



This design requires no stoppers or valves -- it uses water pressure differences to affect a one-way valve. The main requirement is that the water levels in the secondary chambers are higher than the water level in the primary chamber. This allows the bong to work even without every "service station" occupied!

Starting from this basic design, we actually built a slightly enhanced version. It had a total of 4 service stations (i.e. 4 secondary chambers), as well as well as an extra buffer chamber between the primary chamber and each secondary chamber. This beast had a total of 9 2-litre bottles arranged in a diamond pattern! The tubes from the primary chambers to the buffer chambers to the secondary chambers were very short, but the tubes from the secondary chambers to the users were very long (4 to 6 feet). This allows for mobile or remote operation.

Hints:

- 1. Use large-diameter (3/8 inch internal), (clear) plastic tubing. This reduces air resistance and makes sucking easier.
- 2. To make the holes in the bottles for the tubing, the following procedure worked well for us:
 - i) Use a hot pointed object to first melt a small hole in the plastic bottles. (A very small Phillips screwdriver held under a lighter for a few seconds works great.)
 - ii) Slowly twist a screwdriver/drill/pliers/knife to gradually increase the diameter of the hole. Stop when the diameter of the hole is slightly less than the outer-diameter of the tubing. This will allow an air-tight seal. This same technique works for making the holes in the top of the plastic bottle-caps.
- 3. If possible, use even larger tubing for the bowl tube in the primary chamber. This tube is the primary "bottleneck" for entering smoke, and the bigger this is, the easier it is to suck.

The results were fantastic. At first, the users didn't think they were getting anything, since the smoke was greatly cooled by the dual water chambers. As a result, they sucked even harder.... A few minutes later, they were orbiting Pluto...:-) This was definitely a big hit (no pun intended :) with everyone...