

# A Safe Workplace

## A Workplace Safety and Health Manual for Your Community

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		Approved By: Harvey Bostrom
Subject: G-16	Oxygen and Acetylene Pre- Welding and Cutting	Effective: April 01, 2005
		Revised: April 1, 2011

Refer to part 17 Welding and Allied Processes of *The Manitoba Workplace Safety and Health Act and Regulations* and CSA Standards W117, 2-01 (R2006), Safety in Welding, Cutting and Allied Processes.

**PPE Required:** Leather gloves, welding glasses or face shield, a clean fire resistant leather apron, steel toe boots.

### **Equipment Required:**

Spark lighter, fire extinguisher of suitable type as per MSDS label.

Notes: Only trained personnel may operate oxyacetylene equipment.

Use torch as described in manufacturer's instructions. A procedure for one torch is not always safe for another.

### **Pressure setting:**

1. Open the oxygen cylinder valve slowly and fully.
2. Open the acetylene cylinder valve about  $\frac{1}{4}$  of a turn but not more than 1 1/2 turn.
3. For welding, open the torch oxygen valve. Turn the pressure adjusting screw on oxygen regulator to desired pressure and close torch oxygen valve.
4. For cutting, adjust oxygen regulator pressure when both the torch oxygen valve and the cutting oxygen valve are open.
5. Open the acetylene torch valve  $\frac{1}{4}$  turn. Adjust acetylene to working pressure. (Refer to manufacturer's recommendations for pressure settings.) Set acetylene pressures as low as possible.

### **Purge:**

1. Do not purge equipment in confined spaces or in the presence of any ignition source.
2. To purge, in turn, open and close each torch valve for 1 second for every 3 meters (10 feet) of hose.
3. Purge hoses before using and after each shut of more than  $\frac{1}{2}$  hour.

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### **Start Up and Shut Down**

#### **Start Up:**

1. Acetylene is always FIRST ON, FIRST OFF.
2. Open the torch acetylene valve about 14 turn. Do not open acetylene and oxygen valves at the same time. Make sure that the torch is not pointed at any person, cylinder or combustible material.
3. Immediately light the acetylene at the tip/nozzle with a spark lighter or a pilot flame. Do not use matches, butane lighters, hot metal or welding arc.
4. Increase the acetylene flow until the flame stops smoking.
5. Open the torch oxygen valve and adjust the flame to that required for the process.
6. Check the regulator, set pressures and adjust if necessary.
7. When the flame is adjusted to manufacturer's recommendations but is too large (hot) or small (cold) to do the job, change the tip size.

#### **Shut Down:**

1. Close torch acetylene valve then close oxygen valve. This is satisfactory for temporarily leaving the equipment.
2. Drain acetylene line by opening torch acetylene. When both gauge needles have fallen to "0", close the acetylene torch valve.
3. Drain oxygen line by opening torch oxygen valve. Allow both gauge needles to "0". Close the torch oxygen valve.
4. Back off regulator pressure-adjusting screw until no spring tension is felt.
5. Regulators and torches can now be disconnected or, hang up the torch and hoses to prevent damage.