



# HELPFUL HINTS: LIGHTING AND ADJUSTING AN OXY/FUEL CUTTING TORCH

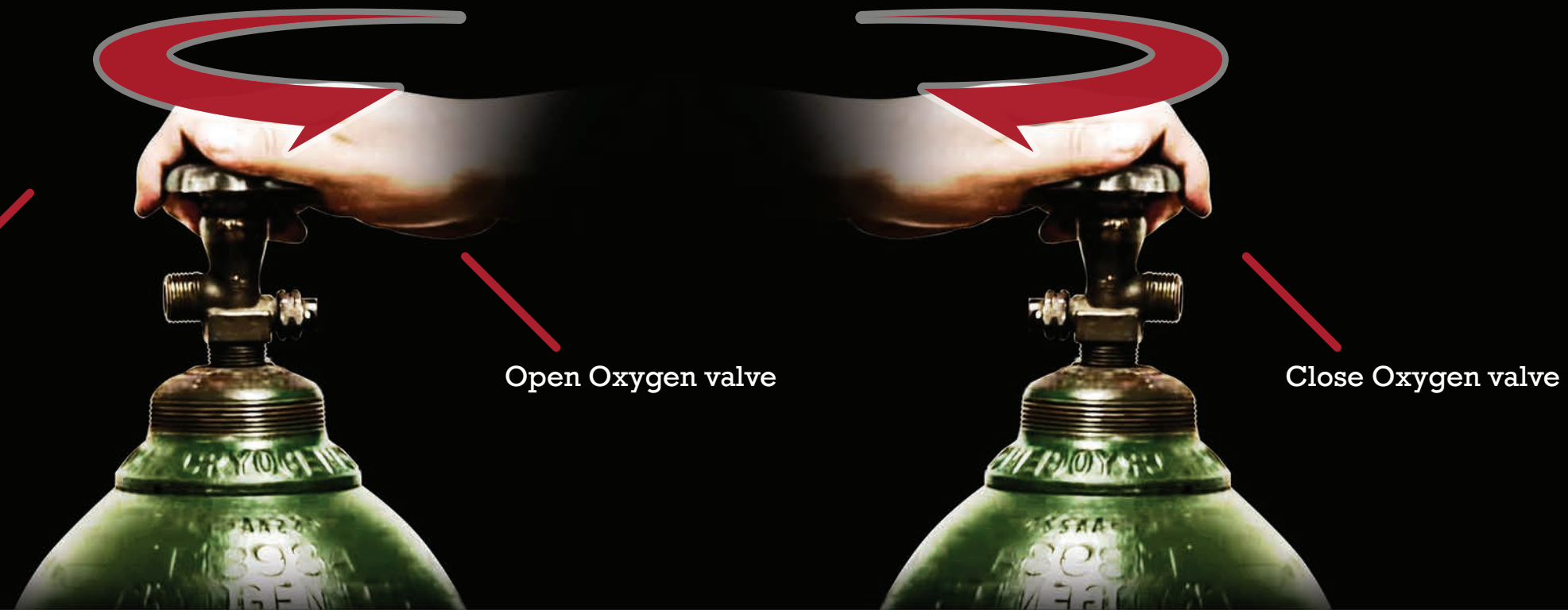
HERE ARE A FEW TIPS FOR LIGHTING A CUTTING TORCH WITH AN EQUAL PRESSURE MIXER USING ACETYLENE FOR YOUR FUEL GAS. ALWAYS COMPLETELY FOLLOW THE MANUFACTURER'S INSTRUCTIONS.

**LINCOLN®  
ELECTRIC**

## GETTING STARTED

### 1 PURGE THE SYSTEM

Slowly open then quickly close the oxygen valve on the cylinder. Then do the same for the acetylene valve.



## BEFORE YOU LIGHT IT

### 2 BEFORE YOU STRIKE A FLAME, MAKE SURE:

- ✓ Regulators are properly installed and there are no leaks
- ✓ Torch, torch handle and hose are properly assembled and connected to the regulators
- ✓ No flammable materials in your work area
- ✓ Room is well-ventilated
- ✓ Proper safety gear is worn



### 4 SET THE REGULATOR PRESSURE

Adjust pressure adjusting screws on the regulator to the manufacturer's recommended settings.

#### NOTE:

The pressure settings can be found on the manufacturer's tip flow and pressure guide for the style of tip you are using.

### 3 SELECT THE PROPER TIP

Select a tip based on the thickness and the condition of your material, and the fuel gas being used. Some tips will give you the option of general or heavy preheat. Rusty or painted plate may require the heavier preheat for a good cut.

#### NOTE:

There are high, medium and low flame ranges for each tip.

#### NOTE:

You can also adjust the flame's configuration and heat range by increasing or decreasing the flow of oxygen or fuel gas at the valves.

### 5 PURGE THE LINES

Slowly crack open the torch's oxygen valve and then close it. Then do the same for the acetylene valve. You want to make sure that there is only oxygen in the oxygen hose and only acetylene in the acetylene hose.



## GET YOUR FLAME ON

### 6 IGNITE THE TORCH

Open the torch fuel gas valve approximately 1/4 turn and ignite the gas using a striker. Increase the flow of acetylene until the flame leaves the end of the tip and the smoke is almost not present. Then bring the flame back to the tip.

#### NOTE:

Too little fuel gas and the flame will produce soot, too much fuel gas and you won't be able to "root" the flame on the end of the tip.

#### NOTE:

Add oxygen, and the inner blue flame will be long and soft or carburizing. Add more oxygen, and the inner flame will shorten and become neutral. Add even more, and the flame will become even shorter and a lighter blue color, while the tips of the inner flame will be sharp or oxidizing.



### 7 LOOK FOR THE CONES

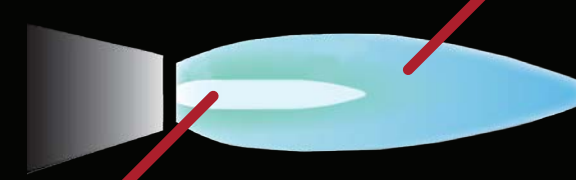
Open the oxygen valve slowly. You will see two cones in the flame, with blue inside and an outer cone that's white and translucent.

### 8 NEUTRAL FLAME

The best place to start!

#### CABURIZING FLAME

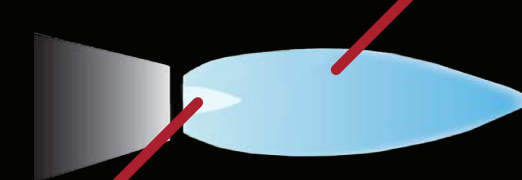
Acetylene Feather: Intense Aqua with Feathery Edge



Too much acetylene

#### NEUTRAL FLAME

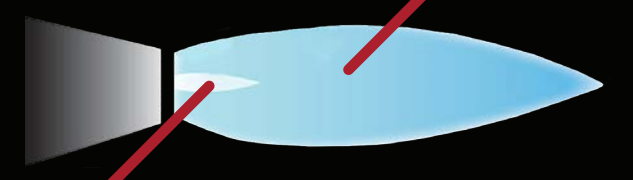
No Acetylene Feather



An equal mix of acetylene and oxygen

#### OXIDIZING FLAME

No Acetylene Feather



More oxygen than acetylene – you will hear a hissing sound

## SHUTTING DOWN

1. SHUT OFF THE TORCH VALVE, THEN THE ACETYLENE
2. SHUT OFF THE CYLINDER VALVES
3. BLEED OUT THE GAS BY OPENING AND CLOSING BOTH TORCH VALVES
4. BACK OUT THE PRESSURE ADJUSTING SCREWS

Using an oxy/fuel torch to cut, weld, braze or heat is one of the most common processes in metalworking. However, it is critical to **TAKE PRECAUTIONS THAT ENSURE A GAS-TIGHT CONNECTION. CHECK FOR LEAKS DAILY AND ALWAYS CLOSELY MONITOR GAUGES** to obtain optimal safety and performance from your oxy/fuel equipment.