



## ***Prepare Your Drivers for Natural Gas Vehicles***

As gasoline and diesel prices continue to rise, natural gas remains inexpensive and steady. Using it as a transportation fuel is still a cost-effective alternative — especially for medium- and heavy-duty truck applications.

According to a [recent count](#) by the International Association of Natural Gas Vehicles, there are more than 28 million NGVs operating worldwide, with over 224,000 in North America alone. They're also among the safest vehicles on the road today. Yet, as more of them deploy, drivers must be adequately trained on the properties and characteristics of the fuel itself. They must also learn all necessary safety precautions and techniques while operating and fueling natural gas vehicles.

Since natural gas is a vapor and not a liquid, it has unique characteristics that distinguish it from other fuels. For instance, because it is lighter than air, natural gas will rise when it leaks, instead of pooling on the ground like gasoline and diesel. It is either highly compressed or liquefied before it is stored onboard vehicles, and thus requires different fueling equipment, procedures, safety protocols and handling.

Because of their daily operation and fueling of natural gas vehicles, drivers and fuel handlers must be able to identify and use CNG fueling station equipment and safety components. They should know how to locate and use emergency shutdown devices, quarter-turn manual shutoff valves, fire extinguishers, and other safety equipment.

Drivers and fuel handlers must also follow the specific steps and precautions involved in fueling CNG-powered vehicles. They should know what to expect during the fueling process. This procedure differs from traditional gasoline or diesel vehicles because it involves transferring high-pressure gas instead of merely pumping a liquid.

While fueling an NGV, for example, it is normal for a small amount of gas to escape the nozzle/receptacle connection when they are disconnected. Drivers may be able to detect the smell of gas for a brief period of time. Also, when fast-filling an NGV, it is normal for drivers to hear a fuel start flowing, stop flowing, and continue flowing, or a whining sound which indicates that the vehicle is almost full. However, a lasting scent or distinct, lingering hiss is not normal and should be reported to fueling station maintenance.

It is also imperative that drivers and fuel handlers are able to identify safety hazards and know what to do when they occur. For instance, they must remember to visually check O-rings before each fueling. An O-ring is fitted in the receptacle to ensure a gas-tight seal with the fueling nozzle. [Missing or damaged O-rings](#) can cause fueling failures for NGVs. When this occurs, drivers should not attempt to connect the fill nozzle to the receptacle, and should replace the O-ring before attempting to fuel the vehicle.

Although natural gas vehicles have a solid safety record and a very low number of reported incidents, drivers need to know what safety protocols they should follow in case of an emergency. That includes when a vehicle is involved in an accident or catches on fire, if a receptacle is leaking, or when a heavy-duty vehicle's methane detection system is activated. At a CNG fueling station, they should know what to do in the event of an accident or fire, major gas release, earthquake, or vandalism. Drivers and fuel handlers should also know how to respond to equipment warning indicators or audible alarms at a CNG station.

Operating and fueling NGVs requires special awareness of safety procedures that are unique to these vehicles. Understanding the technology for both vehicles and fueling can minimize the risk of an accident while in the shop, on the road, and at a fueling station. As NGVs become more prevalent, more technicians and drivers will require [professional training](#) on their unique fuel systems and operating characteristics.