

## Forklift Trucks

# Forklift Trucks - Safe Handling of Propane (LPG) Fuel

### On this page

[What should an operator do when handling a propane fuel cylinder?](#)

[What steps should operators follow when changing fuel tanks?](#)

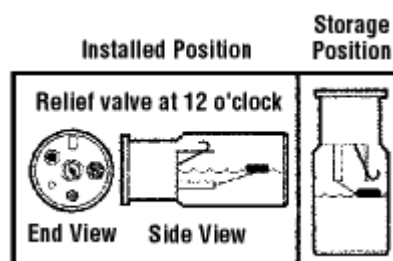
[What should an operator not do when changing a propane tank \(cylinder\)?](#)

[How should propane cylinders be stored?](#)

## What should an operator do when handling a propane fuel cylinder?

LPG stands for Liquid Petroleum Gas.

- Before handling the cylinder, make sure the valve is properly closed.
- Handle the cylinder gently. Inspect the cylinder for damage before each use, and after it is dropped, dented, or impacted.
- Always protect the valve from damage.
- Avoid skin contact with liquid propane as it may cause frostbite.



- Wear the appropriate protective gloves while connecting or disconnecting a cylinder to equipment.
- Exchange removable cylinders outdoors or in well-ventilated areas, away from sources of ignition.
- Close the cylinder valve before disconnecting the cylinder from forklifts.

- Make sure that only qualified persons repair cylinders and forklift fuel systems.
  - For repairs, use only components that agencies such as the CSA Group (Canadian Standards Association) have approved.
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## What steps should operators follow when changing fuel tanks?

Procedure for changing propane (LPG) cylinders:

- Park the forklift in a low-traffic and well-ventilated area. Put forklift controls into the neutral position. Lower the forks to the ground and apply the parking brake.
- Wear eye protection and gloves such as leather or insulated neoprene.
- With the forklift engine running, disconnect the fuel supply hose and close the valve on the cylinder.
- Run the engine until it is out of fuel, and it stops. This step ensures that the fuel supply hose is empty.
- Turn the ignition key to the off position.
- Disconnect the fuel supply hose from the cylinder.
- Undo the latch or straps that secure the cylinder to the forklift.
- Remove the empty cylinder using both hands (empty cylinders can be heavy).
- Inspect the replacement cylinder for damage. Do not use damaged cylinders. Tag them for repair and store them safely.
- Lift the replacement cylinder into position using a proper [lifting technique](#). Adjust the cylinder until it is properly aligned with the positioning pin to ensure the pressure relief valve is orientated correctly.
- Secure the cylinder to the forklift.
- Connect the fuel supply hose to the cylinder. Do not use tools because the valve is designed to be tightened by hand.
- Open the valve on the cylinder slowly and check for leaks. A one to two-second hissing sound is normal and any longer indicates a leak. If available, use a soap and water solution or a leak detector.
  - Smell (for a rotten egg smell)
  - Listen (for gas escaping or hissing)
  - Look (for frost or bubbles if using a solution)

- If you detect a leak, close the valve and:
    - Remove the hose, and check the valve and hose connections for dirt and debris.
    - Reconnect the hose and check for leaks again. If the leak persists, try a fresh cylinder.
    - Reconnect the hose and check for leaks again. If the leak persists, put the forklift out of service.
    - Tag any defective cylinders, hoses, or components for repair by qualified persons.
  - If no leaks are detected, slowly open the valve fully.
  - Make sure the hose is not kinked, twisted, or unsafely sticking out from the forklift.
  - Start the engine and resume operation.
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## What should an operator not do when changing a propane tank (cylinder)?

- Do not use damaged cylinders. Tag them for repair or disposal.
  - Do not operate forklifts that appear to have incomplete or improper repairs to the fuel system.
  - Do not use metal tools when changing a cylinder.
  - Do not use excessive force when opening or closing the valve.
  - Do not let the cylinder get too hot or be exposed to excessive heat.
  - Do not drag, drop, roll or slide the cylinder or allow it to bang against other objects.
  - Do not use matches or a flame to check for leaks. Use soap or a leak detector.
  - Do not mount more LPG cylinders on the forklift than the truck was designed to hold.
  - Do not smoke when handling the cylinder or in the storage area.
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## How should propane cylinders be stored?

- Store the cylinder in an upright position and in a well-ventilated area, away from ignition sources and excessive temperatures, where it can be secured and is protected from being struck.
- Protect cylinders from tipping over or falling. Use a chain or adequate support system. Consider securing each cylinder separately to prevent other cylinders from falling.

- Do not store cylinders or park the forklift close to heat sources, doorways, aisles, elevators, stairways, and exits.
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