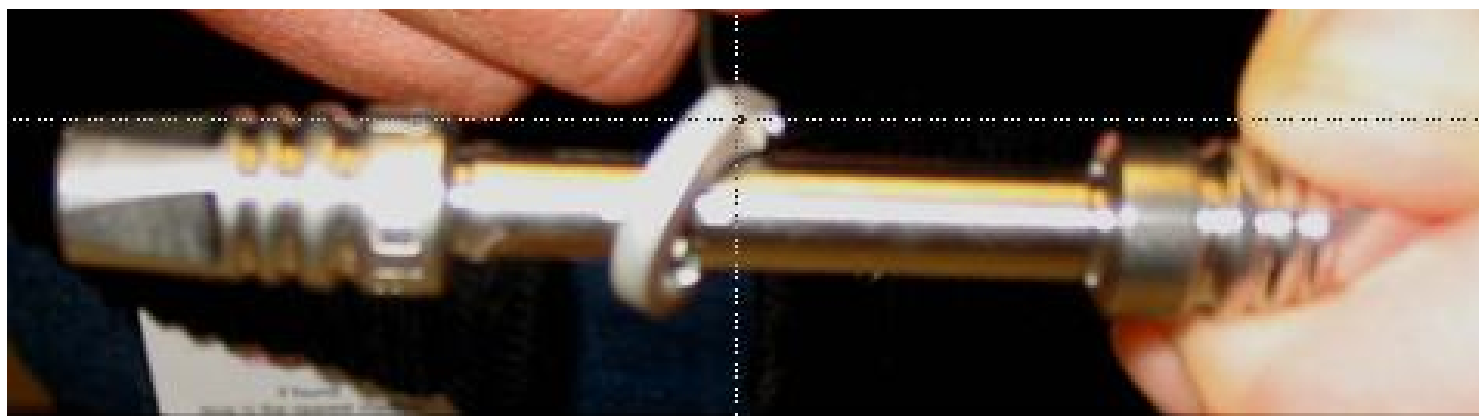


Chapter Eleven

Replacing ACQUITY UPLC Columns Frit

Waters
THE SCIENCE OF WHAT'S POSSIBLE.™

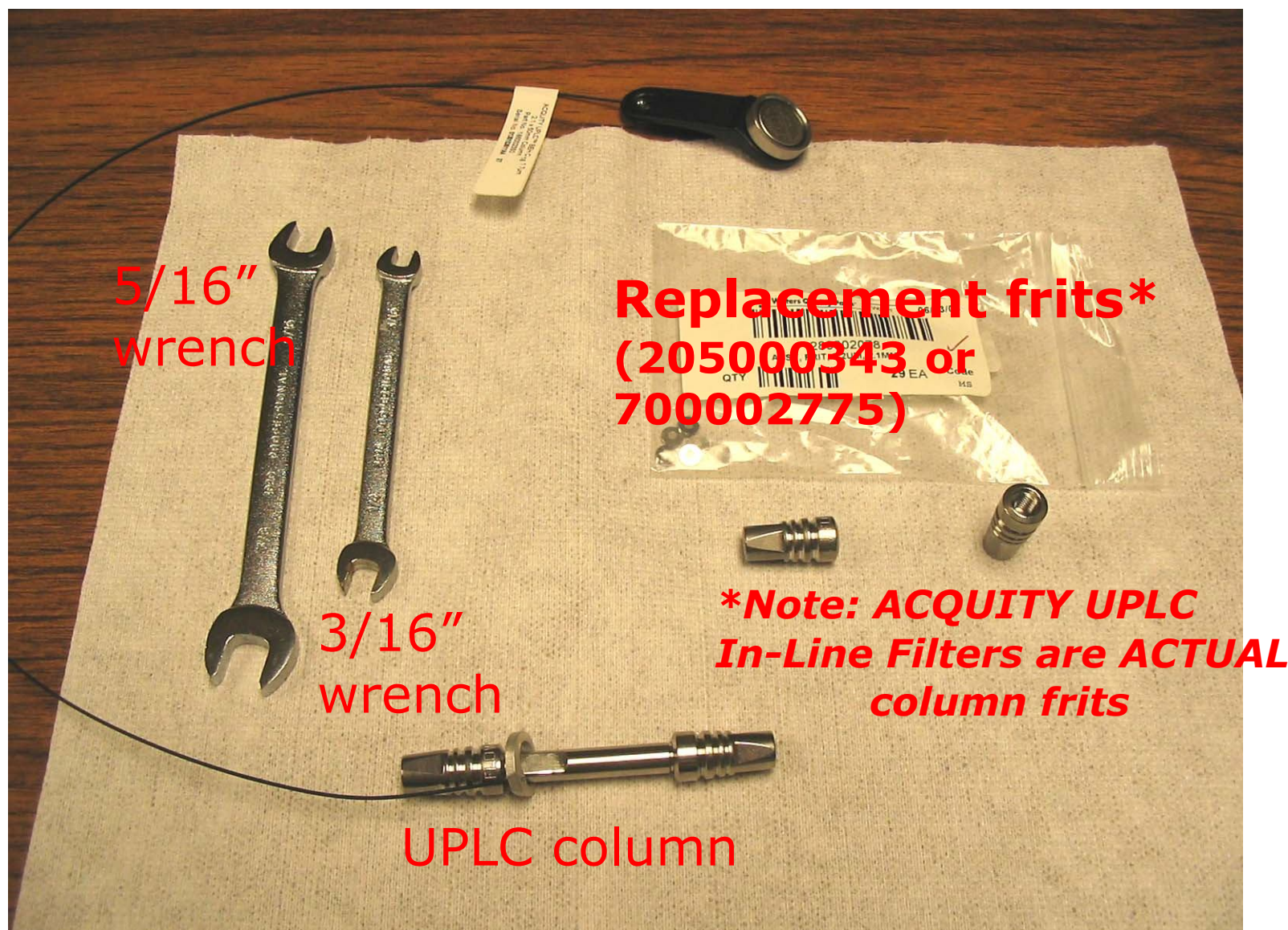


Introduction

- ACQUITY UPLC Columns Frit Replacement Procedure
 - Simple, yet valuable troubleshooting procedure designed to find location (not source) of column plugging
 - Demonstrates that the packed bed is not the problem
 - Requires 5/16" and 3/16" wrench
 - Takes only a couple of minutes
 - A simple and effective troubleshooting tool
 - Objective: Something plugged the column and the Column did not plug itself

Inlet Frit Replacement Procedure

Items Needed



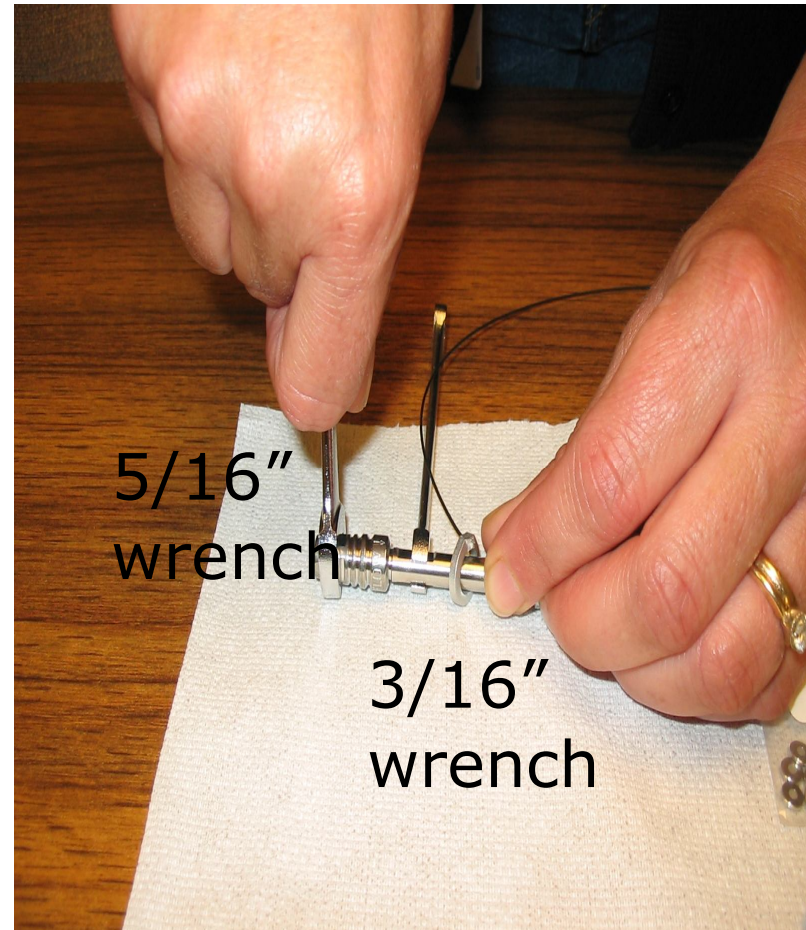
Inlet Frit Replacement Procedure

1. Remove inlet nut. The frit will be inside nut.
2. Remove frit from nut (if necessary, turn nut upside down and tap on flat surface to dislodge frit from inside the inlet nut).
3. Inspect the column sealing surface for excess material that may have escaped as the nut is removed.
4. Wipe the sealing surface of the column, do not disturb the exposed packed bed (and observe if bed is discolored or voided).
5. Place new 0.2 μm frit (from PN 205000343 or PN 700002775) inside nut.
6. Hand-tighten the assembled frit/nut onto the column.
7. Torque inlet nut to column at approximately $\frac{1}{2}$ turn past hand tightened.

Inlet Frit Replacement Procedure

Remove Inlet Nut

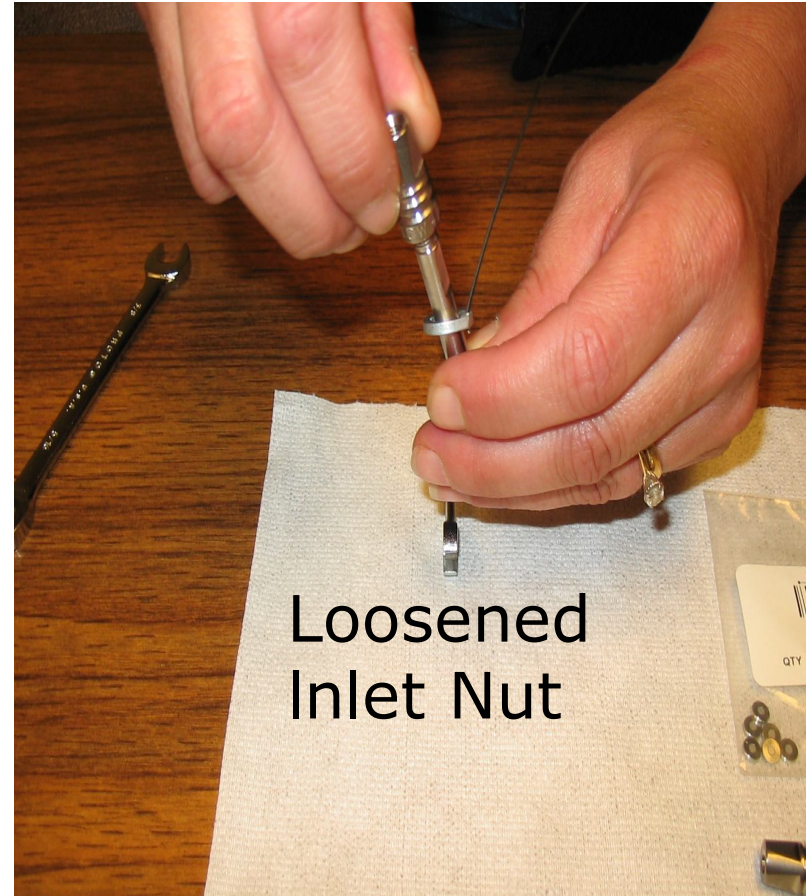
1. Lay column flat on work surface
2. Place 5/16" wrench on column end nut flats
3. Place 3/16" wrench on column tube flats
4. Turn ¼ turn counter clockwise until nut is loose
5. Do not remove inlet nut from column yet



Inlet Frit Replacement Procedure

Remove Inlet Nut

1. Remove wrenches
2. Pick-up column so that loosened inlet frit is now on top and orient column so that it is perpendicular to work surface
3. Unscrew inlet frit, taking care that no packing material falls out of column



Inlet Frit Replacement Procedure

Remove Frit From Inlet Nut

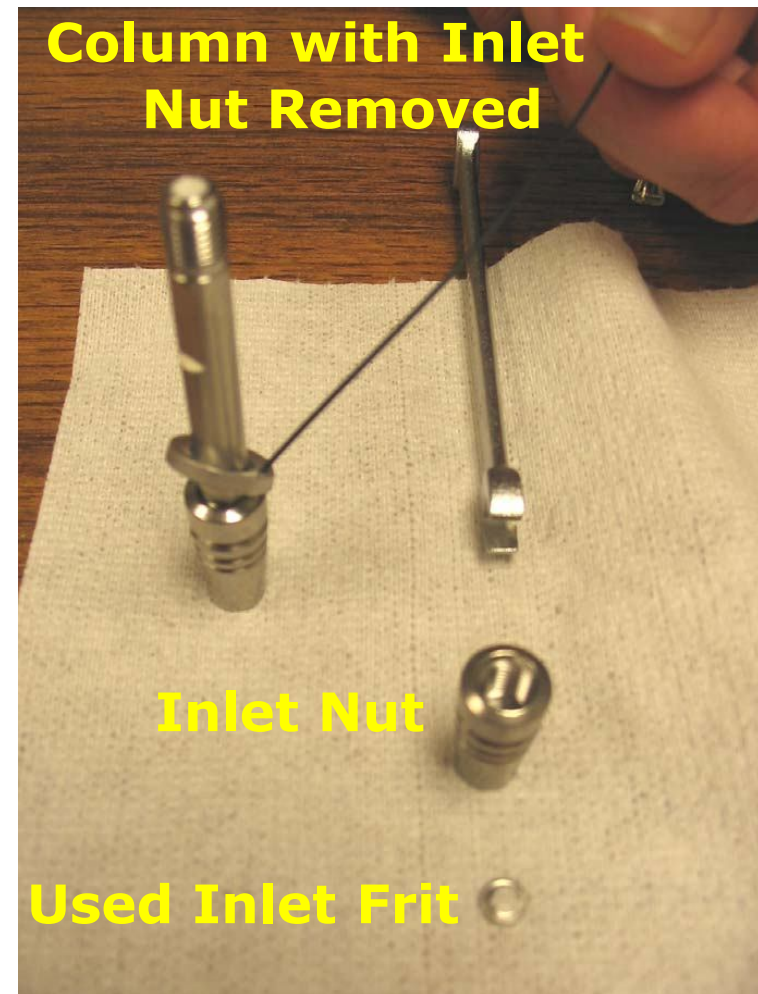
1. Remove inlet frit
2. If inlet frit is stuck inside nut, tap inlet nut on work surface until frit becomes dislodged



Inlet Frit Replacement Procedure

Inspect Sealing Surface

1. With inlet nut removed, inspect the sealing surface
2. Wipe the steel sealing surface of the column
3. Do not disturb the exposed packed bed
4. Observe if bed is discolored or voided



Inlet Frit Replacement Procedure

New Inlet Frit Installation

1. Place new inlet frit inside inlet nut

Note:

**2.1 mm ID Inlet Frit:
205000343 (kit) or
700002775 (5 pack)**



Inlet Frit Replacement Procedure

Hand Tighten Inlet Nut/Frit & Column

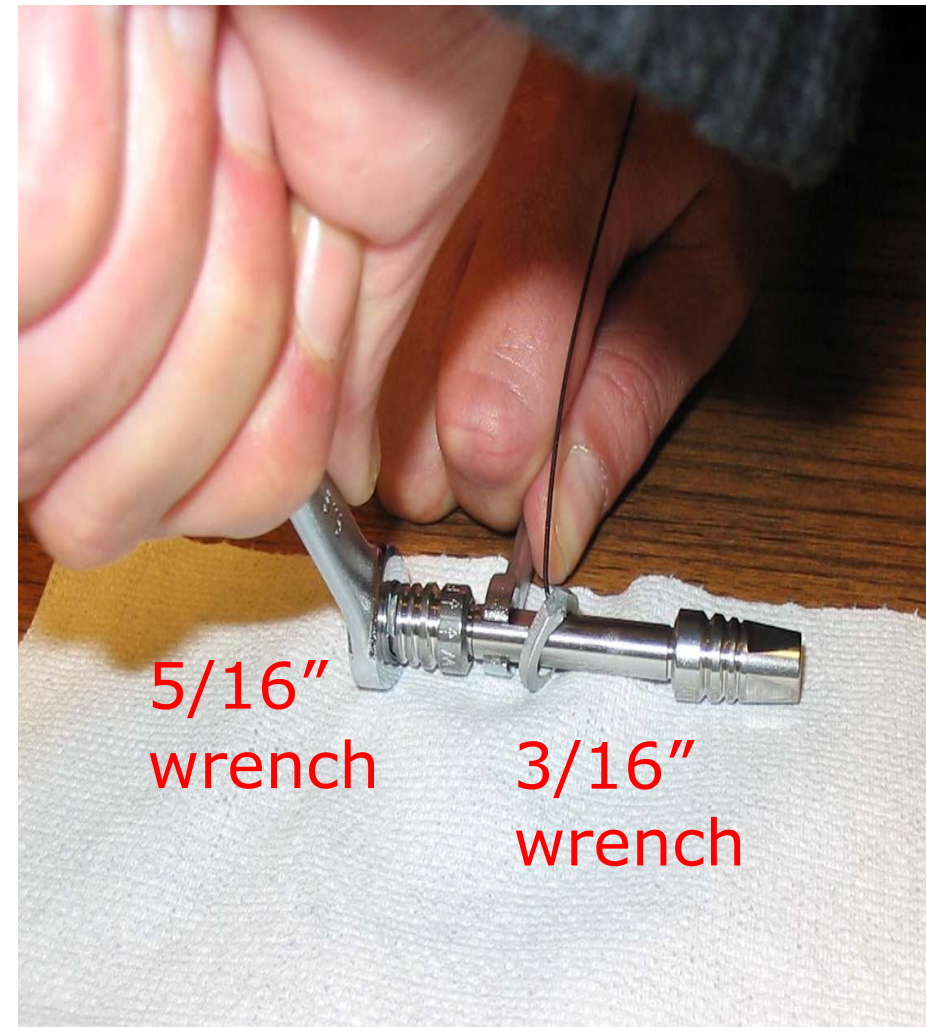
1. Pick up column
2. Place assembled inlet nut/frit onto UPLC column
3. Hand tighten



Inlet Frit Replacement Procedure

Tighten Inlet Nut/Frit & Column

1. Place 5/16" wrench on column end nut flats
2. Place 3/16" wrench on column tube flats
3. Tighten assembled inlet nut/frit and column approximately 1/2 turn past hand tightened



Inlet Frit Replacement Procedure

Tighten Inlet Nut/Frit & Column

