

Welding, Cutting, And Heating With Oxygen And Fuel Gases

Welding may be one of the most dangerous jobs you have -- take the proper safety precautions

In many maintenance operations there is a need to use oxygen and fuel gases to weld, cut or heat an iron object. The potential for serious injury exists when performing this task and no one should attempt it without proper knowledge and training. The proper handling, storage, and use of oxygen and fuel gases are very important in reducing the risk of an accident.

Know what gas you are using. Gases differ from each other in heat content, flammability, and safe handling requirements. Fuel gases generally used in gas welding are acetylene, natural gas and liquid petroleum (LP) gas, such as propane and butane.

The following is a list of DO's and DON'TS when welding, cutting, or heating and suggested safety precautions:

-- DO'S --

- Check the cylinder label to be sure it contains the proper gas. Read and follow all safety precautions on cylinder labels.
- Secure cylinders so they cannot be knocked over or pulled over. A safety chain should go around the tank and be used to secure the tank to the cart.
- Be sure that cylinders are secure when transporting them, and that other cargo cannot slide into them. The valve should always be closed during transport and the gauge removed or have protective covers in place.
- Have adequate ventilation wherever gas is stored, transported or used. This will help to prevent an accumulation of oxygen or explosive fuel gases.
- Use an approved pressure reducing regulator on a cylinder when using gases.
- Use the proper gas pressures recom-

mended by the equipment manufacturers. Liquid petroleum gas regulators, natural gas regulators, and acetylene regulators are not interchangeable.

- Some acetylene cylinder valves are equipped with a hex packing nut. DO tighten the nut gently after closing the valve and then retest for leakage.
- If gas leaks from a cylinder with a closed valve, DO move it to an open place outside, away from any source of ignition, and notify the supplier immediately.
- Install an in-line check valve for both oxygen and fuel gas either at the gauge or the torch to prevent feedback or mixing of gases.
- Use a T-wrench or key for opening and closing a cylinder valve if it is not equipped.
- Store oxygen and fuel gas cylinders separately. A minimum clearance of 20 feet should be maintained or a 5-foot high noncombustible partition installed between closely stored oxygen and fuel gas.
- Store empty cylinders apart from full cylinders.

-- DON'TS --

- DON'T jump or drop the cylinder because the relief device or valve could rupture and explode the gas in the cylinder.
- DON'T connect an oxygen regulator to a cylinder of fuel gas, or vice versa.
- DON'T use pipe fitting compounds or thread lubricants for making connections.
- DON'T use or transport leaking cylinders or equipment. Attach a tag to the cylinder so no one else uses it and notify the supplier.
- DON'T tamper with the safety relief devices.
- DON'T open an acetylene cylinder more than 1 1/2 turns.
- DON'T let the recessed top of a cylinder become filled with water or used as a place to store tools.

Important Notice !

We are reducing our mailing list. We will soon be mailing only one copy of *Road Business* to the Town Office of Selectmen, one copy to the Road Agent, and one copy to the Public Works Director. This means that if you are not a Road Agent or a Public Works Director you will no longer receive mailings from our center unless you contact us and request that your name remain on the list. **Please notify us if you are interested in continuing to receive our mailings by calling 1-800-423-0060 (NH Only) or by sending in the enclosed mailer. Thank you.**

- DON'T confuse oxygen with compressed air for breathing. Oxygen is not air!
- DON'T lubricate oxygen fuel gas equipment.
- NEVER allow oil, grease, or similar combustibles to come in contact with oxygen or oxygen fuel gas equipment.
- NEVER handle, store, or use cylinders with the valve on its side. The valve end should always be in the upright position.
- NEVER lift the cylinder by the protective cap nor lift it with slings.
- NEVER release fuel gas, where it might cause a fire or explosion (i.e. near other welding work, other sparks or an open flame).

The above was taken from Nuggets & Nibbles, Cornell Local Roads Program, October 1989 ■