



### ***Propane Tanks, Tank Brackets & Lift Trucks ... Just Throw It On The Truck and Go?!***

A propane tank deserves respect. The explosive power in a standard eight gallon tank is extreme. Liquefied Petroleum Gas (LPG) is compressed 270 to 1 to keep it in a liquid state that we find in full tanks. That means eight liquid gallons, if released to our atmospheric pressure via leak, could expand to over 2,000 gallons of vapor. Once vaporized, all it takes is a source of ignition, and we can have a devastating explosive. When propane tanks are designed for mobile applications (like material handling equipment), special precautions and training are needed.

LPG tank brackets on mobile equipment which carry the tank in the horizontal position will have a locating pin that corresponds with a hole in the protective collar on the tank. Proper rotational positioning of the tank in the bracket is important for four reasons:

- 1) Proper positioning allows hose and fitting alignment and reach, without stress on the fittings or hose.
  
- 2) The tank has a bent pick-up tube installed on the main valve that allows for pick-up of most of the liquid fuel in your tank. If you misalign the tank, you will not be able to use all the fuel in the tank.
  
- 3) The fuel gage has a float at the end of a simple gear set connected to the gage dial. To truly indicate the level of fuel in the tank, the float and gear set must be oriented to fall downward as fuel is used.
  
- 4) LPG tank pressure varies greatly according to ambient temperature. If the tank is full, and exposed to the sun on a hot day, or parked close an industrial oven in a manufacturing facility, the tank could over pressure, and structurally fail. A built-in tank relief valve is designed to open, reduce the pressure, and immediately shut off. When tanks are properly filled, they're only filled to **80%** of total volume. The pressure relief must be in the vapor area (20% area) at the top of the tank. When the tank is installed in the horizontal position (with the alignment pin in the proper hole in the tank collar), the pressure relief valve will be in the straight up position at the top of the tank area in the vapor area. Pressure relief valves that pop in the liquid area of the tank could freeze wide open (44 degree below zero fuel) and dump all 2,000 gallons of vapor!

*-- Tony Jones, Corporate Safety Trainer*