

PURPOSE/APPLICATION

To protect workers from injuries associated with the use, care, and handling of propane cylinders and torches. Propane cylinders are required for many applications associated with pipeline and facility construction. These applications include welding, pre-heating, sleeve insulation, and as a fuel supply for heating temporary structures.

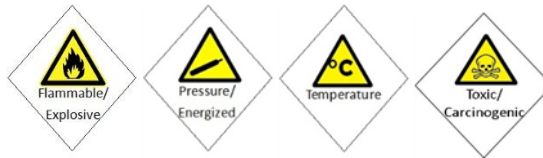
PPE

- Canadian Plains Energy Services (CPES) minimum requirements
- Respiratory Protection (as necessary)
- WHMIS
- Face Shield (HIAC Identified)
- Flame Resistant Clothing
- TDG

TRAINING

HAZARDS & CONCERNS

- Fire/explosion
- Oxygen deficiency
- Property damage
- Personal injury / Burns
- Hazardous / Explosive Atmospheres
- Extreme cold
- Pressure cylinders
- Traffic / motion
- Worksite Congestion



TYPES OF TORCHES



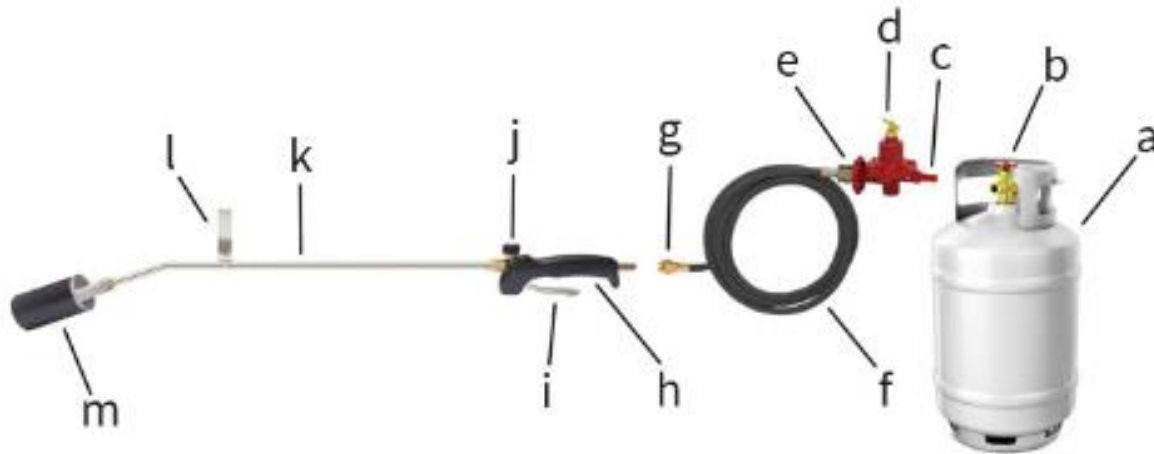
Standard Propane Vapor Torch



Propane Vapor Trigger Torch (High Volume)



Liquid Propane Torch (*note coil tubing on tip for liquid vaporization*)



- | | |
|--------------------------------|------------------------|
| a. Propane Cylinder | h. Torch Handle |
| b. Cylinder Valve | i. Torch Trigger Valve |
| c. Propane Connector (P.O.L.) | j. Torch Control Valve |
| d. Regulator | k. Extension Tube |
| e. Hose Connector to Regulator | l. Stand/Legs |
| f. Hose | m. Torch Head |
| g. Hose Connector to Torch | |

TORCH COMPONENTS

PRECAUTIONS

Persons who are using propane cylinders and who are in care and control of the cylinder and accessories will;

- Comply with manufacturer’s specifications, engineering specifications, CSA standards, site/client requirements, and OH&S legislative requirements (province-specific).
- Complete Hazard Assessment to determine risk and document the implemented controls. Including that when identified a Hot Work Permit is utilized where required as per the hazard assessment or worksite restrictions.
- When using a propane cylinder take all steps necessary to protect themselves and other workers in close proximity.
- Know all hazards (fire/explosion, health, chemical reactivity, corrosivity, pressure) of the propane cylinders that you work with.
- Facilitate and/or provide proper instructions of care and use of equipment.

- Ensure ERP (Emergency Response Plan) is in place.
- Always ensure adequate ventilation when using torch in hoarding/welding tent.

PROPANE CYLINDERS



Propane cylinder cut out that shows both the liquid and vapor service tubes.

DO's

- DO** Stay in care and control and will not leave a portable cylinder unattended on the ground
- DO** Will safely store and secure when not in use
- DO** Will ensure propane bottles remain upright while being used or while in storage
- DO** Read the SDS and labels to know the procedures for safe use, care, and handling of all propane cylinders that you work with
- DO** Check the label on the propane cylinder, not the cylinder colour, to identify the gas it contains
- DO** Inspect all incoming propane cylinders before storing to ensure they are undamaged and properly labelled
- DO** Check that the cylinder was last tested within the required time (usually five years)
- DO** Store propane cylinders separately, away from processing and handling areas
- DO** Store propane cylinders in cool, dry, well-ventilated areas, away from incompatible materials and ignition sources. Ensure that the storage temperature does not exceed 52°C (125°F)
- DO** If propane cylinders are stored outside, use a well-drained, securely fenced area. Keep them on a raised concrete pad or non-combustible rack. Protect cylinders from the weather and do not allow them to stand directly on wet soil as this can cause corrosion
- DO** Store, handle, and use propane cylinders securely fastened in place in the upright position
- DO** Move cylinders in handcarts or other devices designed for moving cylinders
- DO** Discharge propane safely using devices, such as pressure regulators, approved for the particular gas
- DO** Close all valves when cylinders are not in use
- DO** Handle "empty" cylinders safely: leave a slight positive pressure in them, close cylinder valves, disassemble equipment properly, replace cylinder valve protection caps, mark cylinders "empty" or "MT," and store them separately from full cylinders
- DO** Ensure regulators have been removed prior to transport and follow all TDG guidelines
- DO** Wear the proper personal protective equipment for each job you do
- DO** Know how to handle emergencies such as fires, leaks or personal injury
- DO** Follow the health and safety rules that apply to your job
- DO** Properly and promptly dispose of "empty" or unlabeled cylinders
- DO** Carefully check all cylinder-to-equipment connections before use and periodically during use; to be sure they are tight, clean, in good condition and not leaking

DON'Ts

- DON'T** Roll, drag, or drop cylinders or permit them to strike each other
- DON'T** Force connections or use homemade adaptors
- DON'T** Use equipment which is not compatible with cylinder pressure and contents
- DON'T** Tamper with safety devices in cylinders, valves or equipment

- DON'T** Keep cylinders longer than the supplier recommends/expiry date
- DON'T** Allow flames to contact cylinders and do not strike an electric arc on cylinders
- DON'T** Tamper with cylinders in any way. Do not repaint them, change markings or identification, or interfere with valve threads or safety devices
- DON'T** Hang clothes or equipment over a propane cylinder

PROPANE TORCHES

DO's

- DO** Visually inspect all components of the torch for damage and or wear. If the hose shows excessive abrasion wear, or the hose is cut, it must be replaced prior to operation
- DO** Always check the torch for leaks using soapy water
- DO** Always ignite torch according to the lighting instructions. Check operation of the adjusting valve and the other components prior to proceeding
- DO** Stay in care and control of the torch and will not leave torch and accessories unattended on the ground
- DO** If you smell gas, shut off the gas to a propane torch and/or appliance
- DO** Always use the striker provided. Never use a match or lighter to ignite a propane torch
- DO** When the torch is stored indoors, the connection between the cylinder and the torch must be disconnected and the cylinder(s) removed from the torch
- DO** When using torch to heat pipe in a trench, ensure the bottle is secured (staked and tied) at the top outside of the trench. Personal monitors are to be used to monitor atmospheric conditions
- DO** Remove any debris or combustible material from the torch. The torch must be kept clear and free from combustible materials
- DO** When a propane torch is not in use, the gas should be turned off at the cylinder
- DO** The surface of the torch should be cleaned with soap and water
- DO** Ensure fuel lines are in good working conditions, and maintenance prior to each use
- DO** Use proper PPE as per manufacturer's specifications
- DO** Ensure fire protection is in place

DON'Ts

- DON'T** Use a propane torch in areas where gasoline or other liquids having flammable vapors are stored or used
- Don't** Use for heating or thawing of lines where known hydrocarbons are present
- DON'T** Ever direct a propane torch flame toward the hose or the cylinder
- DON'T** Ever direct a propane torch flame directly into wind
- DON'T** Allow the barrel of the torch to come closer than 6" to the surface being heated
- DON'T** Leave a propane torch unattended while in operation
- DON'T** Stand or prop a propane torch on the burner end while in operation



- DON'T** Place a hand or body part in the path of a flame while lighting or operating a propane torch
- DON'T** Ever store a torch that is still hot
- DON'T** Use petroleum-based or flammable cleaner on any part of the device

REFERENCES / ADDITIONAL INFORMATION

- WHMIS Labels
- Safety Data Sheets (SDS)
- Transportation of Dangerous Goods Labels (TDG)
- SWP 12 – Compressed and Liquefied Gases

REGULATIONS

Alberta OHS Code - Part 10 - Fire and Explosion Hazards

Saskatchewan OHS Regulation - PART XXV - Fire and Explosion Hazards

British Columbia OHS Regulation - Part 5 - Chemical and Biological Substances

Manitoba OHS Regulation – Part 19 – Fire and Explosive Hazards

Developed by:	1. <u>Marty Fulkerth</u>		Date:	<u>March 11, 2010</u>
Revised by:	1. <u>Ray Dawson</u>	2. <u>John Artym</u>	Date:	<u>August 25, 2011</u>
Revised by:	1. <u>Bobby Thivierge</u>	2. <u>Allen Monk</u>	Date:	<u>September 24, 2020</u>
	3. <u>Keith Perron</u>			
Approved by:	1. <u>HSE Committee</u>			<u>November 5, 2020</u>
