



SAFE WORK GUIDELINES

Removing Parts with an Oxyacetylene Torch

When removing parts with an oxyacetylene torch you are at risk from welding fumes, flame and compressed gases, as well as from sharp edges in the parts and from having to work in an awkward position.

HAZARD

SAFE WORK GUIDELINES

► **Compressed Gases**

Details

Found in acetylene cylinders.

Threat

Leaks, fire and explosion

- If you are using a torch that is more than 5 years old, ensure that it has been retrofitted with a reverse flow check valve for both the oxygen and the acetylene connections
- Close cylinder valves tightly after use
- Store cylinders upright, supported by wall chains; keep oxygen and acetylene apart
- **Do not** store cylinders in the same area as oil or volatile liquids
- **Do not** store cylinders near stairwells or near an exit where they can be knocked down
- **Do not** drop cylinders; transport them on a hand truck
- Keep the valve protection cap in position when the cylinder is not in use

► **Sharp Edges**

Details

Created while removing vehicle parts.

Threat

Cuts, bruises

- Wear leather gloves and CSA-approved steel-toed work boots
- Hold part of the cut-off piece only if you can do so safely (i.e., it is not too heavy or awkward); otherwise, let it fall to the floor

► **Welding Flame**

Details

Created by an acetylene torch while removing metal vehicle parts. Also creates sparks.

Threat

Fire
 Burns
 Eye damage

Before You Start

- Keep a portable ABC-type fire extinguisher close by; mounting it on the welding cart is a good idea
- Use beeswax to lubricate the threads of the torch; do not use oil or petroleum products
- Remove all flammable and combustible material from the area
- Position your work so that you direct the torch flame away from your face

▶ Welding Flame (continued)

While You Are Working

- **Do not** cut near explosive liquids or vapours, dirty gas tanks, oil barrels or open drums of flammable liquids
- Use a flame-resistant screen to protect others from flying sparks
- Wear tinted goggles or a helmet with the appropriate filter lens, leather gloves, coveralls, flame-resistant leggings or high boots, an apron made of leather or other flame-resistant material to withstand radiant heat and sparks, and safety boots
- **Do not** wear an apron with pockets where sparks can get caught
- **Do not** wear polyester or acrylic clothing
- For overhead work, wear a skullcap of leather or flame-resistant material to prevent head burns; use ear plugs made of mineral wool to prevent sparks from entering your ears

After You Finish

- Maintain a fire watch for at least 30 minutes after you have completed the job to make sure there are no smouldering fires

▶ Welding Fumes

Details

Created by an acetylene torch while removing metal vehicle parts. Can contain poisonous heavy metals.

Threat

Lung damage through inhalation

If You Are Indoors

- Make sure that the ventilation is adequate
- Use a portable fume extractor if one is available, or use a fixed or removable exhaust hood that can maintain a high enough capture velocity to keep airborne contaminants below the acceptable limits
- Select the proper respirator, depending on the work you are doing, the amount and concentration of contaminants, their toxicity and permissible exposure levels (see the material safety data sheets or ask your supplier of compressed gases)

▶ Improper Use and Maintenance of Tools

Details

Using the acetylene torch incorrectly and not maintaining it properly.

Threat

Burns

Various injuries

Before You Start

- Check the manufacturer's instructions before lighting the torch—not all torches use the same procedures
- Keep threads of the torch lubricated: use beeswax to lubricate threads; **do not** use oil or petroleum products
- Check for leaks regularly: with the pressure on and the torch valves closed, hold the torch tip under soapy water—bubbles indicate there is a leak
- Check hoses for cuts and make sure clamps are tight

While You Are Working

- **Do not** loosen the regulators on the tanks too much, otherwise they can blow off at high velocity; just back the regulator off until it is loose
- Before attaching the regulator, blow out any dirt or dust by opening the discharge valve on the cylinder slightly and then closing it immediately; when using a fuel gas cylinder, make sure there is no source of ignition nearby or the gas could ignite the valve

► Improper Use and Maintenance of Tools *(continued)*

- **Do not** let the pressure exceed 20–40 psi for the oxygen tank and 0–15 psi for the acetylene tank
- **Do not** open the acetylene on the torch more than 1/8th inch or the flame will be uncontrolled; then adjust the flame according to the job
- Point the torch tip away from yourself and anyone else when you light it so that no one gets burned when the gas ignites
- Use only a friction lighter to ignite a torch

► Noise

Details

Noisy tools such as impact tools can be louder than 90 dB.

Threat

Hearing damage, deafness

- Wear appropriate hearing protection and make sure that other workers near you are wearing hearing protection

► Working in a Fixed or Awkward Position

Details

Muscles tire quickly when you work in a fixed or awkward position. That places them at higher risk for injury.

Threat

Muscle strain and associated tendon, nerve, disc or joint pain. Common areas include low back, shoulder, elbow and wrist

Before You Start

- Whenever possible, keep fit: stretch and exercise your body regularly outside of work
- Get help (e.g., another worker, support for the part)

While You Are Working

- Keep parts, tools and supplies as close to you as possible
- Use height-adjustable controls on hoists and platforms to place vehicles and parts in the ideal work zone to avoid back strain or shoulder fatigue (e.g., if you're standing, between your shoulder and knuckle height)
- If you are standing in one place or in a confined space, use a foot rest, ideally at 6 to 10 inches off the ground (e.g., foot stool, tool box)
- Take frequent, short breaks:
 - for short jobs: 15 second break for every 1-2 minutes of work
 - for long jobs: 5 minute break every 15-20 minutes, working or resting in a different position

After You Finish

- Change to a task that involves moving around or uses a different body part to improve your blood flow