



GC Maintenance Schedule

**Quick Guide for Agilent GC
System Maintenance**



Agilent Technologies

GC System Recommended

Gas Management

ITEM	TYPICAL SCHEDULE	ACTIONS/COMMENTS
Gas purifiers (carrier gas and detector gas)	Every 6 to 12 months	Replacement schedule is based on capacity and grade of gases. In general, replace non-indicating traps every 6 to 12 months or when indicating traps start to change color. Replace indicating traps when indicating material is spent.
Split vent trap	Every 6 months*	Replace.
Flowmeter calibration	Every 1 to 2 years	Re-calibrate electronic flowmeters – follow recommended schedule for the unit (shown on the calibration certificate).

Sample Introduction and Inlets

ITEM	TYPICAL SCHEDULE	ACTIONS/COMMENTS
Syringes and/or syringe needles	Every 3 months*	Replace syringe if dirt is noticeable in the syringe, if it cannot be cleaned, if the plunger doesn't slide easily, or if clogged. Replace needle if septa wear is abnormal or the needle becomes clogged.
Inlet liner	Weekly*	Check often. Replace when dirt is visible in the liner or if chromatography is degraded.
Liner O-rings	Monthly*	Replace with liner or with signs of wear.
Inlet septum	Daily*	Check often. Replace when signs of deterioration are visible (gaping holes, fragments in inlet liner, poor chromatography, low column pressure, etc.).
Inlet hardware	Every 6 months Every year	Check for leaks and clean. Check parts and replace when parts are worn, scratched or broken.
Inlet gold or stainless steel seal	Monthly*	Check for scratches, corrosion, or build-up of non-volatile sample components and replace if dirty.

Columns

ITEM	TYPICAL SCHEDULE	ACTIONS/COMMENTS
Front-end maintenance	Weekly – monthly*	Remove ½ to 1 meter from the front of the column when experiencing chromatographic problems (peak tailing, decreased sensitivity, retention time changes, etc.). Replace inlet liner, septum and clean inlet as necessary. Guard column may be useful for increasing column lifetime.
Solvent rinse	As needed	Perform when chromatography degradation is due to column contamination. Only for bonded and cross-linked phases.
Replacement	As needed	Replace when trimming and/or solvent rinsing no longer return chromatographic performance.
Ferrules	As needed	Replace when changing columns and inlet/detector parts.

Maintenance Schedule



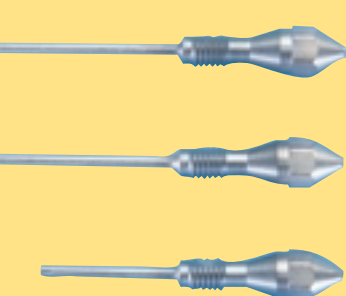
Detectors

ITEM	TYPICAL SCHEDULE	ACTIONS/COMMENTS
FID/NPD jets and collector	As needed	Clean when deposits are present. Replace when they become scratched, bent or damaged, or when having difficulty lighting FID or keeping flame lit.
NPD bead	As needed	Replace when signal drifts or there is a dramatic change in sensitivity.
FID	Every 6 months	Measure hydrogen, air and makeup gas flows.
TCD	As needed	Thermally clean by "baking-out" when a wandering baseline, increased noise, or a change in response is present. Replace when thermal cleaning does not resolve the problem.
ECD	Every 6 months As needed	Wipe test. Thermally clean by "baking-out" when baseline is noisy, or the output value is abnormally high. Replace when thermal cleaning does not resolve the problem.
FPD	Every 6 months As needed	Measure hydrogen, air and makeup gas flows. Clean/replace FPD windows and seals when detector sensitivity is reduced.

Mass Selective Detectors

ACTION	TYPICAL SCHEDULE	COMMENTS
Tune MSD	As needed	Keep plenty of PFTBA (part number 05971-60571) on hand .
Check the calibration vial	Every 6 months	Vial can be refilled without venting the system.
Replace the foreline pump oil	Every 6 months	Check the fluid weekly. Change when the fluid becomes discolored or every 6 months.
Replace the diffusion pump fluid	Every year or as needed	Check the fluid weekly. Too little fluid will cause the pump to run at a higher temperature, resulting in degradation and loss of high vacuum. Change when the fluid is discolored or contains particulates.
Clean the ion source	As needed	Clean when performance deteriorates to remove contamination and restore the electrostatic properties of the ion lensing system. Replace scratched parts to maintain optimal performance.

*Schedule is an approximation of average usage requirements.
Frequency may vary widely based upon application and sample type.



Check column or detector performance often with column or instrument check-out standards. See the Agilent catalog for the full line of detector and column evaluation standards.

Remember, the downtime for scheduled maintenance is always less disruptive than the downtime for unscheduled maintenance and troubleshooting!



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For more information:

For detailed information about GC supplies from Agilent, please contact your local Agilent sales representative, or your authorized distributor, or visit us on-line. Ask about Agilent's other valuable Maintenance Guides for GC, GC/MS, and LC:

- *Maintaining Your GC/MS System*
(publication 5988-3960)
- *GC Inlet Resource Guide*
(publication 5988-3466)
- *Maintaining Your HPLC System*
(publication 5988-4269)

This information is subject to change without notice.

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