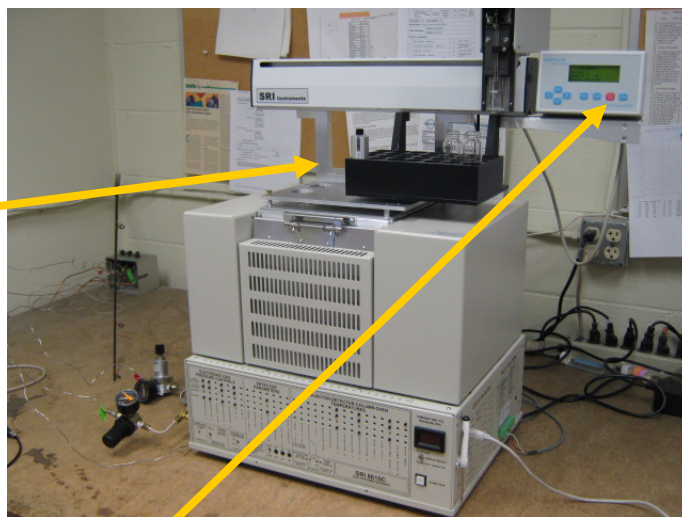


Operation of the Cobra Autosampler on the 8610V gas chromatograph

The Cobra Autosampler mounts on the top of the 8610V GC.

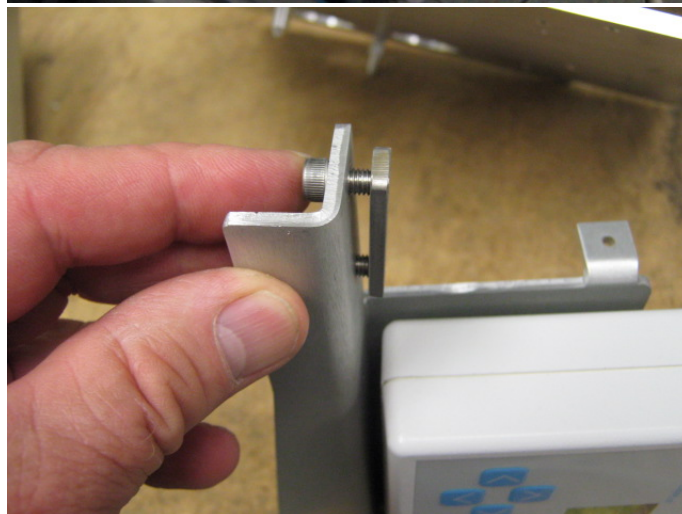


The Cobra keypad should be attached to the autosampler as shown.



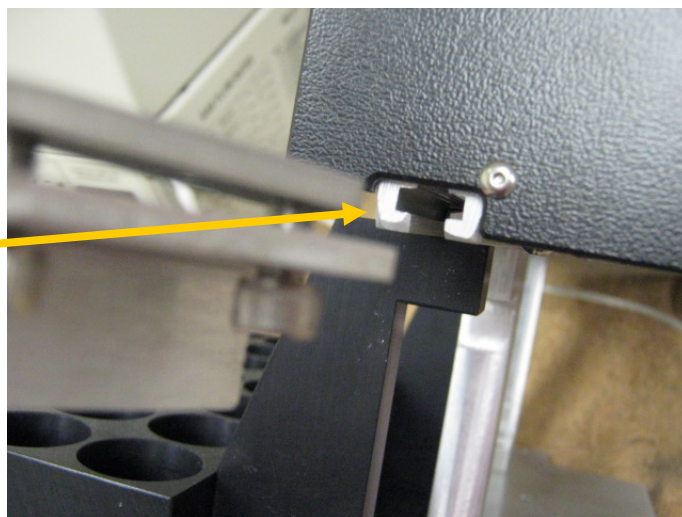
There is a clamping bracket on the keypad. Loosen the two 5/32" hex screws holding the clamping bracket so there is a slight gap.

5/32" hex wrench

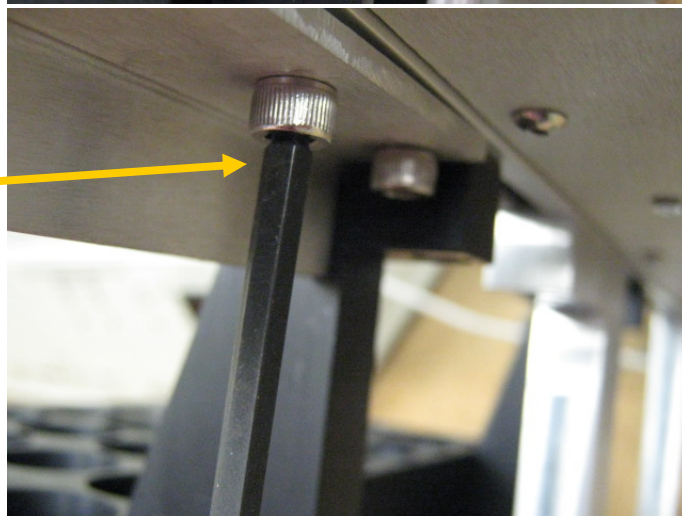


Operation of the Cobra Autosampler on the 8610V gas chromatograph

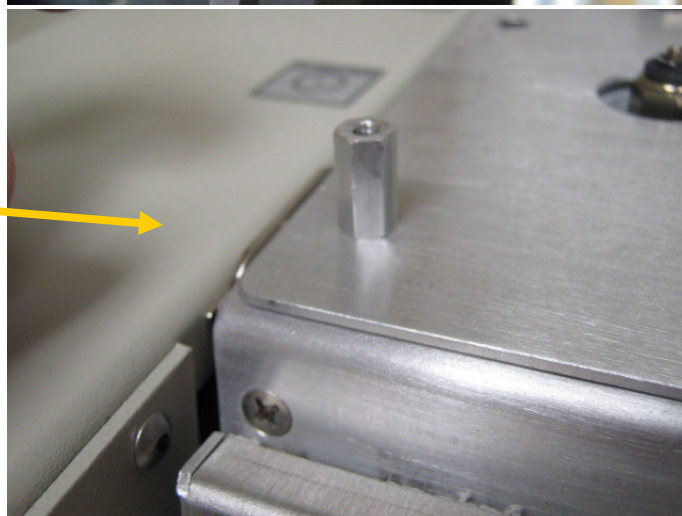
Slide the keypad into the track.



Use the 5/32" hex wrench to tighten the clamping basket.

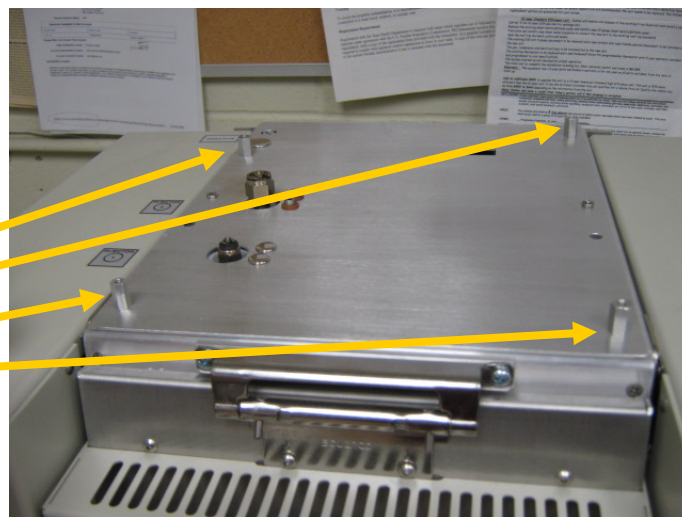


If they are not already mounted, attached the four standoffs to the top plate of the 8610V GC

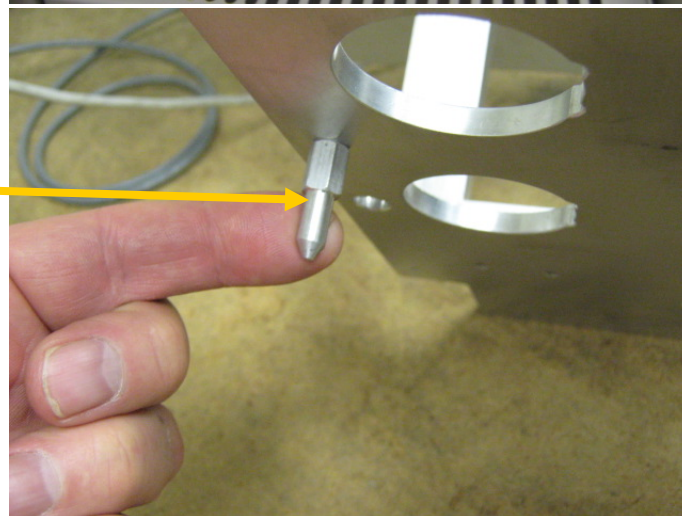


Operation of the Cobra Autosampler on the 8610V gas chromatograph

There are four identical standoffs



The autosampler plate has two locating pins.

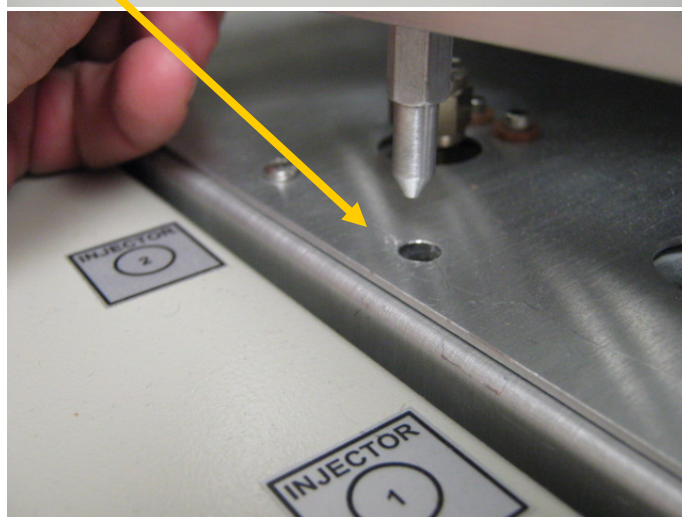
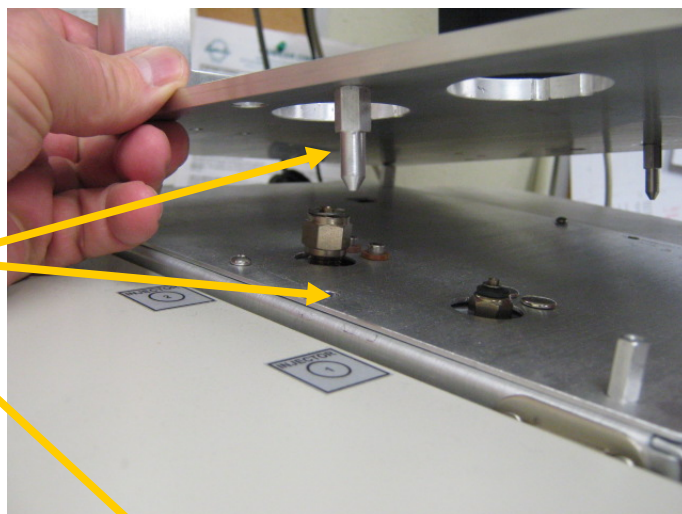


Lift the autosampler and plate onto the top of the 8610V GC.

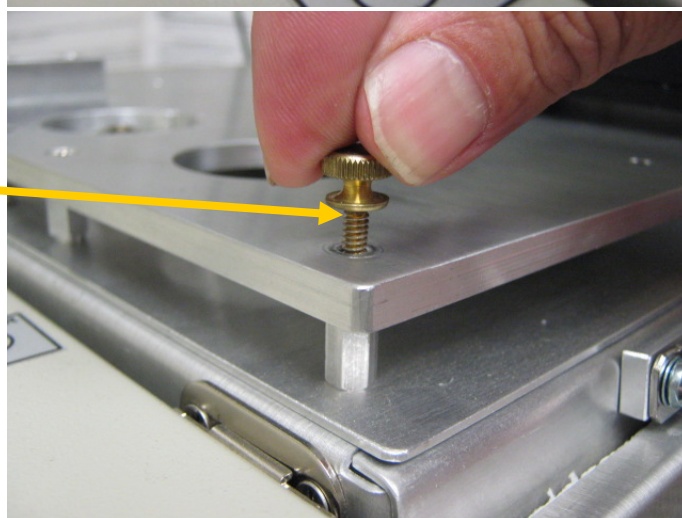


Operation of the Cobra Autosampler on the 8610V gas chromatograph

Align the pins with the mating holes in the top of the GC.

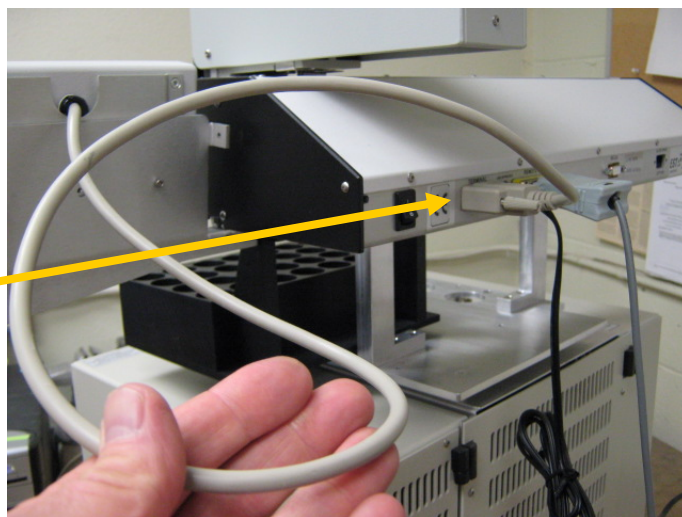


Secure the autosampler plate to the standoffs with the four brass thumbscrews.



Operation of the Cobra Autosampler on the 8610V gas chromatograph

Connect the keypad to the jack on the back of the Cobra.

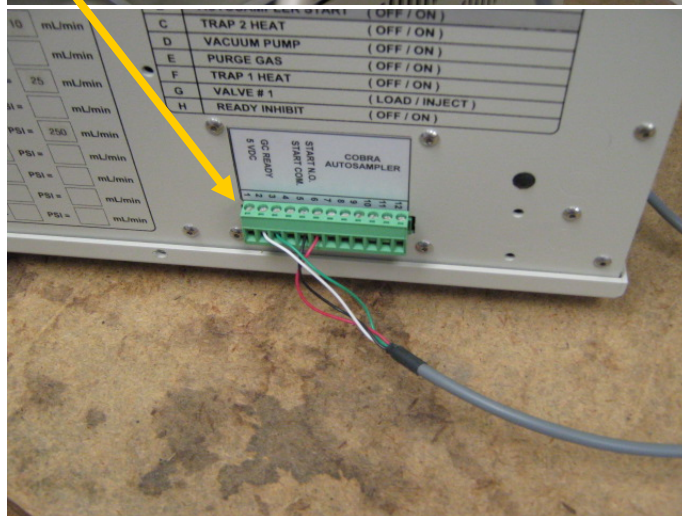
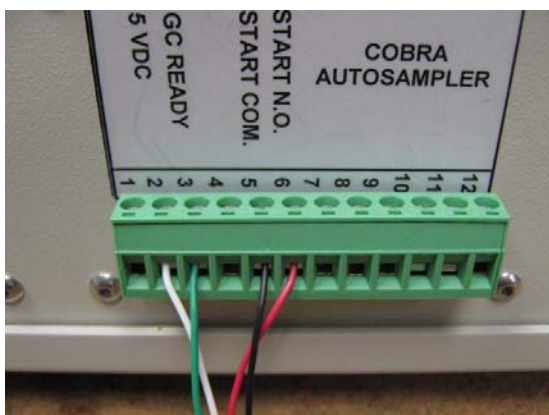


Connect the remote control cable to the jack on the back of the Cobra.



Connect the other end of the remote control cable to the jack on the GC.

The remote control cable should be wired as shown.

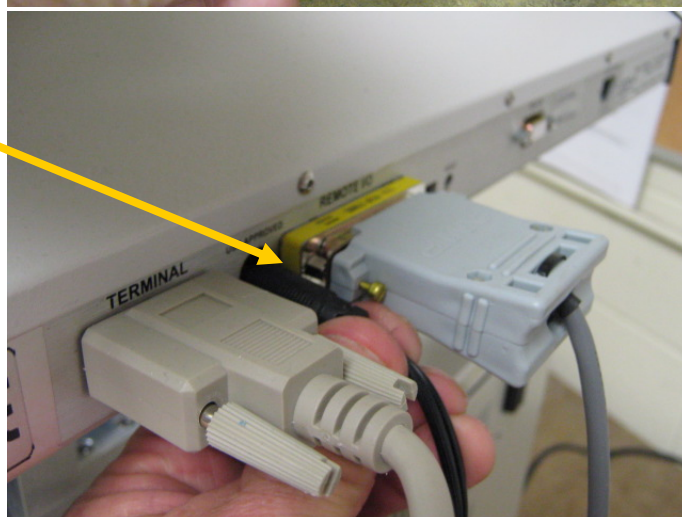


Operation of the Cobra Autosampler on the 8610V gas chromatograph

Connect the power supply

The power jack is on the back of the Cobra between the remote and keypad jacks.

Any 24volt power supply can be used with the specifications shown.

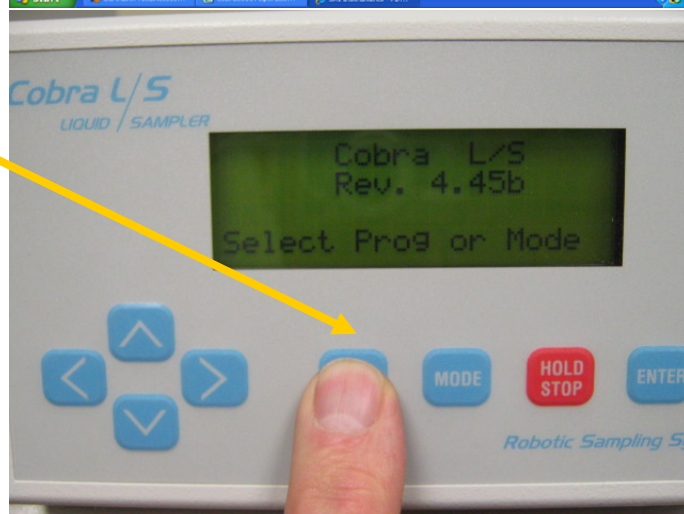
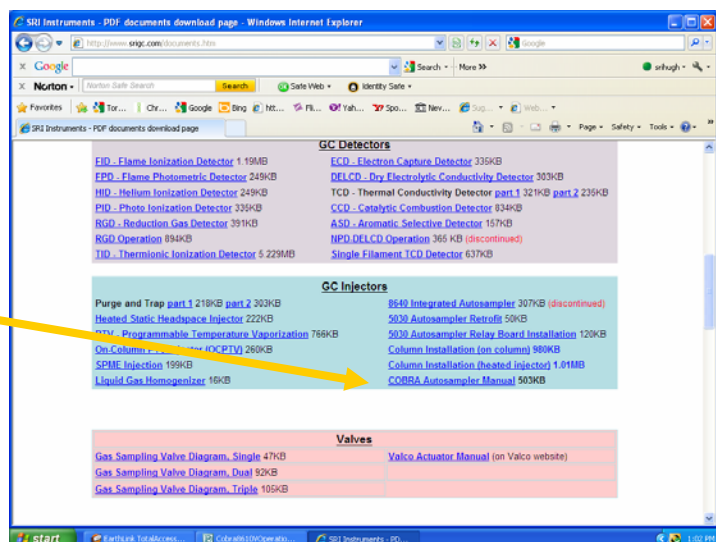


Operation of the Cobra Autosampler on the 8610V gas chromatograph

Download the Cobra manual from the SRI website www.srigc.com

Use the keypad to configure the Cobra to your particular GC. You will have to tell the autosampler the position of the injector, sample bottles, waste and rinse bottles etc. The Cobra manual explains the meanings of the various parameters.

Before inserting the syringe, verify that the Cobra is aligned properly. Otherwise the syringe needle can be bent.

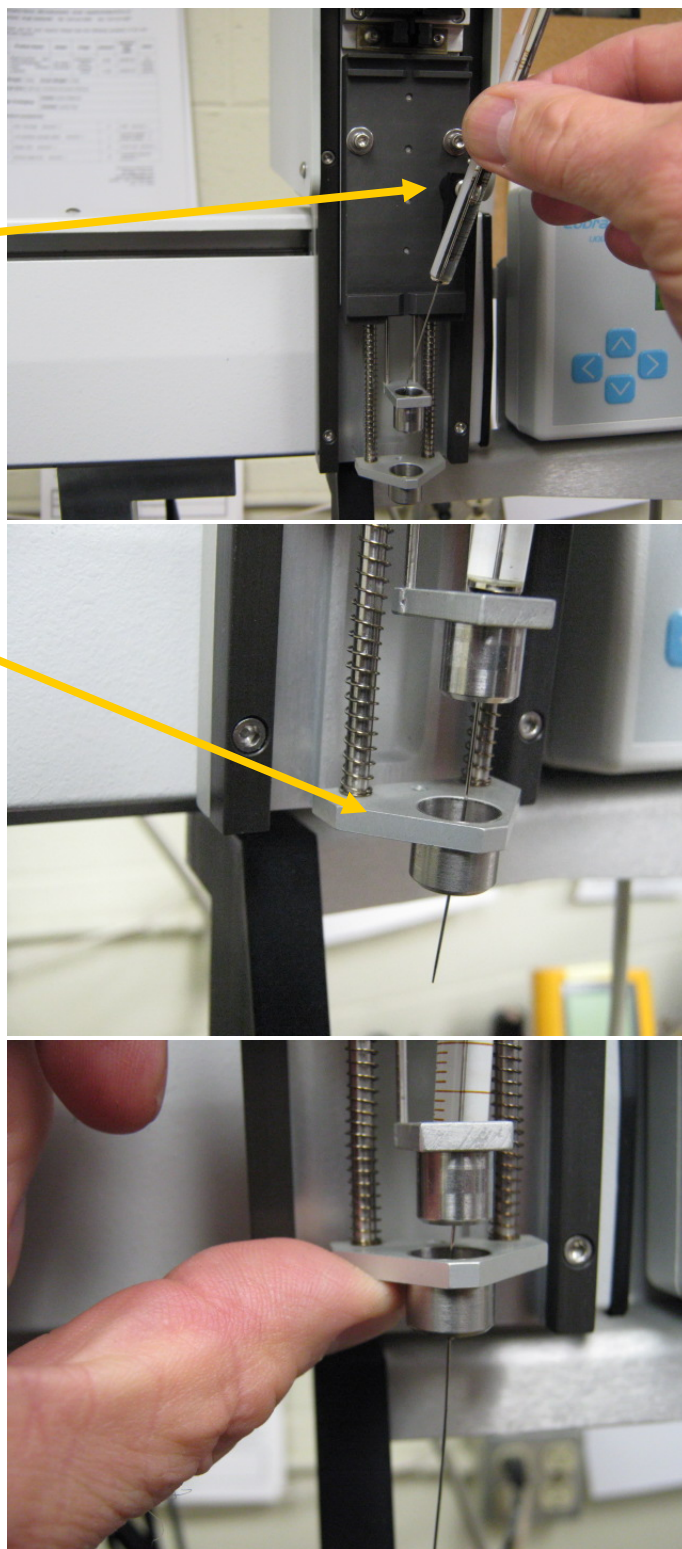


Operation of the Cobra Autosampler on the 8610V gas chromatograph

Insert the 10ul syringe in the syringe holder. The syringe is SRI part#8640-0003.

Wiggle the needle into the holes in the center and lower needle supports. The holes are small so you have to move the needle around until you feel the needle fall into the hole of the lower support.

Use a finger to lift the lower needle support so the needle can not escape while performing the rest of the syringe installation.

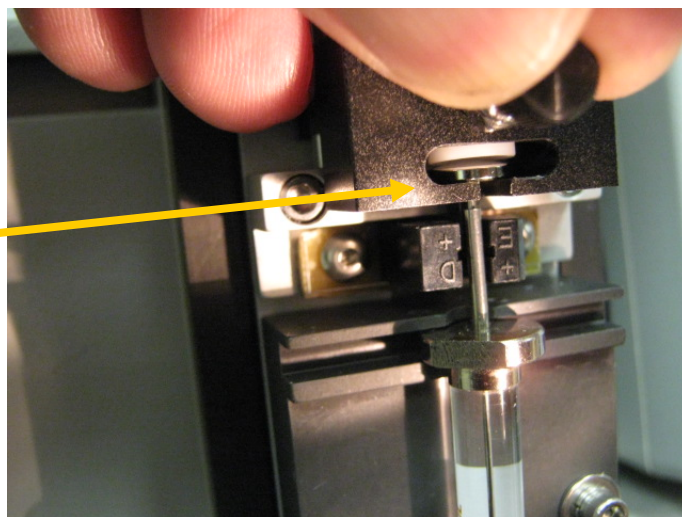


Operation of the Cobra Autosampler on the 8610V gas chromatograph

Loosen the thumbscrew of the plunger retainer. Lift the thumbscrew slightly and wiggle the head of the syringe plunger into the slot. Then tighten the thumbscrew. This is slightly awkward and it may help to have a second person the first time you do this.

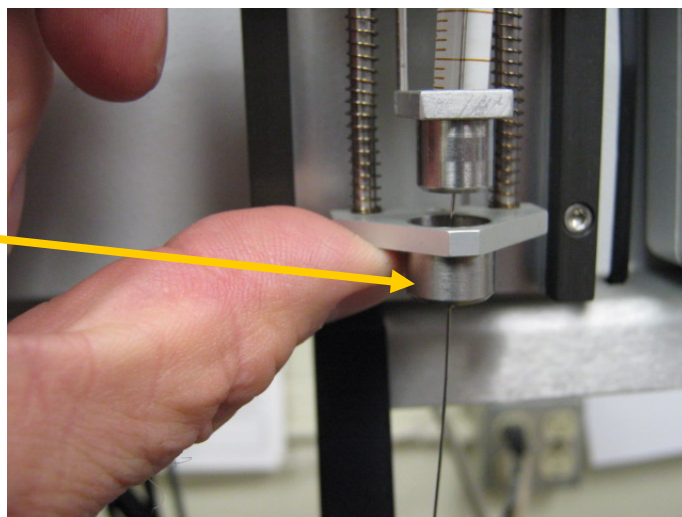
Position the syringe flange in the slot. Rotate the syringe so the graduations along the glass barrel are visible.

Rotate the clamp to secure the syringe in place.

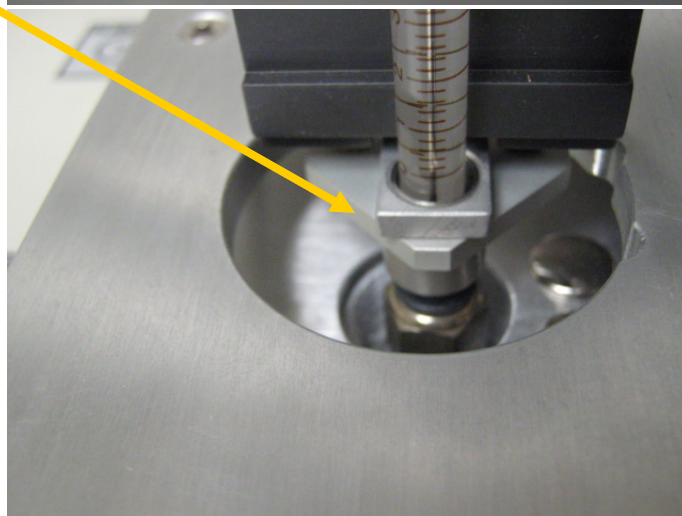
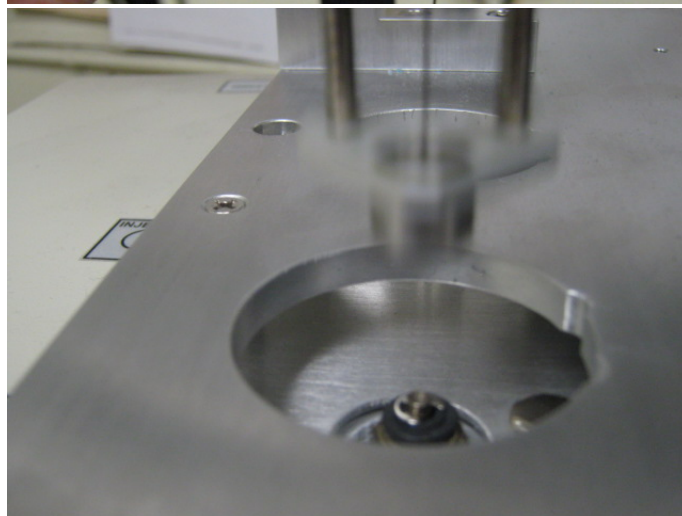


Operation of the Cobra Autosampler on the 8610V gas chromatograph

Verify that the lower needle support moves freely and that the syringe needle is still aligned in the lower support's guide hole.



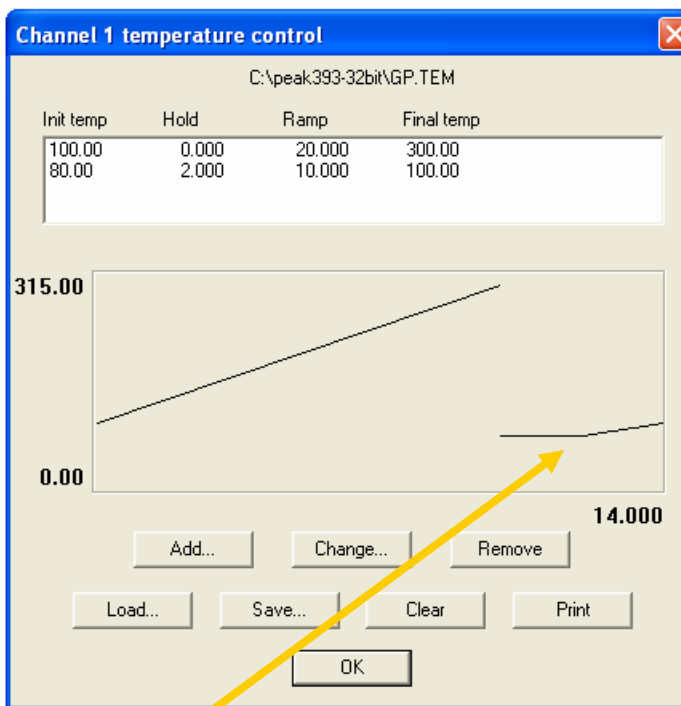
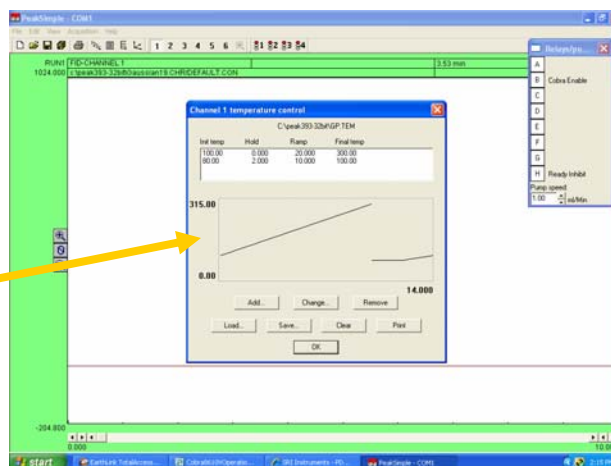
Verify that the syringe needle finds the injector, sample, waste and rinse bottles. Be sure you have lined things up before you put the syringe in since any mis-alignment will result in a bent syringe needle.



Operation of the Cobra Autosampler on the 8610V gas chromatograph

Set up the temperature program in PeakSimple software. See the detailed tutorial and instructions at www.srigc.com for additional information.

The 8610V GC has powerful cooling fans which turn on to bring the column oven temperature down to the starting temperature at the end of the temperature program. There are also some smaller cooling fans which blow air into the column oven to stabilize the temperature below 100C. A gate closes at 100C which stops the smaller fans from blowing the cooling air. For this reason, it is recommended that as part of the temperature program you add an additional segment which allows the oven to cool down below the starting temperature and then to ramp up slowly. This prevents the oven from overshooting the starting temperature due to heat stored in the oven's metal structure. In the example at right, the oven is told to cool to 80C for 2 minutes, then ramp up to 100C (the starting temperature) at 10 degrees per minute.



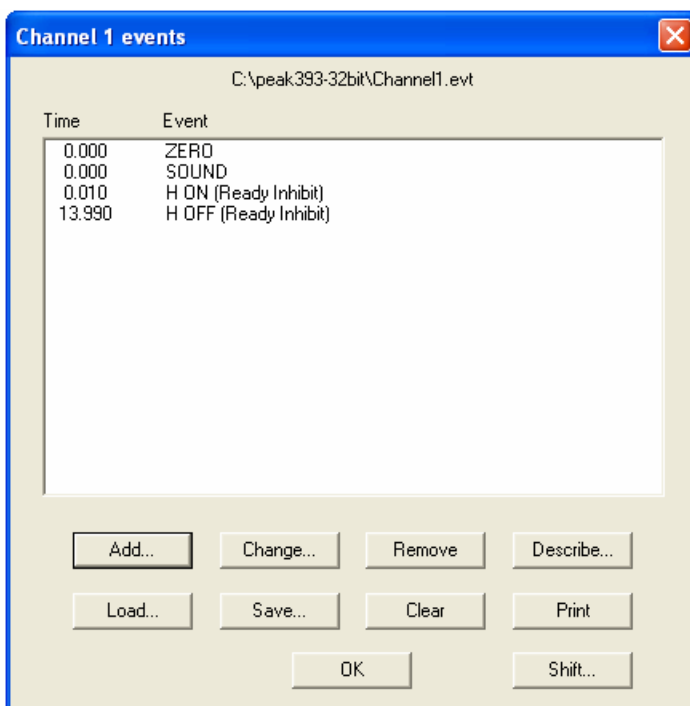
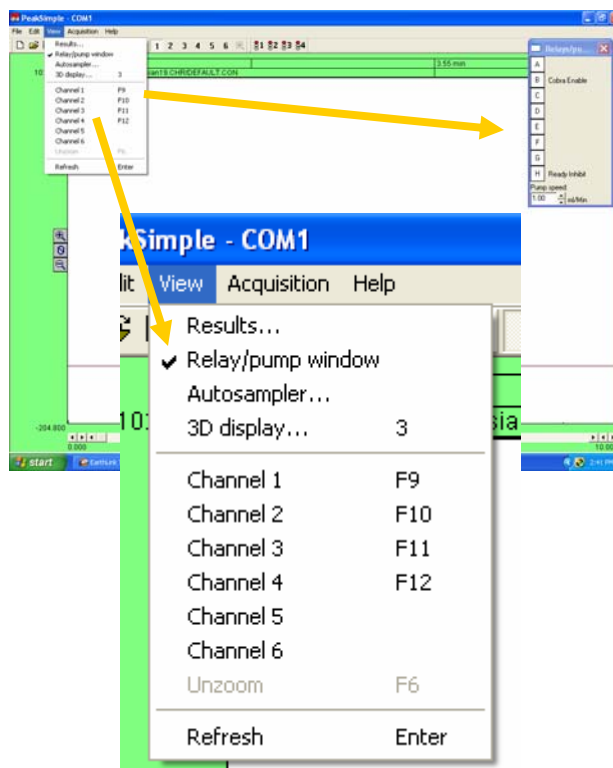
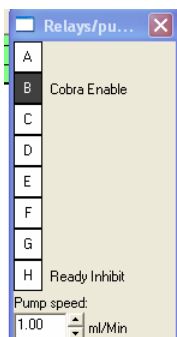
Note the end time of the temperature program (14 minutes)

Operation of the Cobra Autosampler on the 8610V gas chromatograph

Click View/Relay/pump window to display the status window which shows the state of the eight available relays. The Cobra autosampler uses Relay B and Relay H. Relay B is the Cobra enable control. When you click on Relay B with your mouse the Cobra is enabled. If Relay B is not clicked the Cobra will not operate.

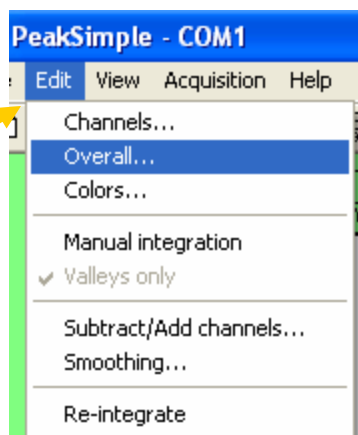
Relay H inhibits the GCs ready light from coming on. The Cobra starts its injection sequence when the GC ready light comes on. If the ready light is not inhibited during the analysis the Cobra may start another sequence in the middle of the analysis.

Enter an Event table similar to the one at right. Note that Relay H is turned on at .01 minutes and turned off at 13.99 minutes (just before the analysis end time according to the example on the previous page). If your analysis time is different you will have to adjust the time Relay H turns off to just before the analysis ends.



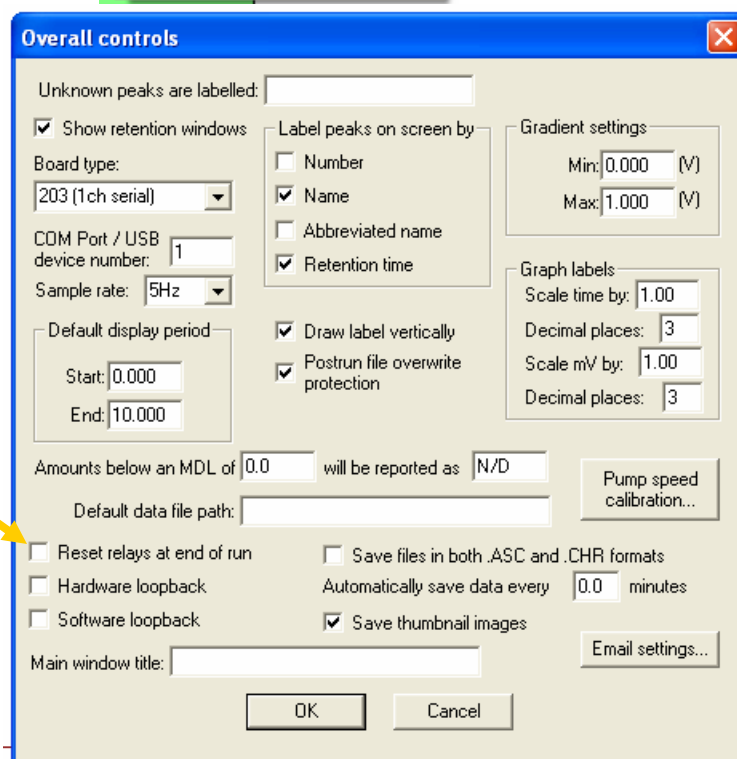
Operation of the Cobra Autosampler on the 8610V gas chromatograph

Click Edit/Overall to display the Overall Controls screen.



Remove the check mark from "Reset relays at end of run"

If you don't do this then Relay B will be turned off and the Cobra will not continue to run samples.



Operation of the Cobra Autosampler on the 8610V gas chromatograph

The Cobra and 8610V GC are now setup, so the sequence is as follows:

- 1) Operator clicks Relay B on PeakSimple screen.
- 2) GC ready light comes on. This tells Cobra to begin injection sequence.
- 3) At the moment the Cobra syringe enters the GC injection port, the analysis begins. PeakSimple turns on Relay H which inhibits the Cobra from beginning another injection.
- 4) Relay H turns off just before analysis ends. GC cools down and stabilizes. When the GC ready light turns on again the next sample is injected. This is repeated until all the samples are injected.

