

SAFE WORK PRACTICES

OXY/ACETYLENE CUTTING TORCH *Page 1 of 2*

**This information does not take precedence over OH&S. All employees should be familiar with the Saskatchewan Employment Act and the OH&S Regulations.*

General: The cutting torch uses compressed oxygen and acetylene to cut metal. Any gas under pressure is dangerous and must be handled with due care and attention. Check the area that you are working in for combustibles and make sure that you have a fire extinguisher within 9 meters of a cutting torch operation.

1. Know your equipment. Learn the operation, application and limitations as well as the specific and potential hazards of the equipment before operating it. Refer to the operating manual if necessary. ***You must be orientated/trained by your supervisor or his designate before using this tool.***
2. Wear adequate PPE and keep observers at a safe distance from the work area. Minimum PPE for this equipment is safety glasses or cutting goggles, gloves and steel toed boots. Check the MSDS before starting work for material specific hazards and other information on the compressed gases and materials that you are heating or cutting. Additional PPE or other safeguards may be required.
3. Using a nonflammable material, secure the cylinders to a secure stationary object; as an alternative, the cylinders may be mounted on a cart. The cylinders must remain upright during use.
4. Uncap the cylinders and quickly open and close the valves to clear any dirt out of the valves. Make sure that the stream is directed away from you or others in the area. Ensure there is no ignition source in the immediate area.
5. Mount the regulators on the cylinders. Each tank has a different thread so it is impossible to mount a regulator on the wrong cylinder. Zero out the regulator by turning the dial counter clockwise until it becomes easy to turn. Mount the red hose to the acetylene regulator and the green hose to the oxygen cylinder.
6. Open the oxygen cylinder valve all the way – doing so seals the packing. ***If there is oil or grease present anywhere on the cylinder valve or torch head, or any internal part where oxygen may come in contact, DO NOT OPEN THE OXYGEN. When oxygen comes in contact with oil or grease it can cause an explosion.*** If oil or grease is present contact your supervisor. When opening any gas cylinder always stand so that the valve is between you and the regulator, ***never stand in front of or behind a regulator when opening a cylinder.*** There is always a chance that the regulator could fly apart or explode.

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7. Open the acetylene cylinder valve no more than one-half turn. In case of an emergency, this valve can be closed very quickly.
8. Make sure that reverse flow valves (also called check valves or flashback arrestors) are installed both at the regulator and at the torch head.
9. Set the oxygen regulator at 25-30 lbs, and the acetylene regulator at 4-5 lbs. Open both oxygen valves on the torch and reset the regulator at 25-30 lbs. Shut both valves. Open the acetylene valve on the torch handle and reset the regulator at 4-5 lbs. Close the valve.
10. Check for leaks by turning off valves on the torch and on the cylinders. The pressure on the regulator gauges should not drop for 5 minutes. If you find a drop in pressure, you must locate and repair the leak.
11. Before starting any cutting operation with the torch, make sure that all combustibles are away from the cutting area and that you have your fire extinguisher within 9 meters.
12. Turn on the oxygen and acetylene bottles as in steps 5 and 6. Turn on the acetylene valve on the torch head $\frac{1}{4}$ turn and light the torch with a striker. ***Do not use a plastic lighter and do not keep a plastic lighter or matches in your pocket while you are using a torch.*** When the torch is lit, turn up the acetylene until the black smoke all but disappears and the flame separates from the end of the tip. Turn on the oxygen valves on the torch until the tip turns blue and short with no "feathers". The flame should be uniform all the way around the outside of the tip. Push the oxygen cutting lever down all the way – it should not extinguish the flame nor should it lift the flame off the tip.
13. When you are finished using the torch, first close the oxygen preheat valve, then the acetylene valve. Then close both of the cylinder valves, release the pressure that is in the lines and zero the gauges. Remove and store the regulator, torch and hose in a safe, secure location. Put the caps back on the bottles and make sure that they are stored safely.
14. Refer to the manufacturer's operating instructions for further and more detailed instructions and maintenance specifications.