

# Quick Start SRI GC Installation Guide

## I. Gas Installation & Connection

1. To connect your GC to a gas supply, we recommend the following:

- A 50 foot length of copper tubing
- A stainless steel gas line filter
- At least 2 sets of stainless steel Swagelok nuts and brass ferrules (it is a good idea to keep a few extras on hand)
- A cylinder pressure regulator with 0-100psi output

**NOTE:** each type of cylinder has a different CGA connection to the regulator (CGA = Compressed Gas Association). Air is typically CGA 590 or 346. Helium and nitrogen are CGA 580. Hydrogen and argon-methane are CGA 350.

Gas line installation kits that include everything you need are available from SRI:

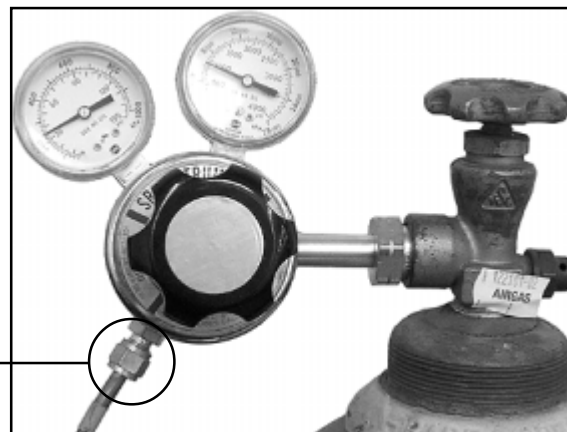
- 8600-C590 Air gas line kit (with both CGA 590 and 346 inlet fittings)
- 8600-C580 Helium/nitrogen gas line kit
- 8600-C350 Hydrogen/argon-methane gas line kit (the hydrogen CGA is equipped with a flow restrictor to limit the escape of gas in the event of a leak)

These kits include everything in the list of recommended supplies above, plus a tubing cutter. Each regulator is supplied with a 1/8" Swagelok fitting for easy connection to the copper tubing.

2. Using the appropriate CGA connection as described above, attach the regulator securely to the gas cylinder.

3. Secure one end of the 1/8" copper tubing to the regulator with a Swagelok nut and ferrule. Cut the tubing to the desired length before connecting it to the GC. Make sure to leave it long enough to allow you to move your GC around your work area.

1/8"  
Swagelok  
fitting

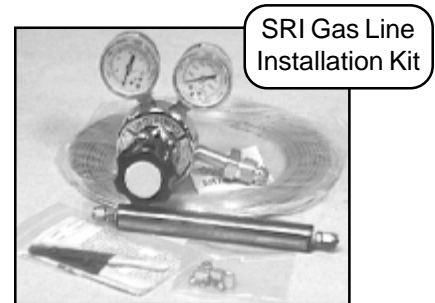


4. If you don't already filter your gas, install gas line filter(s) in the gas line(s) where it is convenient to replace when needed.



5. Connect the gas or gases to the inlets on the left-hand side of the GC as labeled.

**NOTE:** the GC shown here is equipped with a built-in air compressor. When using the internal air compressor instead of cylinder air, a jumper tube is secured to the air inlet and outlet. If you ordered your GC with an air compressor, it is shipped with the jumper tube in place as shown.



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("Gas Installation & Connection" *continued*)

GAS FLOW RATES					
CARRIER 1:		:	7	PSI =	10 ml/min
CARRIER 2:		:		PSI =	ml/min
P&T PURGE:		:		PSI =	ml/min
HYDROGEN 1:	FID	:	21	PSI =	25 ml/min
HYDROGEN 2:		:		PSI =	ml/min
AIR 1:	FID	:	9	PSI =	250 ml/min

6. The pressure that correlates with the flow rate for the column, make-up gases, and detector supplies is labeled on the right-hand side of the GC. For best EPC performance, set the incoming gas pressure(s) 15-20psi higher than the operating pressure listed on the right-hand side of the GC.

## II. Column Installation

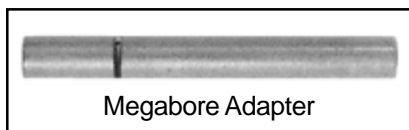
1. If you ordered a column with your GC, it is shipped installed in the column oven and you can skip this section. Otherwise, open the GC lid and the column oven lid.

2. These instructions will cover the installation of a 0.53mm capillary column into an on-column injector. The SRI on-column injector is designed for a 26 gauge syringe needle; a 10 $\mu$ L liquid injection syringe with a 26 gauge needle is included in the Accessories Kit shipped with your GC.



Spare Parts Kit

A megabore adapter for syringe injection onto 0.53mm capillary columns is included in the Spare Parts Kit affixed to the inside of the GC lid on the right-hand rear corner.



Megabore Adapter



Accessories Kit

-OR-

Accessories Kit contents:

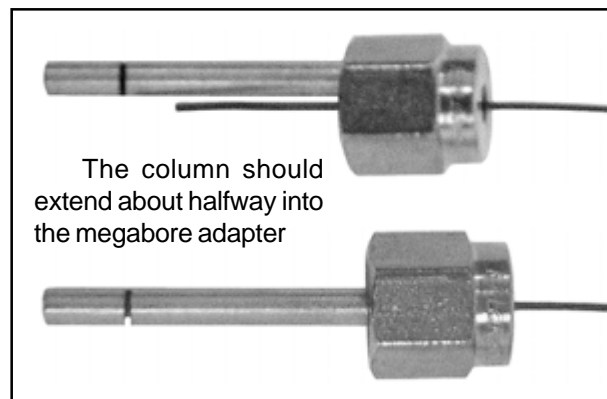
- 6' Serial **or** USB cable
- Tubing cutter
- 10 $\mu$ L liquid injection syringe
- 1mL gas injection syringe & needle
- 3mL leak check syringe

3. The megabore adapter is a 1" x 1/8"OD stainless steel tube with a perpendicular gash cut into it, and a conical entry to guide the syringe needle into the column. A 0.53mm capillary column connects to the SRI on-column injector with a graphite reducing ferrule and a 1/8" Swagelok nut. Insert one end of the column through the nut, then through the graphite ferrule. It is a good idea to trim off about one inch of the column to avoid possible peak tailing from any graphite shavings left behind after inserting the column through the ferrule; make sure the cut is clean, with no jagged edges.

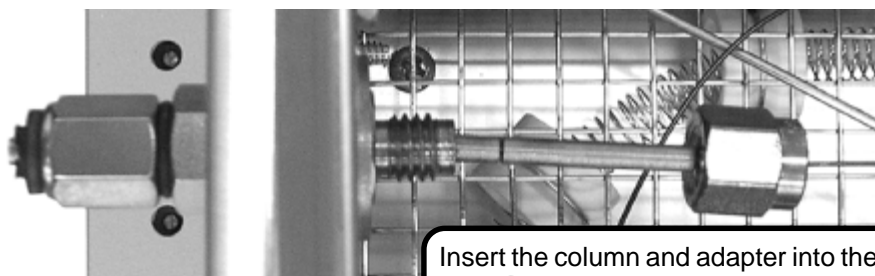
# Quick Start GC Installation Guide

("Column Installation" *continued*)

4. Insert the column end with the graphite ferrule and Swagelok nut about halfway into the megabore adapter and tighten it with the nut and ferrule.



5. After inserting the column into the adapter, insert the column and adapter together into the injection port.



Tighten the Swagelok nut with a 7/16" wrench. You should feel a little give from the ferrule, but do not overtighten it. You want it tight enough to prevent leakage, but do not smash the ferrule.

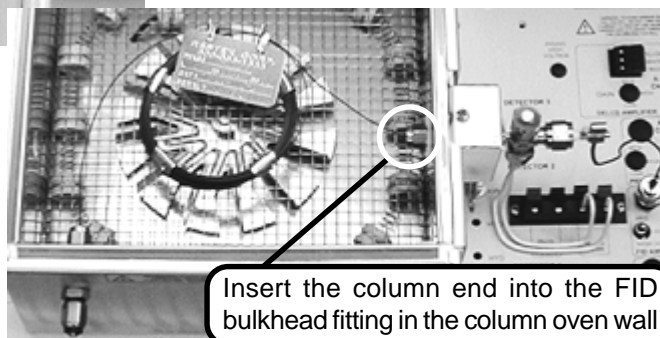
Connect the column to the TCD IN tubing



6. Slide another 1/8" Swagelok nut and graphite ferrule over the other end of the column. For a TCD detector, connect the nut to the fitting labeled "TCD IN" in the column oven.

For an FID detector, leave about 1" of the column protruding through the nut and ferrule. Insert the column into the FID bulkhead fitting in the column oven wall and tighten the Swagelok nut.

Please see "Analytical Column Installation" in the INSTALLATION section of your manual for more detailed information on column installation.



# Quick Start GC Installation Guide

## III. Software Installation

NOTE: There are tutorials in the manual and online at [www.srigc.com](http://www.srigc.com) (click on the “Download Our Documents” button) that will acquaint you with the basic functions of the PeakSimple chromatography software included with your GC.

1. Connect the serial or USB cable to your computer and the GC. The serial port connection is on the left-hand side of the GC, and the USB connection is on the right-hand side.
2. Locate your copy of the PeakSimple software just inside the front cover of your SRI manual. Insert the CD or floppy disks into your computer’s appropriate drive.



SRI Manual



3. Double click on “My Computer,” then on the appropriate drive to open it. Double click on the “setup.exe” icon, and follow the instructions.



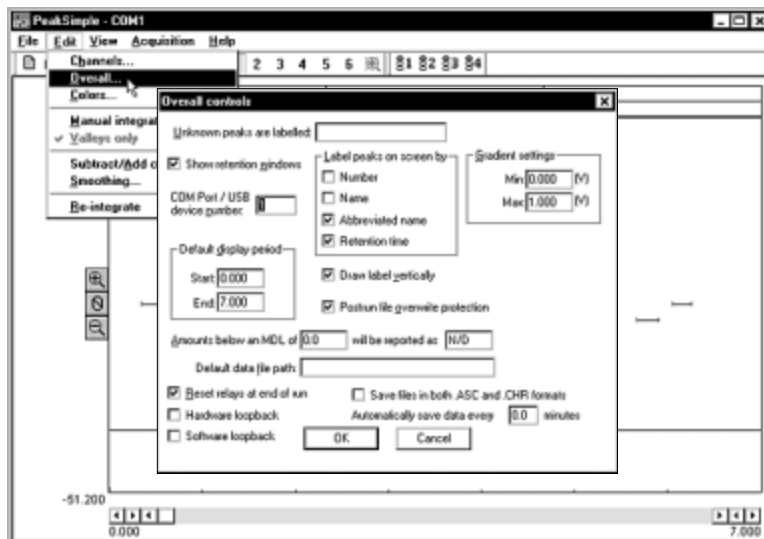
Setup

4. For USB, refer to “Installing the USB Drivers for Model 302 USB PeakSimple Data System” which you will find immediately behind these instructions in your manual, or online at [www.srigc.com](http://www.srigc.com). Return to step #5 below when you are finished installing the USB drivers. For serial port, proceed to the next step.



5. Double-click on the PeakSimple icon to launch the program. Verify that communication has been established between the computer and the GC. An error message will appear if communication is not established.

6. Open the Edit menu and choose Overall. In the dialog box that pops up, enter the number of the COM port to which you have connected the GC. For USB, enter the unique USB device number that is printed on your PeakSimple disk(s), and on the back of the GC. It is a 4-digit number that always begins with “5” (5093, 5276, etc.).



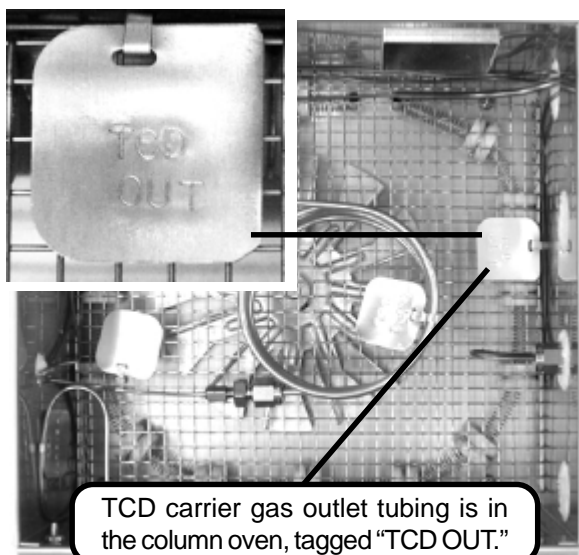
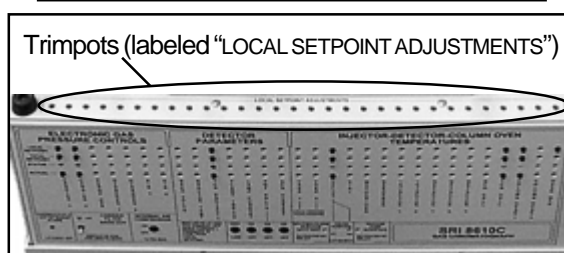
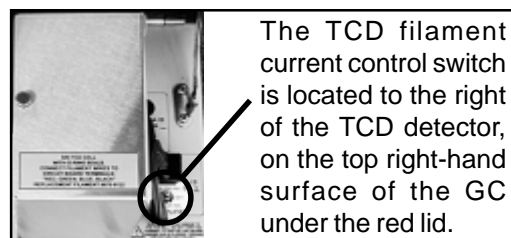
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## IV. Detector Activation

**IMPORTANT:** If you have a pre-configured GC system, please see the manual section for instructions on operating procedures. The manual is organized into sections with labeled tabs. In addition to preconfigured GCs, there are sections on detectors, injectors, autosamplers, valves, and more.

### A. TCD Detector

1. Your GC power should still be ON, and the filaments should still be OFF. The TCD oven is set to 150°C at the factory. It is adjustable by turning the trimpot while observing the TCD CELL LOCAL SETPOINT temperature on the LED display. The trimpots are located on the top edge of the GC front control panel. Allow the TCD to reach desired operating temperature and stabilize.



2. TCD filaments will be damaged or destroyed if current is applied in the absence of flowing carrier gas. Therefore, always verify that carrier gas is exiting the TCD carrier gas outlet before energizing the TCD filaments. The TCD carrier gas outlet tubing is in the column oven, labeled "TCD OUT." Place the end of the tubing in some liquid; if no bubbles are exiting the tube, there is a flow problem. **DO NOT** turn the TCD current ON if you cannot detect carrier gas flow. A filament protection circuit prevents filament damage if carrier gas pressure is not detected at the GC, but it cannot prevent filament damage under all circumstances. Correct any lack of carrier gas flow before proceeding.

3. With the TCD filaments still OFF, zero the data system signal by clicking on the Auto Zero icon on the left side of the chromatogram. Switch the TCD current to LOW. The data system signal's deflection should not be more than 5-20mV for a brand-new TCD detector. There is also a HIGH current TCD filament setting, but to avoid filament damage, we recommend you use only the LOW setting until you are familiar with your GC and TCD detector.

