Agilent CrossLab
From Insight to Outcome

Agilent CrossLab Start Up Services

Agilent InfinityLab LC Series
Preventive Maintenance Checklist

Agilent Preventive Maintenance provides factory recommended service for your analytical instruments to assure reliable operation and the accuracy of your results.

Delivered by highly trained and certified service engineers using genuine Agilent parts and supplies, Agilent Preventive Maintenance provides what you need to reduce unplanned downtime and keep your systems operating at their peak performance.

This checklist is used as a guide for completing the preventive maintenance tasks. A signed copy of this checklist is provided for your records.

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Introduction

Customer Information

- Customers should provide all necessary operating supplies upon request of the engineer (HPLC grade water, 2-propanol).
- Installed columns and remaining samples have to be removed from the system by the customer and the system has to be thoroughly flushed with appropriate storage solvent or water prior to when preventive maintenance starts.
- A customer representative should be available to the engineer while performing the preventive maintenance procedures. Customers are responsible for regular maintenance and are encouraged to observe the service representative.
- Any parts not included in the Parts Lists section of this document are not part of the recommended Preventive Maintenance service nor are they included in the price of this service.
- If a system requires the use of extra or special procedures and/or parts for the maintenance service, then these must be ordered separately and charged as a repair, which may incur additional costs.
- It is the customer´s responsibility to ensure the safety of the service technician performing the PM tests with respect to contact with the chemicals, solvents or any other hazardous substances in the customer's facilities.

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Important Customer Web Links

- To access Agilent training and education, visit https://www.agilent.com/chem/training to learn about training options, which include online, classroom and onsite delivery. A training specialist can work directly with you to help determine your best options.
- To access the **Agilent Resource Center** web page, visit https://www.agilent.com/en-us/agilentresources.

  The following information topics are available:

  - Sample Prep and Containment
  - Chemical Standards
  - Analysis
  - Service and Support
  - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit https://community.agilent.com/welcome.
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at https://www.youtube.com/user/agilent.
- **Need to place a service call?**
  https://www.agilent.com/en/promotions/flexible-repair-options

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Service Engineer's Responsibilities

- Contact the customer and ensure that all necessary supplies are available before the preventive maintenance visit.
- Only select those pages that relate to the system or module being serviced.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using either a "**X**" or tick mark "✓".
- Check "**Service not applicable**" check boxes to indicate services/tasks not delivered, as appropriate.
- Complete the Preventive Maintenance services in the most logical order relevant to the individual system service in the order of the tasks listed.
- Complete the **Service Review** section together with the customer.
- Complete the fields for page numbers at the foot of each selected page.
- Add relevant page numbers to selected pages and complete the total number of pages field in the Service Verification section.
- Complete Signature Page and attach Signature Page to Service Order.

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Instrument Maintenance

System Information

☐ Check this box if an instrument configuration report is attached instead of completing the table.

Instrument System Name and ID	
Instrument System Site and Location	

System Components

☐ Check this box if an instrument configuration report is attached instead of completing the table.

List System Component Product Numbers	List the Serial Numbers of Each Component

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Preparation

- ☐ Discuss any specific issues with the customer before starting.
- ☐ Review the instrument logbook for recorded problems and comments.
- ☐ Save instrument control settings before starting the procedure.
- ☐ Perform a general inspection of the system for cleanliness.
- ☐ Check for proper installation of parts, assemblies, sensors etc.
- ☐ Check system for required installation of components and implementation of Service Notes.
- ☐ Check for required firmware updates or Assist Control Software updates and verify with customers if they would like them installed. Updates are strongly recommended.
- ☐ Check for required firmware updates and verify with customers if they would like them installed. Firmware update(s) are strongly recommended.

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G7120A High-Speed Pump, G7132A Bio High-Speed Pump Procedure for 1290 Easy Maintenance and LongLife Pump Heads

This procedure requires a torque wrench.

- ☐ **Section NOT Applicable**
- ☐ Start "Remove/Install Pump Head" procedure (Agilent Lab Advisor Software).
- ☐ Remove or lift up solvent inlets in order to avoid spilling solvent.
- ☐ Remove the pump head assembly.
- ☐ Replace the pump seals.
- ☐ Replace the seal wash seals.
- ☐ Replace the Body Head Primary EM/LL for G7120A (if necessary).
- ☐ Replace the filter frit and seal cap of the high-pressure filter assembly.
- ☐ Finish "Remove/Install Pump Head" procedure (Agilent Lab Advisor software).
- ☐ Connect the solvent lines.
- ☐ Purge the pump with isopropanol.
- ☐ Replace the seal wash pump cartridge.
- ☐ Perform Pump Leak Rate Test.
- ☐ Perform System Pressure Test.
- ☐ Reset EMF counters.

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G7120A High-Speed Pump
Procedure for Pump Head Exchange

- ☐ **Section NOT Applicable**
- ☐ Start "Remove/Install Pump Head" procedure (Agilent Lab Advisor Software).
- ☐ Remove or lift up solvent inlets in order to avoid spilling solvent.
- ☐ Remove the classic pump head assembly.
- ☐ Install the Infinity II Easy Maintenance Pump Head assembly.
- ☐ Finish "Remove/Install Pump Head" procedure (Agilent Lab Advisor software).
- ☐ Connect the solvent lines.
- ☐ Purge the pump with isopropanol.
- ☐ Replace the seal wash pump cartridge.
- ☐ Perform Pump Leak Rate Test.
- ☐ Perform System Pressure Test.
- ☐ Reset EMF counters.

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G7120A High-Speed Pump
Alternative Procedure (Classic Pump Heads)

This procedure requires the 1290 Infinity Pump head service kit.

- ☐ **Section NOT Applicable**
- ☐ Start "Remove/Install Pump Head" procedure (Agilent Lab Advisor Software).
- ☐ Remove or lift up solvent inlets in order to avoid spilling solvent.
- ☐ Remove the pump head assembly.
- ☐ Follow the steps provided in the *Agilent 1290 Infinity Pump Head Maintenance Technical Note (1290IF_PumpHeadMaintenance_TN.pdf, SD-29000403)*.
- ☐ Replace the pump seals.
- ☐ Replace seal wash seals and gaskets (if applicable).
- ☐ Replace the filter frit and seal cap of the high-pressure filter assembly.
- ☐ Finish "Remove/Install Pump Head" procedure (Agilent Lab Advisor software).
- ☐ Connect the solvent lines.
- ☐ Purge the pump with isopropanol.
- ☐ Replace the seal wash pump cartridge.
- ☐ Perform Pump Leak Rate Test.
- ☐ Perform System Pressure Test.
- ☐ Reset EMF counters.

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G7167A/B Multisampler, G7137A Bio Multisampler, G5668A Bio-inert Multisampler

- ☐ **Section NOT Applicable**
- ☐ Verify the proper function of the drawer(s) and check that they are locked in position by the clamping lever on the left side.
- ☐ Replace the metering seal in the analytical head.
- ☐ Replace the rotor seal.
- ☐ Replace the needle assembly and perform auto referencing under operating conditions.
- ☐ Replace the high-pressure needle seat assembly.
- ☐ Verify the proper installation of the sample loop(s), especially check if sample loop(s) are kinked or bent.
- ☐ Replace the peristaltic pump cartridge (if applicable).
- ☐ Purge the Multisampler with isopropanol for 5 min after finishing the above maintenance steps.
- ☐ Verify the correct position of the drain tubing.
- ☐ Clean the instrument, especially the ventilation.
- ☐ Clean the Sample Cooler, especially the ventilation openings, and verify the proper installation and routing of the condensate drainage tubings (if applicable).
- ☐ Clean the Sample Thermostat, especially the ventilation openings, and verify the proper installation and routing of the condensate drainage tubings (if applicable).
- ☐ Replace the dust filter kit (if applicable).
- ☐ Check the proper function of the needle wash and needle seat backflushing (if applicable).
- ☐ Perform System Pressure Test while port 6 of the injection valve is blocked with a blank nut.
- ☐ If the Dual Needle option is installed, perform System Pressure Test twice, once for each needle (if applicable).
- ☐ Clean the Sample ID Reader camera surface using Lab Advisor Sample ID Reader Cleaning Tool (if applicable).
- ☐ Reset EMF counters.

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G7116A/B MCT

☐ **Section NOT Applicable**

☐ Make a note of valve plumbing, column connections and locations as a reference for re-installation.

☐ Remove installed column(s).

☐ Disconnect capillaries from the valve head (if applicable).

☐ Replace the rotor seal of the installed valve (if applicable).

NOTE When reinstalling the stator, please make sure to fix the screws in a cross-wise pattern.

☐ Connect capillaries and Quick Connect Heat Exchanger(s), but do not connect the column(s) to the flow path (if applicable).

☐ Purge the system with HPLC grade isopropanol for 10 min.

☐ Perform System Pressure Test. If no valve is installed, install the blank nut in the outlet of the Quick Connect Heat Exchanger. If there is a valve installed, perform the test for any two valve positions using one of the appropriate connection schemes:

- When a 2 position/6 port or 2 position/10 port Quick Change Valve Head is installed, use a blank nut to block the valve outlet.
- When a 4-, 6-, or 8-column selector Quick Change Valve Head is installed, mount a ZDV union on the outlet capillary of the valve and block it with a blank nut.

☐ Perform Thermostat Test.

☐ Reset EMF counters.

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Service Review

- ☐ Attach available reports/printouts of all tests to this documentation.
- ☐ Record the Preventive Maintenance service activity in the customer's records/logbook.
- ☐ Record the PM event in the Smart Alerts logbook, if applicable.
- ☐ Update/reset instrument maintenance counters as appropriate.
- ☐ Make sure that the complete flow path is flushed with appropriate solvent after the service.
- ☐ Affix the PM sticker to the system or instrument logbook based on the customer's request.
- ☐ Complete the Service Engineer Comments section if there are additional comments.
- ☐ Review this service, parts replaced, and test results obtained with the customer.
- ☐ If the instrument firmware was updated, record the details of the change in the Service Engineer's Comments box. Systems in a compliant environment may need additional documentation.
- ☐ Review the iBASE for completeness and correctness, update if not.
- ☐ Complete Signature Page and attach Signature Page to Service Order.

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Pump Test Results Table

☐ **Section NOT Applicable**

Test Description	Expected Test Result	Actual Test Result
System Pressure Test	Pass	
Pump Leak Rate Test	Pass	
Pump Elasticity Calibration (G7112B) (if applicable)	Pass	

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G7167A/B Multisampler, G7137A Bio Multisampler, G5668A Bio-inert Multisampler Test Results Table

☐ **Section NOT Applicable**

Test Description	Expected Test Result	Actual Test Result
System Pressure Test	Pass	

G7116A/B MCT Test Results Table

☐ **Section NOT Applicable**

Test Description	Expected Test Result	Actual Test Result
System Pressure Test	Pass	
Thermostat Test	Pass	

G7104A/C Flexible Pump, G7120A High-Speed Pump, G7132A Bio High-Speed Pump, G7131A/C Bio Flexible Pump Parts List Table

☐ **Section NOT Applicable**

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A
PM Kit for LL/EM Heads (Quat. Pumps; includes seal cap assemblies, PE piston seals and filter frits)	G7104A/C	G7104-68741	
PM Kit for Classical Heads (Quat. Pumps; includes seal cap assemblies, PE piston seals and filter frits)	G7104A/C	G4204-68741	
Seal Wash PM kit for Classical Heads (Quat. Pumps; includes film washers, PE wash seals and a Peristaltic pump)	G7104A/C	G4204-68742	
PM Kit for LL/EM Heads (Binary Pumps)	G7120A	G7120-68741	
PM kit for Classical Heads (Binary Pumps; includes seal cap assemblies, PE piston seals and PTFE frits)	G7120A	G4220-68741	
Seal Wash PM kit for Classical Heads (Binary Pumps; includes film washers, PE wash seals and a Peristaltic pump)	G7120A	G4220-68742	
PM Kit for Bio High-Speed Pump; includes seals for 1290 bio pump, seal cap assemblies, bio-inert wash seals, PTFE frits and the peristaltic pump	G7132A	G7132-68740	
PM Kit for Bio Flexible Pump; includes seals for 1290 bio pump, bio-inert wash seals, bio-compatible outlet filter frits and the peristaltic pump	G7131A/C	G7131-68740	
Wash Seal PE	InfinityLab LC Series Pumps	0905-1718	
Bio-Inert Wash Seal	G7132A	0905-1731	
Seal PTFE (Bio), 100 µL	G7132A	G7131-20009	
PE seal (pack of 2)	InfinityLab LC Series Pumps	0905-1420	
Gasket, seal wash (pack of 6)	G7104A/C G7120A	5062-2484	
PTFE Frit (5/Pk)	G7120A G7132A	01018-22707	

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A
Frit for 1290 pump outlet filter (2/pk) (amount needed: 1 frit/pump head assembly)	G7104A/C	5067-5716	
Frit 0.3 µm for inline filter, 5/pk	G7104A/C	5023-0271	
Peristaltic pump cartridge	InfinityLab LC Series Pumps	5065-4445	
Seal cap assembly	G7104A G7120A G7132A	5067-4728	
Easy Maintenance Pump Head Channel A	G7120A	G4220-60300	
Easy Maintenance Pump Head Channel B	G7120A	G4220-60310	
Easy Maintenance Pump Head Quat	G7104A	G4204-60300	
Body Head Primary EM/LL	G7104A/C G7120A	G4220-60533	

G7167A/B Multisampler, G7137A Bio Multisampler, G5668A Bio-inert Multisampler Parts List Table

☐ **Section NOT Applicable**

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A
PM Kit 1290 Multisampler includes needle, seat assembly, metering seal (40 µL), and rotor seal.	G7167B	G7167-68710	
PM Kit 1260 Multisampler includes needle, seat assembly, metering seal (100 µL), and rotor seal.	G7167A	G7167-68730	
PM Kit 1260/1290 Dual Needle Multisampler includes needle (2x), seat assembly (2x), metering seal (100 µL), rotor seal (DN), and rotor seal (PV).	G7167A/B	G7167-68720	
PM Kit 1290 Bio Multisampler includes needle, seat assembly, rotor seal, and metering seal (40 µL, Bio).	G7137A	G7137-68740	
PM Kit 1260 Bio-inert Multisampler includes needle, seat assembly, rotor seal, and metering seal (100 µL, Bio-inert).	G5668A	G5668-68730	
Needle Assembly	G7167A/B	G4267-87201	
Needle Assembly (slotted) for high injection volumes	G7167A/B	G4267-87210	
Bio-inert Needle Assembly	G5668A	G5668-87200	
Needle Bio-compatible	G7137A	G7137-87201	
High Pressure Needle Seat, 0.12 mm (PEEK)	G7167A/B	G4267-87012	
High Pressure Seat Assembly 0.075 mm (PEEK)	G7167A/B	G4267-87020	
Bio-inert Seat ID 0.17	G5668A	G5668-87017	
High pressure seat assembly 0.12 mm Biocompatible	G7137A	G7137-87012	
Rotor Seal 1300 bar (PEEK)	G7167B	5068-0198	
Rotor Seal (PEEK)	G7167A G5668A	5068-0209	

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A
Rotor Seal (PEEK)	G7167A/B (for Dual needle Injection Valve)	5068-0232	
Rotor Seal (PEEK)	G7167A/B (for Dual needle Peripheral Valve)	5068-0229	
Rotor Seal 1300 bar (PEEK)	G7137A	5320-0010	
Peristaltic pump cartridge	InfinityLab LC Series Samplers	5065-4445	
Metering Seal, 40 µL	G7167B	0905-1717	
PE Seal	G7167A	0905-1719	
Seal PTFE (Bio-inert)	G5668A	G5611-21503	
Metering Seal, 900 µL	G7167A	0905-1294	
Metering seal 1290 Bio 2 mm piston, 40 µL	G7137A	G7137-20003	
Seal PTFE (Bio), 100 µL	G7137A	G7131-20009	
Dust filter kit	G7167A/B G5668A G7137A	5720-0026	

G7116A/B MCT, G1170A External Valve Drive Parts List Table

☐ **Section NOT Applicable**

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A
Rotor Seal (PEEK)	8-column selector valve head 1300 bar (5067-4233)	5068-0200	
Rotor Seal (PEEK)	2 position/10 port valve head 1300 bar (5067-4240)	5068-0205	
Rotor Seal (PEEK)	2 position/6 port valve head 1300 bar (5067-4241)	5068-0207	
Rotor Seal (PEEK)	6-column selector valve head 1300 bar (5067-4273)	5068-0242	
Rotor Seal (PEEK)	4-column selector valve head 600 bar (5067-4287) 4-column selector valve head 800 bar (5067-4279)	5068-0264	
Rotor seal (PEEK, 2pos/6port CSV, 600 bar)	2 position/6 port valve head 600 bar (5067-4137) 2 position/6 port valve head 800 bar (5067-4282)	0101-1409	
Rotor Seal (2pos/10port 600 bar)	2 position/10 port valve head 600 bar (5067-4145) 2 position/10 port valve head 800 bar (5067-4283) 2 position/10 port micro valve head 600 bar (5067-4144)	0101-1415	
Rotor Seal (PEEK)	6-column selector valve head 1200 bar (5067-4142)	5068-0223	
Rotor seal (6 Column Selector 600 bar)	6-column selector valve head 600 bar (5067-4146)	5068-0076	
Rotor Seal (PEEK)	6-column selector valve head 800 bar (5067-4284)	5068-0298	
Rotor seal (2pos/6 port 1200 bar)	2 position/6 port valve head 1200 bar (5067-4117)	5068-0008	
Rotor seal (2pos/10port 1200 bar)	2 position/10 port valve head 1200 bar (5067-4118)	5068-0012	
Rotor seal (6 Column Selector 1200 bar)	6-column selector valve head 1200 bar (5067-4142)	5068-0067	
Rebuild kit (Rotor seal and stator face) (Bio-inert, 12pos/ 13port selector 210 bar)	12 position/13 port bio-inert solvent selector valve head 200 bar (5067-4159)	0101-1288	

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A
Rotor seal (PEEK, 2pos/6port CSV, 600 bar)	2 position/6 port valve head 600 bar bio-inert (5067-4148)	0101-1409	
Rotor seal (Bio-inert, 4 column selector 600 bar, PEEK)	4-column selector valve head 600 bar bio-inert (5067-4134)	5068-0045	
Rotor seal (2pos/10port, 600 bar, Bio-inert, PEEK)	2 position/10 port valve head 600 bar bio-inert (5067-4132)	5068-0041	
Rotor Seal (PEEK)	2 position/10 port valve head 1300 bar bio (5067-6682)	5068-0205	
Rotor seal for 6-column Selector valve, Bio-compatible, 1300 bar.	6-position/14-port bio valve head, 1300 bar (5320-0025)	5320-0029	

Consumed Parts Reference (Purchased by customer, not included as part of PM)

☐ **Section NOT Applicable**

Part Description	Product/Model # where used	Part Number	Quantity Consumed or N/A

Signature Page

Service Engineer Review (Optional)

If there are any specific points you wish to note as part of performing the installation or other items of interest for the customer, please write in this box.

Firmware was changed (Y/N):

Client was consulted and agreed prior to firmware change (Y/N):

Service Verification

Service Request Number:	Date of Service Completion: .....
Service Engineer Name:	Customer Name: .....
Service Engineer Signature:	Total number of pages in this document: .....

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Agilent Revident(G6575A) LC/QTOF

Preventive Maintenance Checklist

Agilent Preventive Maintenance provides factory recommended service for your analytical instruments to assure reliable operation and the accuracy of your results.
Delivered by highly trained and certified service engineers using genuine Agilent parts and supplies, Agilent Preventive Maintenance provides everything you need to reduce unplanned downtime and keep your systems operating at their peak. This checklist will be completed at the end of the service and provided to you as a record of the installation.

Introduction

Customer Information

1 Customers should provide all necessary operating supplies upon request of the engineer.

2 A customer representative should be available to the engineer while performing the preventive maintenance procedures.

3 Any parts, not included in the Parts Lists section of this document, are not part of the recommended Preventive Maintenance service, nor are they included in the price of this service.

4 If a system requires the use of extra or special procedures and/or parts for the maintenance service, then these must be ordered separately and charged as a repair, which may incur additional costs.

Important Customer Web Links

- For more information about *Agilent Technologies services*, please visit our website using the following URL: http://www.agilent.com/en-us/products/crosslab-instrument-services/service-repair
- To access *Agilent University*, visit http://www.agilent.com/crosslab/university/ to learn about training options, which include online, classroom and onsite delivery.
  A training specialist can work directly with you to help determine your best options.
- A useful *Agilent Resource Center* web page is available, which includes short videos on maintenance, quick lists of consumables for new instruments, and other valuable information.
  Check out the Resource Page here: https://www.agilent.com/en-us/agilentresources

Revision: 1.00 Issued: 10th Dec 2024
Document part number: D0122299

- Need technical support, FAQs, supplies? – visit our *Support Home page* at http://www.agilent.com/search/support
- Get answers. Share insights. Build connections:
  Join the *Agilent Community* at https://community.agilent.com/welcome

Service Engineer's Responsibilities

- Contact the customer and ensure that all necessary supplies are available before the preventive maintenance visit.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using either a "X" or tick mark "✓".
- Check "Section not applicable" check boxes to indicate services/tasks not delivered, as appropriate.
- Complete the Preventive Maintenance service in the order of the tasks listed.
- Complete the Service Review section together with the customer.
- Ask the customer to sign the Service Completion section including the customer's and your signature.

Revision: 1.00 Issued: 10th Dec 2024
Document part number: D0122299

Instrument Maintenance

System Information

☐ Check this box if an instrument configuration report is attached instead of completing the table.

Instrument System Name and ID	
Instrument System Site and Location	

List System Component Product Numbers	**List the Serial Numbers of each Component**
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	

Preparation

☐ Discuss any specific issues with the customer before starting.

☐ Review the instrument logbook for recorded problems and comments.

☐ Save instrument control settings before starting the procedure.

☐ Perform a general inspection of the system for cleanliness.

☐ Check for proper installation of parts, assemblies, sensors etc.

☐ Check system for required installation of components and settings as defined by current Service Notes

☐ Check for required firmware updates and Service Packs and verify with customers if they would like them installed.

☐ Review customer maintenance records and exclude maintenance on recently serviced items. Specify excluded items in the Service Engineer Comments section.

☐ Review the most recent Autotune report. This will give a starting point for evaluating spectral peaks, baseline noise, peak shape, mass assignments and resolution.

☐ In 1700 Mass run a Check tune for both polarities for Quad and TOF

- If the Check tune passes, print out the reports and proceed with Preventative Maintenance task.
- If the Check tune does not pass, review sections requiring adjustment evaluate causes and run System/Initial tune for relevant sections requiring adjustment.

☐ If System/Initial tune passes, then print out the related Check tune report and proceed with the Preventive Maintenance Tasks.

Note: If system tune fails. do not proceed with the Preventative Maintenance before discussing the system's status with customer.

Preventive Maintenance Procedures

Main Preventive Maintenance Task Section

Inspection and exterior cleaning

☐ Record current vacuum readings in the Test Results table.

☐ Record detector voltage and note in Tests Results table – If above 900 V, recommend detector to be exchanged.

- Note: Detectors are considered consumables and not covered by service contracts.

☐ Inspect vacuum hose, rough pump exhaust tubing, and power cords for excessive wear.

- Look for any obvious external damage or problems.
- Record observations in the Service Engineer Comments section.

☐ Vent the instrument and perform a general system inspection.

☐ Remove ion source from desolvation assembly.

Foreline Pump, Gas Filter Maintenance and CDS

☐ Replace Nitrogen gas filters (2 for AJS systems/1 for ESI systems).

☐ Replace both rotor seals in CDS system. Torque stator heads to 2.3Nm (20 ft lbs)

☐ Replace metering drive pump seal.

☐ Clean metering drive plunger.

☐ Replace pump head pump seals.

☐ Clean pump head plungers.

☐ Ultrasonic inlet and outlet ball valves in 50% IPA.

For MS40+ Pump

☐ *Section not applicable*

☐ Drain and replace rough pump fluid.

☐ Replace foreline pump filter element.

☐ Wipe down pump, vacuum hose, and clean oil pan.

Desolvation assembly and optics maintenance

☐ Remove the Desolvation assembly from vacuum manifold.

☐ Remove Spray Shield, Capillary Cap, Ion Injector, End Plate, End Ring, End Plate Screws, End Plate Mount, T-nuts, Vcap Spacer, Contact Rings, Capillary Insulator, and End Capillary Cap.

☐ Remove and discard the Canted Coil Springs from Caps and Contact Springs

☐ Record your observations in the engineering comments section.

☐ Remove the modular optics rail from the vacuum manifold.

☐ Remove the following parts from Ion Optics Assembly: Skimmer (if applicable), Octopole Assy, Lens 1, Spacers and Pin Screws

Note: Depending on application an inspection and cleaning of Quad may be required.

☐ Follow the documented cleaning procedure in Maintenance Guide to clean all the above removed optical parts. Note: Remove all O-rings before cleaning.

☐ Wipe Spray Chamber clean with a lint free cloth and MeOH and H_2O.

☐ Inspect and clean if necessary Octopole and Skimmer seat of the Skimmer Spacer.

☐ Clean the capillary, G7604-60000 or replace if necessary.

☐ Reassemble Ion Optics Assembly. Note: Remember to re-attach any removed O-rings

☐ Reassemble the Desolvation Assembly.

☐ Reinstall all removed optics.

Agilent Jet Stream Technology (AJS and dAJS)

☐ *Section not Applicable*

☐ Perform a general inspection of the AJS source.
- Inspect the vented standoffs for chemical deposits or physical damage.
- Inspect nebulizer and needle for physical damage (i.e., dents or corrosion).
- Inspect Reference nebulizer and needle for physical damage (i.e., dents or corrosion).

☐ Replace the inner needle and adjust appropriately. If applicable repeat on Reference Nebulizer
- Record your observations in the Service Engineer Comments section.

☐ Remove mesh assembly and standoffs and clean with abrasive cloth, followed by wiping with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Clean all other interior surfaces of the spray chamber, including the window with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Reinstall mesh assembly.

☐ Reinstall source.

G1948 Electrospray (ESI/dESI) Source

☐ *Section not Applicable*

☐ Perform a general inspection of the ESI Source.
- Inspect the vented standoffs for chemical deposits or physical damage.
- Inspect nebulizer and needle for physical damage (i.e., dents or corrosion).
- Inspect Reference nebulizer and needle for physical damage (i.e., dents or corrosion).

☐ Replace the inner needle and adjust appropriately. If applicable repeat on Reference Nebulizer
- Record your observations in the Service Engineer Comments Section.

☐ Remove mesh assembly and clean with abrasive cloth, followed by wiping with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Clean standoffs with lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Clean all other interior surfaces of the spray chamber, including the window, with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Reinstall mesh assembly.

☐ Reinstall source.

G1947 APCI Source

☐ *Section not Applicable*

☐ Perform a general inspection of the APCI source.
- Inspect corona needle holder and receptable for oxidation or physical damage.

☐ Inspect nebulizer, replace inner needle, and adjust appropriately.
- Record your observations in the Service Engineer Comments Section.

☐ Replace the APCI corona needle.

☐ Using the abrasive cloth, clean the bottom of the vaporizer can, and then wipe with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Clean all other interior surfaces of the spray chamber, including the window, with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Reinstall source.

G1971 APPI Source

☐ *Section not Applicable*

☐ Perform a general inspection of the APPI source.
- Inspect corona needle holder and receptable for oxidation or physical damage.

☐ Inspect nebulizer, replace inner needle, and adjust appropriately.
- Record your observations in the Service Engineer Comments Section.

☐ Clean the Lamp window using a lint-free cloth and Methanol.

☐ Using the abrasive cloth, clean the bottom of the vaporizer can, and then wipe with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Clean all other interior surfaces of the spray chamber, including the window, with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Reinstall source.

G1978 Multimode Source

☐ *Section not Applicable*

☐ Perform a general inspection of the MMI source.
- Inspect corona needle holder and receptable for oxidation or physical damage.

☐ Inspect nebulizer, replace inner needle, and adjust appropriately.
- Record your observations in the Service Engineer Comments Section.

☐ Replace the APCI corona needle.

☐ Using the abrasive cloth, clean the bottom of the vaporizer can, and then wipe with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Clean all other interior surfaces of the spray chamber, including the window, with a lint-free cloth with suitable solvent - IPA or H_2O/MeOH mix recommended.

☐ Reinstall source.

Restore Instrument

☐ Pump system down

☐ Verify that all temperatures, pressures, and gas flows reach tune file set points.

☐ Prime CDS and IRM systems.

☐ Allow TOF vacuum to reach 9.0 E-7 Torr before turning on system.

☐ Check manually that there are tune peaks in positive and negative mode.

☐ Record current vacuum readings in the Test Results table.

☐ A System/Initial tune should be run by the customer after the system has been allowed to thermally equilibrate for at least 8 hours following a system vent.

Guidance

If the PM Service is performed prior to a qualification service, then use the qualification procedure as a guide for final instrument set up and checkout.

Service Review

- ☐ Attach available reports/printouts of all tests to this documentation.
- ☐ Record the Preventive Maintenance service activity in the customer's records/logbook.
- ☐ Update/reset instrument EMF counters as appropriate.
- ☐ Affix the PM sticker to the system or instrument logbook based on the customer's request.
- ☐ Complete the Service Engineer Comments section if there are additional comments.
- ☐ Review this service, parts replaced, and test results obtained with the customer.
- ☐ If the instrument firmware was updated, record the details of the change in the Service Engineer Comments section and if necessary, in the customer's IQ records.

Revident G6575A Test Results Table.

Test Description	Result
Pre PM-Rough Vacuum (Torr)	
Pre PM-Quad Vacuum (Torr)	
Pre PM-TOF Vacuum (Torr)	
Pre PM-Check tune	Pass/Adjust/Passed after Adjust
Pre PM-System tune	Pass / Adjust/ N/A
Pre PM-MCP/Detector value	
Recommend MCP/Detector/Scintillator replacement	Yes / No
Post PM-Rough Vacuum (Torr)	
Post PM-Quad Vacuum (Torr)	
Post PM-TOF Vacuum (Torr)	
Post PM Temperatures and gas settings reached	Yes / No
Peaks present in Positive Mode	Yes / No
Peaks present in Negative Mode	Yes / No
Post PM-System Tune	Pass/Adjust

Consumed Parts

Part Description	Part Number	Quantity consumed
AFV 60 Gold Oil	6040-1444	
Oil Mist Filter, MS40+	G1960-80039	
Canted Coil Spring	G2571-67001	
Big universal trap, 1/4l Fittings, Nitrogen	RMSN-4 (x2)	
Rotor Seal ,3 Grooves, Max 600 BAR	0101-1409 (x2)	
Pump seal PE 1290 Infinity LC, 1/PK	0905-1719 (x2)	
Metering drive seal 500ul	5067-5918	
Nebulizer (needle SST316 replacement kit)	G1958-60137	
Ion Injector, 180mm, 0.6mm ID, Dielectric	G7604-60000	
Cloth, Lint free 15/pk	05980-60051	
Swaps 100/pk	5080-5400	
Abrasive Mesh 4000 Grit	8660-0827	

Signature Page

Service Engineer Comments (Optional)

If there are any specific points you wish to note as part of performing the installation or other items of interest for the customer, please write in this box.

Service Completion

Service request number _____ Date service completed _____

Agilent signature _____ Customer signature _____

Total number of pages in this document. _____