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SUBJECT **Best 2000 Pipette Module
Preventive Maintenance**

Best 2000 Pipette “ESP/Blockage” errors can be caused by a restriction in the spigot PTFE tubing due to a gradual build-up of fluid (believed to be a foamy reagent, reaching the bottom of the spigot as a bubble during high-volume aspiration), which dries in layers on the inside of the tube. Typically the build-up is confined to the tip only, not further up the tubing. Previously, this blockage would warrant the replacement of the pipette module, however a new technique has been developed for removing the blockage without removing the pipette from the Best 2000.

A new part number has been created to perform to remove the blockage:

[3410-0665 Root canal reamer \(pack of 6\) 42000060](#)

This guide for performing the pipette module cleaning in the field and is intended to be used by individuals experienced in servicing the Best 2000 and needs to be used in conjunction with the service manual.

We extremely recommend reading carefully the attached document and the service manual before proceeding.

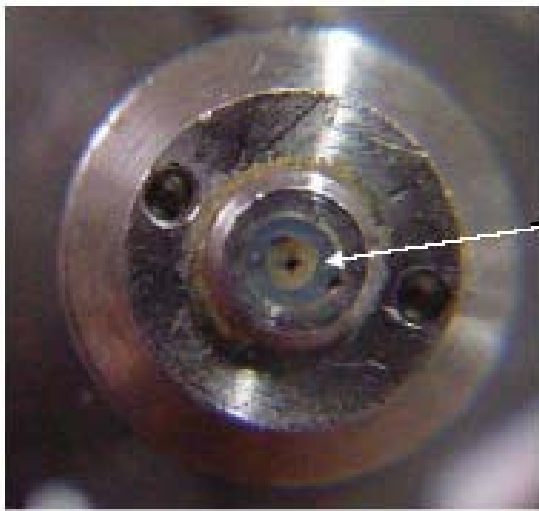
Please, do not hesitate to contact us if you need further details.



In-Field Cleaning Procedure

A root-canal reamer (Figure 2), which is a tapered cutting tool with coarse, helical flutes, can be used to remove the blockage. When attempting to remove blockage from the pipette by any means, the primary concern is to prevent the blockage from being pushed further up the tubing. Due to its shape, when the root-canal reamer is rotated (clockwise) while being gradually inserted into the tubing, the debris is pulled out (Figure 3). When using the tool however, care must be taken not to cut the inside wall of the tubing. This is a matter of “feel”, but can also be regulated by the depth of insertion of the tool. Approximately 1 cm inside the tubing, the gland-nut restricts the inside diameter, so care must be taken not to cut the tubing at this point.

Once the offending material has been removed, the line is flushed using alcohol, injected through the tubing from the sensor-end (Figure 4). Ensure all alcohol is expelled and the tubing dry before reconnecting the tubing to the sensor and self-testing the system. When reconnecting the tubing care must be taken ensure it is returned to the same location on the sensor end.



Blockage in the PTFE tubing

Figure 1 – Bottom view of the pipette spigot showing typical blockage in the PTFE tubing.



Figure 2 -Root canal reamer.



Figure 3 -Root canal reamer inserted into the pipette spigot.



Figure 4 - Injecting alcohol into the tubing from the sensor end.