StartUp Procedures

When you enter the room to use the 3200FS for the first time each day, check the following items:

1) The nitrogen tank (to left when entering room) should be open. Do not simply read the pressure gauges but instead, make certain the main valve is open several turns.
2) Check that the vacuum readings are normal (all readings in the TEMcon GUI should indicate "Evac Ready" and the gauges on the large electronics cabinet in the corner of the room should be in the correct range).
3) The anti-contaminator (ACD) should be cold. If it is not cold, fill with liquid N_2 and remember to top it off after 10-15 minutes. If it already cold, top it off. This dewar should be refilled every 3-4 hours.
4) Check the accelerating voltage. If it is already at 300 kV, the instrument is ready to use. If it is at 260 kV (Stand By mode), click the "Normal" button in the High Voltage Control window (and also answer "yes" to the pop-up window that confirms the desire to return to "Normal" conditions.). It will take a bit less than 15 minutes for the accelerating voltage to go from 260 kV to 300 kV.
5) The magnification should be between 30k and 50k; if this is not the case, adjust the magnification and let the staff know that the 3200FS was not in the correct state when you found it.
6) Once the microscope is at 300kV, push the "Degauss" button located in the lower right corner of the "Filter Tuning" window.
7) Make certain that the holder is at the neutral position. If the holder is not in the correct position, or if you just want to make certain it is, double click on the black "Stage Neutral" button in TEMcon (lower right corner of main panel) and then click "OK" after it has reached the proper position.

8) Flip the switch below the goniometer to “AIR” (pull switch out and then move it) and remove the specimen holder from the microscope.
9) Put your grid into the holder you want to use. Make certain that the grid is firmly clasped in the holder.
10) Insert holder into 3200FS and then toggle switch below the goniometer to “PUMP”.
11) Wait until the green light above the switch is lit (slightly more than one minute is normal). Waiting even longer (several minutes after the green light comes on) is “better” practice for some samples, especially if you are using a holder that hasn’t been used recently, or are examining a sample that will degas significantly (*e.g.*, a specimen recently stained with uranyl acetate or other negative stain will release water vapor).
12) Insert the holder the rest of the way into the column. Watch the column vacuum gauge on the large electronics cabinet and make certain that the vacuum stays OK and/or starts to recover immediately.
13) Once the column vacuum gauge on the large electronics cabinet has reached the proper reading (to the left of the drawn mark) and the “Beam Valve” monitor in TEMcon (left side of main panel) is colored green, it is safe to open the beam valve

If you do not know what to do at this point, refer to the “Using the 3200” document.