

Agilent 7890 Series Gas Chromatograph

GC Software Features Overview



Agilent Technologies

Notices

© Agilent Technologies, Inc. 2013

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

Manual Part Number

G3430-90057

Edition

First edition, February 2013

Printed in USA

Agilent Technologies, Inc. 2850 Centerville Road Wilmington, DE 19808-1610 USA

安捷伦科技 (上海)有限公司 上海市浦东新区外高桥保税区 英伦路 412 号 联系电话: (800) 820 3278

Warranty

The material contained in this document is provided "as is," and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

Safety Notices

CAUTION

A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.



Agilent 7890 Series Gas Chromatograph GC Software Features Overview

Getting Familiar with the Agilent Integrated GC Software

Introduction 4 Before You Begin 5 Agilent GC Configuration 5 Connection 6 Configuration 7 Resource Conservation 10 Method Editor 12 Configuration (Method) 13 Columns 20 Oven 24 ALS 26 Valves 28 Inlets 29 Detectors 31 Aux Heaters 32 Events 32 Signals 33 Backflush 34 Readiness 35 GC Calculators 36 Early Maintenance Feedback (EMF) 40 Saving the Method 45 Viewing GC Temperatures and Flows 46 Parts Finder 48 Where to Find Information 49 Agilent GC and GC/MS User Manuals & Tools DVD 49 Software Help System 50



Introduction

This guide describes how to begin using the Agilent 7890 Series Gas Chromatograph (GC) with the Agilent Integrated GC Software.

This guide assumes some familiarity with the Agilent 7890B Gas Chromatograph (GC) (Figure 1) and your specific Agilent data system. Refer to the user manuals that came with your GC and Agilent data system for details.



Figure 1 The Agilent 7890B GC with 7693A ALS

This guide shows software examples from Agilent's OpenLAB CDS ChemStation Edition. While the GC parameters are the same in any Agilent data system, how to access the GC parameters varies between data systems.

Refer to your specific data system user manuals for exact menu choices to access the GC control screens shown in this manual.

Refer to your 7890B GC Operation Guides for method parameters.

Before You Begin

This guide assumes the use of an Agilent 7890B GC with 7693A ALS installed. In addition, this guide assumes that:

- The latest version of your Agilent data system software is installed and configured.
- The GC has no error conditions.
- All gases are plumbed and turned on.

Agilent GC Configuration

To access the Agilent GC configuration, select the Agilent 7890B GC configuration menu option from your data system's instrument menu (Figure 2). Refer to your data system's user documentation for details.

File	RunControl	Instrument	Method	Sequence	RTLock	RTSearch	View	Abort	Help
		Select	njection So	ource					
		Edit Ag	ilent 7890B	Parameters					
		Instrun	nent Utilitie	is					
		Colum	ns						
		Snapsh	ot						
		Instrun	nent Config	guration					
	_	Acquis	ition Metho	od Viewer					
	(Agilent	7890B Cor	nfiguration					
		Upload	method fr	om Agilent	7890B				
		Start C	olumn Con	npensation I	Run				
		Sleep							
		Wake U	Jp						
		Mainte	nance						
		Extend	Run						

Figure 2 Accessing the Agilent 7890B GC Configuration from OpenLAB CDS ChemStation Edition

Connection

Use the **Connection** tab (Figure 3) to upload the latest GC hardware configuration, to access GC connection information, and to view any license keys for add-on software.

Agilent 7890B Configuration: Instrument 1	
Connection Configuration Conservation	
Get GC Configuration	
Connect Info	
Agilent 7890B	
GC Name	
IP Address	
130.30.246.178	
Notes	
	OK Cancel Help



Configuration

Use the **Configuration** tab to configure the **Keypad Lock** and **Prep Run on Manual Request** settings, and to browse your GC's configuration (Figure 4).

Agilent 7890B Configuration: Ins	trument 1			×
Connection Configuration 0	Resource Conservation			
GC Name	130.30.246.178	Notes		
Keypad Lock	Keypad is locked during runs	•		
🗹 Prep Run on Man	ual Request			
GC Configuration Version Boot Loader Application Cryo Type Oven Voltage Type Controller Model Firmware Revision Front Injector Model Firmware Revision Number of Sample Stops Back Injector	MMON Version Eagle BootLdr.02.06 B.02.00.RC1 Unspecified Unknown Fast G3430A A.02.14 G4513A A.10.08 50	5.23		
Dack Intector		ОК	Cancel	Help

Figure 4 The **Configuration** tab

Keypad Lock

The **Keypad Lock** feature (Figure 5) on the **Configuration** tab provides the option of enabling or disabling the GC keypad for different levels of software control.

Agilent 7890B Configuration	: Instrument 1			X
Connection Configuration	Resource Conservation			
GC Name	130.30.246.178	Notes		
Keypad Lock	Keypad is locked during runs Keypad is locked during runs Keypad is locked while under so Keypad is never locked	oftware control		
GC Configuration Version Boot Loader Application Cryo Type	MMON Version Eagle BootLdr.02.06 B.02.00.RC1 Unspecified	5.23		
Oven Voltage Type	Unknown Fast			
Controller Model Firmware Revision	G3430A A.02.14			
Front Injector Model Firmware Revision Number of Sample Stops	G4513A A.10.08 50			
Back Injector			-	
		ОК	Cancel	Help

Figure 5 Keypad Lock options

Select the desired behavior:

- **Keypad is locked during runs** Disables the GC keypad during runs.
- **Keypad is locked while under software control** Disables the GC keypad during live instrument sessions.
- Keypad is never locked Enables the GC keypad at all times.

GC configuration information

You GC configuration information (Figure 6) displays on the **Configuration** tab. You can view your instrument model number, its firmware revision, and many other hardware configuration details.

Agilent 7890B Configuration: In:	strument 1		×
Connection Configuration Q	Resource Conservation		
GC Name	130.30.246.178	Notes	
Keypad Lock	Keypad is locked during runs	•	
Prep Run on Mar	nual Request		
GC Configuration Version Boot Loader Application Cryo Type	MMON Version Eagle 5 Boot.Ldr.02.06 B.02.00.RC1 Unspecified	223	
Oven Voltage Type	Unknown Fast		
Controller Model Firmware Revision	G3430A A.02.14		
Front Injector Model Firmware Revision Number of Sample Stops	G4513A A.10.08 50		
Back Injector		•	
		OK Cancel	Help



Provide the information displayed here to Agilent when seeking service or phone assistance.

Resource Conservation

Use the **Resource Conservation** tab to configure special methods to run at specific times of the day to help conserve resources during laboratory downtime. You can configure **Sleep** and **Wake** methods for your GC, and set them to run on daily or weekly schedules to best match your lab's needs (Figure 7).

Agilent 7890B Configuration: Instrument 1	
Connection Configuration Conservation	
Reduce gas and power consumption by setting	ng gas saver and instrument schedule options
Instrument Schedule	
Select a schedule that best matches how you use this instrume	ent:
Same schedule 7 days per week	Synchronize Clocks
Daily Wake Time: 6:00 AM	C Sleep Time: 6:00 PM
Wake Method: Edit Wake Method	Sleep Method: Edit Sleep Method
Wake to last active method before sleep	
Perform a conditioning run before Waking	Edit Conditioning Method
	OK Cancel Help



Setting up a schedule

To set up a resource conservation schedule for your 7890B GC, you must first define the times and days to run your **Sleep** and **Wake** methods.

For example, select **Same schedule 7 days per week** from the **Instrument Schedule** drop-down list (Figure 7) to run your **Sleep** and **Wake** methods at the same time every day.

It is important to synchronize your PC and GC clocks when setting the instrument schedule. Click **Synchronize Clocks** to match your GC clock with your PC clock.

Sleep and Wake methods

Sleep and **Wake** methods use the same software controls that are available with your 7890B GC method editor. Refer to "Method Editor" on page 12 for specific information.

Use the **Sleep** method to load GC settings for periods of inactivity. When configuring your **Sleep** method, be sure to consider the following:

- In general, you need to set only the temperatures to conserve energy. Most other parameters apply only during a run.
- If using GC carrier gas control, set a reduced flow of carrier gas through the GC column by setting the method carrier gas parameters.
- To set reduced GC purge flows, see your inlet's gas saver settings.
- Be aware of stabilization times for your devices and set the temperatures accordingly. It may benefit you to leave certain detectors at temperature setpoint rather than waiting for the detector to stabilize and become ready during the wake method. Refer to the user information provided with your GC and devices for more information.

Use the **Wake** method to load settings after the sleep period ends, for example, to warm the vial oven or increase gas flows. If desired, the wake method can be simply the last analytical GC method run.

Method Editor

To open the **Method Editor**. Select **Instrument > Agilent 7890B Parameters...** (Figure 8).



Figure 8 Opening the Method Editor

Configuration (Method)

Open Method Configuration (Figure 9). Select the

Configuration tab on the Method Editor. Use the Configuration panel to set specific parameters for your ALS, valves, inlets, detectors, and columns.

Setup Meth	nod													×
C1 Agiler	nt 7890E	C1 Agilent 7	7890B Sample I	Prep Progra	am									
ALS	Valve	es Inlets	Columns	Oven	Detectors	المن المن المن المن المن المن المن المن	 Signals	Configuration	Readiness	GC Calcula	tors			
Miscellar	neous	Columns Modul	les ALS											
									Unl	Catalog ock Column	Calil	brate	Column Outlet	Pressure:
		Column						Calibration Result	ts Inlet		Outlet		Heated By	
	1	Locked Agilent 19091S HP-5 0 °C-350 °C (3	-002: 5901722 50 °C): 10 m x ⁻¹	4 100 µm x 0	.17µm			Uncalibrated	Front Inlet	•	Front Detector	•	Oven	•
	2	Locked Agilent 122-123 DB-XLB 0 °C-340 °C (3)	36: US9532917 60 °C): 30 m x 2	′H 250 μm x 0	.5 μm			Uncalibrated	Back Inlet	-	Back Detector	T	Oven	
	3	No Column Inst	alled					Uncalibrated	Unspecified	•	Other	-	Oven	-
	4	No Column Inst	alled					Uncalibrated	Unspecified	•	Other	-	Oven	-
	5	No Column Inst	alled					Uncalibrated	Unspecified	-	Other	-	Oven	-
	6	No Column Inst	alled					Uncalibrated	Unspecified	•	Other	-	Oven	•
							0	ж А	pply	Upload from Ir	nstrument	Cance		Help

Figure 9 Accessing the Configuration parameters

Miscellaneous

Select the **Configuration > Miscellaneous** tab (Figure 10). Use the **Miscellaneous** tab to define your method's pressure units, configure valve types and oven fan parameters (slow fan), and view the thermal aux configuration.

Setup Method								×
C1 Agilent 7890B C1 Agilent 7890B San	nple Prep Pr	oqram						
ALS Valves Inlets Colum	ns Ove	Detectors Eve	ents Signals	Configuration	Readine	ss GC Calculators		
Miscellaneous Columns Modules ALS								
Pressure Units	/alve Config	juration						
		Valve Type	Name			Parameters		
Oven	▶ 1	Gas Sampling Valve	 (Valve #1) 			Loop Volume, mL: 1		
Slow Fan	2	Gas Sampling Valve	 (Valve #2) 			Loop Volume, mL: 1		
	3	Not Installed	 (Valve #3) 					
	4	Switching Valve	 (Valve #4) 					
	5	Switching Valve	 (Valve #5) 					
Thermal Aux Type	6	Not Installed	 (Valve #6) 					
▶ 1 Not Installed	7	Not Installed	 (Valve #7) 					
2 Not Installed	8	Not Installed	 (Valve #8) 					
3 Not Installed								
			01	< A	pply	Upload from Instrument	Cancel	Help

Figure 10 Setting the Configuration > Miscellaneous parameters

Columns

Select the **Configuration > Columns** tab (Figure 11). Use the **Columns** tab to define and configure a column for each position (1-6) in your GC. You can also calibrate a column, lock a column's configuration, describe how each column connects to GC devices, and tell the system how each column is heated.

Setup Me	ethoo	ł														×
🗂 Agi	ilent 7	890B	🗂 Agile	nt 7890B Sam	ple Pre	p Progra	m									
ALS		Valve	s Inlets	column	s (Dven	Detectors	وَنَيْ Events	 Signals	Configuration	Readiness	GC Calcula	tors			
Misce	llaneo	us C	Columns Mc	odules ALS												
												Catalog	Calit	brate	Re	move
											Lo	ock Column	1		Column Outle	et Pressure:
													5		0 psi	
			Column							Calibration Resul	ts Inlet		Outlet		Heated By	
\downarrow		1	Agilent 190 HP-5 0 °C-350 °C	91S-002: 5901 C (350 °C): 101	7224 n x 100) µm x 0.	17 µm			Uncalibrated	Front Inlet	•	Front Detector	•	Oven	•
		2	Locked Agilent 122- DB-XLB 0 °C-340 °C	1236: US953/ C (360 °C): 301	917H 1 x 250) um x 0.	5 um			Uncalibrated	Back Inlet	•	Back Detector	-	Oven	•
		3	No Column	Installed						Uncalibrated	Unspecifie	d 🔻	Other	•	Oven	•
		4	No Column	Installed						Uncalibrated	Unspecifie	d 🔻	Other	•	Oven	•
		5	No Column	Installed						Uncalibrated	Unspecifie	d 🔻	Other	-	Oven	-
		6	No Column	Installed						Uncalibrated	Unspecifie	d 🔻	Other	-	Oven	
									C	OK A	pply	Upload from l	nstrument	Cancel		Help

Figure 11 Accessing the **Configuration > Columns** parameters

GC Column Catalog The **GC Column Catalog** (Figure 12) is a local database shared across all instrument sessions on your data system. The database contains popular column models and any custom columns added.

	G	Co	lum	nn Catalog													- C -	x
Γ	Act	ions																
									_			Class						*
	▼ Fing Clear																	
Ir																		
	Mar	nufac	tur	er 🔺														
	Fa	vorit	e	Part Number	Descri	ption	Len m	Diam µm	Film Thick-	Ph Ratio	Min Temp,	Max Temp,	Max Prog	Form Factor	Keywords	← Co.	. Time Stamp	
		÷		127-0723	DB-1701	L	20	100	0.4	61.8	-20	280	300	7-inch	DB-1701		11/26/12	
ŀ			\checkmark	127-0722LTM	DB-1701	L	20	100	0.1	24	-20	280	300	LTM	DB-1701		01/18/13	
			٩	Invento Numbe	ory er	C	Calibratio Informatio	n	GC Serial	Numbe	er l	Position in	GC	Comments	Time Stamp	Pa	rt Number	
			۲	Ag12345		Uncalib	orated	C	CN10631006				1		01/18/13 15:11:32	127-07	22LTM	
		÷		127-0722	DB-1701	L	20	100	0.1	24	-20	280	300	7-inch	DB-1701		11/26/12	U
		÷		125-0762E	DB-1701	L	60	530	1	13	-20	260	280	5-inch	DB-1701		11/26/12	
		Ŧ		125-0762	DB-1701	L	60	530	1	13	-20	260	280	7-inch	DB-1701		11/26/12	
		÷		125-0737LTM	DB-1701	L	30	530	0.5	26	-20	260	280	LTM	DB-1701		11/26/12	
		Ð		125-0737	DB-1701	L	30	530	0.5	26	-20	260	280	7-inch	DB-1701		11/26/12	Ŧ
H	•	4	#3	034 / 4072 🕨	₩ ₩		/ × <										÷	
														ОК	Cance		Help	

Figure 12 The GC Column Catalog

Use the **GC Column Catalog** to select a column model to add to your **Column Inventory** (a collection of columns available in your lab), or select a column model already entered in your inventory to define in your method.

Once you define a column using the **GC Column Catalog** or **Column Inventory**, the column information displays in your method editor, the GC actuals, and in the report following a run.

Column Lock If desired, lock the selected column's configuration. When a column is locked:

- Column parameters will not change when a different method is loaded.
- Only column segments are editable.
- The selected column's position is not changeable.

Modules

Select the **Configuration > Modules** tab (Figure 13). Use the **Modules** tab to define the gas types for your inlets, detectors, and any Aux EPC modules.

Setup N	/lethod		
	gilent 7890B 🗀 Agilent 7890B Sample Pre	Program	
AL	S Valves Inlets Columns	Ven Detectors Events Signals	Configuration Readiness GC Calculators
Misc	ellaneous Columns Modules ALS		
	FrontInlet	A	Aux EPC 4,5,6
	SS Inlet	le ▼	Aux EPC 4 N2 -
	Back Inlet		Aux FPC 5 N2 -
	MM Inlet	le 🔻	Aux EPC 6 N2 -
	Front Detector		
	FID		
	Makeup	V2 •	
	Set Lit Offset with	iC Keyboard.	
	Back Detector		
	FID		
	Makeup	V2 •	
	Set Lit Offset with	iC Keyboard.	
		ОК	Apply Upload from Instrument Cancel Help

Figure 13 Setting the Configuration > Modules parameters

ALS

Select the **Configuration > ALS** tab (Figure 14). Use the **ALS** tab to define the solvent wash mode, the installed syringe model and size, and configure tray parameters.



Figure 14 Setting the Configuration > ALS parameters

GC Syringe Catalog The **GC Syringe Catalog** is a local database shared across all instrument sessions on your data system. The database contains popular syringe models and any custom syringes added.

Use the **GC Syringe Catalog** to select a syringe model to add to your **Syringe Inventory** (a collection of syringes available in your lab), or select a syringe model already entered in your inventory to define in your method.

Once you define a syringe using the **GC Syringe Catalog** or **Syringe Inventory**, the syringe information displays in your method editor, the GC actuals, and in the report following a run.

Columns

Select the **Columns** icon to open the **Columns** panel. Use the **Columns** panel to control column flow and pressure behavior during the run (Figure 15).

Setup Method				— X
C1 Agilent 7890B C1 Agilent 7890B Sample Prep Program				
ALS Valves Inlets Columns UD Oven I	Petectors Events Signals Con	nfiguration Readiness	GC Calculators	
# Selection Aglent 19091S-002: 59017224 HP-5 0 'C-350 'C (350 'C): 10 m x 100 µm x 0.17 µm In. Front SS Intel He Out: Front Detector FID Locked DB-XLB 0 'C-340 'C (360 'C): 30 m x 250 µm x 0.5 µm In. Back MR Intel He Out: Back Detector FID Aux EPC 4 N2 Aux EPC 5 N2 Aux EPC 6 N2	Control Mode V On Flow Pressure Average Velocity Holdup Time Constant Pressure Post Run: 43.0	Setpoint 0.49027 mL/min 43.091 psi 40.549 cm/sec 0.41103 min	Actual 0 mL/min 0.1 psi (Initial): 0 min He @ 45 °C Oven Out: Ambient Pressure 10 m x 100 μm x 0.17 μm	
<	Colun	in #1 Configuration nange Column Calibrat	te Column	
	ОК Арріу	Upload from Instru	ment Cancel	Help



Select the desired column or auxiliary pressure control device in the **Selection** box to define a flow or pressure program for the selected device (Figure 16).

Setup Method			
C1 Agilent 7890B C1 Agilent 7890B Sample Prep Program			
ALS Valves Inlets Columns Oven D	etectors Events Signals Confi	iguration Readiness	GC Calculators
# Selection Aplent 19091S-002: 59017224 HP-5 1 0.*C-350 *C (350 *C): 10 m x 100 μm x 0.17 μm r. Front SS link He Out. Front SS link He Out. Front SS link He Out. Front SS link He Development Development Agaient 122:1236: US9532917H DB-XLB 0 *C-340 °C (360 °C): 30 m x 250 μm x 0.5 μm n: Back MM Inlet He Out: Back Detector FID Aux EPC 4 N2 Aux EPC 4 N2	Control Mode V On Flow Pressure Average Velocity Holdup Time Constant Pressure	Setpoint 0.49027 mL/min 43.091 psi 40.549 cm/sec 0.41103 min	Actual 0 mL/min 0.1 psi (Intial): 0 min He @ 45 °C Oven Dut: Ambient Pressure 10 m x 100 µm x 0.17 µm
Aux EPC 5 N2 Aux EPC 6 N2 	Post Run: 43.09 Column Char	1 psi #1 Configuration nge Column	e Column
	OK Apply	Upload from Instrur	ment Cancel Help

Figure 16 Selecting a column or other flow device to configure

Enable **Control Mode** to configure the column Flow, Pressure, Average Velocity, and Holdup Time parameters (Figure 17).

Setup Method			
C1 Agilent 7890B C1 Agilent 7890B Sample Prep Program			
ALS Valves Inlets Columns Up	Detectors Events Signals Config	guration Readiness GC Calculators	
# Selection Agilert 19091S-002: 59017224 HP-5 1 0 *C-350 *C (350 *C): 10 m x 100 µm x 0.17 µm Front SS Inlet He Out Front Detector FID Locked Agilert 122:1236: US9532917H 0 B-XLB 0 *C-340 *C (360 *C): 30 m x 250 µm x 0.5 µm n: Back MM Inlet He Out: Back Detector FID Aux EPC 4 N2 Aux EPC 5 N2 Aux EPC 6 N2 Detector FID	Control Mode I On Flow Pressure Average Velocity Holdup Time Constant Pressure Post Run: 43.091 Column #	Setpoint Actual 0.49027 mL/min 43.091 psi 40.549 cm/sec 0.41103 min He @ 45 'C Oven Out: Ambient Pressure 10 m x 100 µm x 0.17 µ psi #1 Configuration ge Column Calibrate Column L	um ock Column
<			
	OK Apply	Upload from Instrument Cance	l Help

Figure 17 Enabling Control Mode

Select a constant pressure, constant flow, ramped pressure, or ramped flow program. If you selected a ramped pressure or ramped flow program, configure the ramp table (Figure 18).

Setup Method	
L1 Agilent 7890B L1 Agilent 7890B Sample Prep Program	
ALS Valves Inlets Columns Oven	Detectors Events Signals Configuration Readiness GC Calculators
# Selection Adlert 190915-002-59017224 HP-5 1 0*C-350*C (350*C): 10 m x 100 µm x 0.17 µm in-Front SS Inlet He Out-Front Detector FID Locked Agilent 122-1236: US9532917H DB-XLB 0 0 C-340*C (360*C): 30 m x 250 µm x 0.5 µm h: Back MM Inlet He Out: Back Detector FID Aux EPC 4 N2 Aux EPC 5 N2 Aux EPC 6 N2	Control Mode On Setpoint Actual Flow 0.49027 mL/min 0 mL/min Pressure 43.091 psi 0.1 psi Average Velocity 40.549 cm/sec Holdun Time 0.41103 min Constant Pressure Constant Pressure Ramped Pressure Constant Row Ramped Row Column #1 Configuration Change Column Calibrate Column Lock Column
	OK Apply Upload from Instrument Cancel Help

Figure 18 Selecting a ramped or constant flow or pressure program

If desired, you can change an installed column using the **GC Column Catalog**, calibrate a column, or lock/unlock the column configuration (Figure 19).

Setup Method	
C1 Agilent 7890B C1 Agilent 7890B Sample Prep Program	
ALS Valves Inlets Columns Oven	Detectors Events Signals Configuration Readiness GC Calculators
# Selection Aglent 19091S-002: 59017224 HP-5 1 0 'C-350 'C (350 'C): 10 m x 100 µm x 0.17 µm n: Front SS linket He Out Front Detector FID Locked Aglent 122-1236: US9532917H DB-XLB 0 'C-340 'C (360 'C): 30 m x 250 µm x 0.5 µm n: Back MM Inlet He Out: Back Detector FID Aux EPC 4 N2 Aux EPC 5 N2 Aux EPC 6 N2	Control Mode On Setpoint Actual Flow 0.49027 mL/min 0 mL/min Pressure 43.091 psi 0.1 psi Average Velocity 40.549 cm/sec (Initial): 0 min He @ 45 'C Oven Out: Ambient Pressure 10 m x 100 µm x 0.17 µm Post Run: 43.091 psi Column #1 Configuration Change Column Calibrate Column Lock Column
	OK Apply Upload from Instrument Cancel Help

Figure 19 Accessing column configuration controls

GC Column Catalog

The **GC Column Catalog** is a local database of popular column models and custom column entries shared across all instrument sessions on your data system. See "GC Column Catalog" on page 16 for information.

Calibrate a column

If your column dimensions have changed since manufacture, use **Calibrate Column #** to enter or estimate the new column dimensions. When updated, the method editor automatically adjusts the column pressure and flow information in the method.

Lock a column

If desired, lock the selected column's configuration. This allows for a different method to be loaded without automatically updating the current column parameters in the GC with the column parameters previously stored with the different method.

Oven

Select the **Oven** icon to open the **Oven** panel. Use the **Oven** panel to control oven temperature parameters and to configure temperature ramps during and following a run (Figure 20).

Setup Method						×				
C1 Agilent 7890B C1 Agilent 7890B Sample Prep Prog	gram									
ALS Valves Inlets Columns Oven	Detectors Even	ts Signals	Configuration	Readiness GC Ca	Iculators					
Actual Ven Temp On		Rate °C/min	Value ℃	Hold Time min	Run Time min					
45 °C 45 °C	(Initial)		45	0.1	0.1					
Equilibration Time Omin	*									
Maximum Oven Temperature 325 °C										
🔲 Override Column Max: 350 °C										
Post Run: 50 °C										
	Post Rur	n Time: 0 min								
	ОК		Apply Uplo	oad from Instrument	Cancel	Help				

Figure 20 Accessing the Oven method parameters

If the **Oven** icon is highlighted in yellow (Figure 21), you must verify the maximum oven temperature setpoint. If the maximum oven temperature is higher than the column maximum temperature, it is possible to damage your column.

Setup I	Method											×
CI /	gilent 7890	B 🗀 Agile	ent 7890B Sample	Prep Prog	ran							
AL	S Valv	es Inlet	s Columns	Oven	Detectors	کی Events	Signals	Configuration	Readiness	GC Calculators		
	Voven 🛛	Femp On	Actual			F	Rate C/min	Value ℃	Hold Time min	e Run Time min	•	
	45 ℃		45 ℃		(Initial)			4	45	0.1	0.1	
Equ	uilibration T	ime			*					_		
	0 min											
Ma	ximum Ove	n Temperati	ure									
	<mark>375 ℃</mark>		J									
	Overri	de Column I	Max: 350 °C									
											_	
						Post R	un: 50 °C					
					P	ost Run Tin	ne: 0 min					
					_							
						OK		Apply	load from Instrum	nent Cancel		Help

Figure 21 Oven setpoints out of range

ALS

Select the **ALS** icon to open the **ALS** panel. Use the **ALS** panel to set parameters for the injector and sample tray.

Front/Back Injector

Select the **ALS** > **Front Injector** (or **Back Injector**) tab. Use the **Front/Back Injector** panel to configure injection parameters, washes and pumps settings, dwell time, plunger speed, sample depth, and the type of your injection (Figure 22).

Front Injector Back Injector Tray / Other Injection Syringe Size: 10 µL Injection Volume: 1 µL Injection Volume: 1 µL Vashes and Pumps Prelnj Postinj Volume (µL) Solvent A Washes: 0 Solvent A Washes: 0 Solvent A Washes: 0 Sample Washes: 0 Sample Pumps: Max Sample Pumps: Max Syringe: Sample Depth Enable Inim Ibuttapered, FN 23-26s/42/H) Sandard L2 volume: 1 µL Sidard L2 wolume: L2 air gap: 0 2 µL Standard L2 air gap: L3 air gap: 0 2 µL Multiple Injections L3 air gap: Multiple Injections L3 air gap: Solvent Wight Injections L3 air gap: Syringe: 1 µL	Setup Method Image: Aglient 7890B Image: Aglient 7890B Sample Prep Program Image: Aglient 7890B Image: Aglient 7890B Sample Prep Program Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B Image: Aglient 7890B	Events Signals Configuration Readiness GC Calculators
Select Syringe Syringe: Agilent 5181-1267: 10 μL (Syringe. 10ul tapered, FN 23-26s/42/H) Injection Type Injection Type Injection Type	Front Injector Back Injector Tray / Other Injection Syringe Size: 10 μL Injection Volume: 1 μL Washes and Pumps PreInj PostInj Volume (μL) Solvent A Washes: 0 Max Solvent B Washes: 0 Max Sample Washes: 0 Max Sample Pumps: 0 Max	Dwell Time Pre-Injection: 0 min Post-Injection: 0 min Plunger Speed ● Fast ● Slow ● Variable Draw Dispense Solvent Wash 300 µL/min Sample Wash 300 µL/min Inject 6000 µL/min Viscosity Delay: 0 ▼ sec
	Select Syringe << Syringe: Agilent 5181-1267: 10 µL (Syringe, 10µl tapered, FN 23-26s/42/H)	Sample Depth Enable 0mm Injection Type Standard 2-layer Sandwich 3-layer Sandwich L1 air gap: 0.2 µL 0.2 µL 0.2 µL 0.2 µL 0.2 µL 0.2 µL 0.2 µL



GC Syringe Catalog The **GC Syringe Catalog** is a local database shared across all instrument sessions on your data system. See "GC Syringe Catalog" on page 19 for information.

Tray / Other

Select the **ALS** > **Tray** / **Other** tab. Use the **Tray** / **Other** tab to configure the barcode, heating, and mixing modules, sample overlap settings, and to configure ALS error handling (Figure 23).

Setup Method					×
C1 Agilent 7890B C1 Agilent 7890B Sample F	Prep Program				
ALS Valves Inlets Columns	View Detectors	Signals Confi	guration Readiness	GC Calculators	
Front Injector Back Injector Tray / Other					
Barcode reading, heating and mixing					
Enable barcode heater	Enable barcode mixer Mix cycles:				
Heat Temperature: Actual	2				
50 °C 28 °C	Mix time:				
Heat time:	10 sec				
1 min	Mix speed: 1000 rpm				
Sample Overlap					
Enable Sample Overlap					
After the previous injection is complet	ted				
O Prepare sample 0 min be	efore end of GC run				
Prepare sample 0 min af					
ALS Errors: Skip to the next sample	•				
	ОК	Apply	Upload from Instru	ment Cancel	Help

Figure 23 Accessing the sample tray parameters

ALS error handling The **ALS Errors** option is available if your GC has the 7693A ALS tray installed.

Configure how your ALS handles errors using one of the following options from the **ALS Errors** drop-down menu:

- **Pause for user interaction** If an ALS error occurs, the system pauses and waits for a user response. This gives you a chance to correct the error, if possible.
- Skip to the next sample If an ALS error occurs, the system skips to the next sample in the sequence and continues the run.
- Abort the sequence If an ALS error occurs, the system aborts the sequence.

Valves

Select the **Valves** icon to open the **Valves** panel. Use the Valves panel to specify the initial settings for valve driver channels (Figure 24).

Se	tup Meth	od											×
	🗐 Agilent	: 7890B 🖸	.1 Agilent	7890B Sample	Prep Program	n							
	ALS	() Valves	⊣ Inlets	Columns	Oven	Detectors	و Events	Signals	Configuration	Readiness	GC Calculator	s	
	Valve		Туре	e		On		Position		Load Time (mir	1)	Inject Time (mir	1)
	#1		Gas	Sampling Valve				N/A		0.5		0.5	
	#2		Gas	Sampling Valve				N/A		0.5		0.5	
	#3		Not I	nstalled				N/A		N/A		N/A	
	#4		Swite	ching Valve				N/A		N/A		N/A	
	#5		Swite	ching Valve				N/A		N/A		N/A	
	#6		Not I	nstalled				N/A		N/A		N/A	
	#7		Not I	nstalled				N/A		N/A		N/A	
	#8		Not I	nstalled				N/A		N/A		N/A	
			•										
	OK Apply Upload from Instrument Cancel Help												

Figure 24 Accessing the Valves method parameters

Inlets

Select the **Inlets** icon to open the **Inlets** panel. Use the Inlets panel to set parameters for the front and back inlet installed in your GC (Figure 25).

Setup Method								X				
C1 Agilent 7890B C1 Agilent 7	7890B Sample Prep Program	n										
ALS Valves Inlets	Columns Oven	Detectors	ivents Signa	- X	tion Readiness	GC Calculators						
SSL - Front MMI - Back												
MM Inlet	Select Liner.	Liner: Ag	ilent 5183-4693	900 μL (Splitless	, single taper liner w	ith gl)						
 Heater: Pressure: Total Flow: Septum Purge Flow: Septum Purge Flow Mode: 	Setpoint 150 °C 10 psi 84.121 mL/min 3 mL/min Standard	Actual 42.2 °C 10 psi 84.1 mL/min 3 mL/min	*	(Initial)	Rate Value 'C/min 'C Final valu ost Run: 250 °C al Flow: 25 mL/min	e will be extended b	Run Time min 0.1 y GC run time.					
Mode: Split Gas Saver: On	Mode: Split Split Ratio: 100 :1 Split Flow \$0.318 mL/min Gas Saver: Cryo: (CO2) On On On											
20 mL/min After: 2 min	Fast Cooldo Cryo Use Tem 25 °C Timeout Del 30 min Fault Detect	wn perature: ection ion										
			ок	Apply	Upload from Inst	rument Ca	ancel	Help				

Figure 25 Accessing the Inlets method parameters

GC Liner Catalog

The GC Liner Catalog (Figure 26) is a local database shared across all instrument sessions on your data system. The database contains popular liner models and any custom liners added.

<u>.</u>	GC Li	iner	Ca	atalog	28											x
A	tior	ıs														
							_	Find	Clear							-
							•	Finu	Clear							
м	anuf	actu	irei	r 🔺												
																-1
	Favo	orite		Part Number		Description		I.D., mm	Volume, µL	Unit Qu	antity	Keywo	rds	Comments	Time Stamp	
•	E]]	5181-8818	Split	less, straight liner, dea	ctivate	2	250		1	Splitless Liner	s		11/26/12 12:57:10	-1
				Oid		Lot Number	CC Serial	Number	Position in		6	mmente	Time	Stamp	Part Number	Т
			`			Locitatibei	GC Seria	GC Senarriumber						stamp	Parthumber	
			۱.		1 Ag12345		CN1063100	06		2		01/21/13		13:11:08	5181-8818	
	÷			5183-4647	Split	, single taper liner with	glass	4	870		1	Split Liners			11/26/12 12:57:10	
	÷			5183-4691	Split	, straight liner with glas	s wool	4	990		5	Split Liners			11/26/12 12:57:10	
]	5183-4692	Split	, straight liner with glas	s wool	4	990		25	Split Liners			11/26/12 12:57:10	
	÷]	5183-4693	Split	less, single taper liner v	vith gl	4	900		5	Splitless Liner	s		11/26/12 12:57:10	
			1	5183-4694	Split	less, single taper liner v	vith gl	4	900		25	Splitless Liners			11/26/12 12:57:10	
	÷]	5183-4695	Split	less, single taper liner,	deacti	4	900		5	Splitless Liners			11/26/12 12:57:10	
			1	5183-4696	Split	less, single taper liner,	deacti	4	900		25 Splitless Liners		s		11/26/12 12:57:10	
	+		1	5183-4697	Split	, straight liner with cup	, glass	4	800		5	5 Split Liners			11/26/12 12:57:10	
	÷]	5183-4698	Split	, straight liner with cup,	, glass	4	800		25	Split Liners			11/26/12 12:57:10	
	÷]	5183-4699	Split	, straight liner with cup	(for m	4	800		5	Split Liners			11/26/12 12:57:10	
]	5183-4700	Split	, straight liner with cup	(for m	4	800		25	Split Liners			11/26/12 12:57:10	
144 4	H 4	#	1/	1 + + + + -	A 1	/ × -										Þ
		Cle	-	Selection	ר									Cancel		
		Cle	ar :	Selection								OK		Cancel	Help	

Figure 26 The GC Liner Catalog

Use the **GC Liner Catalog** to select a liner model to add to your **Liner Inventory** (a collection of liners available in your lab), or select a liner model already entered in your inventory to define in your method.

Once you define a liner using the **GC Liner Catalog** or **Liner Inventory**, the liner information displays in your method editor, the GC actuals, and in the report following a run.

Detectors

Select the **Detectors** icon to open the **Detectors** panel. Use the Detectors panel to set parameters that control the front, back, and auxiliary detectors on your GC (Figure 27).

Setup Method						×
C1 Agilent 7890B C1 Agilent 7890B Sample P	Prep Program					
ALS Valves Inlets Columns	Vven Detectors	Events Signals	Configuration	Readiness	GC Calculators	
FID - Front FID - Back						
FID						
	Setpoint	Actual				
V Heater:	225 ℃	225 °C				
Air Flow:	300 mL/min	300 mL/min				
H2 Fuel Flow:	30 mL/min	30 mL/min				
Makeup Flow: (N2)	25 mL/min	25 mL/min				
Carrier Gas Flow Correction						
Column Flow: (He)	0.49027 mL/min	0 mL/min				
Included in Fuel Flow						
Included in Makeup Flow						
Does not affect Makeup or Fuel Flor	w					
Flame		0 pA				
FID						
Subtract from Signal:						
(Nothing) Column Componentian Curve #1						
Column Compensation Curve #1						
			Arrely	1 (
				bload from Instrun	Cancel	Неір

Figure 27 Accessing the Detectors method parameters

Aux Heaters

Select the **Aux Heaters** icon to open the **Aux Heaters** panel. Use the Aux Heaters panel to set parameters that enable or disable a specific auxiliary heated zone and to control its temperature (Figure 28).



Figure 28 Accessing the Aux Heaters method parameters

Events

Select the **Events** icon to open the **Events (Run Time Events)** panel. Use the Events panel to schedule events that occur automatically during a run. You can set event parameters for equipment installed on your instrument, for example, selected detector and inlet gas flows, auxiliary temperatures, valves, and selected signal handling functions (Figure 29).

Setup Meth	od	877									X
C1 Agilent	t 7890B [_1 Agilent 7	7890B Sample I	Prep Progra	am						
ALS	() Valves	⊐ <mark>i</mark> Inlets	Columns	Oven	Detectors	(Events	Signals	Configuration	Readiness	GC Calculators	
Runti	ime Even	ts								Delete	Append
		Time (min	ı) 🔺		Event Typ	e		Position		Setpoint	
1	1		1.5				Valve		Valve 1	1	On
2	2		3				Valve		Valve 1	1	Off
▶*											0
						ОК		Apply Up	load from Instrun	nent Cancel	Help



Signals

Select the **Signals** icon to open the **Signals** panel. Use the Signals panel to set the parameters that control the signal for analysis (Figure 30).

Setup Method											×
CI Agilent 7890B	🗂 Agilent	7890B Sample Pre	ep Program								
ALS Valves	⊐ <mark> </mark> Inlets	Columns	Oven D	etectors	فی Events	Signals	Configuration	Readiness	GC Calculators		
	Dual	Signal Source				Data Rate /	Min Peak Width	Zero	Save		
$ \rightarrow$	F	#1: Front Signa	al (FID)		•	50 Hz / .00)4 min	- L			
	в	#2: Back Signa	ri (FID)		-	50 Hz / .00	14 min	- L			
	B	#4: Diagnostic	s: Test Plot		• •	50 Hz / 00	14 min				
	Hide Du	al Injection Signal	Assignment	s							
Delete		Signal Source		Time, m	in	Signal Event					
Events	#	t1: Front Signal (FIE)) •	• 1.5	Z	Zero Signal			-		
	▶ #	#2: Back Signal (FIC	D) •	• 1.5		Zero Signal			-		
	*			•					-		
					ОК		Apply U	lpload from Inst	rument Ca	ncel	Help

Figure 30 Accessing the Signals method parameters

Backflush

Select the **Backflush** icon to open the **Backflush** panel. The Backflush panel appears only if your system is configurable for backflushing. If available, use the Backflush panel to set up your system for backflush operations after all the other method parameters are set. A backflush wizard makes entries based on the method's expected configuration (Figure 31).



Figure 31 Accessing the **Backflush** parameters

Readiness

Select the **Readiness** icon to open the **Readiness** panel. Use the Readiness panel to select which instrument components you require to be ready before a run starts. For example, if you use only the front detector, you do not need to wait for the back detector to reach temperature before starting the run. Only selected components affect the readiness state of the GC (Figure 32).

etup Meth	od											×
🗐 Agilen	t 7890B 🛛	1 Agilent	7890B Sample	Prep Progra	am							
ALS	() Valves	⊣ Inlets	Columns	Oven	Detectors	Events	Signals	Configuration	Readiness	GC Calculators		
Exc	lude C	ompon ed compon	ents from	Affect i	ing the G(eadiness state	C's Rea	diness S	State				
	 ✓ Ov Fro Bac ✓ Fro Ø Aux ✓ Aux ✓ Aux 	en ont Inlet (SS ck Inlet (MI ont Detecto ck Detector ck Detector ck EPC 4 ck EPC 5 ck EPC 6	S Inlet) M Inlet) r (FID) r (FID)									
	Che	ck All										
						ОК		Apply U	bload from Instru	ument Cancel	H	elp

Figure 32 Accessing the Readiness parameters

GC Calculators

Select the **GC Calculators** icon to open the **GC Calculators** panel. Use the GC Calculators tab to select which method setpoints to use when initializing your calculator data, and to select the desired calculator tool.

Vapor Volume Calculator

Select the **Vapor Volume Calculator** to compare the estimated volume of gas produced by your method against the capacity of your liner (Figure 33).

💀 Vapor Volume Calcul	lator					X
Solvent Properties Acetone Boiling Point (°C) : Density (g/cm ³) : Mol WF (armi) :	▼ 56 0.79	Injection volume (µL) Inlet Temperature (°C)	4	1.00 <u>*</u>	Estimated Volume	% Capacity 16%
Injection Liner	58.08 ed sj ▼	Inlet Pressure (gauge)	4	43.091	Solvents Add Remo	ve Defaults
Liner Volume (µL) :	900				Add Remo	Defaults
					Close	Help

Figure 33 The Vapor Volume Calculator

Method Translator

Select the **Method Translator** to help optimize or convert a GC method from one configuration environment to another. From a given original GC method, the GC Method Translator computes a new translated method in such a way that the chromatograms resulting from both methods – original and translated – look like scaled versions of each other. This can be viewed as the re-scaling of the chromatograms along the time and the peak area axes (Figure 34).

•					×	
Speed gain						
2.2047	Original Method I	Parameters	Calculated	Method Parameters		
 Iranslate Best Efficiency 	Gas He	•		Gas	H2 -	
Length (m)		10 m		10 m		
		10 11		10111		
Inner Diameter (µm)	-0	100 µm	æ	100 µm		
Film Thickness (µm)		0.17 µm	æ	0.17 µm		
Phase Ratio		147.06		147.06		
Inlet Pressure (gauge)		43.091 psi		43.091 psi		
Outlet Flow (mL/min)		0.49027 mL/min		1.0809 mL/min		
Average Velocity (cm/s	· · · · · · · · · · · ·	40.549 cm/sec		89.397 cm/sec	· · · · · · · · · · · · ·	
Outlet Pressure (abs)	-0	14.696 psi 🔹		14.696 psi 🔹		
Holdup Time		0.41103 min	.	0.18643 min		
Outlet Velocity (cm/s)		111.02 cm/sec		244.76 cm/sec		
	# Ramp Rate Final Te	mp Final Time		# Ramp Rate	Final Temp Final Time	
 Isothermal 	Init 45	0.1		Init	45 0.05	
Ramps						
	Total Run Time	0.1 min		Tota	I Run Time 0.05 min	
Pressure Units	Original Column Capacity:	0.17		Translated Colum	n Capacity: 0.17	
PSI V			The column capac is 100% of the or may need to adju	column capacity of the translated method 10% of the original column capacity. You need to adjust your injection volume.		
	Save new	w setpoints		Done	Help	



Pressure Flow Calculator

Select the **Pressure Flow Calculator** to determine pressure settings and flow rates through a capillary GC column. Column dimensions, temperature, inlet and outlet pressure, and carrier gas type can be varied in the calculation of outlet flow rate, average linear velocity, and holdup time (Figure 35).

Pressure Flow Calculator			
Length (m)	•	▶ 10.00	Split Vent Flow 0.000 (mL/min)
Inner Diameter (µm)	•	▶ 100	Split Ratio (vent flow/col flow) 0.000 : 1
Film Thickness (µm)	•	▶ 0.17	+ Holdup Time 0.96 min
Temperature (°C)	•	▶ 45	Thet Temp (°C)
Inlet Pressure (gauge)	•	▶ 43.091	Inlet Liner Flow (mL/min) 1.841
Outlet Flow (mL/min)	•	▶ 3.779	Liner Volume (µL)
Average Velocity (cm/s)	•	▶ 52.193	Suggested Splitless Purge Time: 0.0 min
Outlet Pressure (absolute)	٠	 14.696 1 Atm Vacuum 	Carrier Gas Helium Optimum velocity range (cm/s)
		Other	
			Ciose Heip

Figure 35 The Pressure Flow Calculator

Solvent Vent Calculator

Select the **Solvent Vent Calculator** to estimate the Agilent solvent vapor exit (SVE) accessory valve timing, which is based on solvent type, oven temperature, vent flow, and pressure (Figure 36).

Solvent Vent Calculator	
Elimination Rate (µL/min) Valve Time (min) Suggested Valve Time (min)	66.28 0.02
Oven Temperature (°C) H5	Inlet Pressure (absolute) 43.091 (*) Outlet Pressure (absolute) 14.697 (*)
Injected Volume (µL)	Residual Solvent (%) 10.0 (*) Solvent acetone •
	Close Help

Figure 36 The Solvent Vent Calculator

Early Maintenance Feedback (EMF)

Use the **Early Maintenance** tool to track your GC's consumable resource and part usage, and to configure alerts for when they need to be replaced or serviced.

To access EMF counters, select **Instrument > Maintenance** from the data system top menu. The **Early Maintenance** window opens (Figure 37).

File	RunControl	Inst	rument	Method	Sequence	RTLock	RTSea	rch	View	Abort	Help
			Select	Injection So	ource						
			Edit Ag	jilent 7890E	3 Parameters						
			Instrun	nent Utilitie	ES						
			Colum	ns							
			Snapsh	not							
			Instrum	nent Config	guration						
			Acquis	ition Meth	od Viewer						
			Agilen	t 7890B Cor	nfiguration						
			Upload	l method fr	rom Agilent	7890B					
			Start C	olumn Cor	mpensation f	Run					
			Sleep								
			Wake l	Jp							
		\checkmark	Mainte	nance							
			Extend	Run							

Figure 37 Opening the Method Editor

Maintenance					
Farly Maintenance Feedback Counters Maintenance	Moin Moin	topopoo Actiona			
Front Inlet Back Inlet Front Detector	New York	: Detector 🛛 🎱 Valve	1 🥥 Valve 2 🥥 Valv	re 4 🥥 Valve 5	Front Injector
Septum injections	5	Injections			+
Liner injections	5	Injections			+
Gold seal injections	5	Injections	l.		+
Liner O-ring injections	5	Injections	Ĺ		+
Split vent trap injections	5	Injections	l.		+
Gold seal age	2:5	(Weeks : Hrs)	i.		+
Liner age	2:5	(Weeks : Hrs)			+
O-ring age	2:5	(Weeks : Hrs)	i.		+
Split vent Trap age	2:5	(Weeks : Hrs)			+
Add User Defined Counter Hide selected o	ounters or	this page	Show all hidden counters	Print	Options

Select the **Early Maintenance Feedback Counters** tab. A list of GC components appear in tabs (Figure 38).

Figure 38 Early Maintenance Feedback Counters

Maintenance			
Early Maintenance Feedback Counters Maintena	Ince Log Maintenance Actions		
Front Inlet Sack Inlet Front Dete	ctor 🎱 Back Detector 🎱 Valv	ve 1 🥥 Valve 2 🎱 Valve 4 🎱 Valve 5 🌘	🕘 Front Iniector 🧧 🛀
SS Inlet			
Septum injections	5 Injections		+
Liner injections	5 Injections		+
Gold seal injections	5 Injections		+
Liner O-ring injections	5 Injections		+
Split vent trap injections	5 Injections		+
Gold seal age	2 : 5 <i>(Weeks : Hrs)</i>		+
Liner age	2 : 5 <i>(Weeks : Hrs)</i>		+
O-ring age	2 : 5 (Weeks : Hrs)		+
Split vent Trap age	2 : 5 <i>(Weeks : Hrs)</i>		+
Add User Defined Counter Hide select	ted counters on this page	Show all hidden counters Print	Options

A graphic indicator displays the current status of each EMF counter (Figure 39).

Figure 39 Graphic EMF indicators for GC components

Click	the	+	box	to	display	configurable	parameters	for	each
EMF	cour	ιte	er (F	igu	re 40).				

Maintenance			
Early Maintenance Feedback Counters Maintenan	nce Log Mai	ntenance Actions	
Front Inlet 🥥 Back Inlet 🎱 Front Detec	ctor 🅘 Bac	k Detector 🏾 🎱 Valve 1	Valve 2 Valve 4 Valve 5 Front Injector B:
SS Inlet			
Septum injections	5	Injections	
Liner injections	5	Injections	
Hide this EME	-Warning Thi	reshold	Service due Threshold
	Enable		✓ Enable
Reset EMF Set default recommended values for limits	3	Set	5 Set
Gold seal injections	5	Injections	
Liner O-ring injections	5	Injections	
Split vent trap injections	5	Injections	
Gold seal age	2:6	(Weeks : Hrs)	•
Liner age	2:6	(Weeks : Hrs)	

Figure 40 Displaying the EMF counter parameters

You can add a user-defined EMF counter, hide selected counters, and print your counter data (Figure 41).

Maintenance		
Early Maintenance Feedback Counters Mainten	ance Log Maintenance Actions	
Valve 2 Valve 4 Valve 5	Front Injector 🛛 🎱 Back Injector 🛛 🎱 Column 1	Column 2 🕘 Instrument 🤍 User Defined
User Defined		
User-Defined Co	0 Injections	·
Hide this EMF	Warning Threshold	Service due Threshold
Follows - Instrument Run Counter	☑ Enable	V Enable
Reset EMF Remove Me	12 Set	15 Set
Add User Defined Counter Hide sele	cted counters on this page Show all hid	den counters Print Options

Figure 41 Additional EMF controls

Select the **Maintenance Log** tab to view a list of maintenance events, the time, and any associated messages (Figure 42).

Maintenance				
Early Maintenance Feedback Counters Maintenance Log Maintenance Actions				
- Maint	Maintenance Log			
	Time	Log Message		
•	1/18/2013 1:06:59 PM	<1023>		
	1/18/2013 1:05:03 PM	<1023>		
	1/18/2013 1:04:22 PM	<1023>		
	1/17/2013 8:43:30 AM	<1023>		
	1/17/2013 8:42:49 AM	<1023>		
	1/15/2013 1:53:14 PM	Column 1 injections serviced.		
	1/15/2013 1:53:14 PM	Column 1 Oven cycles serviced.		
	1/14/2013 3:18:46 PM	Column 2 injections serviced.		
	1/14/2013 3:18:46 PM	Column 2 Oven cycles serviced.		
	1/14/2013 3:12:47 PM	Column 2 Oven cycles serviced.		
	Refresh Ma	aintenance Log		

Figure 42 Viewing the Maintenance Log

Select the **Maintenance Actions** tab to access maintenance-related actions. For example, you can synchronize the GC clock with your PC clock, set a method in the event of an MS Vent action, or import/export/restore an EMF counter file (Figure 43).

ſ	Maintenance		
	Early Maintenance Feedback Counters Maintenance Log Maintenance Actions		
	Setup GC Method on MS Vent Import/Export/Restore Synchronize Clocks		
	PC Clock: 1/21/2013 2:59:38 PM		

Figure 43 Maintenance Actions

Saving the Method

When you method edits are complete, download the settings to the GC and save the method. How you do this depends on the data system. For example, in OpenLAB CDS ChemStation Edition, click **OK** in the Method Editor to send the parameters to the GC, then select **Method > Save Method** or **Method > Save Method As...** to save the changes. (Figure 44).



Figure 44 Saving a method in OpenLAB CDS ChemStation Edition

Viewing GC Temperatures and Flows

You can view GC temperatures and flows in your data system. How you access the actuals panel depends on the data system.

For example, in OpenLAB CDS ChemStation Edition, select **Instrument > GC Show/Hide Status** from the data system top menu (Figure 45).



Figure 45 Accessing Instrument Actuals

The GC Status window opens and displays GC component actuals (Figure 46).



Figure 46 GC Status

Parts Finder

To open Agilent Parts Finder, navigate to **Instrument** > **Parts Finder**. Use Parts Finder to quickly locate replacement parts for your Agilent Technologies, Inc. instruments. Finding and ordering a part is as simple as clicking on an instrument model, locating the part, adding the part to a parts list, and printing or uploading the list to the Agilent online store for easy ordering.

When launched from your Agilent data system, Parts Finder incorporates the parts configuration information that you have already entered into your instrument. Parts Finder will include any parts configured in your 7890 Series GC and will show only the instrument component views that match the installed instrument system.

Where to Find Information

In addition to this guide, Agilent provides several learning products and tools to assist you with your Agilent software and hardware products.

Agilent GC and GC/MS User Manuals & Tools DVD

The Agilent GC and GC/MS User Manuals & Tools DVD provides an extensive collection of manuals and tools for Agilent gas chromatographs, mass selective detectors, and samplers.

User manuals

The DVD provides a complete set of localized user manuals and related videos for your Agilent GC and GC/MS products covering the following topics:

- Site preparation information
- Installation and first startup information
- Getting started information
- Safety and regulatory information
- Operation information
- Advanced operation information
- Troubleshooting information
- Maintenance information

Tools

The DVD provides a set of tools for your Agilent GC and GC/MS instruments, including:

- A stand-alone version of Agilent Parts Finder
- GC Firmware Update Tool
- Backflush Wizard
- GC and HS method translators
- A stand-alone set of GC calculators.
- Agilent Instrument Utilities software

Software Help System

Each Agilent data system includes an extensive software help system with detailed information for each software screen and a collection of common tasks.

Getting Familiar with the Agilent Integrated GC Software

