TURBO LINER
SPRAY IN BEDLINERS

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Basic Proportioner Troubleshooting

All proportioners or high pressure plural component spray systems are basically the same in the process of pumping, heating, monitoring and mixing the material at the gun. Whether it be coatings or foam you are shooting, or which machine or gun you have, the basics covered here should apply to your equipment and help look at the ABCs of basics of troubleshooting for your spray system. Troubleshooting is always done from the top-down verifying test results as you go, in a spray system that is from the supply system to the gun. Have your specific supply pump, machine and gun manuals at hand for reference.

1) **Power and air supply**; verify that the source electrical power and air pressure/volumes for your system are correct and verified by meter or gauge. Check electrical circuit breakers, compressor, air regulator, etc…

2) **Material**; material needs to be clean, fresh and preconditioned to 70°, drums need to be off the concrete floor on a pallet or the like to prevent cold transfer. For coatings the B-side will need to be pre mixed. Your mixer motor is an air tool. Make sure your mixer is being lubed regularly and working properly.

3) **Material supply system**; this consists of supply pumps, hoses, valves, filters, pressure and temp gauges that feed your machine. Your machine needs a clean, filtered, 70°, unrestricted flow of both A & B material.

The supply pressure will vary with the type of pumps you have and what air pressure you are feeding them. With the common 125 psi shop air supply a 1/1 pump should put out approx. 125 psi of fluid flow and a 2/1 pump will put out approx. 250psi.

The supply pump gauges can be erratic as the pumps cycle and the A & B gauges will act differently due to the different viscosities of the A & B materials; this is normal.

As you monitor these gauges make sure that the gauges read at least 50 PSI at the low end of the cycle. If you are bouncing off zero then you are starving your machine for material.

We recommend that all spray systems be retrofitted with supply monitoring gauges if they don't have them; this is an invaluable troubleshooting tool. The supply monitoring gauges are to be installed after the filter so a plugged filter screen would be detected.

4) **Heat zones**; there are 3 heat zones. The A & B Primary heaters heat the material to the specific temp set on the controllers and the hose heat maintains the temp of the material from the machine to the gun.

   The primary heaters are very fast and will be up to temp in a minute or so. They can be left off until you are almost ready to spray to prevent over pressure due to heat. The hose heat will take 30-60 minutes depending on your system. Verify that all is working properly.

5) **Material flow**; after the machine is up to temp, using only the supply pump pressure (do not pressure the machine up), bleed material from each gun side block into a clean container or back into their respective A & B drums. Monitor

the A & B supply gauges as they cycle to get a dynamic or working pressure range. As long as they are 50 psi or above in the low end of the cycle as discussed above in #3 you should have adequate supply pressure and material flow through your machine.

6) **Ramp up test**; a ramp up test will tell you what your proportioning pumps are producing via the main high pressure gauges.

   With the machine on, heated up and supply pressure feeding the machine; bleed all pressure off the system, then turn on and pressure up the system. Read the A & B gauges, they should ramp up evenly to the normal operating pressure. Bleed off the pressure and repeat the test 4-5 times to get a good reading. The pressure differential between A & B should be 300 or less. A large differential, 1000 psi for instance, would indicate a pump failure of some kind, (or starvation, make sure you have verified material supply and flow in earlier steps).

7) **Heated hose**; the heated hose and whip assemblies are somewhat fragile and take the most abuse of any part of your spray system. How you take care of it will determine the service life of the hose assembly.

   Keep your hose covered with plastic sleeving or similar and clean the overspray off the hose regularly to avoid build up.

   The gun end of the hose will start to come un-done after some use. Take the time to re-do, re-insulate, re-tape or whatever it takes to keep your hose in good shape and in service.

Do not heat a coiled hose, it will create excess heat that could cause a hose failure or an error code on the new RTD hose used on the newer Graco Reactor 2 series machines.

Be aware of the electrical connections on your hose. On the common low voltage hose there are two heavy #6 wires from your machine that feed the heating elements in your hose and heated whip hose in a circuit. There will also be a thermocouple and wire that senses the heat and sends a reading to the hose controller. Electrical and thermocouple connections are common failure points to keep an eye on.

8) **Spray gun**; 80% of the tech calls we get relate to the gun and its maintenance or lack thereof.

Know your gun, read the manual, train your people and have spare parts on hand. A whole separate chapter can be written on the gun but we'll keep it simple for now.

In conclusion;
This covers most of the main points of your system that must be in place in order for your spray system to operate correctly. When you have a problem and start troubleshooting make sure to review all manuals, troubleshooting guides, material data sheets and tech docs that pertain to your system first. All of these documents are available on the dealers section of our web site, www.turboliner.com

Most problems turn out to be something minor that has been overlooked. Take a hard look at your system and make sure everything is correct before you proceed to avoid failures. Please don't hesitate to call if you need assistance.

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