

# BOTTLE FILLING INSTRUCTIONS

## SAFETY TIPS

- ❖ Never inhale nitrous oxide. When inhaled in adequate quantities, nitrous oxide can cause respiratory problems or in extreme cases it can cause death due to suffocation caused by lack of oxygen.
- ❖ Never allow escaping nitrous oxide to contact skin. Nitrous oxide discharges at -130 degrees F. If allowed to contact skin, it will cause severe freeze burn.
- ❖ Never overfill any nitrous cylinder. The maximum weight that any nitrous cylinder should weigh and be filled to is clearly labeled on the side of the cylinder.
- ❖ Always wear hand and eye protection when carrying out nitrous oxide filling procedures.
- ❖ Never permit oil, grease or any other readily combustible substances to come in contact with cylinders, valves, solenoids, hoses and fittings.
- ❖ Oil and certain gases (such as oxygen and nitrous oxide) may combine to produce a flammable condition.
- ❖ Never deface or remove any markings which are used for content identification on compressed gas cylinders.
- ❖ Keep valves closed on all empty bottles to prevent accidental contamination.
- ❖ After storage, open nitrous bottle valve for an instant to clear opening of any possible dust or dirt.
- ❖ Never drop or violently strike bottle.
- ❖ Do not over tighten any fittings.
- ❖ NEVER LEAVE A BOTTLE THAT'S OVER FILLED FOR ANY TIME, as the pressure will eventually and suddenly rise excessively, causing the SPRV to vent off gas or with other brands of bottles, the rupture disc may blow and the full contents will be lost.

## CONNECTING & FILLING INSTRUCTIONS

- ❖ Put the big bottle in a warm place to heat it up to at least normal room temp or higher for a few hours.
- ❖ Put the bottle to be filled somewhere cold for approx. 1hr.
- ❖ When the bottle to be filled is cold and supply bottle is warm continue as follows;
- ❖ If the supply bottle has a dip tube fitted (usually indicated by a white line down the length of the bottle) it should be stood upright with the valve upper most.
- ❖ If the supply bottle does NOT have a dip tube (the best option for achieving a good fill and for getting most liquid from the bottle), it should be turned upside down (with the valve at the bottom) and raised approx. a foot or so off the ground.
- ❖ If the bottle to be filled has some content or you have not cooled the bottle adequately, position it so the valve is pointing at the ground and purge off some of the nitrous "GAS" and then close the valve - this step is not required if the bottle is completely empty.

- ❖ Lay the bottle to be filled flat on the floor, preferably on scales to measure the weight.
- ❖ Now connect the supply bottle to the bottle to be filled using the filtered nylon pipe supplied. Open the large bottle valve and CAREFULLY slacken off the pipe securing nut where it connects to the small bottle. To avoid any risk of freeze burns wear protective gloves and eye protection for this job. When you see WHITE vapour escaping from the pipe joint, nip up the securing nut until it is sealed, then open the small bottle valve.
- ❖ Due to the contents of the supply bottle being above the bottle to be filled and the differential in pressure, nitrous liquid will fill the small bottle.
- ❖ If the bottle does not reach the full weight after approx. 15 mins lift the bottle being filled a couple of inches off the floor and gently rock it from end to end, then place it back down for a further 5 to 10 mins or until it is filled. You may need to repeat this process if the bottle is reluctant to fill completely due to inadequate preparation or adverse conditions.
- ❖ When full, close both valves and carefully release the pipe retaining nut at the bottle being filled (avoid the escaping nitrous) and then check the weight. If the total weight is higher than the gross weight stamped in the neck of the bottle, any surplus should be vented off.
- ❖ For best results warm the bottle back up to at least ambient temperature, before fitting and using.

### CYLINDER POSITION AND CONNECTION DIAGRAM

