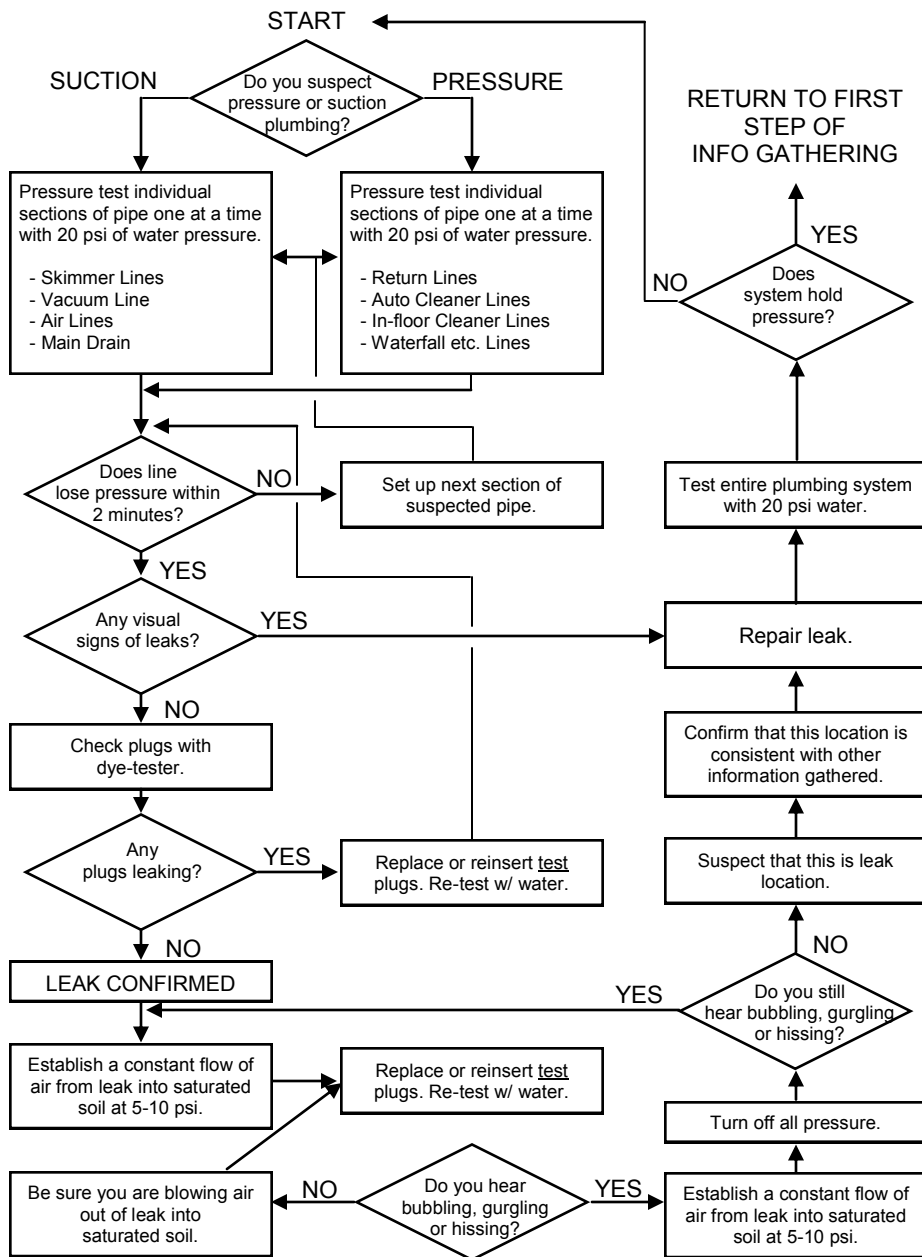


FINDING SWIMMING POOL LEAKS

PRESSURE TESTING STEPS



Pressure Testing - To determine if a line is leaking.

Pressure Testing Safety Rules

1. Turn off all equipment before testing.
2. Use straight sided test plugs.
3. Do not over expand a plug to make it fit a larger hole.
4. Never exceed 20 psi pressure.
5. Stand clear of plugged openings.
6. Release pressure immediately after test and before removing plugs.
7. Never use an unregulated air source.
8. Use well maintained equipment.

Pressure Testing Constants

1. AIR COMPRESSES UNDER PRESSURE; WATER DOES NOT.
2. AIR STAYS AT THE TOP OF THE PIPE; WATER AT THE BOTTOM - EVEN WHEN UNDER PRESSURE.
3. AIR WILL ESCAPE FROM LEAKS FASTER THAN WATER.

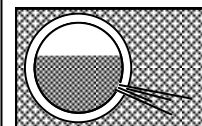
AVOID A MIXTURE OF AIR & WATER IN LINE WHEN PRESSURE TESTING

- Different amounts of air in the line may cause the same leak to show a different rate of pressure loss. (more air = slower pressure drop)
 - There may be an initial pressure drop in lines that do not leak as air and water pressure equalize inside the line.
- USE WATER IF IT IS EASIEST TO ELIMINATE MOST OF THE AIR FROM THE LINE
USE AIR* IF IT IS EASIEST TO ELIMINATE MOST OF THE WATER FROM THE LINE
*Risk of plug pop-out is greater when doing an Air Pressure Test

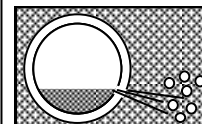
Sonic Location - To pinpoint the location of a buried leak.

1. Purge all water from leaking line. Remove low plug and turn on air
2. Replace plug and adjust air source to maintain a constant pressure of 5-15 psi.
3. Listen along path of buried lines for the sound of bubbling and gurgling. (Use Geophone or Electronic Listening Device)
4. Pinpoint location of loudest sound. Leak should be directly below this point.

All water above leak must be purged from line to assure good noise.



Water blown into water saturated soil = slight hissing
HARD TO HEAR



Air blown into water saturated soil = bubbling/gurgling
EASY TO HEAR

Tips:

Put air into the pipe from the high end to assure that air does not bubble through standing water in line making a false leak sound.

On suction leaks, assure soil saturation by leaving water pressure on line for an hour or two before inducing air.

If pressure cannot be maintained with just air, or if soil does not stay saturated, add a constant stream of water from low end of pipe while adding air.