

Prioritized Cable Pressurization Leak Locating Strategy

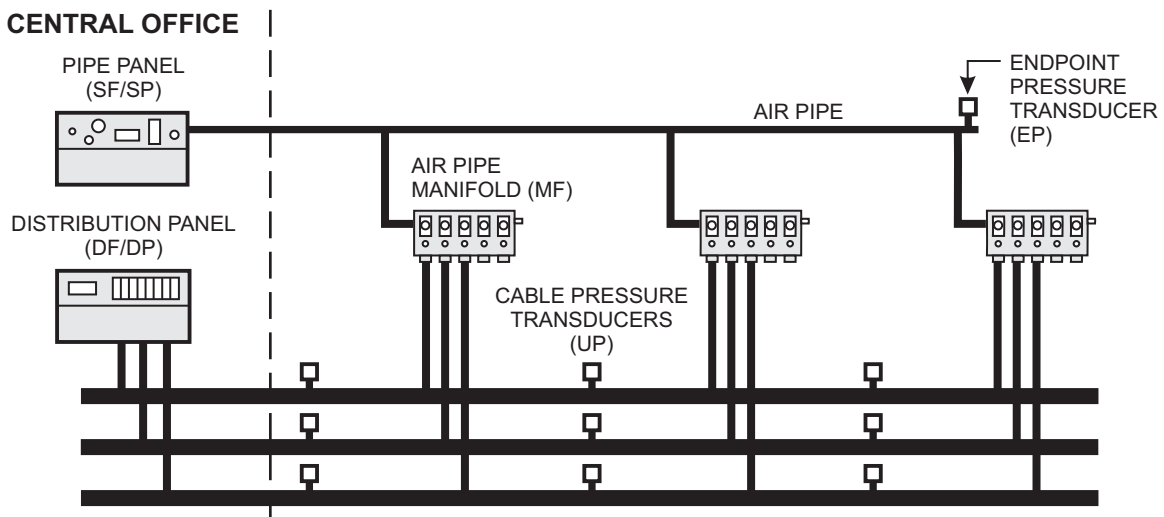
The leak locating strategy below is based on the reality that a technician is faced with hundreds of cable leaks in a wire center and only a minimal amount of time available for maintenance. The technician must identify and repair the largest, most damaging leaks in the wire center—the ones that reduce delivery pressure to the cables. Fixing those leaks will improve air pipe pressures and overall cable protection.

It is recommended that PressureWEB™ be used to obtain all remote monitoring device information needed for this procedure.

1. For each wire center, list and rank the endpoint pipe pressures (Device Type EP) from lowest to highest. The minimum delivery pressure standard for an air pipe is 7.5 psi. Air pipes with endpoint pressures of less than 6 psi are good candidates for maintenance. Work on the pipe with the lowest endpoint pressure first.
2. Verify that the delivery pressure at the pipe panel (Device Type SP) is 10 psi. Regulate the panel to 10 psi if required.
3. Compare the air flow (SCFH) at the pipe panel flow transducer (Device Type SF) with the total air flow measured at each manifold fed by the pipe. The total air flow of all manifolds should be at least 75% of the source flow. If 50% or more of the air flow is not accounted for, leak locating on the air pipe itself is required. Refer to the *Theory & Practice Manual* link under *Tools* on PressureWEB.

4. Compare flows (SCFH) at the manifolds (Device Type MF) on this route with the Optimum Air Usage (OAU) for each device. The OAU is the flow rate that the manifold should be flowing based on the number of cable sheath miles being fed by the manifold. Good candidates for leak locating are manifolds that are flowing more than 8 times the OAU (for example, a manifold flowing 30 SCFH with an OAU of 2.5 SCFH).
5. Prioritize manifolds based on this comparison. If there are two #1 candidates, visit the manifold farthest out on the pipe first.
6. Read the air flows of the individual cables at the “worst” manifold. A cable flowing 10 SCFH or more has a leak(s) that needs to be found and repaired.
7. Calculate a zero leak projection (ZLP) for this leak. The ZLP will indicate the farthest this leak can be (in feet) from the manifold. There is a link to an *Online Calculator* that has the ZLP formula under *Tools* in PressureWEB.
8. First check the manifold manhole for this leak and, if necessary, any manholes that fall within the Zero Leak Projection boundary. Remember, a 10 SCFH or higher leak will be so large that it cannot be heard.

Questions on leak locating and analysis can be answered by calling System Studies Incorporated at (800) 247-8255 from 6 a.m. to 4 p.m. Pacific Time, Monday through Friday.



SF, DF, & MF FLOW — MEASURED IN SCFH
SP, DP, EP, & UP PRESSURE — MEASURED IN PSI

