

Propane Safety for Commercial Mowers



Propane is a versatile, environmentally friendly energy source used in many applications. One way propane provides a greener way to do business in commercial applications is to supply engine fuel for commercial mowers.

If your business has propane commercial mowers or you intend to use them, you need to consider propane safety, including the propane container, the components, and the method by which the container is filled and stored.

This bulletin is intended to provide tips for propane safety while using commercial mowers.

FUEL SUPPLY

There are two ways to supply fuel for commercial mowing: cylinder exchange and on-site fueling.

Cylinder exchange consists of the fuel supplier's inspecting and filling the cylinders and delivering them to your location. Equipment operators then disconnect the empty cylinder, connect the new full cylinder, check for leaks, and get back to work!

If you prefer to fill your own cylinders, on-site refilling options require more work and more training. Cylinders transported over the road are subject to DOT requirements and must be filled by weight.

SPECIFIC HAZARDS

Propane commercial mowers typically use DOT cylinders to provide fuel to the engine. Commercial mowers use one of two types of cylinders: one that provides vapor and one that provides liquid. It is vital to know which cylinder applies to your mower. While the connection for each of these cylinders may look the same, they are very different. Liquid service cylinders have a right-hand thread and will prevent any fuel flow when disconnected. The connection of the vapor service cylinder will also prevent fuel flow when disconnected but is a left-hand thread. They are not interchangeable.

STORING CYLINDERS

The NFPA code has specific requirements on where, how, and how much propane can be stored in cylinders within and outside buildings. Contact your fuel supplier for details.

- ▶ 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 protected from being struck.
- ▶ Cylinders stored horizontally in cages must have the locating pin hole facing down so that the relief valve points up at the 12 o'clock position; in this way, the relief valve always communicates with the vapor space of the cylinder.
- ▶ Do not store cylinders or park the mower close to heat sources, doorways, aisles, elevators, stairways, and exits.

TRAINING REQUIREMENTS

NFPA codes and the OSHA regulations require those operating a propane system to be formally trained in the applicable duties of their job.

If you operate a dispensing station on your site, code requires operators to be specifically trained and evaluated prior to filling containers unsupervised. The PERC program "Dispensing Propane Safely" can provide the training for dispensing operations. Contact your fuel supplier for more details.



CHANGING CYLINDERS

Even a simple task like changing a mower propane cylinder needs to be handled with care. Follow these guidelines:

- ▶ Wear personal protective equipment (PPE) in accordance with your company policy. Propane is cold (-44°F), and contact with it can damage the eyes and cause frostbite on the skin.
- ▶ Make sure the mower is shut off and is prevented from moving.
- ▶ Turn off service valve on cylinder being replaced before disconnecting and removing cylinder.
- ▶ Make sure the replacement tank valve is turned off when installing. If the hose coupler is screwed on with an open tank valve, it could spray propane. In addition, make sure the O-ring or gasket from the empty tank did not pull out. This could jam the check valve and prevent the mower from starting.
- ▶ Inspect the replacement tank before installing it. Look for frost buildup, dents, gouges, or corrosion. Furthermore, check the condition of the O-ring, forklift hose, and fittings for signs of wear or damage.
- ▶ Position the tank on the locating pin. This allows you to connect the hose and fitting without twisting or stretching the hose and ensures the fuel gauge will read correctly.
- ▶ Carefully attach the connection. Screw it all the way in and hand-tighten. Slowly open the valve, being alert for leaks.
- ▶ Test for leaks. White frost, rushing noises, or a bad odor are all signs that you have a leak. Verify by using a non-corrosive liquid leak detection solution or an electronic gas detector to find the leak location. Shut off the tank valve and ventilate the area.

Then get a different tank to install or if you are trained to do so, repair the leak to the system before operating. If you are not trained or cannot make the repair, leave the area immediately and call 911, your local fire department, and/or your propane supplier to report the condition.

contact your
propane supplier

Consult with your propane supplier or your Authority Having Jurisdiction (AHJ) to help with compliance and training, or if you have any questions.



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