

## LineLazer V 250MMA 98:2 Self-Propelled Line Striper

3A3111F

EN

**For the application of line striping materials.  
For use with only Benox® L-40LV liquid initiator Benzoyl Peroxide (BPO).  
For professional use only.  
For outdoor use only.  
Not for use in hazardous locations or explosive atmospheres.**

*Maximum Operating Speed: 10 mph (16 kph)  
Maximum Operating Pressure: 3000 psi (20.7 MPa, 207 bar)*

### Model 17G589



#### Important Safety Instructions

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

Shown with optional second gun kit (17K319) installed.



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#### Related Manuals




LL V 250 DC Operation	3A3393
LL V 250 DC Operation (French)	3A3760
LL V 250 DC Operation (Spanish)	3A3759
Global Symbols	334224
LL V 250 DC Repair & Parts	3A3394
Pressurized Bead System	332230
Bead Gun Kit	332226
Bead Gun	308612
Displacement Pump	309277
Airless Spray Gun	308491
2-Gallon Pressure Tank	308370
LL V 250 DC Repair & Parts (French)	3A3710
LL V 250 DC Repair & Parts (Spanish)	3A3711
LL 250MMA 98:2 2nd Gun kit	3A3476

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# Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <b>WARNING</b>	
	<p><b>TRAFFIC HAZARD</b> Being struck by other vehicles may result in serious injury or death.</p> <ul style="list-style-type: none"> <li>• Do not operate in traffic.</li> <li>• Use appropriate traffic control in all traffic areas.</li> <li>• Follow local highway and transportation regulations for traffic control (for example: Manual on Uniform Traffic Control Devices, U.S. Department of Transportation).</li> </ul>
	<p><b>FIRE AND EXPLOSION HAZARD</b> Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Do not fill fuel tank while engine is running or hot; shut off engine and let it cool. Fuel is flammable and can ignite or explode if spilled on hot surface.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See Grounding instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti static or conductive.</li> <li>• Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>

# ! WARNING

	<p><b>INJECTION HAZARD</b> 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. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not spray without tip guard and trigger guard installed.</li> <li>• Engage trigger lock when not spraying.</li> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop spraying and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses and couplings daily. Replace worn or damaged parts immediately.</li> </ul>
	<p><b>CARBON MONOXIDE HAZARD</b> Exhaust contains poisonous carbon monoxide, which is colorless and odorless. Breathing carbon monoxide can cause death.</p> <ul style="list-style-type: none"> <li>• Do not operate in an enclosed area.</li> </ul>
	<p><b>PRESSURIZED ALUMINUM PARTS HAZARD</b> 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.</p> <ul style="list-style-type: none"> <li>• Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.</li> <li>• Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.</li> </ul>
	<p><b>ENTANGLEMENT HAZARD</b> Rotating parts can cause serious injury.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Do not wear loose clothing, jewelry or long hair while operating equipment.</li> <li>• Equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> and disconnect all power sources.</li> </ul>

# ⚠ WARNING



## 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.
- Do not wear loose clothing, jewelry or long hair while operating equipment.
- Equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.



## EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.




- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical 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. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.
- Do not carry passengers.
- Check work area for reduced overhead clearance (e.g. doorways, tree branches, parking ramp ceilings) and avoid contacting them.



## BATTERY HAZARD






The battery may leak, explode, cause burns, or cause an explosion if mishandled. Contents of an open battery can cause severe irritation and/or chemical burns. If on skin, wash with soap and water. If in eyes, flush with water for at least 15 minutes and get immediate medical attention.

- Only use the battery type specified for use with the equipment. See **Technical Data**.
- Battery maintenance must only be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from battery.
- Do not dispose of battery in fire. The battery is capable of exploding.
- Follow local ordinances and/or regulations for disposal.
- Do not open or mutilate the battery. Released electrolyte has been known to be harmful to the skin and eyes and to be toxic.
- Remove watches, rings, or other metal objects.
- Only use tools with insulated handles. Do not lay tools or metal parts on top of battery.

 <b>WARNING</b>	
	<p><b>BURN HAZARD</b> Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"> <li>• Do not touch hot fluid or equipment.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b> Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear, and hearing protection.</li> <li>• Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.</li> </ul>
	<p><b>CALIFORNIA PROPOSITION 65</b> This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.</p>

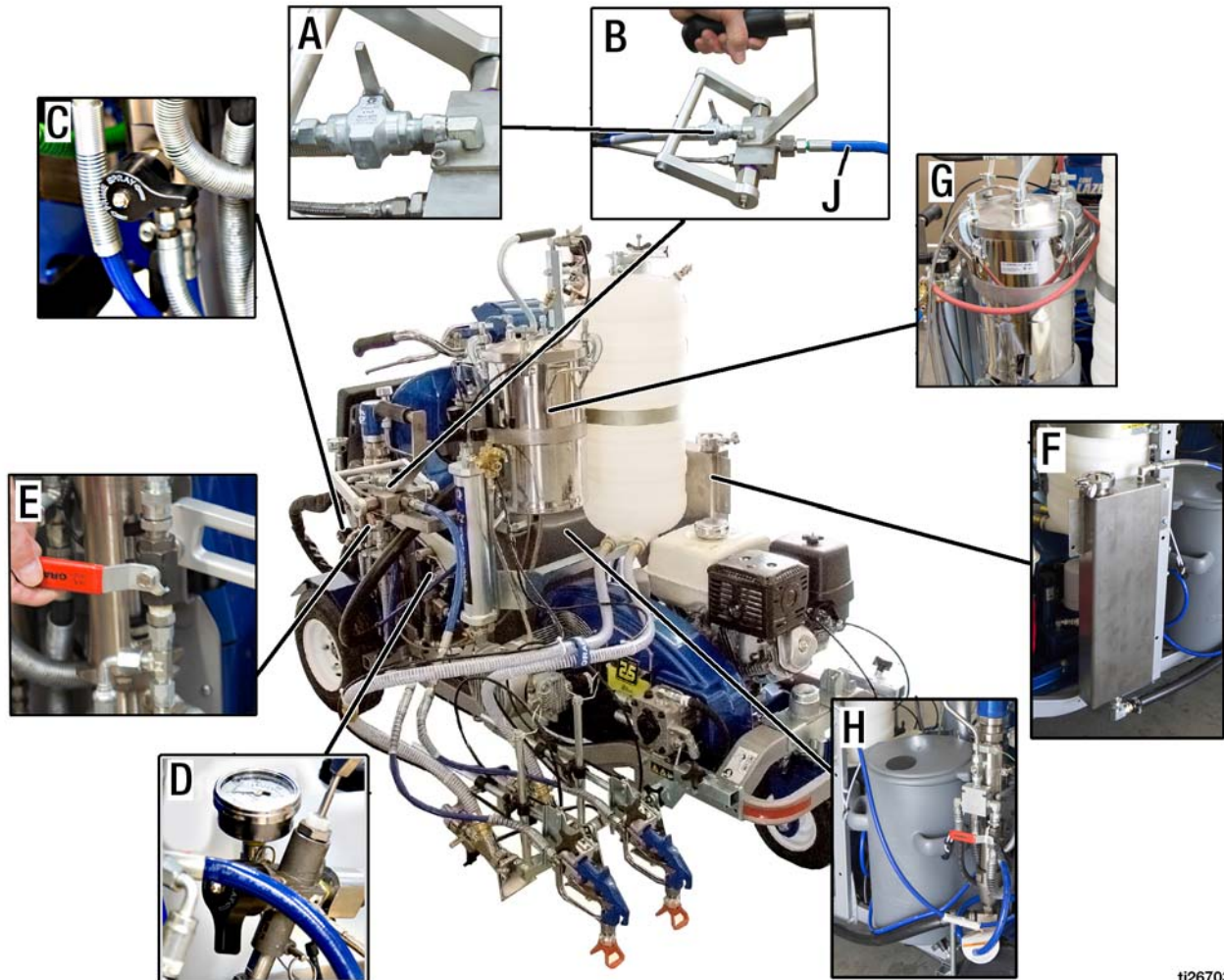
## Important Benzoyl Peroxide (BPO) Information

BPO contains highly reactive (unstable) chemicals that produce the curing reaction of methacrylic resins. The highly reactive property of BPO also produces hazards that require great care and caution in the handling, processing, storage, transportation and disposal of BPO.

									
<p>BPO is flammable and potentially explosive when reacting to contamination by other materials or when exposed to heat or heat build-up from contamination reactions. A contamination reaction can cause BPO to reach its Self-Accelerating Decomposition Temperature (SADT). Reaction may start slowly, taking from seconds to days, gradually building up heat. This can produce an explosion. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Read and understand the BPO manufacturer's warnings and Safety Data Sheet (SDS) to know specific hazards and precautions related to BPO.</li> <li>• Prevent contamination of BPO with other materials (even small amounts), including but not limited to rust, dust, ash, accelerators, strong acids and bases, or reducing agents, and non-stainless metals. Keep work area clean and free of waste.</li> <li>• Never return BPO from the Line Striperto the original container.</li> <li>• Remove spills promptly so no residues remain.</li> <li>• Keep BPO away from heat, sparks and open flames.</li> <li>• Do not smoke in the area.</li> <li>• Use only genuine manufacturer's parts in the catalyst system (hoses, fittings, etc.). A reaction may result between substituted parts and BPO.</li> <li>• Store BPO in the original containers in a cool, dry and well-ventilated area away from direct sunlight and away from other chemicals in accordance with BPO manufacturer's recommendations.</li> <li>• Do not store BPO for an extended period of time.</li> <li>• To prevent contact with BPO, wear appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons and goggles.</li> </ul>									



# Component Identification



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Shown with optional second gun kit (17K319) installed.

- |   |                                  |   |                  |
|---|----------------------------------|---|------------------|
| A | Solvent Valve                    | F | Solvent Tank     |
| B | Mix Manifold                     | G | BPO Pressure Pot |
| C | Resin (MMA) Spray/Prime Valve    | H | Resin (MMA) Tank |
| D | Catalyst (BPO) Spray/Prime Valve | J | Mix Hose         |
| E | Hydraulic Valve                  |   |                  |

For complete operation and parts information refer to the related manuals listed on the cover of this document. This document provides the operation information required when spraying 98:2 (MMA) coatings.

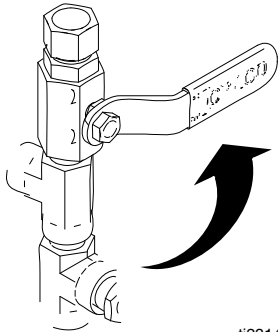
# Operation

## Pressure Relief Procedure



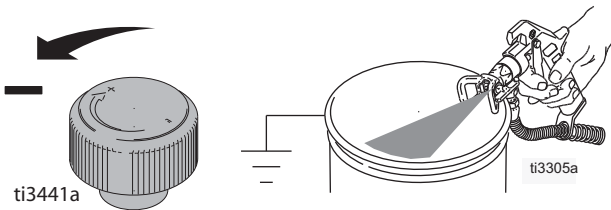
This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Set both (2) pump valves to **OFF**. Turn engine **OFF**.

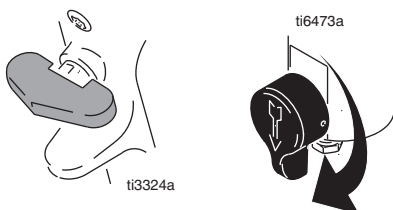


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2. Turn pressure control to lowest setting. Trigger all guns to relieve pressure.



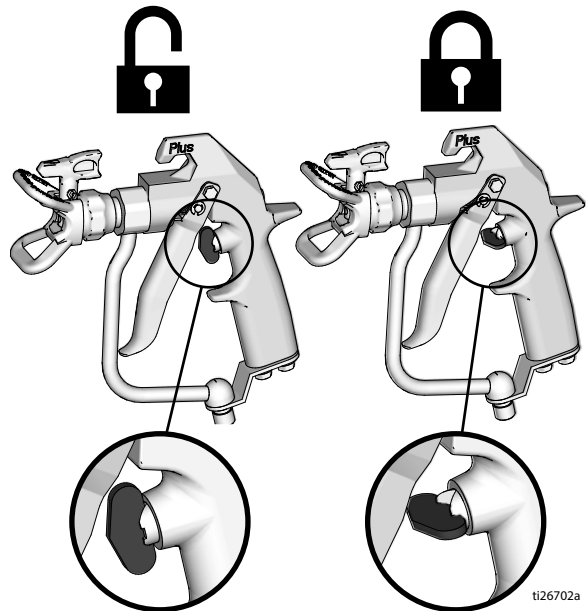
3. Engage all gun trigger locks. Turn both (2) prime valves to **PRIME**.



4. Leave prime valve(s) in **PRIME** position until you are ready to spray again.
5. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved:
  - a. **VERY SLOWLY** loosen the tip guard retaining nut or the hose end coupling to relieve pressure gradually.
  - b. Loosen the nut or the coupling completely.
  - c. Clear the obstruction in the hose or tip.

## Trigger Lock

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





## Flush Storage Fluid

This sprayer arrives from the factory with a small amount of test material in the system. **It is important that you flush this material from the sprayer before using it for the first time..**

1. Flush MMA system with acetone. See **Flushing Procedure**, page 12 and **Flush the Equipment**, page 14. All residual acetone must be removed from system before introducing MMA.
2. Flush BPO system with warm soapy water. See **Flushing Procedure**, page 12 and **Flush the Equipment**, page 14. All residual soapy water must be removed from system before introducing MMA.

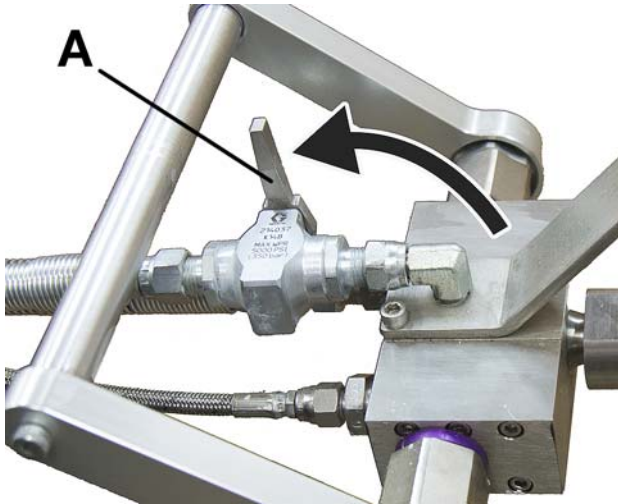
System blockage or poor performance may result if this procedure is not followed.

## Startup

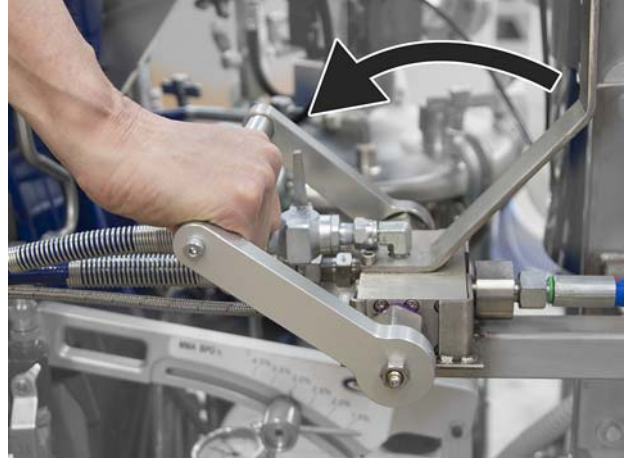
Startup involves filling tanks with catalyst (BPO), solvent, and resin (MMA). Making certain the valves are in the right positions and that the alarms are set up properly.

For additional information and steps refer to the 250DC Operation manual.

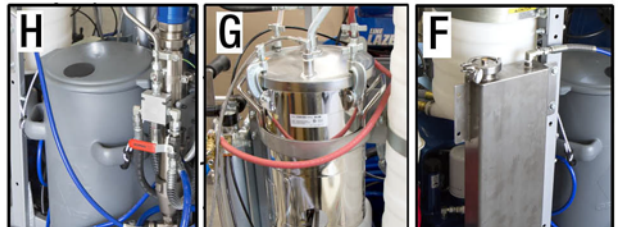
1. Close solvent valve (A) on mix manifold.



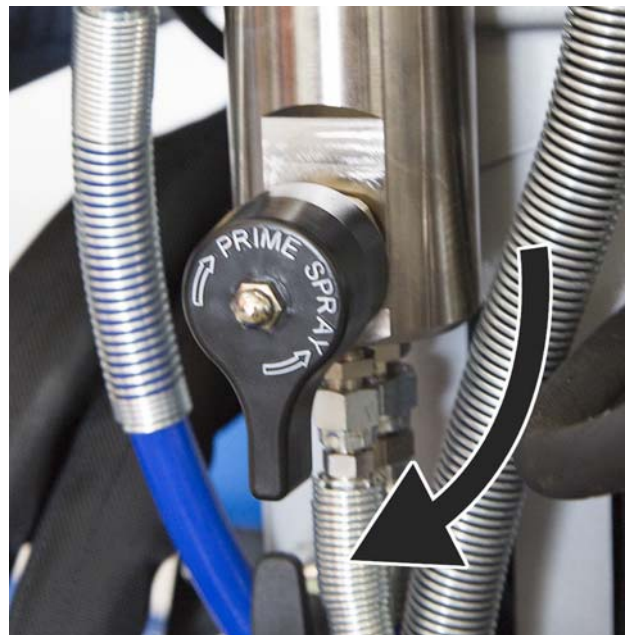
2. Close material supply lever (B) on mix manifold.



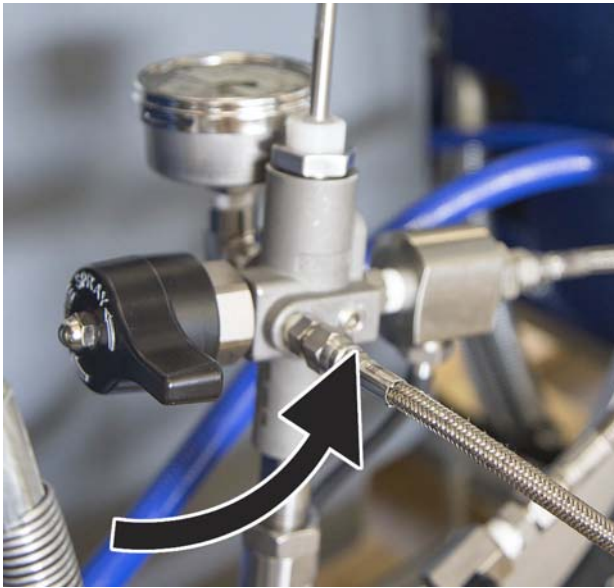
3. Fill tanks with resin (H), catalyst (G), and solvent (F).



4. Move resin (MMA) Spray/Prime valve (C) to PRIME position.



5. Move catalyst (BPO) Spray/Prime valve (D) to SPRAY position.



6. Start the unit, see Setup/Startup in the 250DC Operation manual.
7. Prime catalyst BPO slave pump.
  - a. Make certain Spray/Prime Valve is the SPRAY position.
  - b. Only if pump does not buildup pressure, crack open the line fitting on the transducer pressure manifold.



- c. Operate slave pump until fluid leaks out of the fitting loosened in Step b.
- d. Tighten the line fitting on the transducer pressure manifold.

**NOTICE**

Always rinse any spilled BPO/Benox off unit with soapy water and then rinse with water to prevent oxidation and decomposition.

8. Verify tip and guard installation and check gun placement. See the 250DC Operation manual for more information.
9. Open hydraulic valve (E) slowly to build 1000-1200psi on catalyst (BPO).
10. Close hydraulic valve (E).



11. Move resin (MMA) Spray/Prime valve (C) to SPRAY position.

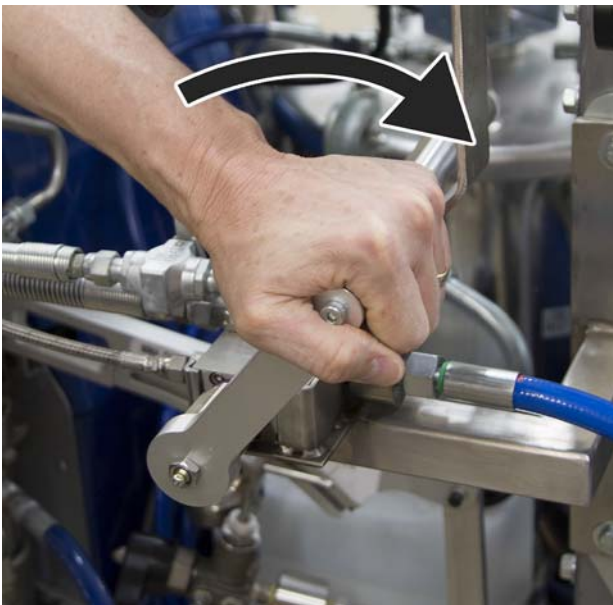




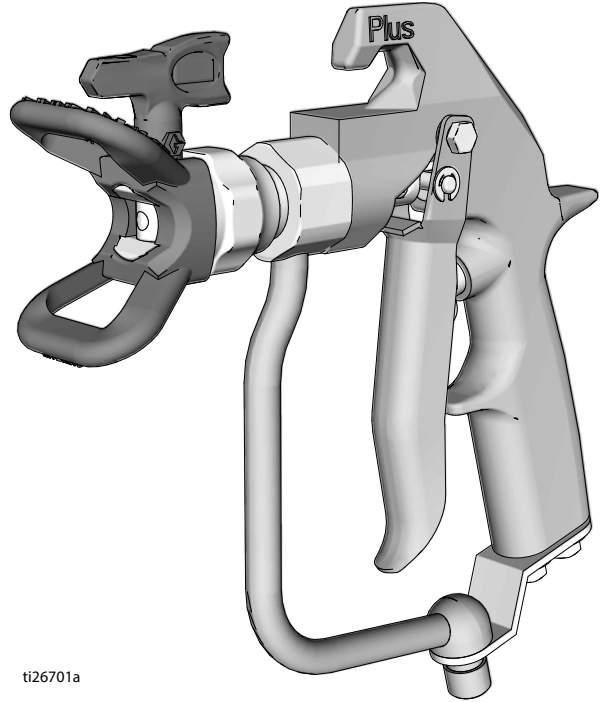
12. Open hydraulic valve (E) to build pressure (2000-2500psi) on resin (MMA).



13. Open material supply lever (B) on mix manifold.



14. Reverse tip on the spray gun.
  - a. Engage the trigger lock.
  - b. Rotate tip to the spray position.



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- c. Disengage the trigger lock.
15. Press the gun trigger button until material is clear of solvent.

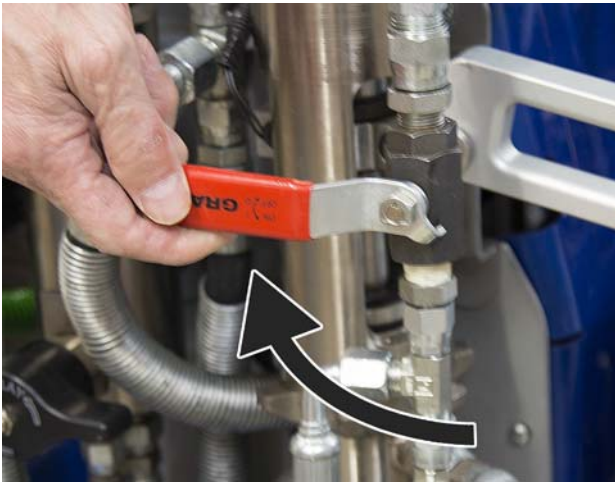


16. Startup is complete.
17. Enable Ratio Assurance Monitor Alarms. See **MMA Smart Control Operation**, page 15.

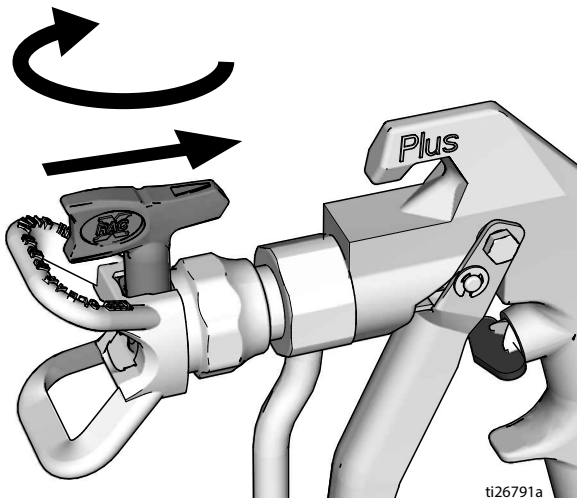
# Flushing Procedure

For additional information and steps refer to the 250DC Operation manual. The flushing procedure is used to flush catalyzed material out of the system to prevent the material from hardening in the lines.

1. Close hydraulic valve (E) on resin (MMA) pump.



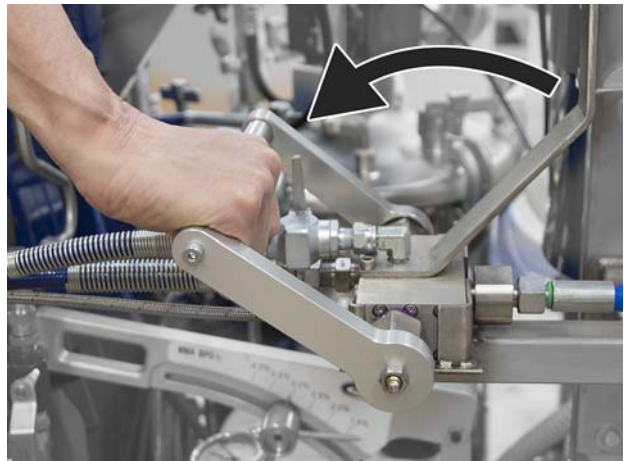
2. Open hydraulic valve on solvent pump.
3. Rotate tip to the clean position.



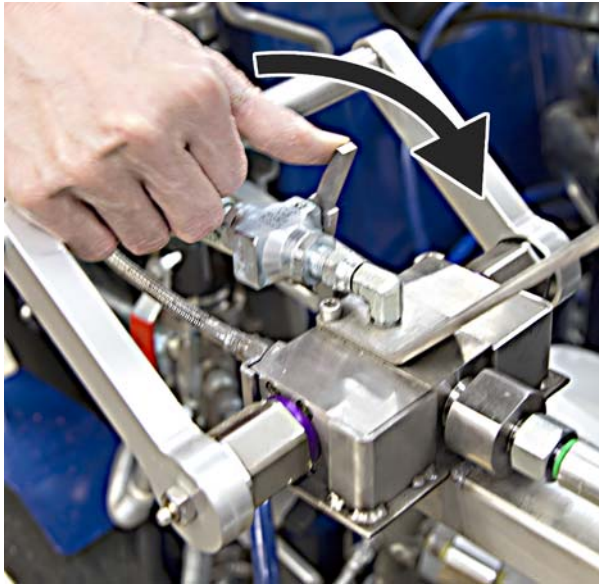
4. Point spray gun(s) into waste pail and press the gun trigger button until pressure is gone (below 500 psi).



5. Close material supply lever (B) on mix manifold.



6. Check to see that you have the solvent pump on.
7. Open solvent valve (A) on mix manifold.



8. Press the gun trigger button until material is flushed and solvent is clear.
9. Close solvent valve (A).
10. Spray/Prime valves; resin MMA (C), catalyst BPO (D), and solvent should be left in the PRIME position.

**NOTICE**

Catalyst BPO left under pressure may begin to separate and pack-out when left under pressure for extended periods of time.

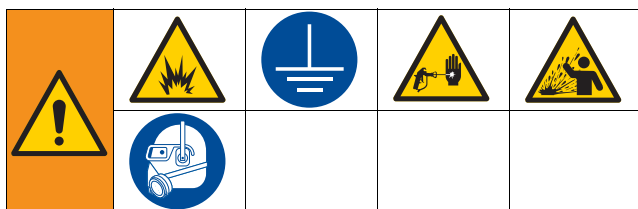
11. Flushing of catalyzed material is complete.
12. Always perform **Pressure Relief Procedure**, page 8 before storing sprayer.

# Cleanup

For additional information and steps refer to the 250DC Operation manual.

- Perform the **Flushing Procedure**, page 12
- Move Spray/Prime valves to PRIME on resin (MMA) and Catalyst (BPO) (C & D)
- Vent the resin (MMA) and Catalyst (BPO) pressure pots
- Vent the air receiver to release any water
- End of day complete

## Flush the Equipment



To avoid fire and explosion:

- Flush equipment only in a well-ventilated area
- Always ground equipment and waste container.
- To avoid static sparking and injury from splashing, always flush at the lowest possible pressure.

Follow these instructions to avoid BPO contamination. For first time use or purging old BPO from BPO system always flush system with warm soapy water, completely evacuating all liquid (including return hose), before introducing new BPO.



- Flush before changing colors, before fluid can dry in the equipment, at the end of the day, before storing, and before repairing equipment.
- Do not mix acetone with new resin (MMA), this can prevent resin (MMA) from hardening.
- Flush at the lowest pressure possible. Check connectors for leaks and tighten as necessary.
- Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.

### NOTICE

To avoid clogging in the catalyst (BPO) system always follow these practices:

**Flushing:** Flush BPO system with soapy water remove water to avoid freezing. Dispose of used BPO per manufacturers recommendations.

**Operating temperatures:** Only use BPO at temperatures between 32–110°F (0–43°C). Never heat BPO for any reason.

Do not leave catalyst (BPO) pump under pressure.

**Shelf life:** Use only within the manufacturers recommended shelf life. Discolored (yellowish), clumpy or dries BPO is often out of date or contaminated. Store BPO in a cool location.

To prevent BPO contamination always remove and dispose of old BPO then thoroughly flush system and remove all flushing material before introducing new BPO.

If BPO is contaminated, discolored (yellowish), clumpy or dried up thoroughly clean out the system to prevent contaminating additional BPO.

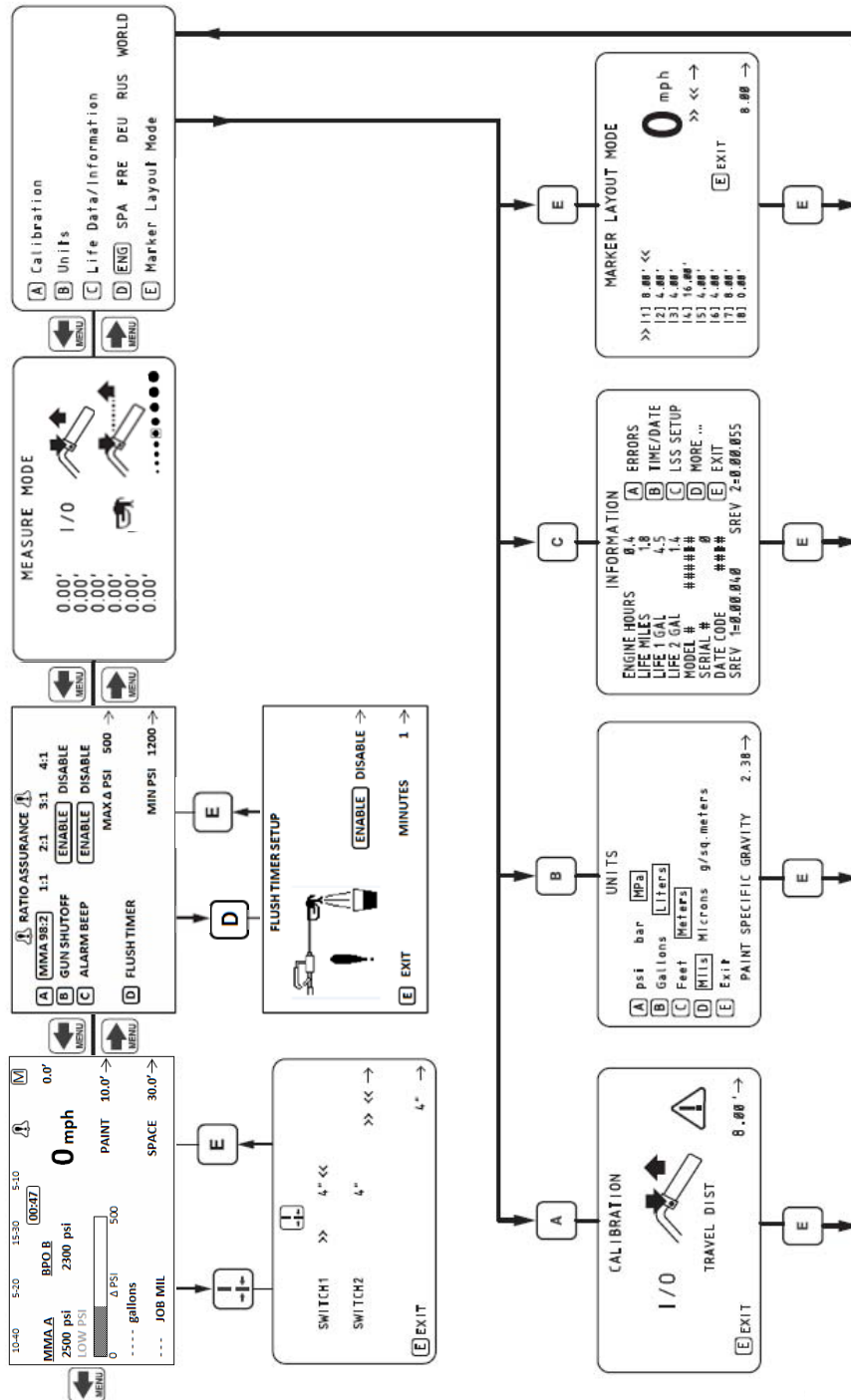
1. Perform the **Flushing Procedure**, page 12.
2. Follow **Pressure Relief Procedure**, page 8.
3. Remove spray tip and soak in solvent.
4. Place siphon tube in grounded metal pail containing cleaning fluid.
5. Set pump to lowest possible fluid pressure, and start pump.
6. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun until clean solvent dispenses.
7. Remove gun from hose. See gun manual to further clean gun.
8. Follow **Pressure Relief Procedure**, page 8, and Remove fluid filter and soak in solvent. Replace filter cap.
9. Move Spray/Prime valves to PRIME on resin (MMA) and Catalyst (BPO) (C & D)
10. Vent the resin (MMA) and Catalyst (BPO) pressure pots
11. Vent the air receiver to release any water



# MMA Smart Control Operation

## Menu Tree

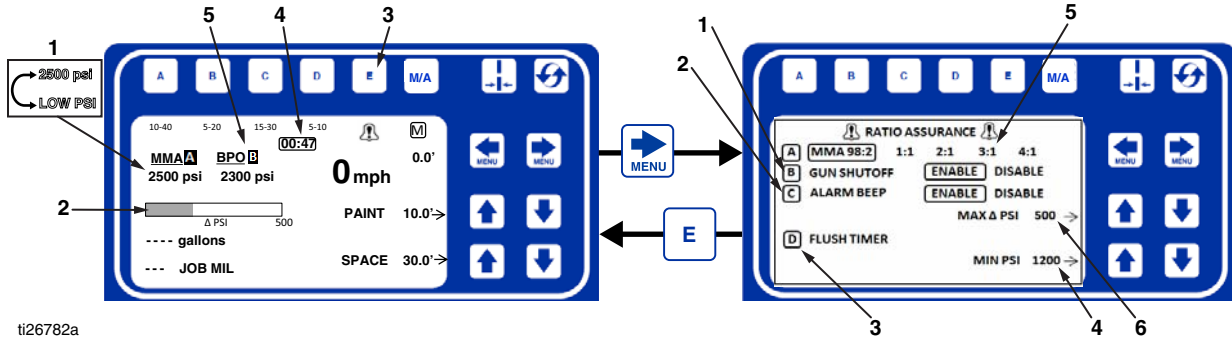
### MMA/EPOXY SOFTWARE SCREENS



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# MMA/Epoxy Mode





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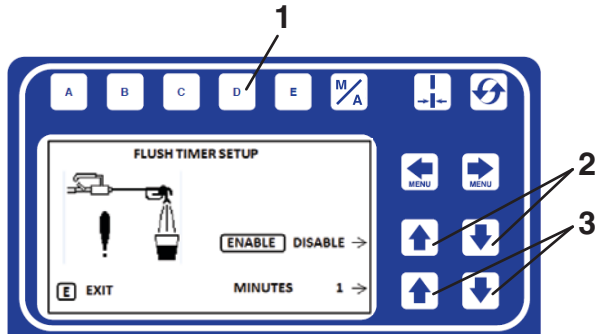
Ref.	Description
1	<b>LOW PSI</b> alternately flashes with the pressure value if either pressure is below the user defined <b>MIN PSI VALUE</b> .
2	The progress bar will give a visual of the pressure differential between the 2 pumps. When the pressure differential is outside the user defined value the progress bar will be filled and an Error triangle will flash next to it.
3	Press the <b>E</b> button to <b>RESET</b> the Ratio Assurance feature when it is enabled. The alarm will not resume monitoring until the <b>MIN PSI</b> and the <b>MAX Δ PSI</b> values are again satisfied by the system. – Enabled and monitoring – Enabled and not monitoring – Disabled
4	<b>Flush Timer</b> indicates how much time is left on the pot life of the mixed material in the hose. This resets to the inputted value whenever a gun is actuated/sprayed. Flush timer is <b>NOT</b> controlled by pressing the <b>E</b> button for activation and deactivation.
5	After material Designation is selected to input what material or ratio is being ran, this changes the title above each pump. MMA 98:2 shows titles: MMA (A) and BPO (B). The 1:1, 2:1, 3:1 and 4:1 (epoxies) show titles: RESIN(A) and HARDENER(B).

Ref.	Description
1	When the <b>GUN SHUTOFF</b> is enabled, the guns will not fire or will shut off when the pressure drops below the <b>MIN PSI VALUE</b> set by the user or if the pressure differential is outside <b>MAX Δ PSI</b> value set by the user.
2	When the <b>ALARM BEEP</b> is enabled, a beep occurs once a second while the guns are fired if the pressure drops below the <b>MIN PSI VALUE</b> set by the user or if the pressure differential is outside <b>MAX Δ PSI</b> value set by the user.
3	<b>FLUSH TIMER</b> allows the user to set a pot life timer. This indicates to the user when the mixed material in the hose has been sitting for the inputted amount of time. A countdown is displayed on the main screen and when the time reaches zero the control will beep/flash indicating that the user should flush the system. Flush Timer does <b>NOT</b> count down if both pressures are below the minimum setting.
4	<b>MIN PSI VALUE</b> is the minimum pressure allowed for either pump. This is defined by the user. This can be set between 0 – 2500 psi in 100 psi increments.
5	Material Designation is selected to input what material or ratio is being ran. This will change the title above each pump. MMA 98:2 shows titles: MMA (A) and BPO (B). The 1:1, 2:1, 3:1 and 4:1 (epoxies) show titles: RESIN(A) and HARDENER(B).
6	<b>MAX Δ PSI</b> is the maximum pressure differential allowed for the two pumps. This is defined by the user. Can be set between 100 – 1000 psi in 50 psi increments. This helps ensure proper ratio.

## Flush Timer Setup


Flush mode is used to set the time period from when spraying stops until the alarm notifies the operator that a flush is required to prevent material from setting up in the unit.

1. Use   to select Ratio Assurance.



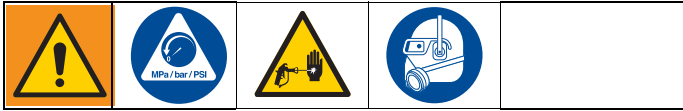
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Ref.	Description
1	Open Flush Timer Menu.
2	ENABLE or DISABLE alarm notification.
3	Number of minutes before alarm is displayed.


2. Press  to open Flush Timer Menu.
3. Set Flush Timer parameters.

For additional control information refer to the 250DC Operation manual.

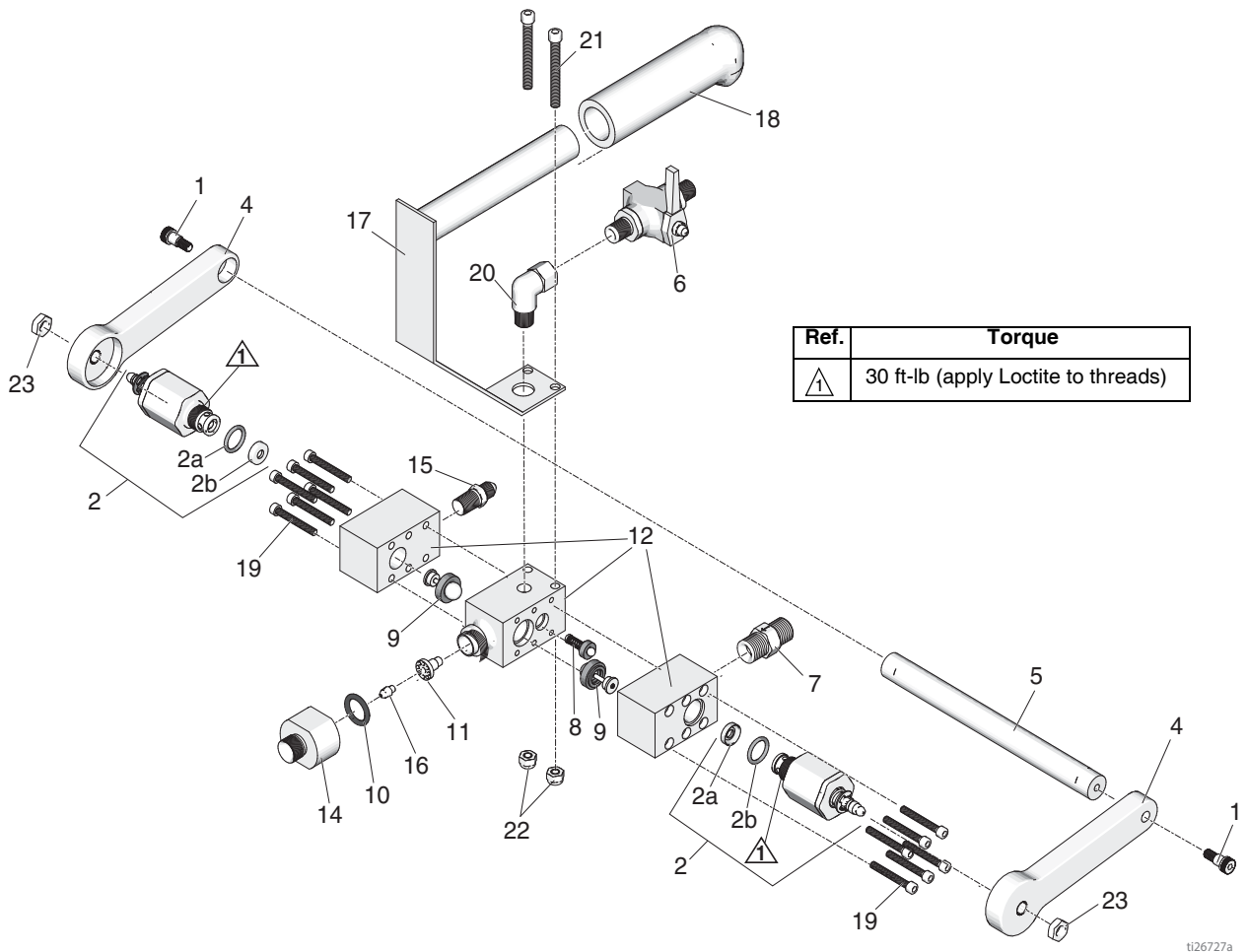
# Troubleshooting



Check everything in this Troubleshooting Table before you bring the sprayer to an authorized service center.

Problem	Cause	Solution
Catalyst (BPO) pump will not prime.	Air trapped inside catalyst (BPO) pump.	Prime slave pump. See page 10.
Catalyst (BPO) pump will not prime	Air trapped inside catalyst (BPO) pump	Prime catalyst (BPO) pump. See page 10
	Foreign material blocks pump	Catalyst (BPO) pump requires repair/repacking. See page 21 for pump parts and assembly.
Catalyst (BPO) pump overpressurizes	Catalyst (BPO) pump is blocked	Check if Catalyst (BPO) pump or Catalyst (BPO) Spray Hose is blocked: Loosen Catalyst (BPO) spray hose from Catalyst (BPO) pump. Put BPO Prime Valve to SPRAY and pump material. If no material flows out of pump, service pump. If material flows out of pump, check BPO spray hose. NOTE: clean off spilled BPO
	Catalyst (BPO) spray hose is blocked	Make sure Catalyst (BPO) pump is not blocked (see cause: Catalyst (BPO) pump is blocked). Loosen Catalyst (BPO) spray hose from Mix Manifold. Put BPO Prime Valve to SPRAY and pump material. If no material flows out of BPO spray hose, check hose for blockage. NOTE: clean off spilled BPO
	Catalyst (BPO) check valves in Mix Manifold are blocked	Clean system (see <b>Flushing Procedure</b> , page 12). Service Mix Manifold. See page 19 for Mix Manifold parts and assembly.
Alarm Timer not visible on Main Screen	Flush Timer disabled	Enable Flush Timer in submenu "RATIO ASSURANCE".
Alarm does not sound when pressure difference is above MAX $\Delta$ PSI.	Alarm Beep disabled	Enable Alarm Beep in submenu "RATIO ASSURANCE".
 Blinking on Main Menu	From the Main Menu move to the Information Screen (Errors)	Fix and reset any errors.

# 17H095 Mix Manifold Parts

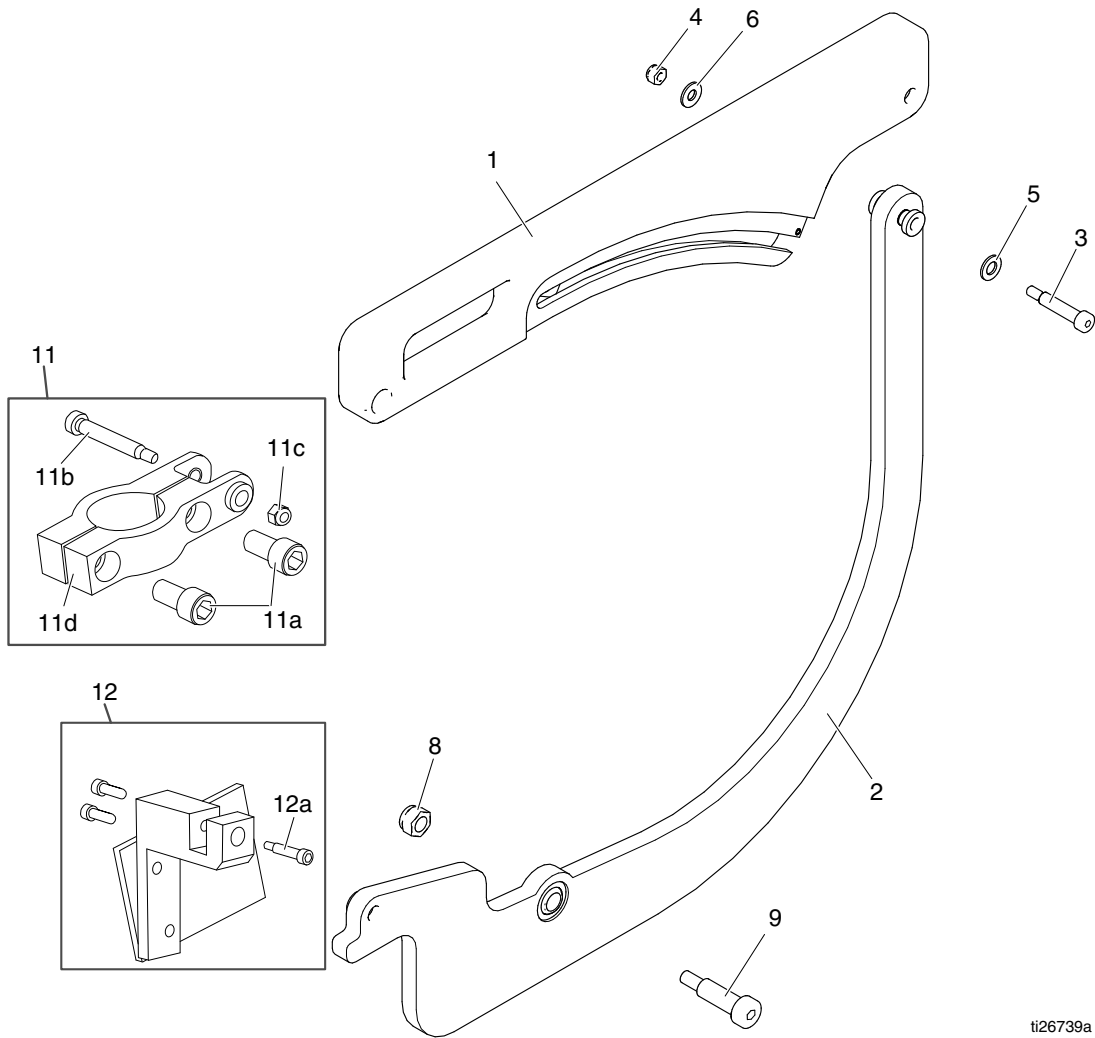


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## 17H095 Mix Manifold Parts List

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
1	124859	BOLT, shoulder, 1/4-20 x 5/16	2	13	17H095	MIX MANIFOLD, complete	1
2	17K496	KIT, valve relief	2	14	17K358	ADAPTER <i>includes 10</i>	1
2a	247779	SEAL, seat	2	15	124961	FITTING adapter, 04JIC x 1/4 NPT	1
2b	119740	O-ring	2	16	15V623	TIP, injector	1
3	112309	NUT, hex, jam	2	17	17K366	KIT, handle <i>includes 18, 21, 22</i>	1
4	16E334	HANDLE, manifold	2	18	114659	GRIP, handle	1
5	17K403	HANDLE, grip	1	19	514237	SCREW, cap 10 x 1-1/2	12
6	248875	VALVE, ball, with lever	1	20	114446	FITTING, union, 90°	1
7	501684	VALVE, check	1	21	103926	SCREW, cap	2
8	215619	VALVE, check	1	22	109478	NUT, lock, hex	2
9	215618	VALVE, check	2	23	125205	NUT, hex, jam	2
10	113575	O-ring	1				
11†	15V624	INJECTOR, fluid	1				
12	NA	BODY, manifold, Not sold separately					
						† 256793 Removal tool may be required	

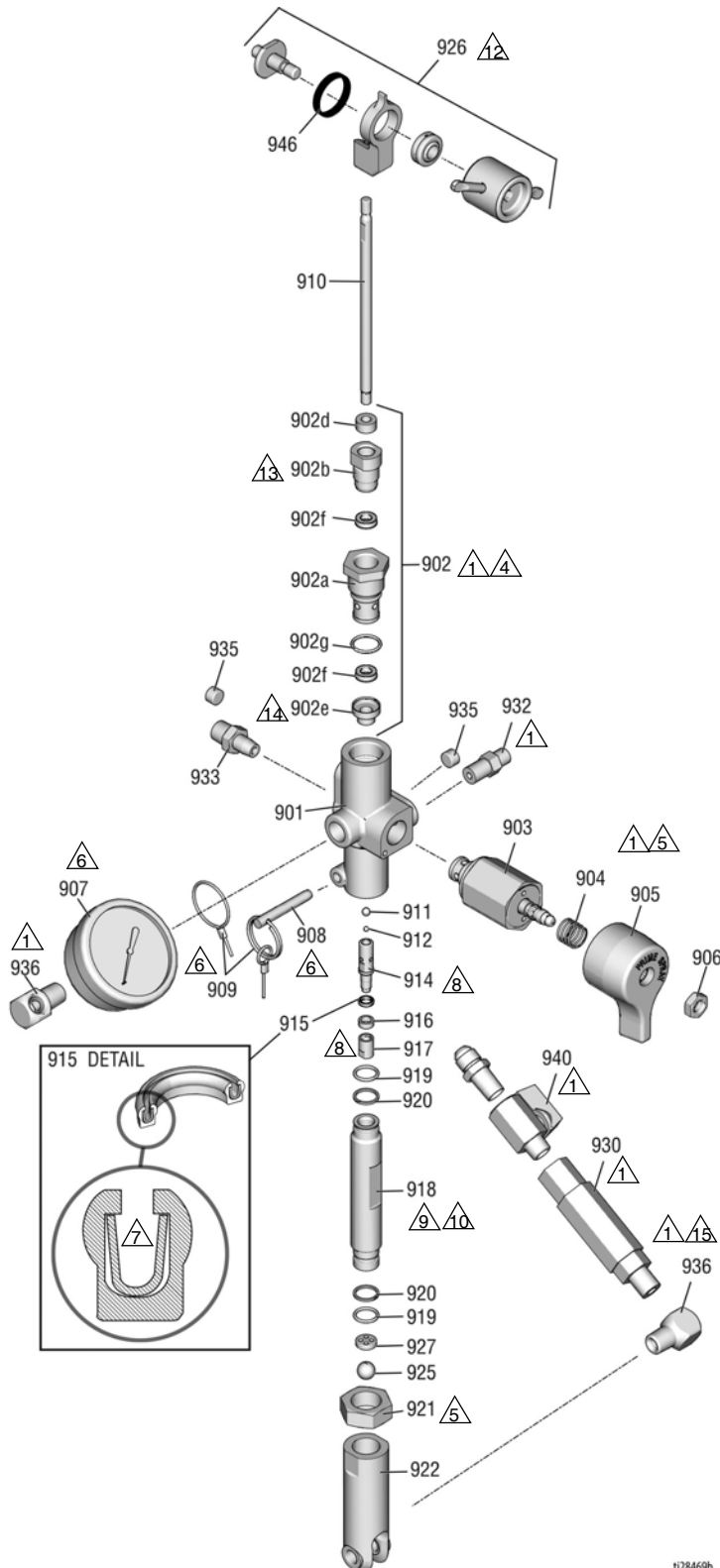
# Slave Pump Linkage Parts



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Ref. Part	Description	Qty.	Ref. Part	Description	Qty.
1	16N776 KIT, upper link, slave	1	11	17K894 KIT, clamp (complete)	1
2	16N775 KIT, lower link, slave	1	11a	109212 SCREW, 3/8-16	2
3	119999 BOLT, shoulder	2	11b	116941 BOLT, shoulder, 1/4x1.5	1
4	116969 NUT, lock	1	11c	116969 NUT, locking, 10-24	1
5	7486-05 WASHER, flat, standard #10	1	11d	16M366 BEARING	2
6	7486-03 WASHER, flat, fender 1/4	1	12	17K895 KIT, mount (complete)	1
8	111040 NUT, lock, nylock, 5/16	1	12a	120476 BOLT, shoulder	1
9	120476 BOLT, shoulder, 5/16	1			

# 17H093 BPO Slave Pump



- △1 Apply pipe sealant to threads.
- △4 Torque to 240 in-lb (27.1 N•m).
- △5 Torque to 355-395 in-lb (40.1-44.6 N•m).
- △6 Loop large end of lanyard over gauge prior to assembling gauge. Attach small end of lanyard to split ring on pin.
- △7 Note orientation of u-cup.
- △8 Torque to 30-50 in-lb (3.4-5.6 N•m).
- △9 Clean cylinder inner diameter with soft cloth or equivalent, prior to assembly.
- △10 Hand tighten cylinder (918) and bottom out to housing (901). Back-off cylinder (918) less than 1/2 turn. Assembly pin (908).
- △11 Press ball stop (927) into cylinder (918).
- △12 Torque piston rod (910) to top link (926) to 80-100 in-lb (9.0-11.3 N•m).
- △13 Torque to 20 - 60 in-lb (2.3-6.8 N•m).
- △14 Snap 902e onto 902a.

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## 17H093 BPO Slave Pump Parts List

Ref.	Part	Description	Qty.
901	---	HOUSING, slave pump	1
902	24C479	KIT, cartridge, FRP	1
902a	---	CARTRIDGE, slave pump	1
902b †	---	BEARING, cartridge	1
902d †	---	WIPER, felt, piston rod	1
902e ✿	16P186	SEAL, snap on, cartridge	1
902f ✿	16A981	SEAL, slave pump weep	2
902g ✿	123556	O-RING, silicone #016	1
903	17H096	KIT, repair, drain valve	1
904	114708	SPRING, compression	1
905	15G563	HANDLE	1
906	112309	NUT	1
907	113641	GAUGE, pressure, fluid	1
908	123595	PIN, quick release	1
909	124193	CABLE, lanyard, 5 inch	1
910	16N964	ROD, piston, slave pump (also includes 919, 920, and tool 16D007)	1
911	17W588	BALL, 3mm	1
912	128930	BALL, 5mm	1
914	17W587	HOUSING, transfer, double check	1
915	LPA-126	SEAL, radial	1
916	LPA-127	GUIDE, piston	1
917	16A666	CAP, transfer housing	1
918	17J960	CYLINDER, slave pump	1
919 ✿ †	CJ-143	O-RING, o-ring, silicone, 2-014	2
920 ✿ †	124061	RING, backup, 0.518 ID, 0.053 wide	2
921	LPA-144	NUT, lock	1
922	17R456	KIT, foot valve replacement	1
925	131619	BALL, spherical	1
926	16N617	KIT, repair, catalyst pump yoke	1
927 †	17W589	STOP, ball	1
930	17W590	FITTING, check valve	1
932	123628	FITTING, adapter, 1/8 npt - #4 jic	1
933	111643	FITTING, nipple, reducing	1
935	110208	PLUG, pipe, headless	2
936	166866	FITTING, elbow, street	2
940	24U857	VALVE, ball, mini; not used on series D	1
945	123597	ADAPTER, 3/8 JIC x 1/4 NPT	1
946	24M692	SPACER, ball, joint	1

### Installation Tools (not shown):

Weep seal installation tool, 16N967 ✿

Rod Assembly Bullet Installation Tool, 16D007 ✿

--- Not for sale.

† Parts available in bearing and wiper repair kit 16P185.

‡ Parts available in foot valve repair kit 17R456.

✿ Parts and tools available in throat seal repair kit 16N963.

### Complete rebuild kit 17W689 includes:

-Throat seal repair kit 16N963

-Foot ball replacement kit 131619

-Bearing with felt wiper 16P185

-Piston seal LPA-126

-Piston guide LPA-127

-Ball, piston check 128930

-Ball, piston check 17W588

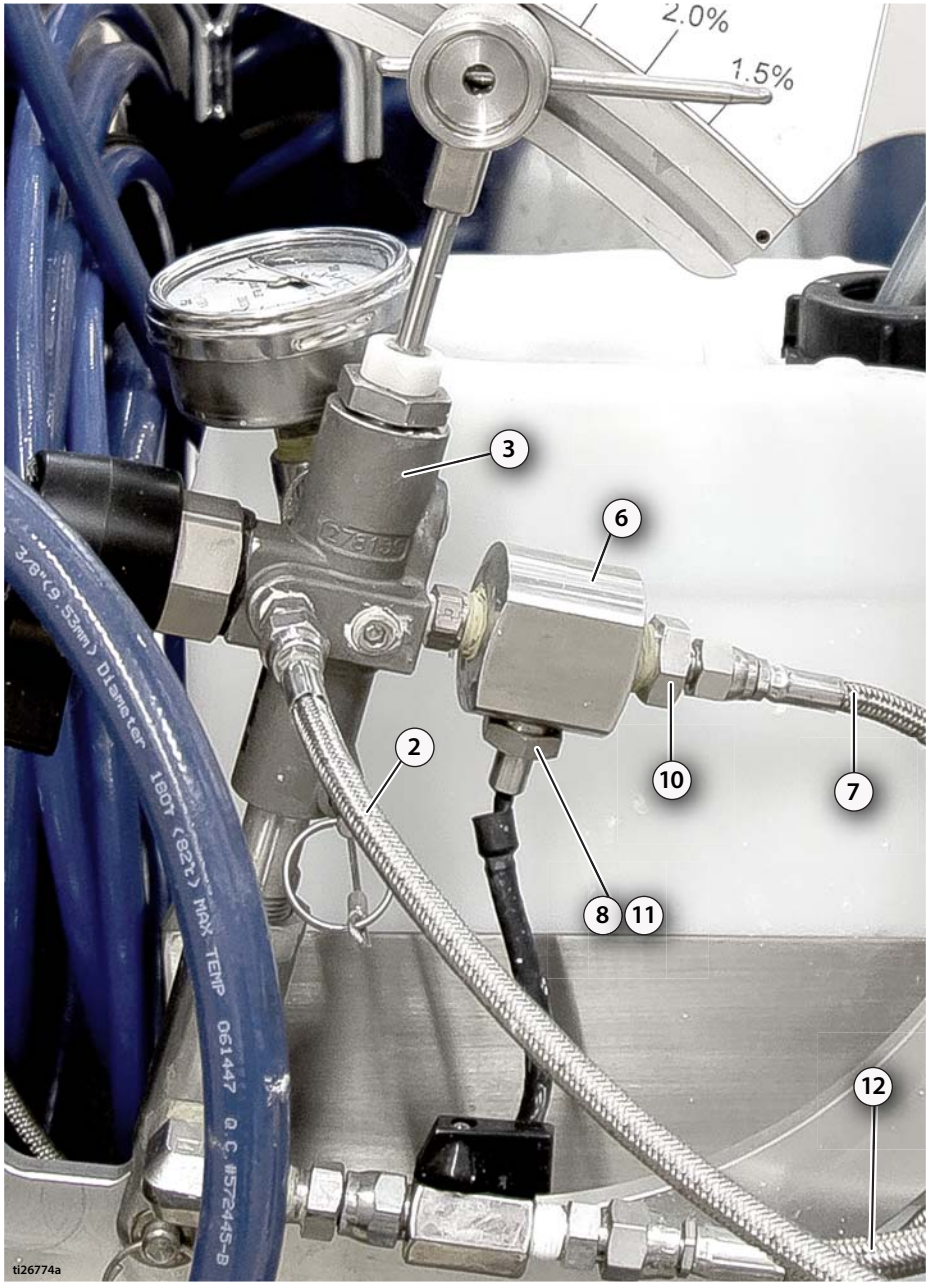
-O-ring CJ-143

-Ring, backup 124061

-Stop, ball, 17W589

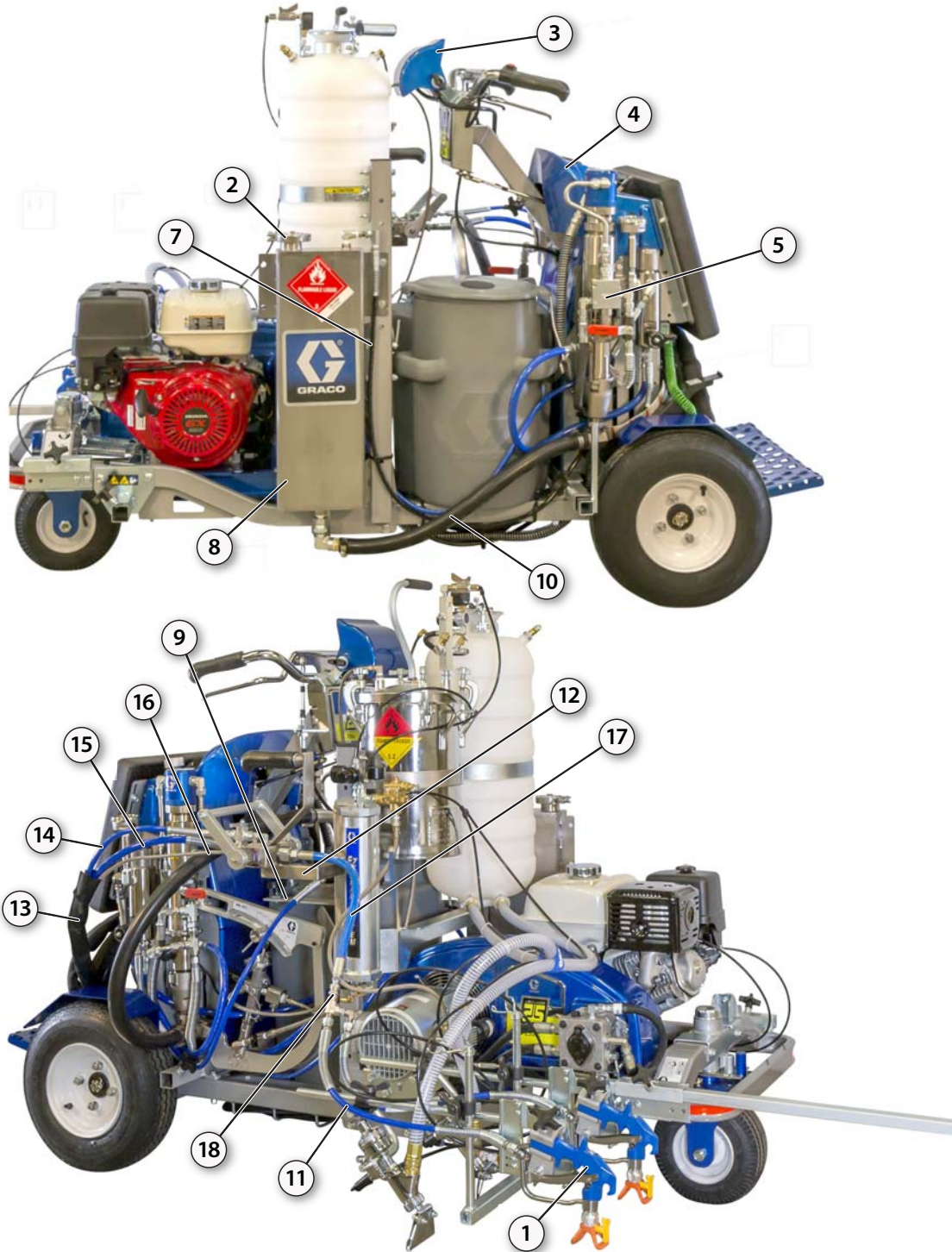


# 17H093 Slave Pump Fittings



Ref. Part	Description	Qty.	Ref. Part	Description	Qty.
2	17K368 HOSE	1	7	17K367 HOSE	1
3	17H093 KIT, repair, pump, slave complete	1	8	15F782 HARNESS, transducer	1
6	16G410 MANIFOLD, pressure, transducer	1	10	128845 FITTING, 04JIC x 3/8 8NPT	1
			11	111457 PACKING, O-ring	1
			12	17K369 HOSE, braided, inlet	1

# Subassembly Items



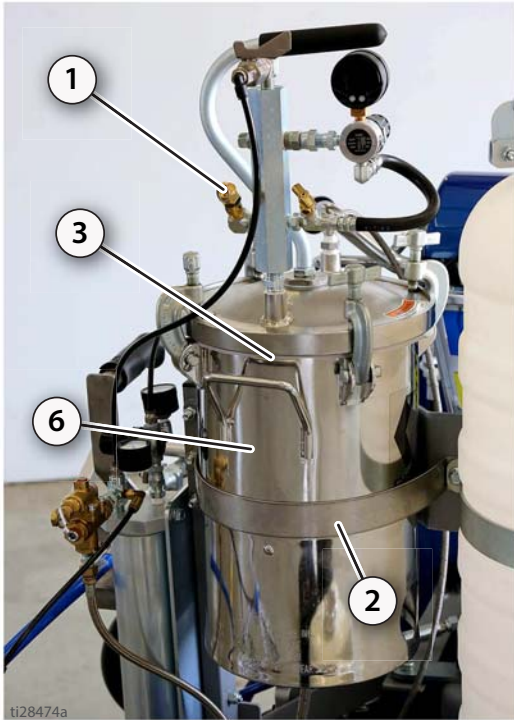
**Shown with optional second gun kit (17K319) installed.**

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## Subassembly Items Parts List

Ref. Part	Description	Qty.	Ref. Part	Description	Qty.
1	289605 GUN, spray	1	11	249149 HOSE, cpld, 1/4 x 22	1
2	17K362 KIT, breather cap, complete	1	12	17K365 KIT, bracket, mix manifold, MMA	1
3	17H098 BOARD, control, MMA display	1	13	17L565 SLEEVE, protective	1
4	17H097 BOARD, control, MMA main	1	14	277481 HOSE, cpld, 1/4" x 25' (solvent)	1
5	17K364 KIT, pressure control	1	15	124884 HOSE, coupled, 3/8" x 20 (MMA)	1
7	277198 HOSE, solvent return	1	16	17K367 HOSE (BPO)	1
8	17K361 KIT, tank assembly <i>includes all fittings and cap</i>	1	17	17H058 TUBE, mixer, static, high pressure	1
9	17K360 KIT, tank bracket, MMA	1	18	236987 SWIVEL, hose	1
10	194306 HOSE, solvent (cut to fit)	1	Parts not shown can be found in manual Parts Manual.		

# 236155 Tank



Ref. Part	Description	Qty.
1	117480 VALVE, safety relief 26psi	1
2	17K363 KIT, tank bracket	1
3†	17L555 GASKET	1
4	17K357 KIT, repair, outlet fitting	1
5	112100 ADAPTER, male	1

Ref. Part	Description	Qty.
6	236155 TANK, low pressure	1

† Replace once a year. Keep extras on hand to reduce down time.

Parts not listed can be found in manual 308370.

# Technical Specifications

LineLazer V 250MMA 98:2		
	U.S.	Metric
<b>Environment</b>		
Operating Temperature	32° to 110° F	0° to 43° C
<b>Dimensions</b>		
Height (with handle bar down)	Unpackaged - 55.7 in. Packaged - 63.5 in.	Unpackaged - 141.5 cm Packaged - 161.3 cm
Width	Unpackaged - 33.0 in. Packaged - 45 in.	Unpackaged - 83.8 cm Packaged - 114.3 cm
Length (with platform down)	Unpackaged - 73.5 in. Packaged - 78.0 in.	Unpackaged - 186.7 cm Packaged - 198.1 cm
Weight (dry - no paint or beads)	Unpackaged - 893 lbs Packaged - 1031 lbs	Unpackaged - 405 kg Packaged - 468 g
<b>Capacity</b>		
MMA Tank	15 gallons	57 liter
BPO Pressure Pot	2 gallons	7 liter
Solvent Tank	2.3 gallons	7 liter
<b>Noise (dBa)</b>		
Sound Power per ISO 3744:	105.9	
Sound Pressure measured at 3.3 feet (1m):	89.1	
<b>Vibration (m/s<sup>2</sup>) (8 hours daily exposure)</b>		
Hand Arm (per ISO 5349)	2.4	
Whole Body (per ISO 2631)	0.4	
<b>Power Rating (Horse Power)</b>		
Power Rating (Horse Power) per SAE J1349	11.9 HP @ 3600 rpm	8.8 kW @ 3600 rpm
Maximum Delivery	2.5 gpm	9.5 lpm
Maximum Tip Size 1 gun 2 gun	.055 .039	
Inlet paint strainer	16 mesh	1190 micron
Outlet paint strainer	50 mesh	297 micron
Pump inlet size	1 in. NSPM (m)	
Pump outlet size	3/8 NPT (f)	
Hydraulic reservoir capacity	1.25 gallons	4.73 liters
Maximum hydraulic pressure	1825 psi	124 bar
Maximum working pressure	3000 psi	207 bar, 20.7 MPa
Maximum forward speed	10 mph	16 kph
Maximum reverse speed	6 mph	9.7 kph
Electrical Capacity	14 A @ 3600 rpm	
Starting Battery	12V, 33Ah, Sealed lead acid	

Wetted Parts: PTFE, Nylon, polyurethane, V-Max, UHMWPE, fluoroelastomer, acetal, leather, tungsten carbide, stainless steel, chrome plating, nickel-plated carbon steel, ceramic



# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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

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

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Original instructions. This manual contains English. MM 3A3111

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