relief Procedure**, page 11.
2. Check all possible causes and problems before disassembling pump.

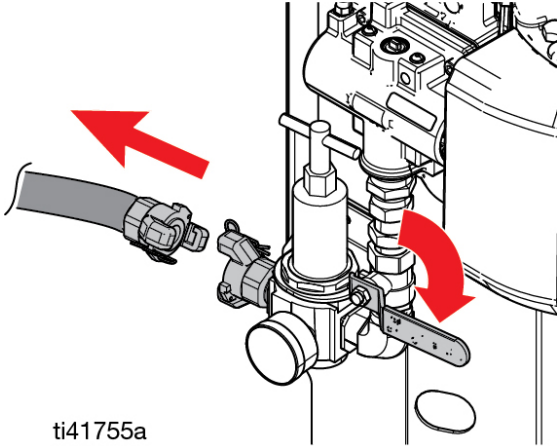
* To determine if fluid hose or gun is obstructed, follow the **Pressure Relief Procedure**, page 11. Disconnect fluid hose and place a container at pump fluid outlet to catch any fluid. Turn on air power just enough to start pump. If pump starts, the obstruction is in fluid hose or gun.

Problem	Cause	Solution
Does not operate.	Valve closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose or gun obstructed.	Clean hose or gun.*
	Dried fluid on displacement rod.	Clean rod; always stop pump at bottom of stroke; keep wet-cup filled with compatible solvent.
	Air motor parts dirty, worn, or damaged.	Clean or repair air motor.
Output low on both strokes.	Air line restricted or air supply inadequate. Valves closed or clogged.	Clear air line; increase air supply. Check that valves are open.
	Fluid hose/gun obstructed; hose ID too small.	Clear hose or gun*; use hose with larger ID.
	Air motor icing.	Open De-Ice control.
Pressure gauge shows air pressure but regulator is unable to increase/decrease air pressure.	Dirty or defective air regulator	Clean or replace air regulator. See Clean Regulator procedure on page 23.
Output low on down stroke.	Open or worn intake valve.	Clear or service intake valve.
	High viscosity fluid.	Adjust intake spacers.
Output low on upstroke.	Open or worn piston valve or packings.	Clear piston valve; replace packings.
Erratic accelerated speed.	Fluid supply exhausted, clogged suction.	Refill supply and prime pump. Clean suction tube.
	High viscosity fluid.	Reduce viscosity; adjust intake spacers.
	Open or worn piston valve or packings.	Clear piston valve; replace packings.
	Open or worn intake valve.	Clear or service intake valve.
Runs sluggishly.	Possible icing.	Stop pump. Open De-Ice control.
Cycles or fails to hold pressure at stall.	Worn check valves or seals.	Service lower. See Remove Lower , page 24.
Air bubbles in fluid.	Loose suction line.	Tighten. Use compatible liquid thread sealant.
Poor finish or irregular spray pattern.	Incorrect fluid pressure at gun.	See gun manual; read fluid manufacturer's recommendations.
	Fluid is too thin or too thick.	Adjust fluid viscosity; read fluid manufacturer's recommendations.

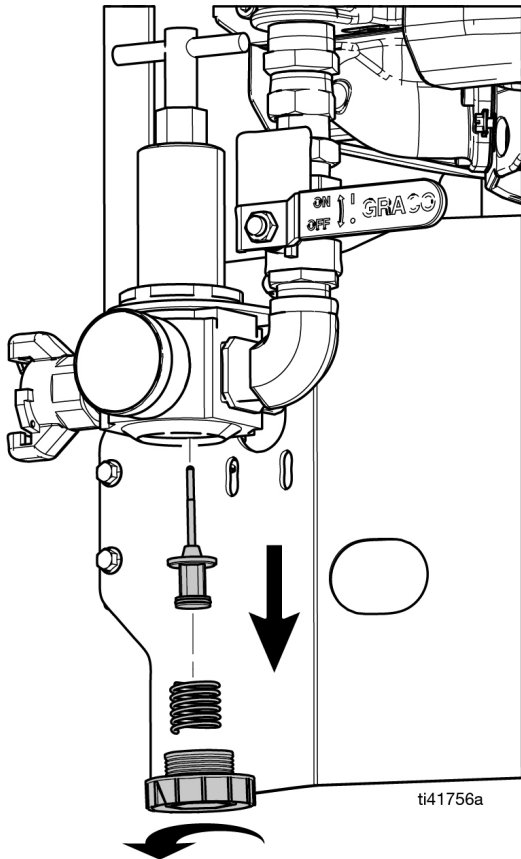
Repair

Clean Regulator

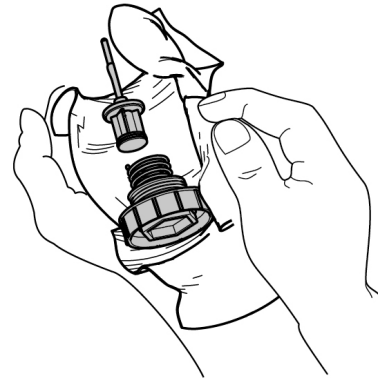
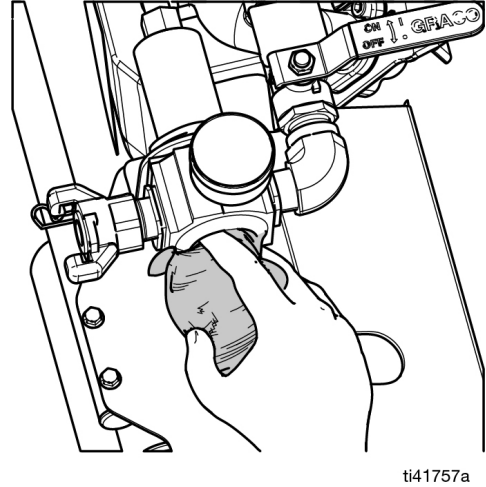
1. Perform **Pressure Relief Procedure**, page 11.
2. Turn off and relieve air pressure in the air supply hose.



3. Unthread lower portion of regulator to check for debris.



4. Remove debris above sealing surface on flat and in the inlet air passage.



5. Reinstall lower portion of regulator and regulator components.
6. If air supply cleanliness continues to be a problem, refer to manual 3A9127 for information on kits 19D649, 19D955, and 19D968.

Remove Lower

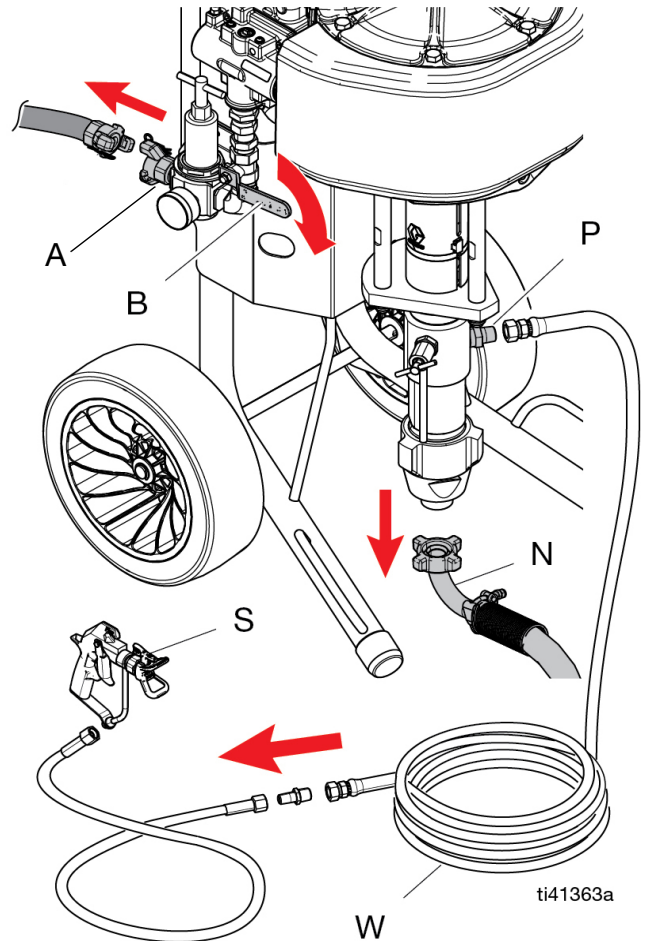
Required Tools:

- Set of adjustable wrenches
- Torque wrench
- Rubber mallet
- Thread lubricant
- Anti-seize lubricant 222955
- Loctite® 2760™ or equivalent
- Flathead screwdriver

Prepare to Service Lower

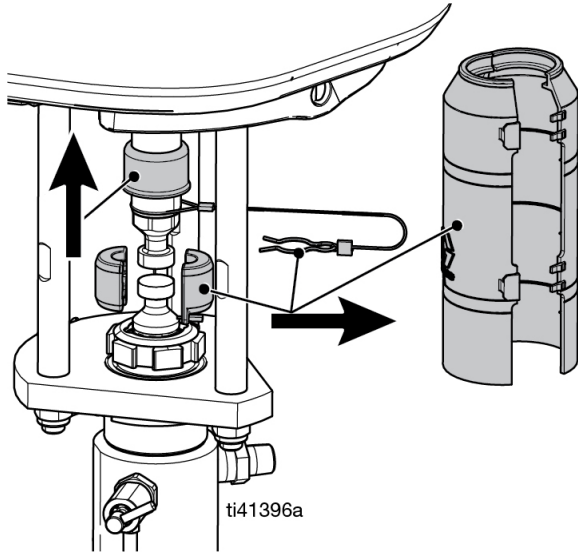
1. Perform the **Flush** procedure on page 13. Stop the pump at the bottom of its stroke.
2. Perform **Pressure Relief Procedure**, page 11.
3. Turn off and relieve air pressure in air supply hose.
4. Disconnect air hose.
5. Disconnect fluid hose (W). Hold pump outlet fitting (P) with a wrench to keep it from loosening while you disconnect fluid hose.

NOTE: Note the relative position of pump fluid outlet (P) to inlet of motor for easier reassembly alignment. If motor does not require service, leave it attached to its mounting.

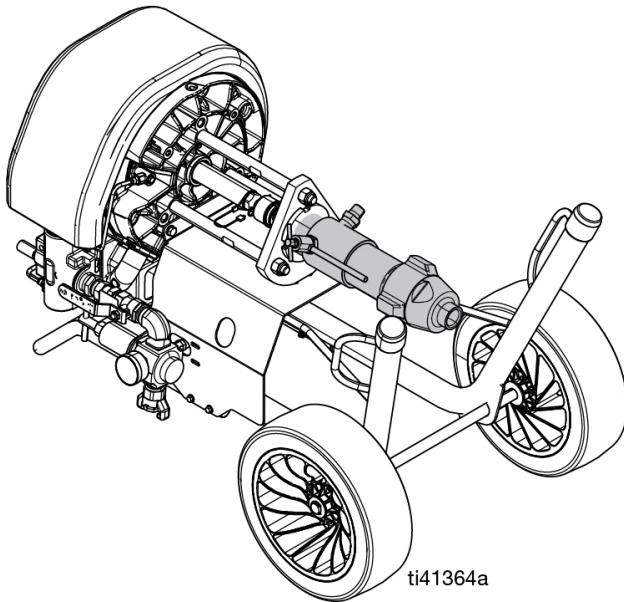


Remove Pump

1. Follow **Prepare to Service Lower**, page 24.
2. Use a flathead screwdriver to remove the pump guard (PG).
3. Remove rod coupling.

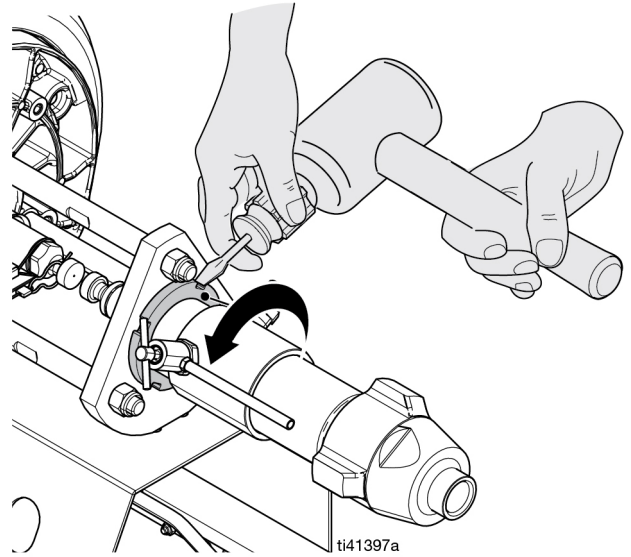


4. If using a cart-mounted unit, tip the cart onto its back.

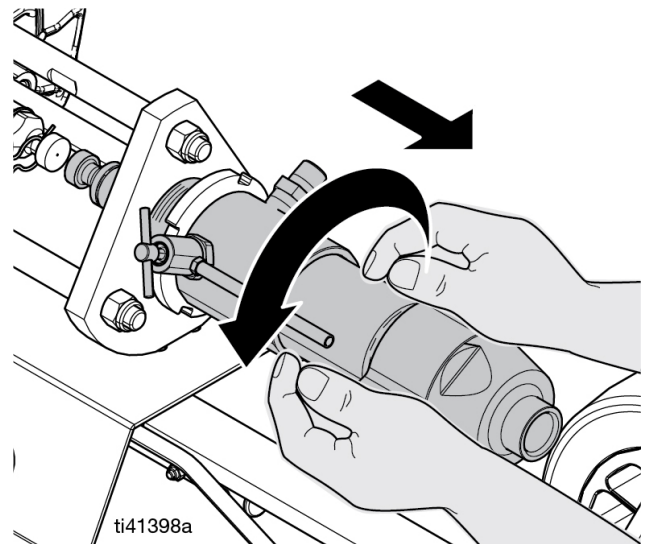


NOTE: Lay rags onto the floor to catch TSL that may spill out of the packing nut.

5. Loosen jam nut.

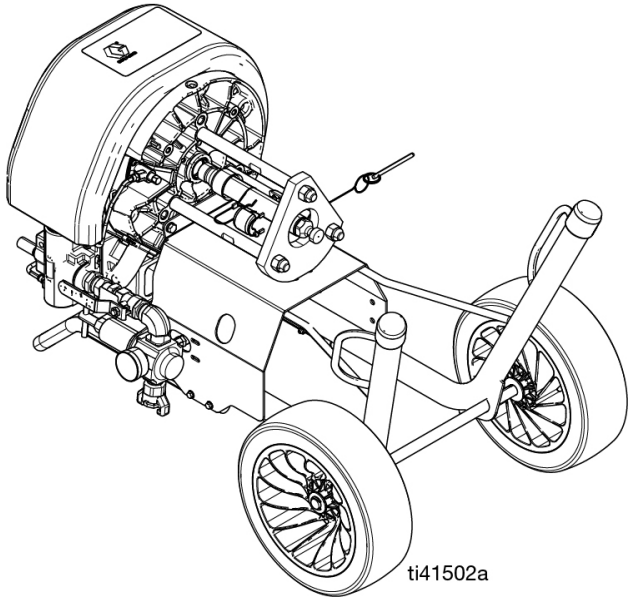


6. Spin pump to remove.

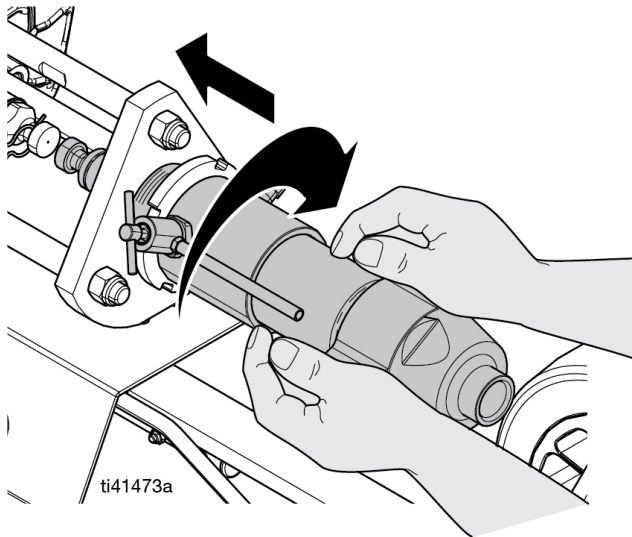


Install Pump

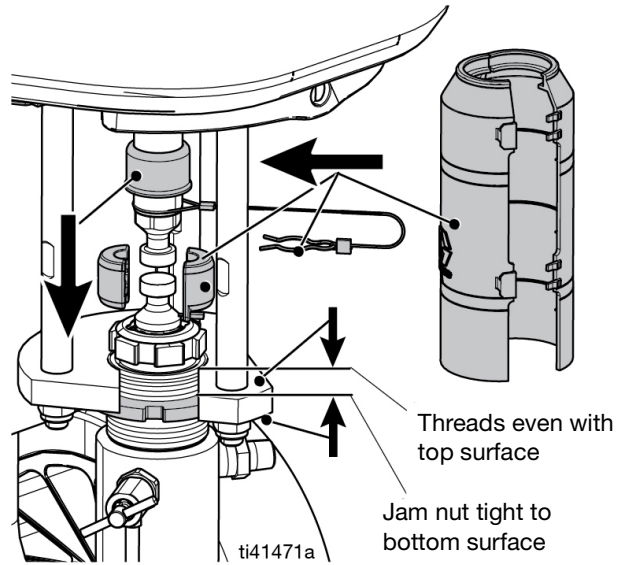
1. If using a cart-mounted unit, tip the cart onto its back.



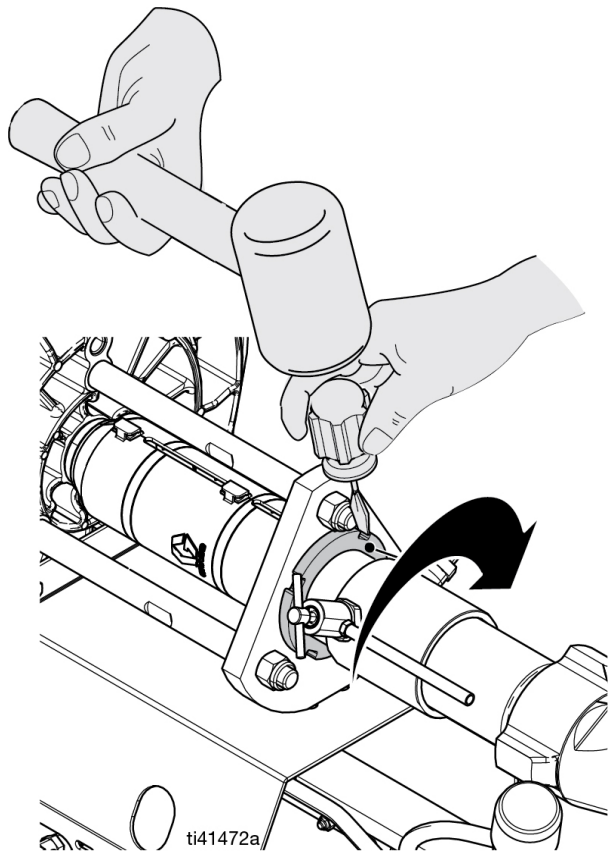
2. Install pump by threading it into place. Threads should be even with the top surface. Jam nut tight to bottom of surface.



3. Re-install rod coupling (CP) and pump guard (PG).



4. Tighten jam nut.



5. Refill packing nut with TSL.

Troubleshooting - Air Motor



NOTE: To find parts lists for the parts identified in the troubleshooting tables, see page numbers listed in the table below.

1. Perform **Pressure Relief Procedure**, page 11.

2. Check all possible causes and problems before disassembling pump.

NOTE: To determine if fluid hose or gun is obstructed, follow the **Pressure Relief Procedure**, page 11. Disconnect fluid hose and place a container at pump fluid outlet to catch any fluid. Turn on air power just enough to start pump. If pump starts, the obstruction is in fluid hose or gun.

Problem	Cause	Solution
Air motor will not run and there is no obvious exhaust	Check air supply	Supply air to motor inlet.
	Pump is locked up.	Disconnect or remove pump to verify motor operation.
	Ice broke loose in manifold and caught in air valve.	Turn off and exhaust air. Push top and bottom manual shuttle override buttons (R) back and forth until flush with base of valve cap (316). Restart motor.
Air motor doesn't run and large volume of air blows through exhaust outlet on either stroke.	Main motor piston o-ring (6) has failed or main valve. See below.	Replace piston o-ring (6). See Parts , page 36.
Air exhausts from rear outlet continuously when motor is stalled against fluid valve on one stroke or the other.	Shuttle valve cup (313) and plate (314) failure.	Replace shuttle valve cup (313) and plate (314).
Motor stalled at bottom of stroke with no exhaust at bottom pilot. No exhaust at top pilot.	Bottom pilot valve (D) is not exhausting. Usually ice in the pilot or pilot exhaust port.	Disconnect pilot line (L) for that pilot. If motor changes over, bottom pilot is plugged. Replace pilot valve and/or thaw ice that is blocking air signal.
	Metered air hole in main valve shuttle piston (304) is plugged.	Disconnect pilot line (L). If motor still doesn't change over, shuttle piston metering hole is plugged. Clean or replace shuttle valve piston assembly (304).
Motor stalled at bottom of stroke with exhaust at bottom pilot. Some exhaust at top pilot.	Top pilot or fittings are leaking air when not activated by motor piston.	Tighten fittings leak or replace top pilot valve (D).

Problem	Cause	Solution
Motor stalled at top of stroke with no exhaust at top pilot.	Top pilot valve (D) is not exhausting. Usually ice in the pilot or pilot exhaust port.	Disconnect pilot line for that pilot. If motor changes over, top pilot is plugged. Replace pilot valve and/or thaw ice that is blocking air signal.
	Metered air hole in main valve shuttle piston (304) is plugged.	Disconnect pilot line. If motor still doesn't change over, shuttle piston metering hole is plugged. Clean or replace shuttle valve piston assembly.
Motor stalled at top of stroke with exhaust at top pilot. Some exhaust at bottom pilot.	Bottom pilot or fittings are leaking air when not activated by motor piston.	Tighten fittings leak or replace bottom pilot valve (D).
Air motor "bounces" (does not fully complete its stroke) at top change over.	Leaking bottom pilot valve (D) or fitting.	Thaw any ice in pilot valve, or replace valve (D) if it is not ice.
Air motor "bounces" (does not fully complete its stroke) at bottom change over.	Leaking top pilot valve or fitting.	Thaw any ice in pilot valve, or replace valve (62) if it is not ice.
Air motor pauses at top change over.	Top pilot valve exhaust restricted by dirt or ice.	Swap pilot valve or clear exhaust port.
Air motor pauses at bottom change over.	Bottom pilot valve exhaust restricted by dirt or ice.	Swap pilot valve or clear exhaust port.
Motor runs slower and pump loses fluid pressure on one stroke only.	Ice has collected in air manifold passages, or valve.	Thaw or remove ice. Lower moisture content of compressed air. Reduce load on motor. See below.
Motor runs slower and pump loses fluid pressure on both strokes equally.	Ice has collected where exhaust expands from the shuttle valve plate manifold (E) into the muffler (C)	Open the de-ice bleed air valve (M) on the main shuttle valve. This will bleed some warm air through anytime air is supplied to the motor.

Air Motor Repair

Ice in Air Motor

When compressed air is exhausted, the sudden drop in pressure causes the air temperature to drop below the freezing point. This causes any water liquid or vapor to turn to ice.

Higher air pressures pack higher amounts of air and water vapor in each cycle and create more expansion and ice. Higher cycle rates also build up the ice and lower the motor temperature faster. It is important to select the correct motor and pump size to run at a lower pressure, and cycle slower.

Warm humid climates can produce higher levels of icing because of the higher humidity levels. Low ambient temperatures near freezing make it easier for the motor parts to drop below freezing.

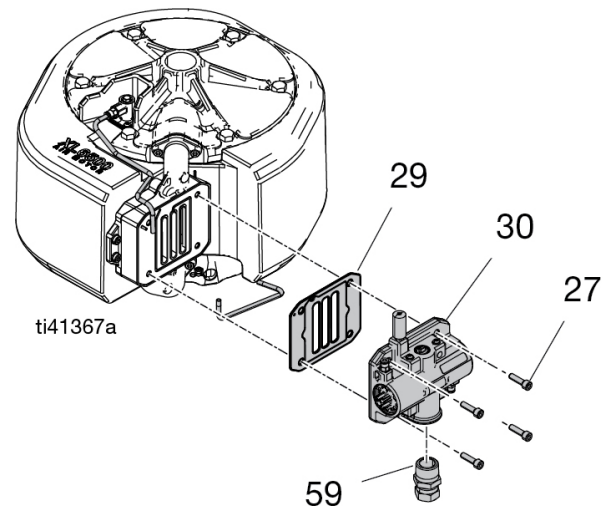
To minimize ice build-up:

- **Lower the dew point of the compressed air.** Use a refrigerated air dryer, coalescing filter, or desiccant filter to lower the water vapor content of the air.
- **Raise the compressed air temperature.** Warmer air going in helps the motor parts stay above freezing. Compressed air, especially at these volumes, is warm when compressed. Keep the air warm or stay near the compressor to reduce icing.
- Use the bleed air to clear ice build up.

Repair Air Valve



Replace Complete Air Valve



1. Stop the pump at the middle of its stroke. Follow the **Pressure Relief Procedure**, page 11.
2. Disconnect air line to the motor.
3. Disconnect the air line to the motor and the pilot valve lines to the air valve (30).
4. If installed on air motor, remove reed switch kit and solenoid from air valve (30).
5. Use a 6mm Allen wrench to remove screws (27). Remove the air valve (30) and gasket (29).
6. To install a replacement air valve, continue with step 7. To repair the air valve, go to **Disassemble the Air Valve**, page 30, step 1.
7. Align the new air valve gasket (29) on the manifold, then attach the air valve (30). Torque (27) to 80 +/- in-lb.

NOTE: Use grease to hold the gasket (29) in place. Be sure the bleed air hole in the gasket aligns with the bleed port in the valve manifold.

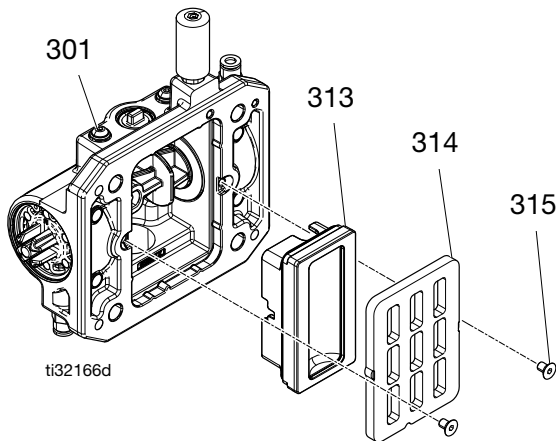
8. Reattach the solenoid bracket and the solenoid, if needed.
9. Use screw to attach the reed switch assembly to the new air valve, if needed. Be sure the sensor cables are connected properly (see pump or package manual).
10. Reconnect the air line and pilot valve lines to the motor.

Replace Seals or Rebuild Air Valve

Contact Graco to order kits for your pump.

Disassemble the Air Valve

1. Perform steps 1–6 from **Replace Complete Air Valve**, page 29.
2. Use a 3 mm hex key to remove two screws (315). Remove the valve plate (314).
3. Remove the one-piece cup assembly (313), and spring (310 - spring not shown).



4. Remove the retaining ring (320) from each end. Use the piston (304) to push the end caps (316) out of the ends. Remove end cap o-rings (317).
5. Remove manual shuttle override buttons (319) from inside end caps.
6. Remove manual shuttle override button o-rings (318).
7. Slide out the piston (304). Ramp (305) is adhered to the housing (301) and can be reused.

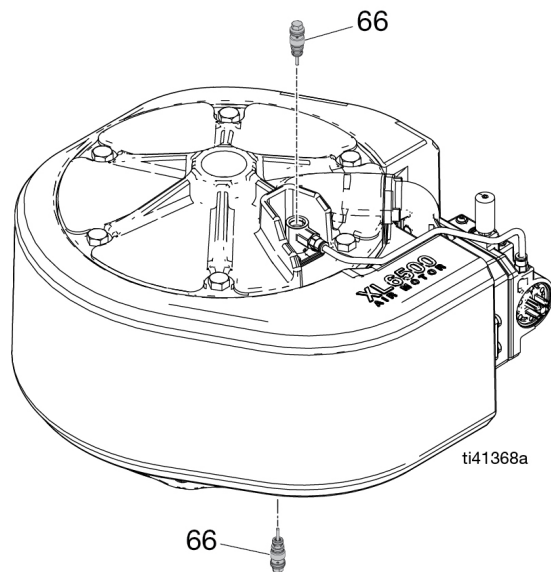
Reassemble the Air Valve

1. The piston (304) and u-cup seals (306) come pre-assembled. Lubricate the u-cup seals (306) on both ends of the piston (304) and install it in the housing.
2. Lubricate and install the detent assembly (307) into the piston, with the beveled center toward the detent cam.
3. Lubricate and install new o-rings (317) on end caps (316). Lubricate and install new o-rings (318) and manual shuttle override buttons (319) on end caps (316). Install the end caps into the housing.
4. Install a snap ring (320) on each end to hold end caps in place.
5. Install the spring (310).
6. Install the base cup (313).
7. Install the valve plate (314). Lightly tighten the screws (315) to hold it in place

Replace Pilot Valve

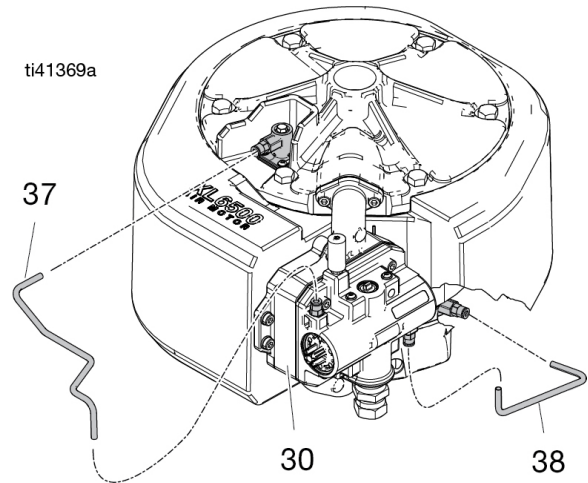


1. Stop the pump at the middle of its stroke. Relieve the pressure. See **Pressure Relief Procedure**, page 11.
2. Disconnect the air line to the motor.
3. Use a 1/2 in. or 13 mm socket wrench to remove the old pilot valves (62).
4. Lubricate and install the new pilot valves (66). Torque to 95-105 in-lb (11-12 N•m).
5. Reconnect air line to the motor.

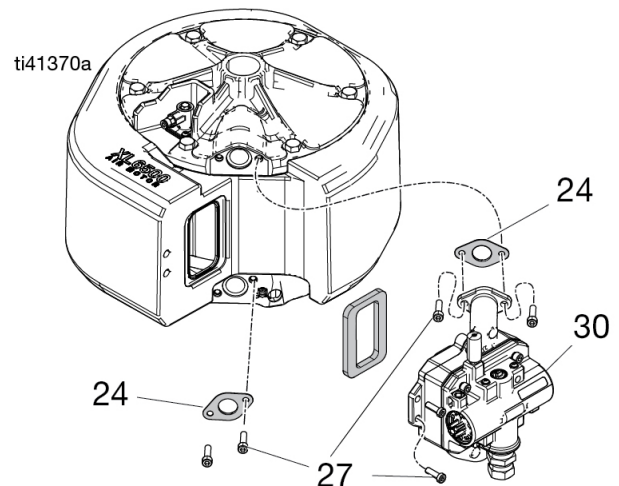


Disassemble the Air Motor

1. Follow steps in **Prepare to Service Lower**, page 24.
2. Disconnect pilot valve air lines (37, 38) from the air valve (30).



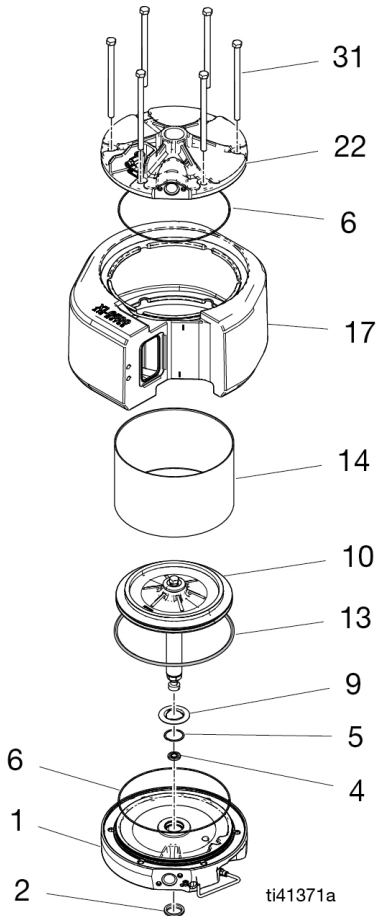
3. Remove six screws (27) and remove the manifold and valve (30) and two gaskets (24). Inspect foam for damage.



4. Use a 3/4 in. or 19 mm socket wrench to remove the bolts (31).
5. Remove the top cover (22). Remove the o-ring (6).
6. Remove the muffler (17) from around the cylinder. Remove the cylinder (14).
7. Slide the piston assembly (10) straight up off the bottom cover (1).

NOTE: The piston and rod are epoxied together and only available as an assembly (10). Do not attempt to take apart the piston and rod assembly.

8. Remove the o-ring (13) from around the piston (10).
9. Use a flathead screw driver to remove the retaining ring (5) from the bottom cover (1).
10. Remove the u-cup seal (4), and wiper (2) from the bottom cover (1).

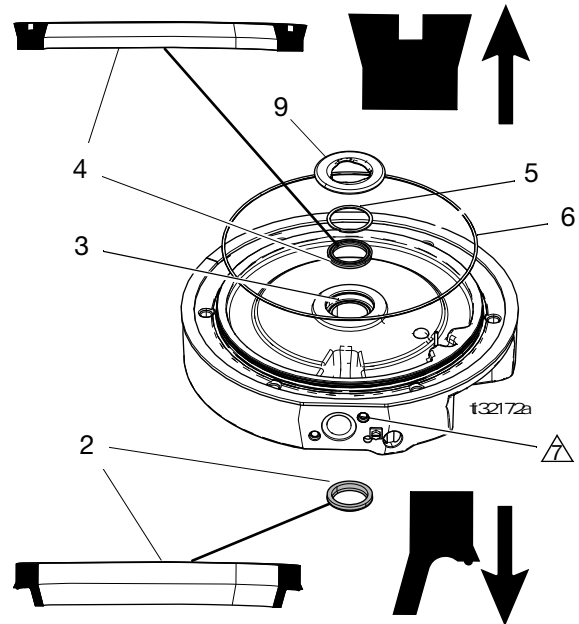


Reassemble the Air Motor

NOTE: For additional parts information, see **Parts**, page 36.

NOTE: The bearing (3) is pressed in the bottom cover (1) and is only available with Bottom End Cap Repair kit 17V316 (XL6500).

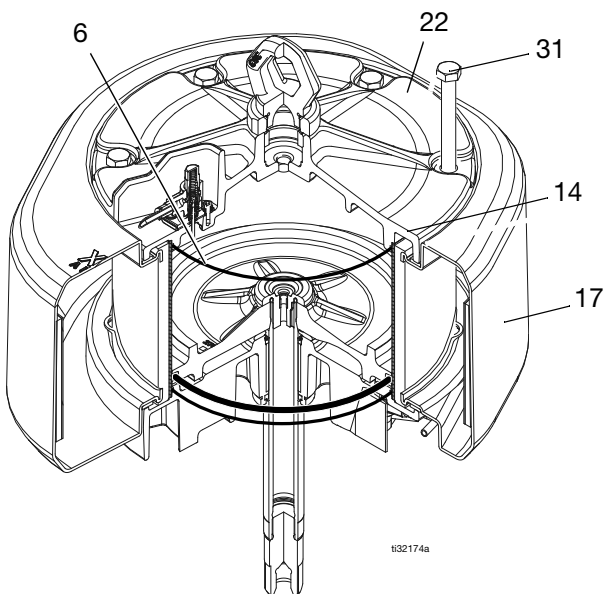
1. Lubricate and install wiper (2) on the bottom cover (1).
2. Lubricate and install new u-cup seal with flange (4), with the lips facing up, in the bottom cover (1) from the bottom. The seal will snap into place.



⚠ Install the muffler (17) around the cylinder (14) and in the groove on the bottom cover (1). Be sure the front opening is lined up with the flat on the bottom cover (1). There are two small lines molded into the muffler. These line up with the closest manifold (25), mount screw holes on the bottom cover (1), and the top cover (22). Be sure both gaskets (16) are on the muffler (17).

3. Install o-ring (6) in the bottom cover (1). Install retaining clip (5). Snap in the new bumper (9).
4. Lubricate the inside of the cylinder (14). Lower the cylinder onto the bottom cover (1).
5. Lubricate and install the o-ring (13) around the piston (10). It will fit loose.

6. Slide the piston assembly (10) down into the cylinder (14). Be sure the o-ring (13) stays in place. Work it carefully into the groove.
7. Lubricate and install the o-ring (6) on the top cover (22).
8. Carefully place the top cover (22) on the cylinder (14) and muffler (17). The flat vertical manifold surfaces of the top and bottom covers must align. Be sure the muffler (17) is in the groove on both the top and bottom covers.



9. Install two gaskets (24) and screws (27) halfway onto manifold (25).
10. Install bolts (31) halfway onto cover (1).
11. Torque screws (27) to 120 in-lb (13.6 N•m).
12. Torque cover bolts (31) evenly in a criss-cross pattern to 40 ft-lb (54.2 13.6 N•m).
13. Reconnect the pilot valve air lines (37) to air valve (30) and poppet valves (62).

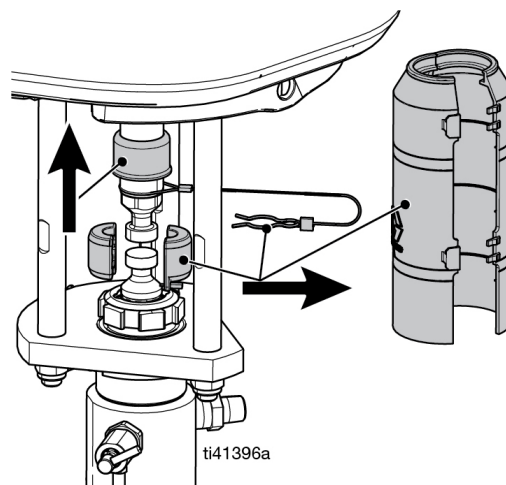
Piston Seal Replacement

Removal

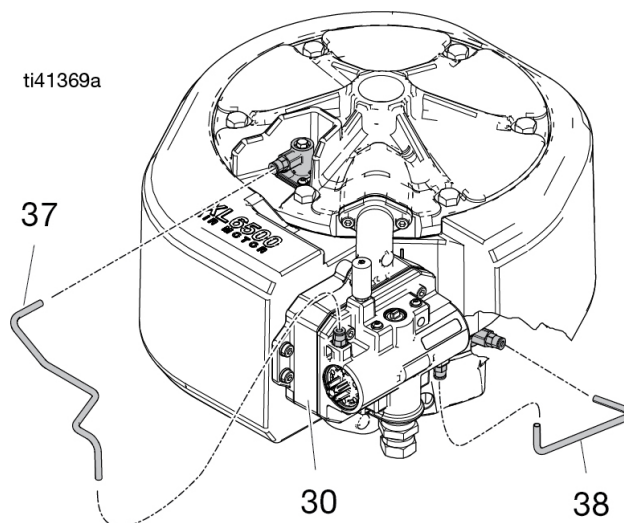
Refer to the illustration on the following page for the instructions below.



1. Follow the **Pressure Relief Procedure**, page 11.
2. Disconnect the air intake hose (AH) to the motor.
3. Loosen fitting connecting regulator assembly to air valve (30).
4. Remove pump guard (PG) and coupling (CP).

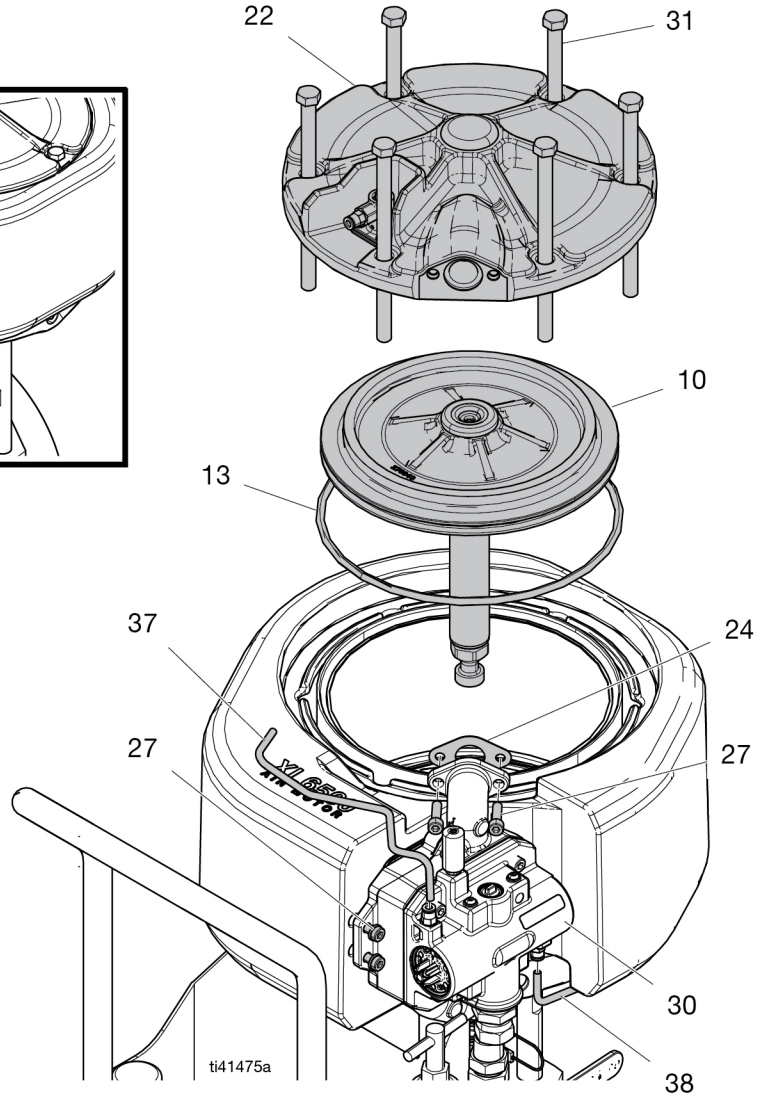
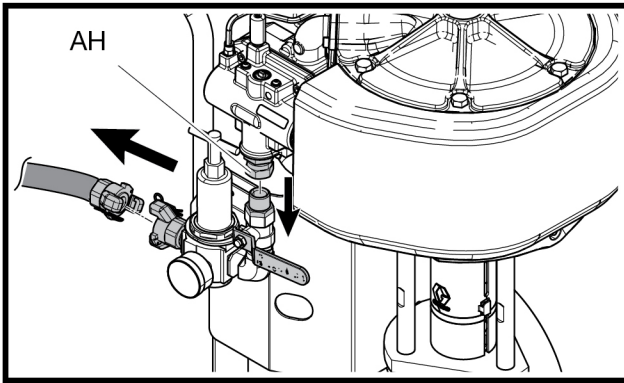


5. Remove pilot lines (37, 38).



- Loosen two screws (27), remove top two (27) screws, loosen lower two (27) screws to valve assembly (30) out of the way. Retain top gasket (24).

- Remove six bolts (31) on top of motor cover (22), then remove cover.
- Slide piston rod (7) up to push piston (10) out the top of the motor.
- Remove piston seal (13).



Replacement

NOTE: Use the image on the previous page for reference when following these steps.

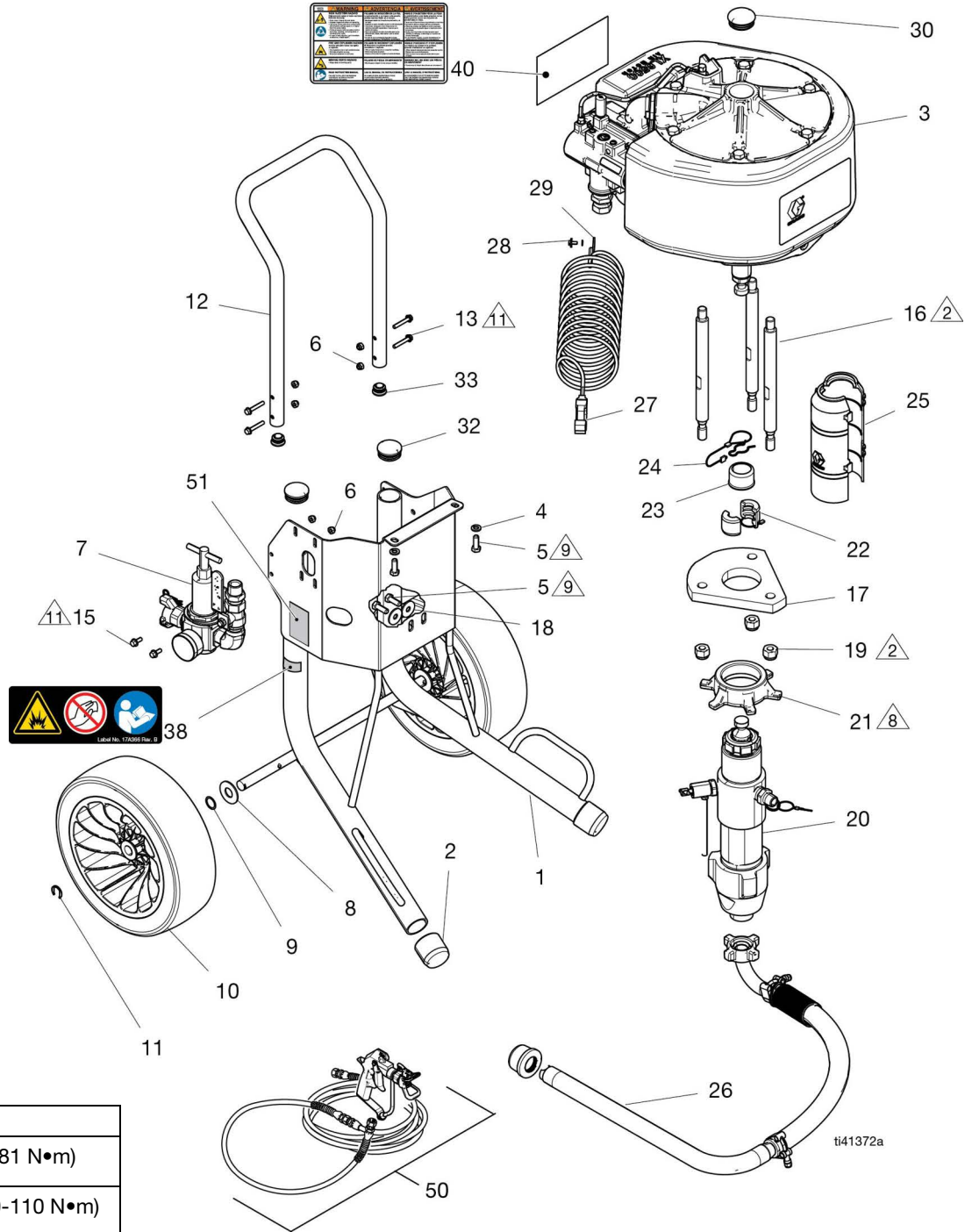
1. Use grease to lubricate piston seal (13).
2. Install piston seal (13) onto piston (10).

NOTE: O-ring (13) is larger than the piston groove. Carefully push excess O-ring into cylinder.

3. Install piston into cylinder (14).
4. Push piston rod (7) up. Guide piston seal (13) into motor cavity, then push piston seal down and into place with the piston.
5. Replace motor cover (22).
6. Re-install top gasket (24) and screws (27) halfway onto manifold (25).
7. Install bolts (31) halfway onto cover (1).
8. Torque screws (27) to 120 in-lb (13.6 N•m).
9. Torque cover bolts (31) evenly in a criss-cross pattern to 40 ft-lb (54.2 13.6 N•m).
10. Reconnect the pilot valve air lines (37) to air valve (30) and poppet valves (62).
11. Install coupling (CP) and pump guard (PG).
12. Install air intake hose (AH).

Parts

Contractor King Parts



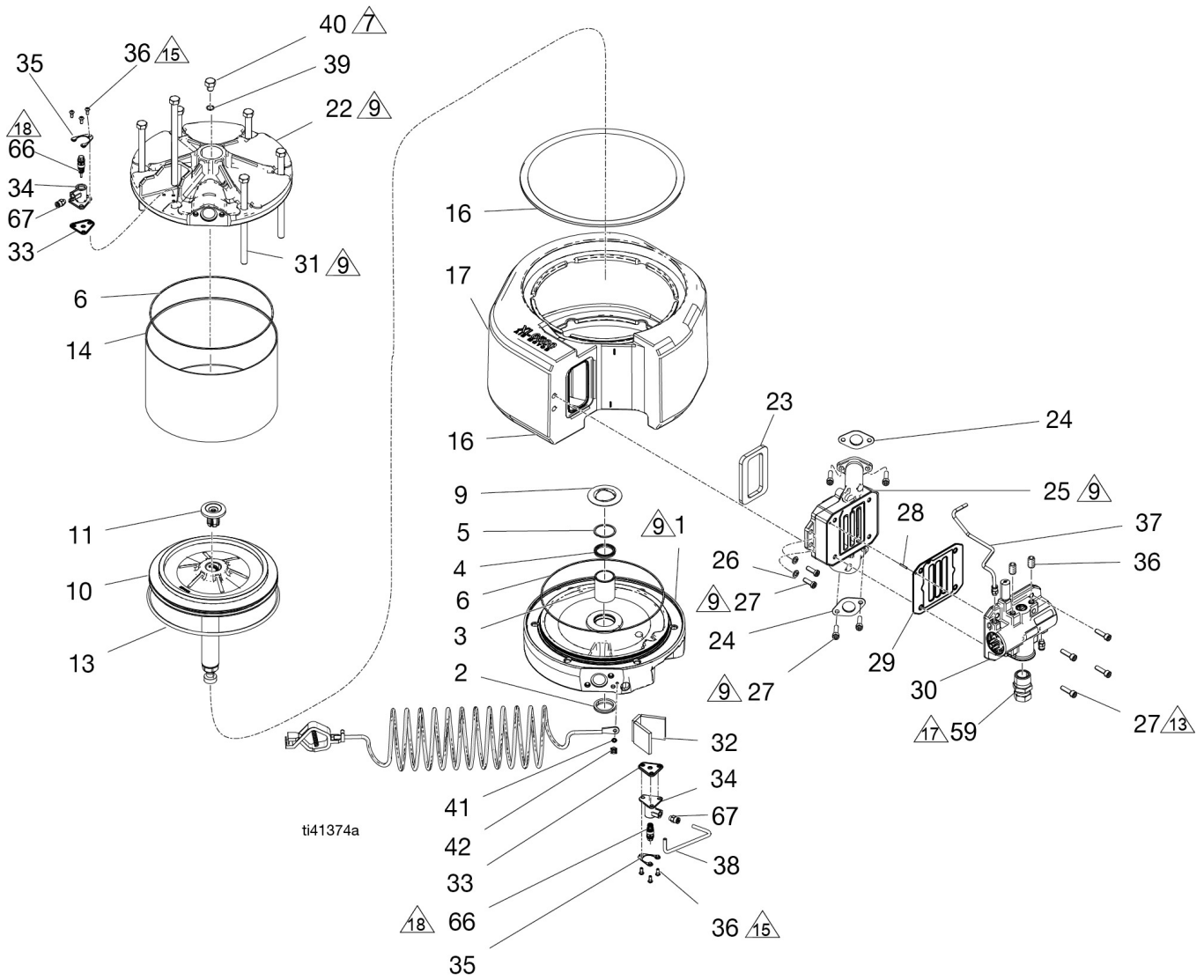
Ref.	Torque
2	50-60 ft-lb (68-81 N•m)
8	75-80 ft-lb (100-110 N•m)
9	17-23 ft-lb (23-31 N•m)
11	75-85 in-lb (9-10 N•m)

Contractor King Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
1	25U755	FRAME, Contractor King	1	23	197340	COVER, coupler	1
2	276974	CAP, leg	2	24	244820	CLIP, hairpin (w/ lanyard)	1
3		MOTOR, air, 6500, Contractor	1	25	19B967	GUARD, rod coupler, King	2
4	100133	WASHER, lock, 3/8	2			Electric	
5	100101	SCREW, cap, hex hd.	4	26	25D515	HOSE, suction, 5 gallon to 1-1/4	1
6	102040	NUT, lock, hex	6			NPT	
7	18F799	MODULE, air controls, King-C	1	27	244524	WIRE, ground assembly with	1
8	156306	WASHER, flat	2			clamp	
9	116038	WASHER, wave spring	2	30	113361	CAP, tube, round	1
10	17E687	TIRE, polyurethane, black, 13 in.	2	32	19D633	PLUG, tube 1-3/4 in. O.D.	2
11	15E891	CLIP, retaining	2	33	19D632	PLUG, tube. 1 in. O.D.	2
12	273322	HANDLE, chrome, Contractor	1	38▲	17A366	LABEL, safety	2
		King		40▲		LABEL, safety	
13	114988	SCREW, hex, 1/4-20x1.50	4		15F674	LABEL, safety,	1
15	131327	BOLT, flange hd., serrated, 1/4	2			English/French/Spanish	
16	19D628	ROD, tie, Contractor King	3		15F973	LABEL, warning, symbols	1
17	18F695	ADAPTER, mount, pump	1		176712	LABEL, warning,	1
18	108851	WASHER, plain	2			Chinese/Japanese/Korean	
19	101712	NUT, lock	3	40		LABEL, made in USA	1
20		LOWER, Contractor King	1	50	See	KIT, gun and hose	1
	19D951	180 cc			page 3		
	19D952	220 cc		51	18F864	LABEL, instructions, regulator	1
	19D954	290 cc					
21	19F488	NUT, retaining	1				
22	244819	COUPLING, assembly	1				

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

XL6500 Air Motor Parts



Ref.	Torque
7	33 +/- 3 ft-lb (45 +/- 4 N•m)
9	40 +/- 3 ft-lb (61 +/- 7 N•m)
13	80 +/- 5 in-lb (108 +/- 7 N•m)
15	12 +/- 3 in-lb (16 +/- 4 N•m)
18	80 +/- 5 in-lb (108 +/- 7 N•m)

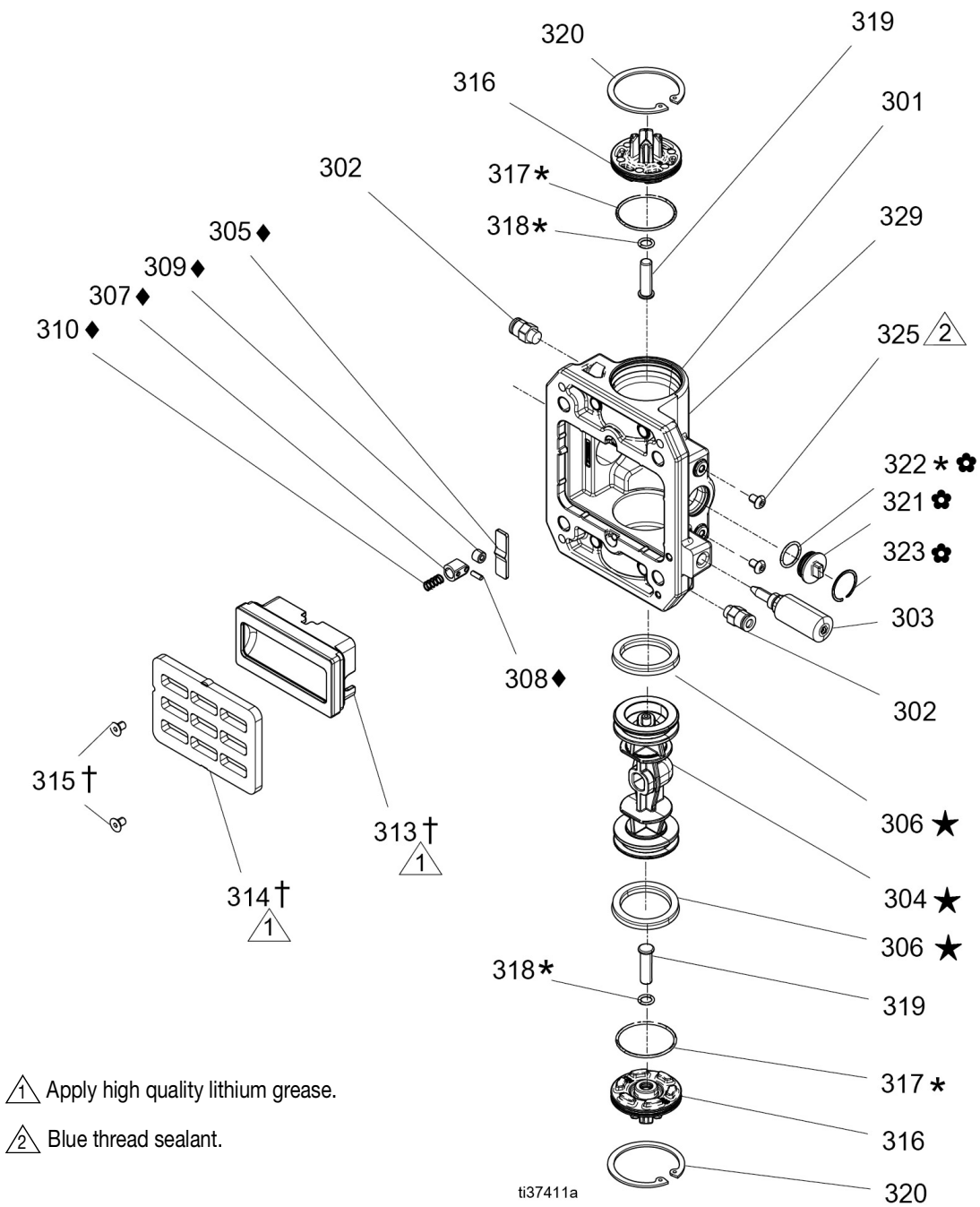
XL6500 Air Motor Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
1	17V316	COVER, bottom, motor, XL6500, mach, <i>includes 2, 3, 4, 5</i>	1	28	295447	PIN, dowel	1
2★	17M826	SEAL, rod, wiper, 1.375 OD shaft	1	29❖★	17R950	GASKET, valve,	1
3		BEARING, sleeve, 1.375 ID, 1.625 OD	1	30	17V344	VALVE, air, XL motor, <i>includes 29</i>	1
4★	17U129	PACKING, u-cup, 1.375 ID x 1.687 OD	1	31	119050	BOLT, cap, hex head	6
5★	17U128	RING, retaining, flat spiral	1	32	17S075	FOAM, temp barrier, poppet	1
6★	17N415	O-RING, size 178, buna, nitrile	2	33★	17M851	GASKET, poppet housing	2
7		SHAFT, piston rod motor	1	34	17V571	KIT, poppet housing, <i>includes 33, 34, 35, 36, 67</i>	2
9	277366	BUMPER, motor, lower	1	35	17S929	ISOLATOR, poppet housing	2
10	18F797	KIT, piston, motor, XL6500	1	36	17V969	SCREW, shcs m5 X 12	6
11	15G478	BUMPER, piston	1	37	17R463	TUBE, pilot air, top, XL6500	1
13★	122675	O-RING, packing, 10.125 ID	1	38	19D631	TUBE, pilot air, bottom, XL6500	1
14	17V314	CYLINDER, motor, 6500, fiberglass	1	39	C20145	PACKING, O-ring	1
16★	17V001	FOAM, strip, vinyl, 1/2 x 3/16	2	40	133924	BOLT, cap, hex hd.	1
17	18F798	KIT, muffler assembly	1	41	111307	WASHER, lock, external	1
22	24Z589	COVER, top, motor, XL6500	1	42	116343	SCREW, ground	1
23★	17N539	GASKET, manifold exhaust	1	59	15F073	FITTING, union, reducing, 1 in. x 3/4 in.	1
24★	17M850	GASKET, manifold	2	66	24Z550	VALVE, pilot	2
25	24Z591	MANIFOLD, exhaust, XL6500	1	67	115671	FITTING, connector, male	2
26	107542	WASHER, lock, spring	2				
27	18D584	SCREW, cap, sch	10				

❖ Gasket included in 17V344.

★ Part included in soft parts kit 17V957

Air Valve Parts (17V344 - Standard Valve)



Air Valve Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
301		HOUSING, air valve, XL, machined	1	317*	104010	PACKING, o-ring	2
302	115671	FITTING, connector, male	2	318*	154741	PACKING, o-ring	2
303	24Z604	VALVE, needle, assembly	1	319	17A511	PIN, reset, XL air valve	2
304★		PISTON, air valve, XL	1	320	557832	RING, retaining	2
305◆		CAM, detent, XL	1	321✿		PLUG, valve, molded	1
306★		PACKING, u-cup	2	322*✿	104130	PACKING, o-ring	1
307◆		PISTON, detent	1	323✿		RING, retaining	1
308◆		PIN, detent	1	325	117026	SCREW, shcs M5 X 12	2
309◆		ROLLER, detent	1	326		LUBRICANT, grease	1
310◆		SPRING, detent	1	327		SEALANT, anaerobic, blue	1
313†		BASE, CUP, VALVE, AIR, XL, lapped	1	328		ADHESIVE, cyanoacrylate	1
314†		PLATE, low noise, XL, lapped	1			* Included in o-ring Kit 24X563.	
		PLATE, valve, air, XL, lapped	1			† Included in kit 24X564	
315†		SCREW, flat head, M5, thread form	2			◆ Included in kit 24X567	
316	17N617	CAP, valve, air, XL, machined	2			✿ Included in kit 24X568	
						★ Included in kit 24X569	

Performance Charts

Calculate Fluid Outlet Pressure

To calculate fluid outlet pressure (psi/MPa/bar) at a specific fluid flow (gpm/lpm) and operating air pressure (psi/MPa/bar), use the following instructions and pump data charts.

1. Locate desired flow along the bottom of the chart.
2. Follow the vertical line up to the intersection with the selected fluid outlet pressure curve. Follow left to scale to read fluid outlet pressure.

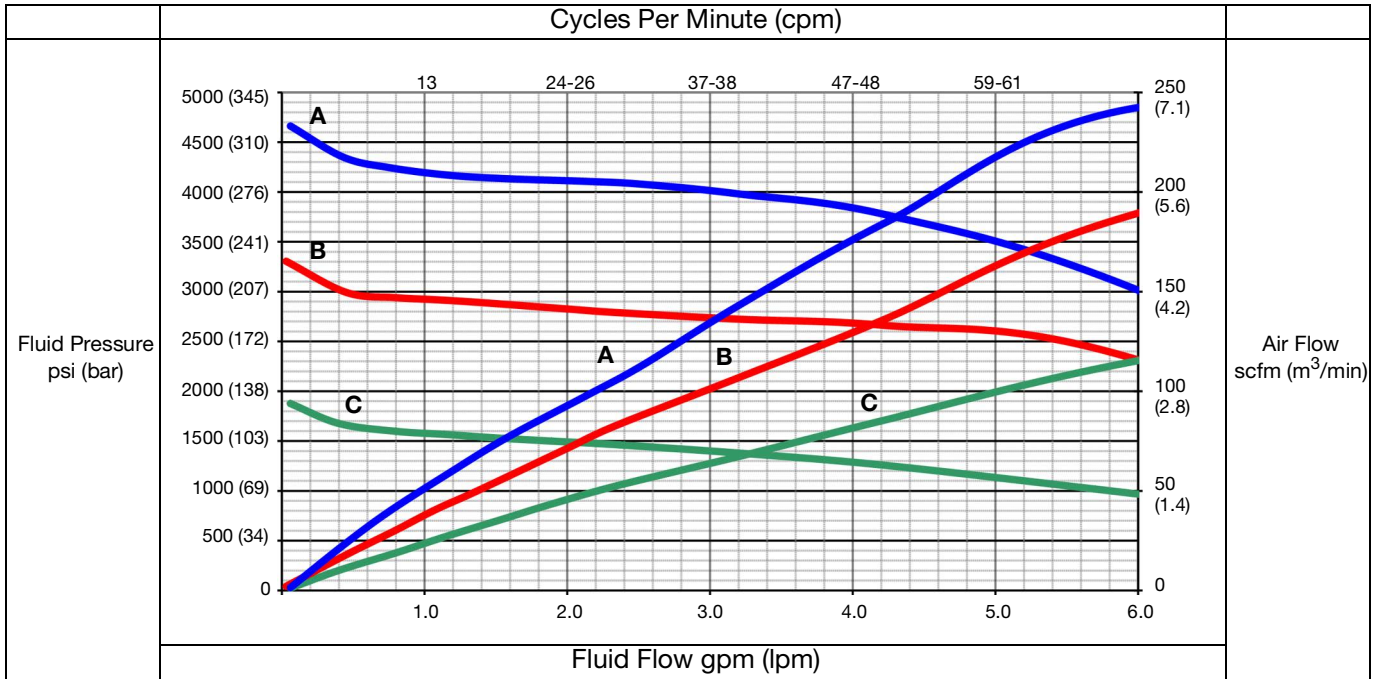
Calculate Pump Air Flow/Consumption

To calculate pump air/consumption (scfm or m³/min) at a specific fluid flow (gpm/lpm) and air pressure (psi/MPa/bar), use the following instructions and pump data charts.

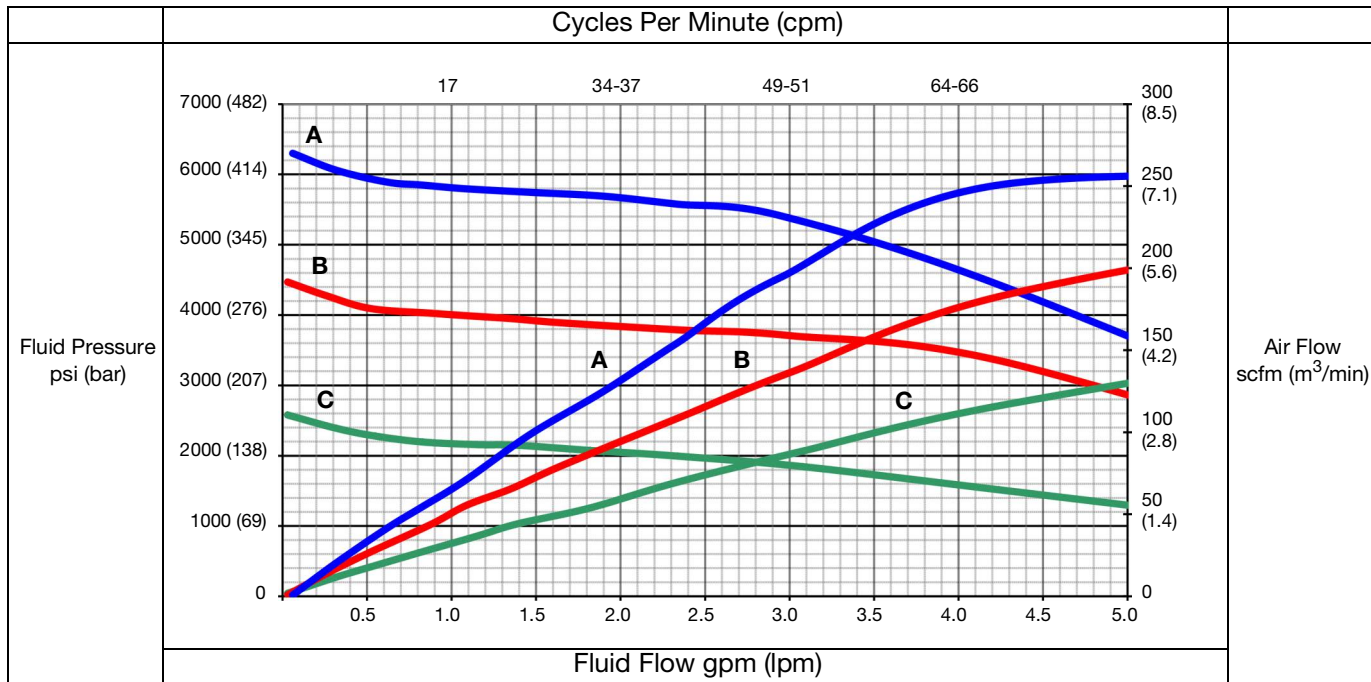
1. Locate desired flow along the bottom of the chart.
2. Follow the vertical line up to the intersection with the selected fluid outlet pressure curve. Follow right to scale to read air flow consumption.

Ref.	Pressure
A	100 psi (0.7 MPa, 7 bar)
B	70 psi (480 MPa, 4.8 bar)
C	40 psi (280 MPa, 2.8 bar)

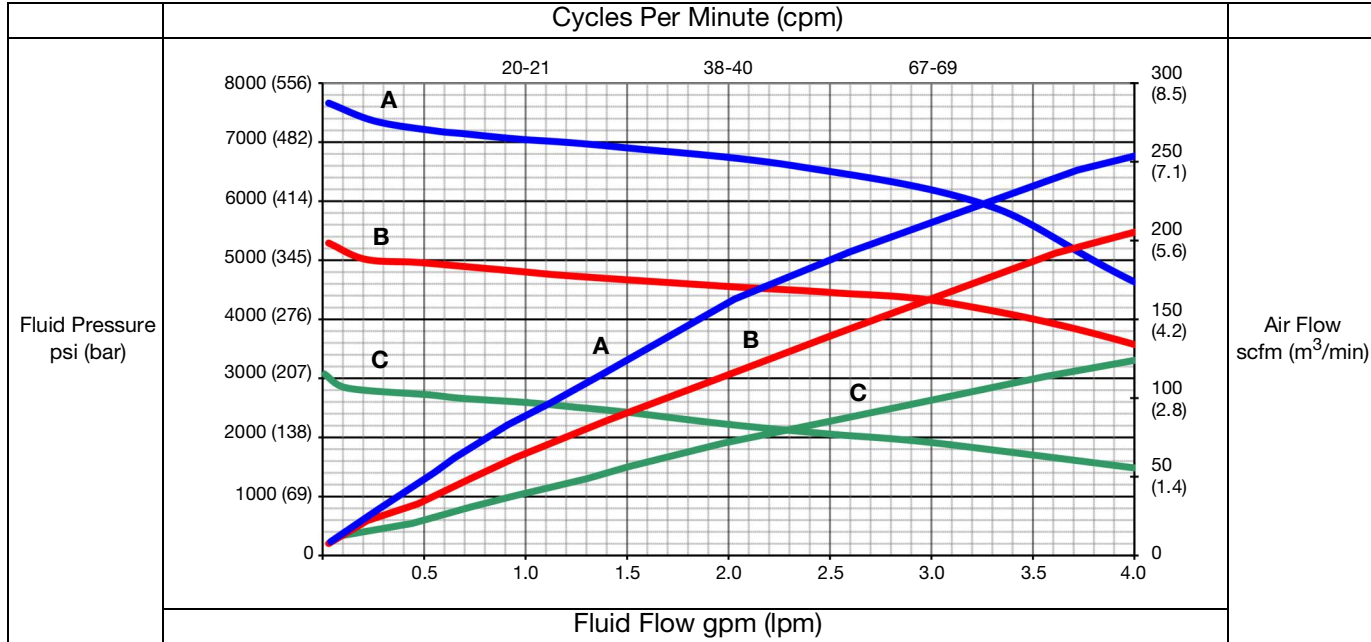
45:1



60:1



70:1



Technical Specifications

Contractor King Spray Packages		
	US	Metric
Maximum air inlet pressure to sprayer	150 psi	1 MPa, 10.3 bar
Stroke length (nominal)	4.75 in.	12.0 cm
Maximum pump speed (Do not exceed maximum recommended speed of fluid pump, to prevent premature pump wear and do not dry store the unit)	60 cycles per minute	
Ambient Temperature	32 - 140 °F	0 - 60 °C
Maximum Fluid Temperature	180 °F	82 °C
Sound Data		
Sound Power - Measured at 70 psi (0.48 MPa, 4.8 bar) at 15 cpm per ISO9614-2	106 dBA	
Sound Pressure - Tested at 3.28 ft (1 meter) from equipment per ISO9614-2	97 dBA	
Wetted Parts		
Carbon steel; ally steel; 304, 440 and 17-4 PH grades of stainless steel; zinc and nickel plating; ductile iron; tungsten carbide; PTFE; leather		
Fluid Inlet Size		
	1 1/4 npt(m)	
Fluid Outlet Size (Number of Outlets)		
	(1) 3/4 in. npt(f)	
Maximum Air Operating Pressure		
	100 psi	0.7 MPa, 7 bar
Maximum Fluid Working Pressure		
45:1	4500 psi	31.0 MPa, 310 bar
60:1	6000 psi	41.7 MPa, 417 bar
70:1	7250 psi	50.0 MPa, 500 bar
Weight		
45:1	142 lbs	65 kg
60:1	147 lbs	67 kg
70:1	149 lbs	68 kg
Dimensions		
Length	25.5 in.	64.8 cm
Width	24.25 in.	61.6 cm
Height	39.5 in.	100.4 cm
Notes		
All trademarks or registered trademarks are the property of their respective owners.		

Storage Time	Indefinite as long as parts/components are replaced according to Storage Maintenance schedule and storage procedures specified in manual are followed.				
Lifetime	Lifetime varies with use, materials sprayed, storage methods, and maintenance. Life minimum is 25 years.				
Graco Date Code/Serial Code	Month	Year (2nd and 3rd characters)	Series (4th character)	Part Number (5th-10th)	Series (11th-16th)
Example Date Code: A16A	A = January	16 = 2016	A = serial control number		
Example Serial Code: L16A232749000102	L = December	16 = 2016	A = serial control number	6 digit alphanumeric part number	6 digit sequential serial number

California Proposition 65

CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

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

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Original instructions. This manual contains English. MM 3A9121

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

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