

## Com-10 Day 1: 8 February 2020

16:15 Florian and Tom arrive at summit (we did not leave Tucson until ca. 12:45, since we had to bring up the spare AdSec BCU... they have been having serious glitches and were re-programming things)

16:50 We have permission to start the pumps on the cryostat (locked at zenith)

16:54 Starting cryostat pump; initial pressure 1.8E-2

16:57 Valve opens, cryostat pressure dropping

17:07 Started pumping Stirling cooler (see checklist for details). Valve open at 17:16

19:24 Closed valve at Stirling (2h08m pumping) and (slowly) started venting and shutting down, since we were asked to stop pumping the cryostat

19:40 Cryostat at 4.9E-3. Pressed F2 to stop.

19:45 TMP at 0Hz, pressure has risen to 5.3E-3

19:56 Stirling pump vented completely, but left in place (we will probably have to pump during the day)

Note that the pressure in the He lines is only 24.5 Bar. We should top it up. I have asked Elliott to help with this operation (and to show him how it is done), but he is currently busy dealing with AdSec glitches. Note that the instructions in LN-MPIA-MAN-CRY-003 appear incomplete. Step 3 says to "Switch the valve on the gas handling panel to "loop". " to prepare for the top-up, but it never says to switch it back to "Cooler". Do we have to do this?

In the end, Tom and Florian went through the process of topping the He lines up to 28 bar. This worked well, but the valve on the gas handling panel was already on "loop," not "cooler." Oh...and all of the buffer volume valves were already open when we arrived (technically, one of the 24 bottles was almost closed).

The other problem we had is that the Stirling pressure is only ca. 12 bar, not 16-20 bar as required (Section 6.1.6 of MAN-CRY-003). There is a very brief description on how to refill the Stirling in MAN-CRY-003. When this happened before, Tom wrote up a more detailed procedure (which is an attachment below) for Elliott. The problem is that we cannot find the "Blow Off Valve" that helps purge the Top-Up Hose. We looked everywhere on 4 and 3L....nothing. The Top-Up Hose was exactly where it should have been (on top of the rack holding the 24 He bottles).

We then searched through the Inventory and found that there were "Aeroquip couplings, spare" in box-9. We dug these out (they were in the very bottom, of course) and tried to use the female one as a Blow-Off Valve. It didn't work, presumably because the extra little snout on the real thing opens the valve. At this point (11 PM) we are basically stuck. We are unsure whether it is safe to proceed without purging the Top-Up Hose, and on balance, given the weather prediction for Monday and the fact that we can start cooling tomorrow morning (to say nothing of our complete exhaustion - we have been on the go since 8:00 this morning), we have paused for the night.

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### Attachments (1)

- [Filling\\_buffer.pdf](#) (4.4 MB) - added by [herbst](#) 5 days ago.

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