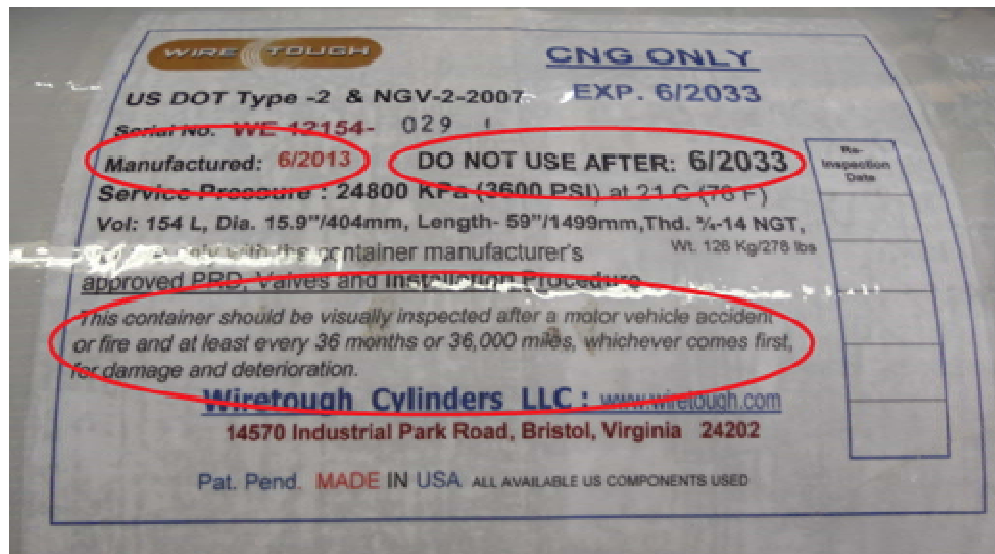


CNG Fuel System and Cylinder Maintenance

CNG fuel systems require less maintenance than conventional fuel systems. Mechanics should regularly inspect and replace a filter in the fuel supply line, which removes any oil in the CNG. This filter generally needs to be replaced annually by a qualified service facility; owners should check their owner's manual for the specific requirements of their vehicle. In some cases filters should be drained of any contaminants on a more regular basis, depending upon the application.

Cylinder End-of-Life



CNG fuel cylinders have a useful life of 15, 20, or 25 years, depending on how they were certified by the original manufacturer. Because there is no way to safely "requalify" cylinders for extended use, once a cylinder reaches its expiration date, it must be replaced. All CNG cylinders carry a label that says "DO NOT USE AFTER (EXPIRATION DATE)," for instance, it might say "DO NOT USE AFTER 01/2027." The CNG cylinder expiration date can also be found on a label near the fueling connector, and on the label under the hood. CNG vehicle owners should make a habit of noting the expiration date each time they refuel. Note that there is no national system to notify owners when their cylinders reach their expiration date, so it is the vehicle owner's or fleet manager's responsibility to have the cylinder replaced at the end of its life.

Cylinder Replacement

CNG cylinders should be replaced by a qualified service facility. They'll have the proper know how and equipment to safely vent the CNG from the cylinder and purge the cylinder with nitrogen to eliminate any pressure or fire danger associated with the cylinder. Once safely purged of any natural gas, the expired CNG cylinder must be destroyed and discarded. Labels should be removed or drilled through to invalidate them, and the cylinder should be drilled or cut so that it cannot hold gas.

Cylinder Inspection

The critical maintenance requirement for CNG fuel systems is the safety inspection of the CNG cylinders that serve as the fuel tank. While gouges from road debris can threaten the integrity of CNG cylinders, they can also corrode and crack when exposed to certain chemicals. Because these cylinders are pressurized to 3,600 pounds per square inch, even a small hole or crack could pose a danger. For these reasons, cylinders should be inspected in a qualified service facility every three years (36 months) or every 36,000 miles, whichever comes first ([U.S. DOT National Highway Traffic Safety Administration FMVSS 304](#))(PDF).

Cylinders must also be inspected after any fire, accident or other incident that could cause damage to the cylinder—for cylinders mounted in the underbody of a vehicle, hitting debris on the road or even driving over a curb has the potential to damage a cylinder, so an inspection is warranted. Owners can find certified inspectors by searching for "Certified CNG Fuel System Inspector" on the [CSA Group website](#). The CSA Group is the standards-writing body in the United States for natural gas appliances and related equipment.

For new CNG vehicles, labels located near the fueling connector and under the hood in the engine compartment should list the cylinder inspection/expiration dates. For used vehicles, owners should obtain the most recent inspection record from the previous owner, although it would also be wise to have a qualified service facility perform a new inspection before purchasing the vehicle. Likewise, if buying one or more used CNG cylinders to install in a converted vehicle, first be sure that the cylinder has a sufficient useful lifetime left before its expiration date (see below) and then have the cylinder inspected by a qualified service facility.

After the first inspection, vehicle owners or fleet managers should keep a record of the most recent inspection and when the next one is due. Many garages provide reminder stickers for oil changes that list the date and mileage when the next oil change is due, and these reminder stickers can also be adopted for CNG cylinder inspections—so CNG vehicle owners might have two reminder stickers, one for oil and one for the cylinder inspection.