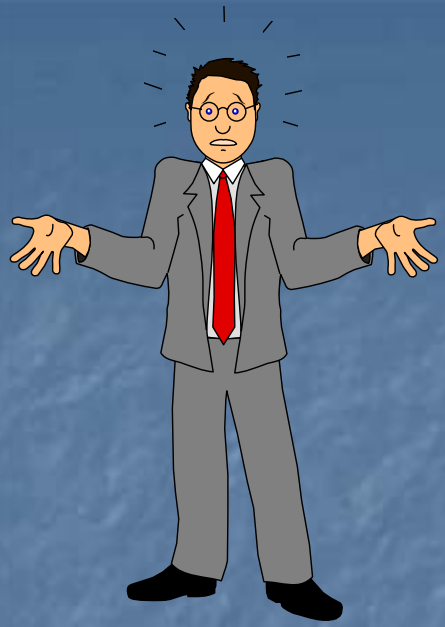


FUTURA®

ITW Futura Coatings

Trouble Shooting Equipment

ISO 9001 QMI REGISTERED

COMMON PROBLEMS with PLURAL COMPONENT EQUIPMENT

Transfer Pump Maintenance

- The “A” component (Isocyanate) transfer pump when left exposed to the air and moisture will cause the “Isocyanate” to harden and the pump will eventually seize and stop working.

Filters

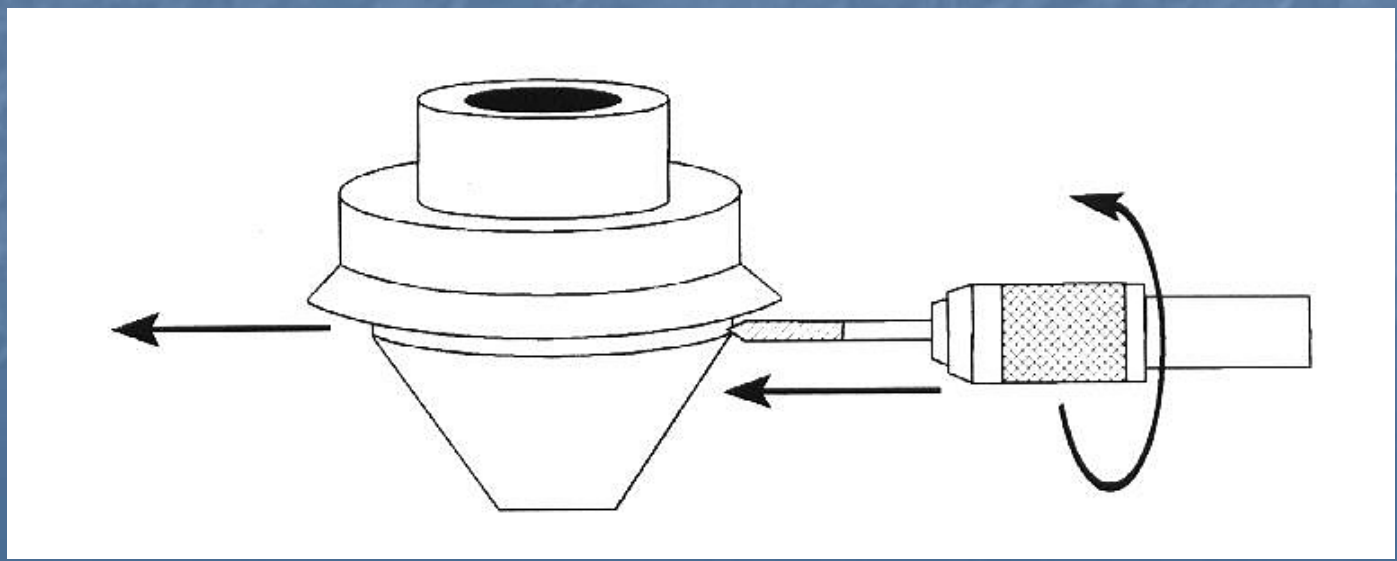
- If not cleaned in a timely manner or cleaned properly can cause off ratio material resulting in improperly cured materials.

Particles in Check Valves

- Prevents proper seating resulting in inconsistent pressures and delivery of material.

Module / Mix Chamber Maintenance

- Can become plugged or badly worn without proper maintenance or timely replacement.



FIXED RATIO PROPORTIONER PROBLEMS

Proportioner Test Procedures

- While spraying, observe the operating fluid pressures on each proportioning pump on both the upstroke & downstroke.
- The system will stall against pressure so release or close the gun trigger at the midpoint of an upstroke.
- Observe the fluid pressure.

Proportioner Test Procedures (con't)

- If the pressure drops on the upstroke, the problem is in the piston area of that pump..
  - Worn piston ball and seat
  - Foreign material between the ball and seat
  - Worn piston packings.
- Close or release the gun trigger to stall the proportioner at the midpoint of the downstroke.

Proportioner Test Procedures (con't)

- Observe the fluid pressures
- If the pressure drops on the downstroke, the problem is in the intake foot valve of that pump.
  - Worn ball and seat
  - Material between the ball and seat.

Proportioner Test Procedures (con't)

- In a production situation, with the pump cycling, if there is an excessive drop in fluid pressure at the top changeover of the pump (up or down).
  - Fluid section is not fully loading on the upstroke (Cavitation or "pump diving").
    - Cavitation is caused by a malfunction in the material feed supply.

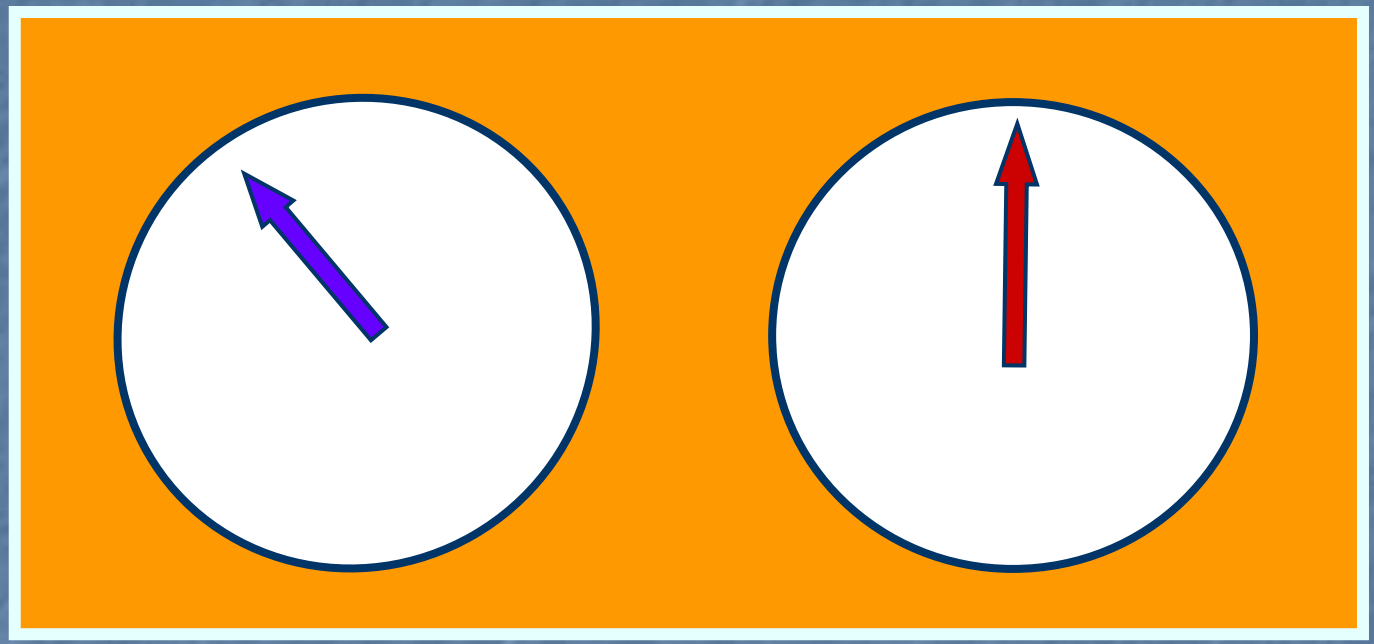
GENERAL PROCEDURES FOR READING PRESSURES

A PLURAL COMPONENT PUMP DOES NOT DISPENSE AN EXCESS OF ONE COMPONENT, BUT RATHER A *LACK OF* THE OPPOSITE COMPONENT.

Applicator

- Must recognize which component is lacking.
- Must know pressure gauge readings when the pump is operating normally.

Lower Pressure On One Side

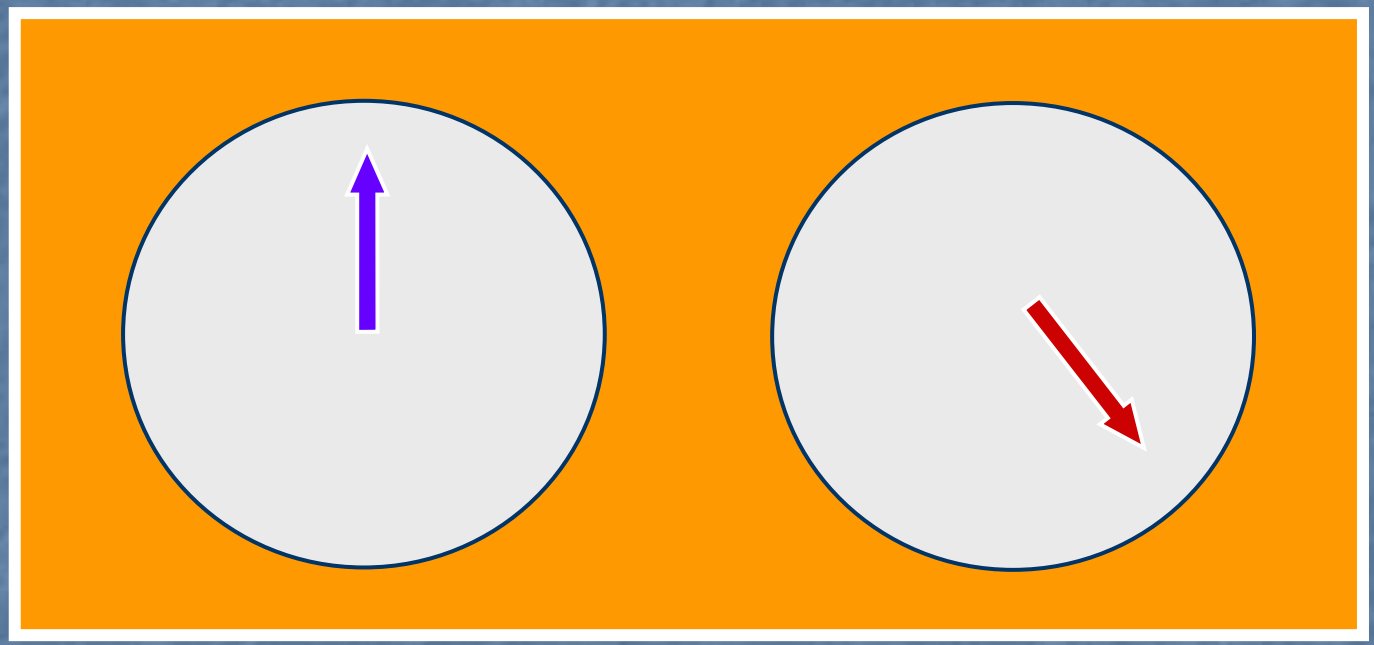


Indicates that the pressure gauge is not seeing fluid pressure.

Possible Causes

- Material tanks are not blanketed with inert gas or completely sealed allowing a vacuum to form.
- Loss of sufficient material supply pressure.
- Blockage of the inlet material filter.
- Failure of the proportioning pump.
- Material supply shut off valve closed.
- Supply heater blockage on the inbound side.

Higher Pressure On One Side

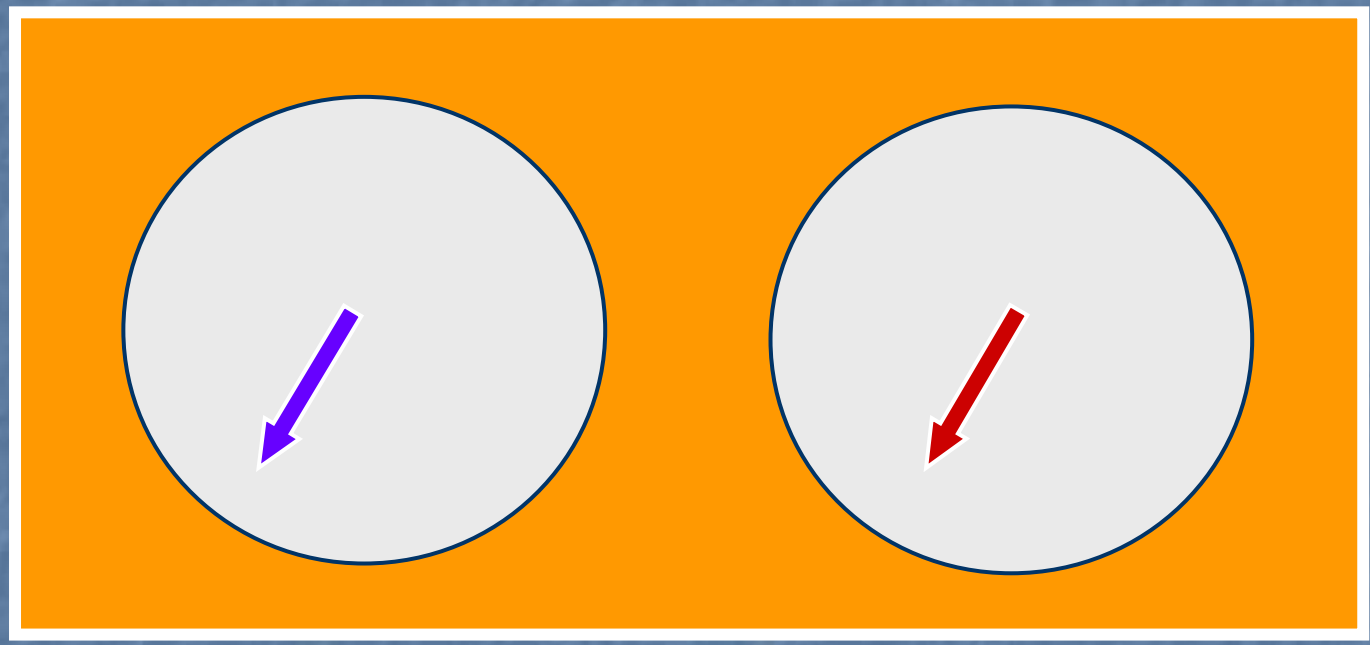


Indicates that the pressure gauge is seeing fluid pressure, but the material is not exiting the spray gun.

Possible Causes

- Blockage at the spray gun.
- Blockage of discharge (high pressure) material filter.
- Blockage of material delivery heated hose.
- Note: These blockages may only be partial

Lower Pressure Than Normal On Both Sides

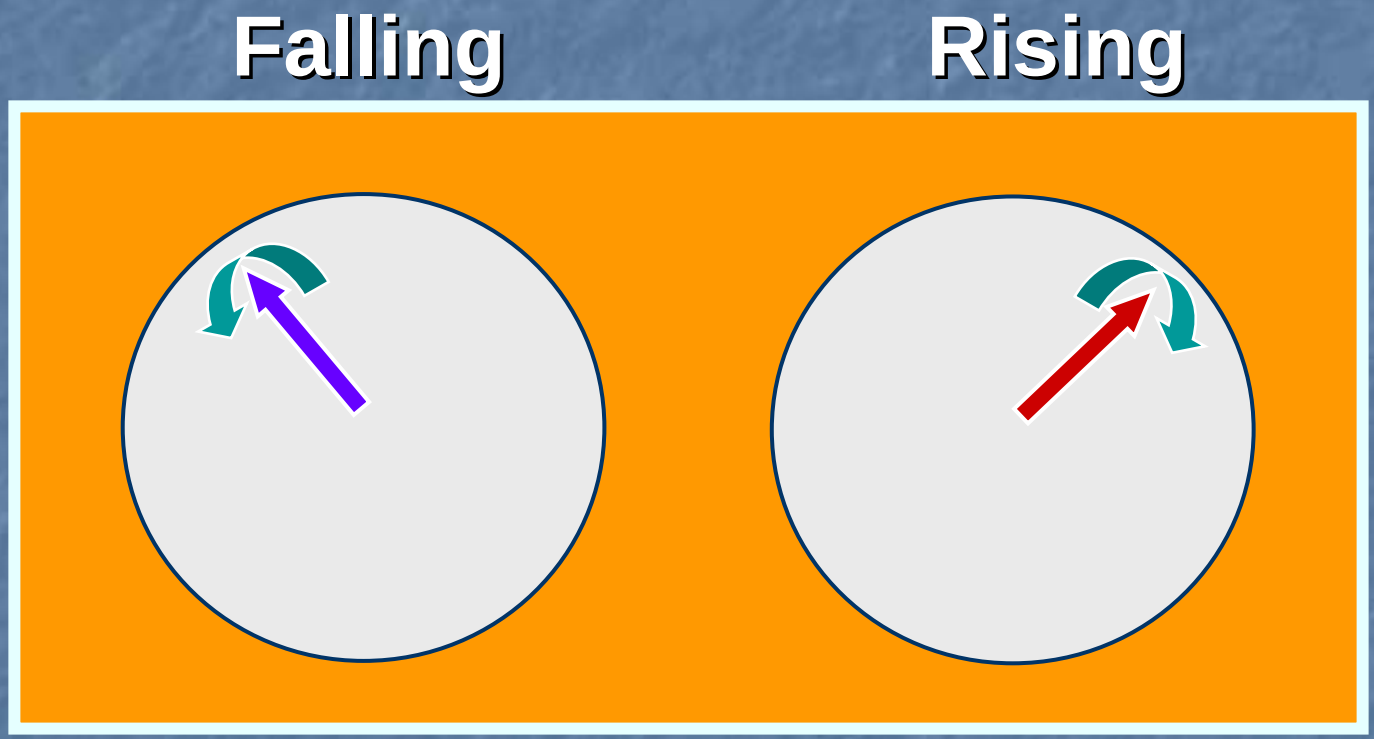


Lower pressure than normal on BOTH components during the up and down stroke of the proportioning pump indicates there is not enough power to maintain sufficient fluid pressure.

Possible Causes

- Solving an Intermittent pulsation problem requires watching the response of the material pressure gauges during the pulsation and then figuring out the problem area through correct pressure gauge interpretation as previously detailed.

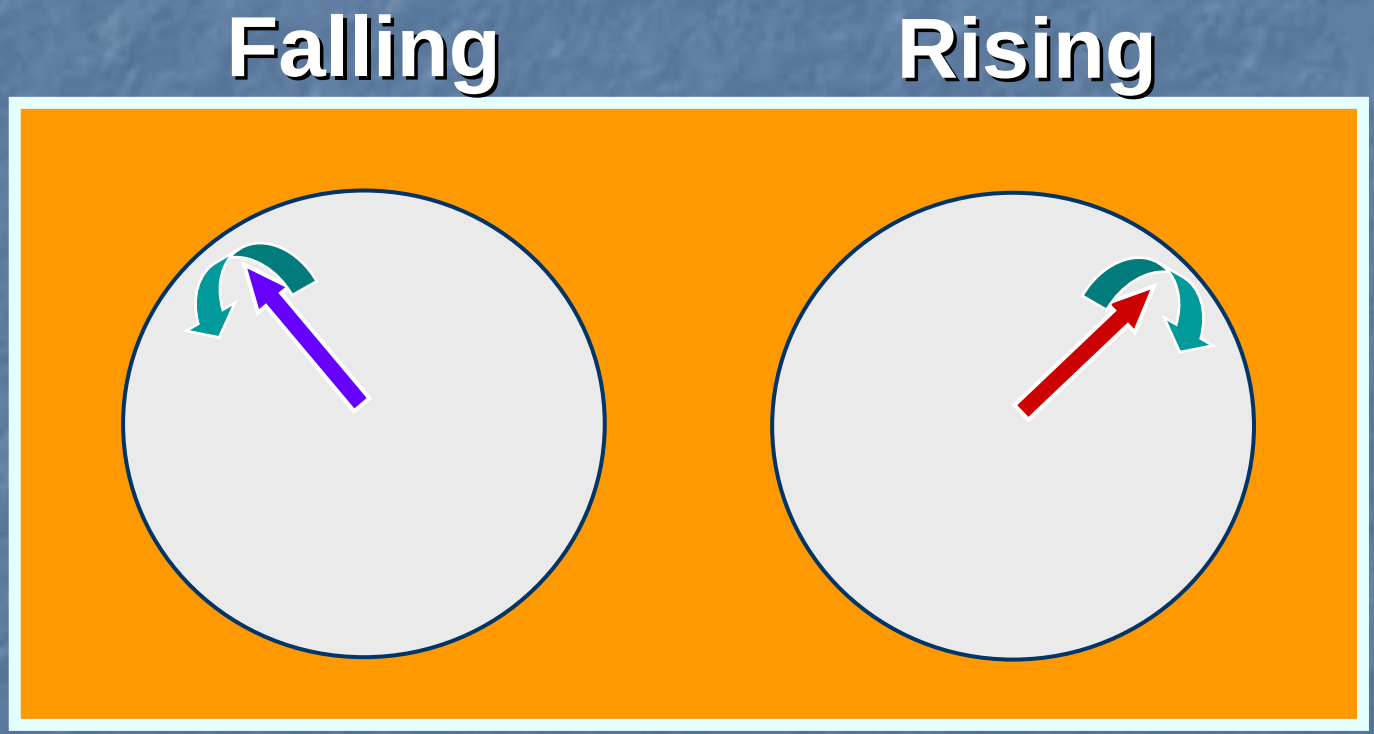
Blockage At The Spray Gun Or Heated Hose



Check In The Following Order

- Gun screens on the high pressure side.
- Module or mixing chamber orifices.
- Check valves in or at the spray gun.
- Fluid passages in the spray gun.
- Fluid passages in the coupling block.
- Material shut off valves at the spray gun.
- Connection fittings between the whip and hose assembly.
- Flush heated hose assembly well.

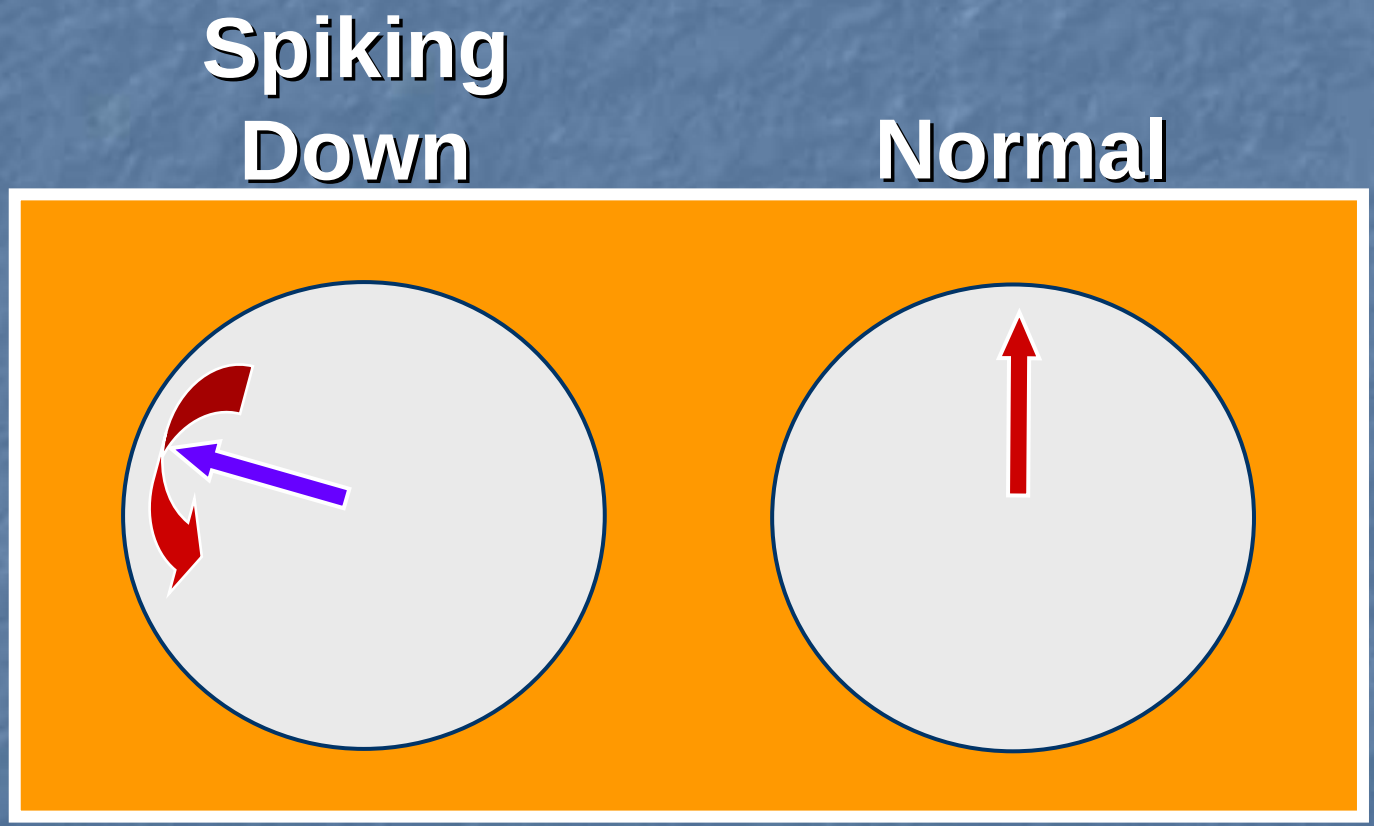
Obstruction or Restriction At High Pressure (outbound) Filter or Material Heater



Check In The Following Order

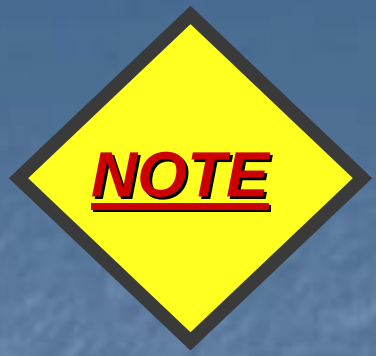
- Screens on the side with the high pressure.
  - Clean or replace as needed.
    - Note: Screen being used may be too fine.
- Flow rate through the material heater on the high pressure side.
  - If poor or insufficient, clean the heater.
- Valves for particles or sticking.

Supply Problem



Check In The Following Order

- Transfer pumps for proper operation.
- Low pressure (inlet) filters.
  - Clogging or mesh size too small.
- Transfer hose for clogs or kinks.
- That vacuum is not present in drum.
- Inlet ball valve in the proportioning pump.
- Material viscosity.
  - Too thick or transfer pump does not have enough power.



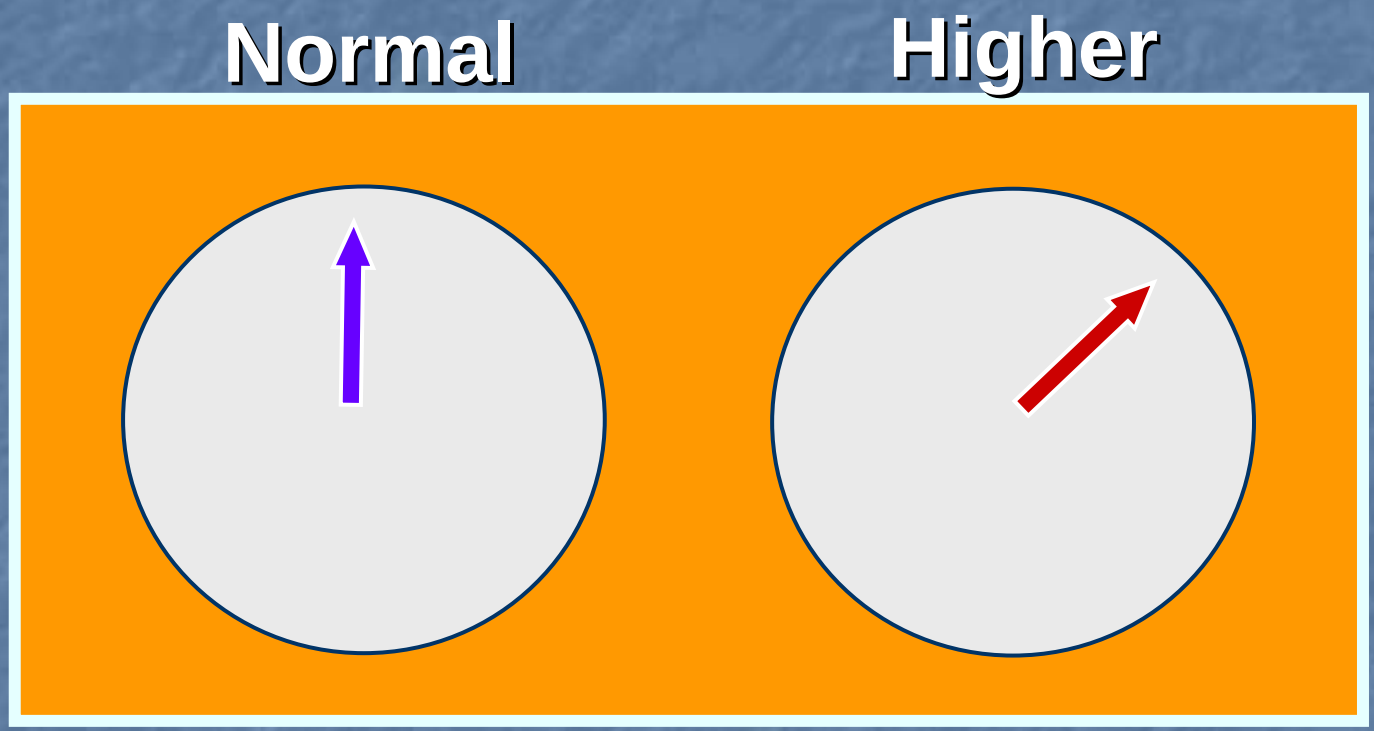
- Supply system may be checked by disconnecting the transfer hose at the proportioner and placing it into one of the open “bungs” of the drum.
- Engage the transfer pump and recirculate the material.

Consistently Higher Pressure on One Side.

But
Gauges Move Together During Flow

This indicates a partial restriction or a resistance to flow on the material side indicating the higher pressure.

Gauge Readings



Check In The Following Order

- For Partial restrictions
- Use a small orifice module or mixing chamber
  - Resistance to flow
  - Small diameter hose
  - High material viscosity
  - Material lining the interior of the hose
  - Check valve
  - Small fitting connection
  - Spray gun
- Gauge for accuracy
  - Calibrate or replace

Generally, when using the 451 or 452 modules in the GX7-400 spray guns the “A” side fluid gauge will read higher than the “B” side.

The viscosity of the “A” may be slightly higher than the “B” side at the actual spray temperature. The “A” side also has a greater “resistance to flow” thus creating a higher friction through the small orifice.

The “B” side material orifices generally wear faster due to the pigmentation on this side being more abrasive than the “A” material.

When new modules are used for the first time, the “A” port in the module is squeezed by the tightening of the retainer and PCD against the module. This fact means you will see a higher reading on the “A” side gauge.

For best results, use the material as your indicator. If the cure rate and physical properties are correct then the materials are mixing properly. If these factors are not correct, then use the gauges as a trouble shooting method.

If the two fluid gauges do not move up and down together during the cycling of the proportioner, if they are not moving apart as to the pressures indicated, you have a mechanical problem in one of the proportioner cylinders.

Badly worn packings can cause a partial cavitation which may be difficult to detect from the gauges. If the gauge does not hold pressure when the proportioner is stalling, the packings are badly worn or there is a leak

QUESTIONS