



Technical Note: 10000148

CHC-15 Crystal Holder Maintenance and Installation Manual

MAINTENANCE

Ordinarily the crystal holder should need very little maintenance.

It is always a good idea to inspect the O-ring and test the travel of the Pogo contacts whenever the crystal is being replaced. Your crystal holder came with spare pogo contacts.

Check the general appearance of the O-ring. It should be free of any deposits or defects when viewed with the naked eye. Inspect it from the side for low spots or insufficient height above the center ring.

Gently depress the pogo pins. Make sure that they move freely and that travel is not restricted. They should depress to a level well below the surface of the O-ring, at least by an amount equal to the thickness of the crystal. When extended they should extend well above the surface of the O-ring. Again, at least by an amount equal to the crystal thickness.

Removing bath residue following replacement of a broken crystal:

If there is any possibility that chemicals entered the cavity behind the crystal, it is very important to thoroughly rinse the cavity, the pogo contacts and the pogo contact sockets to remove any traces of the bath, which might lead to corrosion.

Putting your thumbnail under the pogo head and pulling gently but firmly with your fingers should allow you to pull the pogo contact from its' socket. Thoroughly rinse the sockets and the pogo contacts with de-ionized or distilled water to remove all traces of chemical. Even though the pogo sockets and contacts are gold plated, chemicals can lead to corrosion which may compromise the spring action of the contacts and in the extreme case make it impossible to replace the contacts without damage to the crystal holder.

The cavity behind the crystal must be clean and dry. Any liquid trapped in the cavity may lead to condensation on the backside of the crystal causing excessive rate noise and even crystal failure. Use compressed dry air to remove any liquid around the O-ring and pogo pin contacts. Leave the crystal holder disassembled while not in use so that any liquid can evaporate.

INITIAL SET-UP

A. Assemble Crystal into CHC-15 Holder

Since the Crystals have to be changed frequently, this is an important step with which to become thoroughly familiar:

1. Place the CHC-15 between your index finger and your middle finger with the Index pin of the CHC-15 at the 3 O'clock line (Refer to Picture 1).
2. Always handle Crystal by edges with plastic tweezers, or with gloves.
3. The REAR SIDE (Contact Electrode) surface of the Crystal has two separate circuits and the smaller electrode. The FRONT SIDE (Sensing Electrode) surface has the larger electrode, which is connected through a wrap-around electrode to one of the circuits on the CONTACT side on the Crystal.

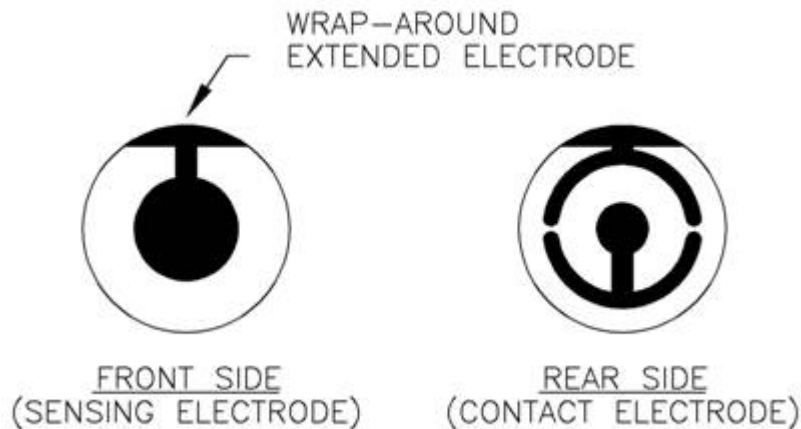


Figure 1. 1" Diameter Crystals – Electrode Configuration



Figure 2. 1" Crystal - as Seen From The Front Side

1. The Crystal cavity of the holder contains two Contact Springs, which connect the to the two Crystal Contact Electrodes and, through the wrap-around electrode, to the Sensing Electrode.
2. Before placing the Crystal, make sure that the O-ring in the CHC-15 is in place and that the entire cavity is clean and dry.
3. With CONTACT-side down, hold Crystal and point wrap-around electrode toward the Index pin (Refer to Picture 2).
4. Place the Glass Cell O-ring over the Crystal (Refer to Picture 3).
5. Align the Glass Cell with the O-ring and the CHC-15 Holder as shown in Picture 4.
6. Clamp the Glass Cell and CHC-15 Holder together with the clamp as shown in Picture 5.

Tilt the Glass Cell when pouring liquids, to prevent any bubbles from forming on the surface of the crystal. Pour enough liquid to cover the crystal completely.



Picture 1



Picture 2



Picture 3



Picture 4

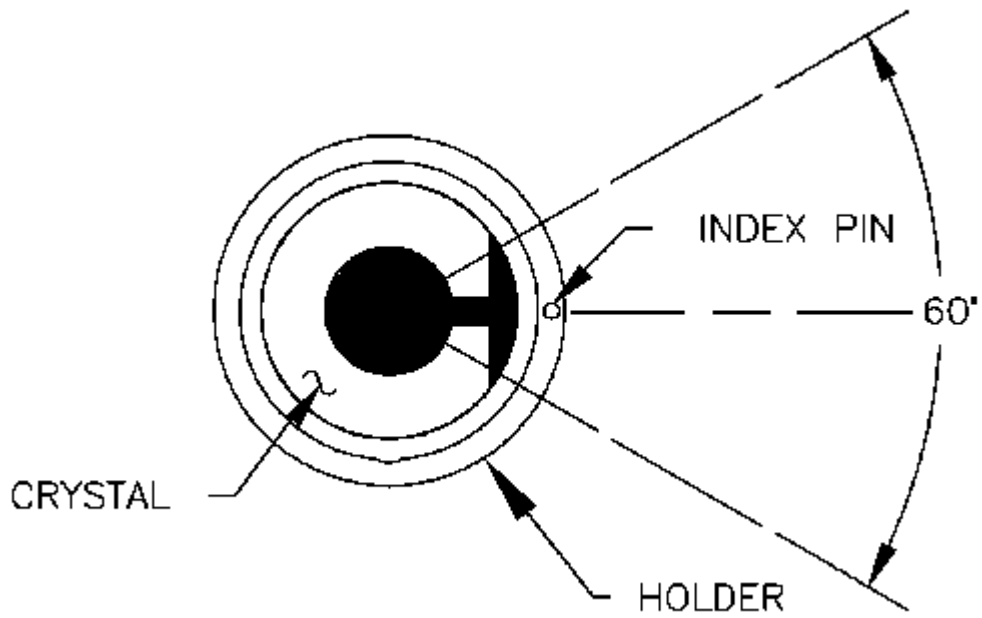


Figure 3

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