

Halderman: Last week we finished discussion of E85 and discussed propane as an alternative fuel. Due to the lack of locations where propane can be purchased and the large tank required to hold the gaseous fuel under pressure, it is not likely to become a good replacement for gasoline.

Wheels: What is the possibility of compressed natural gas (CNG) becoming mainstream?

Halderman: Compressed natural gas is readily available in California where there are many compressed natural gas stations. CNG is used by many buses and cars, such as the Honda Civic GX, which is designated as a natural gas vehicle (NGV) by the Environmental Protection Agency (EPA). This model is only sold to fleets, which have the capability of refueling the vehicles or in California where natural gas filling stations are readily accessible.

A vehicle designed to use CNG can be refilled at home if the house has natural gas by using a filling device and compressor sold by PHILL. It requires about 8 hours (overnight) to refill the high pressure storage tank in the vehicle, using the compressor. The higher the pressure is, the more natural gas that can be stored in the tank. Commonly used pressures include 2,400, 3,000, and 3,600 pounds per square inch. The amount of CNG that equals the BTU energy of one gallon of gasoline is 122 cubic feet. While CNG has a high octane rating of 130, the heat energy is lower and causes a decrease of between 10 percent and 20 percent in power compared with the same engine operating on gasoline.

Wheels: Some CNG stations had two pumps; one listed as 3,000 and the other 3,600. What is the difference?

Halderman: The difference is the amount of pressure. The greater the pressure, the more natural gas can be put into the storage cylinder and the longer the distance that the vehicle can travel before needing to refill the cylinder. The cost of the higher pressure is also a little higher so it is often a trade off between cost and range.

