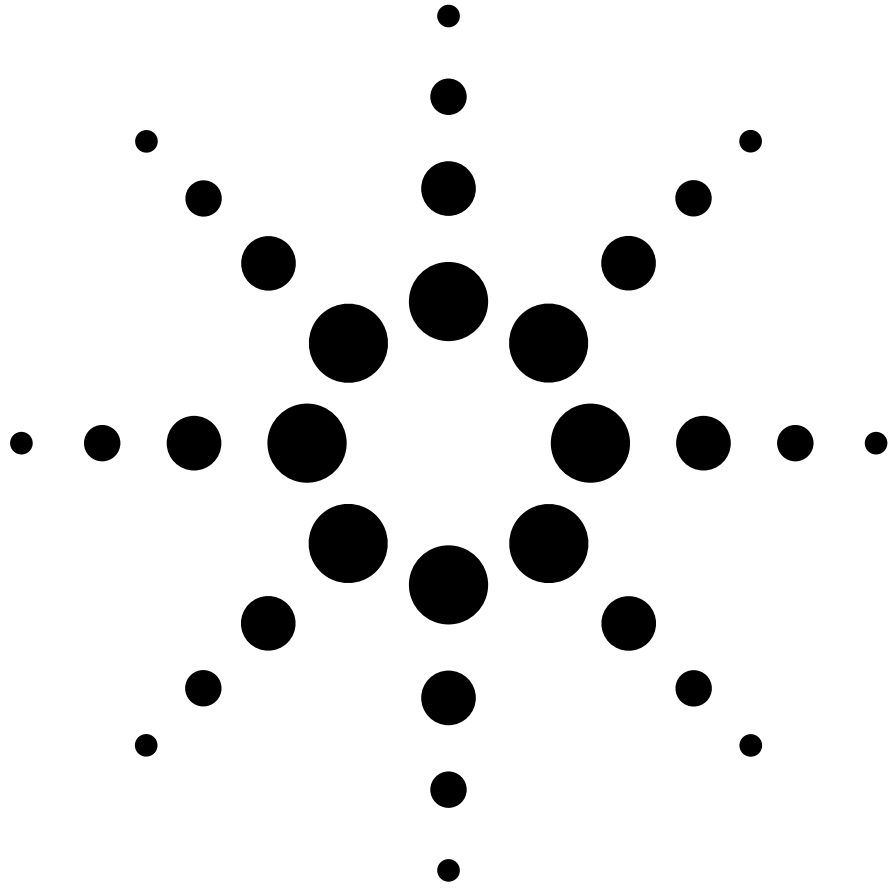


# Installation Guide

## Split/Splitless Inlet, Electronic Pneumatics Control on 6890 GC Accessories G1552A, G2318A

Agilent Technologies

Part number G1544-90307

First Edition, AUG 2001

Replaces Part No. G1544-90300, Installation Guide, Split/Splitless Inlet with Electronic Pneumatic Control.

Printed in USA

**Safety Information**

The Agilent Technologies 6890 Gas Chromatograph 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. If the instrument is used in a manner not specified by the manufacturer, the protection provided by the instrument may be impaired. Whenever the safety protection of the Agilent 6890 has been compromised, disconnect the unit from all power sources and secure the unit against unintended operation.

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. The battery contained in this instrument is recyclable.

**Safety Symbols**

Warnings in the 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.

**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.

 Indicates a hot surface

 Indicates earth (ground) terminal

**Sound Emission Certification for Federal Republic of Germany**

Sound pressure Lp < 68 dB(A)

During normal operation
At the operator position
According to ISO 7779 (Type Test)

**Schallemission**

Schalldruckpegel LP < 68 dB(A)
Am Arbeitsplatz
Normaler Betrieb
Nach DIN 45635 T. 19 (Typprüfung)

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

# Overview

This document describes the procedure for installing a split/splitless inlet with electronic pneumatic control (EPC) in an Agilent 6890 Gas Chromatograph (hereafter referred to as the GC). Before following this procedure, refer to the safety information on the inside front cover.

## Parts list

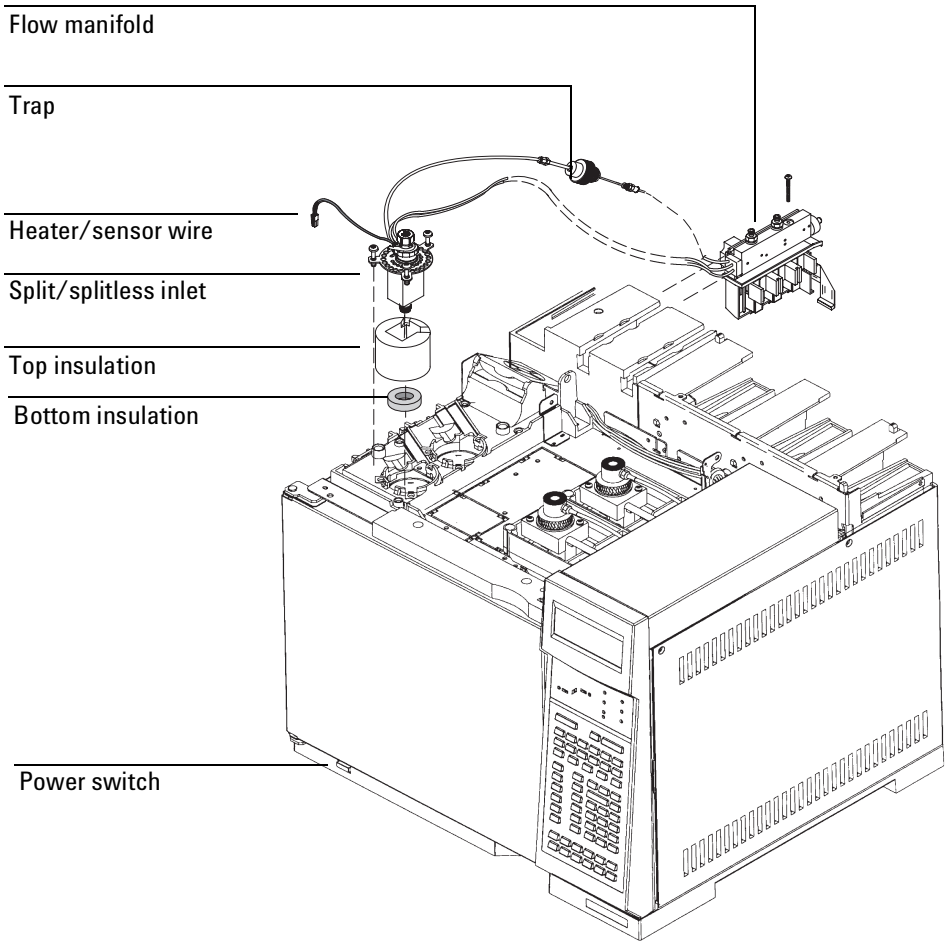
- Split/splitless inlet with EPC
- Top insulation
- Bottom insulation
- Torx screw for attaching flow manifold to pneumatics carrier
- Two heat-resistant Torx screws for attaching lower insulation cover assembly to oven interior
- Lower insulation cover to be installed inside the oven
- Small-hole insulation to be placed in lower insulation cover
- Two pieces large-hole insulation to be placed in lower insulation cover
- Static-control wrist strap

## Required tools

- T-20 Torx screwdriver
- Flat-blade screwdriver

## Steps

1. Preparing the GC
2. Installing the insulation cover
3. Installing the flow manifold
4. Installing the inlet
5. Restoring the GC to operating condition
6. Calibrating your inlet


Flow manifold
Trap
Heater/sensor wire
Split/splitless inlet
Top insulation
Bottom insulation
Power switch

# Preparing the GC

**WARNING** Hazardous voltages are present in the mainframe when the GC power cord is plugged in. Avoid a potentially dangerous shock hazard by unplugging the power cord before removing the side panels.

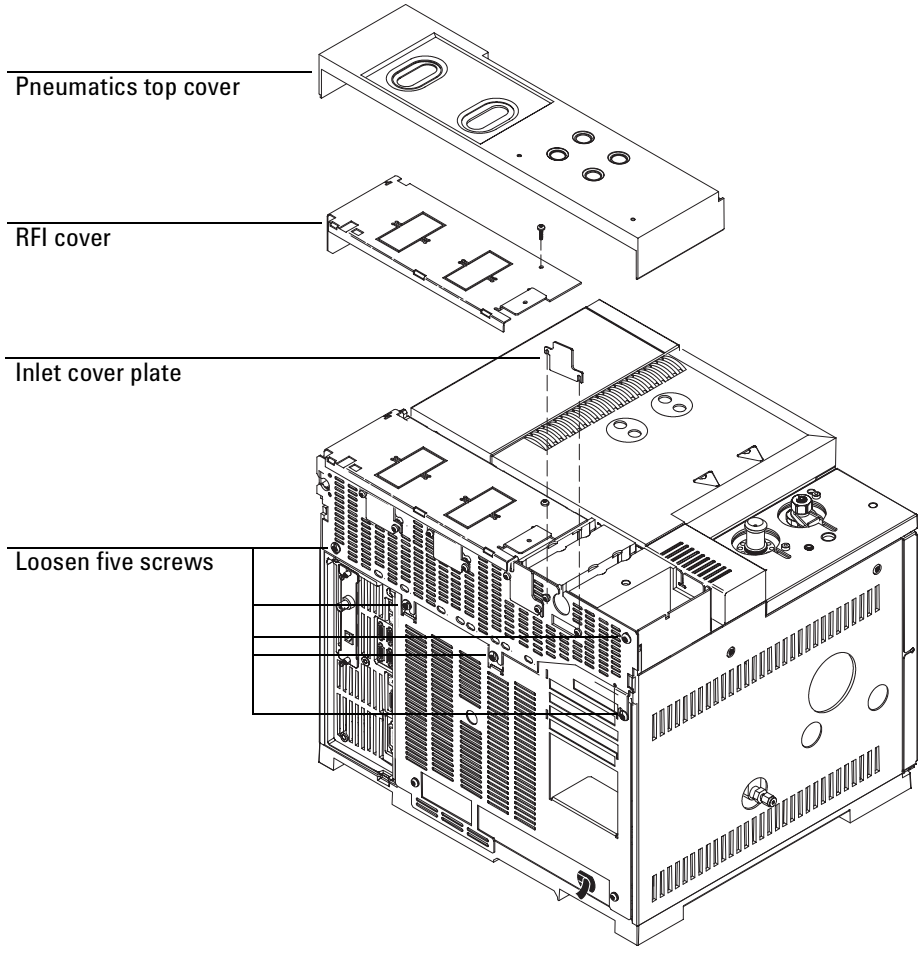
1. Turn off the GC and unplug the power cord. Allow time for all heated zones to cool and then turn off supply gases at their sources.

From the back of the GC (see the figure on the next page):

2. If installed, remove the automatic liquid sampler injector and set aside.
3. Unsnap and lift off the pneumatics top cover.
4. Remove the inlet cover plate from the front or back position by loosening the two screws with a T-20 Torx screwdriver and sliding the plate up and off.
5. Remove the RFI cover. Remove the screw with a T-20 Torx screwdriver, slide the cover to the left until it disengages from the top rear panel, and remove it.
6. Loosen the five screws in the top rear panel with a T-20 Torx screwdriver.

   Grasp the panel at each end and gently lift it up and then away from the GC. Be careful not to disrupt the supply tubing.

   Do not retighten the screws.

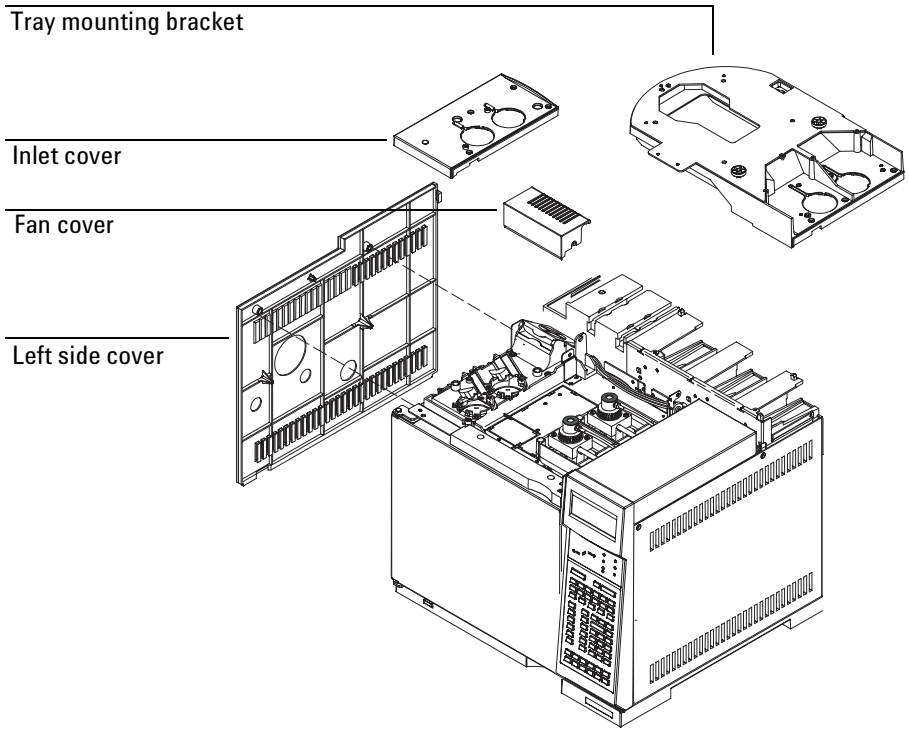



7. Raise the gray plastic top cover (with the holes and ventilation slots) to the vertical position. Examine the hinge in the right rear corner.
   - **Early 6890 models.** The hinge is a metal bracket attached to the oven top. Pull the clip at its top toward you to release the hinge pin. Push the pin to the left to release the cover. Raise the right side of the cover and remove it.
   - **Current 6890 models.** Tilt the cover to the left and remove it.

8. Remove the left side cover by loosening the two screws with a T-20 Torx screwdriver, sliding the cover to the rear of the GC, and lifting off.
9. Remove the fan cover.
   a. Loosen the screw on the right side of the fan cover.
   b. Slide the cover to the right to disengage it from the left mounting post.
   c. Lift the cover up and off.
10. If installed, remove the G2614 tray by loosening the three retaining screws.
11. Remove the inlet cover. Loosen the five captive screws with a T-20 Torx screwdriver until you are able to lift off the cover.

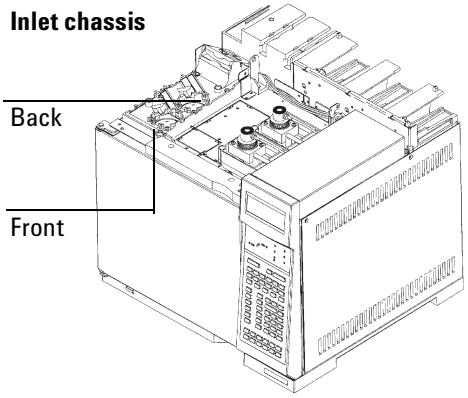
    ***or***

    Remove the tray mounting bracket by loosening the six screws at the top of the bracket and the two screws at the side of the GC and lifting it off.

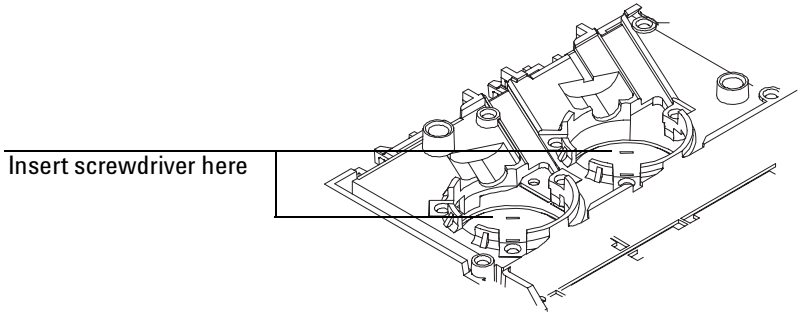


# Installing the insulation cover

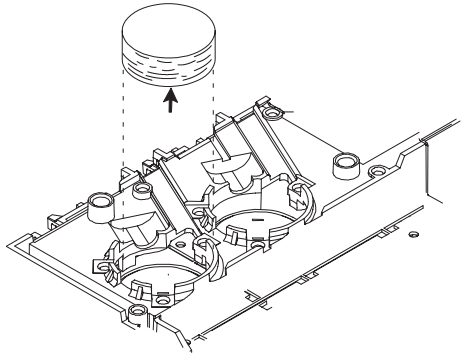
1. From the front of the GC, locate the inlet chassis.




2. Remove the round metal cutout in the front or back inlet position, if necessary. Insert a flat-blade screwdriver into the slot in the cutout and move the screwdriver back and forth until the cutout breaks free from the sheet metal on the oven top.

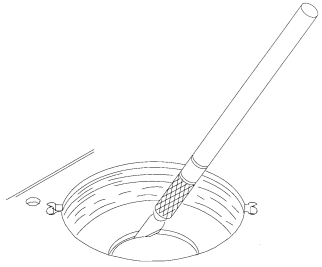


3. Remove the die-cut insulation plug from the front or back inlet position, if necessary.



4. Carefully remove the scribed circle of insulation from the front or back inlet position to create an opening into the oven, if necessary.

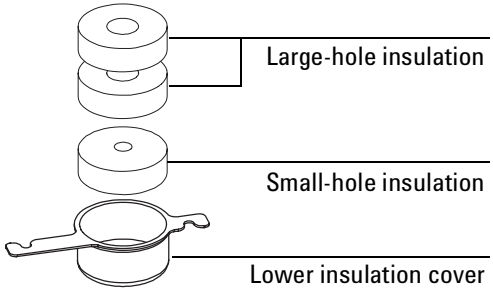
   **Method 1:** Use a sharp knife to cut out the insulation using the scribed circle as a guide.



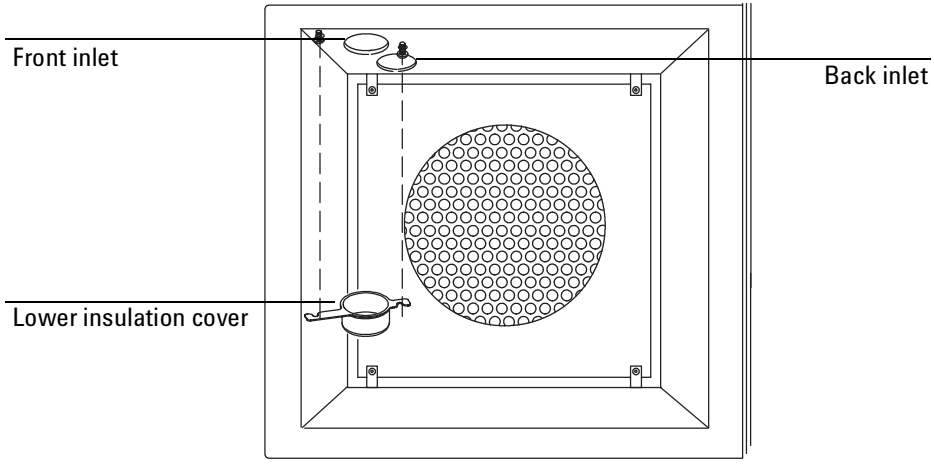
   **Method 2:** Pierce the insulation with a screwdriver. Rotate the screwdriver around the scribed circle to remove excess insulation.

   Clean up any pieces of insulation that fall inside the oven.

5. Place the insulation in the lower insulation cover.



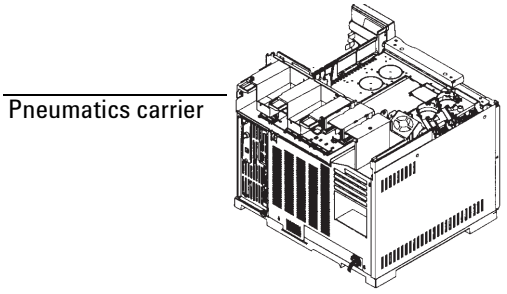

6. From inside the oven, install the two heat-resistant screws in the cutouts adjacent to the inlet opening. Do not tighten the screws. Push the lower insulation cover over the front or back inlet until it is flush with the oven top and rotate it until the slots in the cup hook over the screws. Tighten the screws with a Torx T-20 screwdriver.



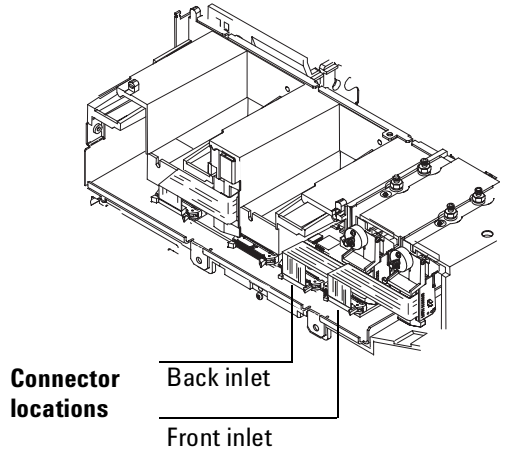
# Installing the flow manifold

**Caution** Board components can be damaged by static electricity; use a properly grounded static control wrist strap when installing the flow manifold.

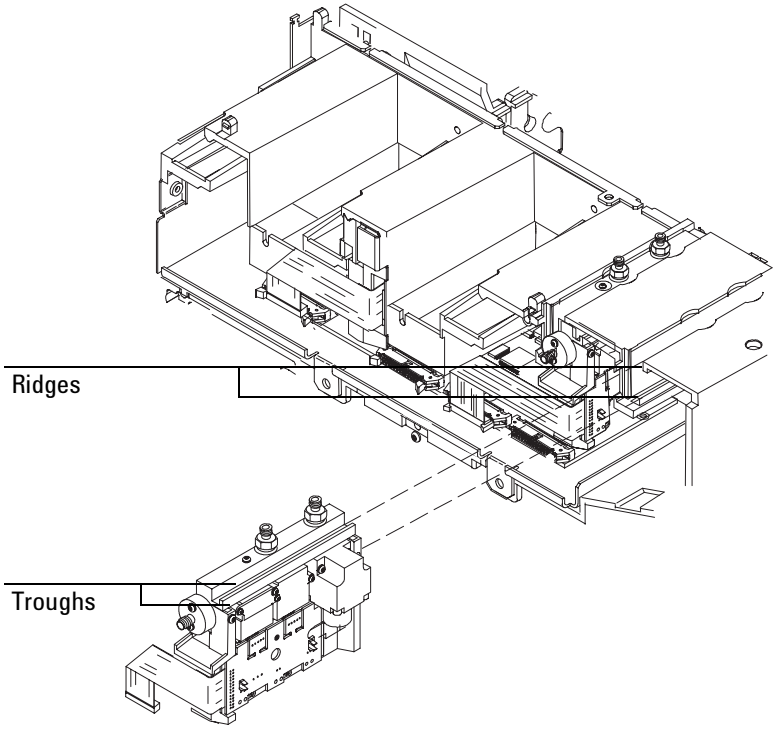
1. From the back of the GC, locate the pneumatics carrier.



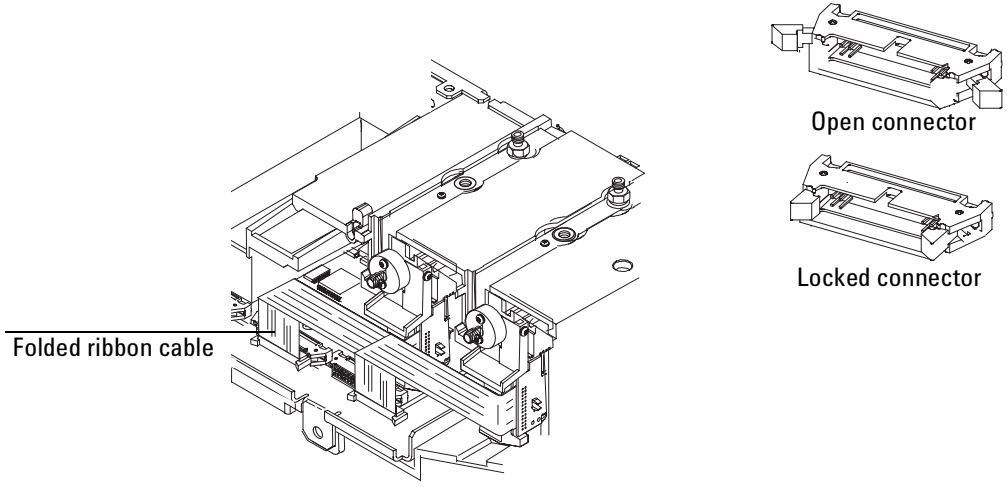

2. If you are installing an inlet in the back position and there is an inlet installed in the front position, unplug the ribbon cable from the pneumatic control board. Unlock the connector by pushing the tabs away from the center.



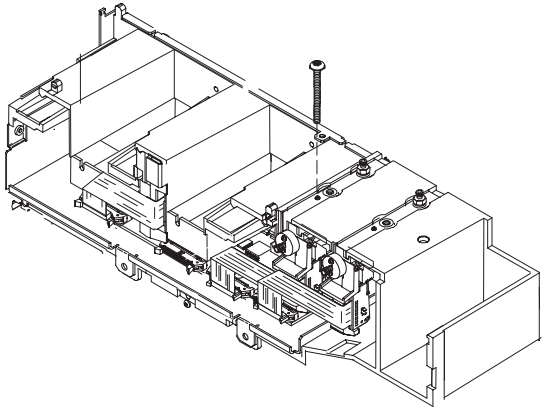
3. Locate the ridges in the pneumatics carrier and the corresponding troughs in the flow manifold. Slide the flow module into the carrier, lining up the ridges and troughs.



4. Fold the ribbon cable and plug into the appropriate connector. Push until the plug is firmly in place. Lock the connector by moving the tabs to the center of the connector until they click into place. Replug the front inlet ribbon cable into the front connector, if necessary.



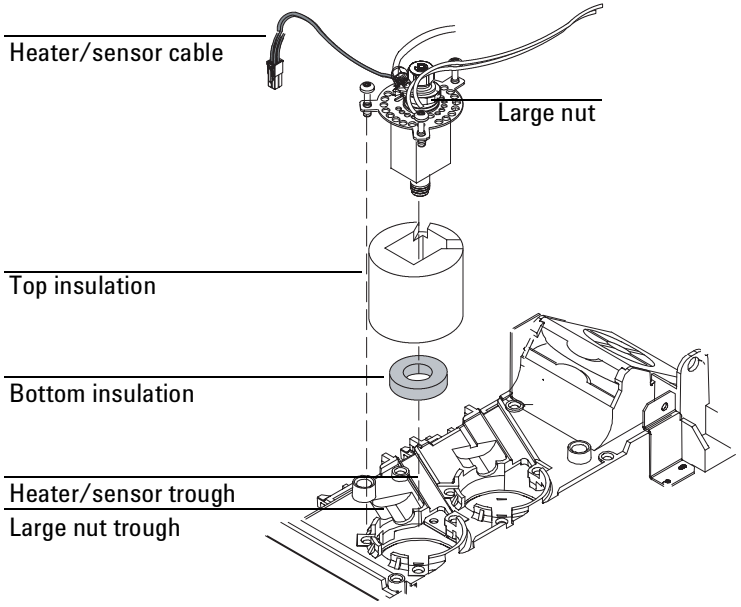

5. Install and tighten the screw at the top of the manifold. Tighten with a T-20 Torx screwdriver until snug.



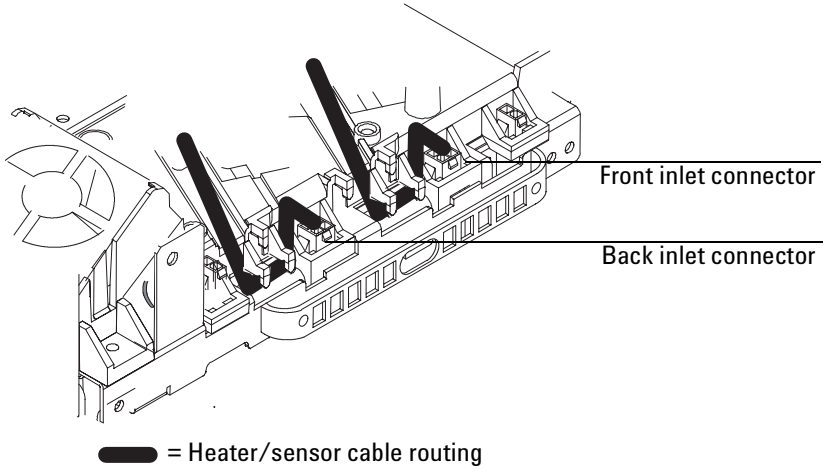
# Installing the inlet

1. Place the bottom insulation in the inlet cavity.
2. Place the top insulation in the inlet cavity so that the cutouts in the insulation face the back of the GC.
3. Place the inlet in the insulated cavity so that the large nut and the heater/sensor cable are in the troughs in the inlet chassis and the three captive screws line up with the holes in the oven top.

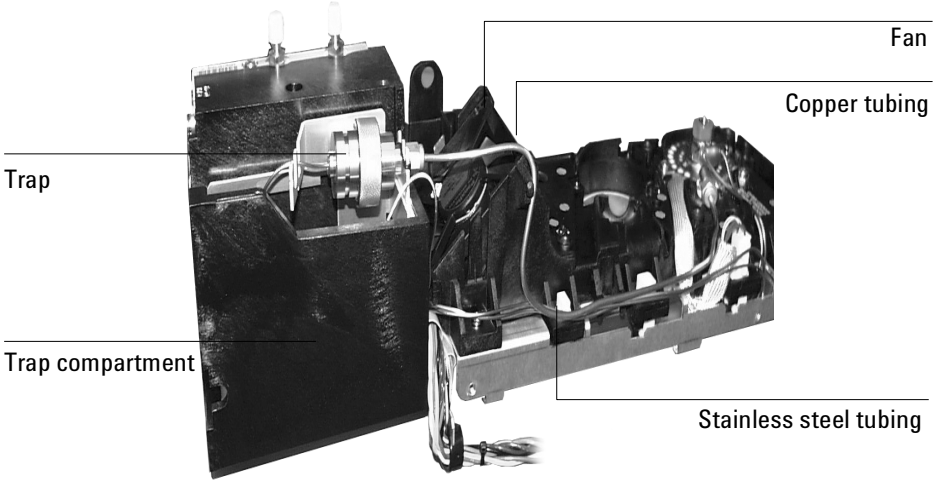
   Tighten each screw once with the T-20 Torx screwdriver until the inlet is properly aligned. Tighten each screw again until snug.



4. From the left side of the GC, locate the heater/sensor wire and its corresponding connector. Tuck the heater/sensor wire underneath the clip at the side of the GC and connect it to the nearest square connector.

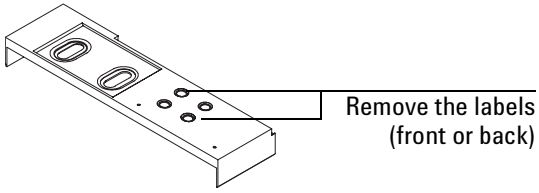



5. Place the trap in in the compartment at the end of the pneumatics carrier. Route the trap's copper tubing behind the fan bracket and to the inlet. Route the trap's stainless steel tubing behind the fan and to the flow manifold. Route the stainless steel tubing from the inlet to the flow manifold.



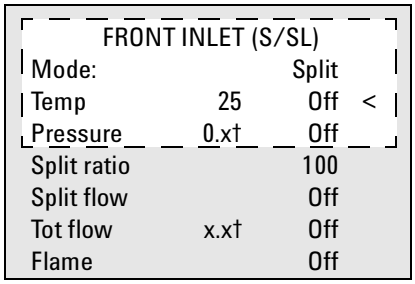
# Restoring the GC to operating condition

1. Reinstall the left side cover and tighten the two screws.
2. Replace the fan cover.
3. Reinstall the detector cover.
4. Reinstall the inlet cover and tighten the five screws or reinstall the tray bracket. Make certain the heater/sensor wires and the stainless steel tubing are in their troughs so that they are not crushed by the cover.
5. Reinstall the upper rear panel and tighten the screws.
6. Reinstall the RFI cover.
7. Remove the labels that cover the vent holes in the pneumatics cover. From underneath the cover, push the labels through the top.




8. Replace the pneumatics cover.
9. Plug in the GC and turn it on.

10. Press [Front Inlet] or [Back Inlet]. You will see this display:




† An actual flow and pressure value is displayed when the carrier gas is off or not connected. This is not an error. After the inlet is zeroed and operational, the actual flow and pressure values will be equal to the setpoint values.

† A split ratio is displayed when a capillary column is configured.

† If only temperature is displayed, check if EPC flow module is connected to the EPC control board.

# Calibrating your inlet

Your inlet's flow manifold contains a pressure sensor that can be zeroed after it is installed on your GC. This calibration procedure ensures an accurate inlet pressure display.

Do not connect the carrier gas to your flow manifold until you have zeroed your inlet's pressure sensor.

1. Plug in your GC and turn it on, if you haven't already done so.
2. Wait 15 minutes. This allows your GC to reach thermal equilibrium.
3. Zero the inlet's pressure sensor:
    a. Press [Options], scroll to `Calibration` and press [Enter].
    b. Scroll to `Front inlet` or `Back inlet` and press [Enter].
    c. Scroll to `Pressure Zero`.
    d. Press [On] to zero the pressure sensor.
4. Turn off your GC and unplug the power cord.
5. Plumb the carrier gas to your flow manifold. If you need help with this step, see your GC installation intsructions.
6. Plug in the GC again and turn it on.
7. Configure your GC's column and carrier gas. See GC operating instructions for details.

**Agilent Technologies**

Printed on recycled paper.

This product is recyclable.

Agilent Technologies, Inc.
Printed in USA AUG 2001

G1544-90307