

EP™ Gun

313872C

ENG

Plural Component, Impingement Mix, Mechanical Purge Pour Gun with Throat Seal Liquid™ Technology

For use with non-flammable foam. Not for use in explosive atmospheres.

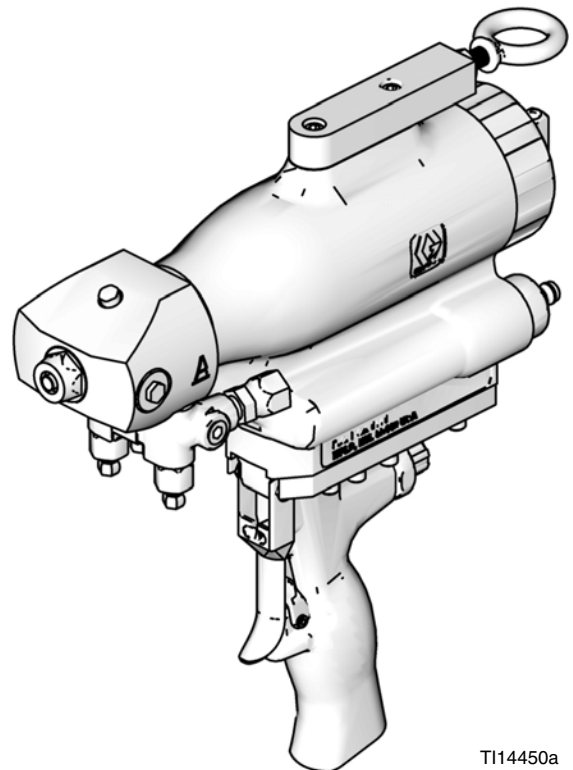
Model 257999, 24C932, 24C933, 24C934

3000 psi (20.7 MPa, 207 bar) Maximum Fluid Working Pressure
80-100 psi (0.55-0.69 MPa, 5.5-6.9 bar) Air Inlet Pressure Range
180°F (82°C) Maximum Fluid Temperature



Important Safety Instructions

Read all warnings and instructions in this manual. Save these instructions.



TI14450a

US Patent Pending



HO03

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Related Manuals

Manuals are available at www.graco.com.

Component manuals in U.S. English:

Power-Lock™ Heated Hose	
Part	Description
309572	Instructions - Parts
Solvent Flush Kits	
Part	Description
309963	Instructions - Parts
Circulation Manifold Kit	
Part	Description
309818	Instructions - Parts
Heated Hoses and Applicator Kits	
Part	Description
3A0237	Instructions - Parts

Models

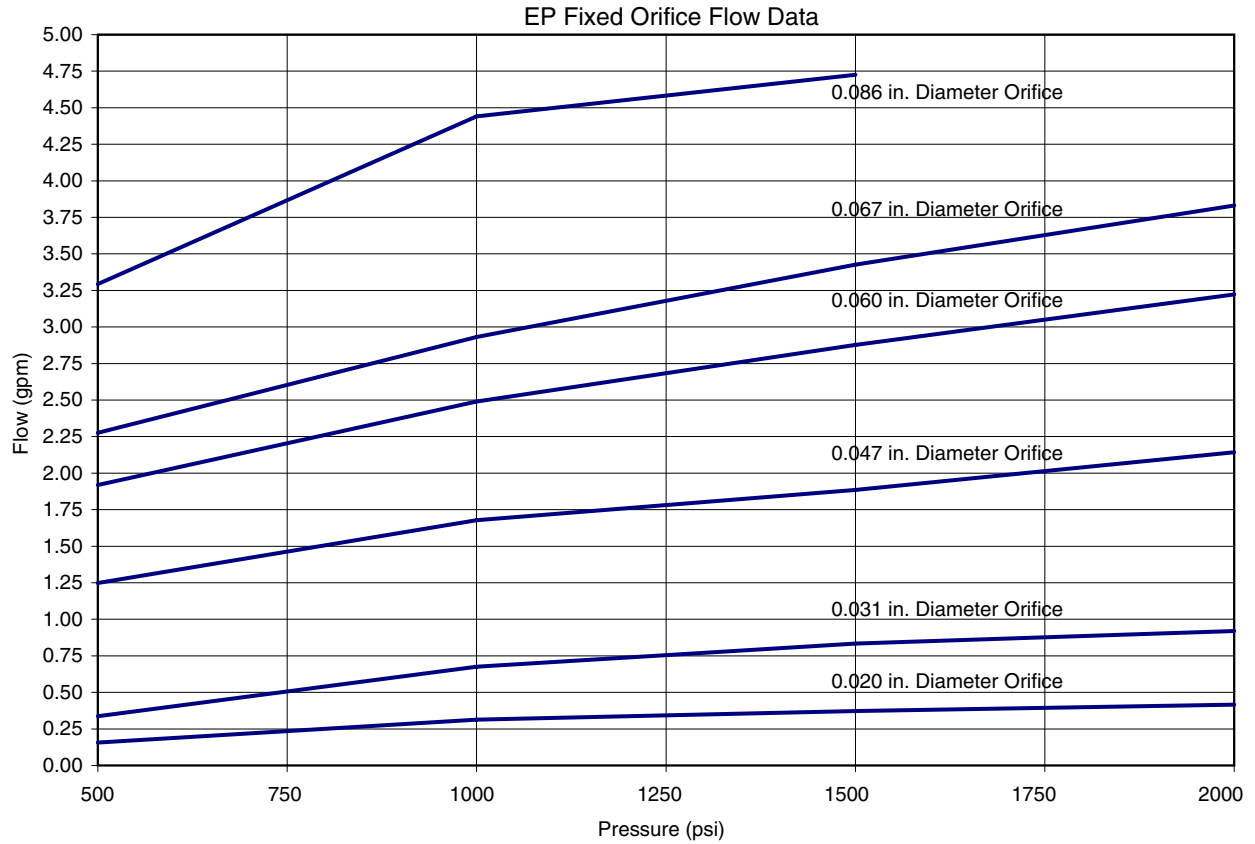
Part	Purge Rod Diameter in. (mm)	Orifice Size in. (mm)	Handle Type
257999	0.250 (6.35)	0.031 (0.79)	Handheld
24C932	0.250 (6.35)	0.031 (0.79)	Auto
24C933	0.375 (9.53)	0.047 (1.2)	Handheld
24C934	0.375 (9.53)	0.047 (1.2)	Auto

Orifice Flow Area Ratio Chart

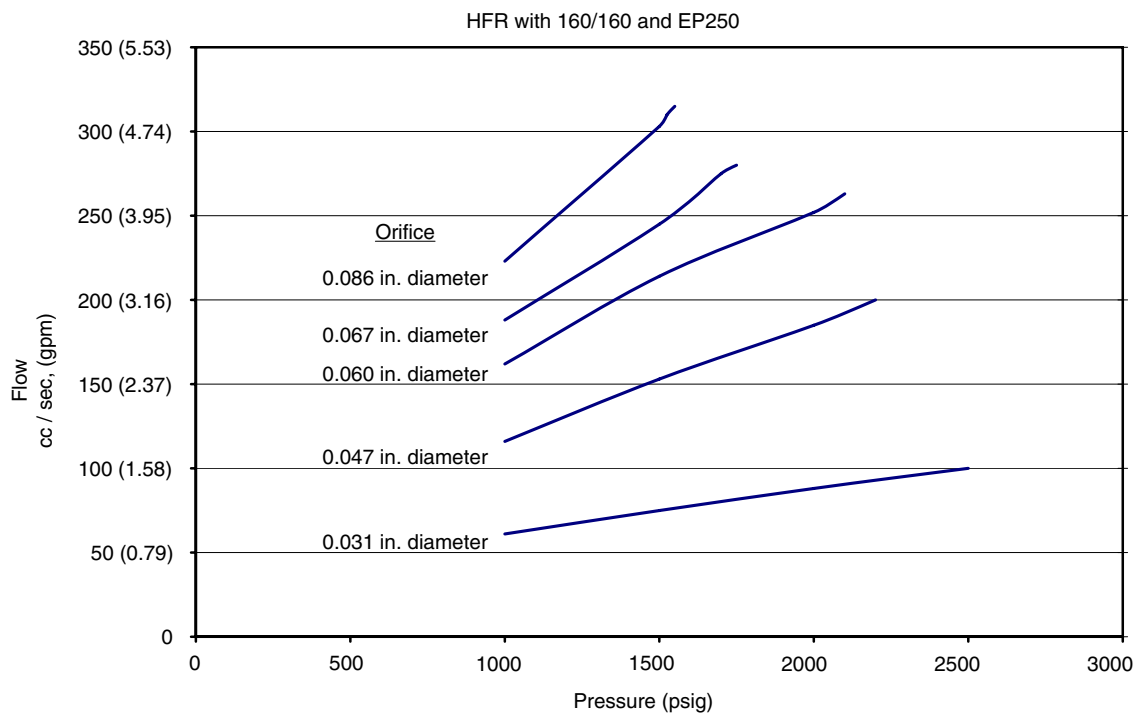
In general, flow area ratio should be equal to material ratio but will be influenced by material viscosity. The ideal flow area ratio is dependent on flow rates, material viscosity, and material ratio. Choose the correct size orifices to equalize fluid pressures at the proportioner.

Available Orifice Flow Area Ratios																	Flowrate Increases as Diameter Increases=>
Dia-meter	0.016	0.020	0.024	0.028	0.031	0.035	0.039	0.042	0.047	0.052	0.055	0.060	0.063	0.067	0.073	0.086	
0.016	1.0	1.6	2.3	3.1	3.8	4.8	5.9	6.9	8.6	10.6	11.8	14.1	15.5	17.5	20.8	28.9	
0.020	1.6	1.0	1.4	2.0	2.4	3.1	3.8	4.4	5.5	6.8	7.6	9.0	9.9	11.2	13.3	18.5	
0.024	2.3	1.4	1.0	1.4	1.7	2.1	2.6	3.1	3.8	4.7	5.3	6.3	6.9	7.8	9.3	12.8	
0.028	3.1	2.0	1.4	1.0	1.2	1.6	1.9	2.3	2.8	3.4	3.9	4.6	5.1	5.7	6.8	9.4	
0.031	3.8	2.4	1.7	1.2	1.0	1.3	1.6	1.8	2.3	2.8	3.1	3.7	4.1	4.7	5.5	7.7	
0.035	4.8	3.1	2.1	1.6	1.3	1.0	1.2	1.4	1.8	2.2	2.5	2.9	3.2	3.7	4.4	6.0	
0.039	5.9	3.8	2.6	1.9	1.6	1.2	1.0	1.2	1.5	1.8	2.0	2.4	2.6	3.0	3.5	4.9	
0.042	6.9	4.4	3.1	2.3	1.8	1.4	1.2	1.0	1.3	1.5	1.7	2.0	2.3	2.5	3.0	4.2	
0.047	8.6	5.5	3.8	2.8	2.3	1.8	1.5	1.3	1.0	1.2	1.4	1.6	1.8	2.0	2.4	3.3	
0.052	10.6	6.8	4.7	3.4	2.8	2.2	1.8	1.5	1.2	1.0	1.1	1.3	1.5	1.7	2.0	2.7	
0.055	11.8	7.6	5.3	3.9	3.1	2.5	2.0	1.7	1.4	1.1	1.0	1.2	1.3	1.5	1.8	2.4	
0.060	14.1	9.0	6.3	4.6	3.7	2.9	2.4	2.0	1.6	1.3	1.2	1.0	1.1	1.2	1.5	2.1	
0.063	15.5	9.9	6.9	5.1	4.1	3.2	2.6	2.3	1.8	1.5	1.3	1.1	1.0	1.1	1.3	1.9	
0.067	17.5	11.2	7.8	5.7	4.7	3.7	3.0	2.5	2.0	1.7	1.5	1.2	1.1	1.0	1.2	1.6	
0.073	20.8	13.3	9.3	6.8	5.5	4.4	3.5	3.0	2.4	2.0	1.8	1.5	1.3	1.2	1.0	1.4	
0.086	28.9	18.5	12.8	9.4	7.7	6.0	4.9	4.2	3.3	2.7	2.4	2.1	1.9	1.6	1.4	1.0	
Flowrate Increases as Diameter Increases =>																	

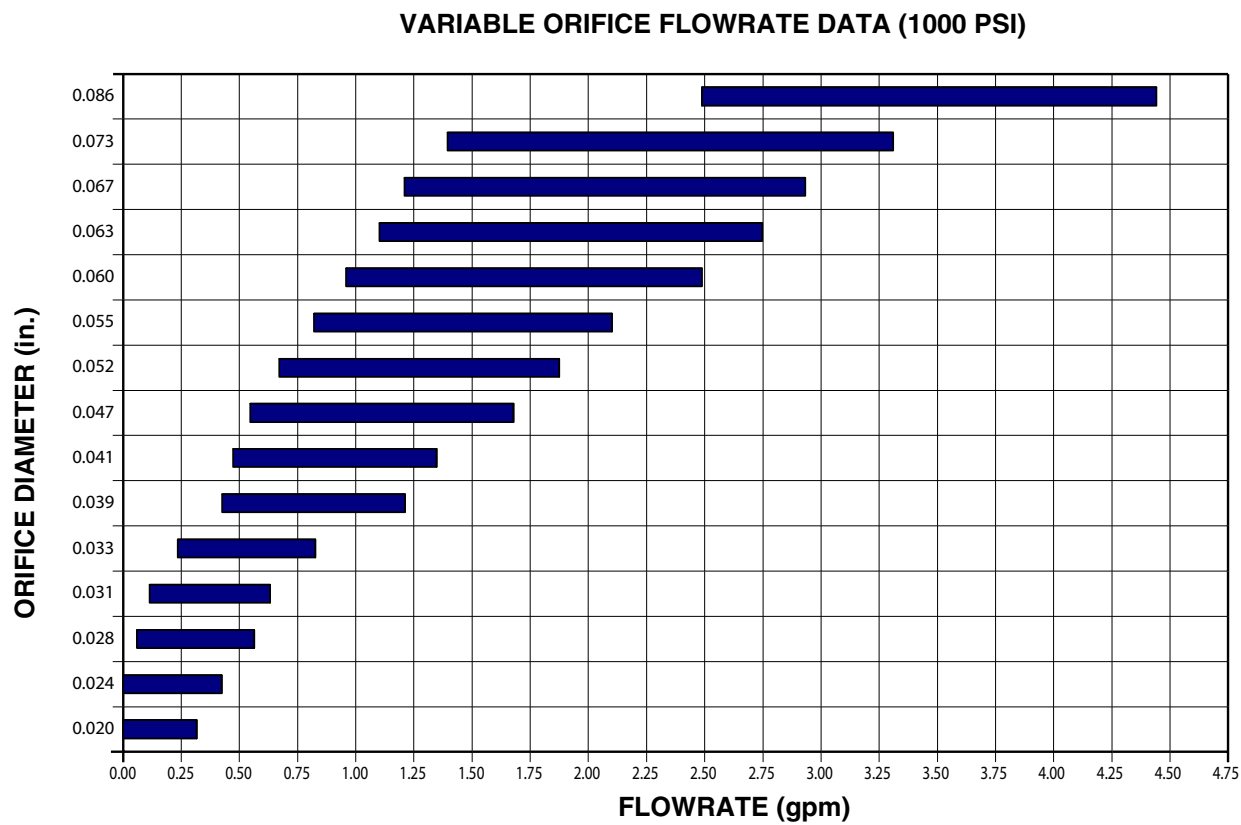
Fixed Orifice Flowrate Data



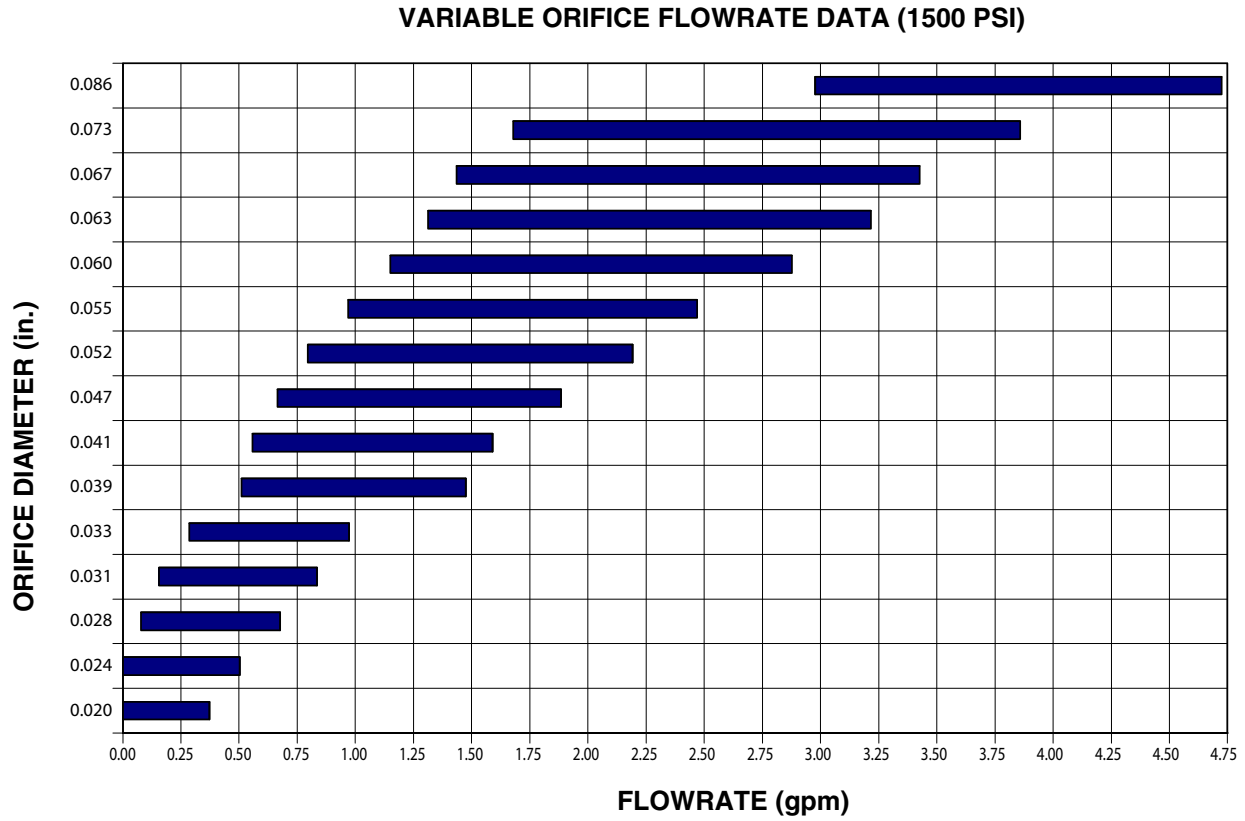
EP Gun Flowrate Data, Tested with 2 lb Foam



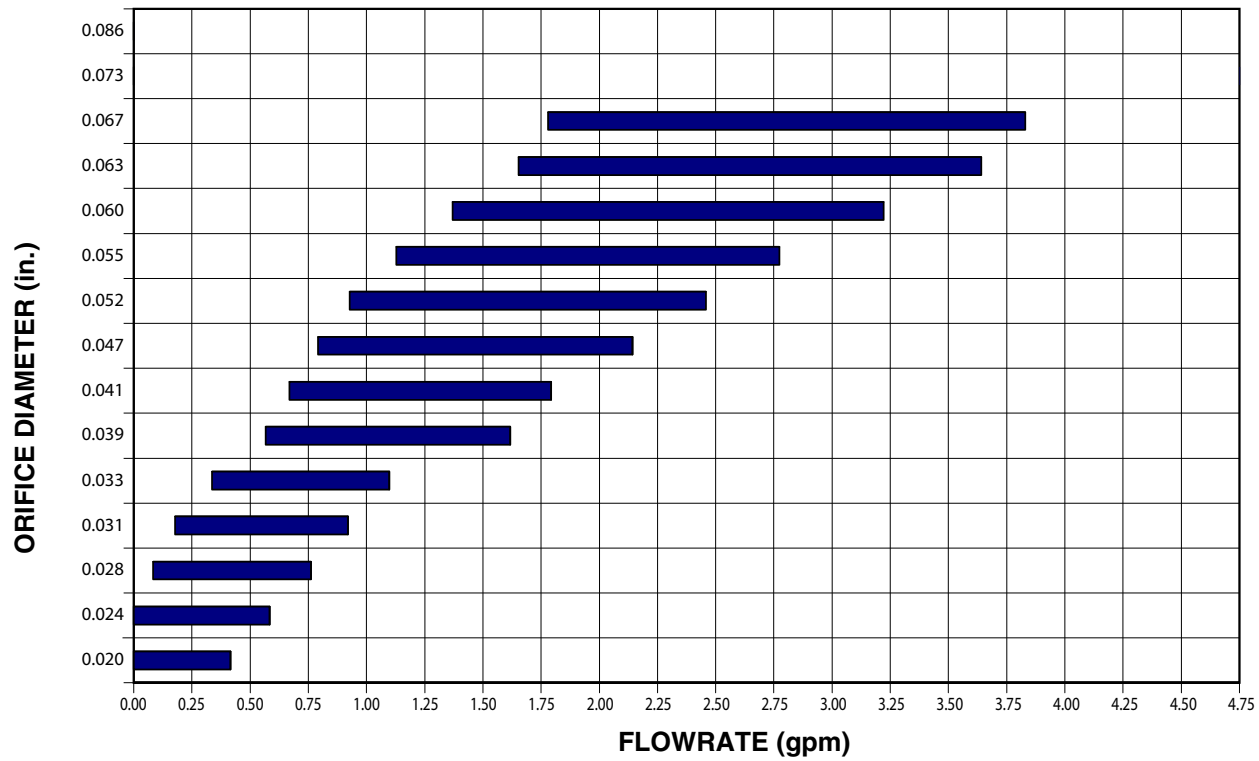
Variable Orifice Flowrate Data



* To calculate flow in lb/min, multiply gpm rate by 10.
Example: 2 gpm x 10 = 20 lb/min.








* To calculate flow in lb/min, multiply gpm rate by 10.
Example: 2 gpm x 10 = 20 lb/min.

VARIABLE ORIFICE FLOWRATE DATA (2000 PSI)

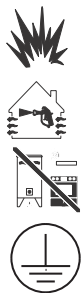
* To calculate flow in lb/min, multiply gpm rate by 10.
Example: 2 gpm x 10 = 20 lb/min.

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 symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

 WARNING	
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read MSDSs to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines. • Always wear chemically impermeable gloves when spraying, dispensing, or cleaning equipment.
	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.
	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispensing device, 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.</p> <ul style="list-style-type: none"> • Engage trigger lock when not dispensing. • Do not point dispensing device at anyone or at any part of the body. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing 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
	<p>BURN HAZARD</p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"> • Do not touch hot fluid or equipment.

! WARNING



FIRE AND EXPLOSION HAZARD

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

- 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 arc).
- 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.
- Ground all equipment in the work area. See **Grounding** instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately**. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the **Pressure Relief Procedure** 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.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

Important Two-Component Material Information

Isocyanate Conditions



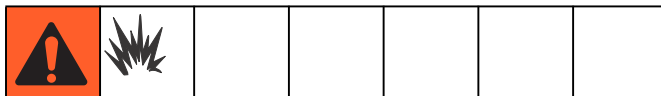
Spraying or dispensing materials containing isocyanates creates potentially harmful mists, vapors, and atomized particulates.

Read material manufacturer's warnings and material MSDS to know specific hazards and precautions related to isocyanates.

Prevent inhalation of isocyanate mists, vapors, and atomized particulates by providing sufficient ventilation in the work area. If sufficient ventilation is not available, a supplied-air respirator is required for everyone in the work area.

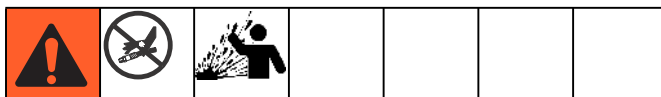
To prevent contact with isocyanates, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons, and goggles, is also required for everyone in the work area.

Material Self-ignition



Some materials may become self-igniting if applied too thickly. Read material manufacturer's warnings and material MSDS.

Keep Components A and B Separate



Cross-contamination can result in cured material in fluid lines which could cause serious injury or damage equipment. To prevent cross-contamination of the equipment's wetted parts, **never** interchange component A (isocyanate) and component B (resin) parts.

Moisture Sensitivity of Isocyanates

Isocyanates (ISO) are catalysts used in two component foam and polyurea coatings. ISO will react with moisture (such as humidity) to form small, hard, abrasive crystals, which become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity. If used, this partially cured ISO will reduce performance and the life of all wetted parts.

NOTE: The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

To prevent exposing ISO to moisture:

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO lube pump reservoir (if installed) filled with Graco Throat Seal Liquid™ (TSL™), Part 206995. The lubricant creates a barrier between the ISO and the atmosphere.
- Use moisture-proof hoses specifically designed for ISO, such as those supplied with your system.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Never use solvent on one side if it has been contaminated from the other side.
- Always lubricate threaded parts with ISO pump oil or grease when reassembling.

Foam Resins with 245 fa Blowing Agents

Some foam blowing agents will froth at temperatures above 90°F (33°C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

Changing Materials

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- Most materials use ISO on the A side, but some use ISO on the B side.
- Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.

A (Red) and B (Blue) Components

IMPORTANT!

Material suppliers can vary in how they refer to plural component materials.



Be aware that when standing in front of the manifold on proportioner:

- Component A (Red) is on the left side. The A (Red) side is intended for ISO, hardeners, and catalysts.
- Component B (Blue) is on the right side. The B (Blue) side is intended for polyols, resins, and bases.



For ratios higher than 1:1, the higher volume is typically the B (Blue) side.

- Most polyurethanes use ISO on the A (Red) side and polyol on the B (blue side, but some use ISO on the B (Blue) side.
- Epoxies often have amines on the B (hardener) side
- Polyureas often have amines on the B (resin) side.
- Silicones often have the catalyst on the B side.

Throat Seal Liquid

						
Read material MSDS to know specific hazards and precautions related to Throat Seal Liquid.						

Grounding

						
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Check your local electrical code and proportioner manual for detailed grounding instructions.

Ground the pour gun through connection to a Graco-approved grounded fluid supply hose. Always ground the gun when flushing.

Piston Safety Lock

Engage piston safety lock whenever you stop pouring to avoid accidental triggering and serious injury.

						
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Engage

To engage piston safety lock, push knob in and turn clockwise. If engaged, gun will not dispense.

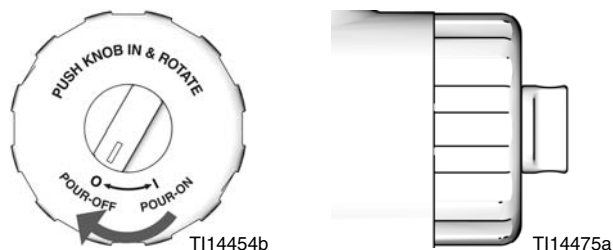


FIG. 1: Piston Safety Lock Engaged

Disengage

To disengage piston safety lock, push knob in and turn counterclockwise until it pops out. There will be a gap between knob and gun body.

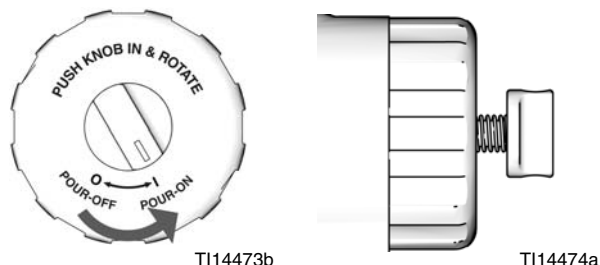
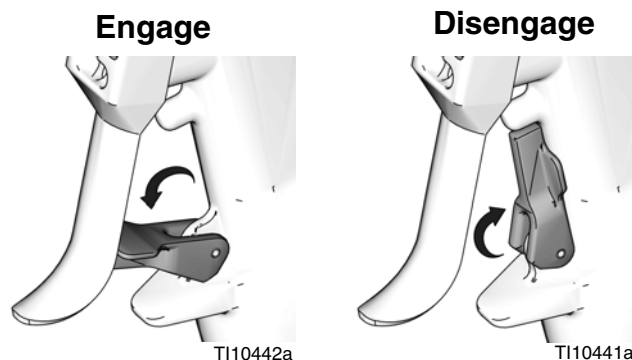


FIG. 2: Piston Safety Lock Disengaged

Trigger Lock

Engage trigger lock whenever you stop pouring to avoid accidental triggering. Must be used with piston safety lock.

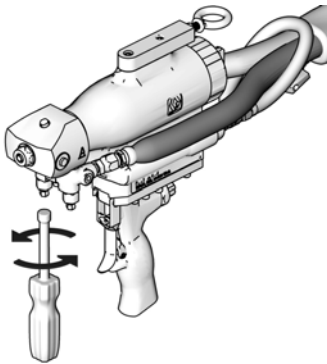


Loss of Air Pressure



Purge rod actuation is controlled by air pressure. In event of loss of air pressure, the purge rod will remain retracted, the impingement ports will remain open, and the gun will continue to pour. To stop pouring, do one of the following:

- Engage piston safety lock, see **Piston Safety Lock** section
- Close fluid valves A and B, see FIG. 3

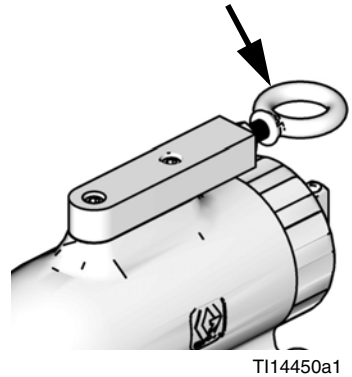


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FIG. 3

Hook Support

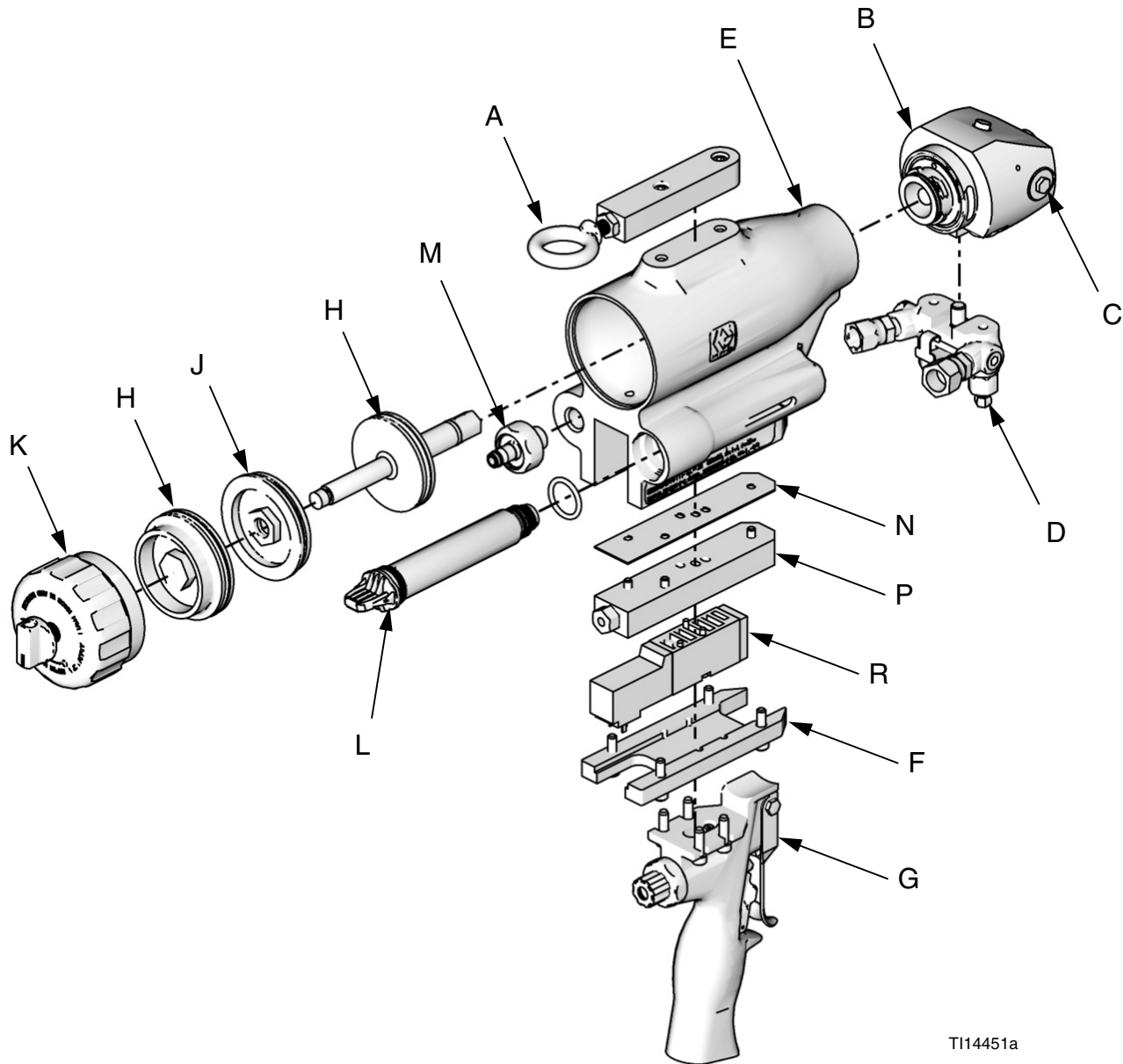
If necessary, use the hook support located on the top of the gun to support the weight of the gun. Connect a strong rope or chain able to support the weight of the gun to the hook, then connect the other end to a support. This will enable the user to use the gun without having to support the weight of the gun.



[illegible]

Component Identification

See **Parts** on page 42 for part numbers and further component identification.



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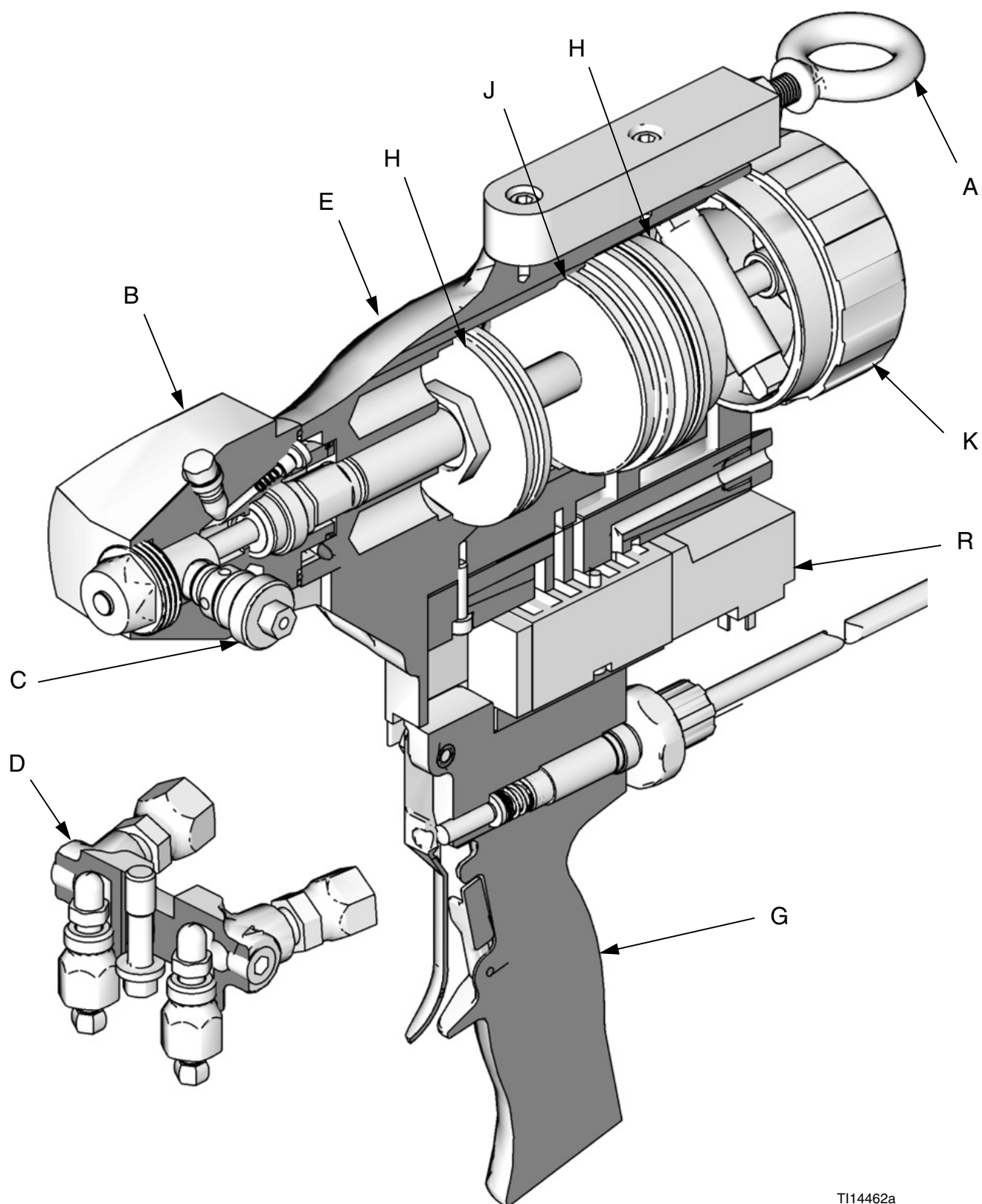
FIG. 4

Key:

- A Hook Support
- B Fluid Housing
- C Orifice
- D Fluid Manifold
- E Air Cylinder, Gun Body
- F Mounting Plate
- G Electric Trigger Handle (optional)

- H Dual Pistons
- J Bulkhead
- K Piston Safety Lock
- L Throat Seal Liquid Cartridge
- M Airline Fitting
- N Solenoid Valve Gasket
- P Solenoid Valve Mounting Plate
- R Solenoid Valve

Cutaway View

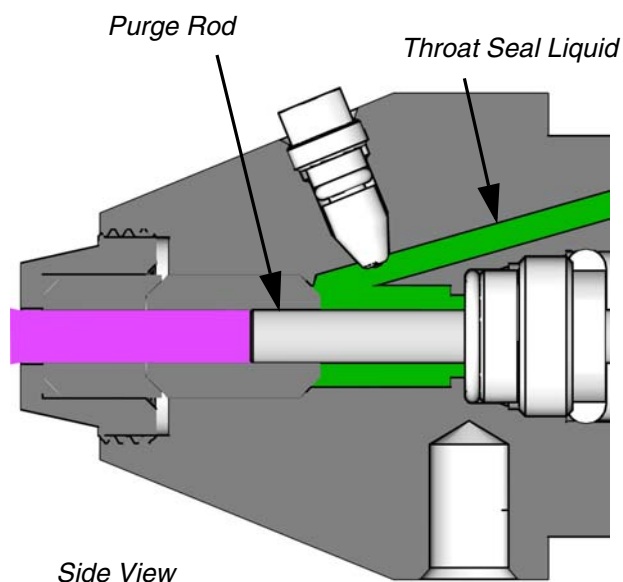


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Theory of Operation

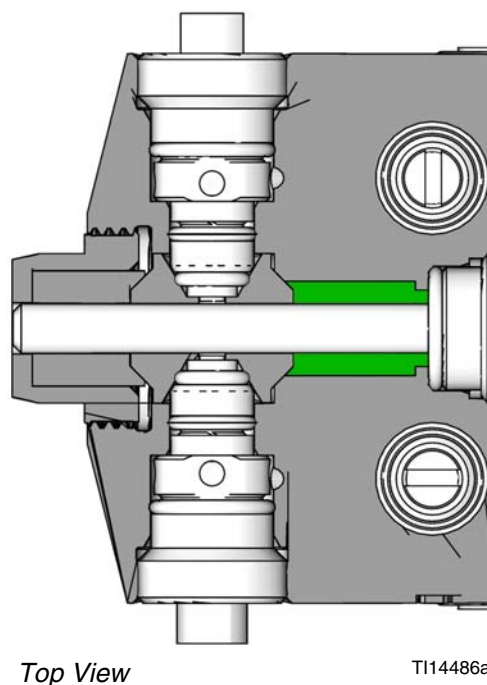
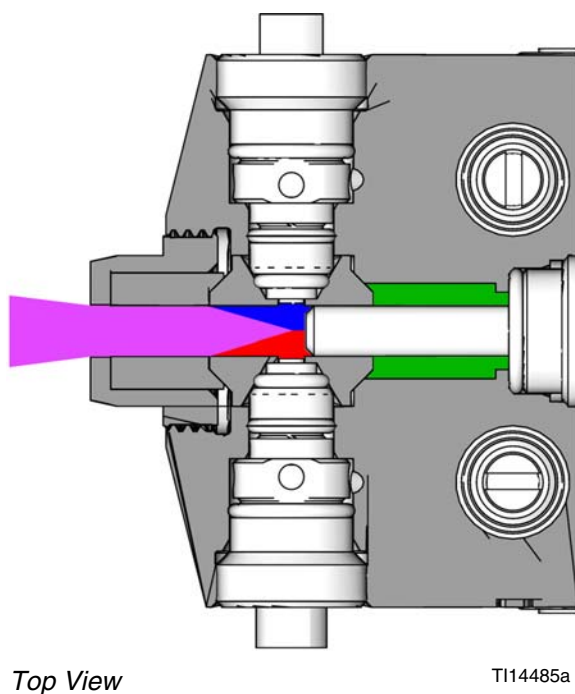
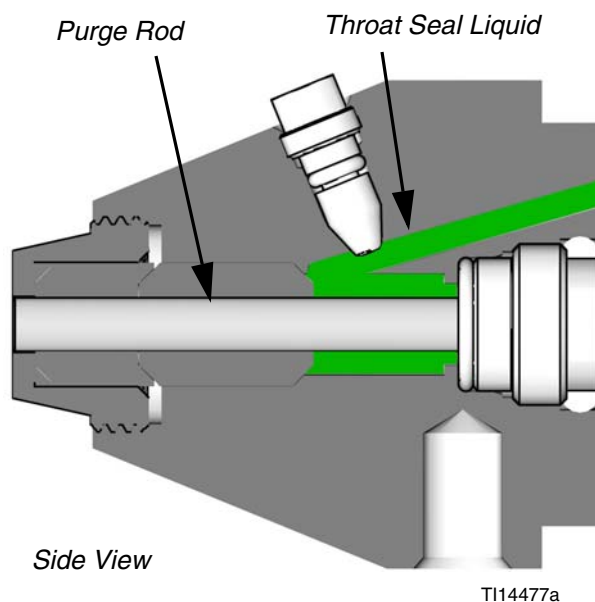
Gun Triggered (Fluid Pouring)

Purge rod retracts, opening the impingement ports and allowing fluid to mix and flow through the nozzle. Throat Seal Liquid lubricates the purge rod.



Gun Detriggered

Purge rod extends, closing the impingement ports and stopping fluid flow. Throat Seal Liquid lubricates the purge rod.



Setup

Perform this setup procedure to get the pour gun ready for operation.

1. Close fluid valves A and B.

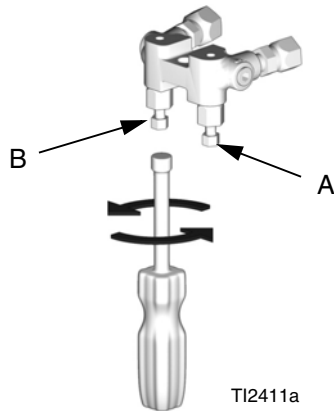
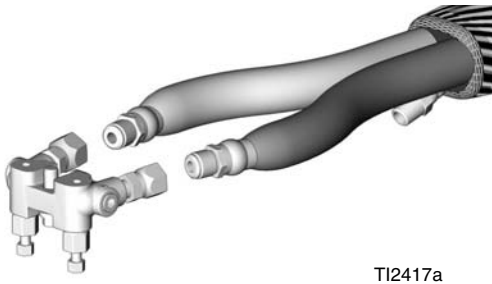


FIG. 5

2. Connect A and B fluid hoses to fluid manifold.



3. Engage piston safety lock. See page 13.
4. Connect gun air whip hose (AA) and air valve (AB) to main air hose. See FIG. 6. Verify air valve is closed.
5. Assemble fluid manifold (AD) to gun by hand then use 5/16 in. nut driver to torque bolt to 20-30 in-lb (2.26-3.39 N•m). See FIG. 6.

6. Connect gun air whip hose (AA) to air quick coupler (AC). Turn on air. Open air valve (AB). See FIG. 6.

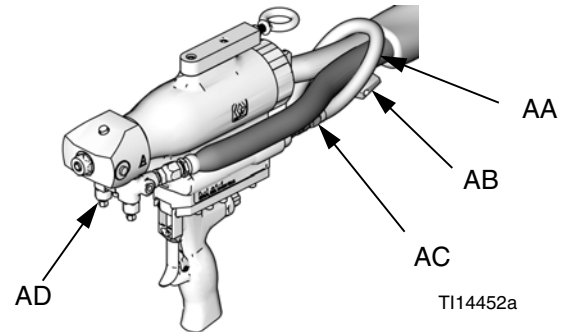


FIG. 6

7. Connect signal cable to solenoid valve.
8. **Models with a handle**, connect signal cable to handle.
9. Disengage piston safety lock. See page 13.

<p>In the following step, do not point gun at yourself. If necessary, use a mirror to verify purge rod travel. Pointing gun at yourself or someone else can lead to accidentally spraying yourself or someone else with fluid. If the purge rod was not correctly installed, purge rod can shoot out of the barrel when gun is actuated and can cause severe injury.</p>						

10. Verify fluid valves are closed, see FIG. 5, then trigger gun to check for full purge rod travel.

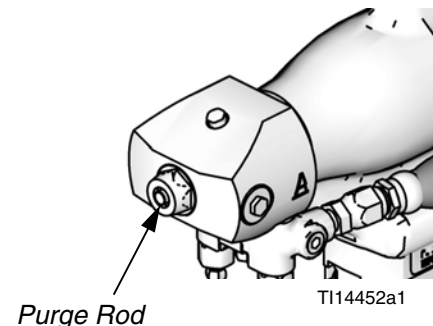
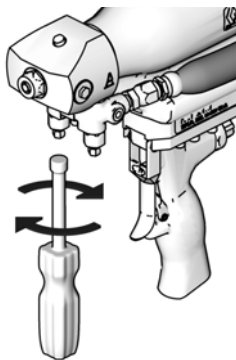


FIG. 7

11. Engage piston safety lock. See page 13.
12. Perform **Bleed Throat Seal Liquid Cartridge** procedure. See page 24.
13. Turn on proportioner. See proportioner manual.
14. Open fluid valves A and B.



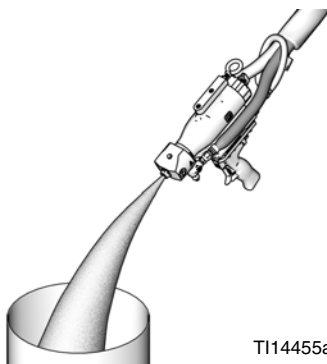
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FIG. 8

15. Disengage piston safety lock. See page 13.



16. Perform a test pour into a waste container. Adjust pressure and temperature to get desired results, see proportioner manual. Also, see **Adjust Orifices**.



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FIG. 9

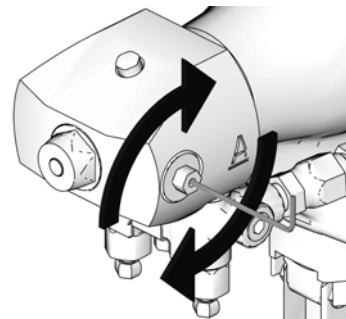
Adjust Orifices

In order to balance pressures between the A component and B component the needle in each orifice may need to be adjusted. Be sure that all necessary adjustments to the proportioner are made prior to adjusting the orifices, see proportioner manual.

If after adjusting pressures neither orifice can achieve the desired pressure both orifices should be replaced with a larger or smaller size. Note that a smaller orifice will provide higher pressure and a larger orifice will provide lower pressure.

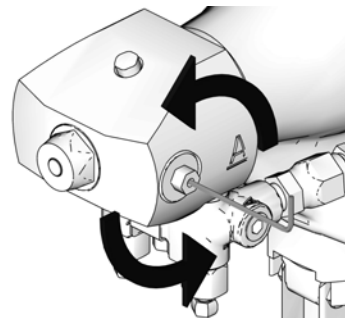
If after attempting to balance pressures the pressure difference is over 500 psi one orifice should be replaced with a different size. If that is the case, adjust the needle in each orifice all the way open (counter-clockwise) and observe the pressures. The orifice whose pressure is farthest from the desired pressure should be replaced. Note that a smaller orifice will provide higher pressure and a larger orifice will provide lower pressure.

1. Insert a 5/64 in. hex key (supplied) into the opening in the hex on the orifice.
2. **In order to increase the pressure**, turn the needle clockwise.



TI15102a

In order to decrease the pressure, turn the needle counter-clockwise.



TI15104a

Optional Hose Position

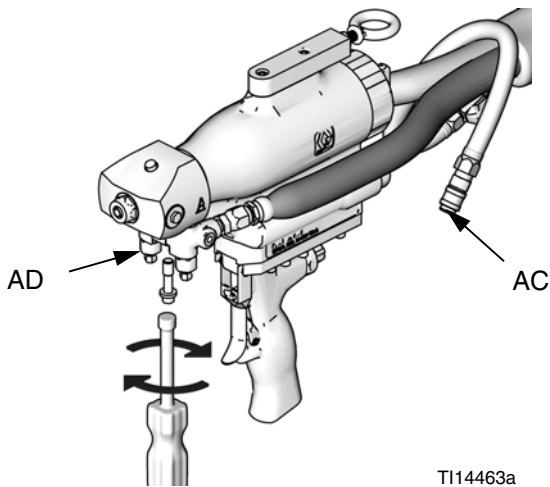


As shipped, fluid inlet swivel fittings point to rear of the gun. If desired, use the following procedure to make the fluid inlet swivel fittings point downward.

NOTICE

To prevent cross-contamination of gun's wetted parts, do not interchange A component (isocyanate) and B component (resin) parts.

1. Follow **Pressure Relief Procedure**, page 22.
2. Disconnect air quick coupler (AC). Use hex nut driver to remove fluid manifold (AD).



3. Disconnect signal cable.
4. Place a cap over the end of each hose. Disconnect fluid hoses from inlet swivels (AE). Remove plugs from optional inlets (AG).

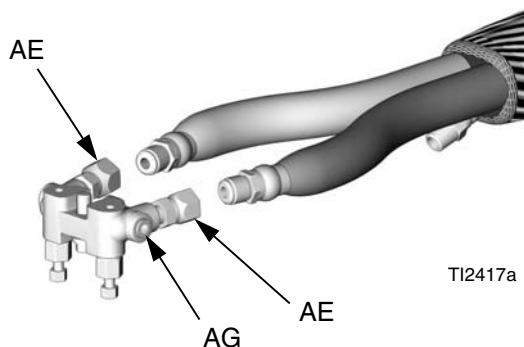


FIG. 10

5. Apply thread sealant to plugs (AH), elbows (AJ), and male threads of swivels (AE). Install elbows (AJ) in optional inlets, facing down. See FIG. 11. Install swivels in elbows. Be sure to install the A swivel in the A side. Install plugs (AH) where swivels had been. Torque all parts to 235-245 in-lb (26.6-27.7 N•m).

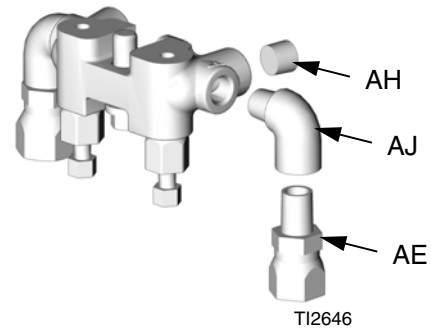
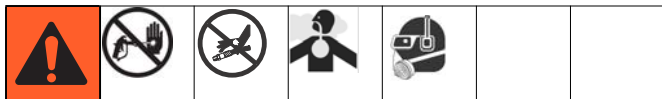


FIG. 11

6. Connect the A hose to the A swivel and the B hose to the B swivel.
7. Attach fluid manifold (AD) to gun. Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m).
8. Connect air quick coupler (AC).

Pressure Relief Procedure



1. Engage piston safety lock. See page 13.

NOTE: Air supply is required for purge rod actuation. Do not disconnect gun air supply until fluid pressure is relieved.

2. Close fluid valves A and B. Leave air valve (AB) open.

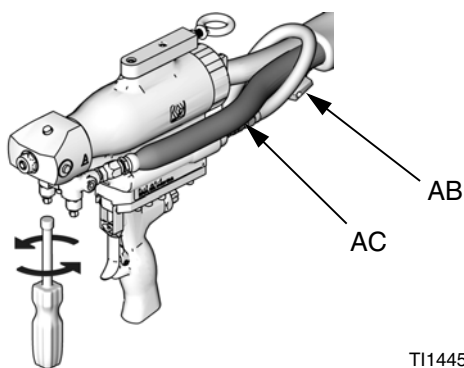


FIG. 12

3. Disengage piston safety lock. See page 13.
4. Trigger gun onto cardboard or into waste container to relieve pressure.

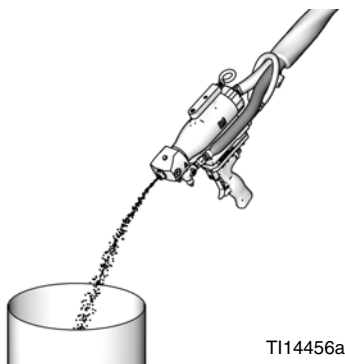


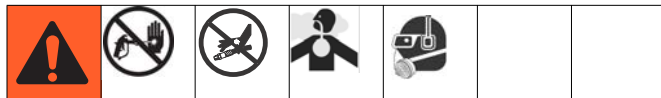
FIG. 13

5. Disconnect air quick coupler (AC). See FIG. 12.
6. Engage piston safety lock. See page 13.

7. Relieve system pressure. See Pressure Relief Procedure in proportioner manual.

8. Ensure fluid valves are closed then remove fluid manifold.

9. Place the fluid manifold over waste containers, facing away from you.



10. Very slowly open the fluid valves. Under high pressure, fluid will spray sideways from the fluid ports.



Shutdown



Short Term Shutdown

Perform Short Term Shutdown procedure if gun will not be used for more than one hour.

1. Perform **Pressure Relief Procedure** on page 22.
2. Trigger gun 3-4 times with piston safety lock engaged in order to ensure material does not build up on the purge rod. When purge rod is retracted, spray some Throat Seal Lubricant into the front nose.
3. Leave air turned on and gun dettriggered.
4. Remove any material build-up on front of gun.

Long Term Shutdown

Perform Long Term Shutdown procedure if gun will not be used for more than 48 hours.

1. Perform **Short Term Shutdown**.
2. **Flush Gun**, see page 25.

Maintenance

Procedure	Schedule
Bleed Throat Seal Liquid Cartridge, page 24	Weekly
Replace Mix Chamber and Front Seal, see page 30	Every 2-4 Weeks
Clean Clean Check Valves, page 27	Monthly
Clean Outside of Gun, page 25	As Needed
Replace Throat Seal Liquid Cartridge, page 31	As Needed
Clean Breather Plug, page 26	As Needed
Clean Fluid Manifold, page 26	As Needed
Clean Fluid Housing Passages, page 28	As Needed
Clean Orifice, page 29	As Needed

Supplied Tool Kit

See **Parts** on page 42 for tool illustrations.

- Hex Nut Driver; 5/16
- Screwdriver; 1/8 blade
- Impingement Port Drill Bit; various sizes depending on port size
- 117661 Pin Vise; dual reversible chucks, see FIG. 14
- 118665 Fusion grease



FIG. 14: Pin Vise

Lubrication

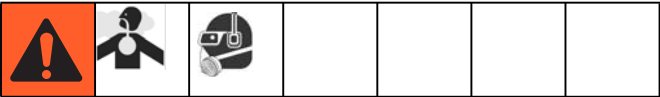
See **Accessories** on page 53 to order lubricant. Liberally lubricate all o-rings, seals, and threads.

NOTICE

Use only Throat Seal Liquid on the o-rings, seals, and threads of the Throat Seal Liquid cartridge. Fusion grease or other petroleum-based or vegetable-based lubricants will cause cartridge o-rings and seals to swell and stick.

Bleed Throat Seal Liquid Cartridge

To effectively coat the purge rod, air must be bled out of the TSL cartridge weekly. Perform this procedure after replacing the mix module or front end to bleed TSL from cartridge. Before replacing the mix module or front end, bleed all TSL to prevent spilling TSL.



1. With bleed port facing away from you and with air supply connected, use a 5/16 in. nut driver (supplied) to slowly open the bleed valve 1/4 to 1/2 turn until air/fluid begins to slowly exit the valve. See FIG. 15.

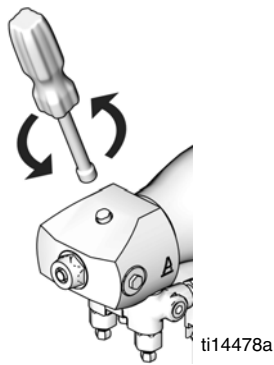


FIG. 15: Open the Bleed Port

2. When no more air comes out of the bleed valve, close the bleed valve.

Flush Gun



1. Follow **Pressure Relief Procedure**, page 22.
2. Remove fluid manifold (AD).

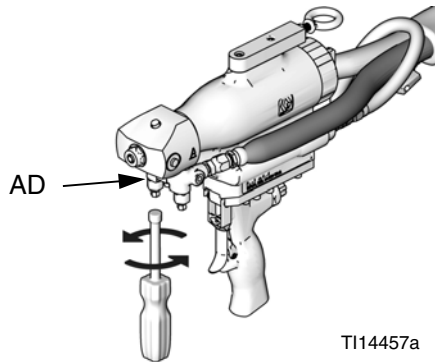


FIG. 16

3. Disconnect signal cable.
4. Install flush hoses to flush manifold 15B817. See FIG. 17. Install flush manifold onto gun. Torque flush manifold bolt to 20-30 in-lb (2.26-3.39 N•m).

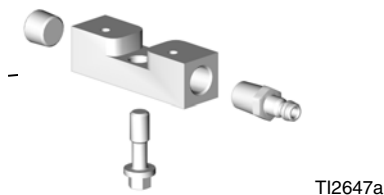


FIG. 17: Flush Manifold

5. Holding a metal part of flush manifold firmly to side of grounded pail and flush with compatible solvent into a grounded metal pail. See wetted parts info in **Technical Data**, page 55. Use lowest possible fluid pressure when flushing.
6. Follow **Pressure Relief Procedure**, page 22.

NOTE: For a more thorough flush, solvent flush kits are available as an accessory. See **Accessories** on page 53.

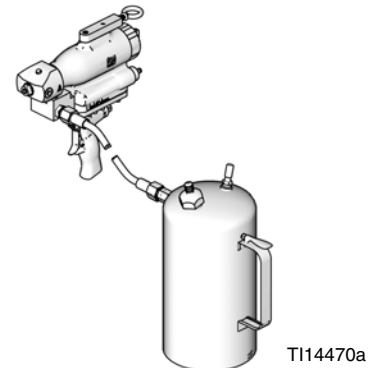
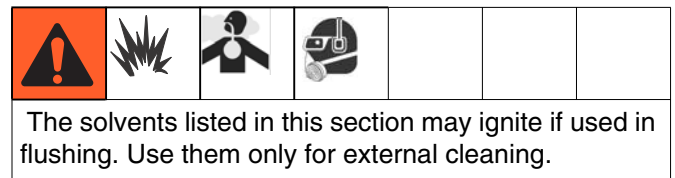


FIG. 18: 248139, 1 qt (0.95 liter) Solvent Cup

7. Remove flush hoses from flush manifold. Remove flush manifold from gun.
8. Remove Recirculation Block 15C850 from fluid manifold.
9. Connect fluid manifold to gun. Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m).
10. Connect signal cable.

Clean Outside of Gun



Wipe the outside of the gun with a compatible solvent. See materials of construction info in **Technical Data**, page 55. Use N-Methylpyrrolidone (NMP), Dynasolve CU-6, Dzol, or an equivalent solvent to soften cured material. Applying a light coat of lubricant will make future cleaning easier.

Clean Breather Plug



The solvents listed in this section may ignite if used in flushing. Use them only for external cleaning.

Remove and clean breather plug with compatible solvent. See materials of construction info in **Technical Data**, page 55. The breather plug is part of the solenoid manifold assembly (30). See FIG. 19. Use N-Methylpyrrolidone (NMP), Dynasolve CU-6, Dzolv, or an equivalent to soften cured material. Applying a light coat of lubricant will make future cleaning easier. Torque breather plug to 30-40 in-lb (3.89-4.82 N•m).

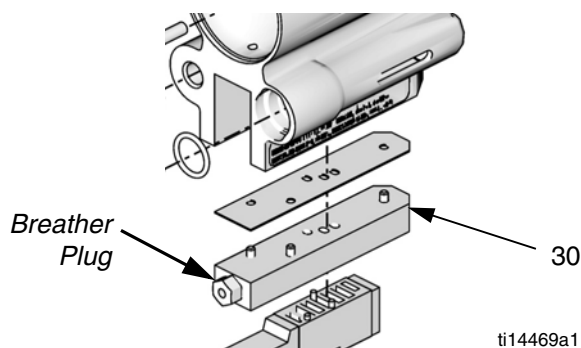


FIG. 19: Breather Plug

Clean Fluid Manifold



Fluid Manifold Fluid Ports

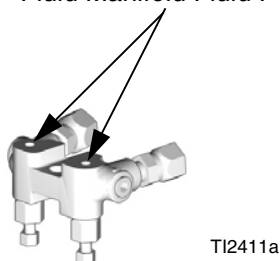
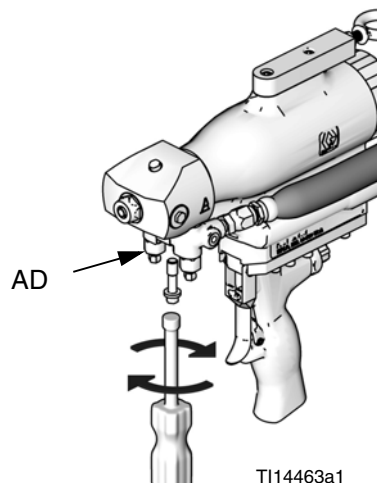


FIG. 20

2. Use 5/16 in. hex nut driver to remove fluid manifold (AD).

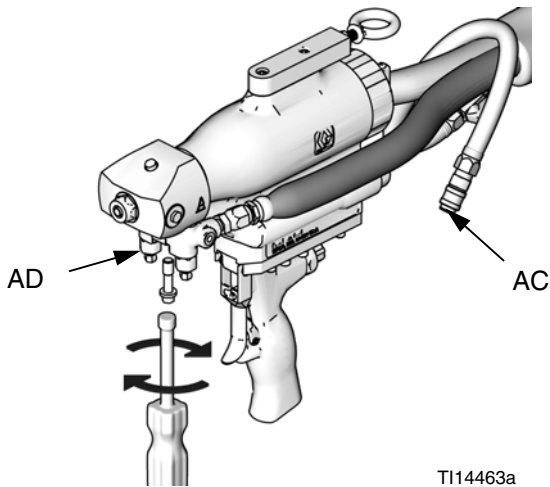


3. Disconnect signal cable.
4. Clean fluid manifold fluid ports with compatible solvent and brush whenever removed from gun. See materials of construction info in **Technical Data**, page 55. To prevent damaging the internal sealing surfaces, do not use brush to clean inside diameter of fluid ports. Fill fluid ports with grease if left exposed, to seal out moisture. See FIG. 20.
5. Install fluid manifold. Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m).
6. Connect signal cable.

Clean Check Valves



1. Follow **Pressure Relief Procedure**, page 22.
2. **Flush Gun**, page 25.
3. Disconnect air quick coupler (AC). Use hex nut driver to remove fluid manifold (AD).

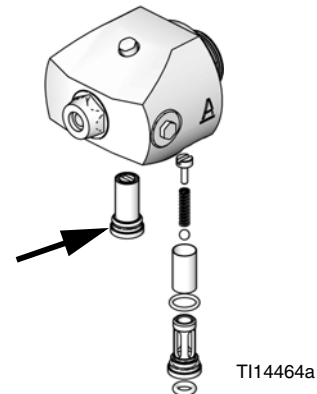


4. Disconnect signal cable.
5. Clean and inspect check valve mating surfaces and fluid ports. See **Clean Fluid Manifold** on page 26.

NOTICE

To prevent cross-contamination of the check valves, do not interchange A component and B component parts. The A component check valve is marked with an A.

6. Use flat tip screwdriver to pry out check valves at notch.



Damaged check valve o-rings may result in external leakage. Replace o-rings if worn or damaged.

7. Press on ball (BC) to test check valve for proper movement and spring action. Replace check valve assembly if necessary.
8. Slide filter (BD) off. Clean and inspect parts. Thoroughly inspect o-rings (BE, BG). If necessary, remove screw (BA) and disassemble check valve.

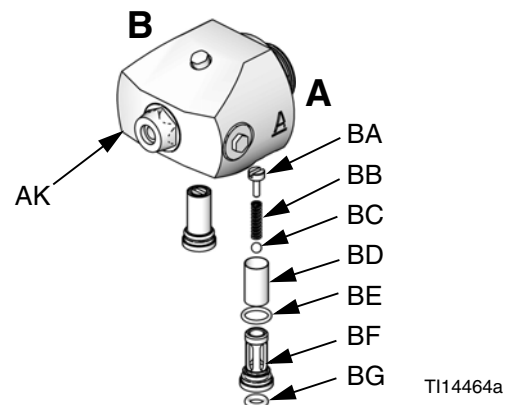
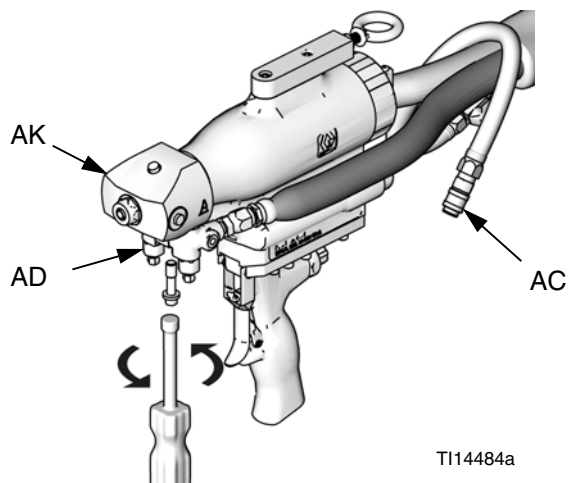


FIG. 21

9. Liberally lubricate o-rings (BE, BG). Reassemble check valves. Screw (BA) should be flush with check valve housing surface (within 1/16 in. or 1.5 mm).
10. Install check valves into fluid housing (AK).

11. Use hex nut driver to install fluid manifold (AD). Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m). Connect air quick coupler (AC).



12. Connect signal cable.

Clean Fluid Housing Passages



If necessary, use drill bits to clean the passages in the fluid housing and gun body. See **Drill Bit Kits**, page 51.

1. Follow **Pressure Relief Procedure** on page 22.
2. Remove Throat Seal Liquid cartridge.
3. Remove Throat Seal Liquid bleed port screw.

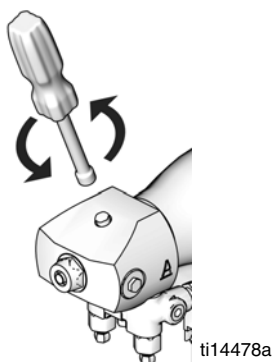


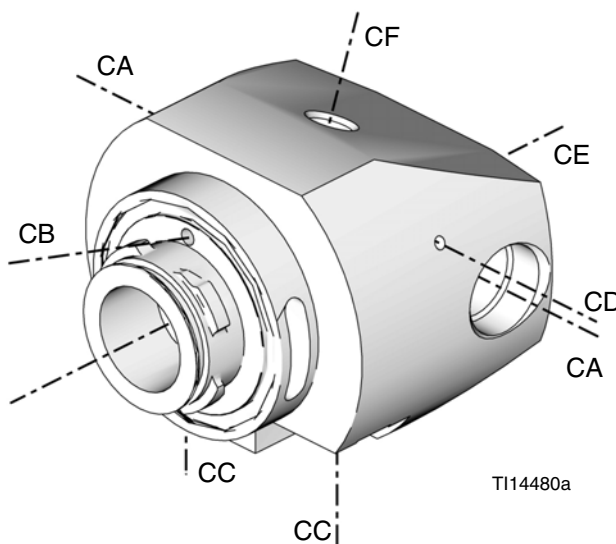
FIG. 22

4. Use 5/16 in. nut driver (supplied) to remove orifices (C). See FIG. 4 on page 16.

NOTICE

To prevent cross-contamination of the orifices do not interchange A component and B component parts. The A component orifice is marked with an A.

5. **Remove Front End**, see page 33.
6. Remove all items from front end to enable cleaning of passages. See **Disassemble Front End** on page 34.
7. Use appropriate drill bits to clean fluid housing passages. See FIG. 23. See **Drill Bit Kits**, page 51.



Key:

- CA Orifice Passage
- CB Throat Seal Liquid Inlet
- CC Fluid Inlets (on bottom of fluid housing)
- CD Throat Seal Liquid Pop-Off
- CE Nozzle
- CF Throat Seal Liquid Bleed Port

FIG. 23: Fluid Housing Passages

8. See **Assemble Front End** on page 34.
9. **Attach Front End**, see page 35.
10. Install orifices. Torque to 20-30 in-lb (2.26-3.39 N•m).

Clean Orifice



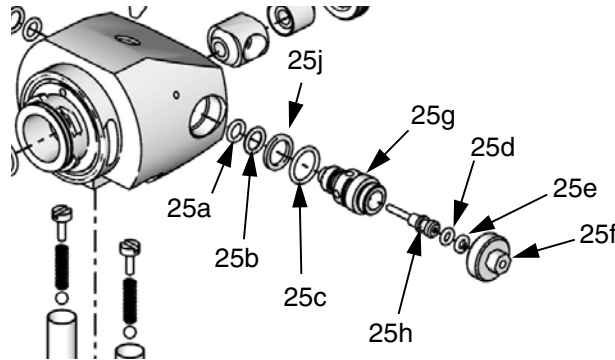
1. Follow **Pressure Relief Procedure** on page 22.
2. Use 5/16 in. nut driver (supplied) to remove orifices (C). See FIG. 4 on page 16.

NOTICE

To prevent cross-contamination of the orifices do not interchange A component and B component parts. The A component orifice is marked with an A.

NOTE: The cap is held in place with reverse threads.

3. Remove cap (25f) from orifice (25g).

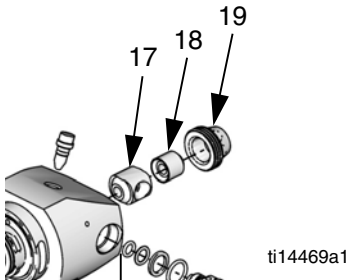


4. Remove needle (25h) from orifice. Thoroughly inspect all o-rings and replace if necessary.
5. If necessary, use drill bit that is the same size as the orifice to drill out the orifice. Orifice size is marked on the orifice.
6. Use Fusion grease to liberally lubricate all o-rings.
7. Reassemble in reverse order. Torque orifice body into orifice cap to 60-70 in-lb (6.78-7.91 N•m). Torque orifices into fluid housing to 20-30 in-lb (2.26-3.39 N•m).

NOTE: 375 orifices contain a spacer (25j) which **MUST** be used with 375 purge rods.

NOTE: Back-up ring (25e) is placed behind the o-ring (25d) on the needle.

Replace Mix Chamber and Front Seal



1. Use nut driver to open the Throat Seal Liquid bleed port and drain all Throat Seal Liquid or replace with empty cartridge.

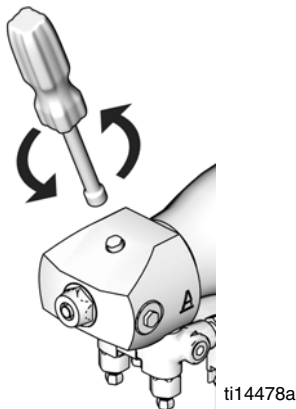


FIG. 24: Open the Bleed Port

2. Follow **Pressure Relief Procedure** on page 22.
3. Close Throat Seal Liquid bleed port.
4. Use 5/16 in. nut driver (supplied) to remove orifices (25, 26, 27).
5. Use a 3/4 in. wrench to remove front pour tip (19).
6. Connect air quick coupler (AC).
7. Press and release trigger to push out the mix chamber (17) and front seal (18) and discard.
8. Disconnect air quick coupler (AC).
9. Install new mix chamber and front seal.

10. Replace front pour tip and torque to 60-70 in-lb (6.78-7.91 N•m).

NOTICE

To prevent cross-contamination of the orifices do not interchange A component and B component parts. The A component orifice is marked with an A.

11. Replace orifices. Torque to 20-30 in-lb (2.26-3.39 N•m).
12. Perform **Replace Throat Seal Liquid Cartridge**, page 31.

Repair

Tools Required

Tools required to complete some gun repair procedures:

- 15/16 in. wrench
- flat head screwdriver (supplied)
- 5/16 hex nut driver (supplied)
- 1/2 in. deep well socket
- 3/4 in. deep well socket
- 5/64 in. allen wrench (supplied)
- 9/64 in. allen wrench
- 5/32 in. allen wrench
- Phillips screwdriver

Lubrication

See **Accessories** on page 53 to order lubricant. Liberally lubricate all o-rings, seals, and threads.

NOTICE

Use only Throat Seal Liquid on the o-rings, seals, and threads of the Throat Seal Liquid cartridge. Fusion grease or other petroleum-based or vegetable-based lubricants will cause cartridge o-rings and seals to swell and stick.

Replace Throat Seal Liquid Cartridge



NOTE: If Throat Seal Liquid cartridge removal or installation is difficult, lubricate cartridge o-rings and cartridge bore with a few drops of Throat Seal Liquid. Water-based lubricants can be used as well.

NOTICE

Use only Throat Seal Liquid on the o-rings, seals, and threads of the Throat Seal Liquid cartridge. Fusion grease or other petroleum-based or vegetable-based lubricants will cause cartridge o-rings and seals to swell and stick.

1. Follow **Pressure Relief Procedure**, page 22.

2. Close air valve (AB).

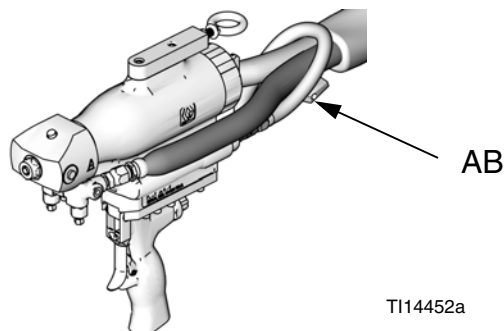


FIG. 25

3. Push in and rotate cartridge 1/4 turn counterclockwise. See FIG. 26. Pull cartridge out of gun body.

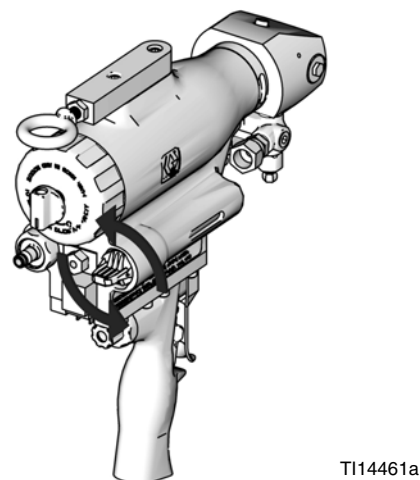
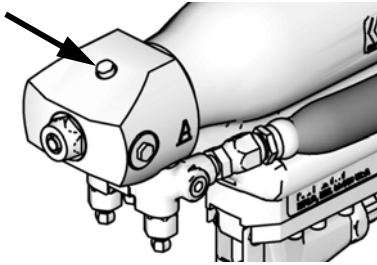


FIG. 26

4. Use 5/16 in. nut driver to verify Throat Seal Liquid bleed port is closed.



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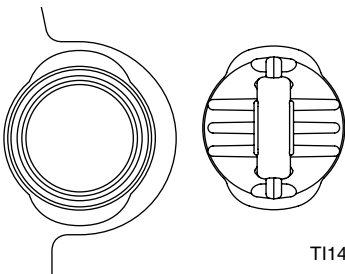
5. Remove plastic cap from new Throat Seal Liquid cartridge.



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FIG. 27

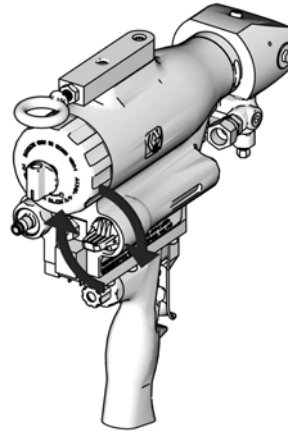
6. Insert cartridge into gun body. Ensure cartridge tabs are aligned correctly with cartridge tab recesses in gun body.



TI14459a

FIG. 28

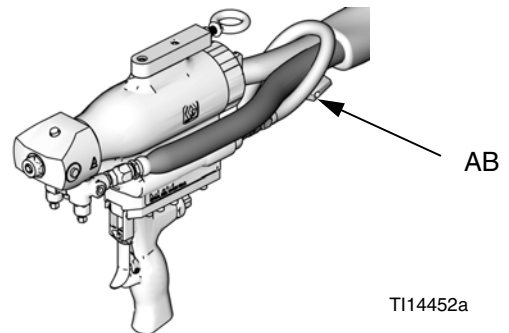
7. Push in and rotate cartridge 1/4 turn clockwise to lock it into gun body.



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FIG. 29

8. Open air valve (AB). See FIG. 30.



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FIG. 30

9. Perform **Bleed Throat Seal Liquid Cartridge** procedure, see page 24.

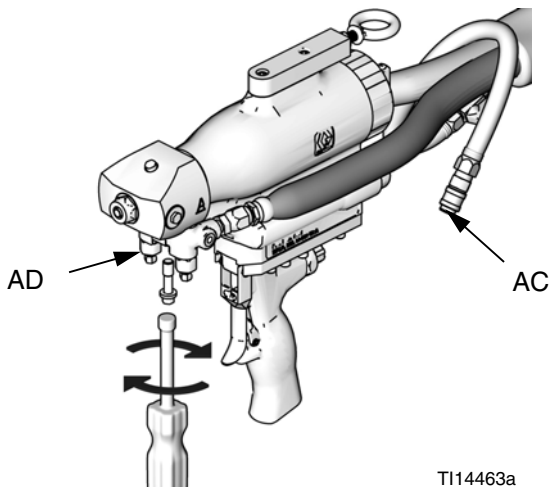
Remove Front End



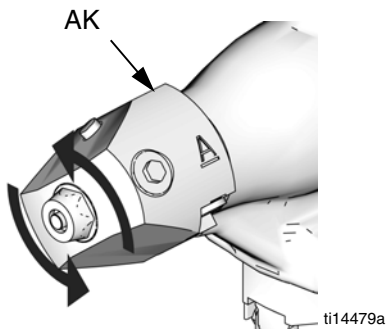
NOTICE

Proper attachment of front end is critical. Do not operate gun if front end is loose or not snug against body. Improper attachment can cause slow leaks.

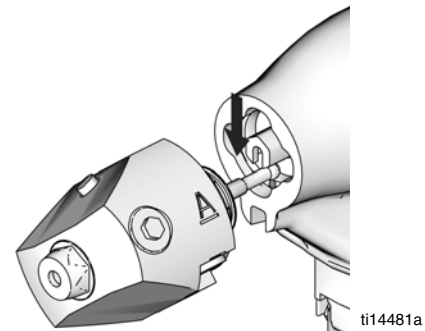
1. Perform **Pressure Relief Procedure**, page 22.
2. **Flush Gun**, see page 25.
3. Perform **Bleed Throat Seal Liquid Cartridge** procedure on page 24 to bleed all fluid from cartridge or replace with empty cartridge. TSL will spill if any fluid remains in cartridge after this step.
4. Disconnect air quick coupler (AC). Use hex nut driver to remove fluid manifold (AD).



5. Disconnect signal cable.
6. Rotate fluid housing (AK) 45 degrees counterclockwise to disengage fluid housing slots.



7. Pull fluid housing away from gun body to remove. If fluid housing cannot be removed perform the following steps.
 - a. Attach air quick coupler.
 - b. Pull and release the trigger or press and release the red button on the solenoid valve.
 - c. Remove fluid housing.
 - d. Disconnect air quick coupler.
8. Disengage purge rod from ball socket in piston shaft then remove purge rod.



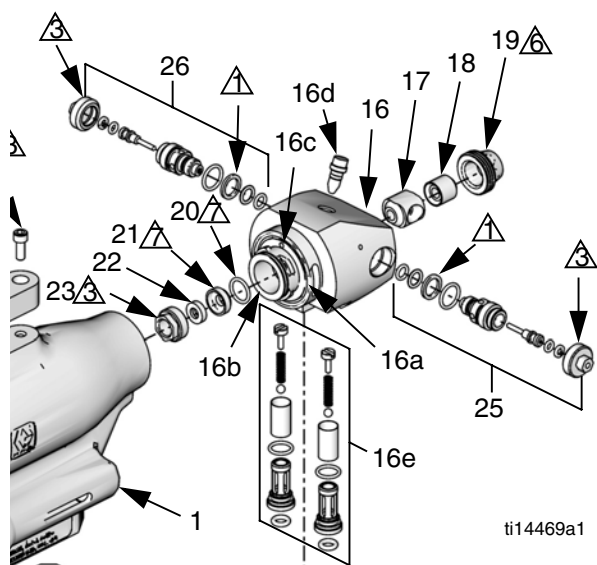
9. Inspect fluid housing o-rings for wear or damage. Replace if necessary.

Disassemble Front End



NOTICE

To prevent cross-contamination of the equipment's wetted parts, **never** interchange component A (isocyanate) and component B (resin) parts. The gun is shipped with the A side on the left. The fluid manifold, fluid housing, side seal assembly, check valve cartridge, and mix chamber are marked on the A side.



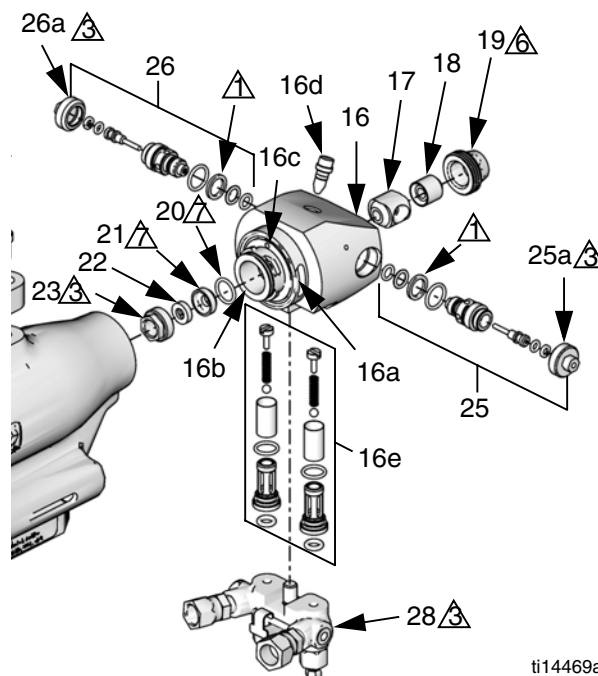
1. **Remove Front End**, see page 33.
2. Remove Throat Seal Liquid bleed port screw (16d).
3. Remove check valve assembly (16e).
4. Remove orifice (25). Repeat for opposite side.
5. Remove pour tip (19).
6. Remove front packing (18) then mix module (17).
7. Remove rear packing nut (23), seal (22), rear packing housing (21), and o-ring (20).

Assemble Front End



NOTICE

To prevent cross-contamination of the equipment's wetted parts, **never** interchange component A (isocyanate) and component B (resin) parts. The gun is shipped with the A side on the left. The fluid manifold, fluid housing, side seal assembly, check valve cartridge, and mix chamber are marked on the A side.



- Part is only included with 375 orifices.
 - Torque to 20-30 in-lb (2.26-3.39 N•m)
 - Torque to 60-70 in-lb (6.78-7.91 N•m)
 - Part is only included with 250 applicator.
1. Install o-ring (20), rear packing housing (21), seal (22), and rear packing nut (23). Torque rear packing nut to 20-30 in-lb (2.26-3.39 N•m).
 2. Install mix module (17) then front packing (18).
 3. Install pour tip (19) hand-tight.

4. Install purge rod into rear of fluid housing. Leave 3/4 in. of ball socket end of purge rod extended out of housing as shown in FIG. 31.
5. Install check valve assembly. See **Clean Check Valves** on page 27 for detailed assembly instructions.
6. Install Throat Seal Liquid bleed port screw (16d).
7. Install orifice components (25). Install orifice cap (25a) and torque to 20-30 in-lb (2.26-3.39 N•m). Repeat for opposite side.
8. See **Attach Front End** procedure.

Attach Front End

NOTICE

Proper attachment of front end is critical. Do not operate gun if front end is loose or not snug against body. Improper attachment can cause slow leaks.

1. Engage piston safety lock.
2. Liberally lubricate o-rings and install on fluid housing (AK).
3. Apply thin coat of TSL to purge rod.
4. Install fluid housing onto purge rod.
5. Insert end of purge rod into ball socket in piston shaft.

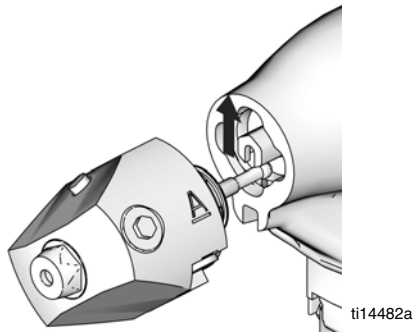
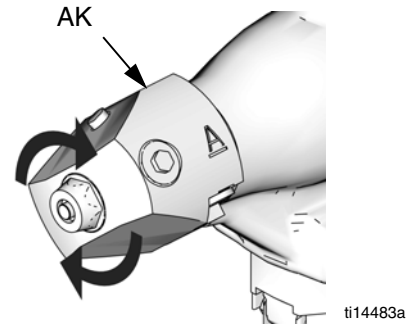
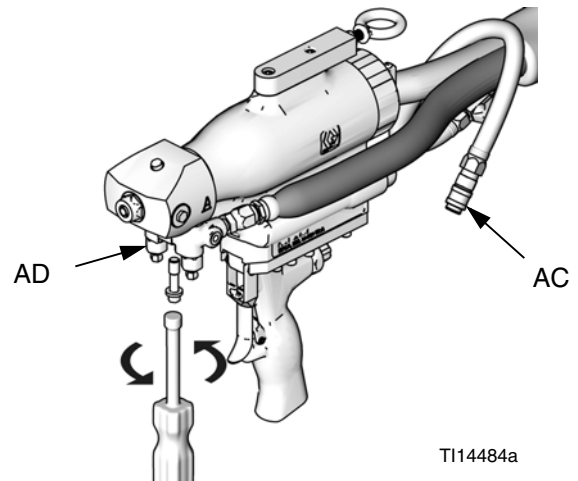


FIG. 31

6. Push fluid housing flush to the gun body. Rotate fluid housing 45 degrees clockwise to engage fluid housing slots.



7. Torque pour tip (19) to 60-70 in-lb (6.7-9.1 N•m).
8. Use hex nut driver to install fluid manifold (AD). Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m). Connect air quick coupler (AC).



9. Connect signal cable.

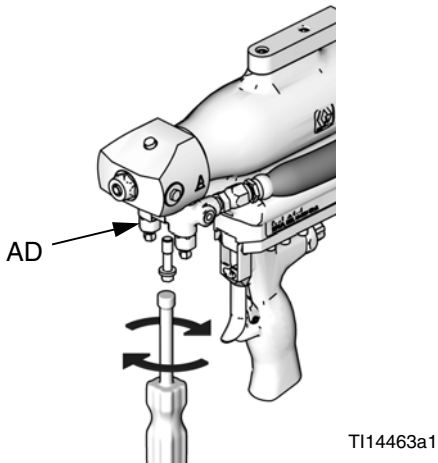
Pistons and Bulkhead



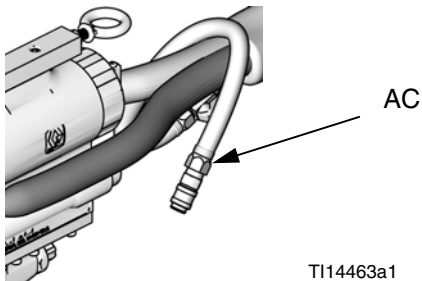
User should have piston seals kit 24D312 available before performing this procedure.

1. Follow **Pressure Relief Procedure**, page 22.

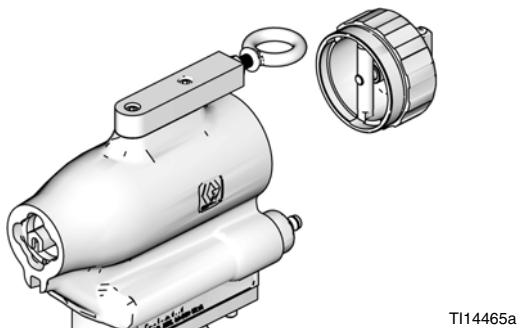
2. Use hex nut driver to remove fluid manifold (AD).



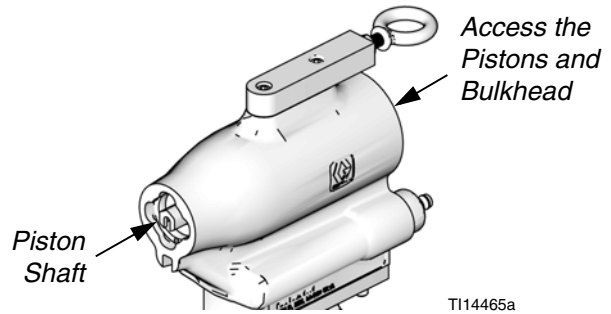
3. Disconnect signal cable.
4. **Remove Front End**, see page 33.
5. Disconnect air quick coupler (AC).



6. Unscrew piston safety lock assembly and remove. Inspect o-ring and replace if necessary.

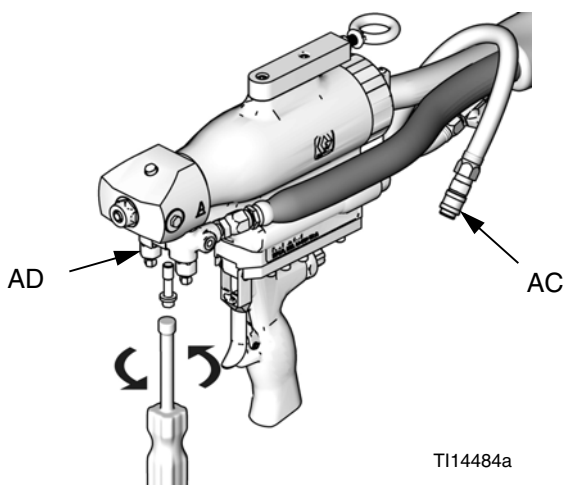


7. Place 1/2 in. socket on the piston shaft through the front of the gun body. Entering through the rear of the gun body, place a 3/4 in. socket with extension on the rear piston. Hold piston shaft in place and remove the rear piston. Inspect rear piston o-ring and replace if necessary.



8. Entering through the rear of the gun body, place a 3/4 in. socket with extension on the bulkhead. Remove the bulkhead. Inspect bulkhead o-rings and replace as necessary.
9. Push piston shaft towards rear of gun to remove front piston and piston shaft from the gun body.
10. Use a 1/2 in. socket on the piston shaft and 15/16 in. wrench on the front piston to remove front piston from piston shaft.
11. Inspect o-rings. Replace if worn or damaged. Liberally lubricate o-rings then reinstall.
12. Apply medium strength threadlocker to threads then install front piston onto piston shaft. Torque to 100-110 in-lb (11.3-12.4 N•m). See **Component Identification** on page 16.
13. Install piston shaft and piston assembly into gun body. See **Component Identification** on page 16.
14. Install bulkhead onto piston shaft. Torque to 100-110 in-lb (11.3-12.4 N•m). See **Component Identification** on page 16.
15. Apply medium strength threadlocker to threads then install rear piston onto piston shaft. Torque to 100-110 in-lb (11.3-12.4 N•m). See **Component Identification** on page 16.
16. Install piston safety lock. See **Component Identification** on page 16.
17. **Attach Front End**, see page 35.

18. Use hex nut driver to install fluid manifold (AD). Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m). Connect air quick coupler (AC).

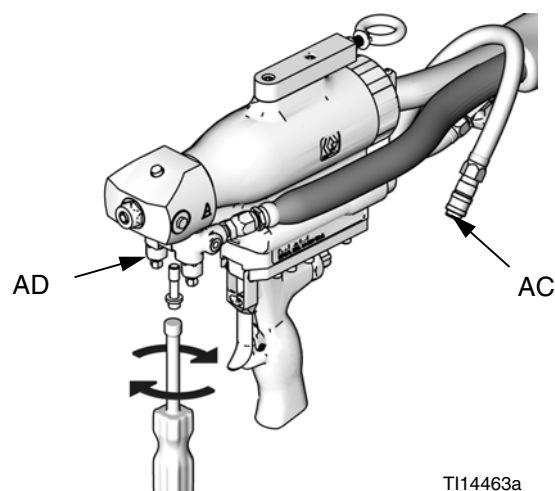


19. Connect signal cable.

Purge Rod

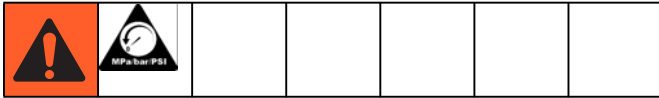


1. **Flush Gun**, page 25.
2. Follow **Pressure Relief Procedure**, page 22.
3. Disconnect air quick coupler (AC). Use hex nut driver to remove fluid manifold (AD).

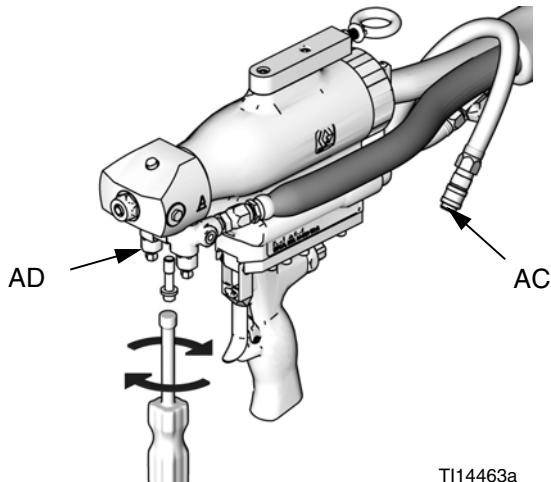


4. Disconnect signal cable.
5. **Remove Front End**, see page 33. Inspect purge rod for wear or damage. Replace if necessary.
6. Use 3/4 in. wrench to loosen front tip. Coat purge rod with TSL then replace purge rod.
7. **Attach Front End**, see page 35.
8. Attach air quick coupler to fully extend purge rod. Tighten front tip to 60-70 in-lb (6.78-7.91 N•m)
9. Install fluid manifold. Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m).
10. Connect signal cable.

Solenoid Valve







1. Follow **Pressure Relief Procedure** on page 22.
2. Disconnect air quick coupler (AC). Use hex nut driver to remove fluid manifold (AD).



3. Disconnect electronic cables from solenoid valve and handle (if installed).
4. Use 5/32 in. allen wrench to remove handle mounting plate screws. Remove handle mounting plate and handle. See **Component Identification** on page 16.
5. Use Phillips screwdriver to remove solenoid valve. Inspect and replace if necessary. Inspect gasket on bottom of solenoid valve and replace if necessary. See **Component Identification** on page 16.
6. Use a 9/64 in. allen wrench to remove the solenoid valve mounting plate and gasket. Inspect gasket and replace if necessary. See **Component Identification** on page 16.
7. Assemble in reverse order. Torque fluid manifold bolt to 20-30 in-lb (2.26-3.39 N•m). Torque screws connecting handle to body to 20-30 in-lb (2.26-3.39 N•m). See **Component Identification** on page 16.

Troubleshooting

						
Follow Pressure Relief Procedure , page 22, before checking or repairing gun.						

NOTICE

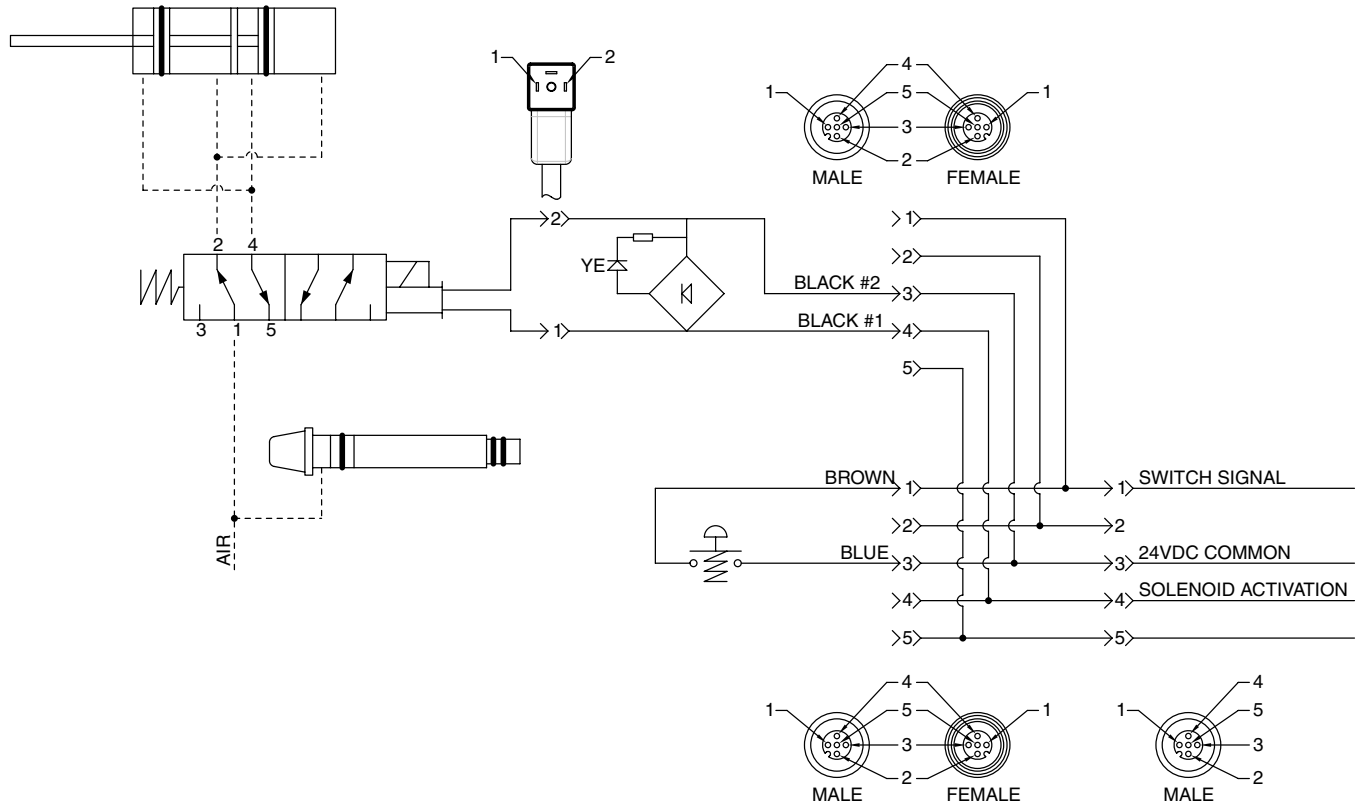
To prevent cross-contamination of the equipment's wetted parts, **never** interchange component A (isocyanate) and component B (resin) parts. The gun is shipped with the A side on the left. The fluid manifold, fluid housing, side seal assembly, check valve cartridge, and mix chamber are marked on the A side.

Use the following table to check all possible problems and causes before disassembling gun. See **Maintenance** on page 24 and **Repair** on page 31 for referenced procedures.

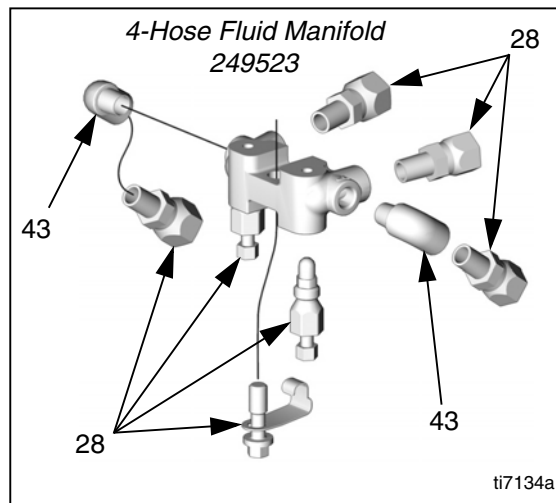
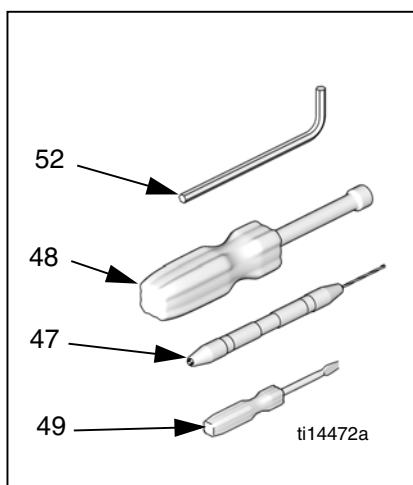
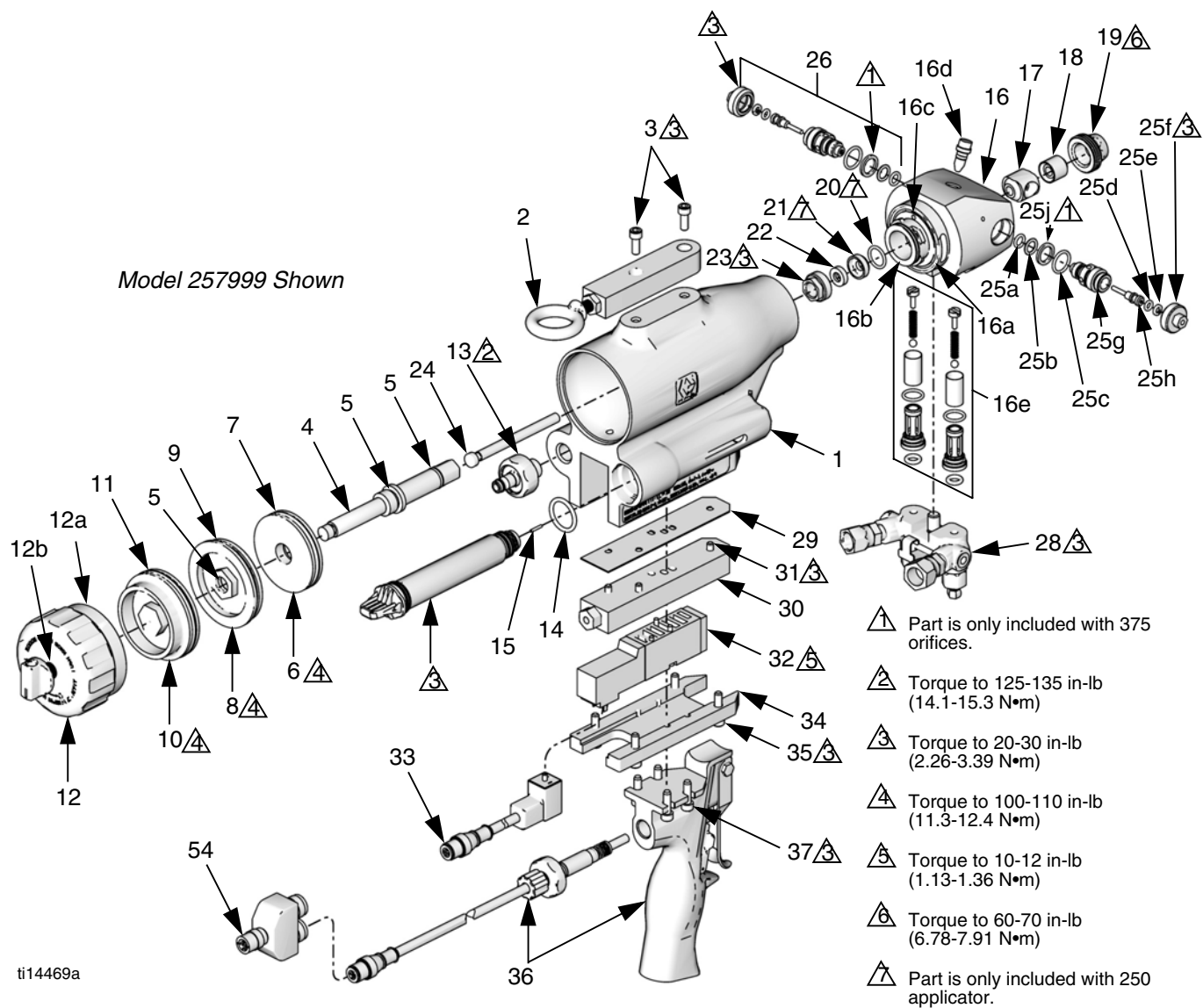
Problem	Cause	Solution
Gun does not fully actuate when triggered	Safety lock engaged	Disengage piston safety lock
	Plugged breather plug	Clean breather plug
	Damaged air valve	Replace if necessary
Fluid does not pour when gun is fully actuated	Closed fluid valves	Open valves.
	Plugged orifice ports	Clean orifice ports
	Plugged check valves	Clean check valves
	Safety lock engaged	Disengage piston safety lock
Gun actuates slowly	Plugged breather plug	Clean breather plug
	Damaged piston o-rings	Replace air piston o-rings
	Damaged air gasket	Replace
	Dirty or damaged air valve	Clean or replace valve
Gun delays, then actuates abruptly	Cured material around the purge rod	Inspect purge rod, mix module, and orifices. Replace if necessary
	Empty TSL cartridge	Replace cartridge
Gun does not actuate when triggered	Air supply to gun is shut off	Open air supply
	Foam build-up around front tip	1) Clean off front tip. 2) Use 3/4 in. wrench to loosen front tip 1/8 turn and re-tighten.
	Signal cable is disconnected	Connect signal cable
Pressure imbalance	Plugged orifice ports	Clean orifice ports
	Plugged check valves	Clean check valves
	Viscosities not equal	Adjust temperature or orifice needle to compensate
	Plugged fluid screens	Clean screens

Problem	Cause	Solution
Fluid does not shut off when fluid valves are closed	Damaged fluid valves	Replace
Burst of air from muffler when gun is triggered	Normal	No action required
Steady air leakage from muffler	Damaged air valve	Replace
	Damaged air gasket	Replace
	Damaged piston o-rings	Replace
Leak between air cylinder and fluid housing	Damaged o-ring	Replace
Throat Seal Liquid cartridge installation or removal is difficult	Friction between cartridge o-rings and cartridge bore	Lubricate cartridge o-rings and/or cartridge bore with a few drops of Throat Seal Liquid
	Air is on	Turn air off
Throat Seal Liquid cartridge is pressure locked in cartridge bore	Cartridge is empty. Temporary cartridge pressure lock	Bleed Throat Seal Liquid cartridge pressure
Cannot bleed Throat Seal Liquid cartridge	Foam build-up in fluid housing	Inspect and clean fluid housing
Material leaking out weep ports in fluid housing near air cylinder	Mix module and rear seal worn	Inspect and replace mix module and rear seal, clean fluid housing

Electrical Diagram



Parts



Ref	Part	Description	Quantity			
			257999, EP Gun, 250, 0.031 in. orifice, Handheld	24C932, EP Gun, 250, 0.031 in. orifice, Auto	24C933, EP Gun, 375, 0.047 in. orifice, Hand-Held	24C934, EP Gun, 375, 0.047 in. orifice, Auto
1	24D682	CYLINDER, machined	1	1	1	1
2	24F033	HOOK, vertical mount assembly	1	1	1	1
3	113003	SCREW, socket head cap	2	2	2	2
4	24E864	SHAFT, piston, dual	1	1	1	1
5	*	PACKING, o-ring	3	3	3	3
6	24E972	PISTON, front	1	1	1	1
7	*	PACKING, o-ring	1	1	1	1
8	24E973	BULKHEAD, applicator	1	1	1	1
9	*	PACKING, o-ring	1	1	1	1
10	24E974	PISTON, rear	1	1	1	1
11	*	O-RING	1	1	1	1
12	24D295	STOP, assy, safety	1	1	1	1
13	15T897	PLUG, air valve	1	1	1	1
14	188554	PACKING, o-ring	1	1	1	1
15		PIN, roll	1	1	1	1
16	24D680	HOUSING, fluid, assy, 250	1	1		
	24D681	HOUSING, fluid, assy, 375			1	1
. 16a		O-RING	1	1	1	1
. 16b		O-RING	1	1	1	1
. 16c		O-RING	1	1	1	1
. 16d	15C382	SCREW, bleed port	1	1	1	1
. 16e		VALVE, check	1	1	1	1
17	*†	MODULE, mix, 250 rod	1	1		
	**†	MODULE, mix, 375 rod			1	1
18	*†	PACKING, front, 250 rod	1	1		
	**†	PACKING, front, 375 rod			1	1
19	24D316	TIP, pour, 250 rod	1	1		
	24D324	TIP, pour, 375 rod			1	1
20	***	PACKING, o-ring	6	6		
21	***	HOUSING, packing, rear, 250 rod	1	1		
22	***†	SEAL	6	6		
	24D325†	SEAL			6	6
23	24D326	NUT, packing, rear, 250	1	1		
	24D325	NUT, packing, rear, 375			1	1
24	24D317	ROD, purge, 250	1	1		
	24D323	ROD, purge, 375			1	1

Ref	Part	Description	Quantity			
			257999, EP Gun, 250, 0.031 in. orifice, Handheld	24C932, EP Gun, 250, 0.031 in. orifice, Auto	24C933, EP Gun, 375, 0.047 in. orifice, Hand-Held	24C934, EP Gun, 375, 0.047 in. orifice, Auto
25	†	RESTRICTOR, adjustable, 250, 031	2	2		
	†	RESTRICTOR, adjustable, 375, 047			2	2
26	†	RESTRICTOR, adjustable, iso, 250, 031	2	2		
	†	RESTRICTOR, adjustable, iso, 375, 047			2	2
28	246012	MANIFOLD, fluid	1	1	1	1
29	24D315	GASKET, solenoid, manifold	1	1	1	1
30	24E975	MANIFOLD, solenoid, assy	1	1	1	1
31	106245	SCREW, socket head cap	3	3	3	3
32	24D318	VALVE, solenoid, 4 way	1	1	1	1
33	24D319	CORD SET, euro/male, din/female	1	1	1	1
34	24E865	PLATE, adapter, handle	1	1	1	1
35	15D256	SCREW, socket head cap	4	4	4	4
36	24D073	HANDLE, 2k dispense	1		1	
37	C19980	SCREW, cap, socket hd	4		4	
41	172479 ▲	TAG, warning	1	1	1	1
43	112307	ELBOW, street	2	2	2	2
44	117510	COUPLER, line, air, 1/4 npt	1	1	1	1
45	15B772	HOSE, air, 18 inch	1	1	1	1
46	15B565	VALVE, ball	1	1	1	1
47	117661	PIN, vise	1	1	1	1
48	117642	TOOL, nut driver	1	1	1	1
49	118575	TOOL, screw driver, 1/8 blade	1	1	1	1
51	222385 ▲	TAG, warning	1	1	1	1
52	295598	TOOL, wrench, hex	1	1	1	1
54	24D320	CONNECTOR, splitter	1		1	

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

* Parts included in Kit 24D314.

** Parts included in Kit 24D322.

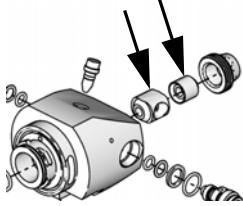
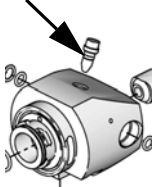
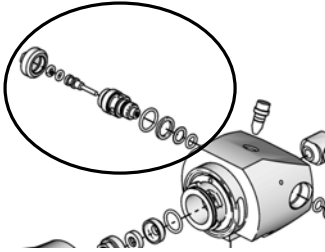
*** Parts included in Kit 24D326.

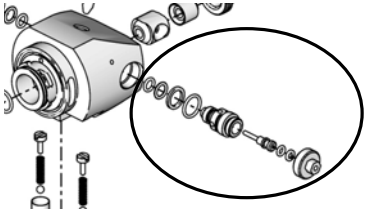
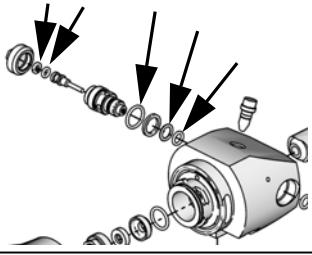
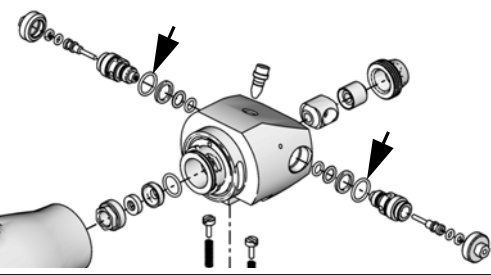
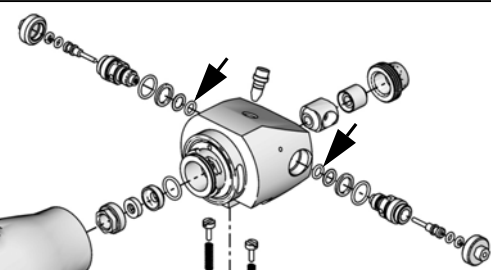
† See **Orifice Kits** section starting on page 50.

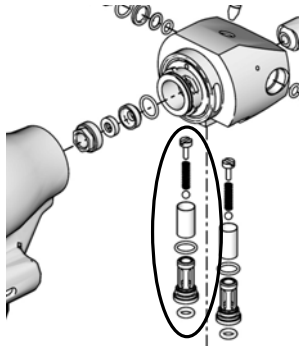
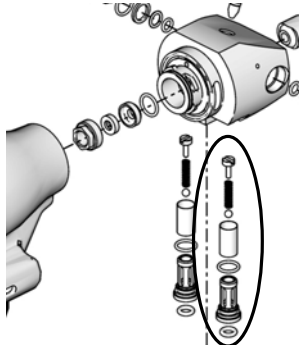
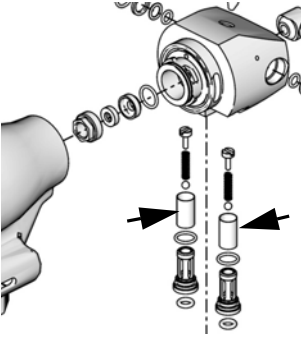
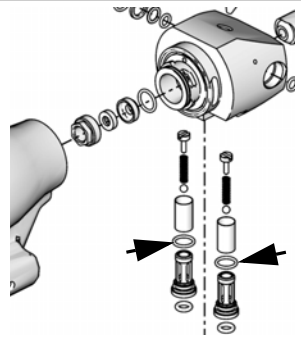
‡ Suggested spares. These parts should be kept on-hand to prevent down time. Kits 24D321, 246731, 246352 should also be kept on-hand. See **Kits** starting on page 45 for contents of each kit.

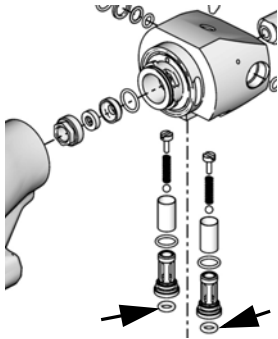
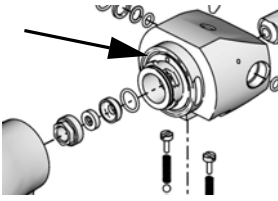
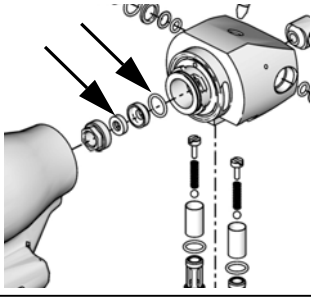
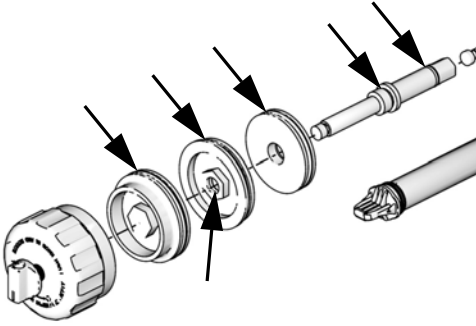
Kits

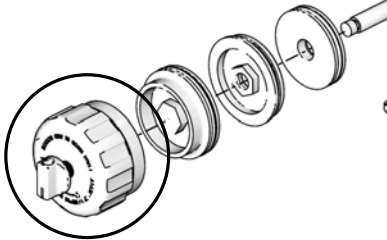
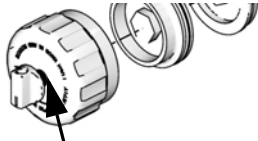
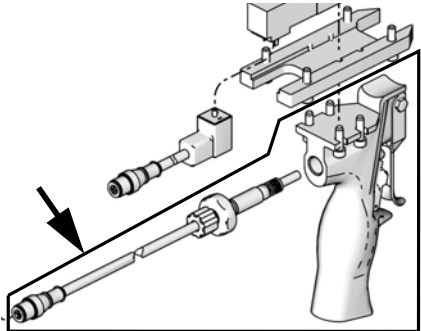
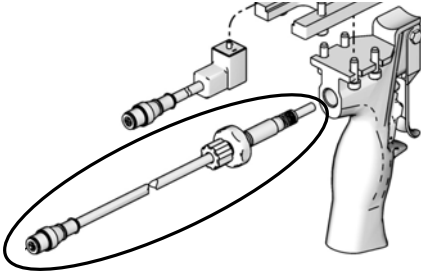
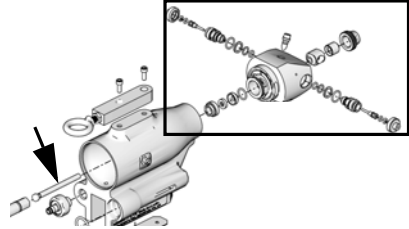
See **Maintenance** on page 24 and **Repair** on page 31 for appropriate kit installation procedures. See **Complete O-ring Placement Guide** on page 52 for o-ring identification help.

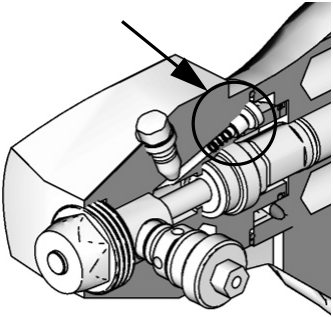
Kit Description	Kit Number	Parts included in Kit		Illustration
		Description	Qty	
250 Mix Chamber	24D314	Mix Chamber	1	
		Front Bearing	1	
375 Mix Chamber	24D322	Mix Chamber	1	
		Front Bearing	1	
Throat Seal Liquid Bleed Port O-Ring Kit	246354	O-Ring	6	
		O-Ring Installation Tool	1	
250 Iso Orifice	24D223 - 24D238; see Orifice Kits on page 50	Orifice Housing	1	
		O-Ring	1	
		O-Ring	1	
		O-Ring	1	
		Needle	1	
		Backup Ring	1	
		O-Ring	1	
		Iso Orifice Cap	1	
		Cleanout Drill	1	
375 Iso Orifice	24D239 - 24D254; see Orifice Kits on page 50	Orifice Housing	1	
		O-Ring	1	
		O-Ring	1	
		O-Ring	1	
		Needle	1	
		Backup Ring	1	
		O-Ring	1	
		Iso Orifice Cap	1	
		Orifice Spacer	1	
		Cleanout Drill	1	

Kit Description	Kit Number	Parts included in Kit		Illustration
		Description	Qty	
250 Orifice	24C751 - 24C756, 24C805 - 24C815; see Orifice Kits on page 50	Orifice Housing	1	
		O-Ring	1	
		O-Ring	1	
		O-Ring	1	
		Needle	1	
		Backup Ring	1	
		O-Ring	1	
		Orifice Cap	1	
		Cleanout Drill	1	
375 Orifice	24C761 - 24C766, 24C794 - 24C804; see Orifice Kits on page 50	Orifice Housing	1	
		O-Ring	1	
		O-Ring	1	
		O-Ring	1	
		Needle	1	
		Backup Ring	1	
		O-Ring	1	
		Orifice Cap	1	
		Orifice Spacer	1	
		Cleanout Drill	1	
Orifice O-Ring Kit	24D321	O-Ring	1	
		O-Ring	1	
		O-Ring	1	
		O-Ring	1	
		Backup Ring		
Orifice O-Ring Kit	248130	O-Ring	6	
Orifice O-Ring Kit	248128	O-Ring	6	

Kit Description	Kit Number	Parts included in Kit		Illustration
		Description	Qty	
Iso Check Valve	246731	Check Valve Housing	1	
		Spring Retaining Screw	1	
		Carbide Ball	1	
		Filter	1	
		Check Valve Spring	1	
		O-Ring	1	
		O-Ring	1	
Check Valve	246352	Check Valve Housing	1	
		Spring Retaining Screw	1	
		Carbide Ball	1	
		Filter	1	
		Check Valve Spring	1	
		O-Ring	1	
		O-Ring	1	
40 Mesh Filter Kit (40 mesh, 0.015 in., 375 micron)	246357	40 Mesh Screen	10	
60 Mesh Filter Kit (60 mesh, 0.010 in., 238 micron)	246358	60 Mesh Screen	10	
80 Mesh Filter Kit (80 mesh, 0.007 in., 175 micron)	246359	80 Mesh Screen	10	
Check Valve O-Ring Kit	248129	O-Ring	6	

Kit Description	Kit Number	Parts included in Kit		Illustration
		Description	Qty	
Check Valve Face O-Ring Kit	248133	O-Ring	6	
250 Fluid Housing Seals	24D313	Housing Outer O-Ring	1	
		Housing Inner O-Ring	1	
Outer Fluid Housing O-Ring Kit	24E611	O-Ring	6	
Inner Fluid Housing O-Ring Kit	256773	O-Ring	6	
250 Lip Seal	24E252	250 Lip Seal	6	
		O-Ring	6	
375 Lip Seal	24D325	375 Lip Seal	6	
Piston Seals	24D312	Rod O-Ring	3	
		Front Piston O-Ring	1	
		Bulkhead O-Ring	1	
		Rear Piston O-Ring	1	
				

Kit Description	Kit Number	Parts included in Kit		Illustration
		Description	Qty	
Piston Safety Stop	24D295	Back Cap	1	
		O-Ring	1	
		Piston Stop	1	
		Safety Stop Shaft	1	
		O-Ring	1	
		Spring	1	
Stop Shaft O-Ring Kit	257425	O-Ring	6	 <i>Located inside back cap</i>
Handle	24D073	2K Electric Handle	1	
		Handle Mounting Screw	4	
Trigger Switch Harness	24D049	Trigger Switch	1	
		Switch Spacer	1	
		Air Valve Plug	1	
		Strain Relief	1	
		Signal Cable	1	
Fluid Housing Kit	24D680	250 Fluid Housing	1	
	24D681	375 Fluid Housing	1	

Kit Description	Kit Number	Parts included in Kit		Illustration
		Description	Qty	
TSL Check Valve Kit	24B843	Check Valve Seat	1	
		Ball	1	
		Spring	1	
		O-Ring	1	




















Orifice Kits

In the following table, shaded rows indicate “Super Standard” items that are typically stocked and provide the best delivery dates.

Impingement Port Size		Kit Type and Kit Number			
		250 Model Polyol Orifice Kit	250 Model Iso Orifice Kit	375 Model Polyol Orifice Kit	375 Model Iso Orifice Kit
0.016	0.41	24C805	24D229	24C794	24D245
0.020	0.51	24C751	24D223	24C761	24D239
0.024	0.61	24C806	24D230	24C795	24D246
0.028	0.71	24C807	24D231	24C796	24D247
0.031	0.79	24C752	24D224	24C762	24D240
0.035	0.89	24C808	24D232	24C797	24D248
0.039	0.99	24C809	24D233	24C798	24D249
0.042	1.07	24C810	24D234	24C799	24D250
0.047	1.19	24C753	24D225	24C763	24D241
0.052	1.32	24C811	24D235	35C800	24D251
0.055	1.40	24C812	24D236	24C801	24D252
0.060	1.52	24C754	24D226	24C764	24D242
0.063	1.60	24C813	24D237	24C802	24D253
0.067	1.70	24C755	24D227	24C765	24D243
0.073	1.85	24C815	24D238	24C804	24D254
0.086	2.18	24C756	24D228	24C766	24D244
All 250 Super Standard Orifices		24E250		NA	NA
All 375 Super Standard Orifices		NA	NA	24E251	

Drill Bit Kits

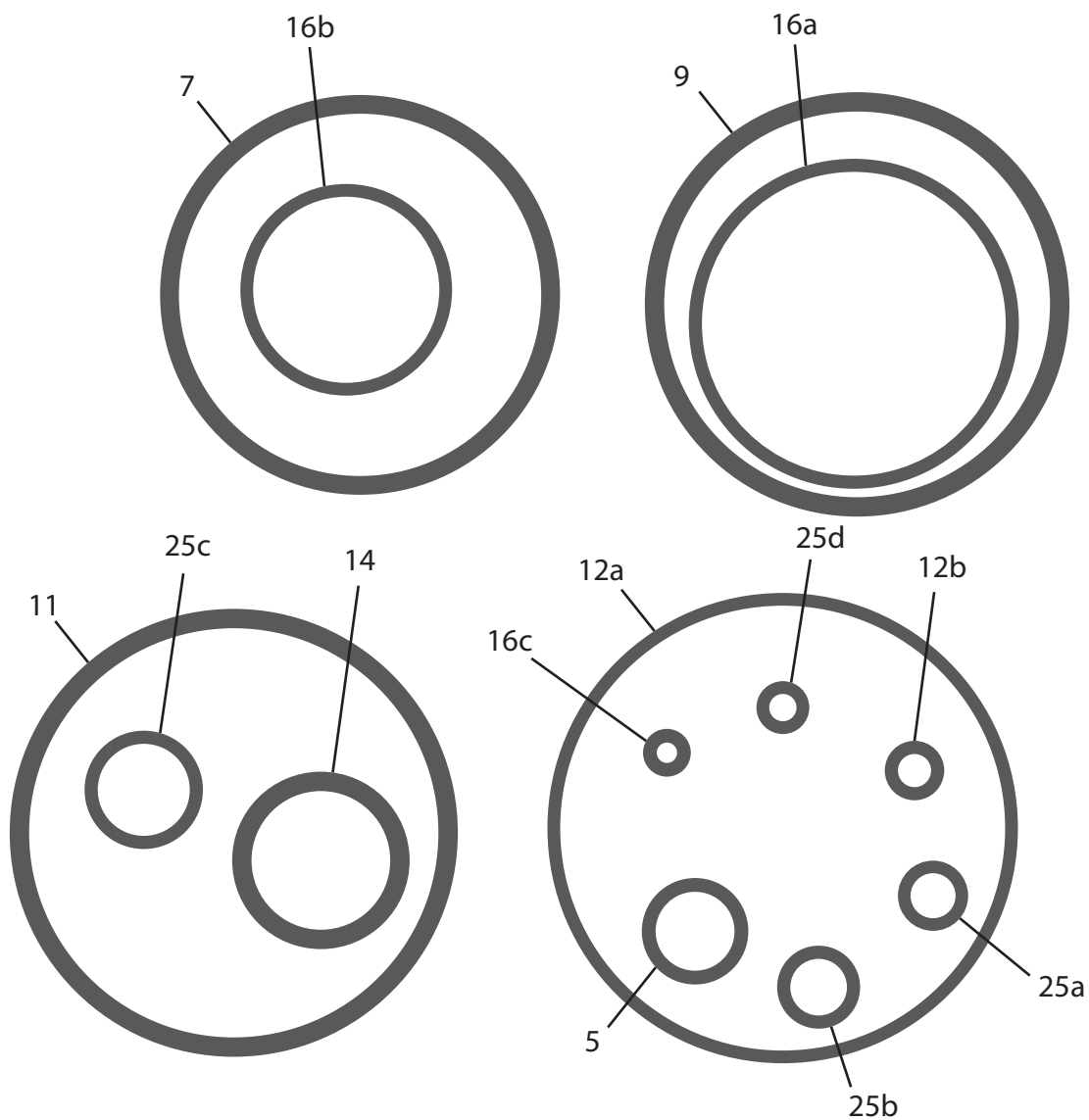
For cleaning fluid housing passages and orifices. Drill bit illustrations are actual size for comparison. See **Clean Fluid Housing Passages** on page 28. Not all sizes are used with every gun model.

Kit Number	Drill Bit Size	Qty in Kit	Orifice Size		Illustration
			in.	mm	
24D289	#78	6	0.016	0.41	
246631	#76	6	0.020	0.51	
246815	#73	6	0.024	0.61	
248892	#70	6	0.028	0.71	
24D293	#68	6	0.031	0.79	
24D294	#65	6	0.035	0.89	
248640	#61	6	0.039	0.99	
246629	#58	6	0.042	1.07	
249764	#56	6	0.047	1.20	
246628	#55	6	0.052	1.32	
246809	#54	6	0.055	1.40	
246627	#53	6	0.060	1.52	
249113	1/16 in.	6	0.063	1.60	
24D290	#51	6	0.067	1.70	
24D291	#49	6	0.073	1.85	
246625	#44	3	0.086	2.18	
246624	3/32 in.	3	0.094	2.39	
249115	1/8 in.	6	0.125	3.18	
24D327	#15	1	0.180	4.57	

Complete O-ring Placement Guide

The following illustration shows all gun o-rings at actual size. See **Kits** on page 45 for o-ring kit details including quantities of each o-ring in each kit.

See **Parts** on page 42 for part references and locations.



Accessories

Lubricant for Gun Rebuild

NOTICE

Use only Throat Seal Liquid on the o-rings, seals, and threads of the Throat Seal Liquid cartridge. Fusion grease or other petroleum-based or vegetable-based lubricants will cause cartridge o-rings and seals to swell and stick.

248279, 4 oz (113 gram) [10]

High adhesion, water resistant, lithium-based lubricant. MSDS sheet available at www.graco.com.

Throat Seal Liquid Cartridges

NOTICE

Use only Throat Seal Liquid on the o-rings, seals, and threads of the Throat Seal Liquid cartridge. Fusion grease or other petroleum-based or vegetable-based lubricants will cause cartridge o-rings and seals to swell and stick.

See Throat Seal Liquid MSDS, part 307765.

Kit	Description
24C823	Package of 6 cartridges

Fluid Inlet Cover

15C850 Recirculation Block



Gun Cleaning Kit

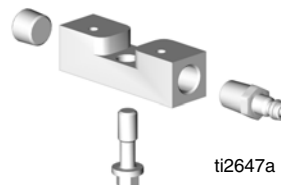
15D546

Kit includes gun pick, tip cleaning tool, o-ring tool, utility knife and blades, and seven different brushes.

Flushing Manifold

15B817 Manifold Block

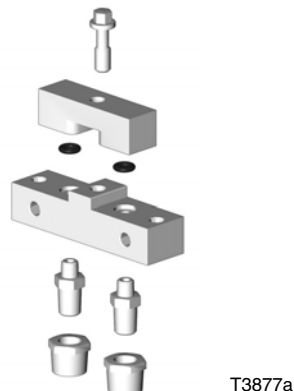
Attaches to gun fluid manifold to enable flushing.



Circulation Manifold

246362

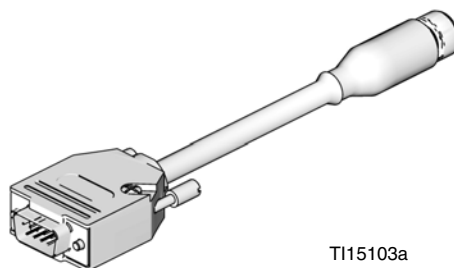
Attaches to gun fluid manifold to enable preheating of hose. See manual 309818.



Reactor IP Harness

24D679

Attaches to gun signal cable to enable connection to Reactor IP proportioners. 10 ft cable, male 9-pin to female 5-pin.



Signal Cable Extensions

24E898

25 ft extension cable, male 5-pin to female 5-pin.

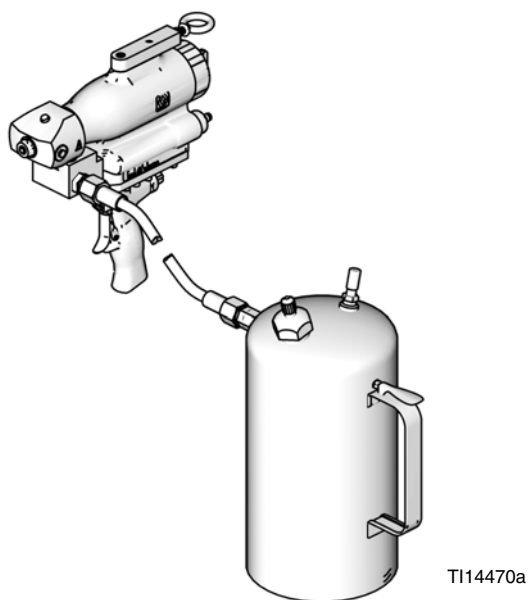
24E897

50 ft extension cable, male 5-pin to female 5-pin.

Solvent Flush Canister Kit

248139, 1 qt (0.95 liter) Solvent Cup

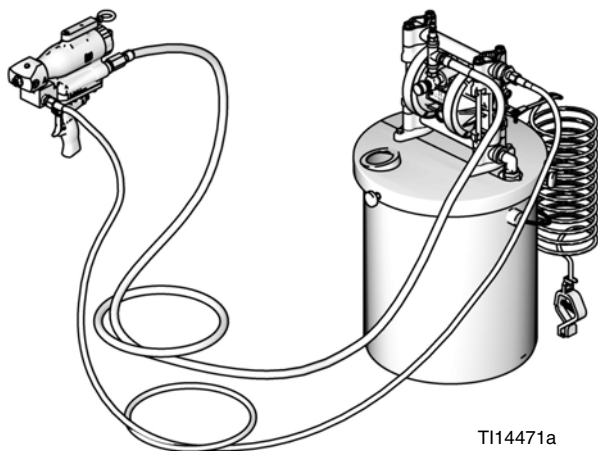
Includes flushing manifold to flush gun with solvent. Portable for remote flushing. See manual 309963.



Solvent Flush Pail Kit

248229, 5.0 gal. (19 liter) Pail

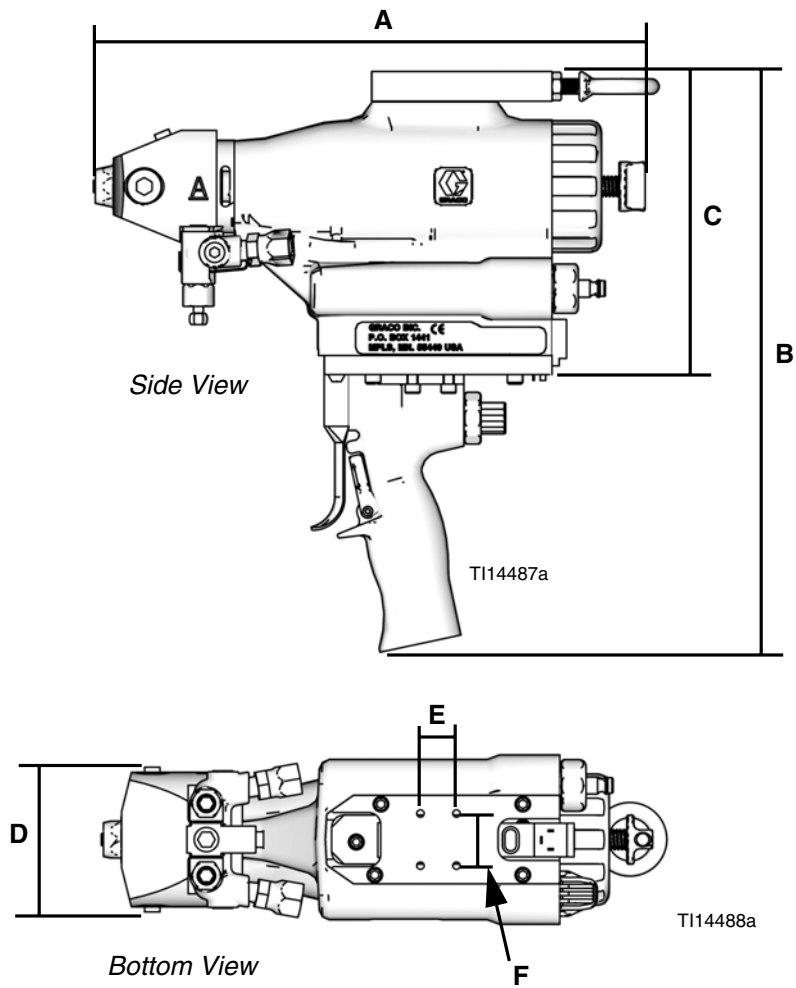
Includes flush manifold with individual A and B shutoff valves, and air regulator. See manual 309963.



Technical Data

Maximum Fluid Working Pressure	3000 psi (20.7 MPa, 207 bar)
Minimum Air Inlet Pressure.	80 psi (0.55 MPa, 5.5 bar)
Maximum Air Inlet Pressure	100 psi (0.69 MPa, 6.9 bar)
Maximum Fluid Temperature	180°F (82°C)
Air Inlet Size	1/4 npt Quick Disconnect Nipple
A Component Inlet Size	-5 JIC, 1/2 - 20 UNF
B Component Inlet Size	-6 JIC, 9/16 - 18 UNF
Weight.	<i>Models with Handle:</i> 7.4 lb (3.4 kg) <i>Models without Handle:</i> 6.4 lb (2.9 kg)
Sound pressure	80.22 dB(A) at 100 psi (0.7 MPa, 7 bar)
Sound power, measured per ISO 9416-2	80.64 dB(A) at 100 psi (0.7 MPa, 7 bar)
Materials of Construction	Aluminum, stainless steel, acetal, chemically resistant o-rings, carbon steel, fluoroelastomer o-rings
Wetted Parts	Aluminum, stainless steel, acetal, chemically resistant o-rings

Dimensions



Ref Dimension, in. (mm)

A	10.8 (274)
B	11.7 (297)
C	6.1 (155)
D	3.1 (79)
E	0.73 (19)
F	1.06 (27); Mounting: 4x 10-24

[illegible]

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