INSTRUCTION MANUAL

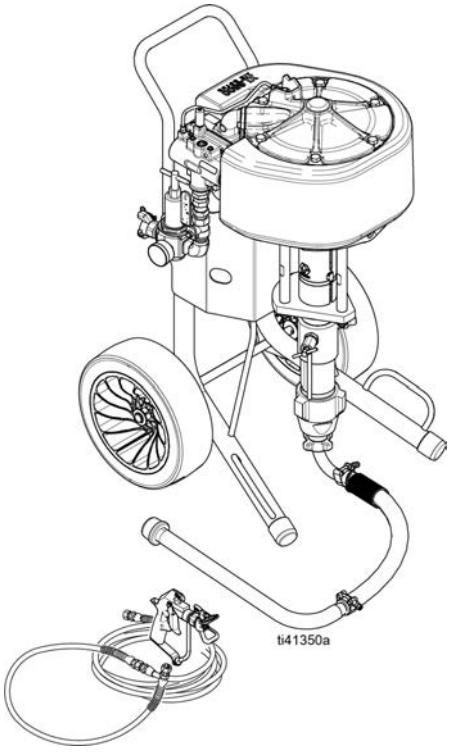
MANUAL NUMBER X011336 | REVISION A | ENGLISH (US)

Contractor King™ Sprayers and Sprayer Packages

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.



graco.com/contact

MOVING MATERIALS THAT MATTER

CONTENTS

Models 3
Related Manuals 5
Translated Manuals 6
Safety Symbols 7
Warnings 8
Technical Specifications 11
Component Identification 13
System Components 15
Grounding 16
Setup 17
Pressure Relief Procedure 19
Clear Tip Clog 21
Flush 22
Prime 25
Spray 27
Shutdown 28
Maintenance 29
Preventative Maintenance Schedule 29
Daily Maintenance 29
Lifetime Service Maintenance 29
Corrosion Protection 29
Motor Lubrication 29
Add Lubrication 30
Recycling and Disposal 31
End of Life Disposal 31
Run Motor Manually 32
Troubleshooting - General 33
Repair 37
Clean Regulator 37
Remove Lower 39
Prepare to Service Lower 39
Remove Pump 40
Install Pump 41
Air Motor Repair 42
Ice in Air Motor 42
Repair Air Valve 42
Replace Pilot Valve 44
Disassemble the Air Motor 44
Reassemble the Air Motor 45
Piston Seal Replacement 46
Contractor King™ Sprayers Parts 49
Performance Charts 55
Calculate Fluid Outlet Pressure 55
Calculate Pump Air Flow/Consumption 55
45:1 55
60:1 56
70:1 56
California Proposition 65 57

MODELS

The part numbers reflect distinct features and characteristics of the Contractor King™ Sprayers and Sprayer Packages.

CONTRACTOR KING™ SPRAYERS AND SPRAYER PACKAGES MODELS AND APPROVALS

Maximum Working Fluid Pressure: 4500 psi (31 MPa, 310 bar)

SPRAYER MODEL	DESCRIPTION	GUN	HOSE (WHIP HOSE)	PRESSURE RATIO	PUMP SIZE
279005	Bare	N/A	N/A	45:1	290 cc
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			

Maximum Working Fluid Pressure: 6000 psi (41.7 MPa, 417 bar)

SPRAYER MODEL	DESCRIPTION	GUN	HOSE (WHIP HOSE)	PRESSURE RATIO	PUMP SIZE
279010	Bare	N/A	N/A	60:1	220 cc
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			

Maximum Working Fluid Pressure: 7250 psi (50 MPa, 500 bar)

SPRAYER MODEL	DESCRIPTION	GUN	HOSE (WHIP HOSE)	PRESSURE RATIO	PUMP SIZE
279014	Complete	Silver HP - 2 finger trigger	3/8 in. x 50 ft (1/4 in. x 6 ft)	70:1	180 cc
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			

AGENCY APPORVALS

II 2 G Ex h IIA 230°C (T2) Gb X

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)

RELATED MANUALS

Additional documents are available to support the operation, repair, and maintenance of the Contractor King™ Sprayers and Sprayer Packages. Find English manuals and any available translations at www.graco.com.

Table 2-1: Related Manuals for Contractor King™ Sprayers and Sprayer Packages Instructions Manual X011336

ENGLISH MANUAL	DESCRIPTION
311254	Silver Plus, Silver Plus HP, and Flex Plus™ Airless Spray Guns, Instructions
3A9122	Contractor King Displacement Pumps, Repair
333507	Hopper Installation Kit, Instructions
3A9126	Zinc Circulation Kit for King® and Contractor King™ Sprayers - 4500 psi (1.03 MPa, 10.3 bar), Accessory
3A9127	Air Filter, Lubricator, and Regulator Kits for Contractor King™ Sprayers, Accessory
3A9129	Lift Ring Kit for Contractor King™ Sprayers, Accessory
3A9128	Paint Filter Kit for Contractor King™ Sprayers, Accessory
3A2954	VISCON® HF High Flow, High Pressure Fluid Heater, Instructions
309524	VISCON® HP High Pressure Fluid Heater, Instructions - Parts
3A9161	Heater Mounting Kit forContractor King™ Sprayers, Accessory

TRANSLATED MANUALS

Additional language documents are available to support all regions where the Contractor King™ Sprayers and Sprayer Packages is sold. Find any available translations at www.graco.com.

Table 2-2: Translations for Contractor King™ Sprayers and Sprayer Packages Instructions Manual

LANGUAGE	MANUAL NUMBER
English	X011336EN
French	X011336FR
Spanish	X011336ES
Danish	X011336DA
Dutch	X011336NL
German	X011336DE
Italian	X011336IT
Norwegian	X011336NO
Polish	X011336PL
Portuguese	X011336PT
Swedish	X011336SV
Turkish	X011336TR
Chinese	X011336ZH
Japanese	X011336JA
Korean	X011336KO

SAFETY SYMBOLS

The following safety symbols appear throughout this manual and on warning labels. Read the table below to understand what each symbol means.

SYMBOL	MEANING
	Equipment Misuse Hazard
	Fire and Explosion Hazard
	Moving Parts Hazard
	Skin Injection Hazard
	Skin Injection Hazard
	Splash Hazard
	Toxic Fluid or Fumes Hazard
	Do Not Place Hands or Other Body Parts Near Fluid Outlet
	Do Not Put Hand in Front of Spray Tip

SYMBOL	MEANING
	Do Not Stop Leaks with Hand, Body, Glove or Rag
	Do Not Wipe with a Dry Cloth
	Eliminate Ignition Sources
	Follow Pressure Relief Procedure
	Ground Equipment
	Read Manual
	Ventilate Work Area
	Wear Personal Protective Equipment

Safety Alert Symbol

This symbol indicates: Attention! Become Alert! Look for this symbol throughout the manual to indicate important safety messages.

WARNINGS

The following warnings apply throughout this manual. Read, understand, and follow the warnings before using this equipment. Failure to follow these warnings can result in serious injury.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

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:

- 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.

FIRE AND EXPLOSION HAZARD

Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:

- 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.

⚠ WARNING

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 overbend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

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.

TECHNICAL SPECIFICATIONS

The table provides important information related to the Contractor King™ Sprayers and Sprayer Packages, including product attributes, measurements, and performance characteristics that support the use of the equipment.

Table 5-1: Technical Specifications for Contractor King™ Sprayers and Sprayer 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)		
	3/4 in. NPT(f) (1)	
Maximum Air Operating Pressure		
	100 psi	0.7 MPa, 7 bar
Maximum Fluid Working Pressure		
45:1	4500 psi	31 MPa, 310 bar
60:1	6000 psi	41.7 MPa, 417 bar
70:1	7250 psi	50 MPa, 500 bar
Weight		
45:1	142 lb	65 kg
60:1	147 lb	67 kg

	US	METRIC
70:1	149 lb	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.		

COMPONENT IDENTIFICATION

The diagram highlights the controls and features on the Contractor King™ Sprayers and Sprayer Packages that are used during typical operation.

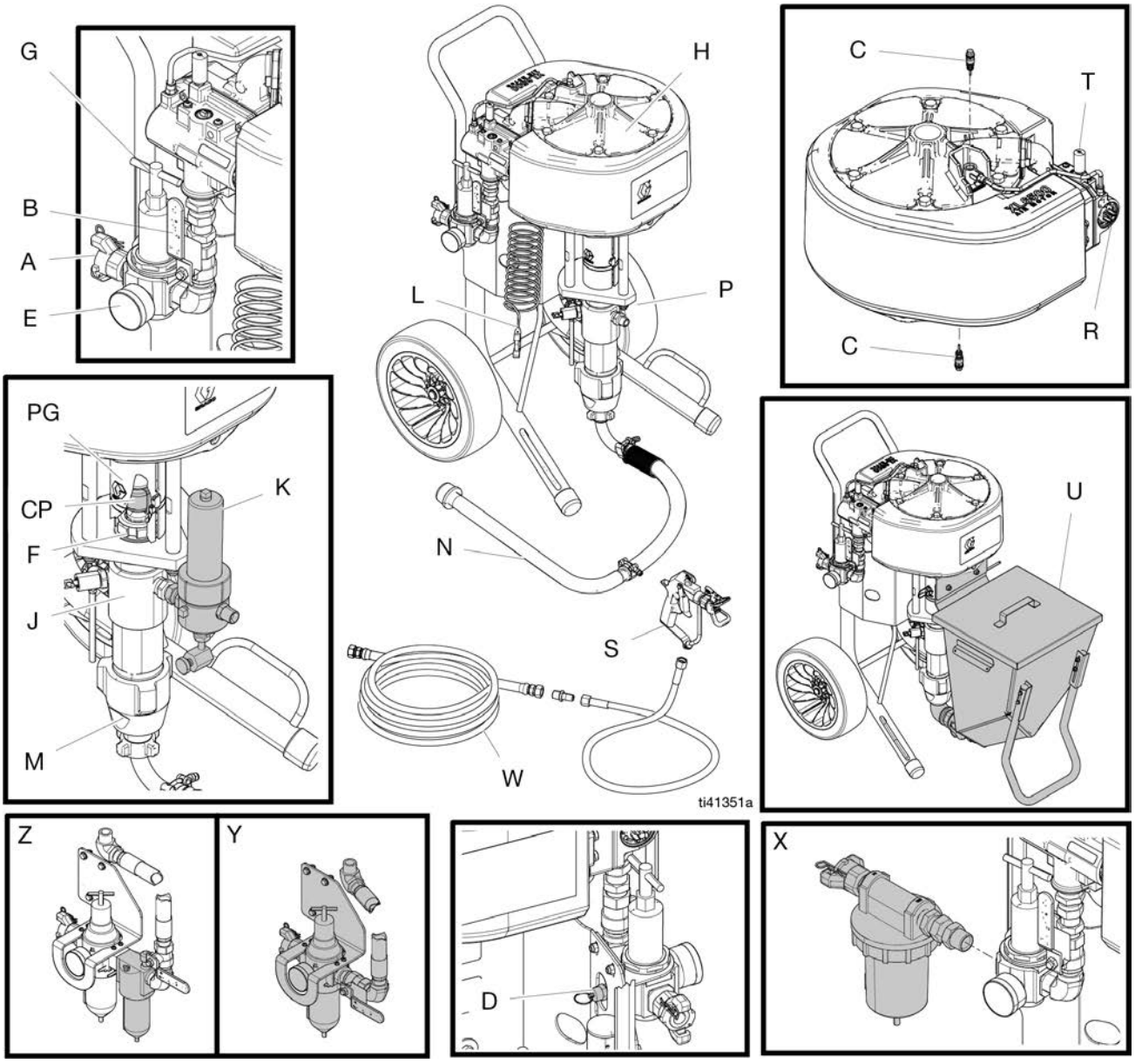


Figure 6-1: Contractor King™ Sprayers and Sprayer Packages Diagram

KEY	
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 Knob
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)

BLEED TYPE MASTER AIR VALVE (B)

(This component is required, do not remove)

⚠ WARNING

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** 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

Properly ground the Contractor King™ Sprayers and Sprayer Packages to help ensure correct operation.

⚠ WARNING

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.

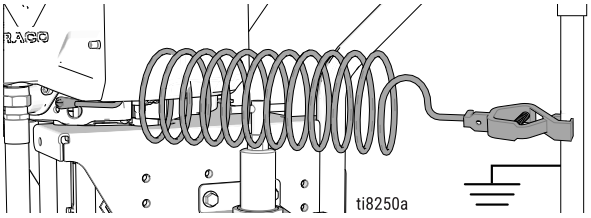
To maintain grounding continuity when flushing or relieving pressure: Hold metal part of the spray gun/ dispense valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

GROUNDING INSTALLATION

Tools Required:

- Grounding wires and clamps for pails
- Two 5 gallon (19 liter) metal pails

1. Verify the ground wire (244524) 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.

When using the equipment for the first time or after long term storage, follow the steps to prepare the Contractor King™ Sprayers and Sprayer Packages for operation.

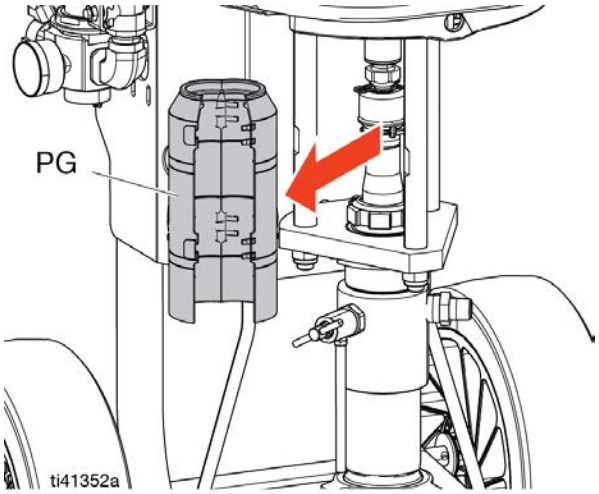
⚠ WARNING

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.

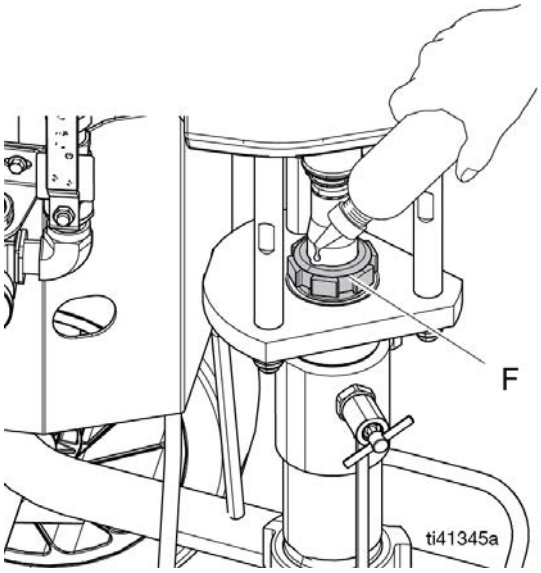
TOOLS REQUIRED:

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

1. Ground sprayer. See **Grounding**.
2. Use a flathead screwdriver to remove the 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).

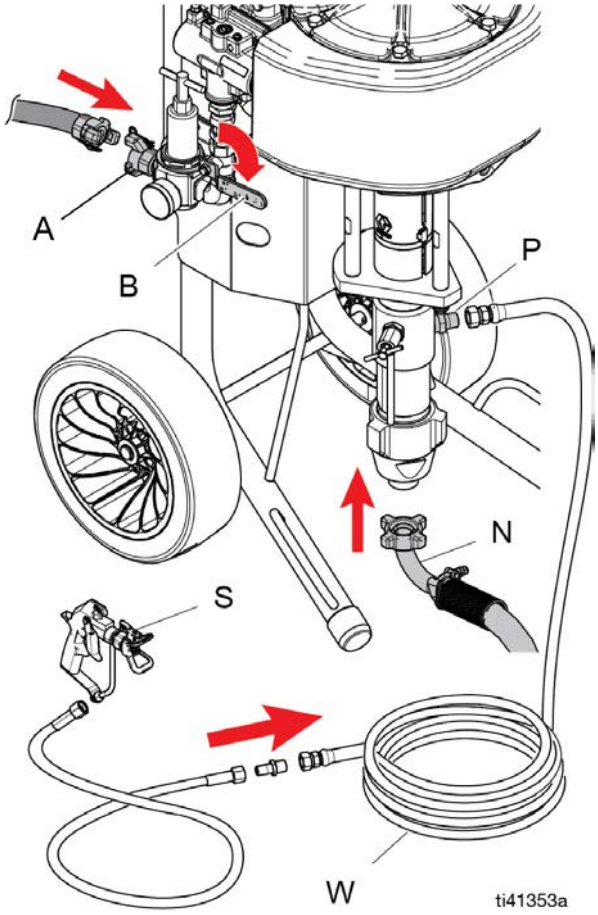


4. Replace Pump Guard (PG).
5. Attach Suction Hose (N) and tighten.
6. Attach electrically conductive Fluid Hose (W) to Pump Fluid Outlet (P) and tighten.
7. Attach electrically conductive Fluid Hose (W) to Spray Gun (S) and tighten. Check that all pressure connections are tight.
8. Attach an air compressor hose to the Air Inlet Claw Fitting (A).

⚠ WARNING

To help prevent injury from a whipping air hose, if disconnected while pressurized, install a hose restraint (whip check) between the supply hose and Air Inlet Claw Fitting (A).

9. Close the Bleed Type Master Air Valve (B). Purge the air supply hose.



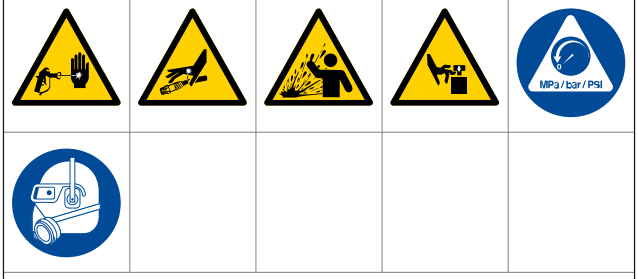
10. Flush and prime before using. See **Flush** and **Prime**.

PRESSURE RELIEF PROCEDURE

Relieve pressure on the Contractor King™ Sprayers and Sprayer Packages when operation is stopped, and before cleaning, checking, or servicing the equipment.

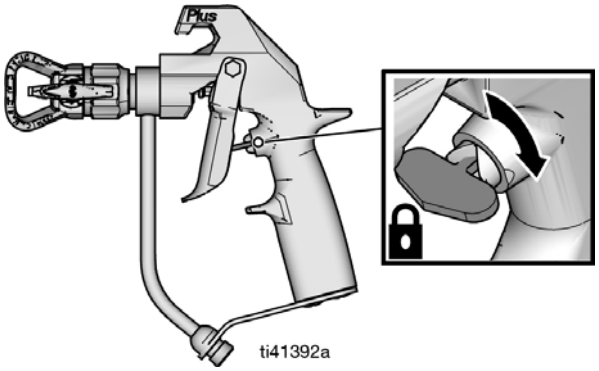
Follow the Pressure Relief Procedure whenever you see this symbol.

⚠ WARNING

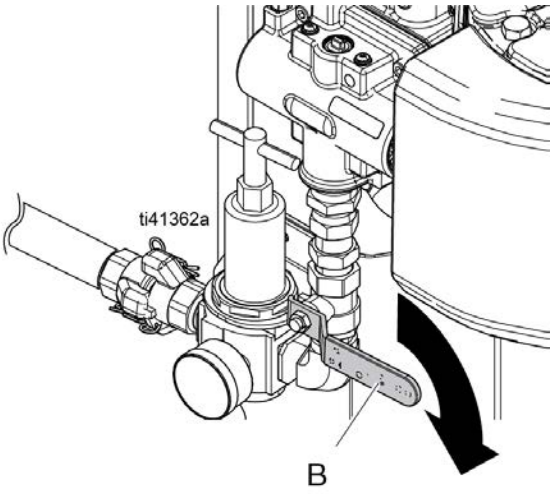


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing equipment.

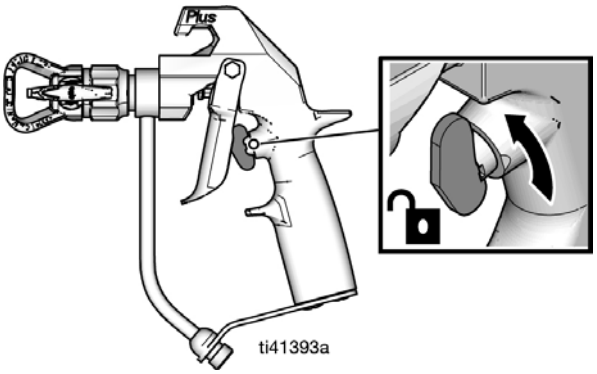
1. Engage trigger lock.



2. Close Bleed Type Master Air Valve (B).



3. Disengage trigger lock.



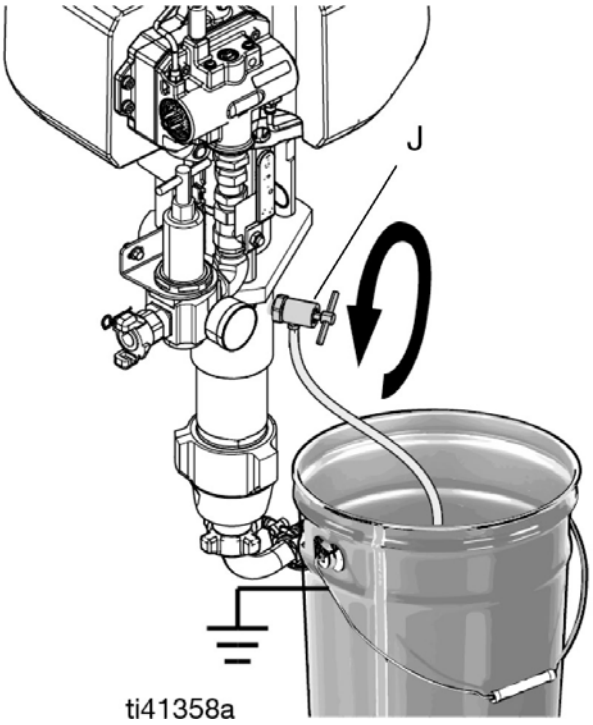
4. Hold a metal part of the Spray Gun firmly against a grounded metal pail. Trigger the Spray Gun until pressure is relieved.

NOTE:

If fluid does not flow from gun, see **Clear Tip Clog**.

5. Engage trigger lock.

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 the nut or coupling completely.
    c. Clear the obstruction in the hose or tip.

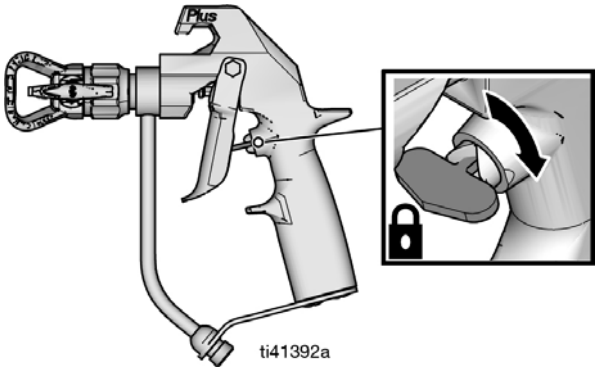
CLEAR TIP CLOG

If you suspect the spay tip is clogged, follow the steps to clear the spray tip.

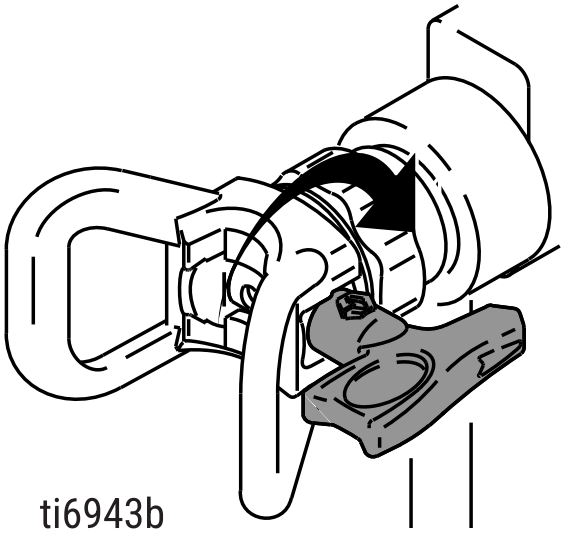
⚠ WARNING

To avoid serious injury from skin injection, do not put your hand in front of the spray tip.

1. Engage trigger lock.



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



3. Disengage trigger lock.
4. Trigger the Spray Gun into a 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**, then remove and clean the spray tip.

FLUSH

Flush the Contractor King™ Sprayers and Sprayer Packages regularly to help prevent damage to the equipment.

⚠ WARNING

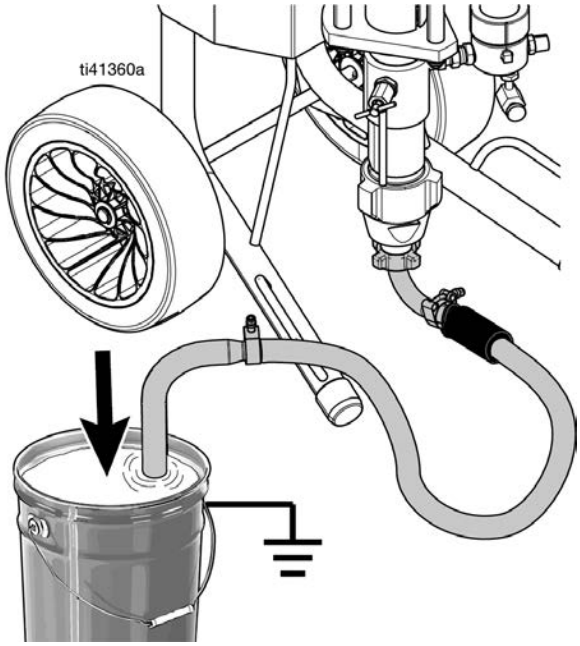
To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at lower possible pressure.

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.

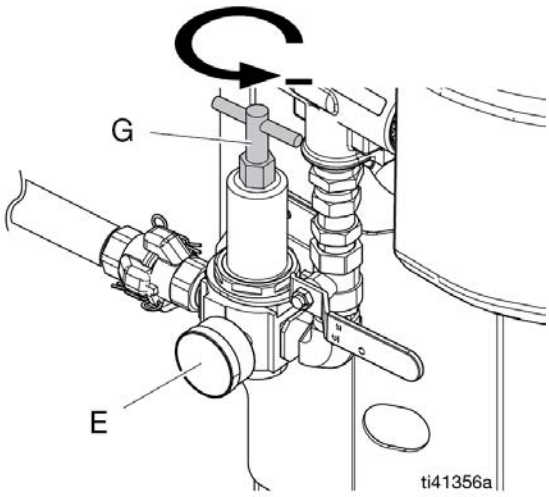
1. Perform **Pressure Relief Procedure**.
2. Remove tip and tip guard from Spray Gun.
3. If desired, remove fluid filter (sold separately). Reinstall filter cap after removing fluid filter.
4. Connect the Grounding Wire (L) and clamp to a true earth ground.
5. Place suction tube in a compatible solvent.



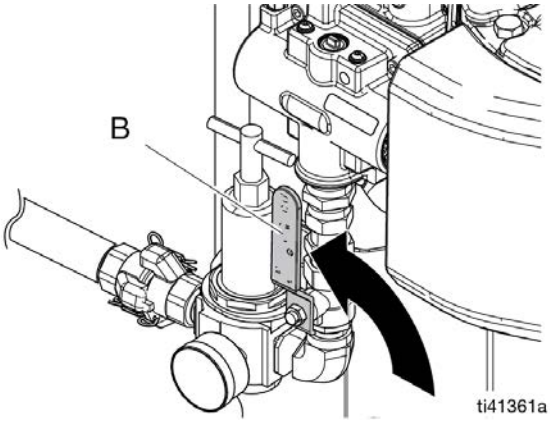
NOTE:

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.

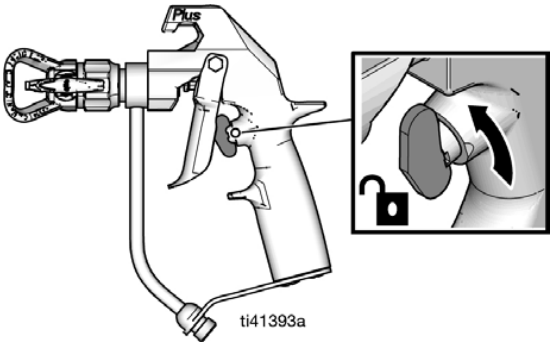


7. Open Bleed Type Master Air Valve (B).



8. Flush hose and Spray Gun:

   a. Disengage trigger lock. Hold the Spray Gun against a grounded metal pail.

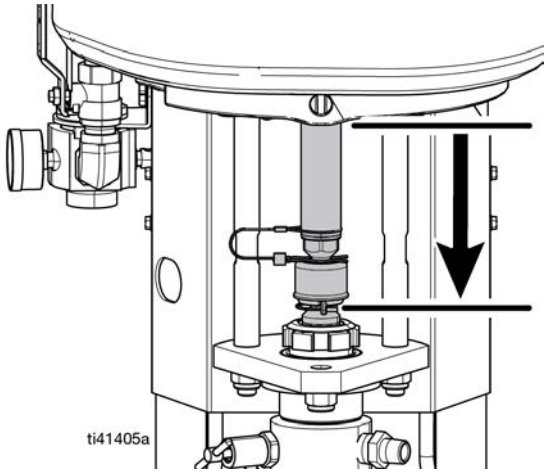


   b. Trigger Spray Gun, slowly turn Air Regulator Adjustment Knob (G) clockwise until pump beings to cycle and a steady stream comes from the Spray Gun. Trigger gun for 10 to 15 seconds during initial setup. If flushing material, trigger Spray Gun until clean solvent flows from the Spray Gun.

   c. After solvent is running clean, turn the Air Regulator Adjustment Knob (G) counterclockwise until the knob stops and the Air Pressure Gauge reads zero. The pump will stop. Once the material stops flowing, release the trigger and engage the trigger lock.

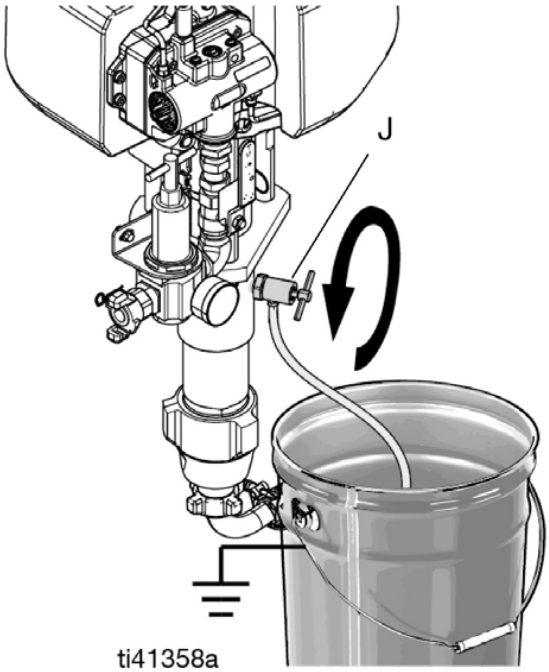
NOTE:

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

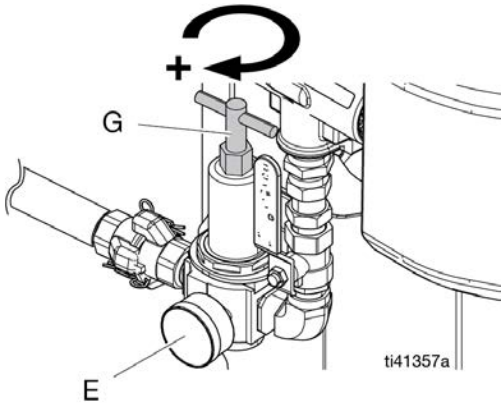


   d. Close the Bleed Type Master Air Valve.

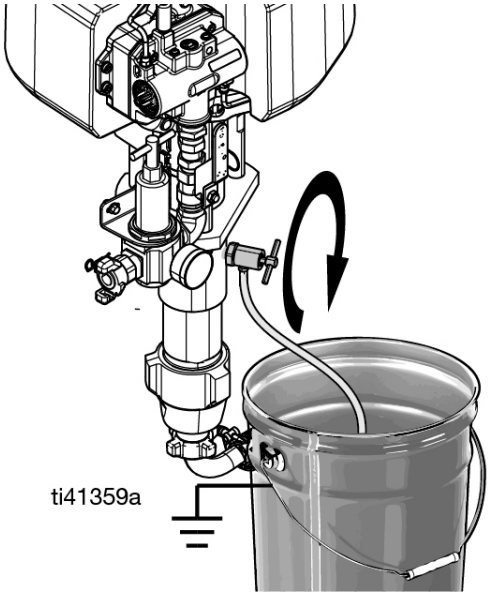
9. If flushing through Fluid Drain/Purge Valve:
   a. Place drain tube in a grounded waste pail. Open Fluid Drain/Purge Valve (J) slightly by rotating counterclockwise.



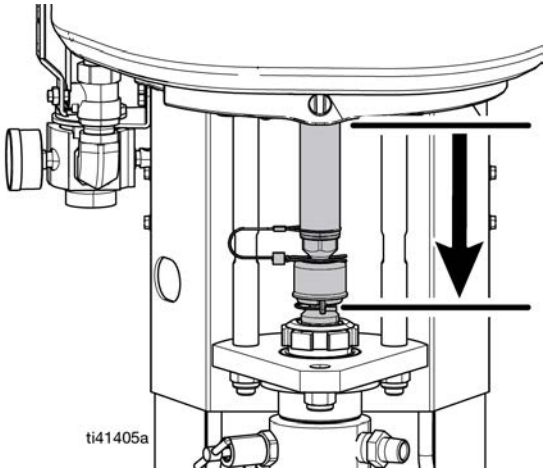
   b. Turn Air Regulator Adjustment Knob (G) counterclockwise until Air Pressure Gauge (E) reads zero.
   c. Open Bleed Type Master Air Valve (B).
   d. Start the pump by rotating the Air Regulator Adjustment Knob (G) clockwise until pump begins to move.



   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.

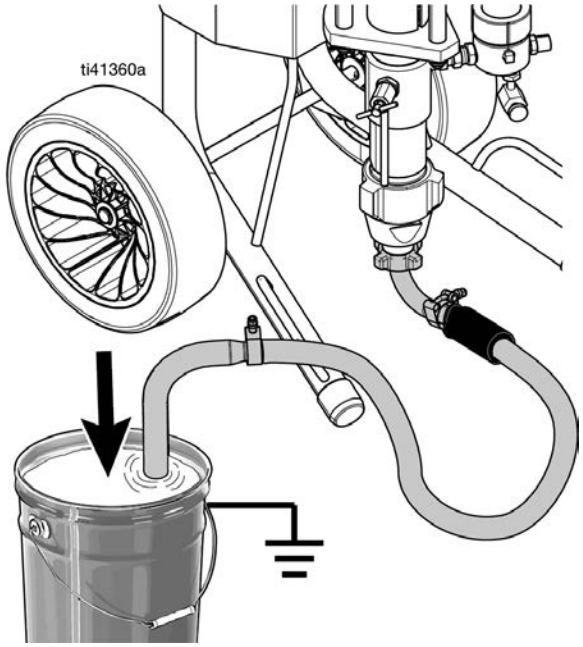


   g. Turn the Air Regulator Adjustment Knob (G) counterclockwise until Air Pressure Gauge (E) reads zero.
   h. Close Bleed Type Master Air Valve (B).
10. Perform **Pressure Relief Procedure**.
11. If equipped, remove fluid filter (sold separately) and soak in solvent. Replace filter cap.

PRIME

Follow the steps to prime the equipment.

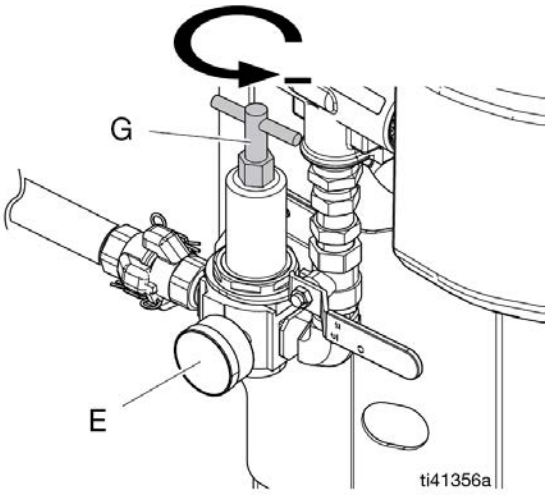
1. Perform the **Pressure Relief Procedure**.
2. Engage trigger lock. Remove tip and tip guard from Spray Gun.
3. Place suction tube in the material that will be sprayed.



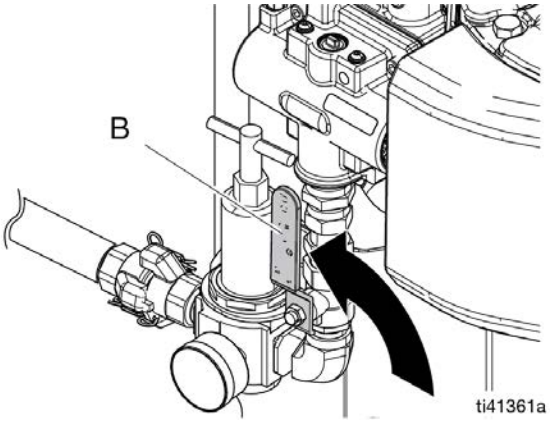
NOTE:

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.

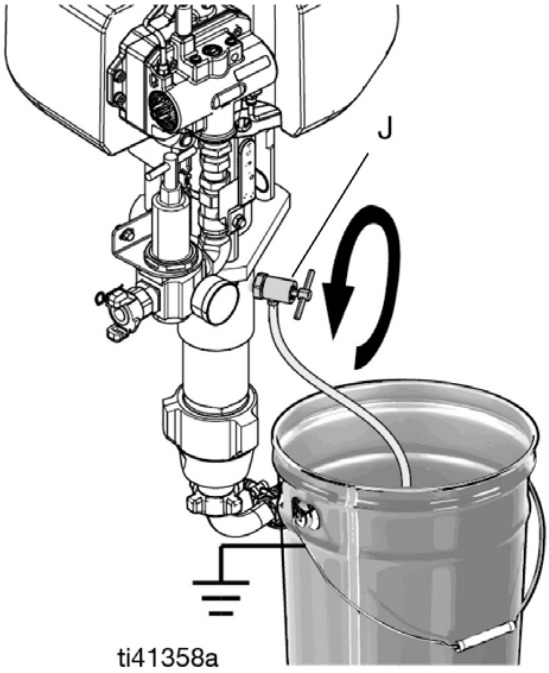
NOTE:

Usually required for high-viscosity materials.

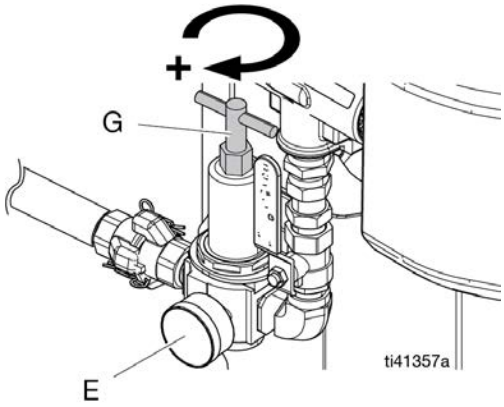
NOTICE

Do not prime pump through Fluid 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 Fluid Drain/Purge Valve (J) by slightly rotating counterclockwise.

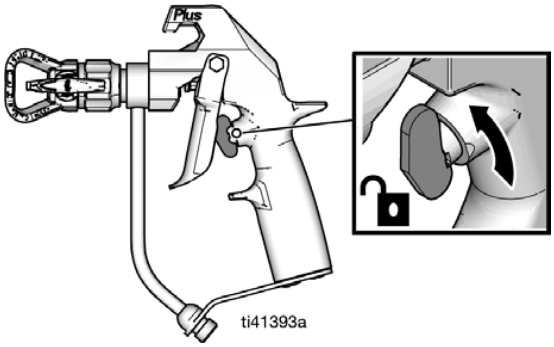


b. Start the pump by rotating the Air Regulator Adjustment Knob (G) clockwise until pump begins to move.



7. Prime hose and Spray Gun:

a. Disengage trigger lock. Hold the metal part of the Spray Gun against a grounded metal pail.



b. Trigger Spray Gun, slowly open Air Regulator Adjustment Knob (G) until pump beings to cycle and a steady stream comes from the Spray Gun. Trigger gun for 10 to 15 seconds.

c. Engage trigger lock.

d. The equipment is now ready to spray; proceed to **Spray**.

The instructions provide guidance on how to use the Contractor King™ Sprayers and Sprayer Packages.

⚠ WARNING

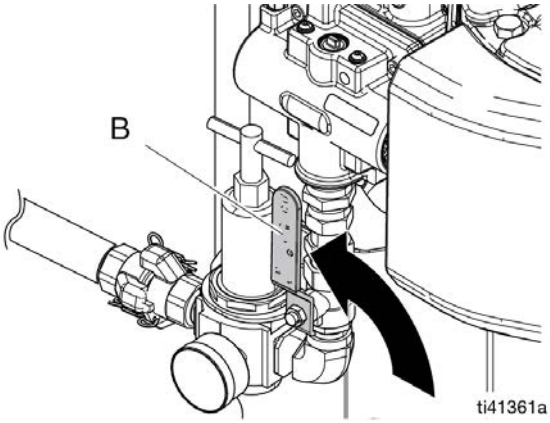
NOTICE

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.

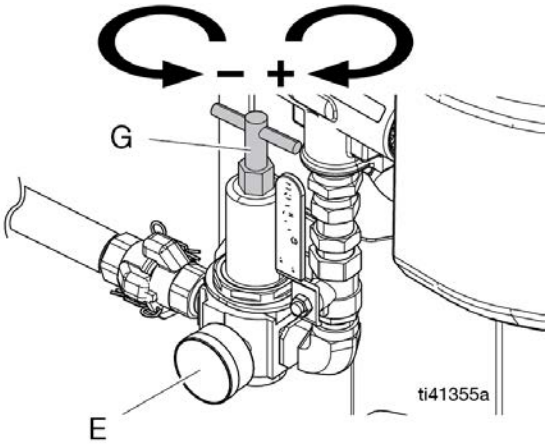
NOTE:

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

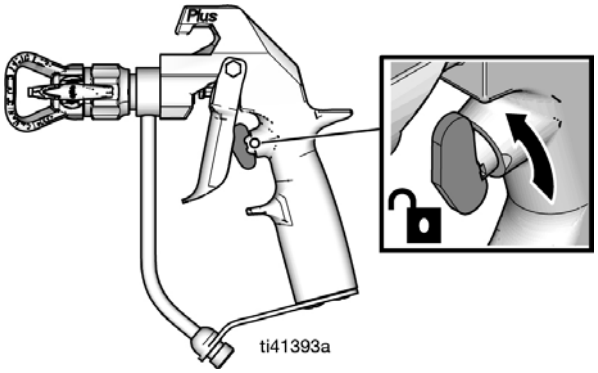
1. Perform the **Prime** procedure.
2. Perform **Pressure Relief Procedure**.
3. Install tip and tip guard on the Spray Gun.
4. Turn Air Regulator Adjustment Knob (G) counterclockwise to decrease pressure to zero.
5. Open Bleed Type Master Air Valve (B).



6. Turn Air Regulator Adjustment Knob (G) until Air Pressure Gauge (E) reads desired pressure. Turn knob clockwise to increase pressure and counterclockwise to decrease pressure.



7. Disengage trigger lock.



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

SHUTDOWN

Follow the instructions to properly shut down the Contractor King™ Sprayers and Sprayer Packages.

⚠ WARNING

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 the **Prime** procedure.

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

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

Follow the maintenance steps to keep the Contractor King™ Sprayers and Sprayer Packages in good condition for optimal use.

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 overnight shutdown, stop pump at bottom of its stroke to prevent fluid from drying on exposed displacement rod and damaging throat packings.

1. Flush the equipment. See **Flush**.
2. Prime the equipment. See **Prime**.
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.
5. If equipped with an air filter, drain water from 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 with fluid line filter, clean 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**).
- 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

Properly recycle and dispose of the Contractor King™ Sprayers and Sprayer Packages at the end of its useful life.

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

END OF LIFE DISPOSAL

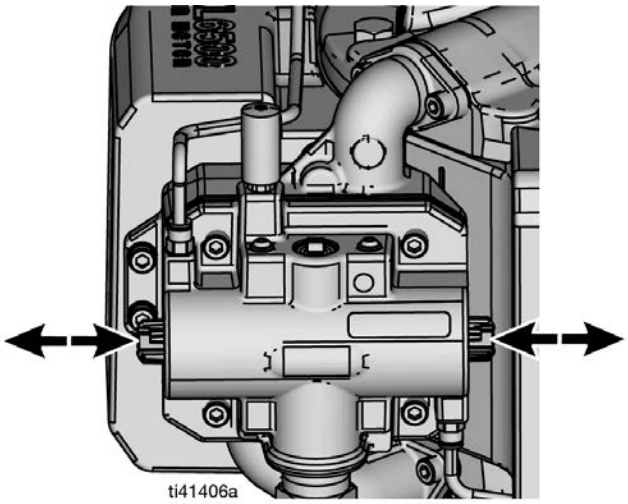
If the sprayer is in a condition that it can no longer operate, the sprayer should be taken out of service and dismantled. Individual parts should be sorted by material and disposed of properly.

Follow the steps to run the motor manually.

⚠ WARNING

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:

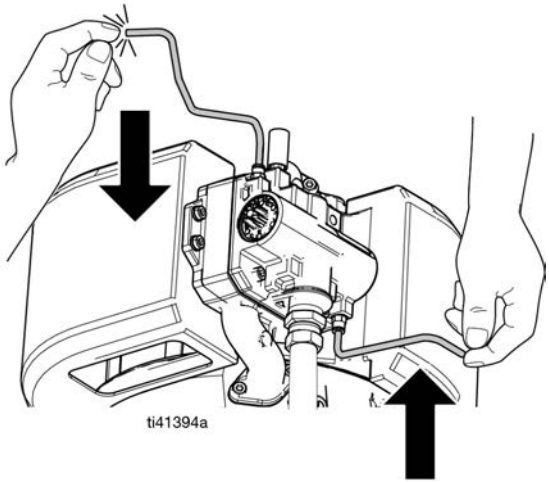
- Move the valve off center due to ice or debris.
- Flush a pump if a pilot valve is plugged, stuck in the open position, or the pilot signal is leaking

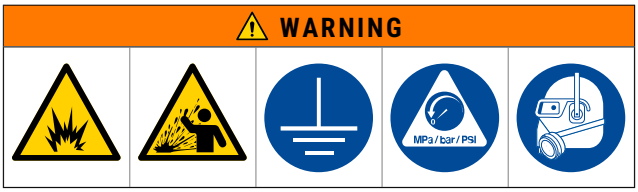


1. Lower the air pressure to approximately 30—40 psi (206 kPa, 2.06 bar—276 kPa, 2.75 bar) to manually operation the buttons.
2. If a pilot valve is plugged:
   a. Press the button on the end where the motor stopped. This will cause the motor to run another cycle.
   b. Press the button again to finish 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.





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

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 Spray 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 Spray Gun*; use hose with larger ID.
	Air motor icing.	Open De-Ice Control (bleed air).
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.
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 (bleed air).
Cycles or fails to hold pressure at stall.	Worn check valves or seals.	Service lower. See **Remove Lower**.

PROBLEM	CAUSE	SOLUTION
Air bubbles in fluid.	Loose suction line.	Tighten. Use compatible liquid thread sealant.
Poor finish or irregular spray pattern.	Incorrect fluid pressure at Spray Gun.	See Spray Gun manual; read fluid manufacturer's recommendations.
	Fluid is too thin or too thick.	Adjust fluid viscosity; read fluid manufacturer's recommendations.

***** To determine if fluid hose or gun is obstructed, follow the **Pressure Relief Procedure**. 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.

TROUBLESHOOTING - AIR MOTOR

1. Perform **Pressure Relief Procedure**.
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**. 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.

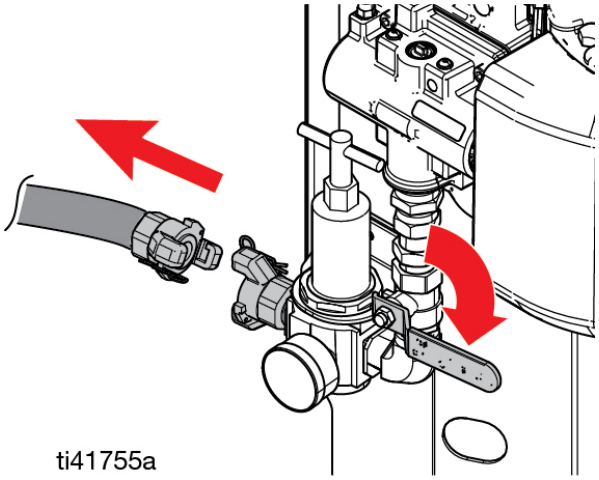
PROBLEM	CAUSE	SOLUTION
Air motor will not run and there is no obvious exhaust.	Check air supply.	Supply air to motor inlet.
	Pump is locked up.	Disconnect or remove pump to verify motor operation.
	Ice broke loose in manifold and caught in air valve.	Turn off and exhaust air. Push top and bottom Manual Override Buttons (R) back and forth until flush with base of valve cap (316). Restart motor.
Air motor does not run and large volume of air blows through exhaust outlet on either stroke.	Main motor piston o-ring (6) has failed or main valve.	Replace piston o-ring (6). See **Contractor King Parts**.
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 is not exhausting. Usually ice in the pilot or pilot exhaust port.	Disconnect pilot line 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. If motor still does not 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 or replace top pilot valve.
Motor stalled at top of stroke with no exhaust at top pilot.	Top pilot valve 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.

PROBLEM	CAUSE	SOLUTION
	Metered air hole in main valve shuttle piston (304) is plugged.	Disconnect pilot line. If motor still does not 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 or replace bottom pilot valve.
Air motor "bounces" (does not fully complete its stroke) at top change over.	Leaking bottom pilot valve or fitting.	Thaw any ice in pilot valve, or replace valve 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 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.
Motor runs slower and pump loses fluid pressure on both strokes equally.	Ice has collected where exhaust expands from the shuttle valve plate manifold into the muffler.	Open the De-Ice Control (bleed air) (T) on the main shuttle valve. This will bleed some warm air through anytime air is supplied to the motor.

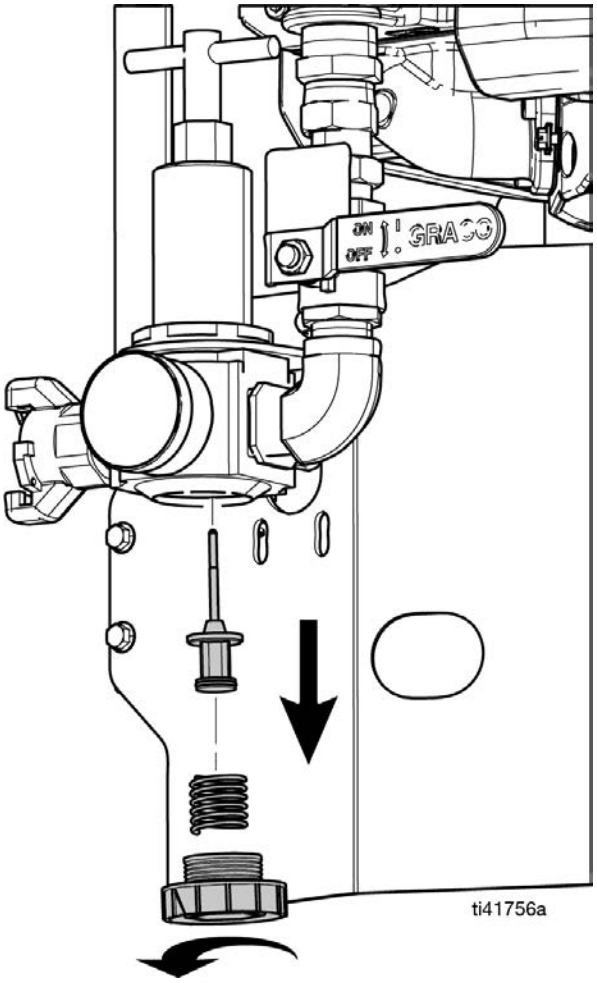
When replacing parts, follow the instructions to restore the components on the Contractor King™ Sprayers and Sprayer Packages.

CLEAN REGULATOR

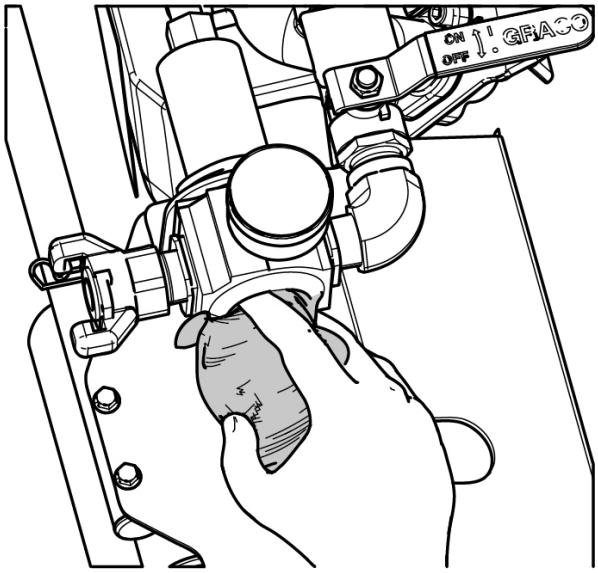
1. Perform **Pressure Relief Procedure**.
2. Turn off regulator and relieve air pressure in the air supply hose.



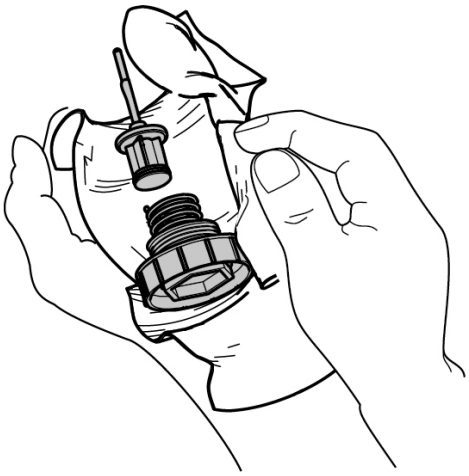
3. Unthread lower portion of regulator to check for debris.



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



ti41757a



5. Reinstall lower portion of regulator and regulator components.
6. If air supply cleanliness continues to be a problem, refer to your Air Filter, Lubricator, and Regulator Kits manual for information on kits 19D649, 19D955, and 19D968.

REMOVE LOWER

Required Tools:

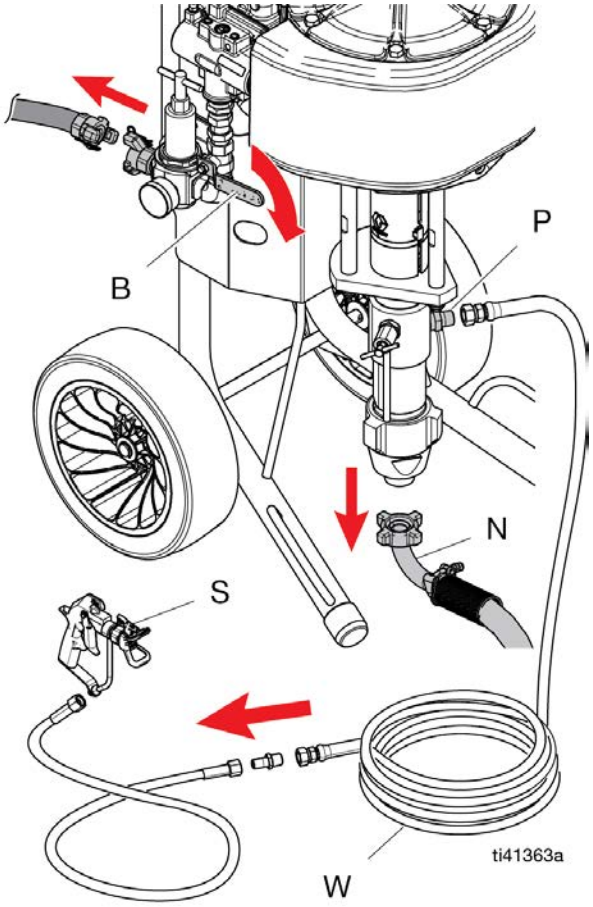
- Set of adjustable wrenches
- Torque wrench
- Rubber mallet
- Thread lubricant
- Anti-seize lubricant 222955
- Loctite® 2760™ or equivalent
- Flathead screwdriver

PREPARE TO SERVICE LOWER

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

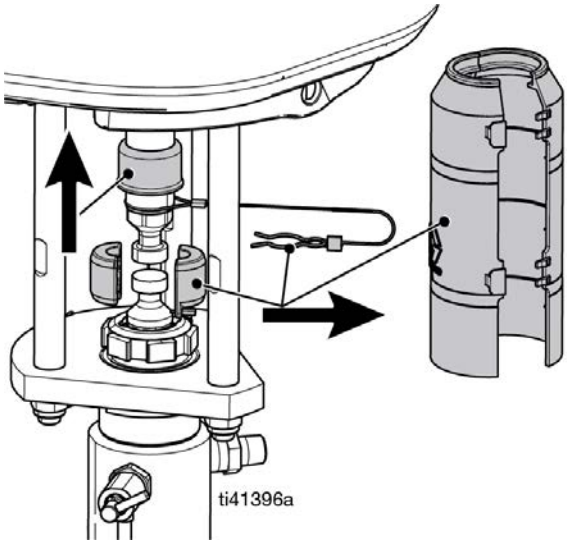
NOTE:

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.

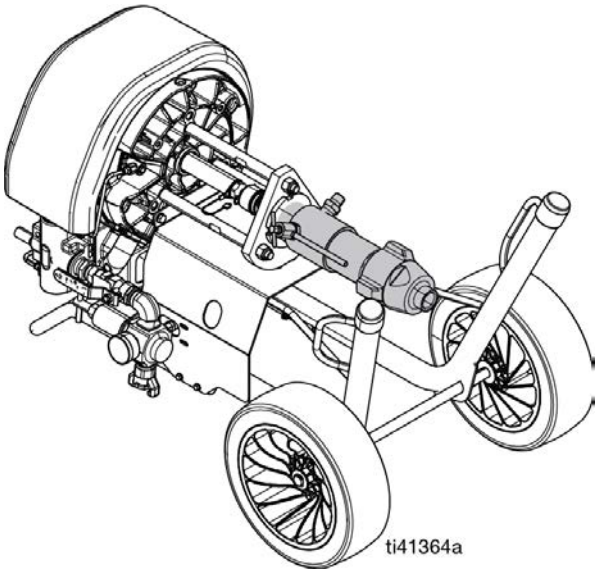


REMOVE PUMP

1. Follow **Prepare to Service Lower**.
2. Use a flathead screwdriver to remove the Pump Guard.
3. Remove Pump Coupling.



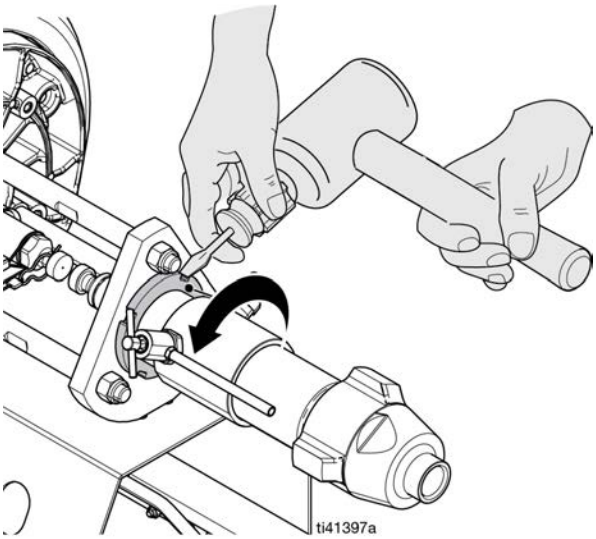
4. If using a cart-mounted unit, tip the cart onto its back.



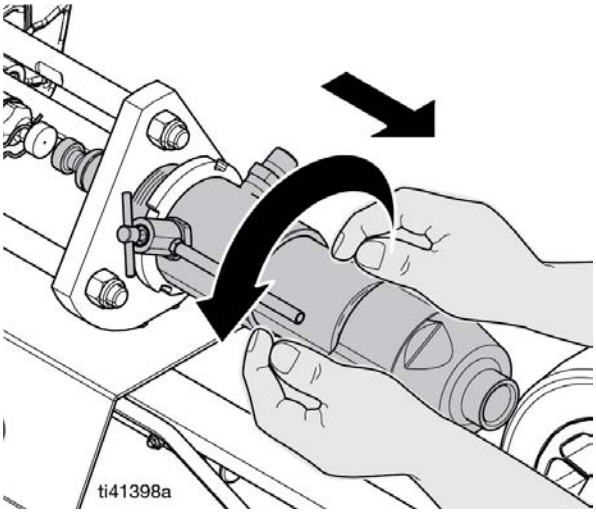
NOTE:

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

5. Loosen jam nut.

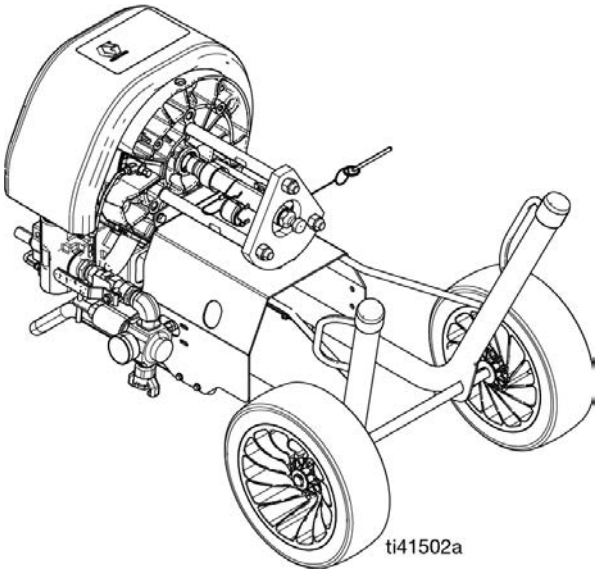


6. Spin pump to remove.

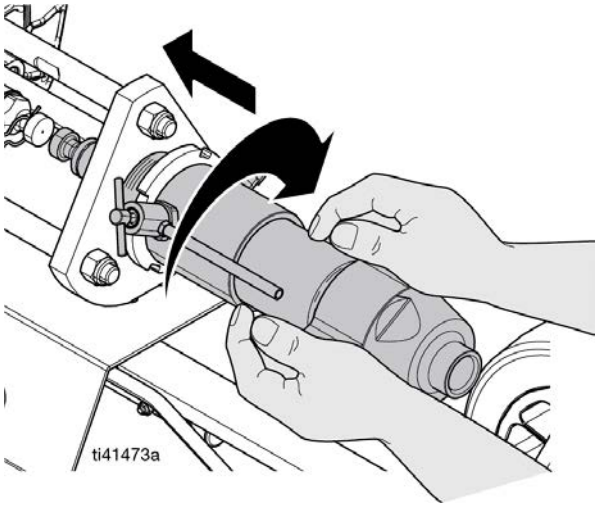


INSTALL PUMP

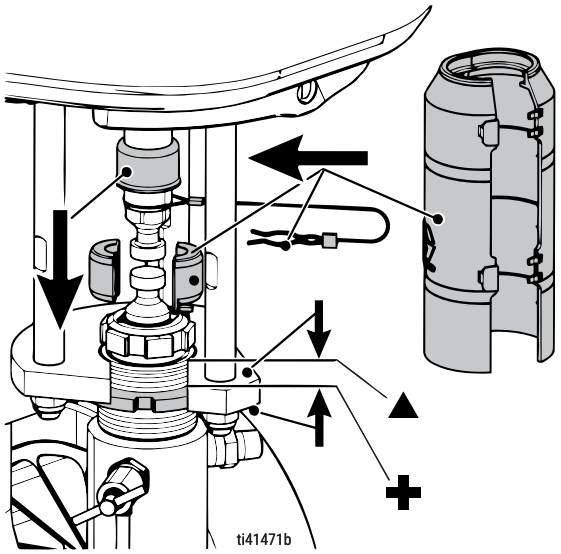
1. If using a cart-mounted unit, tip the cart onto its back.



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



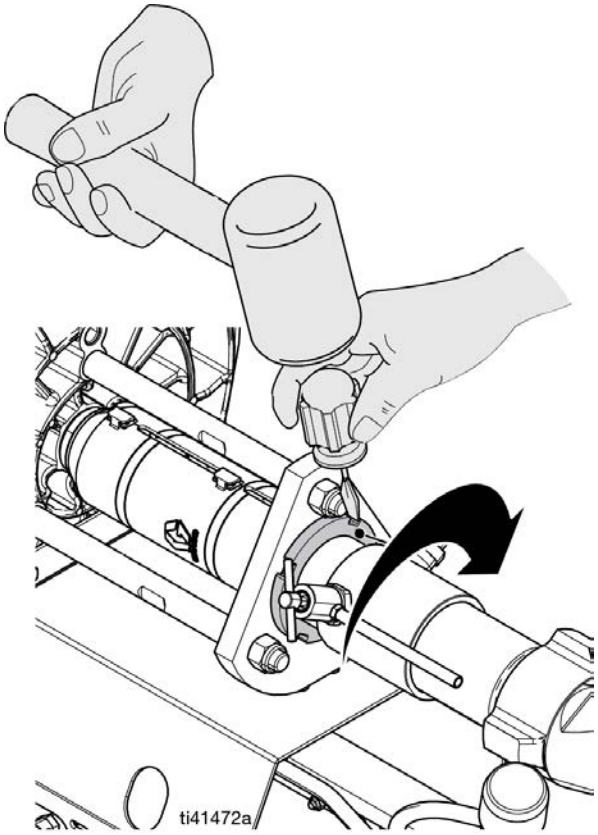
3. Re-install Pump Coupling and Pump Guard.



▲ Threads even with top surface

+ Jam nut tight to bottom surface

4. Tighten jam nut.



5. Refill packing nut with TSL™.

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.

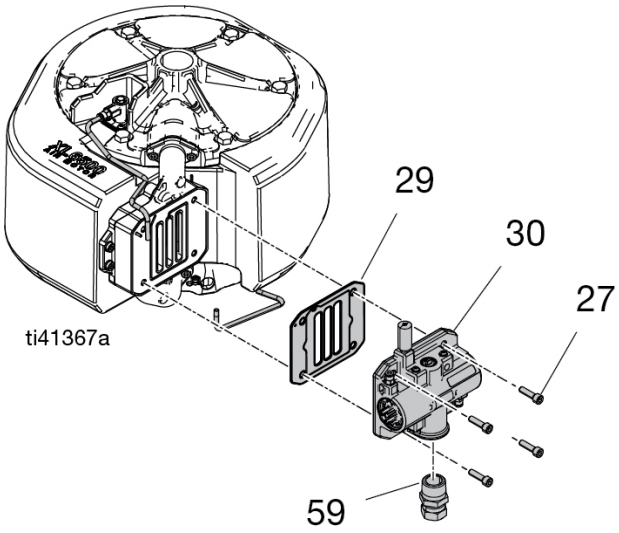
To minimize ice build-up:

- **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 De-Ice Control (bleed air) to clear ice build up.

REPAIR AIR VALVE

⚠ WARNING

REPLACE COMPLETE AIR VALVE



1. Stop the pump at the middle of its stroke. Follow the **Pressure Relief Procedure**.
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 6 mm hex key 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**, 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.

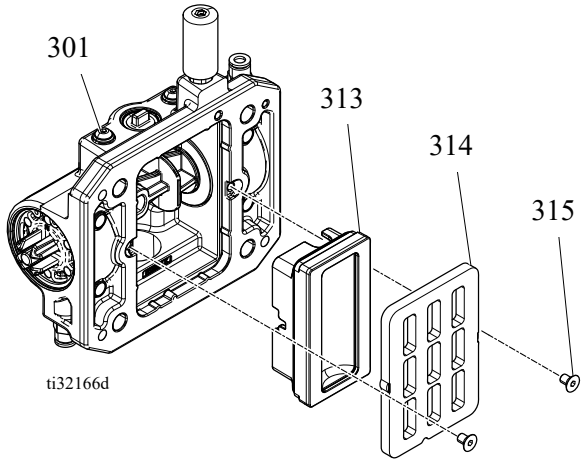
9. Use screw to attach the reed switch assembly to the new air valve, if needed. Be sure the sensor cables are connected properly (see pump or package manual).
10. Reconnect the air line and pilot valve lines to the motor.

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**.
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.

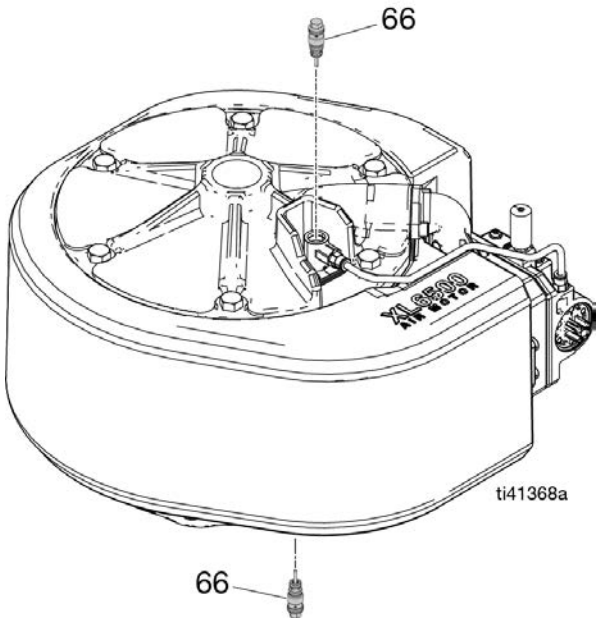
REASSEMBLE THE AIR VALVE

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

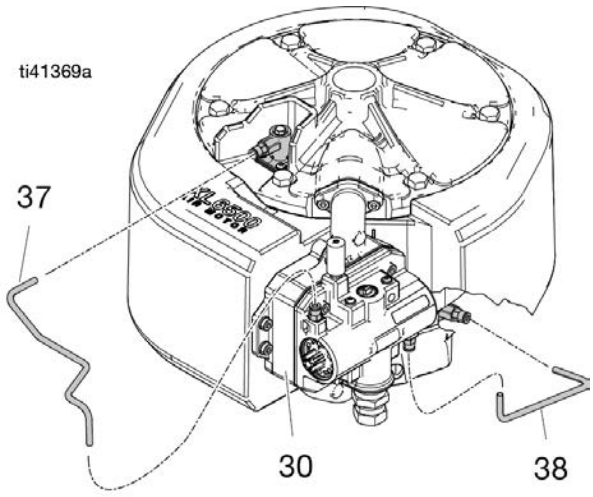
⚠ WARNING

1. Stop the pump at the middle of its stroke. Relieve the pressure. See **Pressure Relief Procedure**.
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.
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.

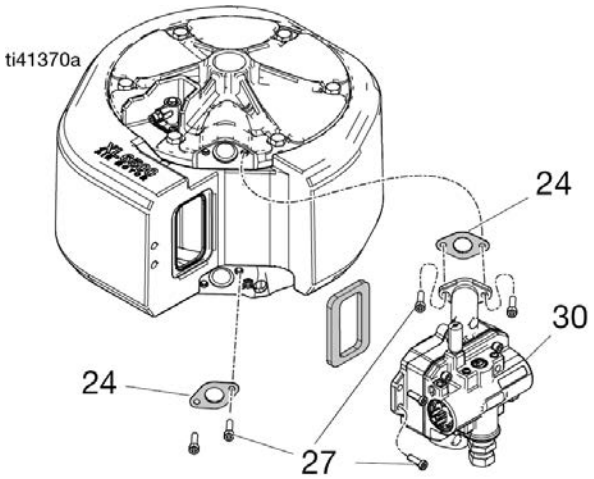


DISASSEMBLE THE AIR MOTOR

1. Follow steps in **Prepare to Service Lower**.
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.

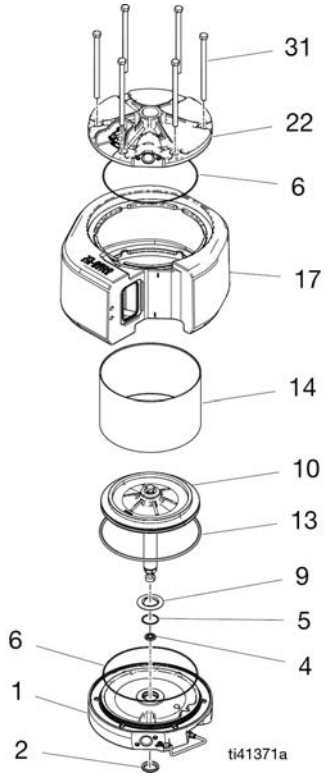


4. Use a 3/4 in. or 19 mm socket wrench to remove the bolts (31).
5. Remove the top cover (22). Remove the o-ring (6).
6. Remove the muffler (17) from around the cylinder. Remove the cylinder (14).
7. Slide the piston assembly (10) straight up off the bottom cover (1).

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

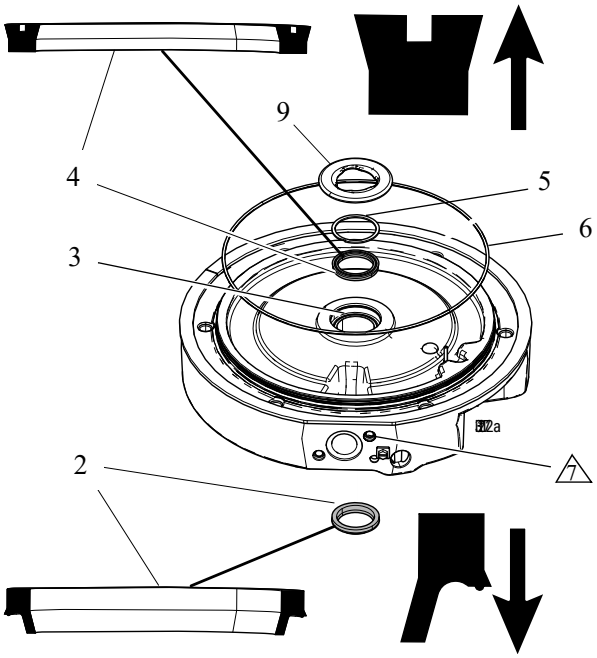
NOTE:

For additional parts information, see **Contractor King™ Sprayers Parts**.

NOTE:

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

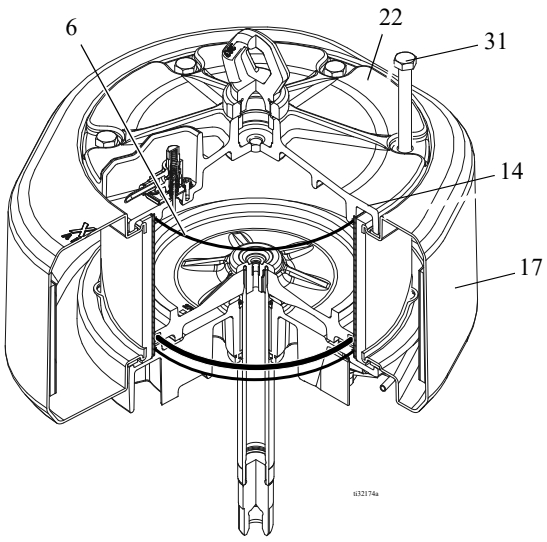
1. Lubricate and install wiper (2) on the bottom cover (1).
2. Lubricate and install new u-cup seal with flange (4), with the lips facing up, in the bottom cover (1) from the bottom. The seal will snap into place.



7 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.

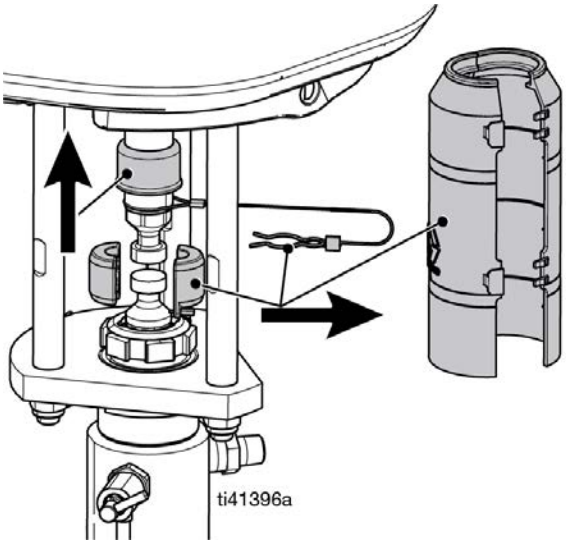
PISTON SEAL REPLACEMENT

REMOVAL

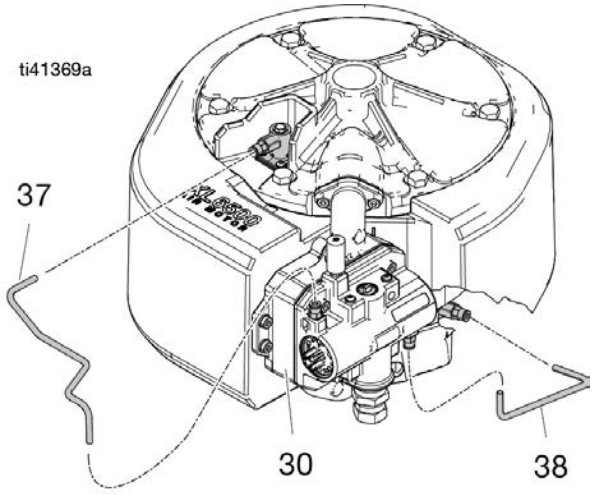
Refer to the **Piston Seal Replacement Diagram** for the instructions below.

⚠ WARNING

1. Follow the **Pressure Relief Procedure**.
2. Disconnect the air intake hose (AH) to the motor.
3. Loosen fitting connecting regulator assembly to air valve (30).
4. Remove Pump Guard and Pump Coupling.



5. Remove pilot lines (37, 38).



6. 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).
7. Remove six bolts (31) on top of motor cover (22), then remove cover.
8. Slide piston rod up to push piston (10) out the top of the motor.

9. Remove piston seal (13).

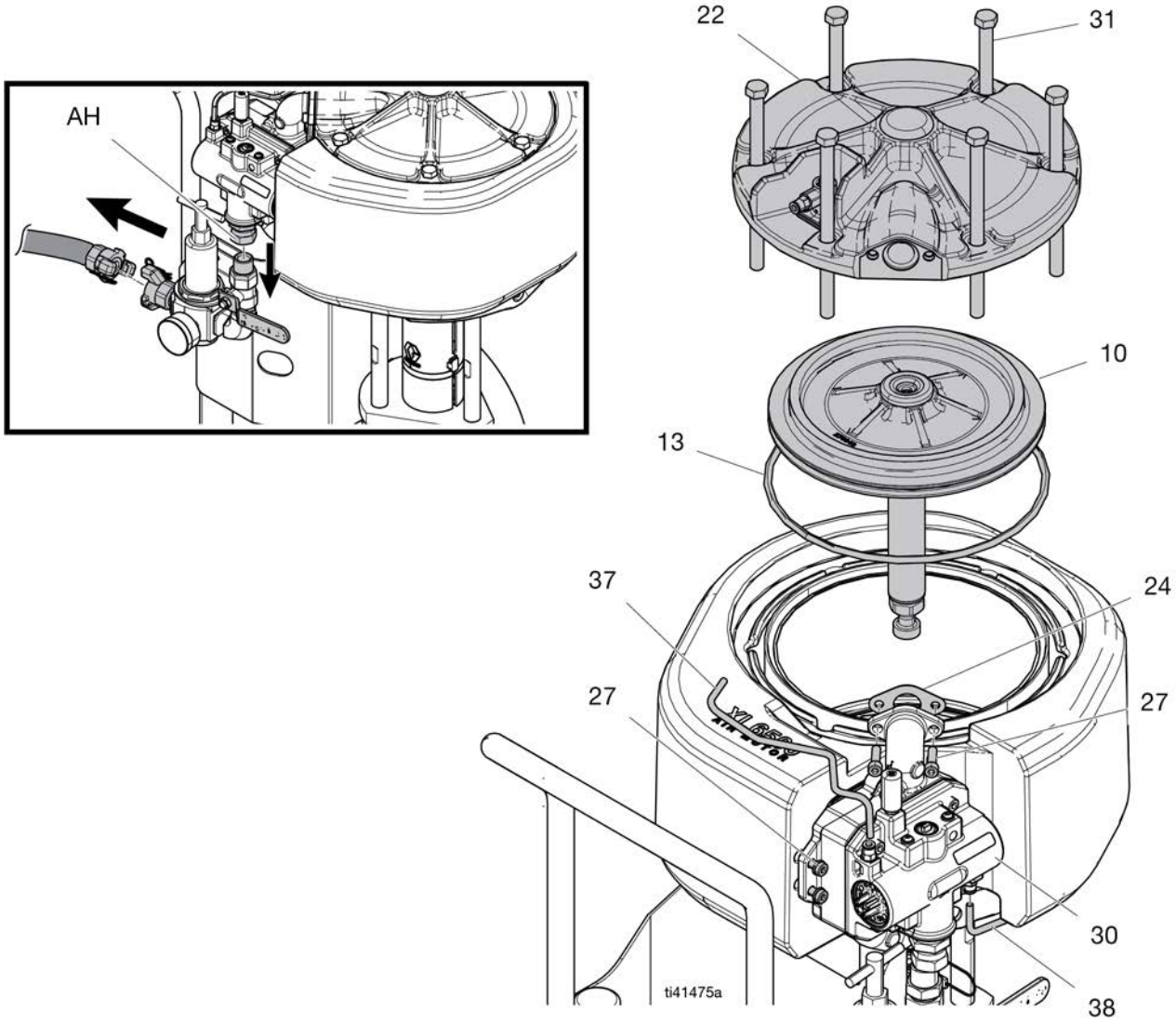


Figure 21-1: Piston Seal Replacement Diagram

REPLACEMENT

Refer to the **XL6500 Air Motor Parts Diagram** for the instructions below.

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 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.
11. Install Pump Coupling and Pump Guard
12. Install air intake hose (AH).

The parts illustration and list shows the components of Contractor King™ Sprayers and Sprayer Packages and their connections that are required for assembly, repair, and maintenance.

CONTRACTOR KING PARTS

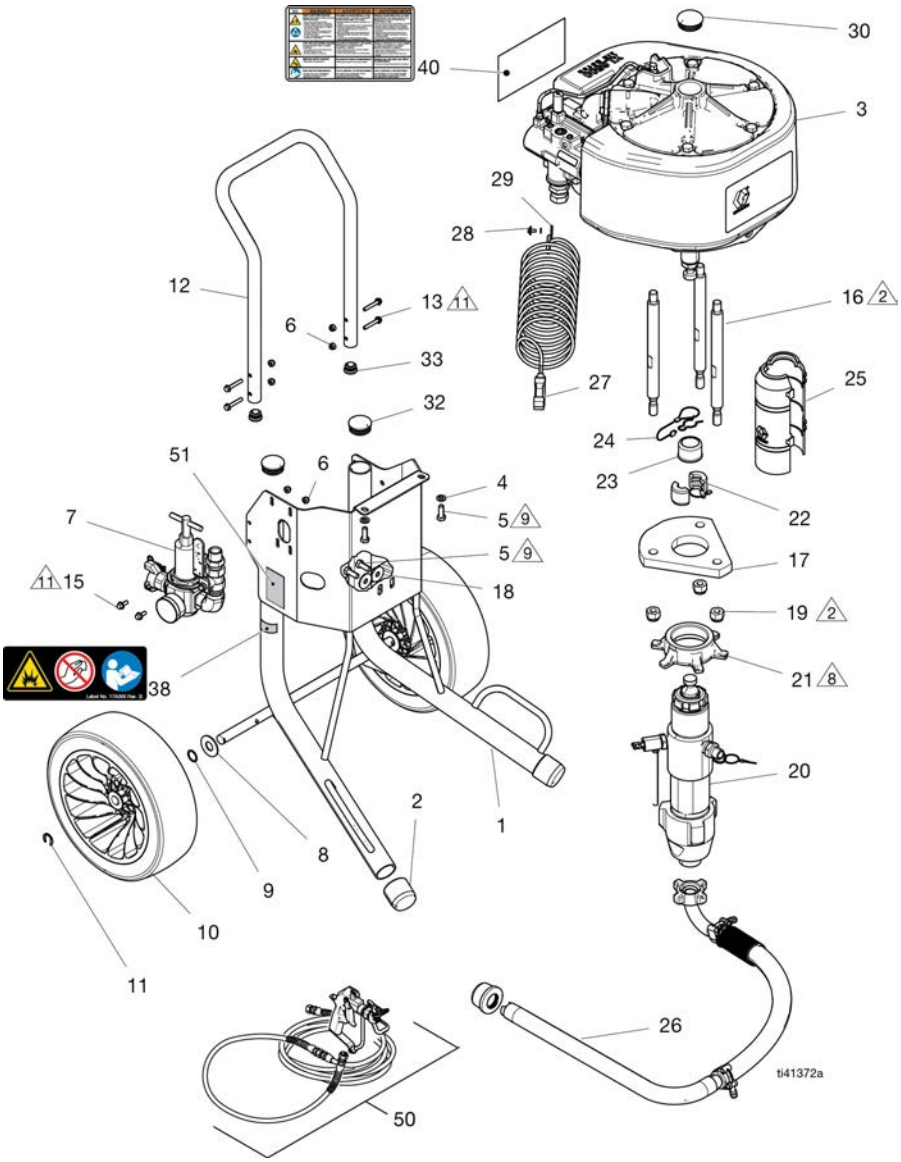


Figure 22-1: Contractor King™ Parts Diagram

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)

REF.	PART	DESCRIPTION	QTY.
1	25U755	FRAME, Contractor King	1
2	276974	CAP, leg	2
3		MOTOR, air, 6500, Contractor	1
4	100133	WASHER, lock, 3/8	2
5	100101	SCREW, cap, hex hd.	4
6	102040	NUT, lock, hex	6
7	18F799	MODULE, air controls, King-C	1
8	156306	WASHER, flat	2
9	116038	WASHER, wave spring	2
10	17E687	TIRE, polyurethane, black, 13 in.	2
11	15E891	CLIP, retaining	2
12	273322	HANDLE, chrome, Contractor King	1
13	114988	SCREW, hex, 1/4-20x1.50	4
15	131327	BOLT, flange hd., serrated, 1/4	2
16	19D628	ROD, tie, Contractor King	3
17	18F695	ADAPTER, mount, pump	1
18	108851	WASHER, plain	2
19	101712	NUT, lock	3
20		LOWER, Contractor King	1
	19D951	180 cc	
	19D952	220 cc	
	19D954	290 cc	

REF.	PART	DESCRIPTION	QTY.
21	19F488	NUT, retaining	1
22	244819	COUPLING, assembly	1
23	197340	COVER, coupler	1
24	244820	CLIP, hairpin (w/ lanyard)	1
25	19B967	GUARD, rod coupler, King Electric	2
26	25D515	HOSE, suction, 5 gallon to 1-1/4 NPT	1
27	244524	WIRE, ground assembly with clamp	1
30	113361	CAP, tube, round	1
32	19D633	PLUG, tube 1-3/4 in. O.D.	2
33	19D632	PLUG, tube. 1 in. O.D.	2
38 ▲	17A366	LABEL, safety	2
40 ▲		LABEL, safety	
	15F674	LABEL, safety, English/ French/Spanish	1
	15F973	LABEL, warning, symbols	1
	176712	LABEL, warning, Chinese/ Japanese/Korean	1
40		LABEL, made in USA	1
50	*See **Models***	KIT, gun and hose	1
51	18F864	LABEL, instructions, regulator	1

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

XL6500 AIR MOTOR PARTS

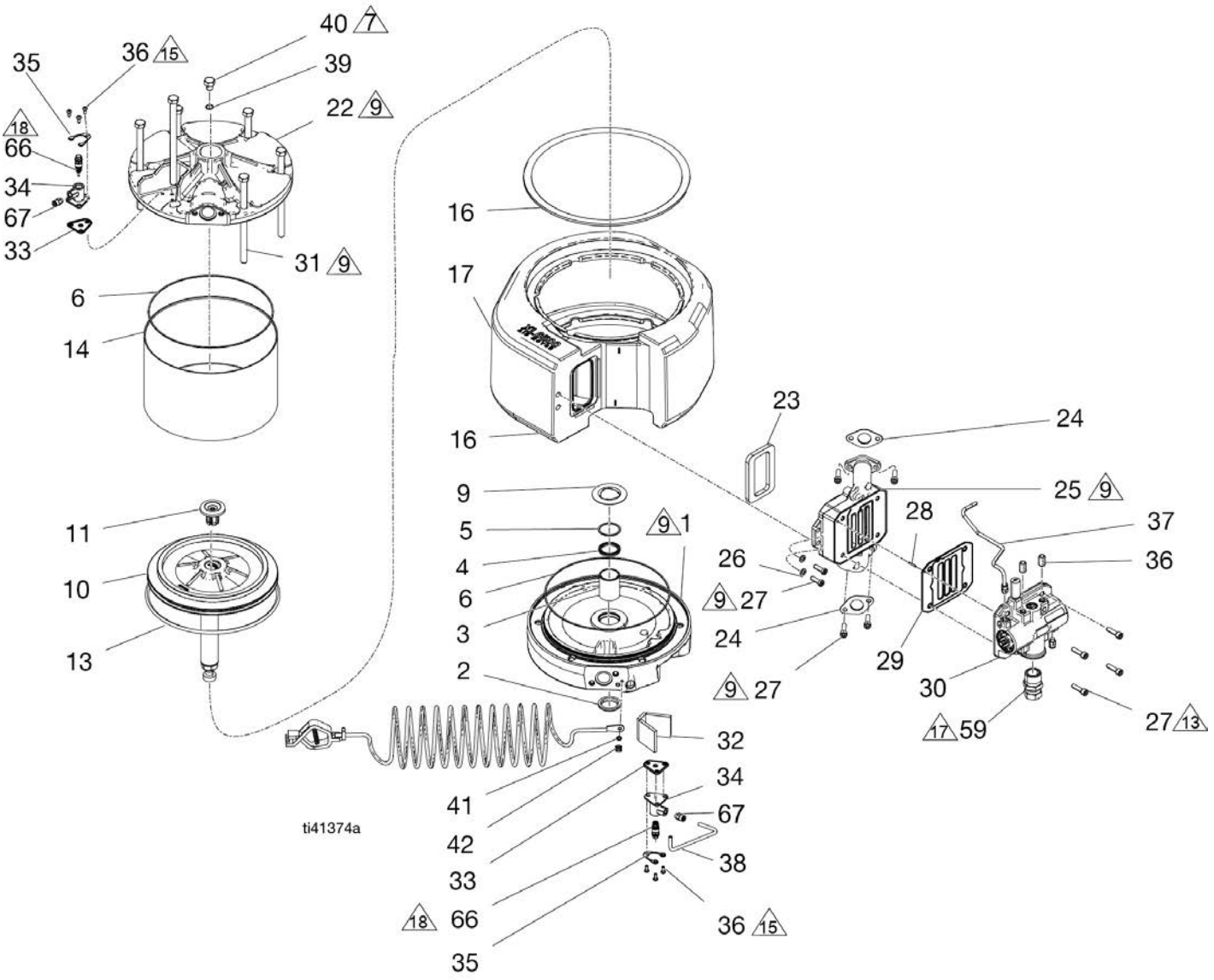


Figure 22-2: XL6500 Air Motor Parts Diagram

7 33 ± 3 ft-lb (45 ± 4 N•m)

9 40 ± 3 ft-lb (61 ± 7 N•m)

18 80 ± 5 in-lb (108 ± 7 N•m)

13 80 ± 5 in-lb (108 ± 7 N•m)

15 12 ± 3 in-lb (16 ± 4 N•m)

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

❖ Gasket included in 17V344.

★ Part included in soft parts kit 17V957

AIR VALVE PARTS (17V344 - STANDARD VALVE)

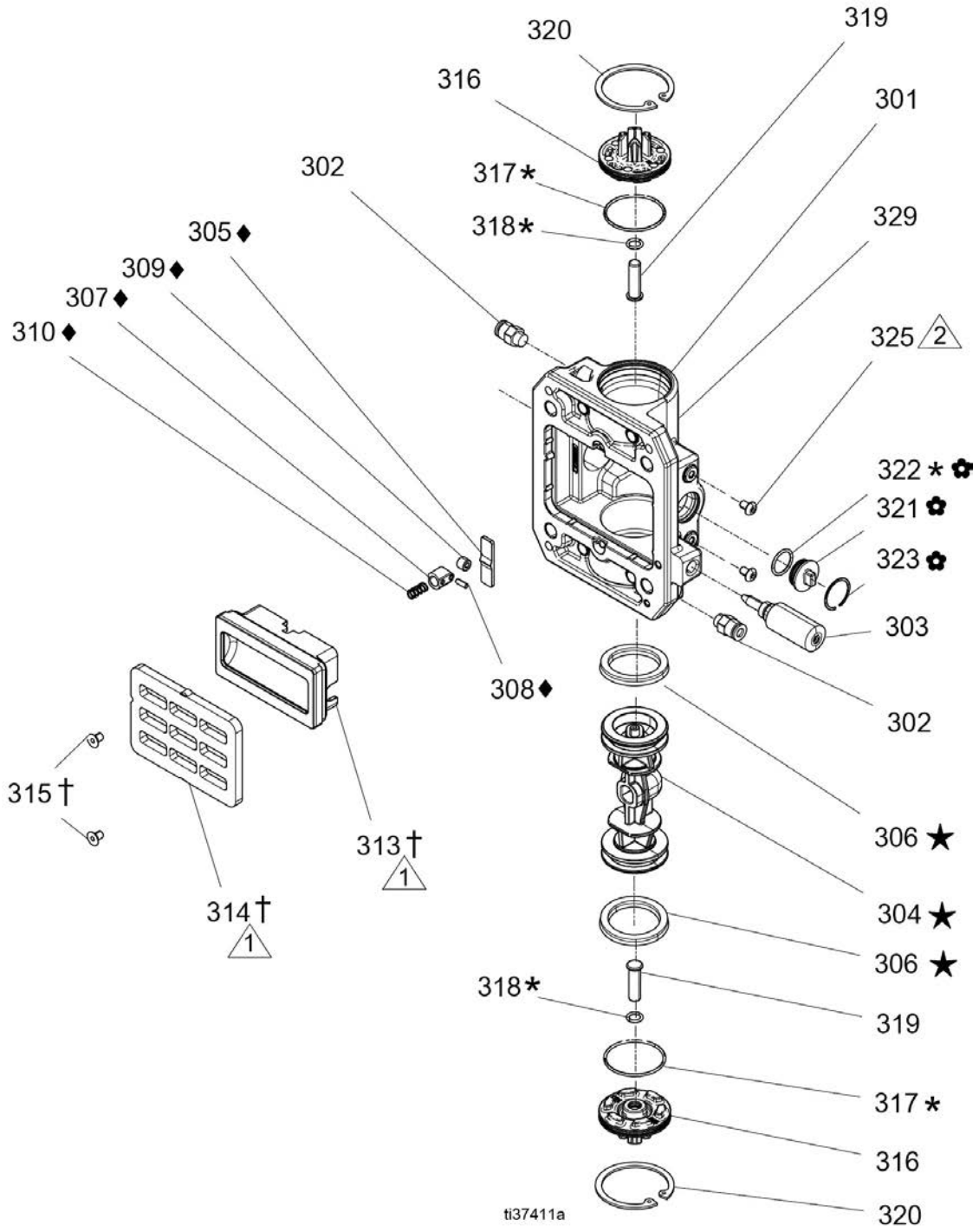


Figure 22-3: Air Valve Parts (17V344 - Standard Valve) Parts Diagram

1 Apply high quality lithium grease.

2 Blue thread sealant.

REF.	PART	DESCRIPTION	QTY.
301		HOUSING, air valve, XL, machined	1
302	115671	FITTING, connector, male	2
303	24Z604	VALVE, needle, assembly	1
304 ★		PISTON, air valve, XL	1
305 ◆		CAM, detent, XL	1
306 ★		PACKING, u-cup	2
307 ◆		PISTON, detent	1
308 ◆		PIN, detent	1
309 ◆		ROLLER, detent	1
310 ◆		SPRING, detent	1
313 †		BASE, CUP, VALVE, AIR, XL, lapped	1
314 †		PLATE, low noise, XL, lapped	1
		PLATE, valve, air, XL, lapped	1
315 †		SCREW, flat head, M5, thread form	2
316	17N617	CAP, valve, air, XL, machined	2
317 *	104010	PACKING, o-ring	2
318 *	154741	PACKING, o-ring	2
319	17A511	PIN, reset, XL air valve	2
320	557832	RING, retaining	2
321 ✿		PLUG, valve, molded	1

REF.	PART	DESCRIPTION	QTY.
322 * ✿	104130	PACKING, o-ring	1
323 ✿		RING, retaining	1
325	117026	SCREW, shcs M5 X 12	2
326		LUBRICANT, grease	1
327		SEALANT, anaerobic, blue	1
328		ADHESIVE, cyanoacrylate	1

* Included in o-ring Kit 24X563.

† Included in kit 24X564

◆ Included in kit 24X567

✿ Included in kit 24X568

★ Included in kit 24X569

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.

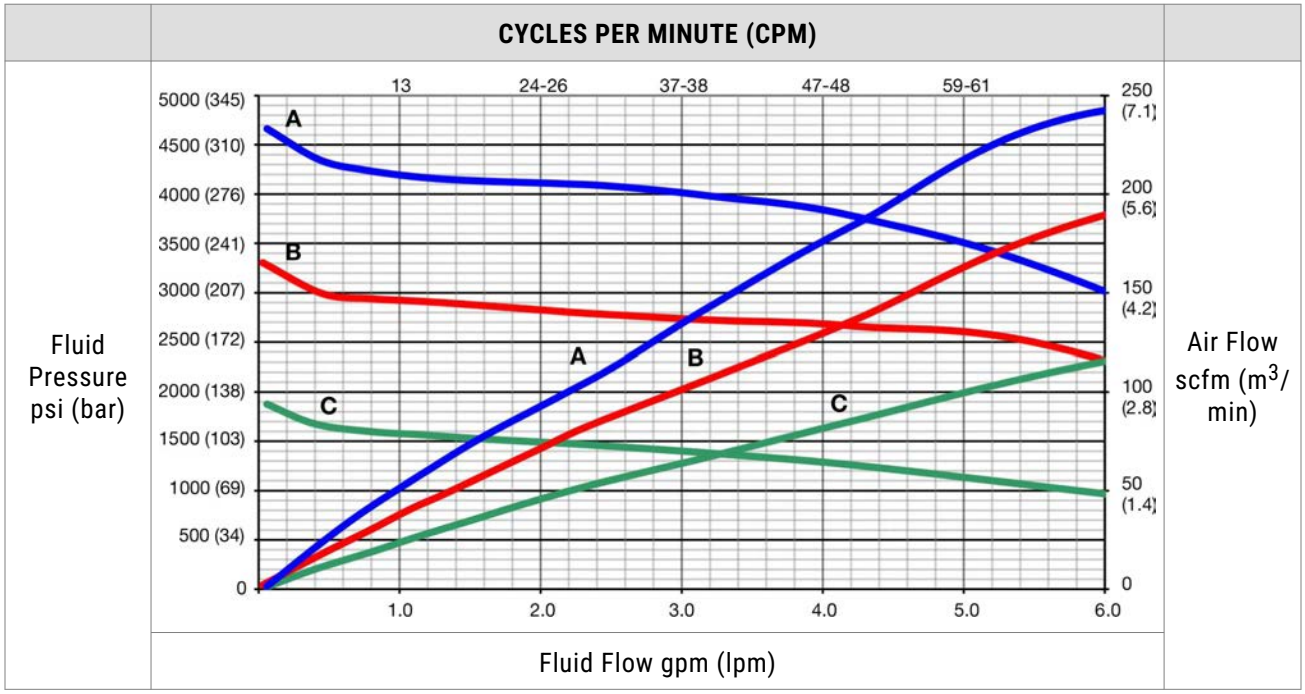
CALCULATE PUMP AIR FLOW/ CONSUMPTION

To calculate pump air/consumption (scfm or m^3/min) at a specific fluid flow (gpm/lpm) and air pressure (psi/MPa/bar), use the following instructions and pump data charts.

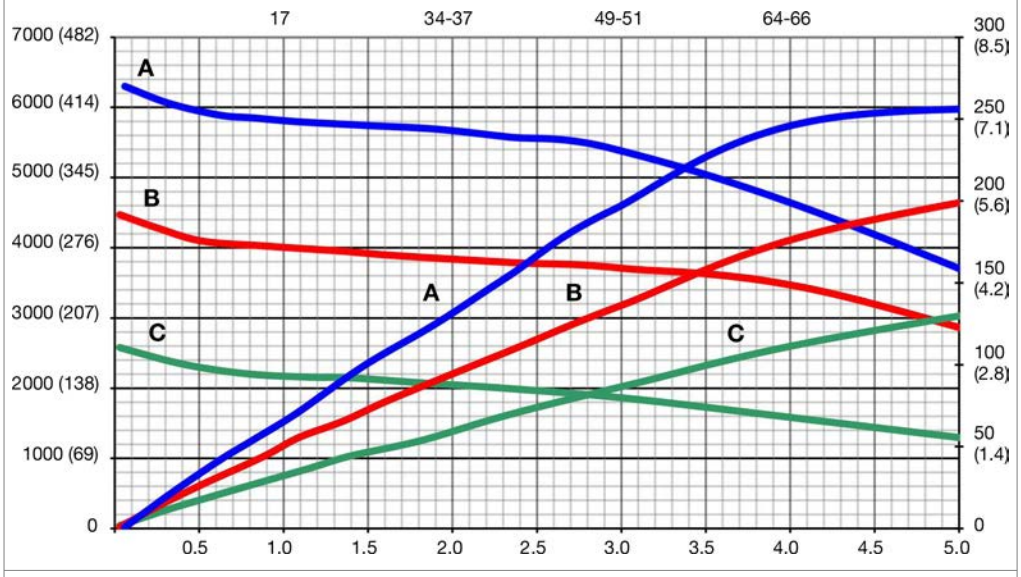
1. Locate desired flow along the bottom of the chart.
2. Follow the vertical line up to the intersection with the selected fluid outlet pressure curve. Follow right to scale to read air flow consumption.

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)

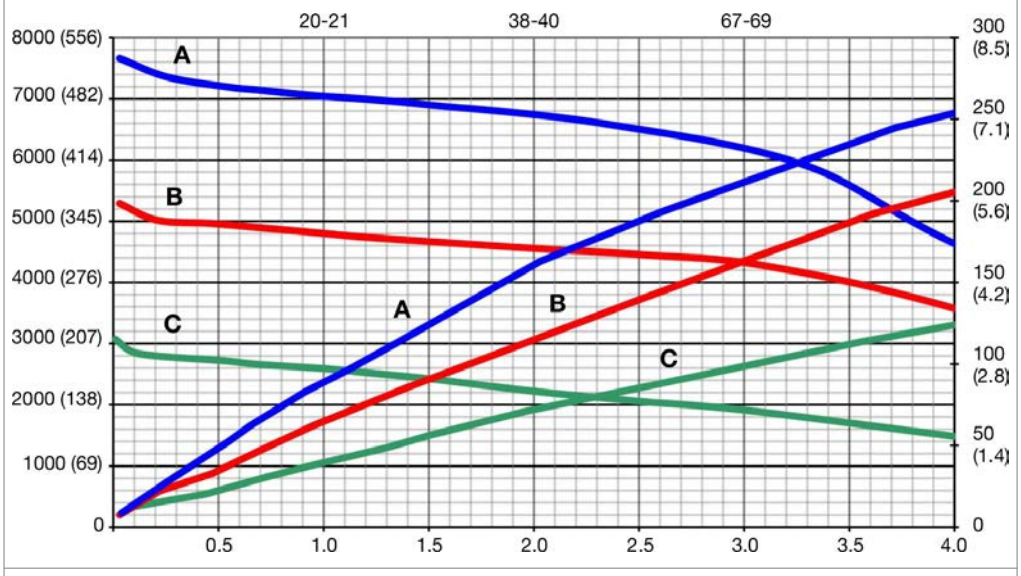
45:1



60:1

	CYCLES PER MINUTE (CPM)	
Fluid Pressure psi (bar)		Air Flow scfm (m^3/min)
	Fluid Flow gpm (lpm)	

70:1

	CYCLES PER MINUTE (CPM)	
Fluid Pressure psi (bar)		Air Flow scfm (m^3/min)
	Fluid Flow gpm (lpm)	

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.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés, à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

GRACO INC. AND SUBSIDIARIES I P.O. BOX 1441 I MINNEAPOLIS MN 55440-1441 I USA

Graco Headquarters: Minneapolis, MN USA | International Offices: Australia, Belgium, China, Japan, Korea | Toll Free Phone Number: 1-800-690-2894 (Contractor Division) and 1-800-328-0211 (Industrial Division) | For patent information, see graco.com/patents

©2026 Graco Inc. All written and visual data in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice. All Graco manufacturing locations maintain ISO 9001:2015 certifications, each certified by accredited certification bodies. Original Instructions. This manual contains English.
Revision A, February 2026