

# Tech Bulletin

One of the major differences between micro-abrasive blasting and other types of sandblasting is the precision of the process. This is partly achieved through using very fine, tightly classified abrasives. In order to get these materials to flow properly, a clean, dry air supply must be provided.

If the air line becomes contaminated with moisture or oil, the effectiveness of the process will be severely limited. Even tiny amounts of oil

can cause major failures in the MicroBlaster's internal mechanisms.

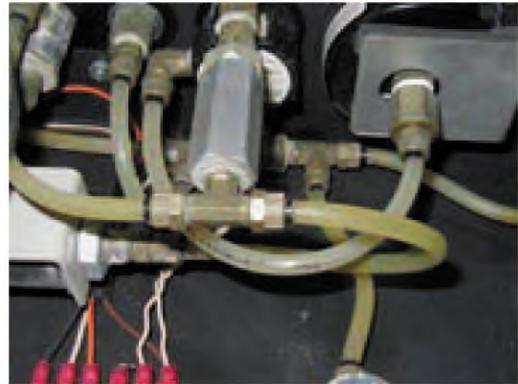
Proper protection from oil is especially critical for MicroBlasters that are connected to a shop's compressed air line. Often oil is added to air lines for pneumatic instrument lubrication, but this is damaging to the MicroBlaster. Older piston compressors tend to have leaky O-rings, putting oil into the air stream.

## How to Identify Oil Contamination

If you suspect that your MicroBlaster is contaminated with oil, there are a few signs you can look for to confirm this.



*New Air Lines*



*Contaminated Air Lines*

- The air lines that run clean air through the MicroBlaster are a milky white color when new. Exposure to oil will cause these lines to turn an orange or yellow color.



- Oil has a tendency to pool in the regulator assembly of the MicroBlaster. This is a more difficult area to access, but by unscrewing the black plastic bonnet you will see traces of oil inside the regulator.

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- When oil contamination becomes severe, abrasive media will adhere to the filter element. If the assembly is opened to expose the filter element, large clumps of abrasive indicating oil contamination can be found.



### What Oil Contamination will Cause

Initial contamination by oil in your MicroBlaster will cause irregularities in the abrasive flow. Often it will result in clumps being formed above the orifice in the abrasive tank, which limits the amount of abrasive that can pass through. The other possibility is that the clumping will pass through the orifice and obstruct the nozzle. These clumps can be identified by a mass of small particles that tend to break apart under force.

The major impact of oil contamination is check valve failure. The oil contamination will prevent the check valve from sealing properly. When this happens, air carrying some abrasive is allowed to pass back through the check valve into the clean side of the system. This is very detrimental to the proper operation of the valves and cylinders in the system. The aggressive nature of the abrasive will quickly erode the O-rings and seals on these components. Once this type of damage takes place in a MicroBlaster, it is extremely expensive to repair.

### How to Avoid Oil Contamination

While oil contamination can cause a major disaster inside your MicroBlaster, it is one of the easiest problems to avoid. The compressed air line running to the MicroBlaster should pass through an oil filter and air dryer just before it reaches the unit. This will allow for maximum protection from the harmful effects.

In addition to protecting the MicroBlaster from contamination, the oil filter also keeps oil from coating the desiccant or membrane filter inside the air dryer, prolonging its useful life.

### Quality, Efficiency, and Cost Effectiveness

A clean air supply will go a long way in ensuring that you enjoy many years of trouble-free operation from your MicroBlaster. The cost of using contaminated air far exceeds the cost of an oil filter. With proper compressed air treatment equipment, system pressure is maintained, expenses are reduced, and production quality is improved.