

**Knowledge Domain: Plumbing**  
**Unit: Leaking**  
**Skill: Finding Holes**

**Tools and Parts Required:**

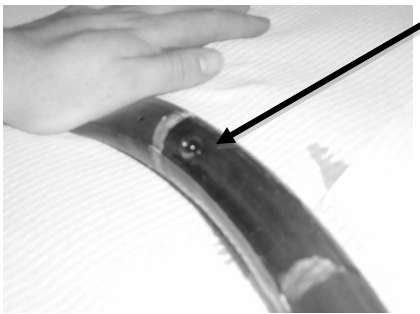
- 1) Liquid dish soap
- 2) Tubing with a hole

**Introduction**

Tubing can develop holes when it is punctured. Holes allow air or liquid to leak. Holes cause machines to run inefficiently. A big hole can prevent a machine from working. Small holes waste energy.

Holes are easy to find. Holes can be patched. If holes are not repaired the tubing may deteriorate.

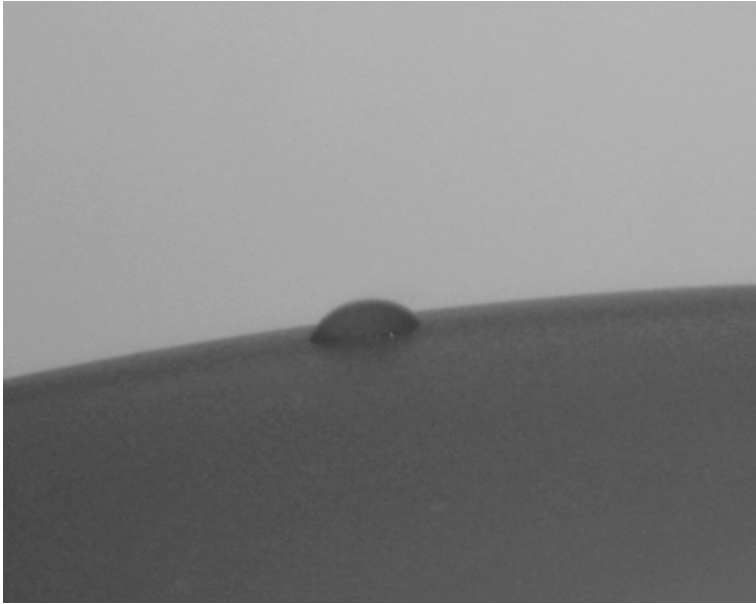
**Example**



Arrow is pointing to a bubble forming on the tubing where the hole is

**Identification and Diagnosis**

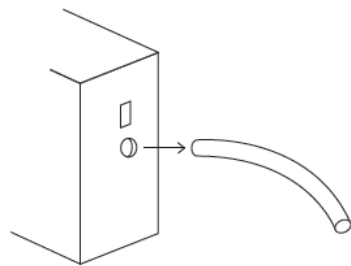
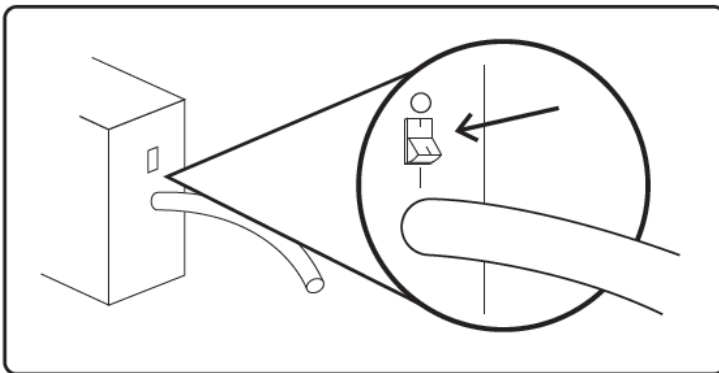
Holes in tubing allow air or water to leak. When air leaks you can hear it leaking. Place your hand over the tubing. For large holes you can feel the air leak. Small holes will bubble in water. Water leaks can be seen. Water beads on small holes. Water drips from big holes.



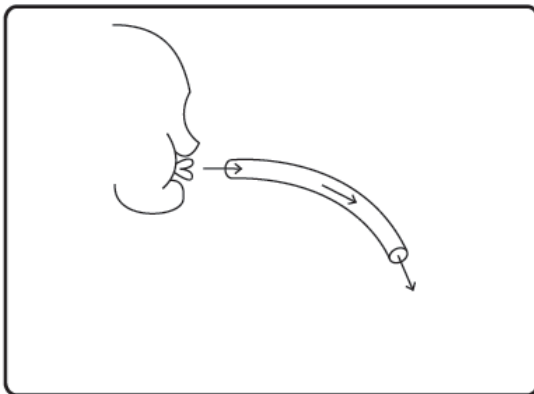
Water bead on a plastic plate

**Procedure**

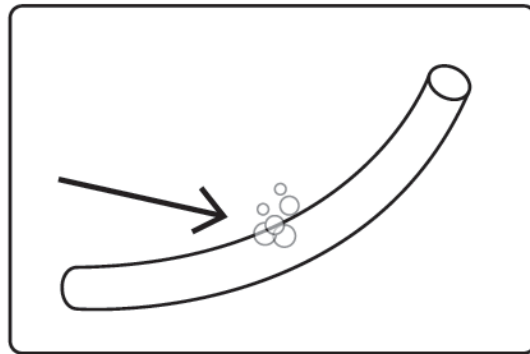
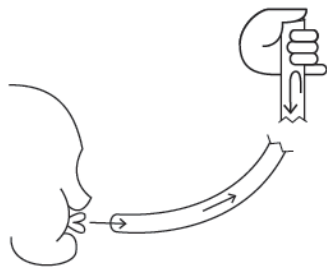
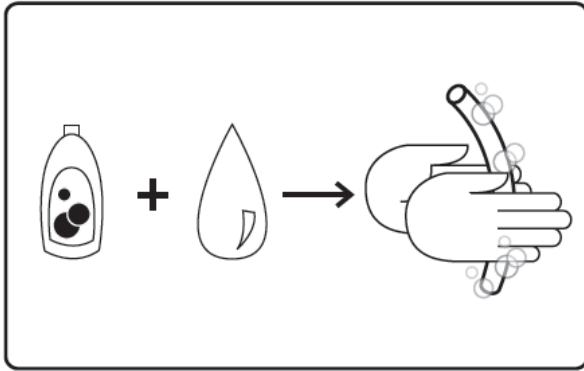
Check that the machine is turned off. Remove the tubing from the machine.



Clean the tubing with soap and water. Check that the tubing is hollow by blowing through it.



Cover the outside of the tube with soap. Do not allow water inside the tube. Seal one end of the tube with your finger or hand. Blow through the other end of the tube. Look for bubbles on the tube. The bubbles originate from the leak.



### Exercise

Your instructor will give you a piece of leaky tubing. You must locate the hole. Use soap and water. Show your instructor the hole in your tubing. Wash the soap and water from the tubing.