Operation Manual

308880

Rev. C

GRACO

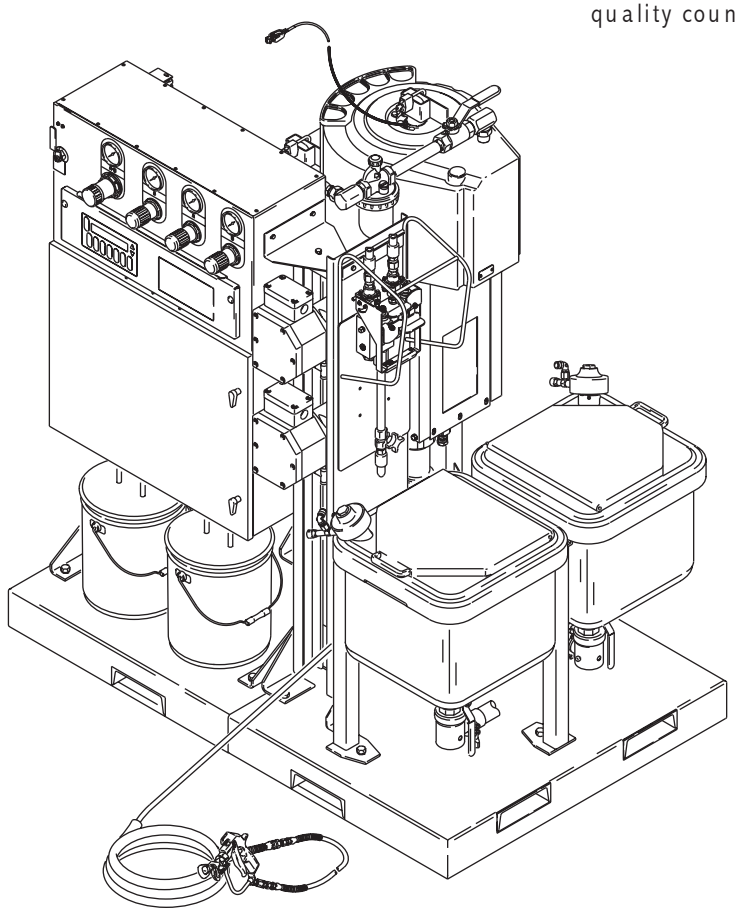
First choice when quality counts.™

VARIABLE RATIO, HIGH CAPACITY

SuperCat™ Proportioner Package

5000 psi (34 MPa, 345 bar) Maximum Working Fluid Pressure
100 psi (0.7 MPa, 7 bar) Maximum Working Air Pressure

See instruction manual 308881 for installation, troubleshooting, service, and parts information.



Contents

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

Graco Inc. is registered to I.S. EN ISO 9001

INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate medical attention.**
- Point the gun away from yourself or anyone else.
- Do not put your hand or fingers over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Do not remove the spray gun trigger guard.
- Lock the gun trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** in the **General Operation** section if the spray tip clogs and whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.

FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD

Improper grounding, poor ventilation, open flames, or sparks can cause fire, explosion, electric shock or other serious injury.

- Ground the equipment and the object being sprayed. See **Ground the Equipment** in manual 308881 .
- All electrical wiring must be done by trained and qualified personnel and comply with all local codes and regulations.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes.
- Do not smoke or introduce any sources of fire or spark within the spray area.
- Keep the spray area free of debris, including solvent, rags, and gasoline.

TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately. Do not mend or repair any part of the hose assembly. If the hose is damaged, replace immediately.
- Use only Graco approved hoses. Do not remove hose spring guards.
- Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a **5000 psi (34 MPa, 345 bar) maximum working pressure at 100 psi (0.7 MPa, 7 bar) maximum incoming air pressure.**
- Never operate the pump without the automatic pressure relief valves installed. These valves relieve fluid pressure through a drain port at the bottom of the valve if the maximum working pressure is exceeded.
- Tighten all fluid connections before operating the equipment.
- Do not lift the equipment by a pump air motor lift ring or the frame. See manual 308881 to lift the equipment correctly.
- Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces.
- Use fluids and solvents that are compatible with the equipment wetted parts. See the **Technical Data** section of all the equipment manuals. Read the fluid and solvent manufacturer’s warnings.
- Comply with all applicable local, state and national safety regulations.

MOVING PARTS HAZARD

Moving parts, such as the air motor piston, can pinch or amputate fingers.

- Do not operate the equipment with the air motor plates or guards removed.
- Keep your body and tools clear of any moving parts when starting or operating the equipment.

Pressure Relief

⚠ WARNING

INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** if the spray tip clogs and whenever you:

- are instructed to relieve the pressure,
- stop spraying,
- check or service any of the system equipment,
- or install or clean the spray tip.

NOTE: If the proportioner will not be used for a period that exceeds the work life time, be sure to follow the **Daily Shutdown/Mix Material Flush** procedure.

1. Lock the spray gun trigger safety.
2. Press the keypad mode key to change to manual mode.
3. Shut off the air regulators for the Premier proportioning pump and the feed pumps if installed.
4. Unlock the spray gun trigger safety.
5. Hold a metal part of the spray gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
6. Lock the spray gun trigger safety.
7. Open the fluid drain valves, having a container ready to catch the drainage. Close the valves.
8. If you suspect that the spray tip or hose is completely clogged, or that the pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose.

Safety Tips

Warning Symbol

This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

This symbol alerts you to the possibility of fire, explosion, or electric shock if you do not ground the gun to a grounded container while performing the instructions.

This symbol alerts you to possibility of a fluid injection injury if you do not follow the instructions.

This symbol alerts you to possibility of fire, explosion, or electric shock if you do not follow the instructions.

This symbol alerts you to possibility of eye injury. Wear protective eye wear to avoid injury.

Waste Container Safety

Make sure a grounded metal waste container is under each fluid drain valve and the fluid tubes are secured into the containers.

Fluid emitted from the automatic pressure relief valves may be at high pressures. Make sure the container can contain a sudden spurt of pressurized fluid.

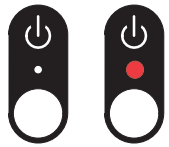
Grounding the Gun

When instructed to “ground the gun” in the following procedures, hold a metal part of the spray gun firmly to the side of a grounded metal pail while triggering the gun into the pail.

Operating Tips

Changing Operating Modes

The system will start up in manual mode. The schematic lights will come on to indicate the status of the system. **In manual mode the mode key light will be off.** Press the mode key to change to spray mode. **In spray mode, the mode key light will be green.**



Manual Mode | Spray Mode

Operating Feed Pumps in Manual Mode

If feed pumps are installed, turn them on by pressing the feed pump keys **(FK)** and gradually turning up the feed pump air regulators. The feed pumps turn off when the fluid reaches the full level sensor or when two minutes have elapsed. To manually turn off the feed pumps when they are running, press the feed pump keys again. **NOTE:** The feed pump lights are green while the feed pumps run. The full level sensor lights are green when the sensor detects fluid.

Operating Premier Pump in Manual Mode

Turn on the Premier pump by pressing the Premier pump key **(PK)**. Turn up the Premier pump air regulator pressure gradually until the pump is running slowly **(about 1 cycle every 4 - 6 seconds)**. Use the lowest pressure setting where pump stroke runs smoothly; **typically 500 psi (3.4 MPa, 34 bar)**. Release the Premier pump key to turn off the pump.

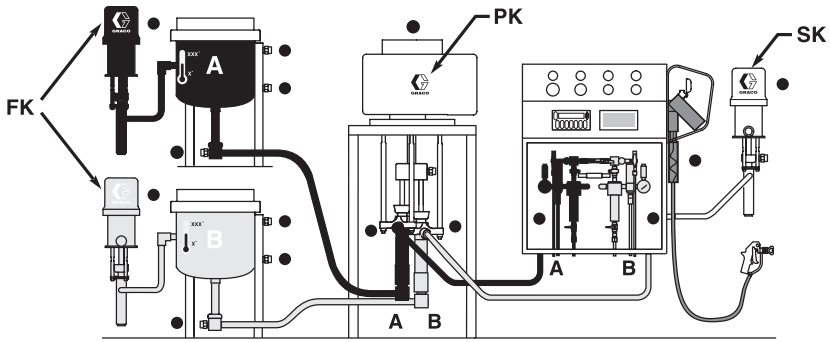
Operating the Solvent Pump in Manual Mode

Turn on the solvent pump by pressing the solvent pump key **(SK)** and gradually turning up the solvent pump air regulator. The solvent pump turns off when the solvent supplied reaches the preset amount. To manually turn off the solvent pump when it is running, press the solvent pump key **(SK)**.

NOTE: The default solvent pump setting is 2 gallons (7.57 liters) of solvent.

CAUTION! Solvent pump will not automatically shut off when the full level is reached. Monitor the fill cycle to avoid overflow. Press the solvent key to stop the pump.

System Schematic Panel



Observe the Work Life Time

If the work life time is exceeded, flush the mixed fluid out of the mixer, gun fluid line and gun before it hardens. Flush the complete system when necessary to prevent the fluids from hardening in the equipment.

Stop Key

Press the Stop Key to immediately shut down functions run by the controller or to turn off an alarm. To shut the entire system down, close the air supply valve to the system.

If a Pump Runs Dry

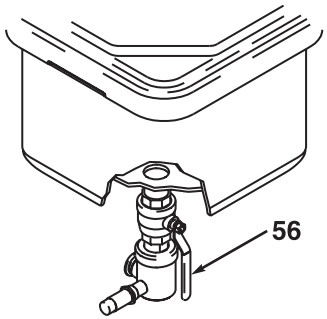
Press the Stop Key. Refill the container, and prime the system.

If an Alarm Occurs in Automatic Mode

To help diagnose the cause of the alarm, note which keypad and system schematic panel lights are on. See **Alarms** section. Press the Stop Key to turn off the alarm. If the material work life time may be exceeded during troubleshooting, flush out the mixed material. After correcting the cause of the alarm, prime and load the system with material to continue spraying.

1. **Completely flush the system.**

2. **Open both reservoir ball valves (56).**



3. **Set the mode key (MK) to Manual Mode.**

4. **Set the system regulators and valves.**

Regulators:

Premier Pump (C) **0** Air Pressure

Solvent Pump (D) **0** Air Pressure

Feed Pump **A** (E) **0** Air Pressure

Feed Pump **B** (F) **0** Air Pressure

Valves:

204 Open Fluid Drain Valves

17a Close Mix Manifold Valves

17b Close Solvent Valves

230 Close Recirculation Valves

223 Close Solvent Supply Valves

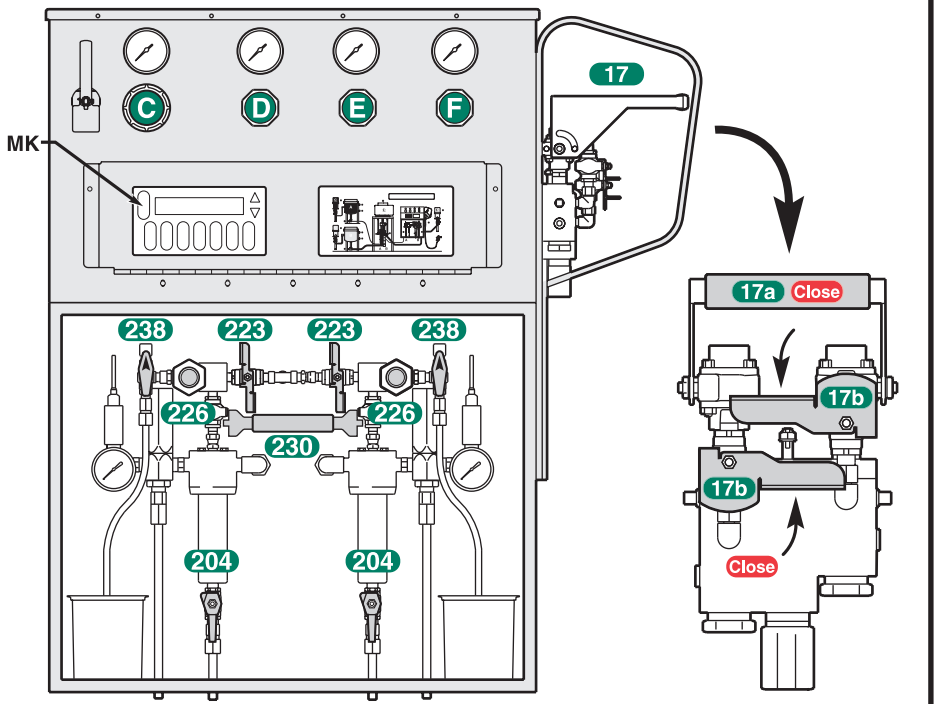
226 Open Fluid Flow Control Valves

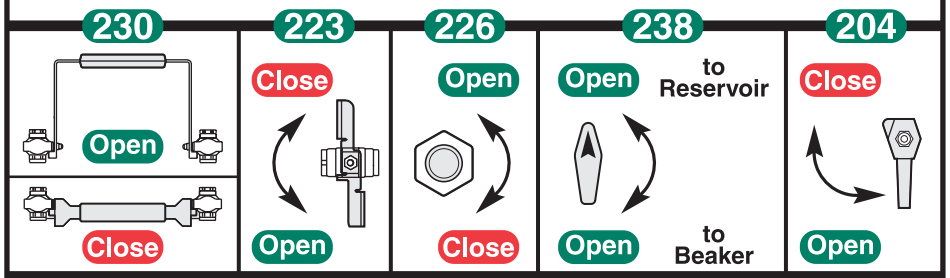
238 Open Flow Direction Valves: Flow to reservoir

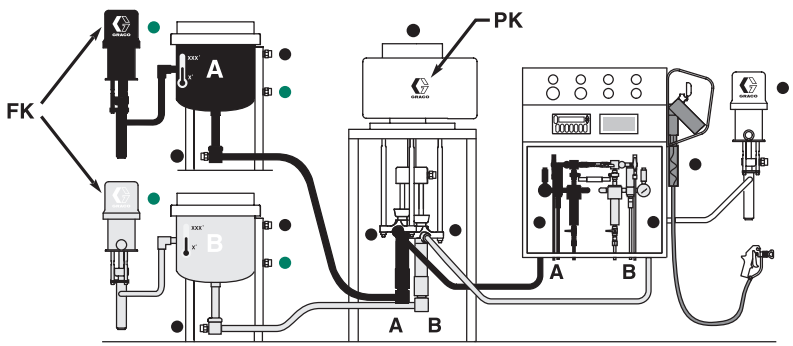
5. **Fill the reservoirs with material.**
   Manually: Pour component **A** into reservoir **A** and component **B** into reservoir **B**.

   If using feed pumps:
   a. Install full containers of component **A** and **B** at the feed pumps.

   b. Open the feed pump air supply valves.



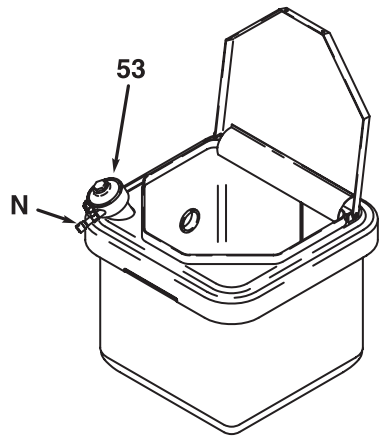




   c. Press the **A** and **B** feed pump keys **(FK)**. Adjust the feed pump regulators **(E, F)** to operate the pumps slowly.

   d. Pumps will run for 2 minutes. If the reservoirs do not fill completely, press the feed pump keys again.

6. **Adjust the agitator (53) air control valve (N) to agitate the material in the reservoirs.**



7. **Hold down the Premier pump key (PK) and turn up the pump air regulator (C) pressure until the pump is running slowly.**

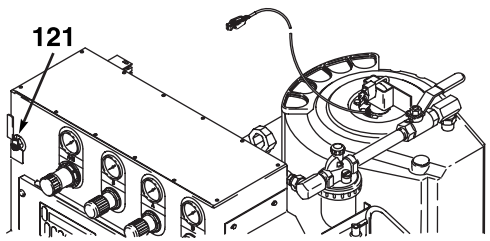
8. **Operate the Premier pump until all air and/or solvent is purged. Both component A and B should flow consistently out of the fluid drain valves (204).**

9. **Close the fluid drain valves (204).**

1. Make sure the system is primed and the pressure has been relieved, *Pressure Relief Procedure in General Operation,* then install the gun tip guard, spray tip, and gasket.

2. Open the main air supply valve (121).

3. If heaters are used, see Recirculating material section before proceeding.



4. Set the mode key (MK) to Spray Mode.

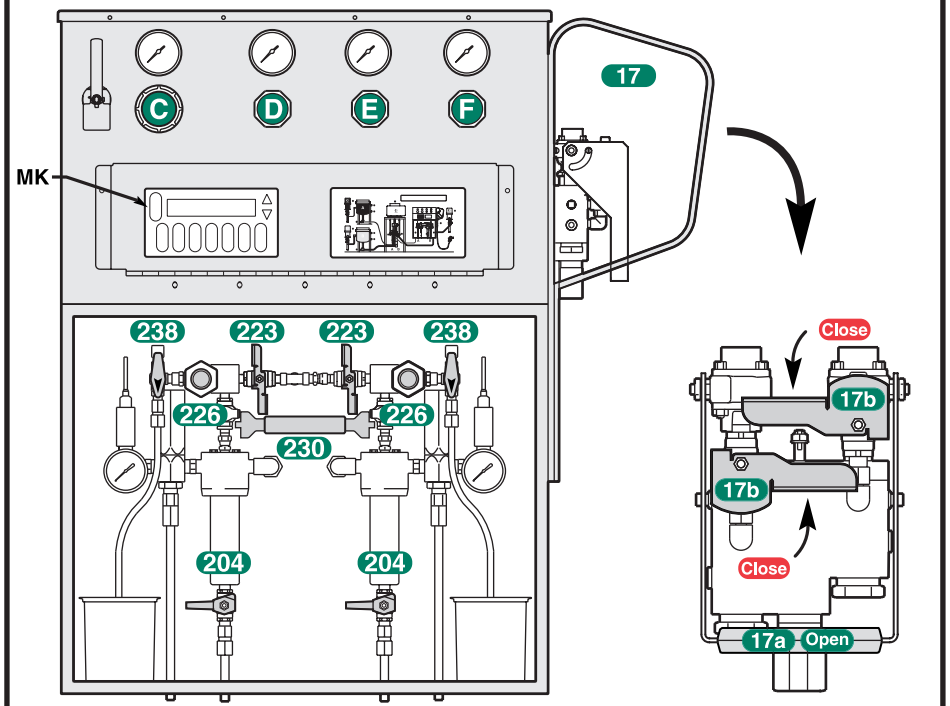
5. Set the system regulators and valves.

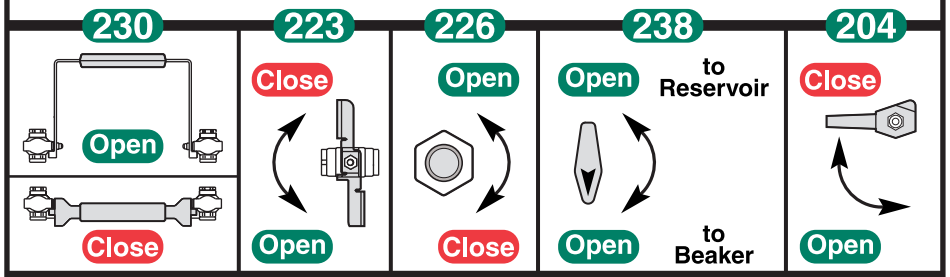
Regulators:

- Premier Pump (C) **0** Air Pressure
- Solvent Pump (D) **0** Air Pressure
- Feed Pump **A** (E) **0** Air Pressure
- Feed Pump **B** (F) **0** Air Pressure

Valves:

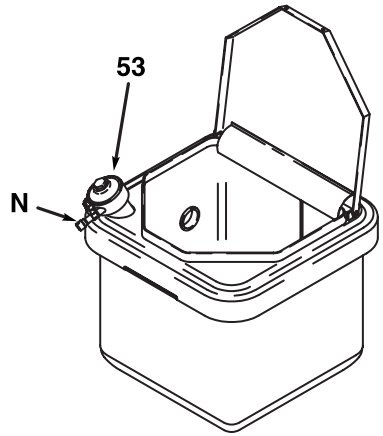
- 204 Close Fluid Drain Valves
- 17b Close Solvent Valves
- 17a Open Mix Manifold Valves
- 230 Close Recirculation Valves
- 223 Close Solvent Supply Valves
- 226 Open Fluid Flow Control Valves
- 238 Open Flow Direction Valves: Flow to beakers.





6. If feed pumps are used, adjust the feed pump air regulators (E, F) to the pressure necessary to supply fluid to the reservoirs.

7. Adjust the agitator (53) air control valve (N) to agitate the material in the reservoirs.



8. Ground the gun to a grounded metal pail and trigger it. Increase the Premier pump air regulator (C) pressure as needed to dispense material.

9. Release the gun trigger after all air and/or solvent is purged out of the system and mixed material flows from the gun nozzle.

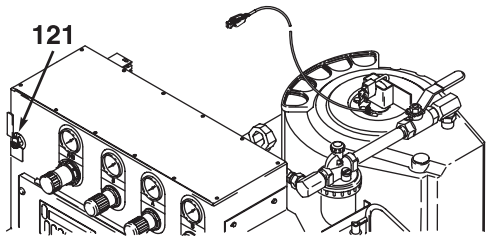
10. Repeat steps 8 and 9 for each gun connected to the proportioner.

11. Adjust the Premier pump air regulator (C) for the required spraying pressure.

12. The system is ready for spraying.

1.  **Follow the *Pressure Relief Procedure in General Operation,* then remove the gun tip guard, spray tip and gasket. Clean the parts. Turn off heaters if installed.**

2. **Open the main air supply valve (121).**



3. **Set the mode key (MK) to Manual Mode.**

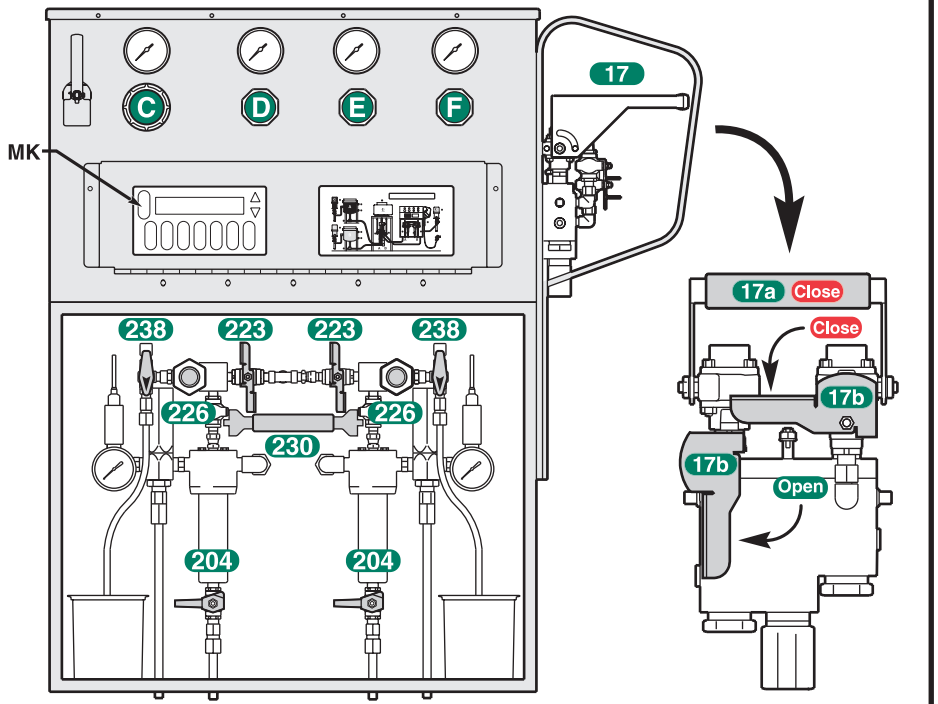
4. **Set the system regulators and valves.**

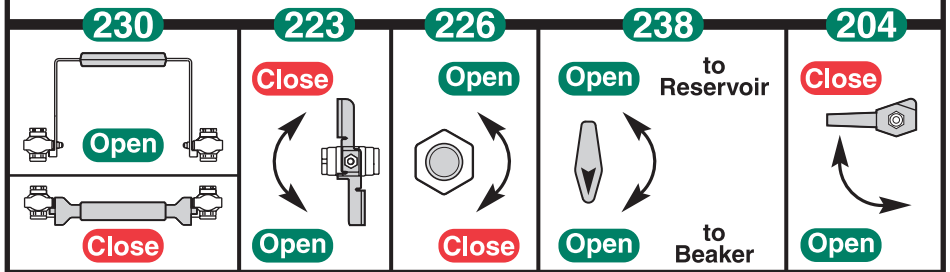
Regulators:

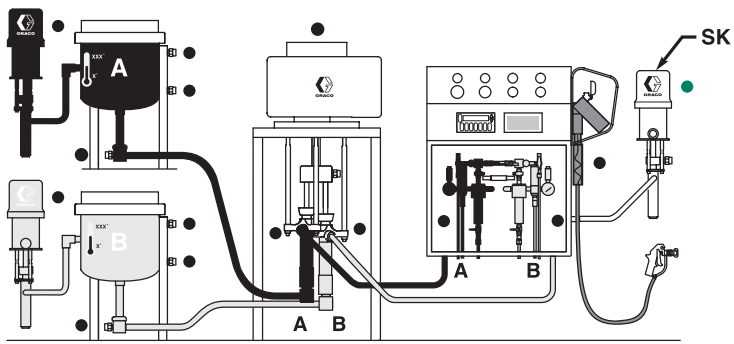
- Premier Pump (C) **0** Air Pressure
- Solvent Pump (D) **0** Air Pressure
- Feed Pump **A** (E) **0** Air Pressure
- Feed Pump **B** (F) **0** Air Pressure

Valves:

- 204 Close Fluid Drain Valves
- 17a Close Mix Manifold Valves
- 17b Open 1 of the Solvent Valves
- 230 Close Recirculation Valves
- 223 Close Solvent Supply Valves
- 226 Open Fluid Flow Control Valves
- 238 Open Flow Direction Valves: Flow to beaker.





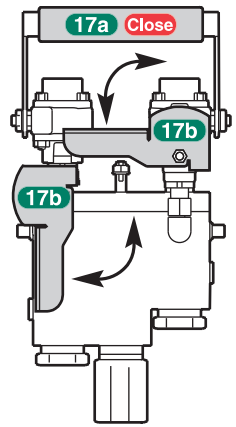


5. **Press the solvent pump key (SK). With the gun triggered, turn the solvent pump air regulator pressure (D) up until the solvent pump is running slowly.**

6. **Flush the material out of the mix manifold, hoses, and spray gun(s).**

   a.  Ground the spray gun to a grounded metal pail.

   b. With the gun triggered, open one solvent valve (17b) for about 10 - 15 seconds, close the valve, then open the other solvent valve for 10 - 15 seconds. Alternate opening and closing the valves until the solvent pump stops.



   c. If the lines are not clean, press the solvent pump key **(SK)** again and repeat steps 6a - 6b.

   d. Repeat steps 6a - 6c for each gun connected to the proportioner.

7. ***Close both solvent valves (17b).***

8.  ***Follow the Pressure Relief Procedure in General Operation.***

1.  **Follow the *Pressure Relief Procedure in General Operation.***

2. **Set the system regulators and valves.**

Regulators:

Premier Pump (C) **0** Air Pressure

Solvent Pump (D) **0** Air Pressure

Feed Pump **A** (E) **0** Air Pressure

Feed Pump **B** (F) **0** Air Pressure

Valves:

204 Close Fluid Drain Valves

17a Close Mix Manifold Valves

17b Close Solvent Valves

230 Open Recirculation Valves

223 Close Solvent Supply Valves

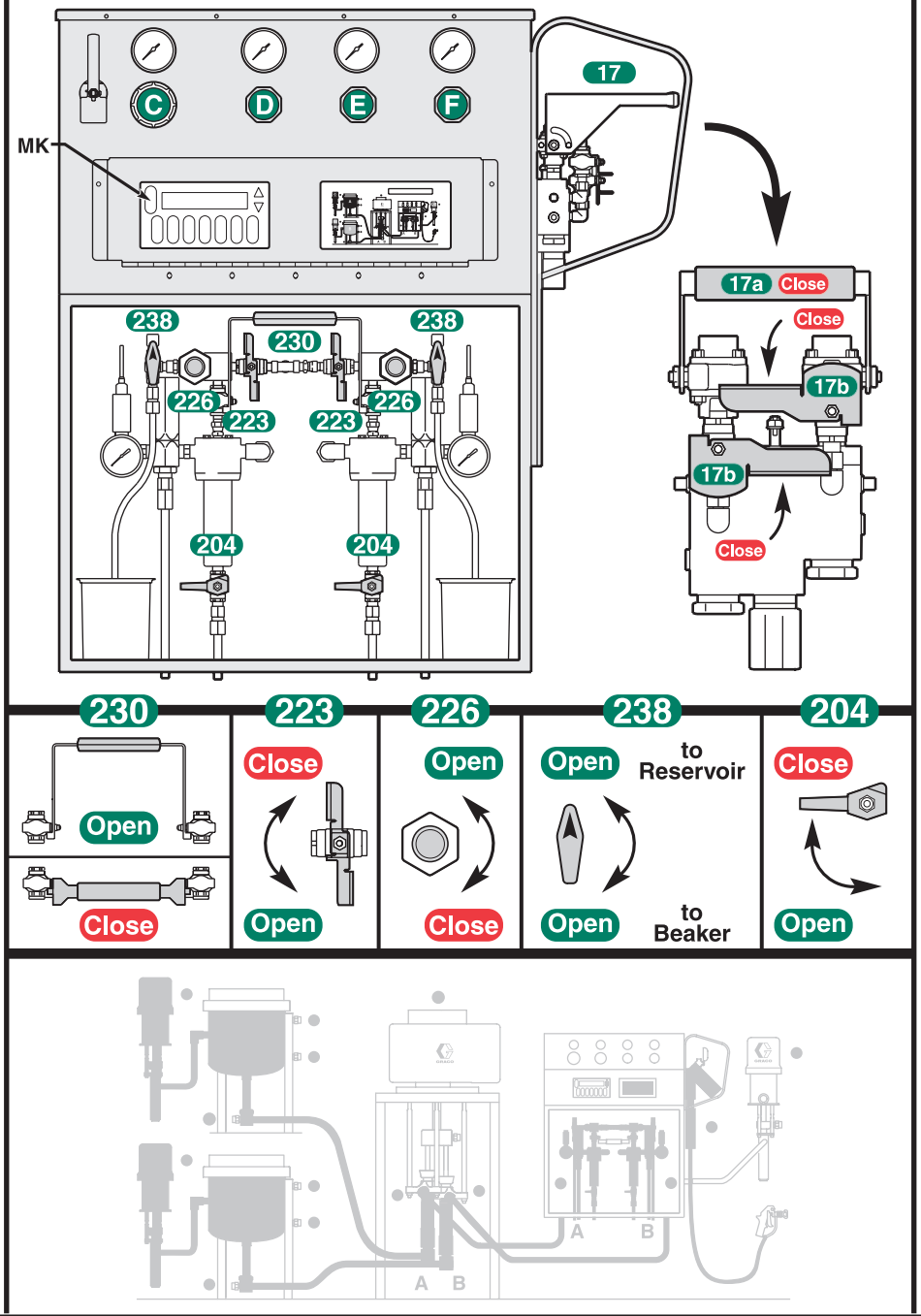
226 Open Fluid Flow Control Valves

238 Open Flow Direction Valves: Flow to reservoir.

3. **Set the mode key (MK) to Spray Mode.**

4. **Turn up the Premier pump air regulator (C) pressure gradually until the pump is running slowly.**

5. **If heaters are used, turn heaters on to the desired settings. Recirculate material until the desired reservoir temperature is reached.**



Complete System Flush

1.  **Follow the *Pressure Relief Procedure in General Operation* , then remove the gun tip guard, spray tip and gasket. Clean the parts.**

2. **Follow the *Daily Shutdown/Mixed Material Flush* procedure.**

3. **Unload the reservoirs.**

   a. Set the mode key **(MK)** to Manual Mode.

   b. Set the system regulators and valves.

Regulators:

Premier Pump (C) **0** Air Pressure

Solvent Pump (D) **0** Air Pressure

Feed Pump **A** (E) **0** Air Pressure

Feed Pump **B** (F) **0** Air Pressure

Valves:

204 Open Fluid Drain Valves

17a Close Mix Manifold Valves

17b Close Solvent Valves

230 Close Recirculation Valves

223 Close Solvent Supply Valves

226 Open Fluid Flow Control Valves

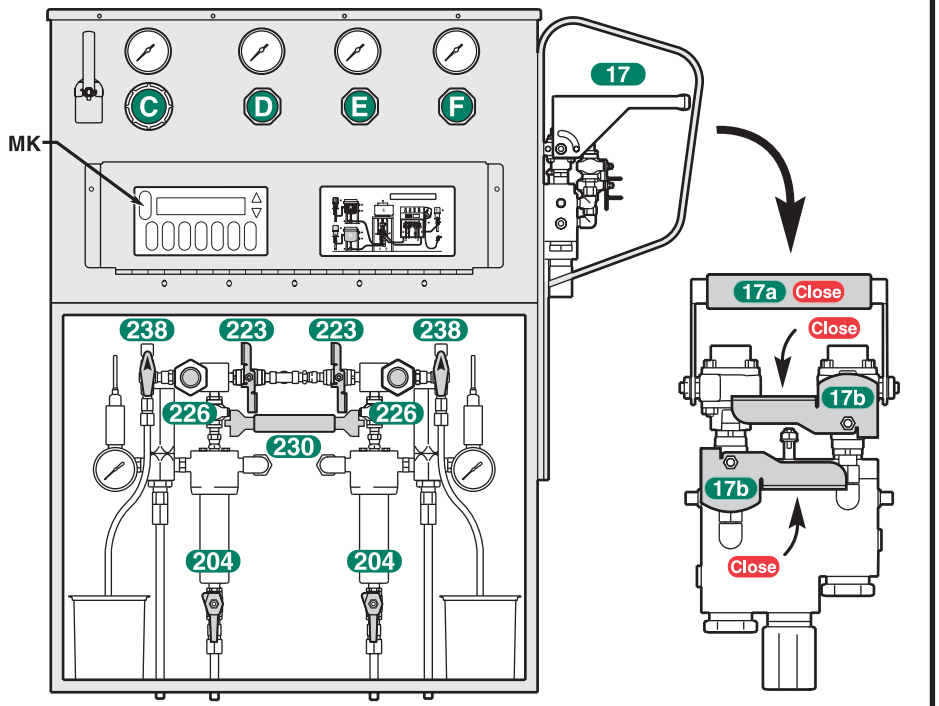
238 Open Flow Direction Valves: Flow to reservoir.

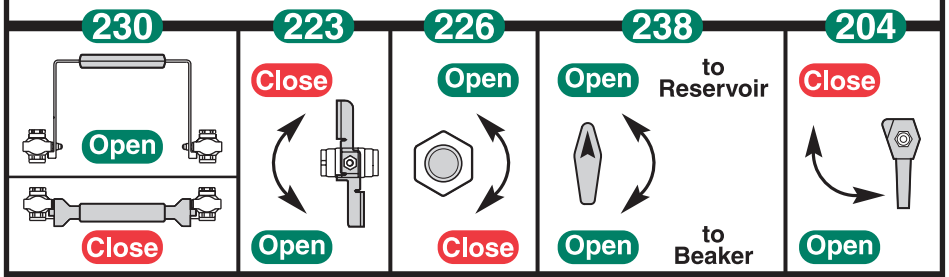
   c. Make sure the reservoir outlet valves are open.

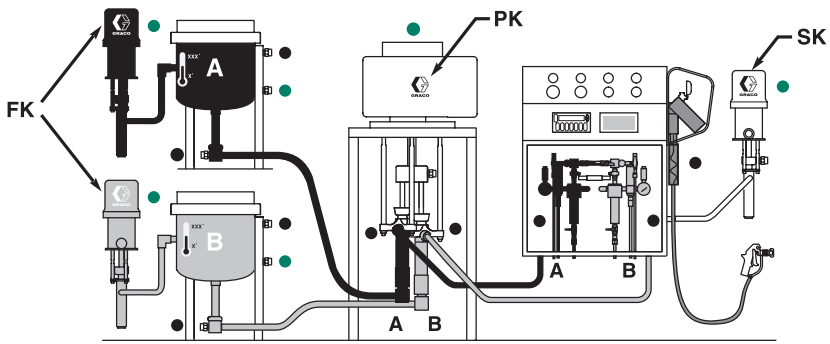
   d. Hold down the Premier pump key **(PK)** and turn up the pump air regulator **(C)** pressure until the pump is running slowly.

   e. Operate the Premier pump until the reservoirs have emptied through the drain valve **(204)**.

4. **Close the fluid drain valves (204).**







5. **Open the solvent supply valves (223).**

6. **Fill the reservoirs with solvent.**

   a. Press the solvent pump key **(SK)**.

   b. Turn the solvent pump air regulator pressure **(D)** up until the solvent pump is running slowly.

   The solvent pump will run until the preset amount of solvent is reached.

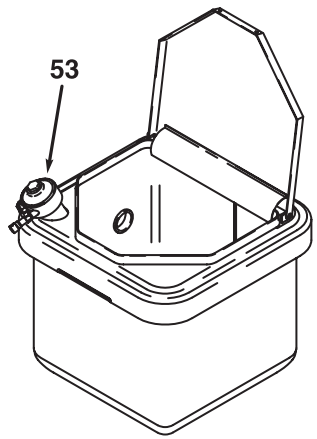
CAUTION! Solvent pump will not automatically shut off when the full level is reached. Monitor fill cycle to avoid overflow. Press solvent key to stop pump.

7. **Check the amount of solvent in the reservoirs.**

   a. Make sure there is enough solvent to flush the system. Press the solvent pump key **(SK)** again if necessary. Monitor the fill cycle.

   b. Clean the inside of the reservoir with a soft brush.

8. **Operate the agitator (53) to clean the shaft and mixer blade.**



(continued)

9. **Circulate solvent through the recirculation valves.**

   a. Close solvent supply ball valves **(223)**.

   b. Open the recirculation valves **(230)**.

   c. Hold down the Premier pump key **(PK)** and turn up the Premier pump air regulator **(C)** pressure gradually until the pump is running slowly.

   d. Operate the Premier pump for about a minute.

10. **Close the recirculation valves (230).**

11. **Open the fluid drain valves (204).**

12. **Operate the Premier pump to completely drain solvent out of the system through the drain valves (204).**

13. **Repeat steps 5-12 until the solvent flowing out of the fluid drain valves (204) looks clean.**

14. **Close the fluid drain valves (204).**

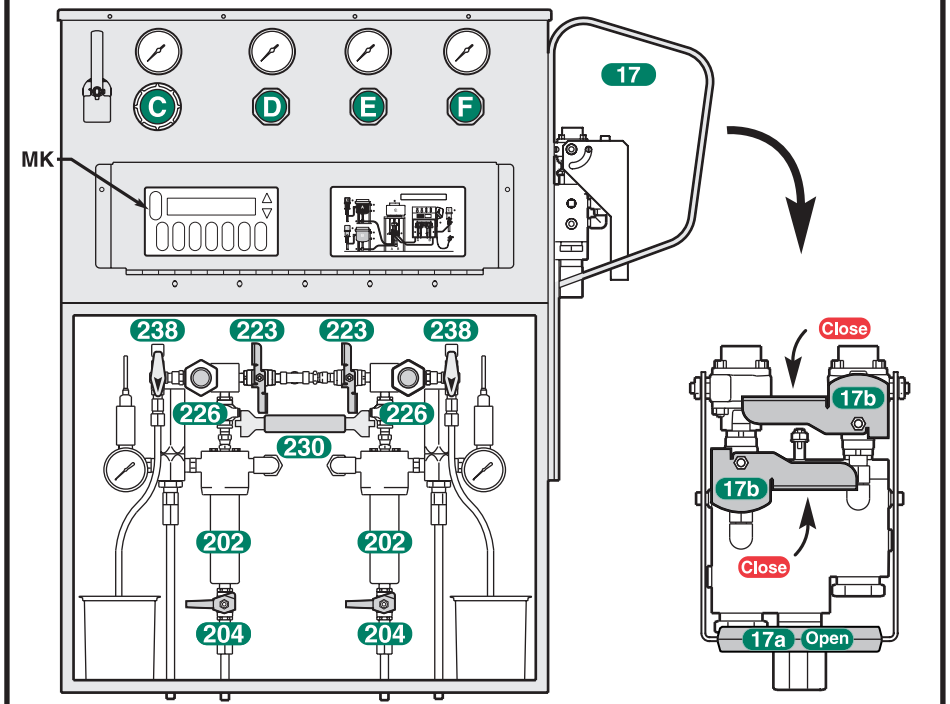
15. **Flush the material out of the mix manifold, hoses, and spray gun(s).**

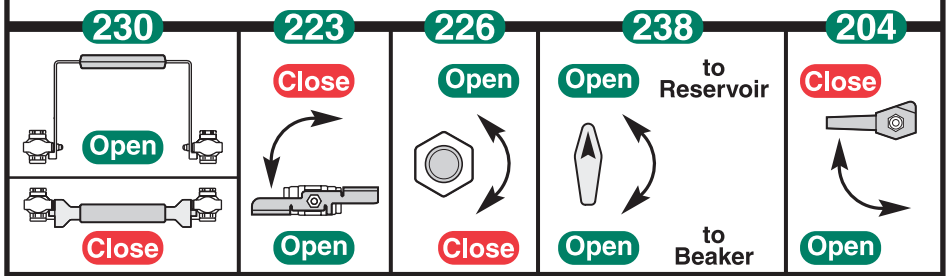
   a. Open the mix manifold valves **(17a)**.

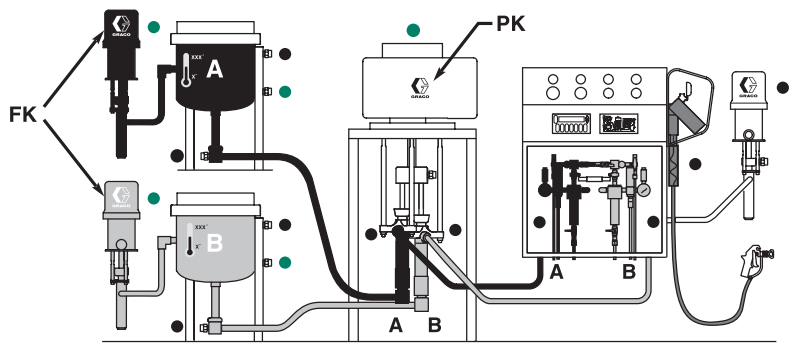
   b. Hold down the Premier pump key **(PK)**.

   c.  Ground the spray gun to a grounded metal pail and trigger the gun until the solvent flowing out of the gun looks clean, then release the gun trigger and the Premier pump key.

   d. Repeat steps **15a - 15c** for each gun connected to the proportioner.







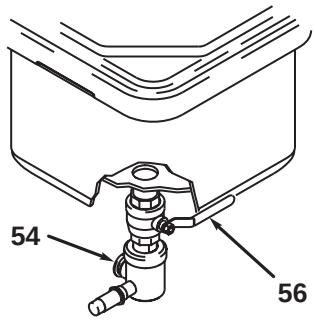
16. **Close the mix manifold valves (17a).**

17. **Open the fluid drain valves (204) and operate the Premier pump until the reservoirs are empty.**

18.  **Follow the *Pressure Relief Procedure in General Operations*.**

19. **Close the reservoir valves (56).**

20. **Remove and clean the reservoir filters (54) and the fluid outlet filters (202).**



Color Change Flush

NOTE: For this procedure, the side of the system being color change flushed is referred to as **A** and the other side as **B**. The actual side you need to flush may be different than what is shown in the diagram.

1. **Follow the *Mixed Material Flush* procedure to prevent material from hardening in the hose(s) and gun(s).**

2. **Set the mode key (MK) to Manual Mode.**

3. **Set the system regulators and valves.**

Regulators:

- Premier Pump (C) **0** Air Pressure
- Solvent Pump (D) **0** Air Pressure
- Feed Pump **A** (E) **0** Air Pressure
- Feed Pump **B** (F) **0** Air Pressure

Valves:

- 17a Close Mix Manifold Valves
- 17b Close Solvent Valves
- 230 Open Recirculation Valves
- 223 Close Solvent Supply Valves
- 238 Open Flow Direction Valves: Flow to reservoir.

Side Being Flushed for Color Change (A)

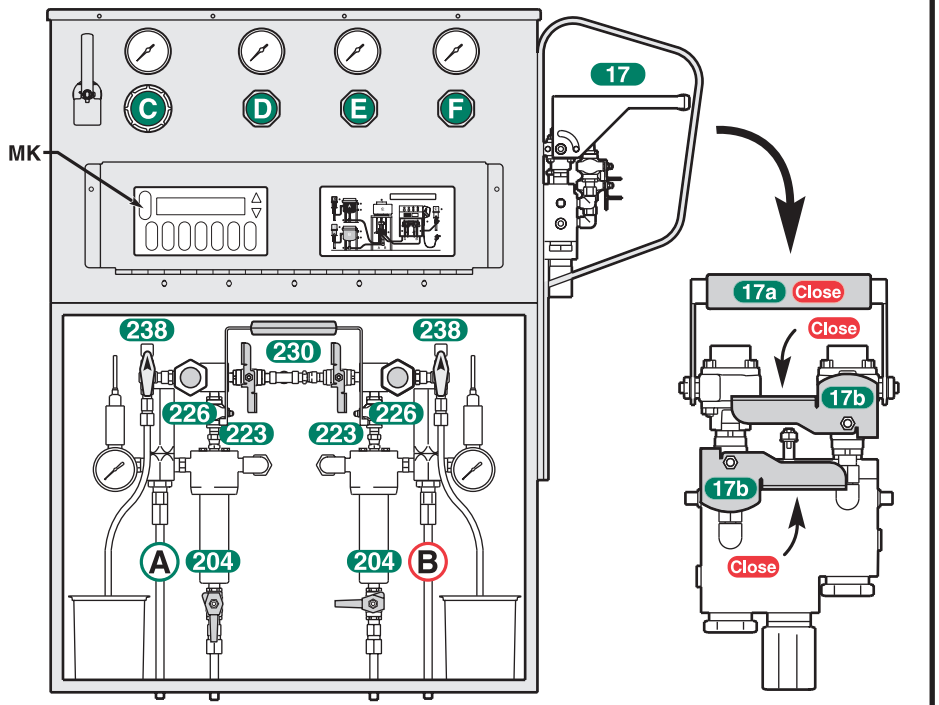
- 204 Open Fluid Drain Valve
- 226 Close Fluid Flow Control Valve

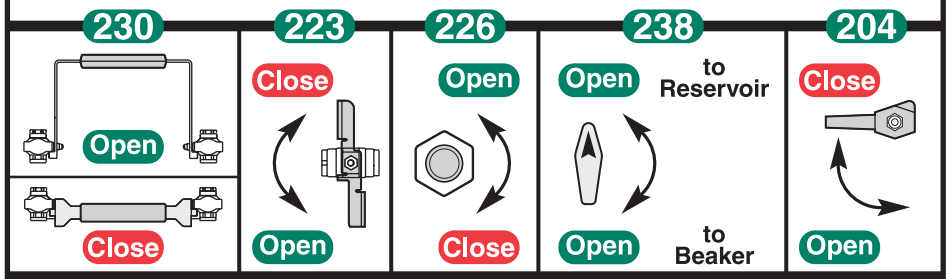
Side Not Being Flushed (B)

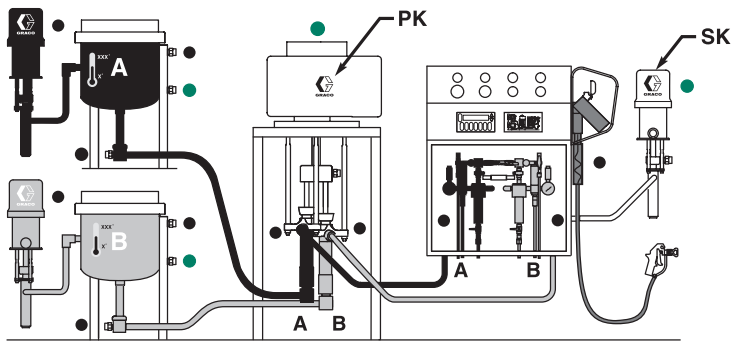
- 204 Close Fluid Drain Valve
- 226 Open Fluid Flow Control Valve

4. **Hold down the Premier pump key (PK) and turn up the Premier pump air regulator (C) pressure gradually until the pump is running slowly. Operate the Premier pump until the material being changed (A side) is purged from the system.**

5. **Close the A side fluid drain valve (204).**







6. **Close the recirculation valves (230).**

7. **Open the A side fluid flow control valve (226).**

8. **Open the A side solvent supply ball valve (223).**

9. **Press the solvent pump key (SK). Turn the solvent pump air regulator pressure (D) up until the solvent pump is running slowly.**

10. **Operate the solvent pump until there is enough solvent in the reservoir to flush the A side fluid lines. Monitor the fill cycle to avoid overflow.**

11. **Close the A side solvent supply ball valve (223).**

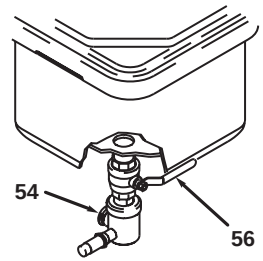
12. **Open the recirculation valves (230) to recirculate the solvent and clean the valves.**

13. **Clean the A side reservoir and reservoir filter while the solvent recirculates.**

    a. Remove buildup inside the reservoir with a soft brush or a putty knife.

    b. Remove the solids from the reservoir.

    c. Close the A side reservoir ball valve **(56)**. Remove and clean the reservoir filter **(54)**.



14. **After the material is completely dissolved by solvent, repeat steps 3 to 9.**

15. **If the solvent has not cleaned the material sufficiently, reload the reservoir with fresh solvent, recirculate the solvent, and repeat steps 3 to 9.**

16. **Fill the reservoir on the color change side with new material.**

(continued)

17. **Adjust the agitator air control valve to agitate the material in the reservoirs.**

18. **Load the system with new material.**

    a. Set the system valves as instructed in step 3.

    b. Operate the Premier pump until the new material flows steadily from the A side fluid drain valve **(204)**.

    c. Close the fluid drain valve **(204)**.

    d. Close the recirculation valves **(230)**.

19. **Open the mix manifold valves (17a).**

20. **Set the mode key (MK) to Spray Mode.**

21. **Load the new material out to the spray gun(s).**

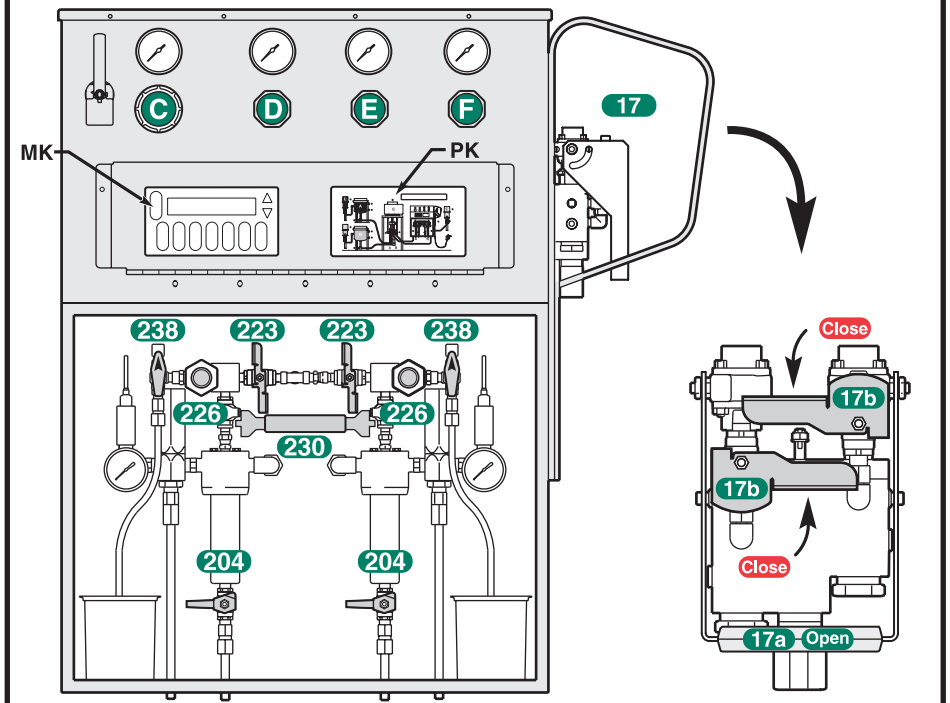
    a.  Ground the gun to a grounded metal pail and trigger it. Increase the Premier pump air regulator **(C)** pressure as needed to dispense material.

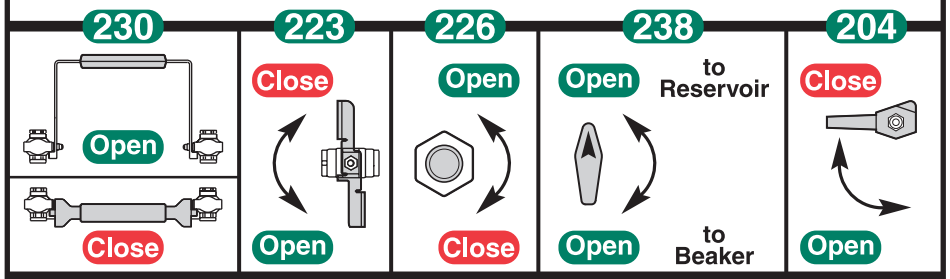
    b. Trigger the gun until the new material flows steadily from the spray gun.

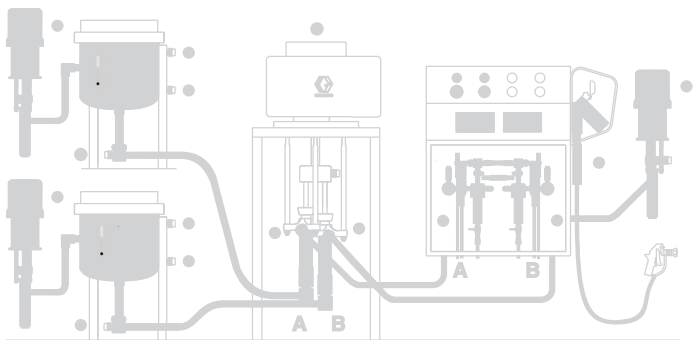
    c. Repeat steps **21a** and **21b** for each gun connected to the proportioner.

22. **Adjust the Premier pump air regulator (C) for the required spraying pressure.**

23. **The system is ready for spraying.**







Ratio Charts

SuperCat Model # 965-761 1:1 - 3:1 Ratio Range
Premier 12 X 12
A= 12.5 Cycles/Gallon for all ratios
A= 3.3 Cycles/Liter for all ratios

Mix Ratio Setting	Cycles/ Gallon B=	Cycles/ Liter B=	Mix Ratio Setting	Cycles/ Gallon B=	Cycles/ Liter B=
1.00:1	12.5	3.3	2.05:1	25.6	6.8
1.05:1	13.1	3.5	2.10:1	26.3	6.9
1.10:1	13.8	3.6	2.15:1	26.9	7.1
1.15:1	14.4	3.8	2.20:1	27.5	7.3
1.20:1	15.0	4.0	2.25:1	28.1	7.4
1.25:1	15.6	4.1	2.30:1	28.8	7.6
1.30:1	16.3	4.3	2.35:1	29.4	7.8
1.35:1	16.9	4.5	2.40:1	30.0	7.9
1.40:1	17.5	4.6	2.45:1	30.6	8.1
1.45:1	18.1	4.8	2.50:1	31.3	8.3
1.50:1	18.8	5.0	2.55:1	31.9	8.4
1.55:1	19.4	5.1	2.60:1	32.5	8.6
1.60:1	20.0	5.3	2.65:1	33.1	8.8
1.65:1	20.6	5.4	2.70:1	33.8	8.9
1.70:1	21.3	5.6	2.75:1	34.4	9.1
1.75:1	21.9	5.8	2.80:1	35.0	9.2
1.80:1	22.5	5.9	2.85:1	35.6	9.4
1.85:1	23.1	6.1	2.90:1	36.3	9.6
1.90:1	23.8	6.3	2.95:1	36.9	9.7
1.95:1	24.4	6.4	3.00:1	37.5	9.9
2.00:1	25.0	6.6			

SuperCat Model # 965-762 2:1 - 6:1 Ratio Range
Premier 12 X 6
A= 12.5 Cycles/Gallon for all ratios
A= 3.3 Cycles/Liter for all ratios

Mix Ratio Setting	Cycles/ Gallon B=	Cycles/ Liter B=	Mix Ratio Setting	Cycles/ Gallon B=	Cycles/ Liter B=
2.0:1	25.0	6.6	4.1:1	51.3	13.5
2.1:1	26.3	6.9	4.2:1	52.5	13.9
2.2:1	27.5	7.3	4.3:1	53.8	14.2
2.3:1	28.8	7.6	4.4:1	55.0	14.5
2.4:1	30.0	7.9	4.5:1	56.3	14.9
2.5:1	31.3	8.3	4.6:1	57.5	15.2
2.6:1	32.5	8.6	4.7:1	58.8	15.5
2.7:1	33.8	8.9	4.8:1	60.0	15.9
2.8:1	35.0	9.2	4.9:1	61.3	16.2
2.9:1	36.3	9.6	5.0:1	62.5	16.5
3.0:1	37.5	9.9	5.1:1	63.8	16.8
3.1:1	38.8	10.2	5.2:1	65.0	17.2
3.2:1	40.0	10.6	5.3:1	66.3	17.5
3.3:1	41.3	10.9	5.4:1	67.5	17.8
3.4:1	42.5	11.2	5.5:1	68.8	18.2
3.5:1	43.8	11.6	5.6:1	70.0	18.5
3.6:1	45.0	11.9	5.7:1	71.3	18.8
3.7:1	46.3	12.2	5.8:1	72.5	19.2
3.8:1	47.5	12.5	5.9:1	73.8	19.5
3.9:1	48.8	12.9	6.0:1	75.0	19.8
4.0:1	50.0	13.2			

1. Prior to priming, use a wrench to rotate the ratio adjustment screw until indicator pin is over the desired ratio setting on the ratio indicator plate. (Be sure to remove wrench after adjustment.)

2. Set the mode key (MK) to manual mode. (Mode key light turns green.)

3. Switch to set up mode by touching the key (EE) to the set-up contacts (TT). “1” will appear on the left of the display.

4. Press the key four times so that a “5” appears on the left side of the screen.

5. Press the key. The light will turn green.

6. A number 1, 2 or 3 will appear on the right side of the screen. Remember this number. It is needed for step 9.

7. Press the key so that a “2” appears on the left side of the screen.

8. Press the key. The light will turn green.

9. Use the key to adjust the value on the display to the “A” cycle from the chart.
   If the number found in step 6 is a 1, A=12.5 Cycles/Gallon.
   If the number found in step 6 is a 2 or 3, A=3.3 Cycles/Liter.

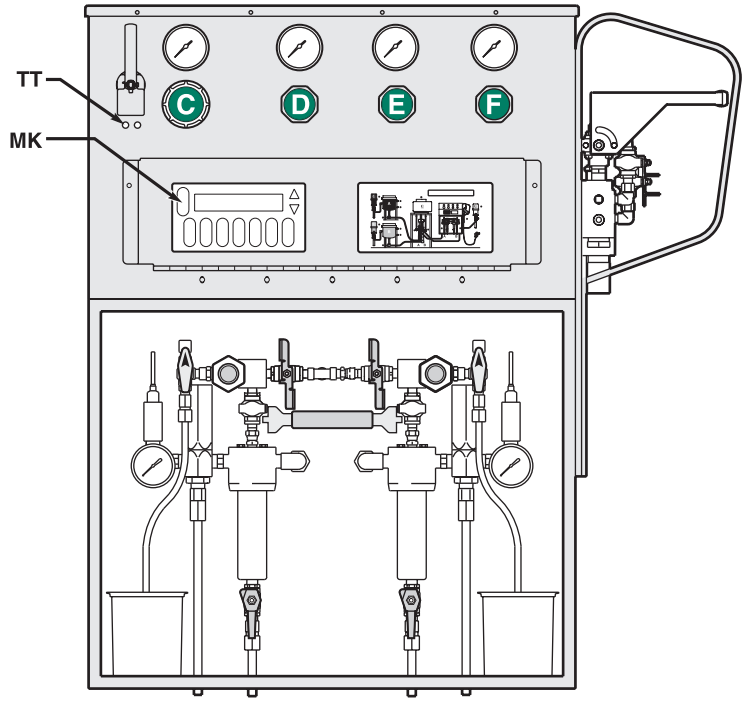
10. Press the key so that a “3” appears on the left side of the screen.

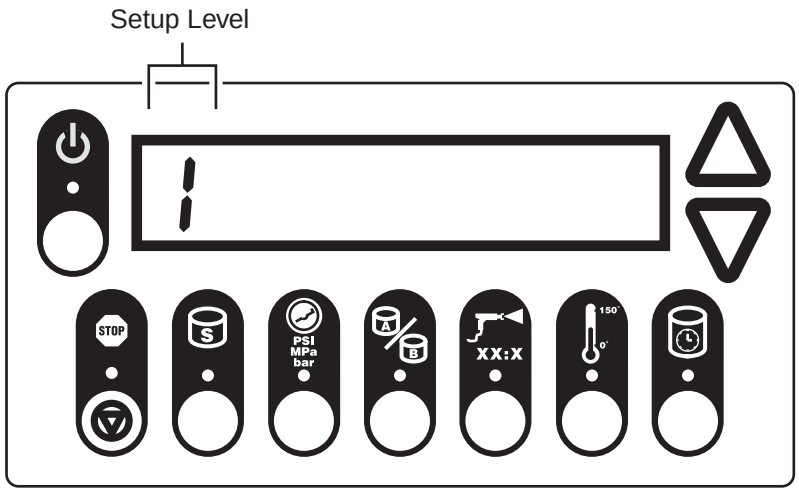
11. Press the key. The light will turn green.

12. Refer to the *Ratio Charts* on page 12
    Find your model # at the top.
    - If the number in step 6 is 1, use the cycles/gallon values.
    - If the number in step 6 is 2 or 3, use the cycles/liter values.

13. Refer to the ratio/volume chart. Look for the desired ratio on the side and read across to find the volume per cycle.

14. Use the key to adjust the value on the display to the “B” cycle from the chart.



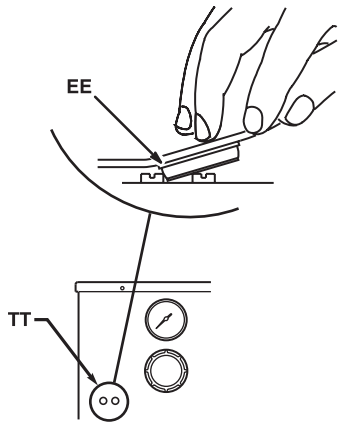


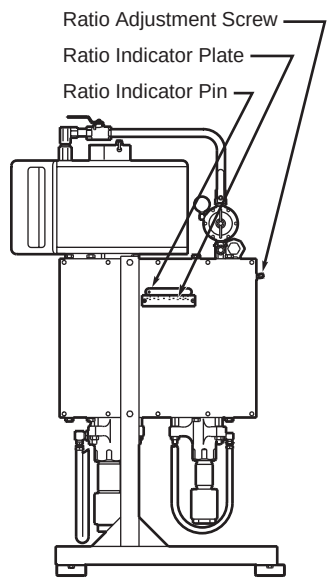
15. Return to the manual mode by touching the key (EE) on back of the reference card to the setup contacts (TT).
    the display.

IMPORTANT!

16. Follow the ratio check procedure to verify the ratio is correct.

17. Small adjustments to the ratio can be made by repeating this procedure.





1. **Prime the system with material.**

2. **Set the mode key (MK) to Manual Mode.**

3. **Set the system regulators and valves.**

Regulators:

Premier Pump (C) **0** Air Pressure

Solvent Pump (D) **0** Air Pressure

Feed Pump **A** (E) **0** Air Pressure

Feed Pump **B** (F) **0** Air Pressure

Valves:

204 Close Fluid Drain Valves

17a Close Mix Manifold Valves

17b Close Solvent Valves

223 Close Solvent Supply Valves

230 Open Recirculation Valves

226 Open Fluid Flow Control Valves

238 Open Flow Direction Valves: Flow to reservoir.

4. **Set the mode key (MK) to Spray Mode.**

5. **Recirculate the material by turning up the Premier pump air regulator (C) pressure gradually until the pump is running slowly.**

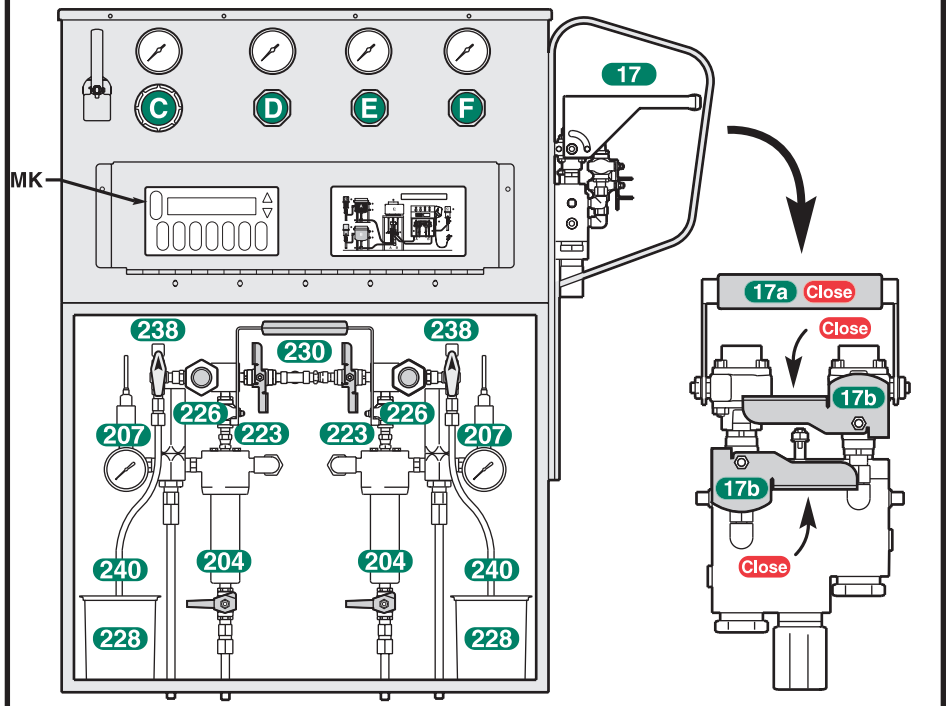
6. **Balance the proportioning pumps' fluid pressures.**

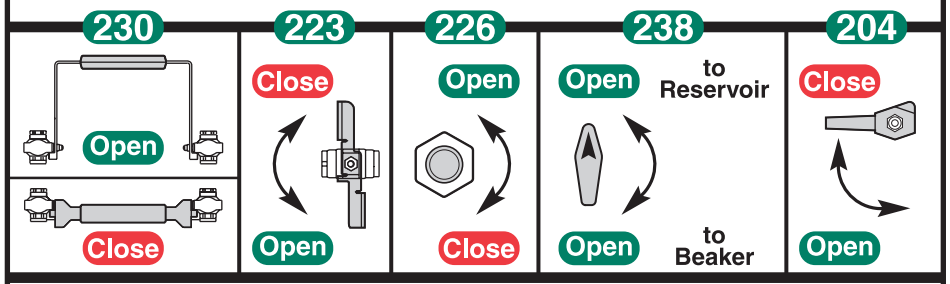
   a. Read the fluid pressure gauges **(207)**.

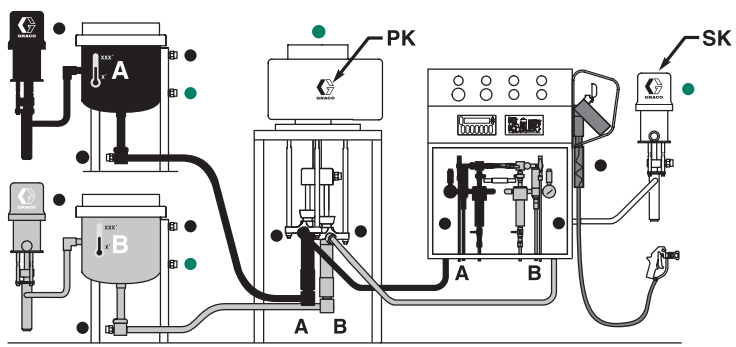
   b. Adjust the fluid flow control valves **(226)** until the pump pressures are balanced. Set pressure close to the actual spraying pressure to be used.

7. **Set the mode key (MK) to Manual Mode.**

8. **Turn the flow direction valves (238) so the arrow points down, to allow fluid to go to the beakers (228).**







9. **Make sure the ratio check tubes (240) are in the beakers (228) and do not over-pressurize the Premier pump. Wear safety glasses.**

10. **Press the Premier pump key (PK) and run the pump for 5 cycles (10 strokes).**

11. **Close the recirculation valves (230).**

12. **Compare the volume of the beakers.**

    If the ratio is not correct, repeat steps 6-11. If the ratio is incorrect again:

    a. Check the material supply level.

    b. Check the inlet/outlet pressure ratio of the proportioner.

    c. Check for fluid leaks.

13. **Flush the valves and ratio check tubes.**

    a. Remove the beakers **(228)** from the cabinet.

    b. Place the ratio check tubes **(240)** into the waste containers.

    c. Open the solvent supply ball valves **(223)**.

    d. Fully open the fluid flow control valve **(226)**.

    e. Press the solvent pump key **(SK)**. Operate the solvent pump until the valves and lines are clean.

    f. Close the solvent supply ball valves **(223)**.

14. **Follow the *Pressure Relief Procedure in General Operation.***

NOTE: See Manual 308881 for more detailed component troubleshooting information.

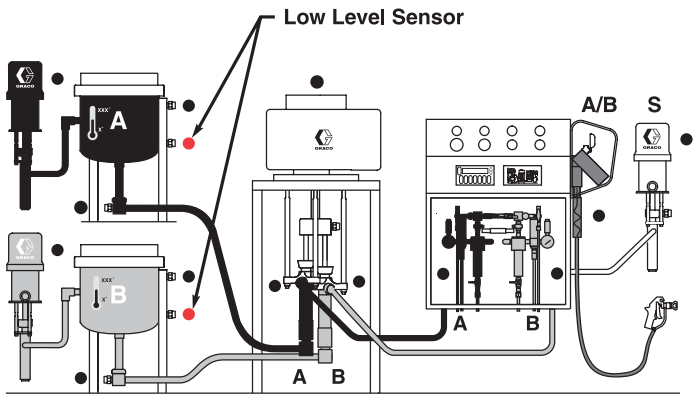
Follow the Pressure Relief Procedure before checking or servicing system components.

Alarm Display Key

The alarm (red) lights are shown in the alarm displays as ●

Reservoir Low Level Sensor Alarm

NOTE: Setup selection of the fluid level sensors in the low level position is the standard configuration. This alarm occurs in spray mode only.



NOTE: There is no corresponding keypad display.

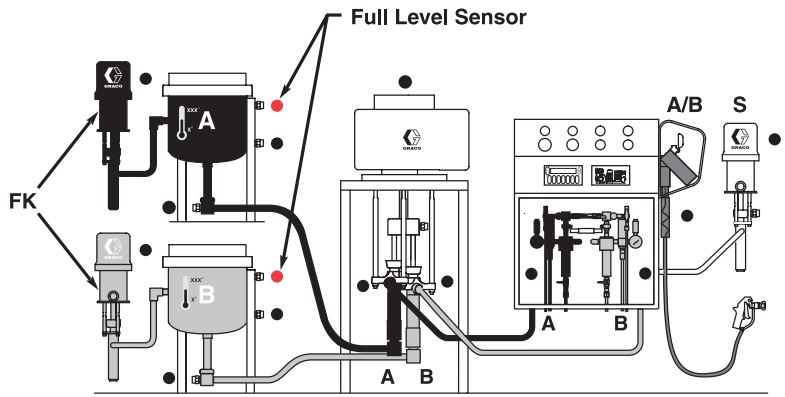
Alarm Corrective Action

Cause	Solution
Fluid below low level sensor.	Fill the reservoir. See feed pump troubleshooting in manual 308881.
Fluid above low level sensor.	See level sensor and/or feed pump troubleshooting in manual 308881.

Reservoir Full Level Sensor Alarm

NOTE: The full level sensor is an optional feature and the alarm must be activated in setup. This will occur in spray mode only.

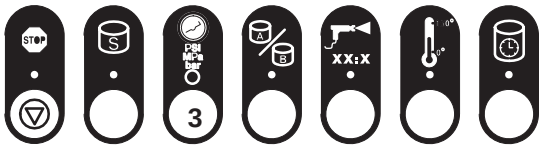
Alarm Display



NOTE: There is no corresponding keypad display.

Alarm Corrective Action

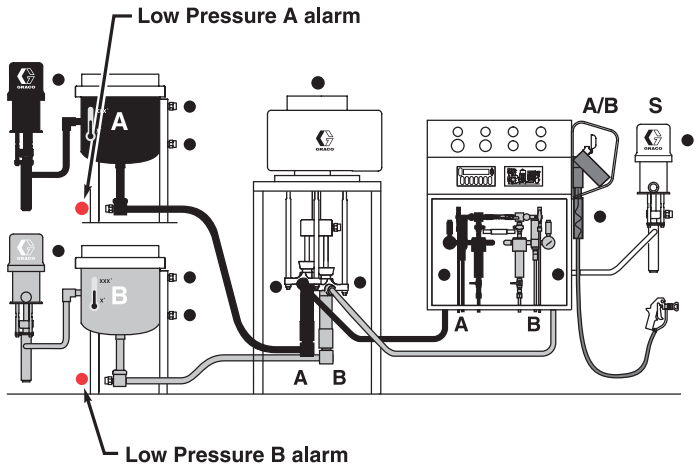
Cause	Solution
Fluid below high level sensor.	Fill the reservoir. See feed pump troubleshooting in manual 308881 if alarm trips often.
Fluid level above high level sensor.	See level sensor troubleshooting in manual 308881.



Low Pressure A or B Sensor Alarm

NOTE: The low pressure sensor is an optional feature and the alarm must be activated in setup. This alarm will occur in spray mode only.

Alarm Display



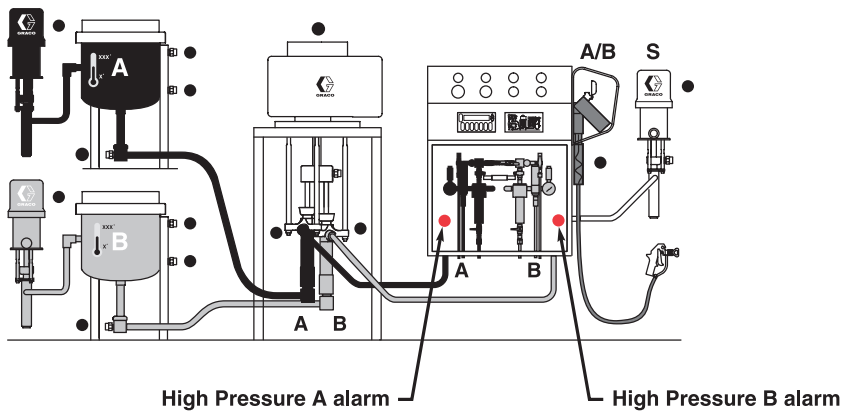
Alarm Corrective Action

Cause	Solution
Fluid inlet filter is clogged.	Clean filter.
Reservoir ball valve closed.	Open ball valve.
Reservoir clogged.	Clean reservoir.
Sensor is disconnected.	Connect the sensor.

High Pressure A or B Sensor Alarm

NOTE: The system will shut down and an audible alarm will occur in spray mode only. Red lights will come on in both spray and manual modes.

Alarm Display



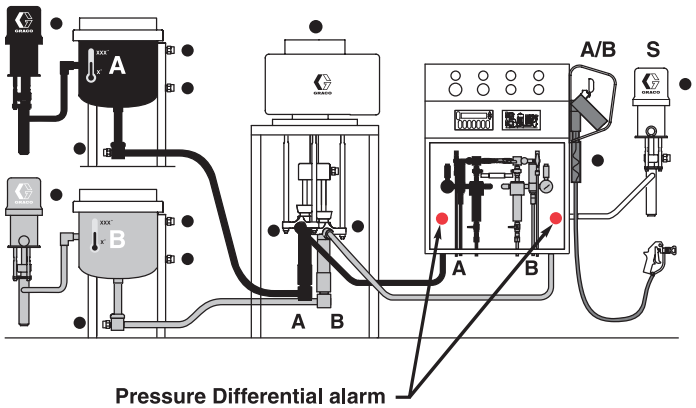
Alarm Corrective Action

Cause	Solution
Air pressure too high.	Lower air pressure.
Fluid inlet filter plugged.	Clean filter.
Air in fluid line.	Fill reservoir. Check inlet connections for leaks. Service. Reduce agitator speed. Make sure reservoir ball valves are open.
Ball valve failed.	Replace ball valve.
Pump failed.	Service pump.

Pressure Differential Sensor Alarm

NOTE: This alarm occurs in spray mode only.

Alarm Display



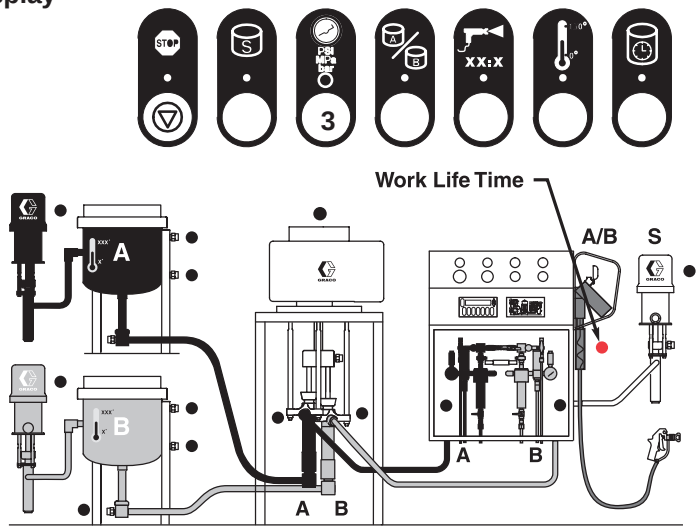
Alarm Corrective Action

Cause	Solution
Air in fluid lines.	Purge air.
Fluid inlet filter plugged.	Clean filter.
Pump failed.	Service pump.
Leak in system.	Find and repair leak.
Ball valve failed.	Replace ball valve.

Work Life Time Alarm

The system will not shut down with this alarm as it is imperative that the material be moved out of the system by either spraying it if the material is still usable or flushing the mixed material out of the system. Running the Premier or solvent pump will reset the work life timer.

Alarm Display



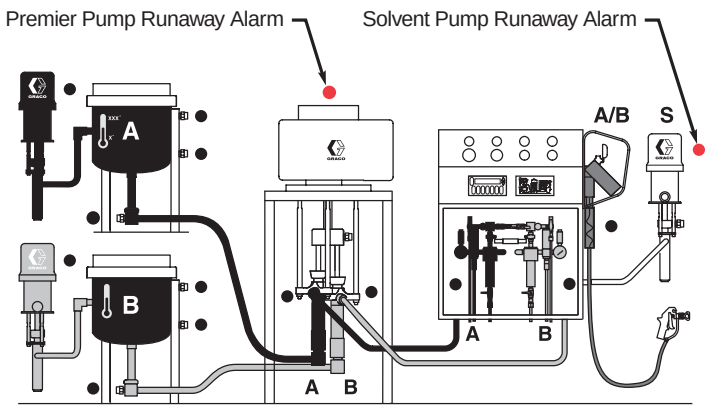
Alarm Corrective Action

Cause	Solution
Set work life time has expired.	Spray the material if it is still usable.
	Flush the mixed material out of the system.

Premier or Solvent Pump Runaway Alarm

NOTE: In Spray Mode, the proportioner will shut down. In Manual Mode, only the runaway pump will shut down. If the Premier pump is run at a rate higher than 30 cycles per minute, the pump can be damaged.

Alarm Display



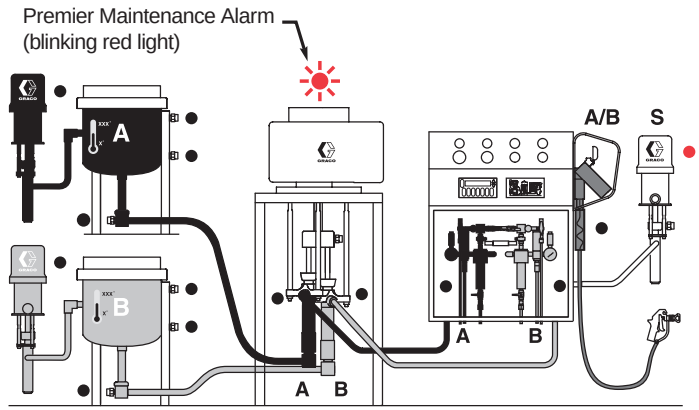
NOTE: There is no corresponding keypad display.

Alarm Corrective Action

Cause	Solution
Air in fluid lines.	Purge air.
Low material supply.	Fill material supply.
Pump will not prime.	Decrease pump supply pressure until pump primes.
Flow rate too high.	Lower air pressure. Change gun fluid tip size.

Premier Maintenance Alarm

Alarm Display



NOTE: There is no corresponding keypad display.

Alarm Corrective Action

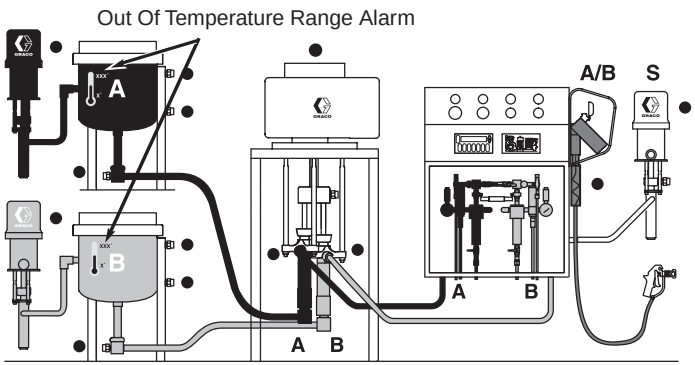
Cause	Solution
Premier motor is due for maintenance.	Follow motor maintenance procedures in manual 308213. See manual 308881 to reset the alarm.

Out Of Temperature Range Alarm

Manual Mode- green light, if temperature is within range, red light if temperature is outside range. Display will show temperature.

Spray Mode - green light, if temperature is within range, red light if temperature is outside range. Display will show temperature. 3 second audible alarm will sound when light turns red.

Alarm Display



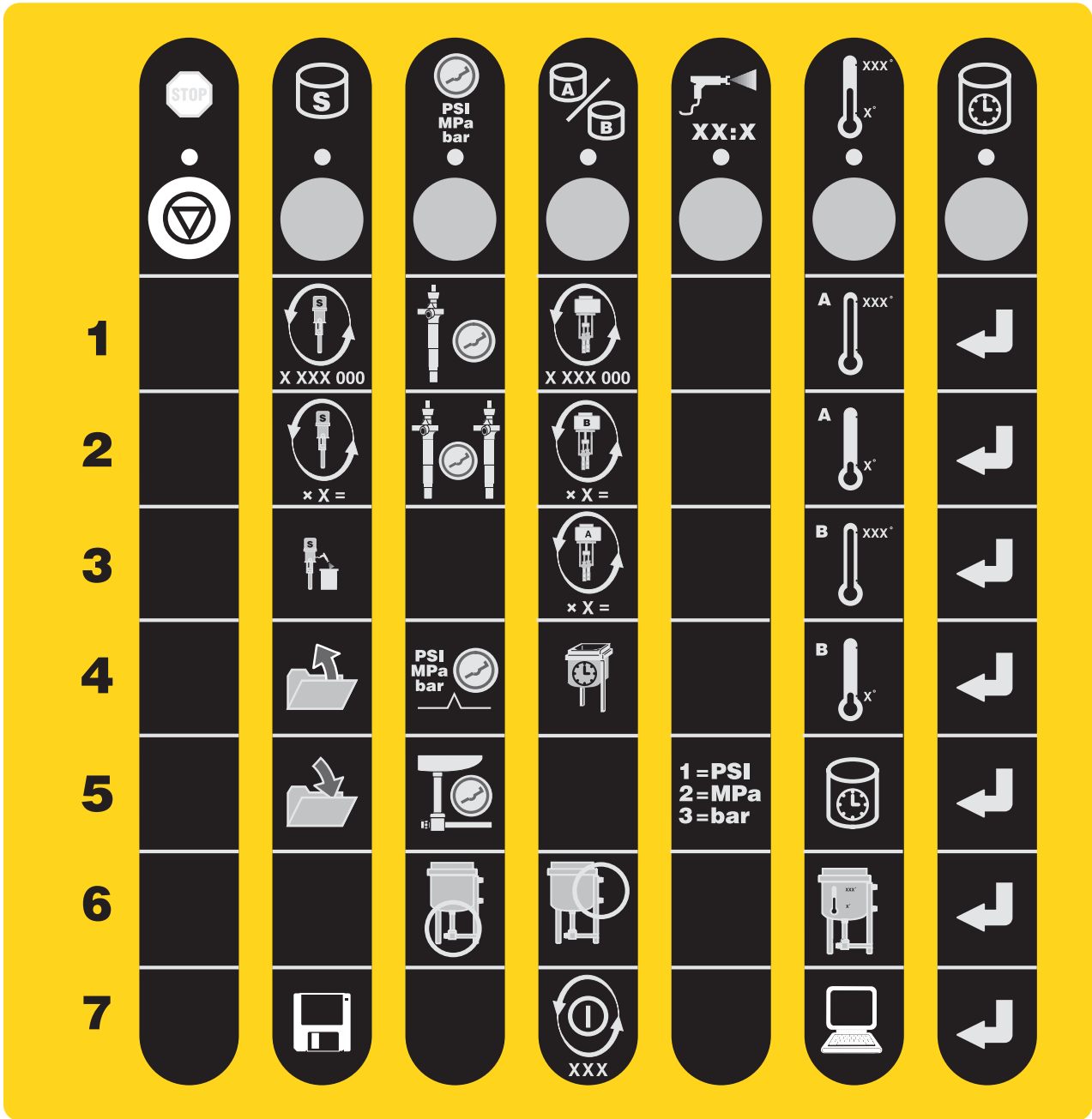
Alarm Corrective Action

Cause	Solution
Temperature too high.	Reduce temperature
Temperature too low.	Increase temperature

Keypad Quick Reference

	1 STOP	2 S	3 PSI MPa bar	4 A B	5 XX:X	6 XXX X	7
Operation Mode	**Stop**	**Solvent Usage**	**Pressure**	**Material Usage**	**Mix**	**Temperature**	**Work Life Timer**
	Immediately shut down pumps	Solvent used since last reset. Press key for 5 seconds to reset.	Low pressure A or B, High pressure A or B, Pressure differential	Material A,B, or sum of A and B used since last reset. Press key for 5 seconds to reset.	*Future*†	Temperature in either reservoir	Work life time remaining
Setup Mode							
Level 1		Solvent pump cycle total since first startup (in increments of 1000, non-resettable)	Set maximum allowable A or B outlet pressure	Premier pump cycle total since first startup (in increments of 1000, non-resettable). **Hold key for 5 seconds to reset maintenance alarm.**	*Future*†	HIGH temperature limit for A component reservoir	↵ Next level
Level 2		Set solvent pump cycles per gallon/liter	Set maximum allowable difference in A and B outlet pressures	Set cycles per gallon/liter for B side	*Future*†	LOW temperature limit for A component reservoir	↵
Level 3		Set amount of solvent to be supplied when solvent pump key is pressed (in gallons / liters)		Set cycles per gallon/liter for A side	*Future*†	HIGH temperature limit for B component reservoir	↵
Level 4		Select a stored recipe. Press key for 5 seconds to delete recipe displayed. Exit setup from here to use recipe.	Peak pressures display. Use arrow keys to toggle through displays. Press key for 5 seconds to reset.	Set limit on feed pump run time before alarm occurs	*Future*†	LOW temperature limit for B component reservoir	↵
Level 5		Store current setup values as a recipe number (use arrow keys). Exit setup from here to save and use recipe.	Minimum allowable A or B inlet pressure		Select unit of measurement: 1= psi/gallon,˚F 2= MPa/liter,˚C 3= bar/liter,˚C	Set material work life time. Set time to 0 to deactivate work life timer.	↵
Level 6			Select low pressure sensor option 1 = low pressure sensor 2 = no low pressure sensor	Select level sensor option: 0 = deactivate sensors 1 = low level sensors, with no feed pumps 2 = high level sensors, with feed pumps 3 = both sensors, no feed pumps 4 = both sensors, with feed pumps		Select temperature sensor option 1 = temperature sensor 2 = no temperature sensor	↵
Level 7		Software revision	*Future*†	Number of times the software has been powered up		Byte code	↵ Return to level 1

†Not implemented in this software version.


STOP
S
PSI
MPa
bar
A
B
XX:X
XXX°
X°
1
2
3
4
5
6
7
X XXX 000
× X =
X XXX 000
× X =
× X =
PSI
MPa
bar
1 = PSI
2 = MPa
3 = bar
XXX