

Applied Biosystems™ 310 Genetic Analyzer:

Starting Up the Instrument

This datasheet describes how to reassemble and start the Applied Biosystems™ 310 Genetic Analyzer. Step-by-step instructions for the startup procedures can be found in the [Applied Biosystems™ 310 Genetic Analyzer User Guide \(Cat. No. 4317588\)](#).

Restarting from Short-Term shutdown (instrument idle for less than 2 days)

1. Remove the thermal tape securing the capillary closest to the electrode and pull the capillary out of the buffer vial until the end of the capillary is about 1 mm below the end of the electrode. Failure to do so can cause the capillary to break when the instrument is turned on.
2. Start the computer and the instrument:
 - a. Turn on the computer and log in, but do not launch the Data Collection software.
 - b. Turn on the instrument and wait until you get a solid green light.
 - c. Launch the Data Collection Software.
3. Re-calibrate the Autosampler using the Autosampler calibration wizard.
4. Use Manual Control to Home the syringe and refill with polymer if needed.

Restarting from Long-Term shutdown (instrument idle for 2 or more days)

Before starting, if you have not already cleaned the hardware consumables, clean the gel block, syringe and anode buffer jar. Prepare the running buffer and set the polymer out to degas at room temperature with the cap on loosely for 30 min prior to placing it in the syringe.

1. Start the computer and the instrument:
 - a. Turn on the computer and log in, but do not launch the Data Collection software.
 - b. Turn on the instrument and wait until you get a solid green light.
 - c. Launch the Data Collection Software.
2. Place the gel block on the instrument, but do not push it all the way in. Attach the Luer Valve, Waste Valve and place the Capillary Fitting in the block but do not tighten.
3. Carefully thread the end of the capillary closest to the capillary window through the Capillary Fitting until it is flush with the channel to the waste fitting. Tighten the Capillary Fitting until it is finger tight. Give a gentle tug on the capillary to make sure it does not slide out of the gel block. Push the gel block all the way back.

4. Thread the capillary through the capillary guides so that the capillary window aligns with the detection window. Use a piece of thermal tape to secure the capillary to the heat plate and gently close the door. The capillary has a colored labeling mark that should appear along the top edge of the detector plate if set up properly.
Caution: Do not allow the spring-loaded detection cell door to close on its own. Failure to guide the door closed gently could result in a broken capillary.
5. Thread the other end of the capillary through the capillary hole in the electrode thumbscrew until it sits below the bottom of the electrode by no more than 1 mm. Use the thermal tape to tape the capillary to the heat plate to secure it.
6. Run the Autosampler Calibration wizard to calibrate the autosampler (step-by-step instructions on this can be found in chapter 3 in the [Applied Biosystems™ 310 Genetic Analyzer User Guide \(Cat. No. 4317588\)](#)).
7. Open Manual Control (available in the Windows™ menu) and Home the syringe pump; fill the syringe with polymer* and screw the syringe into the gel block. Move the syringe drive toggle to the right so it is over the plunger head. Using manual control, lower the syringe drive until it is resting on the top of the plunger head.
8. Use Manual Control (available in the Windows™ menu) to run the SeqFillCapillary command. After that is done, perform the Test CCD 4-color (if running Sequencing or 4-dye Fragment Analysis runs) or Test CCD 5-color (if running 5-dye Fragment Analysis runs) test to make sure the capillary window is aligned and clear of debris that might block the laser path.

*When filling the syringe, do not pull the plunger up and down while the syringe is dry or plunge too quickly. Doing so can damage the Teflon™ coated plunger and cause leaking around the plunger. For more information on syringe care, please see the [Applied Biosystems™ 310 Genetic Analyzer Syringe Care and Maintenance User Bulletin](#).