SECTION 6
REFUELING GASOLINE, DIESEL, AND LP LIFT TRUCKS

Section 6 Objectives

At the end of this section, you will be able to:

1. Describe the general safety rules for fueling gasoline and diesel powered lift trucks.
2. Describe the properties of LP fuel.
3. Explain the safe way to replace LP tanks.

Importance Statement

It is important that you:

1. Reduce the risk of injury to you and your fellow employees.
2. Understand the importance of safety rules when refueling.
3. Reduce the risk of product and property damage to company assets.

Types Of Fuel Used In Internal Combustion Lift Trucks

- Gasoline
- Diesel
- Liquid petroleum
- Compressed natural gas
  – Not covered in this program.

General Safety Rules

This section discusses safety procedures for gasoline, diesel, and LP. If your truck is powered by compressed natural gas, refer to your Operation and Maintenance Manual for proper refueling safety rules.

Your company has specific procedures for refueling.

- Follow them.
- Observe all safety rules.
- Be trained and authorized.

Gasoline And Diesel Fueling

- Refuel when engine is cool.
- Start shift with a full tank.
- Refuel in designated areas only.
- Never expose fuel to smoke, sparks, or flames.
- Be aware of fire extinguishers and know how to use them.
- Park truck in "unattended mode."
- Use the correct fuel in truck.
- Clean up spills in accordance with local regulations.
- Never completely fill container. Fuel expands when hot and could create a fire hazard.

Liquid Petroleum (LP) Fuel

A popular fuel for lift trucks is liquid petroleum. When handled safely, it is a very safe and efficient fuel. When handled improperly, it can cause serious injury, death, and extensive property damage.

Characteristics Of LP Fuel

- LP is heavier than air. LP vapors will seek the lowest lying area. If it is not adequately dissipated, it will collect in pockets and possibly ignite when exposed to a heat source.
- LP is extremely flammable. It takes only a 2 to 12 percent concentration of LP vapor to ignite.
- LP is extremely cold when exposed to the atmosphere. Its boiling point is -44 degrees Fahrenheit. If your skin is exposed to LP, you can get serious frostbite.
- LP is odorless in its natural state. For this reason, chemicals are added to give LP its distinctive odor that allows you to detect a leak.

Basic LP Fuel Guidelines

- Do not refuel LP trucks in confined areas where LP gas could collect if a leak is present.
- Do not leave an LP truck near high heat sources, stairways, exits, or other safe egress areas even for a short period of time.
- When parking LP trucks for a long period of time, turn the service valve off. On empty LP tanks, turn off the service valve.
- Do not drop, roll, or strike LP tanks.

News Flash!

A welder died from an explosion that was traced to an LP leak caused by a lift truck. The truck was parked near an elevator shaft, and the tank was not shut off. The fuel leaked down the shaft and settled at the bottom. When the welder came to work, he started a weld procedure and caused a spark which ignited the gas fumes.

What happened?

Replacing LP Fuel Containers

1. Be trained and authorized.
2. Follow company policy.
3. Wear protective clothing such as a face shield, long sleeves, and gauntlet gloves.
4. Park lift truck in designated areas.
5. Set parking brake, neutralize controls, lower forks to the ground, and leave engine running.
6. Turn off service valve and allow truck to run the fuel out of the supply line.

Why should you run the fuel out of the supply line?

To avoid spray from the fuel line when disconnecting.

7. Turn key off and try to restart engine.
8. Disconnect fuel line.
9. Remove the LP tank and replace with full tank.
10. Check condition of new tank.
11. Check date stamp on tank, can't be 12 years or older.
12. Make sure new tank is properly positioned, located on pin, and pressure relief valve is pointing up and away from the operator.
13. Secure LP tank with bracket restraints.
14. Open service valve slowly. Too fast will cause the back pressure check valve to shut off fuel supply to truck. If this should happen, turn valve off, wait 5 seconds, and then slowly open valve.
15. If you suspect a leak, check with a soapy solution. Never use a match or lighter to check for leaks.

End of Section 6

Refueling Gasoline, Diesel, And LP Lift Trucks: Course Review

1. When refueling a lift truck, you should:
   A. Follow company policy.
   B. Never smoke.
   C. Shut off the engine.
   D. All of the above.

2. Never attempt to change an LP tank unless you have been specifically trained to do so.
   True_____ False_____

3. What happens when you open the service valve on an LP tank too quickly?
   A. The tank will explode.
   B. The back pressure check valve will close.
   C. The fuel line will burst.
   D. The nozzle will rupture.

4. LP gas is LIGHTER than air when released.
   True_____ False_____

5. It is okay to change an LP tank inside a trailer or other confined space as long as you have the service valve closed.
   True_____ False_____

6. You should never place your hand on a frosted LP nozzle because:
   A. The feeling is so good you won't want to let go.
   B. The nozzle will crack.
   C. Your skin could be severely frostbitten.
   D. The tank could explode.

7. When parking an LP truck overnight, you should always turn off the service valve.
   True_____ False_____

8. It is okay to completely fill a fuel container to get the most out of your money.
   True_____ False_____

9. When changing LP tanks, you should:
   A. Wear the appropriate personal protective clothing.
   B. Be trained to change tanks.
   C. Never smoke or expose the tank to flame or spark.
   D. All of the above.