

## **REFILLING THE LIQUID NITROGEN STORAGE DEWAR**

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**(As Used in the Laboratory of Joseph W. Stucki)**

Liquid nitrogen is used to trap water in vacuum lines, such as on the glove box, and to establish a temperature of 77 K in the Technology Systems, Ltd., cryostat.

The source of liquid nitrogen in Turner Hall is located in room M-213 (utilities room). The key (white key-ring) is hanging in the Mössbauer lab on the hardware board (North wall).

Take care upon entering M-213 because some of the drain lines attached to the walls in that utility room are made of glass and could be broken if bumped by the storage dewar.

The liquid nitrogen station has two connections: one is the liquid supply and the other is a vent for excess nitrogen as it boils off and as the tank fills. The liquid supply is connected to the storage dewar through the valve and fitting labeled "LIQUID" and the vent connection must be attached to the valve and fitting marked "VENT" on the storage dewar. After connecting the lines, open both of these valves on the storage dewar.

After the lines are connected, also open the vent by-pass valve in the liquid supply line (valve at left of the supply valve) to relieve air and extra pressure from the nitrogen supply line as the liquid is admitted into the line. When the supply line begins to collect frost, open the liquid nitrogen supply valve on top of the source line to allow liquid to pass to the storage dewar and close the vent by-pass valve. The pressure must be kept below the first red mark of the gauge.

Take note of the volume; the storage dewar holds 120 L.