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Notes on Replacing Banana Jacks in PR-1000 Measuring Cells

- 1) The banana jacks are normally mounted on panels for electronic equipment.
Therefore, remove the hex nuts as they are not used with the measuring cells.
- 2) The length of the threaded rod of the banana jack is longer than the distance from the top of the measuring cell down to the threads of the mounting screw for the mesh.
- 3) You can either allow the banana jack to sit high in the cell or shorten the threaded rod.
- 4) If you choose to shorten the threaded rod, you will need to file or grind down only a fraction of a mm. Otherwise, the threaded rod will be too short to make contact with the threads.

So, it is extremely important to remove a little at a time and then check to see that there is still contact with the mesh mounting screw.

- 5) The plastic spacer with the banana jack will spin freely when there is the proper length of the threaded rod. If the plastic spacer is tight, there is a chance that too much of the tip of the threaded rod has been removed, resulting in no continuity or intermittent contact.
- 6) You should have a digital ohm meter handy to check the continuity of the banana jack tip (end of the threaded rod) with the mesh mounting screw.

Place the tip of one of the ohm meter probes into the banana jack and one probe tip against the steel ring portion of the mesh near the mounting screw.

There should only be the resistance of the test leads (or no more than 0.1 ohm above the resistance of the test leads) of the ohm meter displayed on the meter readout.

In other words, the mechanical tightness of the banana jack with the mounting screw should read as if the test leads were touching each other.

NOTE: To display the resistance of the test leads, just touch the test lead tips together.

- 7) If you have problems later with the mA readings on the Prove-it unit, this indicates that the mechanical tightness of the banana jack tip with the mounting screw has been lost.
- 8) Either the banana jack tip is no longer touching the screw threads or there is corrosion

starting at the junction of the tip and the screw threads.

9) You can use the ohm meter to see if the resistance has become high.

If there is corrosion on the banana jack tip, you will have to clean it or replace the banana jack. Cleaning the tip is not a guarantee that the corrosion will not come back.

If there is corrosion on the threads of the mounting screw, it is advisable to replace the screw. Past experience has shown that once corrosion starts on the screw threads, even cleaning it will not prevent future corrosion.

You can switch the mounting screw with one of the other mounting screws. Clean the contaminated screw as best you can before switching it. Otherwise, the contamination can keep growing.

10) If you find that the banana jack tip is just a little short of making contact, you can file down the plastic spacer that comes with the banana jack.

File just a little at a time until the tip makes mechanical contact again.