

### 1.3 Hydraulic Cart Fluid Drain Procedure

### *Operational Guidance*

### 1.3 Hydraulic Cart Fluid Drain Procedure

This procedure covers the draining of the hydraulic cart of its nominal charge of hydraulic fluid. This isn't rocket science, but there are a couple of key things to watch out for:

- 1) **Don't open up the cart when it is pressurized.**
- 2) Isolate the cart from the bubble chamber by closing MV-11.
- 3) Remove the compressed air to bleed off the pressure. Pull the compressed air hose, let the air pressure bleed down, then back off the input air pressure regulator, PRV-1.
- 4) Open MV-24 to the glycol drain tank. *Then SLOWLY*, open the drain valve, MV-13, to bleed off any residual pressure and to start draining glycol.
- 5) *After making sure that the air pressure regulator is backed off, reattach the compressed air line and SLOWLY* reapply compressed air to drive the pneumatic piston down and expel any remaining fluid from the fast piston.
- 6) Manually or under LabVIEW control, drive the main hydraulic cylinder down to its lower stop to expel fluid from there.
- 7) Open up MV-4 and EV-3 to the diaphragm tank to drain fluid from there.
- 8) Cap off the open ports. You're done.