

Floor members,

I have compiled a list of all of the pumps (42) on the floor and have assigned them numbers. The location, status, present custodian, and time of last rebuild are included on this list.

TO ALL LAB LEADERS: Please explain to new personnel how to operate and maintain the pumps. Doing so may prevent future problems.

Rules for pumps:

1. Change your oil regularly (about 3-6 months), just like you do with your car. You wouldn't let your car run for years on the same oil, would you? Also, fresh oil gives a better vacuum. This is the truth.
2. IF YOU SUCK UP SOLVENT INTO THE PUMP, CHANGE THE OIL IMMEDIATELY. Not tomorrow, right now! Solvents swell the rubber seals, causing them to be abraded and the pump grinds itself to pieces.
3. Trap the pump with liquid nitrogen. Even dry ice/IPA isn't good enough. Also, liquid nitrogen increases the vacuum. If you don't believe me, use a McLeod gauge.
4. Use the correct oil. The yellowish oil is for belt drive pumps, the clear is for direct drive pumps. They work the best with the right oil.
5. Each type of pump has a specific purpose. Direct drives are more expensive and much less tolerant to junk in the oil, but give higher vacuum. They are more fragile. Belt drive pumps are more tolerant of garbage, which is why universities use them more often. They are also cheaper but give less vacuum. Don't use a pump for a purpose it's not intended for.
6. Any corrosives, especially acids and bases in the pump must be removed immediately by changing the oil. Putting this into a pump will destroy it quickly.
7. DON'T BE LAZY WHEN MAINTAINING PUMPS. MOST OF THE PUMP PROBLEMS HERE HAVE BEEN DUE TO LACK OF MAINTENANCE, NOT FAULTY AMERICAN PUMPS.

Let's here discuss a few "urban Legends" or "myths" that circulate around and ARE NOT TRUE;

1. Chunks in the oil help seal up leaks and give better vacuum. This is totally false! This means your internal parts are deteriorating on your pump.
2. Black oil is fine. Wrong! The oil starts out clear or yellow, doesn't it?
3. Leaking oil is no problem on a pump. Wrong. The pump is going to fail soon. It's a minor problem that leads to a big one.

4. It doesn't matter what type of pump oil you use. This one will get you into trouble. Direct drive pumps don't like the yellow oil, regardless of what the label says.
5. Opening up the pump to full vacuum (like on the Wagener group glovebox) will damage the pump. Another fallacy, I don't know how that got started. What is a pump used for?
6. It's OK to let a little bit of solvent get into the pump/or use the pump to suck off the solvent. This will trash your pump. I've seen other groups at UF do this one too. Use a rotavap!!
7. It's bad to run your pump 24/7. Not true. Actually, it takes some time for a pump to get up to full vacuum.
8. It's OK to shut off your pump while it's pulling vacuum. No, open up the line to air, then shut it off. If you don't, you get a reverse vacuum and oil gets sucked up into the line.