

# ThermoFisher

## SCIENTIFIC

Title: Trace 1300\_1310 and 1600\_1610 PM Checklist

Number: ULS-DRS-PMC-0136

Revision: 006

**It is ultimately the responsibility of the Service Representatives to confirm this document is current prior to use. After 90 days, this copy is not to be used unless confirmed that it has not been superseded, or otherwise gaining written approval (pre-approval form or email) from the customer that this document remains suitable for execution.**

Effective Date: 12 Jul 2022

## CHANGE SUMMARY

(Only changes within the last 18 months are listed below.)

Revision Number	Effective Date	Description of Changes
006	See coversheet	<ul style="list-style-type: none"><li>Updated to include Trace 1160/1610, AI/AS 1610 and TriPlus RSH Smart information.</li></ul>

Company:		Equipment Manufacturer:	
Customer Contact Name:		Model:	
Engineer Name:		Serial #:	
SAP Notification/Job #:		System Reference ID:	
Procedure(s) utilized:		Decontamination:	<input type="checkbox"/> Yes <input type="checkbox"/> Not required
		Date Performed:	
<b>Parts Included in PM : "In" Optional Spare Parts (Chargeable) : "Ch"</b>			
<b>Initial Checks by Customer</b>	Yes	No	
Are all data on storage devices archived?	<input type="radio"/>	<input type="radio"/>	Computer
Is there an up to date calibration mixture available from the customer?	<input type="radio"/>	<input type="radio"/>	Operating System
<b>Initial Checks by Field Service Engineer</b>	Yes	No	
Remove the dust from GC top fan and main module fan	<input type="radio"/>	<input type="radio"/>	Software Version
Check GC battery voltage (if present)	<input type="radio"/>	<input type="radio"/>	Software Version
For Trace 1600 1610, Check oven lamp operation	<input type="radio"/>	<input type="radio"/>	Serial # (oven)
Update firmware if required	<input type="radio"/>	<input type="radio"/>	Serial # (other)
Run and evaluate on board diagnostics	<input type="radio"/>	<input type="radio"/>	<b>Inlets – SSL</b>
Run SOP based on GC configuration or Run Customer standard Sample and check results	<input type="radio"/>	<input type="radio"/>	<b>In</b> Use maintenance kit P/N 19050770
Backup auto sampler Configuration before PM (if TP RSH or TP RSH Smart or TP100 present)	<input type="radio"/>	<input type="radio"/>	Remove column and cut first 10cm
Leak check gas supply lines	<input type="radio"/>	<input type="radio"/>	Replace Septum and Liner
Check/Replace gas supply filters	<input type="radio"/>	<input type="radio"/>	Replace Base Seal
<b>Data System</b>	Yes	No	<b>Ch</b> Replace column ferrule
Checked operation of all cooling fans	<input type="radio"/>	<input type="radio"/>	Install column and enter column parameters
Checked operation of disk drive	<input type="radio"/>	<input type="radio"/>	Check purge and split flows
Checked operation of hard disk	<input type="radio"/>	<input type="radio"/>	<b>Inlets – PTV</b>
Checked operation of printer (print test page)	<input type="radio"/>	<input type="radio"/>	<b>In</b> Use Maintenance kit P/N 19050780
<b>Inlets – TSI Injector</b>	Cleaned	Replaced	Checked
Remove column and cut first 10cm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Ch</b> Replace septum and liner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> Replace, liner seal, silver seal and terminal fitting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> Replace Split Line Filter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Ch</b> Replace Column Ferrule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install column and enter column parameters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check purge and split flows	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Detectors – FID (if present)</b>	Cleaned	Replaced	Checked
<b>In</b> Use maintenance kit P/N 19050776	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Replace ceramic jet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Ch</b> Clean collecting electrode (Replace if required)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Ch</b> Replace column ferrule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Replace the two ceramic insulators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
			<b>Detectors – NPD (if present)</b>
			<b>In</b> Use maintenance kit P/N 19050777
			Replace jet
			Replace collector and insulator
			Record the current value
			Check the make-up flow/air flow/H2 flow
			<b>Ch</b> Replace column ferrule

Check ignition assembly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>Detectors – FPD (if present)</b>	Cleaned	Replaced	Checked
Check Air/H2/Make up flow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
<b>Detectors – TCD (if present)</b>	Cleaned	Replaced	Checked	<b>In</b> Use maintenance kit P/N 19004589	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Replace O ring on multiplier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remove and clean the terminal fitting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Replace heat shield	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check the make-up flow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check/Clean Optical Filter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Ch</b> Replace column ferrule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>Ch</b> Check multiplier (Replace if required)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Detectors – ECD (if present)</b>	Cleaned	Replaced	Checked	<b>Ch</b> Replace Column Ferrule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Check/Adjust the Air and H2 flows	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> Use maintenance kit P/N 19050779	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>Detectors – PDD (if present)</b>	Cleaned	Replaced	Checked
Replace the anode collector (service only if absolutely necessary)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check calibrated restrictor flow (30ml with 60psi/ 413KPa inlet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Replace seal on anode collector (service only if absolutely necessary )	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check internal/external leak test	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Ch</b> Replace column ferrule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>Triplus 300 HS (if present)</b>	Cleaned	Replaced	Checked
Check the make-up flow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check Firmware version	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Auto Sampler Functional Tests</b>	Cleaned	Replaced	Checked	Check Tray/Arm Alignment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restart instrument and check communications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check Valves Movement (V1,V2,V3,V4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check operation of cooling fans if present	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>In</b> Replace Needles (Sample/Transfer line)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Run and check diagnostics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Perform a leak Check	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Run standards and check results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Initialization/Communication/functional check	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Run SOP in accordance with GC configuration (injector/detector)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>Triplus 500 HS (if present)</b>	Cleaned	Replaced	Checked
Check Belts for wear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check Firmware version	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>AI/AS3000 – AI/AS1310 – AI/AS1610 (if present)</b>	Cleaned	Replaced	Checked	<b>In</b> Replace Needle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clean optical sensor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>In</b> Replace carrier/aux line filters and O-rings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> Check/Replace syringe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Run 10 vials functional test for Triplus 500 Vial Loader (If Installed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> Replace Elastic in turret	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Perform a leak check	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initialize Autosampler	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Initialization/Communication/functional check	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Checked Firmware and update as required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>CTC Combi-PAL (if present)</b>	Cleaned	Replaced	Checked
<b>Triplus Classic / RSH / RSH Smart / 100 LS (if present)</b>	Cleaned	Replaced	Checked	Injection unit- clean and lubricate and replace tension cords	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check configuration/communication AS/HS/SPME	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Where applicable- replace driver belt, check gas flush line integrity on oven agitator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> For HS and SPME- Replace driver belt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Check and adjust all object positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> For HS – Replace Syringe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Flush syringe (as needed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>In</b> Replace Syringe (Liquid Injection)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Restart and check for errors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check and adjust all object positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
Flush syringe (as needed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
Restart and check for errors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
Backup firmware after PM (PAL Loader)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				

Measurement & Test Equipment			
Calibration Date:	Next Due Date:	Make/Model:	Identification #:
Comments:			
Field Service Representative Signature:		Customer Signature:	
Date: <input type="text"/> <i>Date not required if using Digital Signature</i>		Date: <input type="text"/> <i>Date not required if using Digital Signature</i>	