

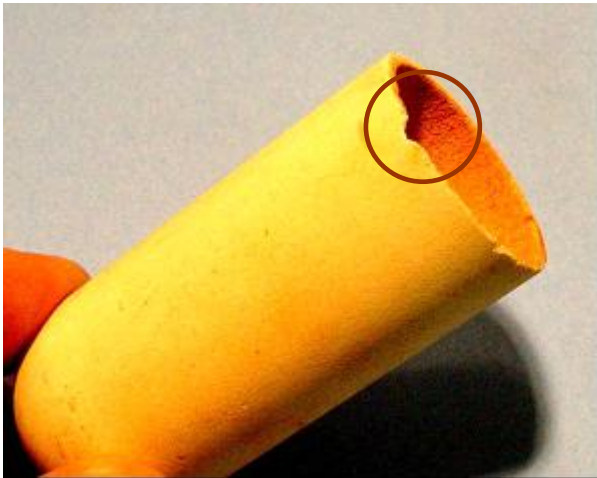
Tip of the Week

January 10, 2005

Things about Method 17 that you should know...

...but were afraid to ask

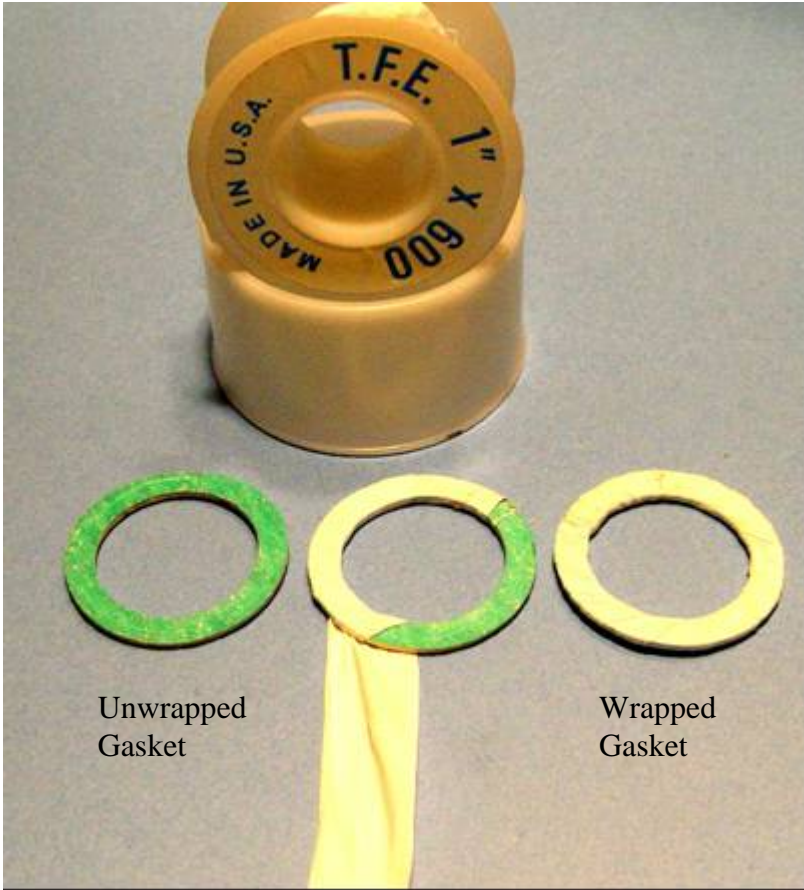
1. Always inspect the top of the thimble before use.
2. Prior to assembling the sampling train, pre-wet the inner surface of the gum rubber sampling line to minimize subsequent absorption of sample moisture.
3. After the pre-test leak check, verify that you can pull gas at the expected sampling rate. Replace the thimble if you cannot and try again.
4. Filter/thimble holders should be preheated prior to the test run. Place them into the gas with the nozzle pointed away from the flow for a minimum of 10 minutes prior to the start of sampling.
5. Preventing Leaks
Duct Temps $\leq 400^{\circ}\text{F}$
 - Wrap the thimble gasket with Teflon tape. This helps seat thimble.
 - Tighten stirrup by hand and snug with pliers. You want to make sure it is tight enough so that thermal expansion does not cause a leak, but you also do not want to crush the thimble by over-compressing the assembly.Duct Temps $> 400^{\circ}\text{F}$
 - Do not use Teflon tape
 - Remove Teflon thrust ring inside Gelman ring.
 - Replace Viton gasket in Gelman with a metal shim.
 - Replace regular thimbles with short thimble and spring loaded stirrup system.
 - Consider placing the holders into the duct to heat up, then remove and re-tighten prior to leak-checking.
 - Loosen holders immediately after final leak-check to prevent seizing of the components when they cool.
6. Vertical sampling ports require the use of a “Shepard’s Hook” on the end of the probe to orientate the thimble/filter holder upward. When assembling the sampling probe, orientate the thimble/filter holder between the Pitot tubes and Shepard’s Hook, and make sure that the pitots or Shephard’s hook do not interfere with the nozzle.
7. Anytime you remove the probe from the duct, make sure you keep the nozzle opening pointed slightly upward to prevent loss of sample.
8. After the final leak-check and removal of the filter holder, elevate the front-end of the probe and turn on the sample pump. This helps to drain any moisture captured in the “dryer” and probe. Walk-down the sampling line from probe to the impingers or knock-outs prior to turning off the sampling pump.

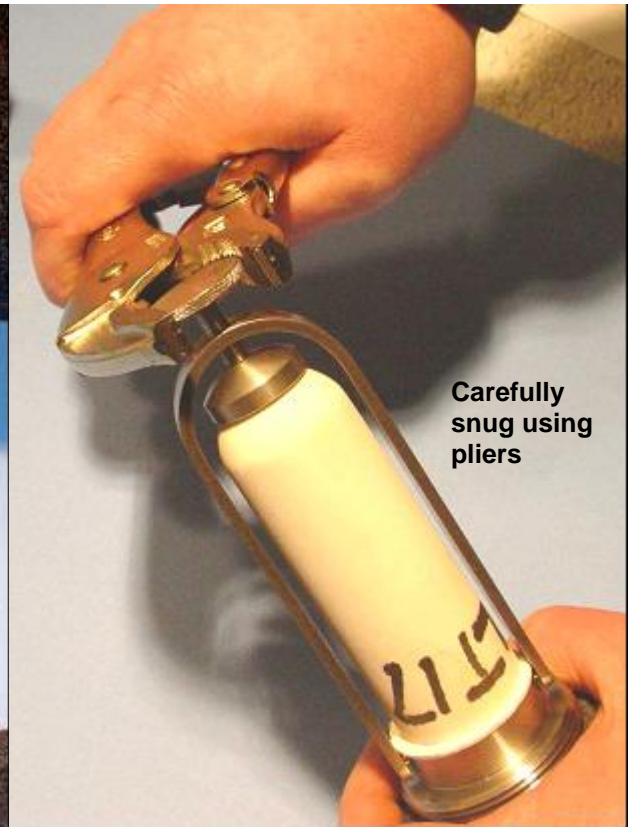
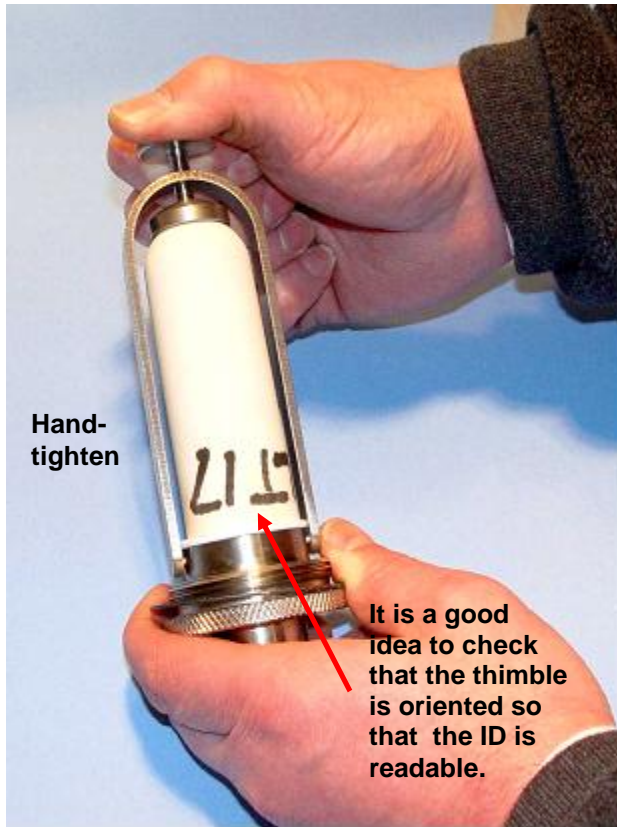


Chipped thimble will not seal completely



Acceptable thimble



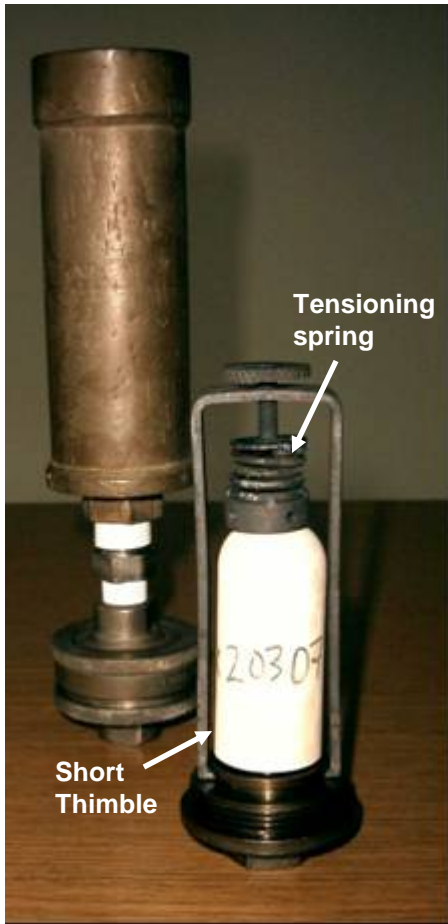




Removal of Teflon gasket from Gelman holder for high temperature applications



Replace Viton gasket with metal shim in high-temperature applications.

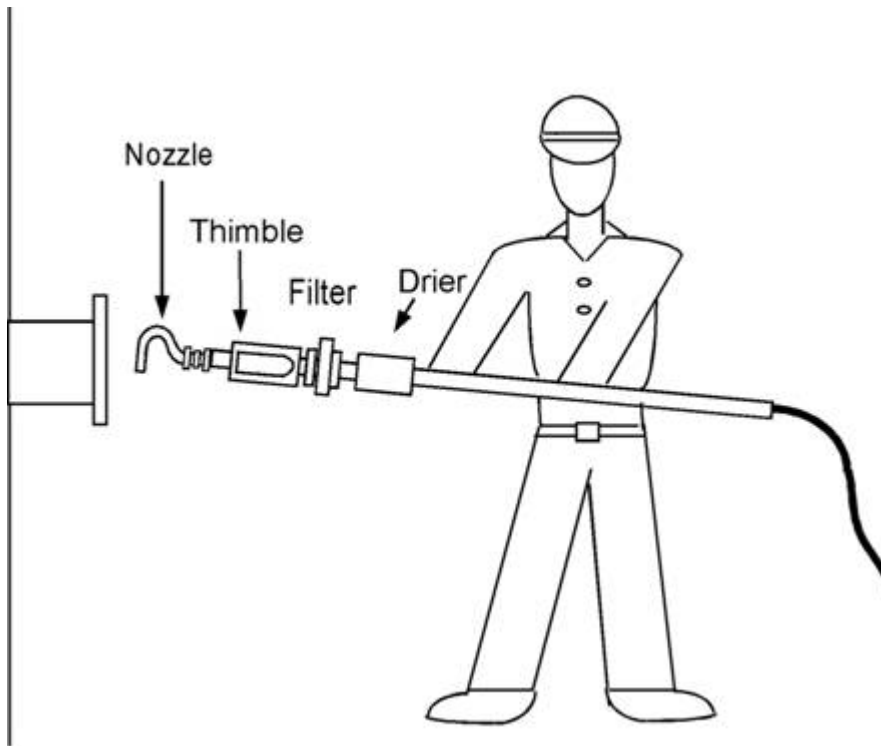




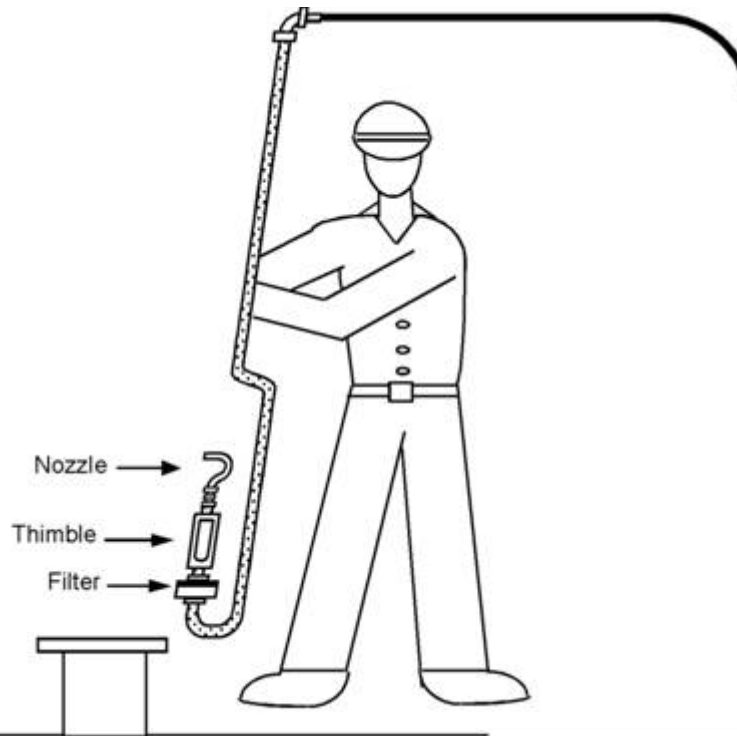
Shephard's Hook for sampling in vertical ports



**Proper orientation of nozzle
relative to shephard's hook
and pitot tube**



Removing probe from a horizontal port, with nozzle opening tilted up.



Removing probe from a vertical port, with nozzle opening tilted up.



Dryer for EPA Method 17. Place between probe and filter holder to prevent condensate from draining into filter holder from the probe.