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## “Accelerator” Microarray Spotting Pin Cleaning Protocols

Point Technologies uses tungsten for the Accelerator™ Microarray Spotting Pins and aluminum (or customer specified materials) for the collar on the proximal end of the shaft. Tungsten is a metallic transition element with extremely high modulus, strength and hardness properties. It is non-magnetic and highly resistant to chemical corrosion, oxidation, and mechanical wear.

### **Basic Pin Cleaning Protocol:**

This protocol is recommended for basic cleaning of the Accelerator PT™ and Accelerator PTL™ Microarray Spotting Pins to remove minor surface contaminants and residues that may affect printing performance. This protocol can be performed upon receipt or between print runs, as appropriate.

1. Carefully place pin(s) in a glass test tube (s) with the non-printing end of the shaft resting on the bottom of the test tube. Note - the pins should NEVER be rested on the distal or tip end.
2. Fill the test tube with distilled water (H<sub>2</sub>O) until the pin is completely immersed.
3. Place the test tube in a standard ultrasonic cleaning unit.
4. Sonicate for approximately 5 to 10 minutes.
5. Carefully remove the pin(s) from the test tube(s).
6. Thoroughly rinse the pin(s), the pin surface, and slit interior with isopropyl alcohol (IPA).
7. Air dry and / or apply lightly forced air to remove the fluids from the slit interior and pin surface. It is important to note that some forced air sources, such as pressurized canisters or house air, may contain hydrocarbon residues that could affect spotting pin performance and are not recommended.
8. Place clean pins in printhead and begin (resume) printing.

### **Routine Pin Cleaning Protocol:**

This protocol is recommended for routine cleaning of Accelerator PT™ and Accelerator PTL™ Microarray Spotting Pins to remove more adherent surface contaminants such as salts and organic films that may affect printing performance.

1. Carefully place pin(s) in a glass test tube (s) with the non-printing end of the shaft resting on the bottom of the test tube. Note - the pins should NEVER be rested on the tip end.
2. Fill the test tube with a standard alkaline ultrasonic cleaning solution (e.g., 1:100 Alconox powdered Precision Cleaner Cat. No. 1104 from Alconox, Inc.) until the pin is completely immersed.
3. Place the test tube in a standard ultrasonic cleaning unit.
4. Sonicate for approximately 5 to 10 minutes.
5. Carefully remove the pin(s) from the test tube(s) and rinse thoroughly with water.
6. Fill the test tube with distilled water (H<sub>2</sub>O) until the pin is completely immersed.
7. Place the test tube in a standard ultrasonic cleaning unit.
8. Sonicate for approximately 5 to 10 minutes.
9. Carefully remove the pin(s) from the test tube(s).
10. Thoroughly rinse the pin(s), the pin surface, and slit interior with isopropyl alcohol (IPA).
11. Air dry pins (or with lightly forced air) to remove all fluids from the slit interior and pin surface. Air dry and / or apply lightly forced air to remove the fluids from the slit interior and pin surface. It is important to note that some forced air sources, such as pressurized canisters or house air, may contain hydrocarbon residues that could affect spotting pin performance and are not recommended.
12. Place clean pins in printhead and begin or resume printing.