915J Continuous Mercury Monitor
Preventative Maintenance Checklist
Quarter 4 / Annual

Company/Plant | _____ Date | _____

Unit Serial Number | _____ Service Performed by | _____

☐ Probe and Umbilical Line |
- ☐ Check probe and umbilical line for proper heating
- ☐ Clean probe

☐ Probe Head |
- ☐ Check for proper heating of all components
- ☐ Replace total scrubber MT-001
- ☐ Replace elemental scrubber MT-002D
- ☐ Clean and sonicate titanium filter MT-010
- ☐ Clean filter housing & lid assembly MT-035, MT-009
- ☐ Inspect Viton O-rings in filter lid assembly MT-004. Replace if necessary.
- ☐ Inspect Teflon lines and replace if discolored or damaged. If any line from speciation valve is discolored, clean valve MT-030
- ☐ Inspect Viton gaskets & replace if needed (in dilution block & bypass block) MT-024, MT-025
- ☐ Inspect Viton gasket between probe and head MT-016

☐ Console |
- ☐ Check for proper heating
- ☐ Replace pre-analyzer scrubber MT-005D
- ☐ Inspect air/sample lines - replace if discolored
- ☐ Replace zero mercury filter MT-003
- ☐ Replace pre-analyzer particulate filter MT-037

☐ Enclosure |
- ☐ Check for proper heating & cooling
- ☐ Inspect and clean air conditioner condensate management system (pan, drain nipple, tubing)
- ☐ Clean air conditioner cabinet
- ☐ Replace air conditioner filter MT-059
- ☐ Replace air system filter elements MT-041 (x2)
- ☐ Inspect air dryers: check cycle timer, desiccant towers, solenoid valves, purge mufflers, and filters
- ☐ Replace air system filter elements MT-014, MT-015

ADDITIONAL NOTES

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915J Continuous Mercury Monitor
Parts & Consumables List
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	PART NUMBER	PART NAME
	MT-001	Scrubber 1 (Total Scrubber)
	MT-001 Reload	Reload service of Scrubber 1 (Total Scrubber
	MT-002D	Scrubber 2 (Disposable Elemental Scrubber)
	MT-010	Probe filter element 2Um Titanium (with 2 Viton gaskets MT-081)
	MT-035	Filter Holder/Lid Assembly
	MT-009	Probe Tube, Filter Block Cleanout Kit
	MT-004	Filter Lid O-Rings (set of 2)
	MT-030	Stainless Steel Solenoid Valve (V4)
	MT-024	Set of Viton Gaskets for Dilution Block
	MT-025	Set of Viton Gaskets for Bypass Block
	MT-016	Suction Tube for Dilution Block 100:1 (Orifice and Gaskets installed)
	MT-005D	Scrubber 3 (Disposable Pre-Analyzer Scrubber)
	MT-003	"Zero" Hg Filter

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	PART NUMBER	PART NAME
	MT-037	Pre-Analyzer Particulate Filter
	MT-059	Ice Qube AC Filter - Manufacturer's Part No. POF1030
	MT-041	Air Supply Zero Filter
	MT-014	Coalescing Filter Element
	MT-015	Particulate Filter Element

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915J Maintenance Guide

Quarter 4 / Annual

Last Update: 10/02/2020

915J maintenance consists of 3 primary components: head/probe, console, enclosure

Head/probe:

Console:

Enclosure:

Begin by confirming proper heating of all temperature controllers:

- Interior Temp: 45.0 ± 0.1
- Sample Heated Line: 100.0
- Heated Probe Tube:300.0
- Heated Converter: 560.0
- Heated Filter: 180.0 ± 20.0

Confirm pressures/flow/vacuum on gauges

- Dilution: ~60 psi
- Bypass: ~15 psi
- Vacuum: ~20 inHg
- Analyzer Vent: >6 L/min

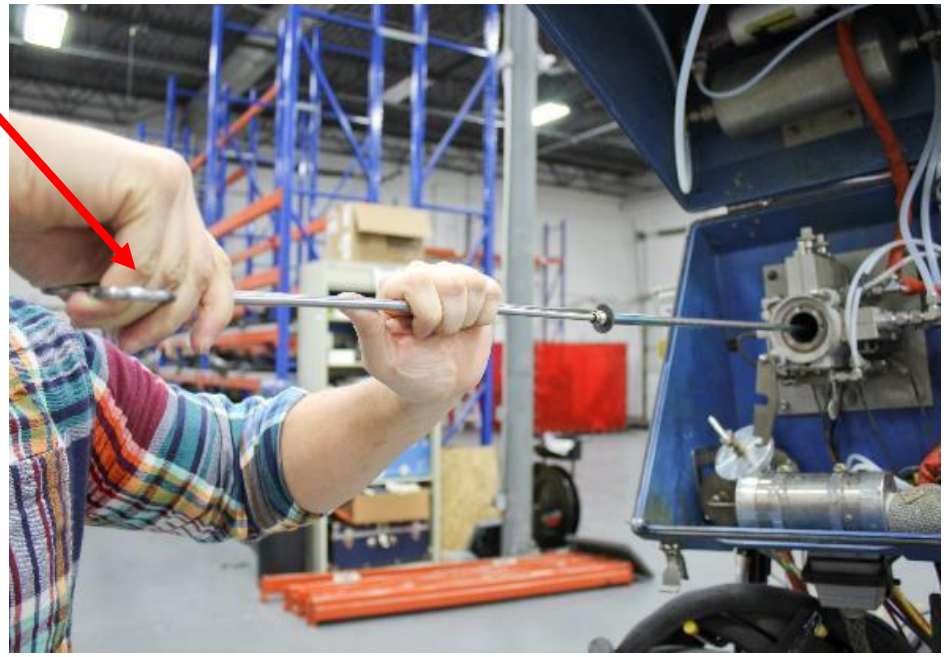
Head Maintenance

Before beginning work on the head, make sure to pull the Service Button on the bottom center of the console to cut air to the system!

Head Maintenance

Replace/clean the probe insert/liner (use rifle cleaner or allthread)

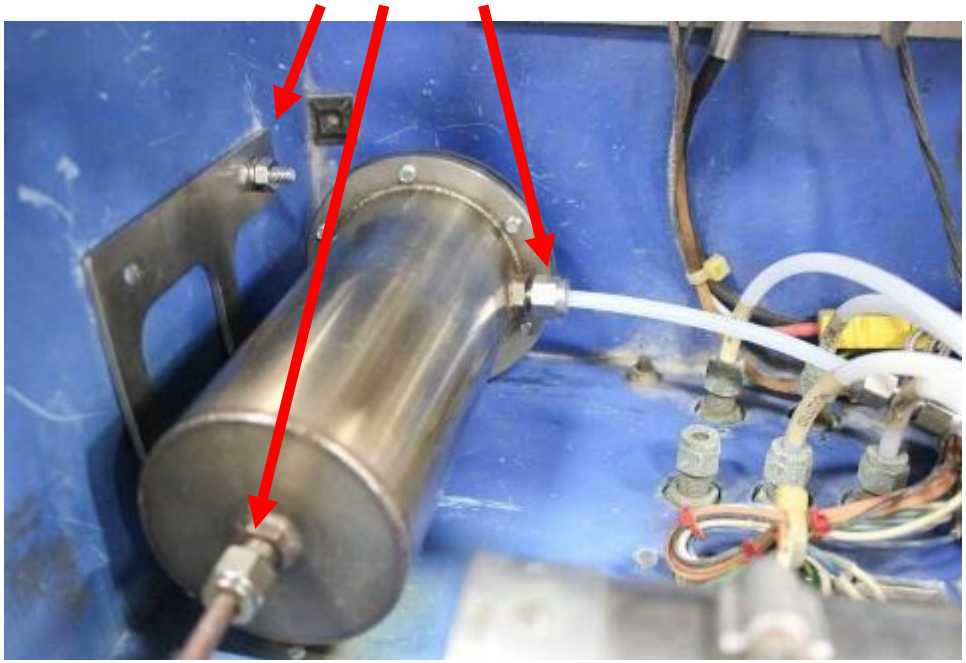
Forceps needed to remove liner if one is present



Head Maintenance

Replace Total Scrubber (MT-001)

Loosen Here:



Replace Elemental Scrubber (MT-002)

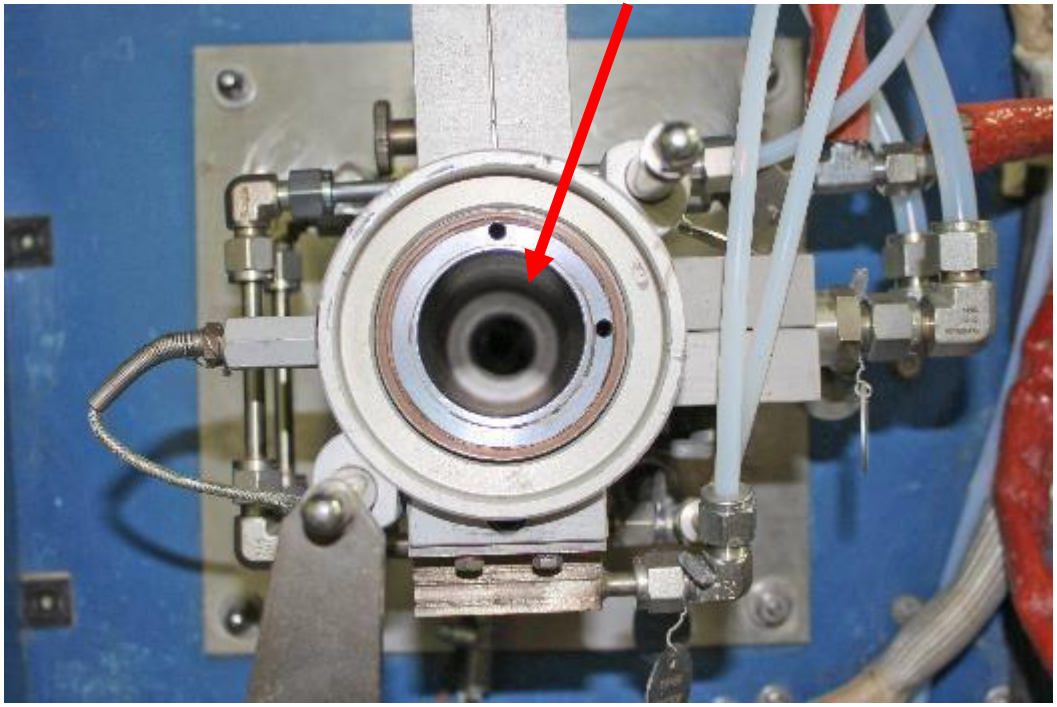
Loosen Teflon lines here:

Head Maintenance

Replace/Clean Titanium Filter (MT-010)

Inspect/Clean Filter Housing

Use cloth to remove any particulate in here



Head Maintenance

Inspect Viton O-rings (MT-004) in filter lid assembly

Gently Pre-stretch O-rings to ensure proper seating

Head Maintenance

Inspect Viton O-rings (MT-004) in filter lid assembly (cont…)

Gaskets not stretched and improperly seated:

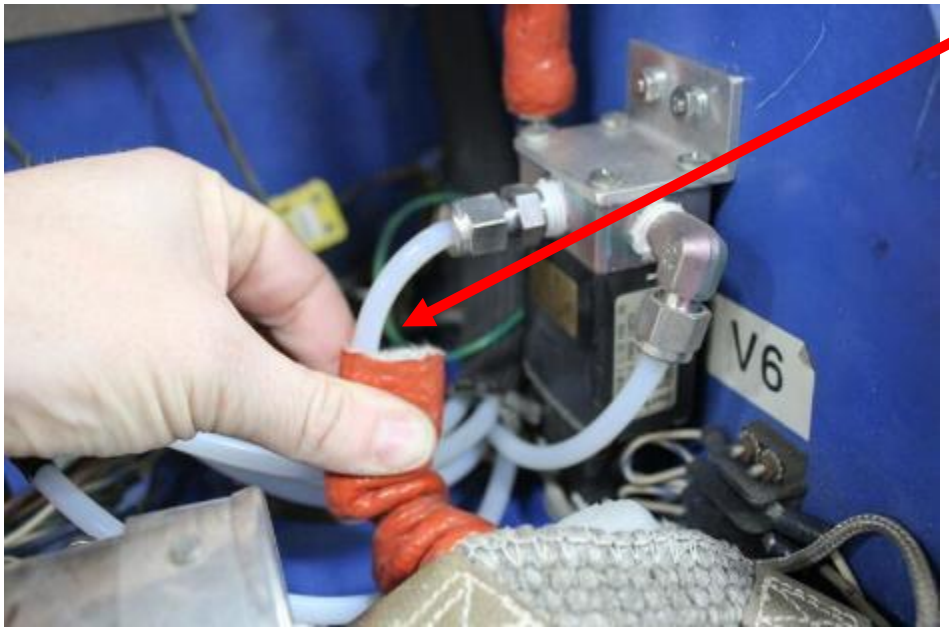
Gaskets properly stretched and seated:

Head Maintenance

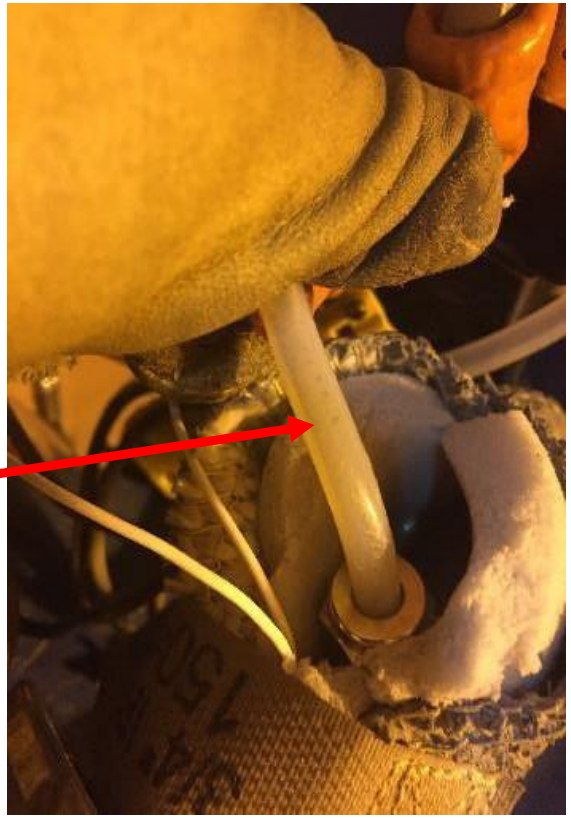
Inspect Teflon lines and replace if needed

(Look for discoloration, moisture, leaking, etc.)

Pay special attention to line from solenoid to total converter:



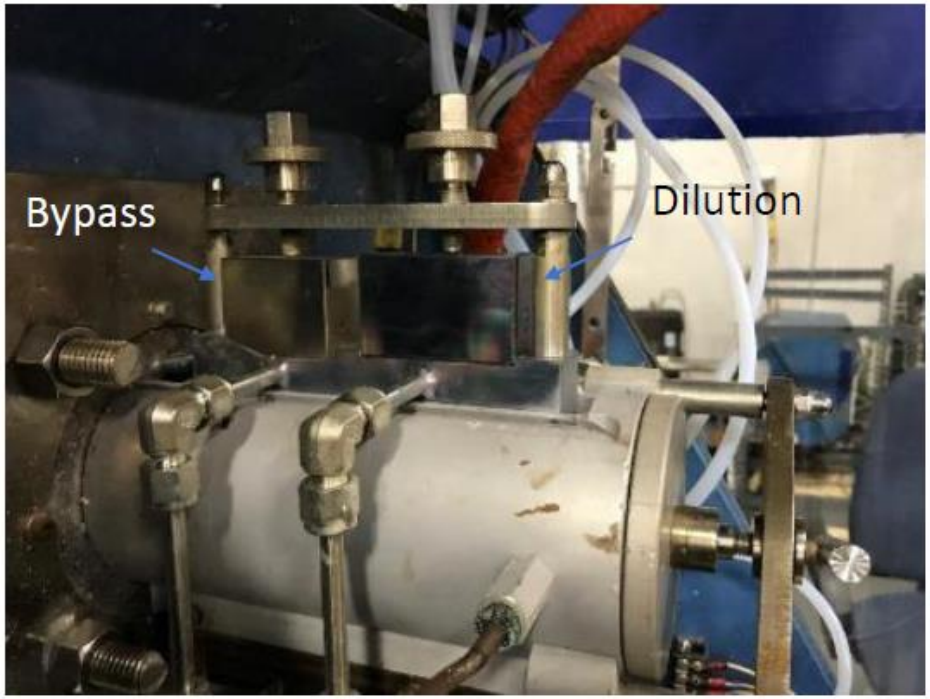
Needs replaced
(Moisture, particulate)



Head Maintenance

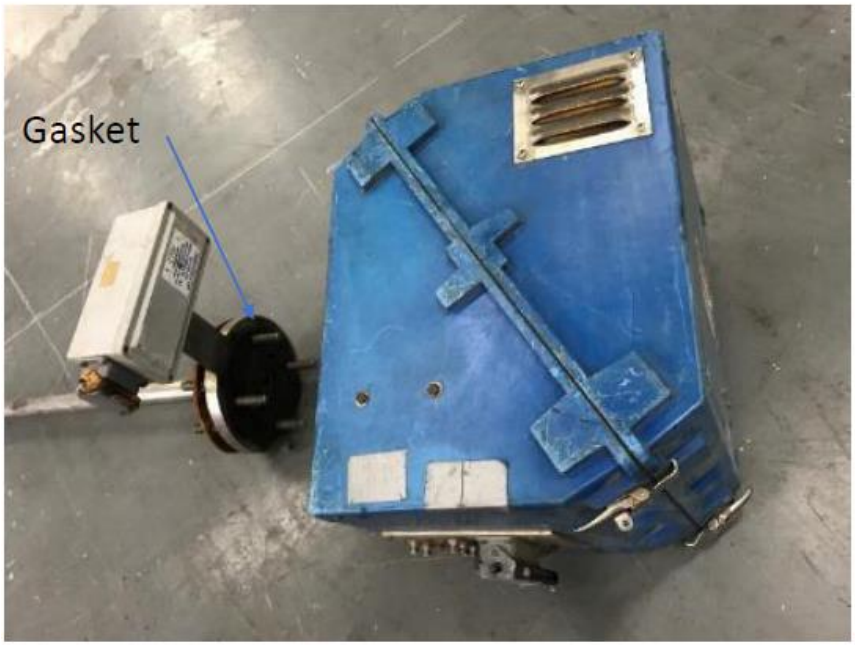
Inspect Viton O-ring on the Dilution and Bypass Blocks. Replace if worn.
Dilution set MT 024, Bypass set MT 025.

The Dilution Block has a Silco Coating on it to prevent the metal from reacting with Mercury.



Head Maintenance

Separate the Probe Head from the Probe and
check the condition of the black Viton gasket
between them. Replace if worn (MT 016)



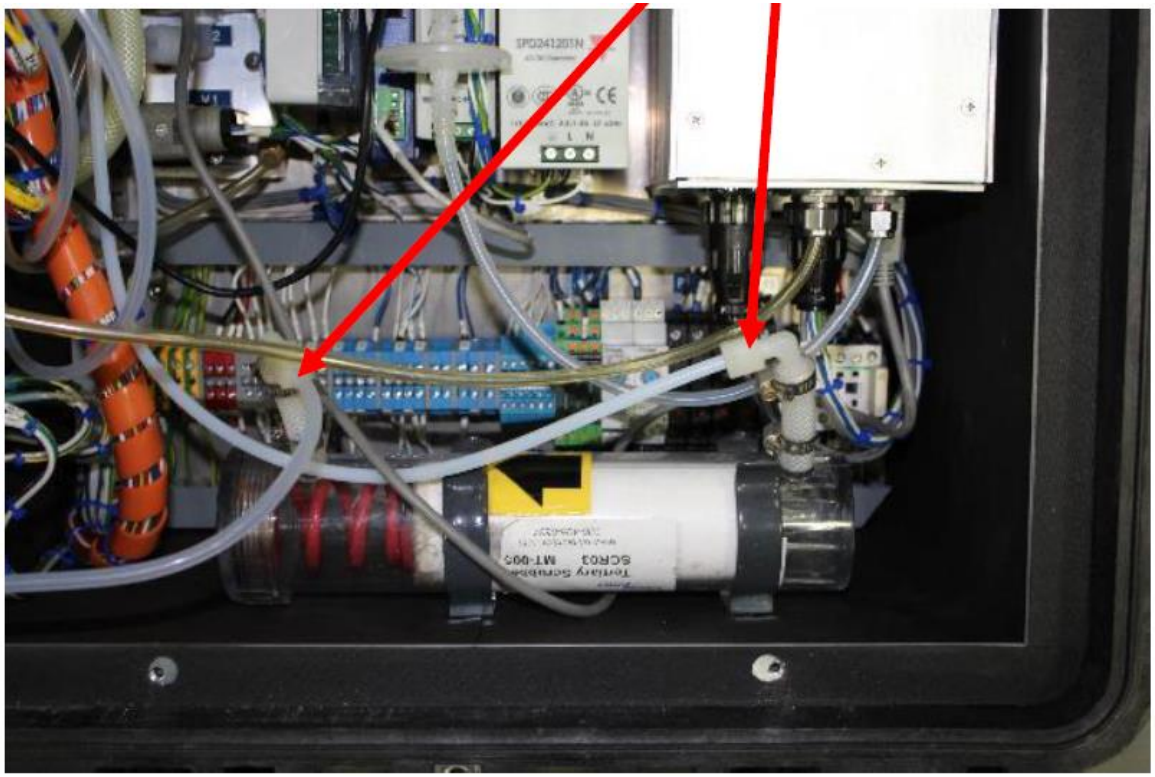
Viton gasket between the Probe and Probe Head.
Mind the Bypass exhaust port when installing.

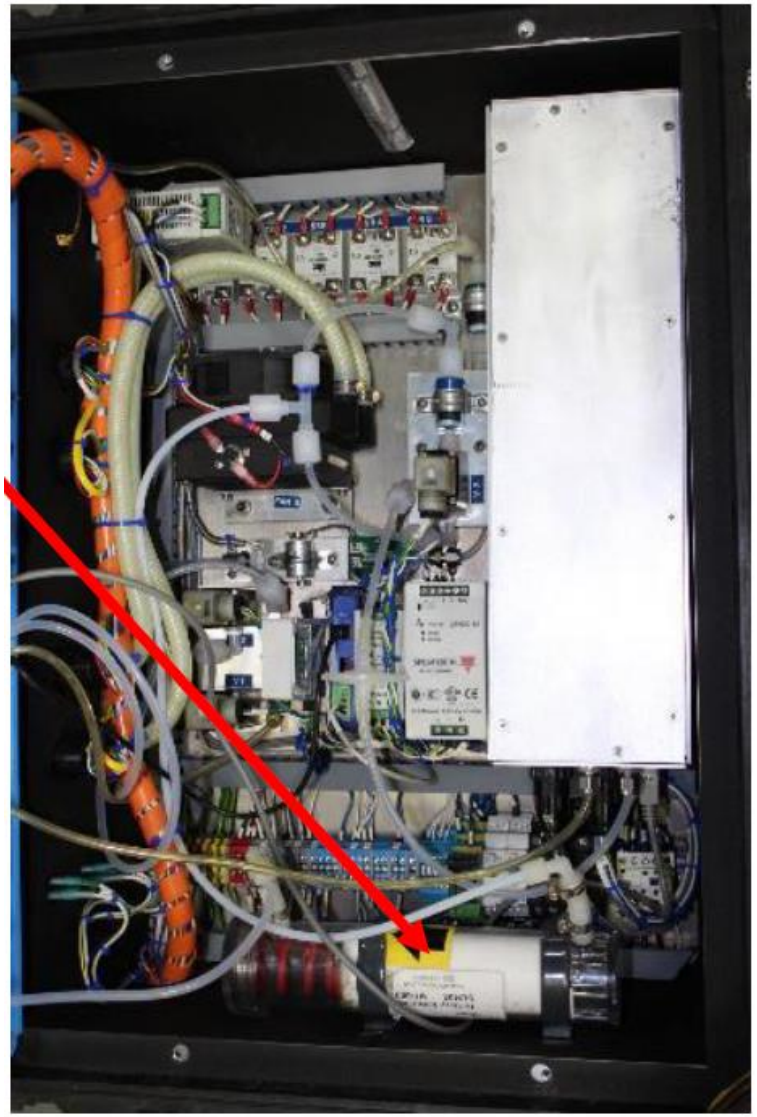
Head Maintenance Complete

Turn air back on by pressing the Service Button back in

Console Maintenance

Replace Pre-Analyzer Scrubber (MT 005)

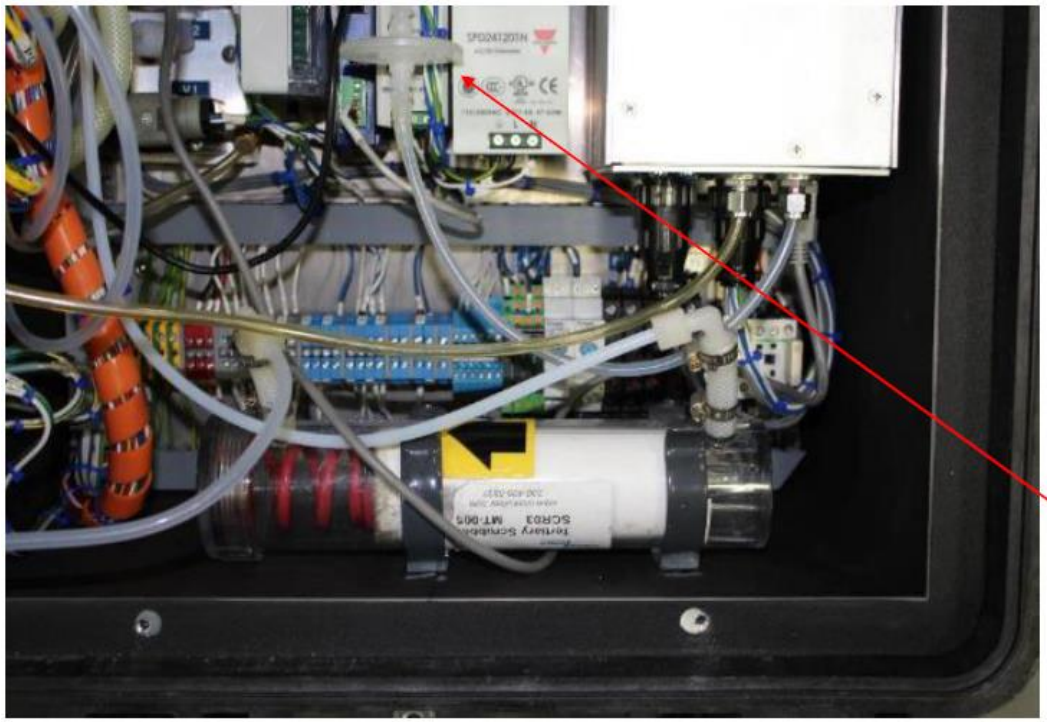




Console Maintenance

Replace the Zero Hg Filter (MT-003)
Replace the pre analyzer particulate filter (MT-037)

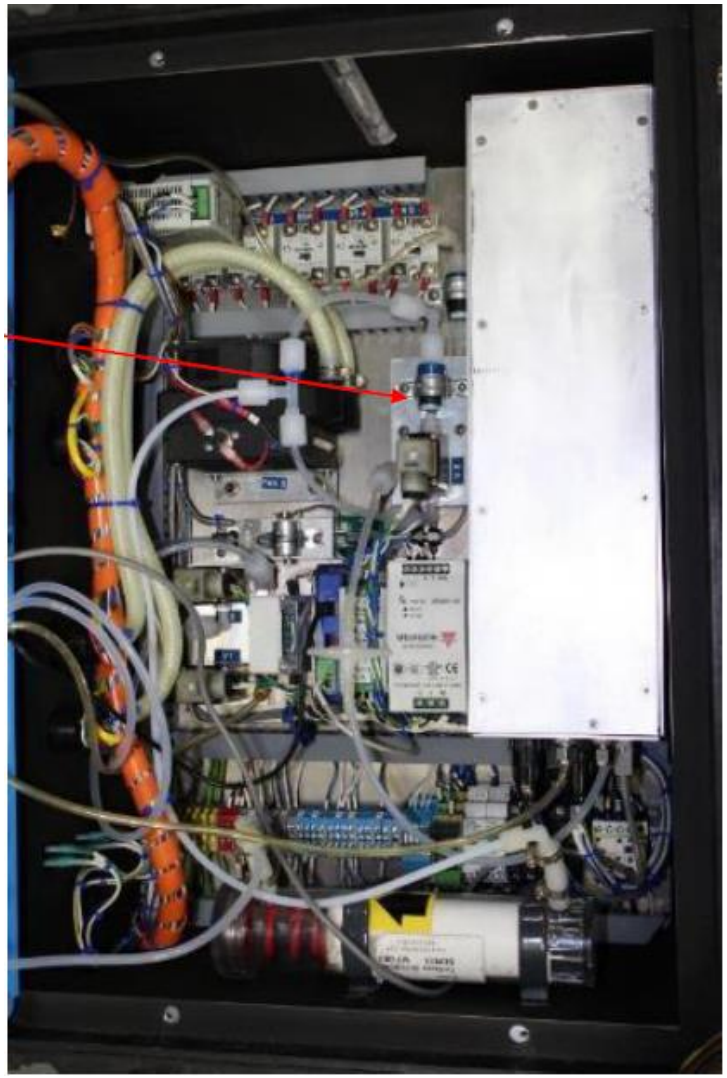
Both are located inside the console



Zero Hg Filter

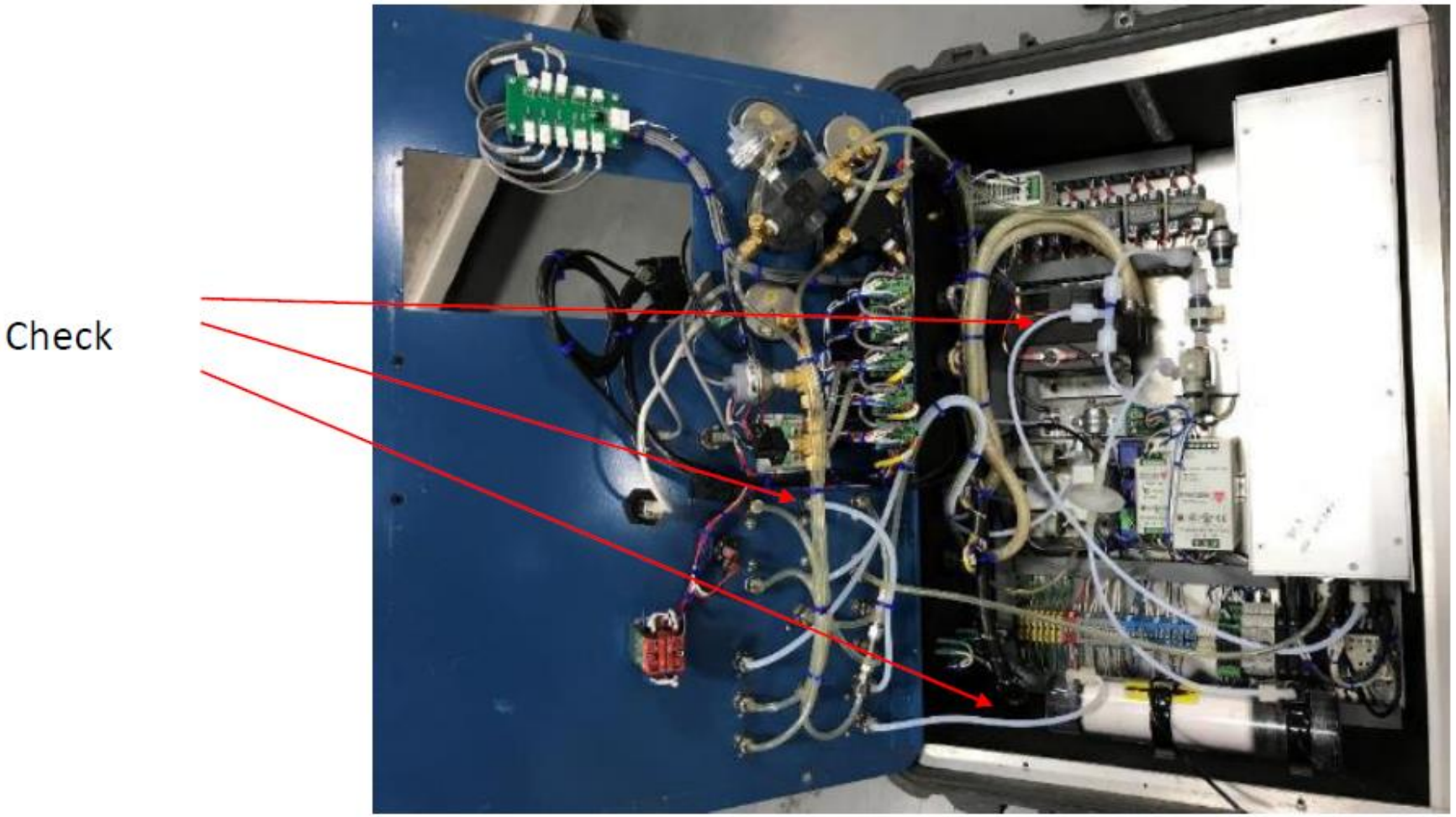
Pre-analyzer

Particulate Filter



Console Maintenance

Check all pneumatic line for contamination.
Replace if contaminated.



Enclosure Maintenance

Replace Air Supply Zero Filters (MT-041)

Enclosure Maintenance

Replace Air Supply System Filter elements (MT 014 and MT 015)

Air Supply System

Air Supply System with covers removed

MT-014 MT-015

A/C Maintenance

Confirm proper heating/cooling

- Inspect/clean AC filter
- Inspect and clean AC condensate pan, drain, tubing
- Clean AC cabinet

Replace/Clean AC filter here:

Completing Maintenance

- After all maintenance, complete, ensure all temperatures and pressures have returned to their expected ranges.

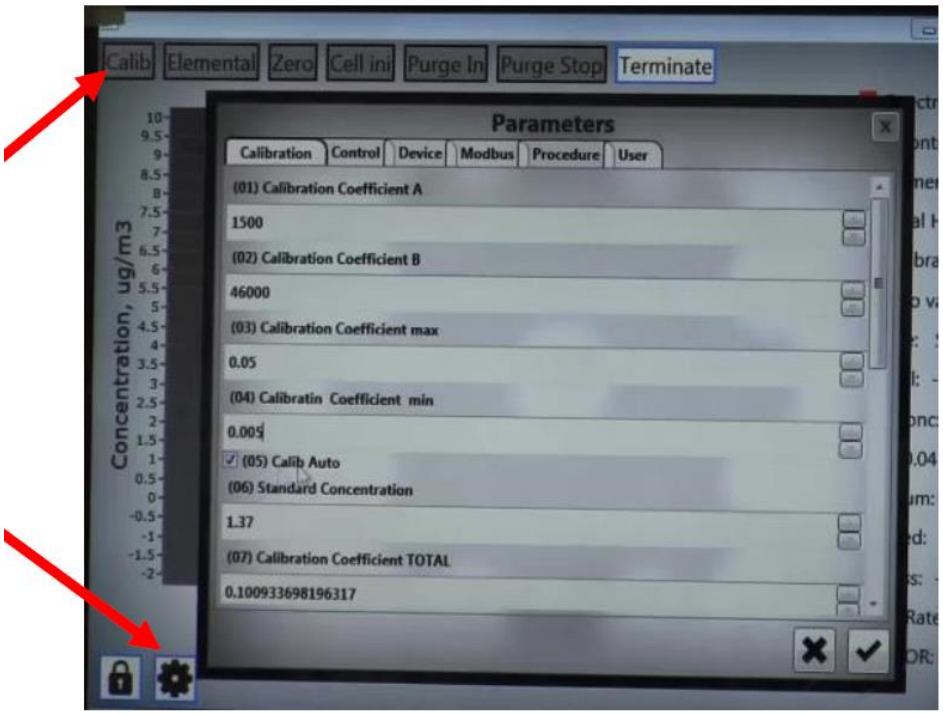
- Be sure to allow the system a minimum of 12 hours to recover from this maintenance.

- Once the system has recovered, it is advisable to run a set of 30B sorbent traps to confirm the readings. A typical run would consist of a 60-minute duration at 500cc.

- Compare the trap data to the 915J Hg total concentration over that time. Adjust calibration coefficient as needed

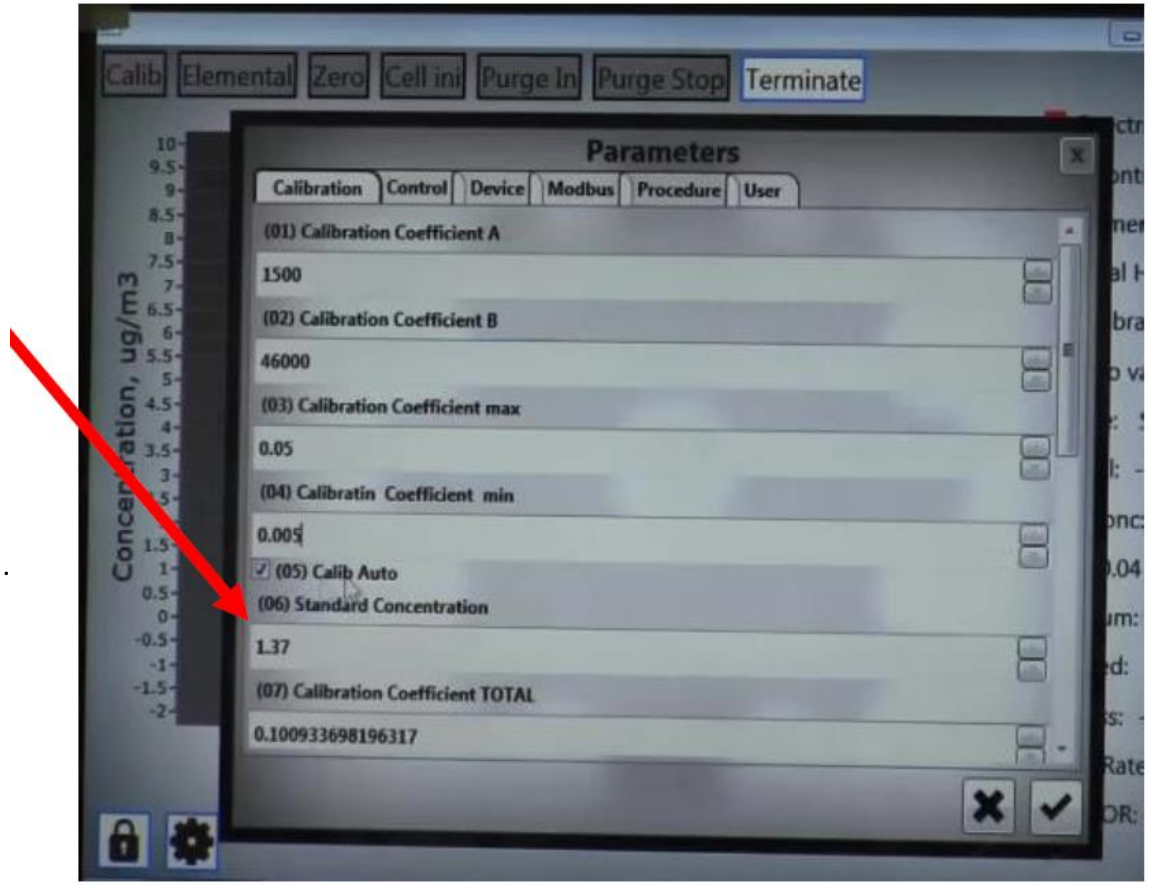
Completing Maintenance

- If an adjustment is made, the standard concentration will need to be adjusted as well.
  - To do this, click the “calib” button in the top left of the software.
  - Once the calibration has reached a steady average, click the gear icon to open a window.



Completing Maintenance

- Adjust the Standard Concentration to match the current average in calibration mode.
- Note: this adjustment can only be performed while system is in calibration mode.
- Confirm the calibration coefficient is still at its expected value from before the calibration gas used.



Your maintenance is now complete.