

# Spring Pin Cleaning Procedure

## 1- Initial Inspection of Socket:

Socket must be checked under a microscope for debris and/or other marks around the spring probe holes and spring probe tips. Take picture and describe the contaminants.

## 2- Tools required:

- a. Acetone, 99% concentration.
- b. Alcohol, isopropyl 99.5%
- c. Soft compliant surface to protect bottom plungers of spring pins, or mount socket back onto test PCB to protect bottom plungers.
- d. Soft nylon brush or horsehair brush with short bristle and long bristle.
- e. Hex keys, Screwdrivers and Tweezers.

## 3- Disassembly:

Refer to Socket user manual for Floating base Removal and Assembly Procedure if socket has a floating base.

After removing the floating base and the springs, put the floating base back into position without the springs and screws. The Floating base will be used to protect the spring probe of excessive side force from the brush during the brushing process.

## 4- Brushing:

- a. Use a long bristle brush to clear away any debris around or between the spring probes. Gently brush the spring probe area from side to side starting from the middle of the socket and working toward the outer edges of the socket.
- b. When completed, remove the floating base from the socket. With the short bristle brush, clean the floating base from top to bottom and from side to side, working toward the outer edges of the socket.
- c. After cleaning the floating base, clean the top surface of the socket using the long bristle brush. VERY gently brush the spring probe area from side to side starting from the middle of the socket and working toward the outer edges of the socket. Caution: Too much pressure from the brush may damage the spring probes.

## 5- Ultrasonic Bath:

- a. After the brushing steps are complete, put the socket with pins and the floating base into a glass beaker filled with 99.5% of Alcohol (1/2" above socket). Place the beaker into ultrasonic bath.
- b. Run ultrasonic cleaner at 25 °C at frequencies approximately 40kHz. Cleaning time: 45 to 60 minutes.
- c. After the ultrasonic cleaning, remove the socket from the beaker, and dry with 30 psi maximum compressed air.

- d. Bake socket for 30 minutes at 65C.

**Note:** If Acetone is available instead of Alcohol,

- e. Cleaning time is 30 minutes.
- f. After the ultrasonic cleaning, remove the socket from the beaker and blow compressed air at 30 psi maximum.
- g. Keep the socket on a flat and compliant surface for 10 minutes before re-assembly.
- h. No baking is required.

**Note:** Do not use acetone to clean Quadrant Peek ESD 420. However, acetone can be used with ceramic Peek, Torlons, SS07 SS09 & SS11 ESD Peek materials.

**Note:** If only loose spring pins to be cleaned instead of the complete socket,

- i. Place the spring pins in a glass beaker. Fill the beaker with acetone to cover all spring pins (1/2" above pins).
- j. Activate (turn on) the ultrasonic bath. Cleaning temperature: 25 deg C.
- k. Place the beaker in an ultrasonic cleaner [Duration : 20 minutes]
- l. After 20 minutes cleaning, transfer all spring pins in a meshed plastic container. Rinse the pins with fresh acetone (20 milliliter of acetone)).
- m. Transfer the spring pins to a separate white absorbent pad.
- n. Examine 1-2 spring pins microscopically, if contaminants are present, re-clean using the ultrasonic cleaning step with fresh acetone.
- o. 99.5% alcohol can be used instead of acetone. Baking 30 minutes at 65C is needed if using alcohol. Baking is not needed if using acetone.

## **6- Re-assembly:**

Scan the pin field on both sides of the socket and verify that there are no damaged pins or socket.

- a. Re-attach all mechanical parts (floating base, lid) to the socket.
- b. Make sure that the pads on the printed circuit board are clean and free of any debris.
- c. Make sure that the socket is aligned properly to the printed circuit board.
- d. Place it back on the printed circuit board and position it using the guide pins, if applicable.
- e. Replace all screws/mounting hardware.
- f. Turn all screws lightly and uniformly into their final resting positions.
- g. Hand-tighten all screws in a crisscross manner.

## **7- Quality Record :**

Log the cleaning steps and results.