
Agilent 7683 Automatic Liquid
Sampler

©Agilent Technologies
1997–2001

All Rights Reserved.
Reproduction, adaptation, or
translation without permission
is prohibited, except as allowed
under the copyright laws.

Part No. G2612-90107

Replaces Part No. G2612-90100

Second edition, May 2001

First edition, Jan 2000

Printed in USA

HP® is a registered trademark
of Hewlett Packard Co.

Microsoft®, Windows®, and
Windows NT® are registered
trademarks of Microsoft Corp.

Safety Information

The 7683 Automatic Liquid Sampler meets the following IEC (International Electrotechnical Commission) classifications: Safety Class 1, Transient Overvoltage Category II, and Pollution Degree 2. This unit has been designed and tested in accordance with recognized safety standards and designed for use indoors. Whenever the safety protection of the 7683 Automatic Liquid Sampler has been compromised, disconnect the unit from all power sources and secure the unit against unintended operation.

The recyclable carbon monofluoride lithium battery is BR-2/3 A 1,200 mAh. Fuses F001 and F002 are 3 A, 250 Vac, IEC 127 Type T. Fuses F201 and F202 are 10 A, 250 Vac, IEC 127 Type T. Fuse F101 is a 0.5 A, 250 Vac.

Warnings in this manual or on the instrument must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions violates safety standards of design and the intended use of the instrument. Agilent Technologies assumes no liability for the customer's failure to comply with these requirements.

Refer servicing to qualified service personnel. Substituting parts or performing any unauthorized modification to the instrument may result in a safety hazard. Disconnect the AC power cord before removing covers. The customer should not attempt to replace the battery or fuses in this instrument.

Safety Symbols

This manual contains safety information that should be followed by the user to ensure safe operation.

WARNING

A warning calls attention to a condition or possible situation that could cause injury to the user.

CAUTION

A caution calls attention to a condition or possible situation that could damage or destroy the product or the user's work.

Electromagnetic Compatibility

This device complies with the requirements of CISPR 11. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference.
- 2 This device must accept any interference received, including interference that may cause undesired operation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:

- 1 Relocate the radio or antenna.
- 2 Move the device away from the radio or television.
- 3 Plug the device into a different electrical outlet, so that the device and the radio or television are on separate electrical circuits.
- 4 Make sure that all peripheral devices are also certified.
- 5 Make sure that appropriate cables are used to connect the device to peripheral equipment.
- 6 Consult your equipment dealer, Agilent Technologies, or an experienced technician for assistance.
- 7 Changes or modifications not expressly approved by Agilent Technologies could void the user's authority to operate the equipment.

Sound Emission Certification for Federal Republic of Germany

Sound Pressure

Sound pressure $L_p < 57$ dB(A) according to DIN-EN 27779. When operating the Agilent Automatic Liquid Sampler, the sound pressure is approximately 68 dB(A) during short burst injection pulses.

Schalldruckpegel

Schalldruckpegel $LP < 57$ dB(A) nach DIN-EN 27779. Bei Betrieb des Agilent automatischen Probendebbers treten beim Öffnen des Ventils kurzfristig Impulse bis zu einem Schalldruckpegel L_p von ca. 68 dB(A) auf.

Contents

Installation Checklist	1
Installing the G2614A Tray	2
Installing the G2613A Injector	4
Installing the G1926A Bar Code Reader	6
Connecting The Cabling	8
Adapting For Cool On-column Injection	10
Configuring Your Gc (6890)	12
Making A Trial Run	13
Maintenance	15
Removing The Turret	16
Turret Alignment	17
Replacing The Needle Support Assembly	19
Replacing The Needle Guide In The Needle Support Foot	22
Correcting Syringe Problems	24
Correcting Sample Vial Delivery Problems	25
Faults	26
No Light Is On	27
The Fault Light Is On	27
The Fault And The Run Lights Are On	27
Align Mode Light Is On	28
All Lights Are On	28
Error Messages	29
Bottle In Gripper	30
Front (Or Back) Door Open Or Injector Not Mounted	30
Front (Or Back) Injector Com Error	30
Front (Or Back) Injector Incomplete Injection	31
Front (Or Back) Injector Reset	31
Front (Or Back) Plunger Error	32
Front (Or Back) Syringe Error	32
Front (Or Back) Turret Error	33
Injector Not Present	33
Injector Offline	34
No Bar Code Reader	34
No Bottle In Gripper	35
Tray Not Present	35
Tray Offline	36

Contents

Autoinject Aborted	36
Invalid Sequence	36
No Injector	37
Prerun > 10 Min	37
Sampler Error	37

Installation Checklist

The 7683 Automatic Liquid Sampler consists of the G2612A ALS Interface Board, the G2613A Injector Module, the optional G2614A Tray, and an optional G1926A Bar Code Reader for the tray. The tray and ALS interface board are installed only on the 6890 Plus Gas Chromatograph (GC).

Use this checklist when installing your 7683 Automatic Liquid Sampler and accessories.

- Unpack the sampler components.
- Install the ALS Interface Board, if purchased.
- Install the tray, if purchased. See page 2.
- Install the injector mounting post. See page 4.
- Install the injector. See page 4.
- Install the (8 sample position) turret, if desired. See page 17.
- Install the bar code reader, if purchased. See page 6.
- Connect the cables. See page 8.
- When using the injector for cool on-column injection:
 - a. Check that the correct needle support assembly is installed. See page 11.
 - b. Install the proper syringe for your column. See your *Operation Guide*.
- Configure your GC. See page 12.
- Test the installation by performing a trial run. See page 13.

Installing the G2614A Tray

If you purchased Agilent accessory G2612A separately from your 6890 Plus GC, install it now. Refer to the documentation provided with the accessory for instructions. After it is installed, continue with the steps below to install the optional G2614A Tray.

1. Unpack the injector module, tray, and bar code reader and place them on the bench top.
2. Remove the 3 injection port cover Torx screws shown.

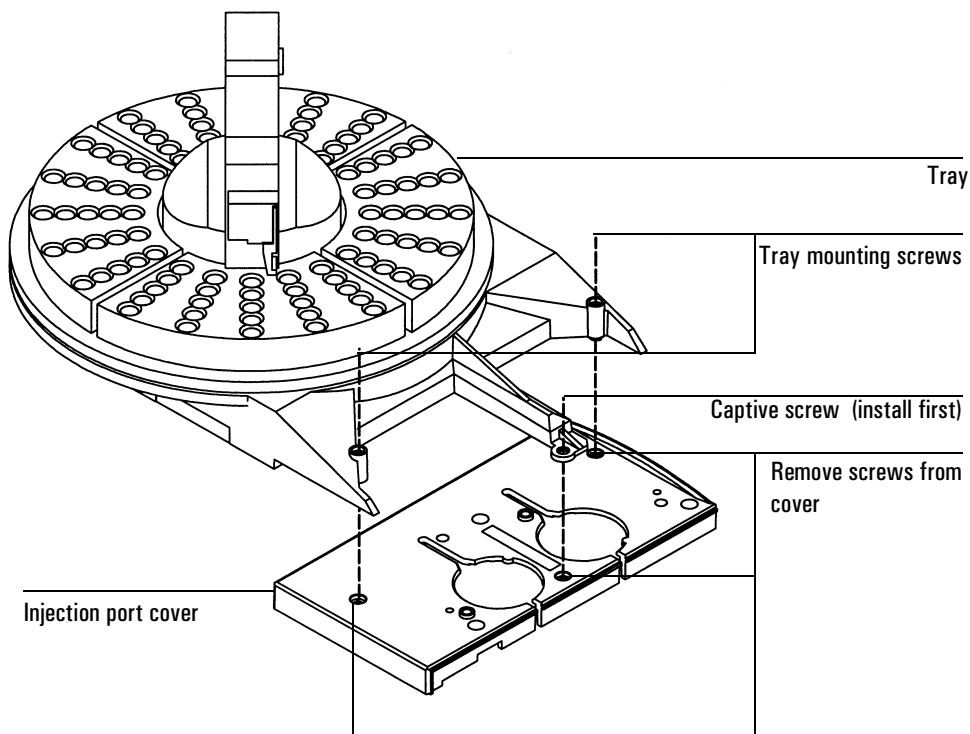


Figure 1 Installing the tray

Caution

Do not move or manipulate the robotic arm or gripper. Moving the arm or gripper back and forth can cause damage. If necessary, rotate the arm assembly a few degrees until there is enough clearance.

3. Align the tray over the 3 holes in the injection port cover and locate in place. Tighten the captive screw in the center of the tray mounting arm to hold the tray in place. Install the 2 mounting screws into the tray and tighten until the tray is secure.
4. Install the tray quadrants. Slide the leading edge of each quadrant under the guides on the tray, then snap the front tab into the slot on the tray. See Figure 2.

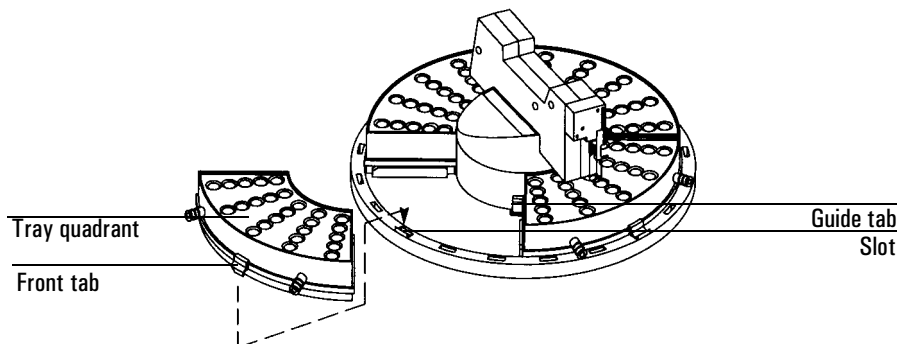


Figure 2 Install the tray quadrants

Installing the G2613A Injector

Note

Do not mount the G2613A Injector on a mounting post for a 7673 Injector. Remove the old post and replace it with the new one.

1. Install the mounting post on the injection port cover in the front or rear location, as desired.
2. Open the injector door. Slide the packing material and syringe carriage down, then remove the packing.
3. Mount the injector. Line up the hole in the base of the injector that is nearest the cable with the mounting post. Lower the injector about an inch (2.5 cm) onto the post.

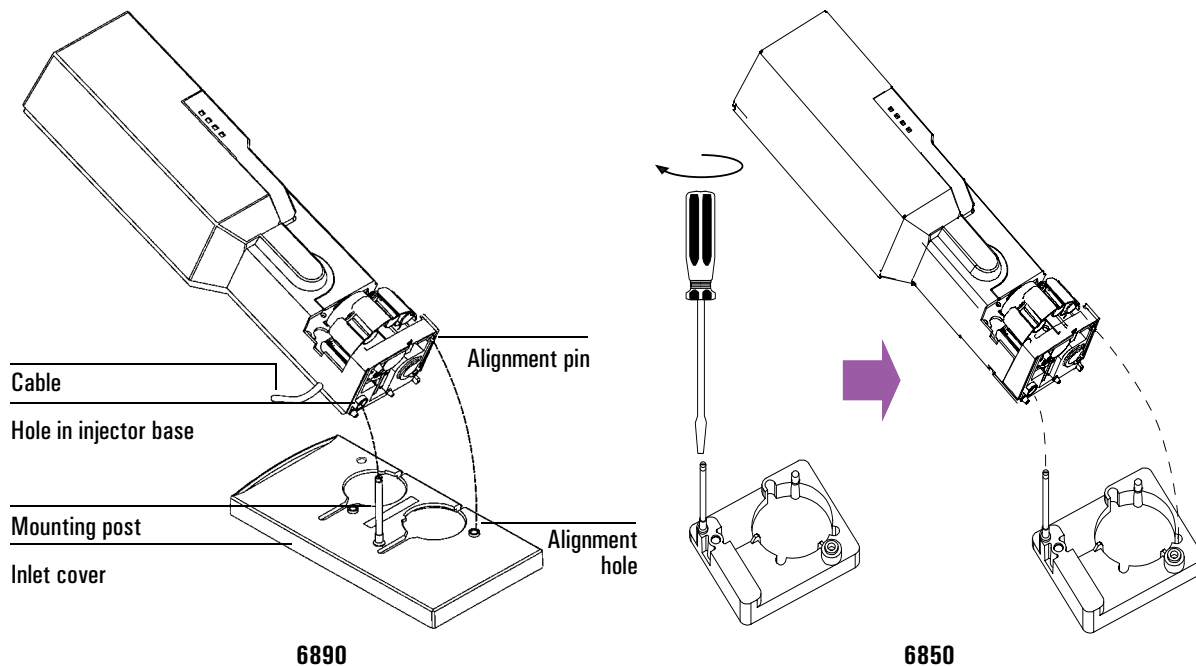


Figure 3 Mounting the injector

4. Front location:

Turn the injector so that the turret is facing the front of the GC. Lower the injector until the alignment pin in the base enters the alignment hole in the injection port cover.

Back location:

Turn the injector so the turret faces the left side of the GC. Lower the injector until the alignment pin in the base enters the alignment hole in the injection port cover.

5. Check your work:

- The injector must be vertical.
- The alignment pin must be properly seated in the alignment hole.
- The injector feet should touch the injection port cover.

If the injector will not sit upright on the GC, check that the plumbing and cabling under the injection port cover are properly routed in their channels.

Choosing the turret type to use

Your G2613A Injector comes with 2 types of turrets, a standard turret for use with or without a tray, and an alternate 8 sample position turret which is used without a tray. If you are using the optional G2614A Tray, the injector comes pre-configured with the proper turret type.

If you are not using a tray, you may use 1 to 3 sample vials in the standard turret. If you wish to use up to 8 sample vials, you may remove the standard turret and install the alternate 8 sample position turret. See *Removing The Turret* for details.

Note

After changing turrets, it is recommended that you perform the turret alignment procedure described on page 17.

Installing the G1926A Bar Code Reader

1. Install the G1926A Bar Code Reader support bracket under the front of the tray as shown below. Leave the screws slightly loose. You will tighten them later.

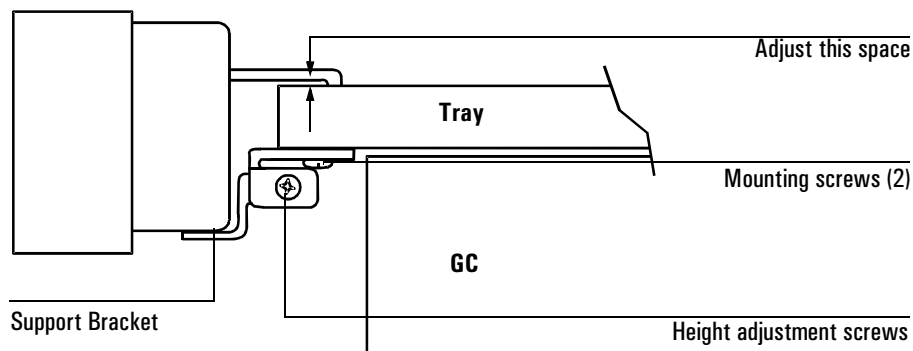


Figure 4 The Bar Code Reader support bracket

2. Mount the Bar Code Reader onto the front of the tray base by inserting the two mounting clips on the Bar Code Reader into the mounting slots on the edge of the tray base. See Figure 5.

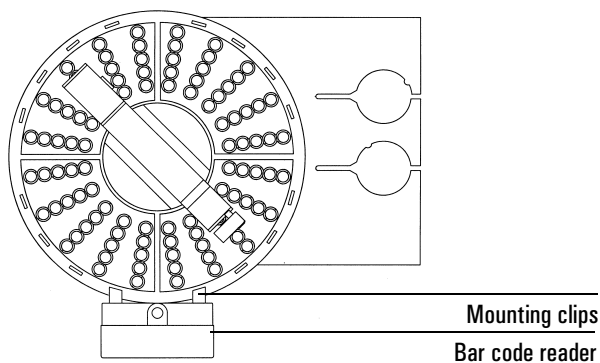


Figure 5 Mounting location for the Bar Code Reader

3. Connect the Bar Code Reader cable to the Bar Code Reader connection on the tray.

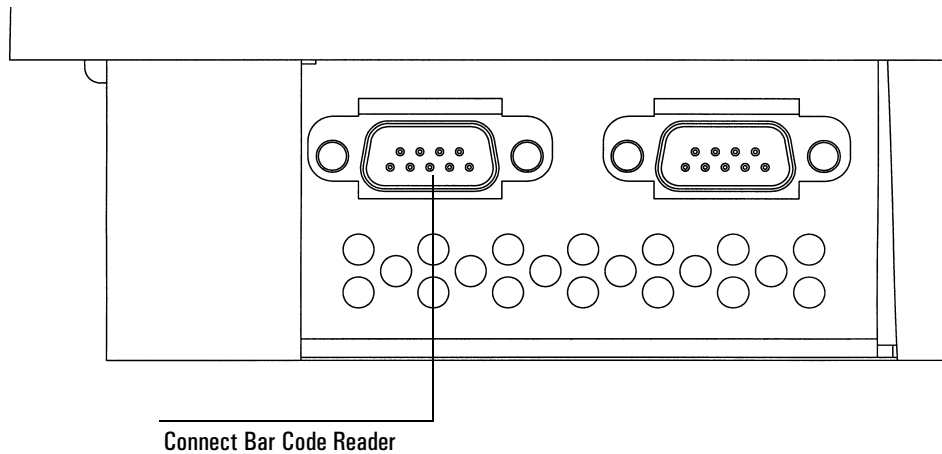


Figure 6 Connecting the Bar Code Reader

4. Slide the support bracket towards or away from the tray until the top of the bar code reader is parallel with the tray surface. Tighten the mounting screws.
5. Adjust the Bar Code Reader's height. Slightly loosen the height adjustment screw on the side of the support bracket and raise or lower the bracket until there is a very small gap—about the thickness of a piece of paper—between the mounting clips on the bar code reader and the tray. See Figure 4. Tighten the height adjustment screw.

Connecting The Cabling

1. Connect the injector(s) to the GC. Use the tray cable, part number G2614-60610, to connect the tray to the use GC. See Figure 7 or Figure 8.

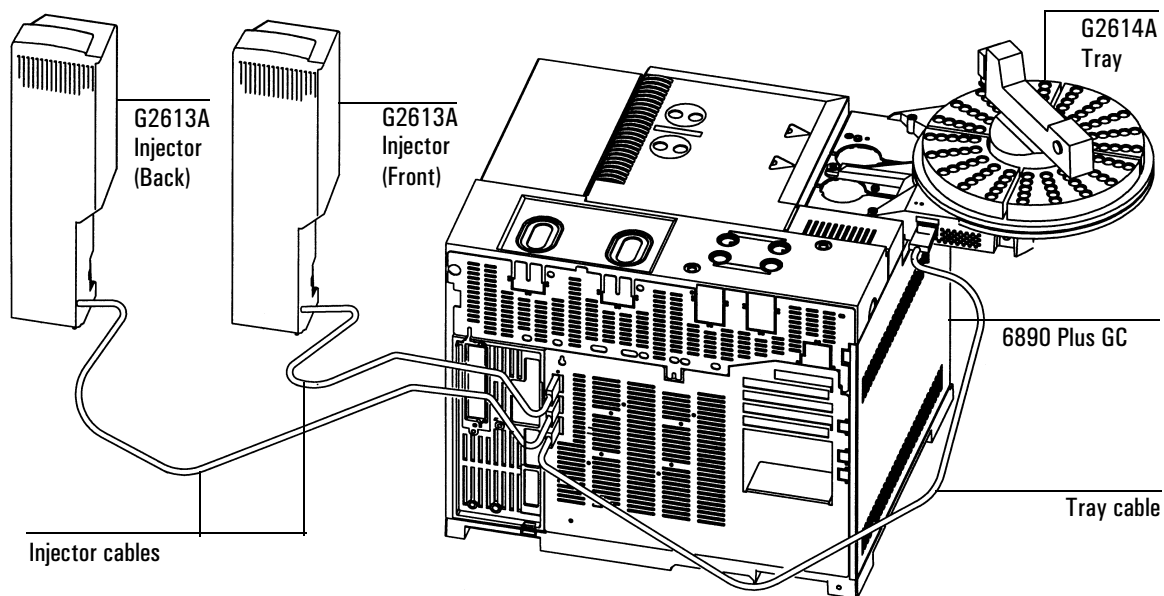


Figure 7 7683 Automatic Liquid Sampler cabling for 6890 Plus

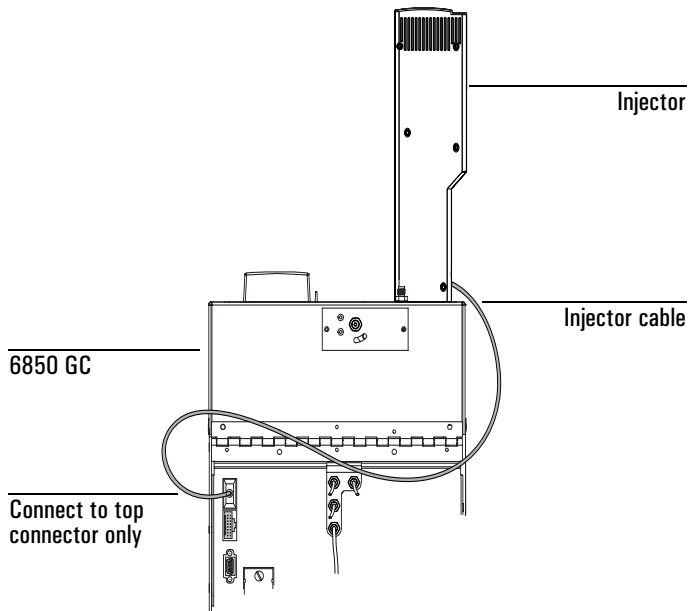


Figure 8 7683 Automatic Liquid Sampler cabling for 6850

2. When the cables are connected, turn on the GC power. The tray will beep twice. After the start-up process ends, the Ready light on the injector tower should be on.

If the Align Mode light is on, see *Turret alignment* on page 16.

If either the Fault or Run light is on, see *Faults* on page 25.

Adapting For Cool On-column Injection

The 7683 Automatic Liquid Sampler can be adapted to inject samples directly onto 250- μm , 320- μm , and 530- μm columns in the 6890 with cool-on-column inlet.

If you wish to adapt the injector and GC for cool on-column use, follow these steps:

1. Select the on-column syringe needed for the column size. See your Agilent catalog for consumables and supplies, and Volume 2 of your *GC Operating Manual* for a list of parts.
2. Prepare the GC inlet. (See Volume 2 of your *GC Operating Manual* for instructions).
 - Check your needle to column size.
 - Verify that the insert matches the needle size.
 - If necessary, replace the septum.
3. Verify that the correct needle support assembly is installed in the injector. Replace if necessary. See *Replacing The Needle Support Assembly* on page 19.

For a list of consumables needed to perform these injections, see Volume 2 of your *GC Operating Manual*.

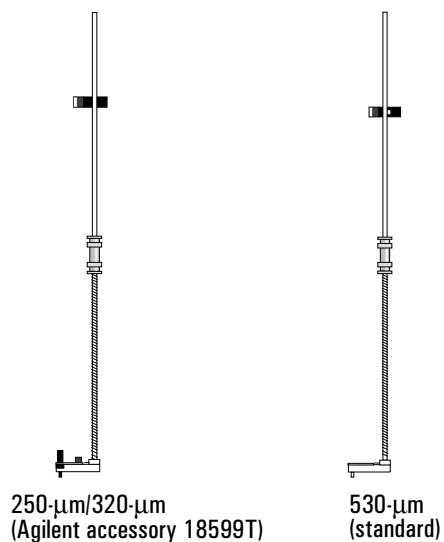


Figure 9 Needle support assemblies

4. If necessary, reinstall the injector onto the GC.
5. Install the syringe. See your *Operation Guide*.
6. Rotate the turret clockwise until it stops, then verify the installation by manually sliding the syringe carriage down until the needle enters the inlet.

Configuring Your GC (6890)

When installation is complete, configure your 6890 GC for use with the 7683 Automatic Liquid Sampler.

Refer to the section on injector configuration in your GC *Operating Manual* for instructions to set the following:

- Front and/or back injector location
- Nanoliter enable
- Tray enable
- Bar code reader position (position 3, enable, and type)
- Solvent B bottle usage (vial B only, or alternate between vials B and B2)

Making A Trial Run

Once installation and configuration are complete, make a quick injection using the sampler to verify that it works properly.

1. Install an empty syringe in the injector.
2. Place empty bottles in the Solvent A and Waste A turret positions. Place an empty capped sample vial in the tray 1 position (or the turret sample 1 position, if not using the tray).
3. Set the following parameters on the GC:

Parameter	Setting
Injection volume	1
# Sample pumps	1
Viscosity delay	0
# Sample washes	1
# Solv A washes	1
# Solv B washes	0
Slow plunger	off
Pre-dwell time	0
Post-dwell time	0
Sampling offset	off (on if cool on-column inlet used)
# Solv A pre-wash	1
# Solv B pre-wash	0
# Injections/vial	1
Samples	1-1*

*For 6890 GC with Agilent ChemStation control, enter 101-101.

4. Set the GC oven program to 25°C with a 0°C/min ramp, a hold time of 0.1 minutes, an equilibrium time of 0.3 minutes, and an initial time of 0.3 minutes.

5. Store, load, then run the sequence.
 - If there are no faults, the injector will make 1 “injection” from the first vial position.
 - If any faults occur, see *Faults* on page 26, *Error Messages* on page 29, *Correcting Syringe Problems* on page 24, or *Correcting Sample Vial Delivery Problems* on page 25.

Maintenance

This section contains some suggestions for ensuring good performance of your 7683. The maintenance interval varies with the use of the instrument.

Caution

Do not use any lubricants on the 7683 Automatic Liquid Sampler. They may effect the chemical performance of the GC and damage the instrument.

On an occasional basis:

- Clean the surface of the tray arm, gripper, gripper jaws, and tray quadrants.
- Clean the needle guide and nearby surfaces of the injector. Dust and dirt accumulate in these areas and can be picked up by the syringe needle and carried into the inlet.
- Clean the surface of the injector. Vacuum off any dust that builds up around the vents.
- Make sure the injector mounting post is tight.
- Make sure the tray mounting screws are tight.
- Make sure the knurled nut on the top of the turret is tight.
- Be sure all the cables are securely attached.

Removing The Turret

If you need to remove or replace your turret, use the following instructions for proper replacement.

1. For a 6890 GC with a tray only:
 - Disable the tray if you are changing from the three sample position turret to an eight sample position turret.
 - Enable the tray if you are changing from an eight position turret to a three sample position turret.
2. Disconnect the injector cable from the GC.
3. Open the injector door. Unscrew and remove the knurled nut from the top of the turret. See Figure 10.
4. Rotate the turret so that the open section faces the back of the tower and the arrow on top of the turret points directly back (see Figure 10). Push the stripper arm toward the back, then lift the turret up so that it clears the center shaft.
5. To install the replacement turret, align the tab on the motor hub with the slot in the underside of the turret.
6. Push the stripper arm to the back of the tower, insert the turret with the open section facing the back of the tower and the arrow pointing back, and install the turret with the tab seated in the slot. Seat the turret on the hub, rotating it gently if necessary until it drops completely into position. The top of the threaded shaft should be almost level with the top of the turret.
7. Replace the knurled nut and tighten it firmly (finger-tight).
8. Close the injector door.
9. Plug the injector cable into the GC.
10. Turn the GC off, then on, and check for the Ready light on the injector.

Note

For increased accuracy of the needle sampling depth, perform the turret alignment procedure each time the turret is changed. See *Turret Alignment* on page 17.

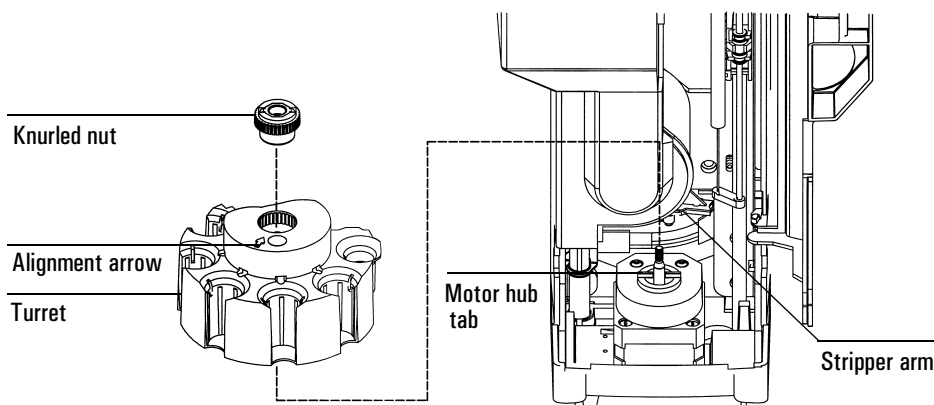


Figure 10 Turret removal

Turret Alignment

If you changed turrets in the injector and desire increased needle sampling depth accuracy, or if the Align Mode light is on, perform this alignment procedure. When the Align Mode light is on, the injector will not operate until this procedure has been performed.

1. When the injector is not operating, open the injector tower door.
2. Slide the syringe carriage up until it stops.
3. Remove the syringe. See your *Operation Guide* for details.
4. Carefully remove the needle support assembly from the injector. See *Replacing The Needle Support Assembly* on page 19 for details.

5. Use a pen to press the recessed alignment button above the indicator lights, then close the door. See Figure 11.

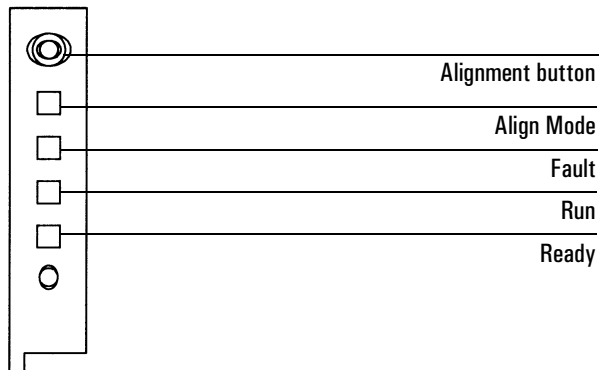


Figure 11 Aligning the turret

6. The injector goes through the following steps:
 - The turret rotates to verify that the needle support assembly was removed, then rotates to determine what type of turret is installed.
 - The syringe carriage moves all the way down, then moves back up again and clears the turret.
 - The syringe carriage steps down until it touches the turret. This sets its position relative to the turret.
 - The plunger moves to calibrate stops.
7. When the alignment is complete, the Ready light turns on and the sampler returns to the ready state. Install the needle support assembly and syringe.
If the injector fails alignment, see *Faults* on page 26.

Replacing The Needle Support Assembly

Use the standard needle support assembly for all injections except cool on-column injections with a 250- μm or 320- μm column. For these injections, you must change the needle support assembly to Agilent accessory 18599T.

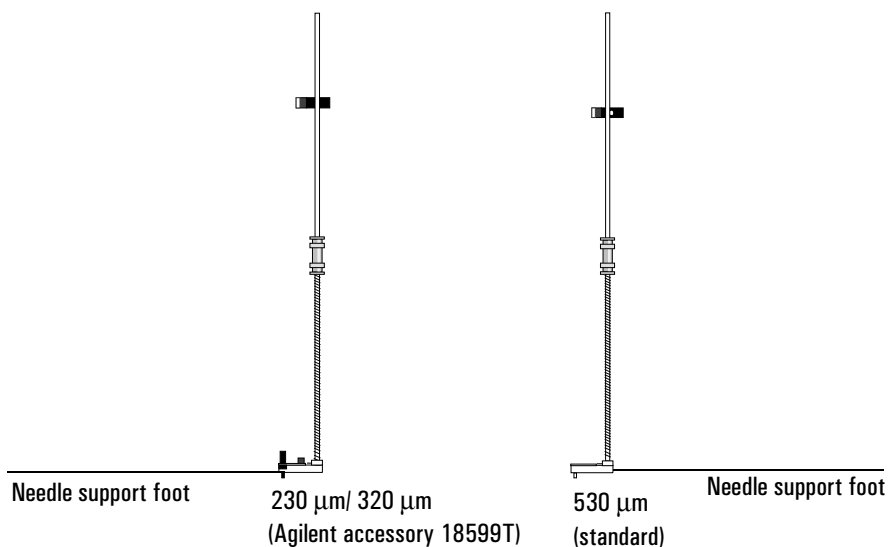


Figure 12 Needle support assemblies

To replace the needle support assembly:

1. Remove all vials from turret, and disconnect the injector cable from the GC and lay the G2613A Injector on its back on a flat surface.
2. Open the injector door.
3. Remove the syringe.

Installation Guide
Replacing The Needle Support Assembly

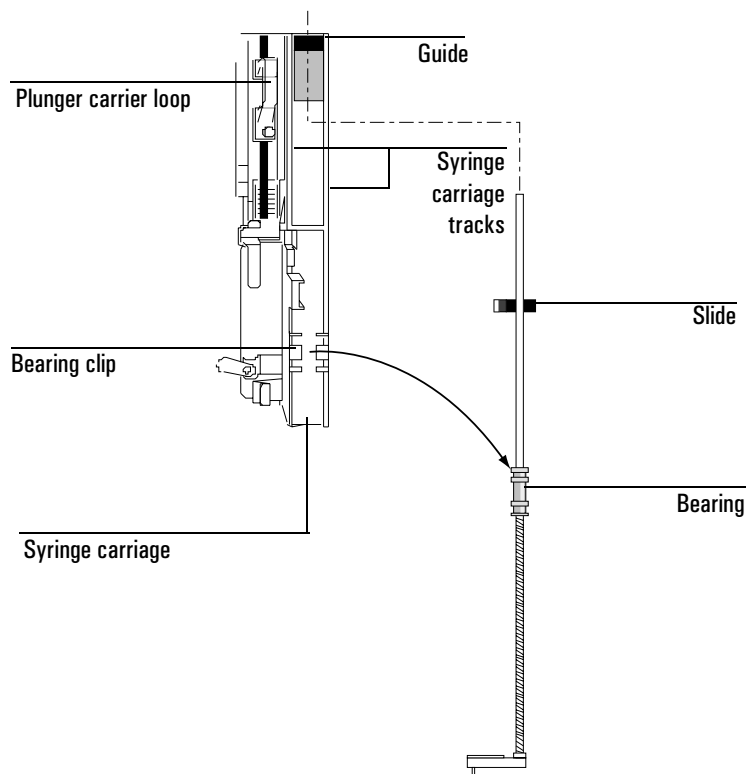


Figure 13 Removing the needle support assembly

4. With your finger under the shaft near the bearing on the needle support assembly, pull gently to release the bearing from the bearing clip in the syringe carriage.
5. Carefully use the bearing to pull the rod down until you can lift the assembly out of the syringe carriage.

Caution

Be careful not to pull the assembly *by its metal shaft*. The shaft is easily bent.

6. To reinstall the needle support assembly, hold it in your right hand and insert the upper end of the rod into the plastic guide to the right of the plunger carrier loop.
7. Turn the needle support assembly so that the flat surface of the slide glides up and down the syringe carriage tracks as shown in Figure 14.

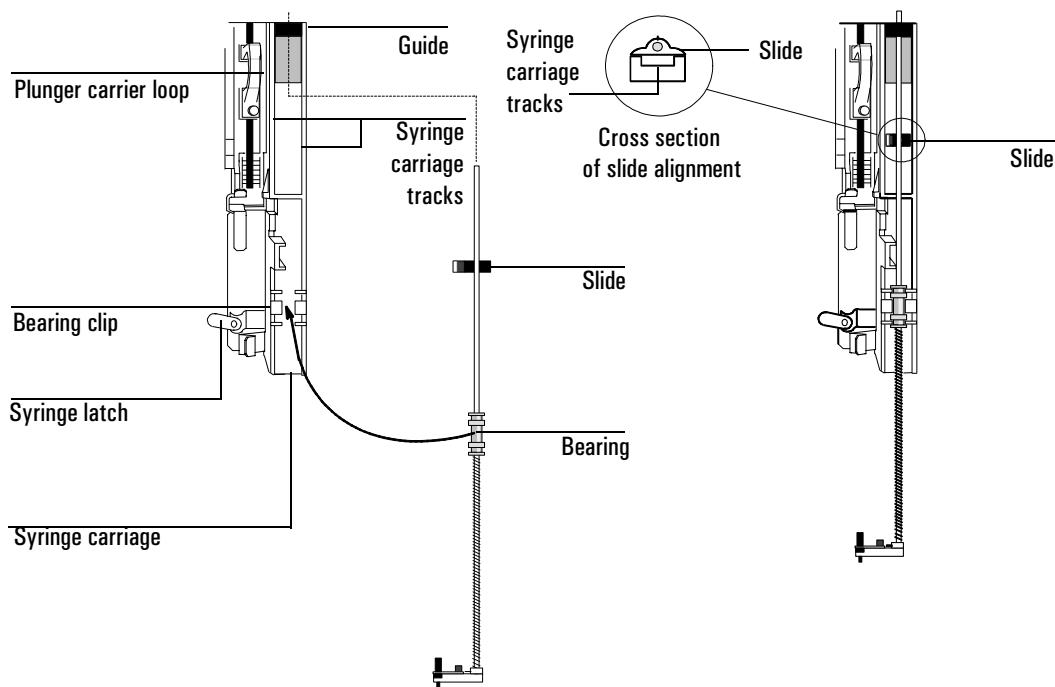


Figure 14 Installing the needle support assembly (250-/320- μ m shown)

8. Align the bearing on the needle support assembly with the plastic bearing clip to the right of the syringe latch and push gently on the bearing until the assembly snaps into place.
9. Place the G2613A Injector back on the GC or on a parking post.

Replacing The Needle Guide In The Needle Support Foot

Caution

Be careful not to bend the needle during installation.

Caution

Do not operate the injector without a syringe in place because the free swinging syringe latch may interfere with the motor.

10. Install the syringe. See your sampler *Operation Guide* for details.
11. Move the slide up and down to make sure the needle is aligned with the needle guide in the support foot. The needle should slide smoothly in the needle guide.

Replacing The Needle Guide In The Needle Support Foot

When using the Agilent accessory 18599T for 250-/320- μ m cool on-column injections, the needle guide is replaceable. Check the needle guide in the needle support foot for wear whenever you change the inlet septum. When the needle guide shows signs of wear, replace it as described below:

1. With an Allen wrench, remove the screw from the needle support foot.
2. Remove the small metal plate from the foot.
3. Replace the needle guide.
4. Replace the metal plate.
5. Replace the screw and tighten.

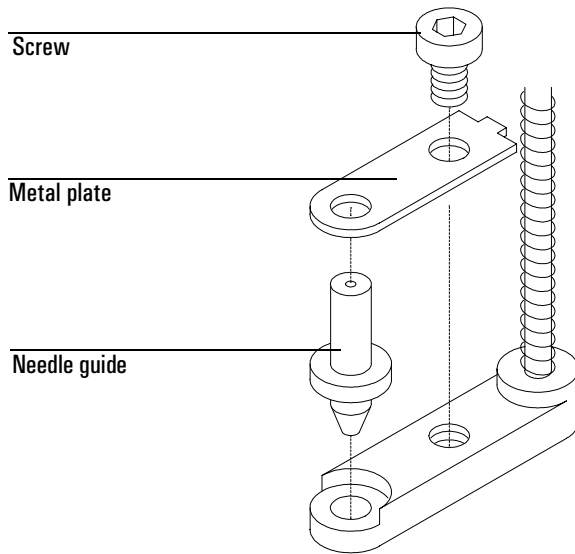


Figure 15 Needle support foot (250/320- μ m assembly shown)

Correcting Syringe Problems

WARNING

When troubleshooting the injector, keep your hands away from the syringe needle. The needle is sharp and may contain hazardous chemicals.

Several things can cause syringe needles to bend. When you find one, check for the following conditions before installing a replacement.

- Was the syringe installed properly in the syringe carriage?
- Are you using the correct syringe? Is the combined length of the syringe barrel and needle about 126.5 mm? For more information, see your *Operation Guide* and your *Sampling Techniques Handbook*.
- Are the needle support and needle guide cone clean? Remove any residue or septum deposits. For more information, see *Maintenance* on page 15.
- Is the correct insert for your syringe installed in the cool on-column inlet? For more information, see your *GC Operation Manual*.
- Is the GC septum nut too tight? For more information, see your *GC Operation Manual*.
- Is the septum of the crimp cap centered over the sample vial? For more information, see your *Sampling Techniques Handbook*.
- Are the inside diameters of the sample vial, microvial insert, and vial cap septum at least 5 mm? For more information, see your *Operation Guide*.

Correcting Sample Vial Delivery Problems

When you find a mishandled sample vial, check:

- Are there folds or wrinkles in the crimp cap, especially near the neck of the sample vial? For more information, see your *Operation Guide* and your *Sampling Techniques Handbook*.
- Are you using the correct sample vials? Is the distance from the vial bottom to the top of the neck about 28.4 mm? Is the bottle neck diameter 8.2 ± 0.3 mm? For more information, see your *Operation Guide*.
- If you use labels on the sample vials, are they the correct size? For more information, see your *Operation Guide*.
- If you use labels on the sample vials, are they interfering with the gripper? For more information, see your *Operation Guide*.
- Are there any obstacles to the tray arm or injector turret motions? Remove any obstacles.
- Are the tray quadrants and turret in good condition? Clean any residue from the sample positions. Temperature-controlled liquid pumped through the quadrants, may cause quadrant distortion over time. See your *Operation Guide*.

Faults

Four lights on the injector indicate its status.

During normal operation, the Ready light is on. If the injector is busy, the Run light is on.

If another combination of lights are on, an error has occurred.

Use the following instructions to try to solve the problem before obtaining Agilent service.

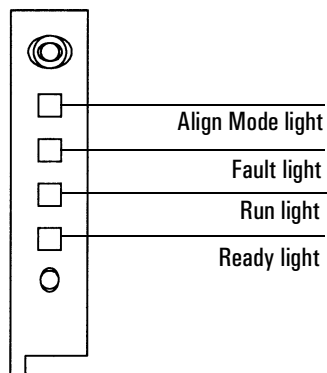


Figure 16 Injector status lights

No Light Is On

Probable causes

- The line voltage to the GC is off.
- The injector cable or connection to the GC is bad.
- Your GC requires service.

Suggested actions

1. Verify the injector is properly connected to the GC.
2. Check the power source for your GC.
3. Obtain Agilent service.

The Fault Light Is On

Probable cause

The injector door is open.

Suggested actions

1. Ensure that the injector door is closed.
2. If the fault light stays on, obtain Agilent service.

The Fault And The Run Lights Are On

Probable causes

- The injector is mounted incorrectly on the mounting post.
- Incorrect mounting post.

Suggested actions

1. Ensure that the injector is mounted properly. For more information, see page 4.
2. Ensure the correct mounting post is installed. See page 4.
3. If the fault lights stay on, obtain Agilent service.

Align Mode Light Is On

Probable causes

- The turret is not properly installed.
- The type of turret was changed while the power was on.
- The system was not initialized.
- There is an injector memory error.

Suggested action

1. Verify the turret is properly installed. See *Removing The Turret* on page 16.
2. Perform the alignment procedure to initialize the system. See *Turret Alignment* on page 17.

All Lights Are On

Probable causes

- The cables connections are loose.
- There is a board failure.
- There is a firmware revision conflict.

Suggested action

1. Check all cable connections.
2. Turn the instrument off, then on again.
3. If the lights remain on, obtain Agilent service.

Error Messages

Below is a table of sampler error messages reported on the 6850 and 6890 Plus GC's. If you receive an error message that is not shown below, record it. Then, make sure that your GC is properly configured and that your sample vials and equipment match your method and/or sequence. If the problem continues, report your error message to Agilent service.

6890 message	6850 message	See page
Bottle in gripper	–	2
Front (or back) door open or injector not mounted	Inj door or mounting	2
Front (or back) injector com error	injector comm error	2
Front (or back) injector incomplete injection	Incomplete injection	3
Front (or back) injector reset	Injector reset	3
Front (or back) plunger error	Plunger error	4
Front (or back) syringe error	Syringe error	4
Front (or back) turret error	Turret error	5
Injector not present	–	5
Injector offline	–	6
No bar code reader	–	6
No bottle in gripper	–	7
Tray not present	–	7
Tray offline	–	8
–	Autoinject aborted	8
–	Invalid sequence	8
–	No injector	9
–	Prerun > 10 min	9
–	Sampler error	9

Bottle In Gripper

Probable cause

The sample vial was not delivered properly and stayed in the tray gripper.

Suggested actions

1. Remove the vial and return it to its position in the tray.
2. Ensure that the tray quadrants are snapped into place.
3. Ensure that the injector is plugged into the correct connector on the back of the 6890 GC and is configured properly. See *Configuring Your Gc (6890)* on page 12.
4. Check the “deliver to” location for the vial and verify that the location is empty and free from obstructions.
5. Make sure that the injector is upright/vertical on the GC.
6. Restart the sequence.
7. If the error occurs again, obtain Agilent service.

Front (Or Back) Door Open Or Injector Not Mounted

See *Faults* on page 26.

Front (Or Back) Injector Com Error

Probable cause

There is a communications error between the injector and the GC.

Suggested action

Obtain Agilent service.

Front (Or Back) Injector Incomplete Injection

Probable causes

- The syringe needle is bent.
- The plunger or syringe carriage is operating incorrectly during injection.

Suggested actions

1. See *Correcting Syringe Problems* on page 24.
2. Remove the syringe from the injector, and check the plunger for stickiness or binding. Replace the syringe if necessary.
3. Restart the sequence.
4. If the error occurs again, obtain Agilent service.

Front (Or Back) Injector Reset

Probable cause

There is an interruption in the power supply from the GC.

Suggested action

Obtain Agilent service.

Front (Or Back) Plunger Error

Probable causes

- The syringe plunger is sticking, or not securely connected to the plunger carrier.
- The plunger solenoid is binding.
- The plunger carrier encoder is inoperable.

Suggested actions

1. Remove the syringe, and check it for plunger stickiness or binding. Replace the syringe if necessary. For more information, see *Inspecting a syringe* in the *Operation Guide*.
2. Check the viscosity of the sample against the viscosity parameter. Reset the viscosity parameter if necessary.
3. Restart the sequence.
4. If the error occurs again, obtain Agilent service.

Front (Or Back) Syringe Error

Probable causes

- The syringe carriage motor is defective.
- The syringe is not currently installed or is an incorrect type.
- The syringe carriage sensor is inoperable.

Suggested actions

1. Ensure the syringe is installed correctly. For more information, see your *Operation Guide*.
2. Ensure the syringe meets specifications.
3. If the syringe needle is bent, see *Correcting Syringe Problems* on page 24.

4. Restart the sequence.
5. If the error occurs again, obtain Agilent service.

Front (Or Back) Turret Error

Probable causes

- Something has interfered with the turret rotation.
- The turret motor/encoder assembly is inoperable.
- The turret type was changed while the power was on and the turret alignment procedure was not performed.
- Turret is loose.

Suggested actions

1. Clear any obstructions.
2. Check the Align Mode light. If it is lit, perform the alignment procedure. (See *Turret alignment* in this section.)
3. Tighten the knurled nut on the top of the turret.
4. If the error occurs again, obtain Agilent service.

Injector Not Present

Probable causes

- There is a board failure in the injector or GC.
- The injector cable is bad or not securely connected to the GC.
- There is a cable failure in the GC.
- Your method specifies an incorrect injector location (method mismatch).

Suggested actions

1. Make sure that the injector to GC cable connection is secure.

2. Check your method to make sure it uses the appropriate injector location.
3. If the error remains, obtain Agilent service.

Injector Offline

Probable causes

- There is a board failure in the injector or GC.
- The injector cable is bad or not connected.
- There is a cable failure in the GC.

Suggested actions

1. Make sure that the injector to GC cable connection is secure.
2. If the error remains, obtain Agilent service.

No Bar Code Reader

Probable causes

- Bar code reader cable not securely connected.
- Bar code reader is defective.
- Tray is defective.

Suggested actions

1. Ensure the bar code reader cable connection is secure.
2. If the problem continues, obtain Agilent service.

No Bottle In Gripper

Probable causes

- The sample vial was not found by the gripper.
- The gripper could not grasp the vial.
- The vial was dropped during transfer to or from the turret.
- The sensor in the gripper is defective.

Suggested actions

1. Make sure that the sample vials are in the locations specified by the sequence.
2. Make sure that the sample vials meet recommended specification. See your *Sampling Techniques Handbook*.
3. If you are using adhesive labels verify that the labels are properly installed. See your *Operation Guide*.
4. If the error recurs frequently, obtain Agilent service.

Tray Not Present

Probable causes

- There is a board failure in the tray or GC.
- The tray cable is bad or not connected between the GC and tray.
- There is a cable failure in the GC.

Suggested actions

1. Make sure that the tray cable connection is secure.
2. Replace the tray cable.
3. If the error remains, obtain Agilent service.

Tray Offline

Probable causes

- There is a board failure in the tray or GC.
- The tray cable is bad or not connected.
- There is a cable failure in the GC.

Suggested actions

1. Make sure that the tray to GC cable connection is secure.
2. Replace the tray cable.
3. If the error remains, obtain Agilent service.

Autoinject Aborted

The autoinject sequence on the 6850 was aborted. The other error messages shown on the GC display provide more information on what caused the sequence to abort.

Invalid Sequence

Probable causes

- The sequence is set up for the wrong injection device.
- Hardware required by the sequence is not installed and configured.
- The GC configuration was changed during sequence execution.
- The injector cable is bad or not connected properly.

Suggested actions

1. Make sure that the connection to the GC is secure.
2. Verify the sequence parameters against the GC configuration.
3. If the error remains, obtain Agilent service.

No Injector

Probable causes

- The cabling connection to the GC became loose during a run.
- An injector board or GC board failed during a run.

Suggested actions

1. Make sure that the connection to the GC is secure.
2. If the error remains, obtain Agilent service.

Prerun > 10 Min

The GC is Not Ready. Check for Not Ready and other GC messages to determine the cause.

Sampler Error

The sampler could not function for an undocumented reason. Record the code number shown in the G2629A Control Module error message. If the problem persists, obtain Agilent service and report the error number.

