



1. Check base pressure: toggle 'ion' button on JC Controls Ion Gauge Controller to display Pressure in Chamber
2. If  $P_n \leq 5 \times 10^{-6} Torr$ , then commence with the rest of the list. If not, maybe there is leak checking to do....
3. Open pressure-regulator valve on gas bottle (on East wall near fume hood)
4. Note: SOV on vacuum flange bolted to NPax should be shut with metering valve wide open. Check this!
5. Carefully, and gently, close metering valve. Feel it 'bottom-out' with a 'touch'. Do NOT crank it shut. That'll will be its last use....
6. Open SOV
7. With one eye on the neutral pressure with the ION GAUGE ON (note: the Ion Gauge, on top of the chamber should be brightly lit), and one hand on the metering valve, slowly open the metering valve and slowly bring the pressure up to desired level. This will take some getting used to. Once the operator is comfortable with the vernier reading on the metering valve at which it begins to open, one can rapidly open the valve to some reading just short of this, and go real slowly (note: slowly means your shoulder begins to ache...you have to experience this to 'get it') the rest of the way. Once you have desired pressure, then
8. Power up the discharge supply (thin Sorenson DCS 330-3.5E, near bottom of instrument rack), to 80V (you'll see the current at 0.00A)
9. Power up the filament supply (tall Sorenson DCR 115B, bottom of instrument rack), and very slowly bring the voltage up near 15V, watching the current on the DISCHARGE SUPPLY, setting it to desired discharge current, (usually near 1 A), but this will vary from experiment to experiment....
10. Hokay! It's all diagnostics from here, good hunting!!!