

**Extracting broken pins from Lemo receptacles**

This Technical Tip provides instructions for extracting broken pins from the Lemo receptacles as used on various Trimble products.

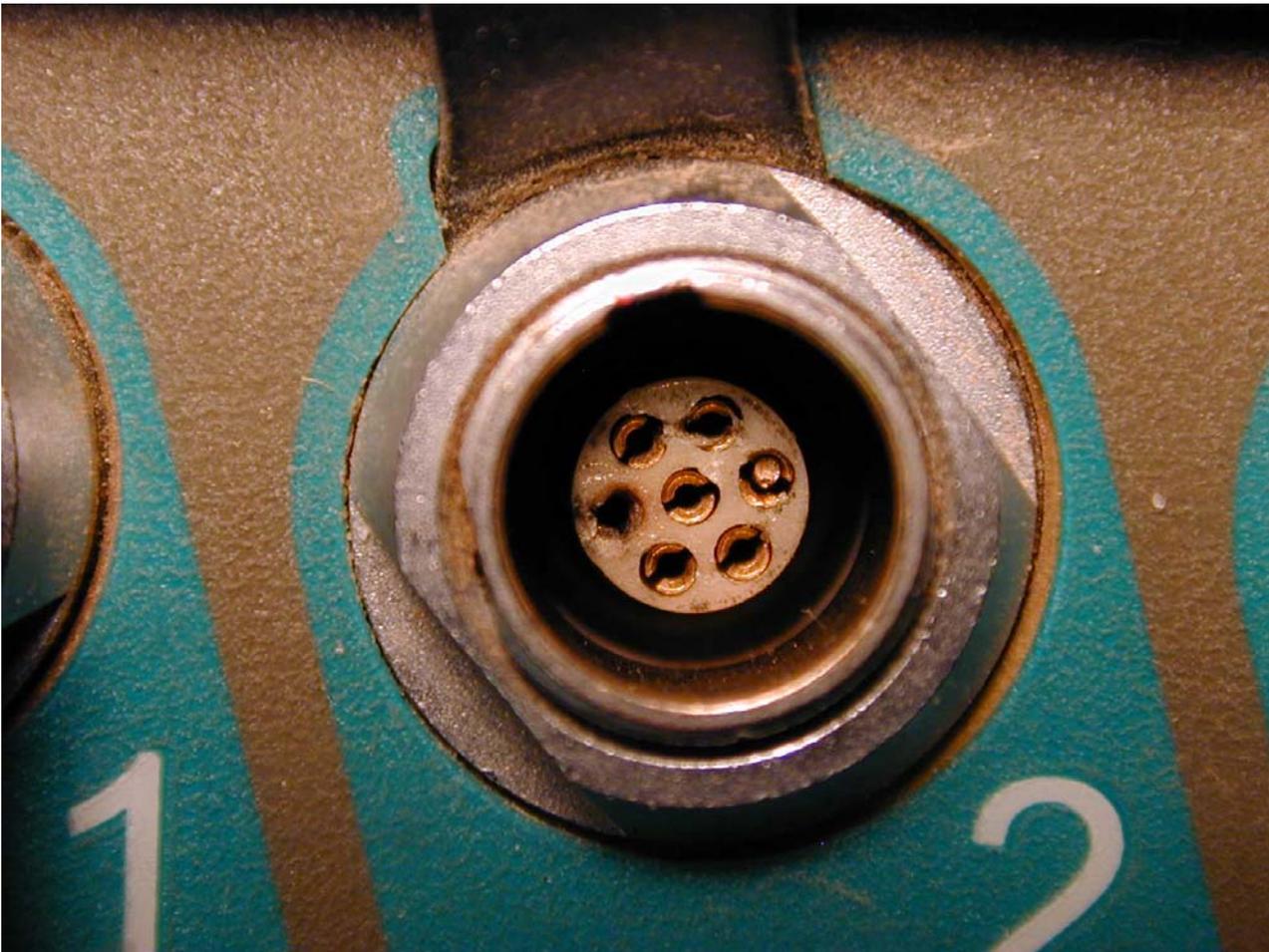
The pins in the seven-pin Size 0 Lemo-style plugs are only 0.5 mm in diameter. Sometimes those pins break off in their mating sockets in the receptacles or jacks.

Assuming no one has forced a second pin into the same socket, the method described here will usually get the broken pin out in a minute or so.

The "secret weapon" is the endodontic file or endofile used by dentists when performing root canals. The Wikipedia page on Endodontic therapy shows how the endofile is used in its intended application.

Here's what we don't like to see, the broken pin on the right side. The socket on the left is pretty well shot as well, but that's another story.

Notice how the metal parts in the sockets consist of two semi-cylindrical segments that wrap around the pin.



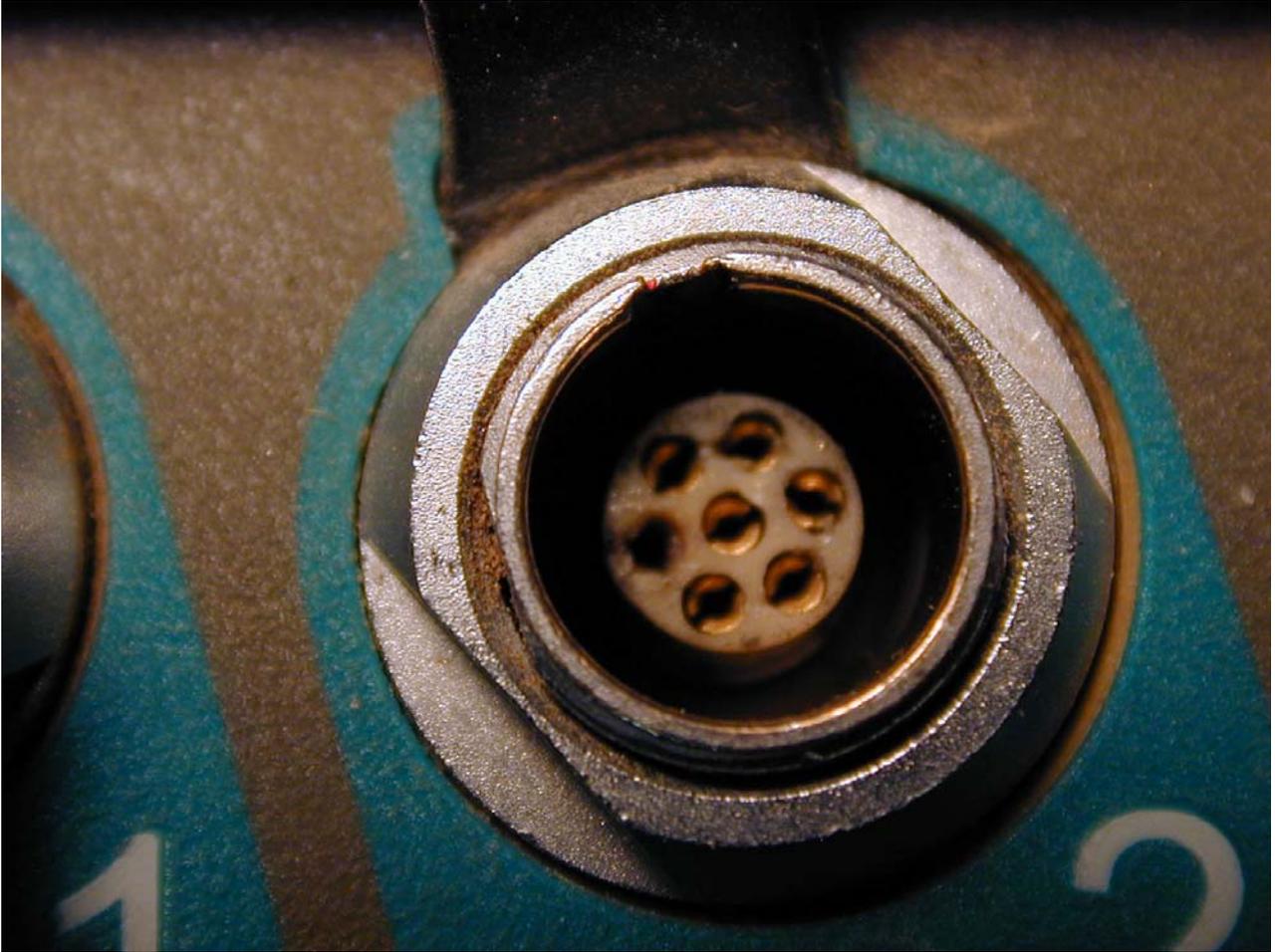
Here are our tools, two endfiles of slightly different diameters. The observant eye will notice that these were modified by breaking off part of the thin tapered tip to get a larger diameter at the end. Also shown are two broken pins that were extracted in earlier efforts.



You probably cannot see from these images, but the flutes on the endfile are a right-hand helix.

What you do is work the endfile into the space between the two socket segments, the broken pin, and the white-plastic body by rotating the endfile clockwise as you push it in. Once the endfile is in as far as it will go, then pull it straight out. When everything is right, the flutes touching the broken pin will have enough grip to pull out the broken pin.

Here is the same receptacle, but now without the broken pin. This one took three tries with the red-handled endofile before the pin came out.



The last image includes the broken pin we just extracted, it has a definite bend so perhaps someone attempted to insert another plug into this receptacle when the broken pin was in that socket.



So if you know a friendly dentist who will give you a few endofiles (or possibly offer to do this himself) this trick may save you some time, money, and grief.