

Halderman: Welcome to the first of a series on gasoline and alternative fuels. By far, I receive more questions about gasoline than almost any other topics (questions on engine oil are second). Everyone is trying to find a solution to the problem of the steady increase in oil and gasoline prices. This first column will summarize gasoline and how to get the most for every dollar spent. Future columns will address the eight alternative fuels as determined by the U.S. Department of Energy

(www.eere.energy.gov/afdc):

- Ethanol
- Natural gas
- Propane
- Hydrogen
- Biodiesel
- Electricity
- Methanol
- P-series fuel

Wheels: Please discuss gasoline first because “Straight Talk” receives many letters and e-mails about this type.

Halderman: Gasoline is not a simple liquid but instead is a combination of many hydrocarbons made from petroleum. A barrel of oil contains 42 gallons not 55 gallons as many people think. All gasoline is graded for the following:

- **Octane rating**
 - Regular is 87 octane
 - Plus is 89 octane
 - Premium is 91+ octane
- **Volatility** - This is how easily a liquid changes to a vapor. The usual method of testing volatility is to test the pressure alone on a sample of fuel at exactly 100 degrees. This is called the Reid vapor pressure (RVP).

Most gasoline is refined in the gulf coast area and sent to distributors by pipeline. All gasoline that meets grade is sent through the pipeline separate from other grades using a pipeline pig.

Wheels: What does the information mean to the average person?

Halderman: The most important part is to remember that for the most part, all gasoline that meets grade is almost the same. Petroleum engineers refer to gasoline as “fungible,” meaning that if gasoline meets quality standards and specifications, it can be intermixed in pipelines and storage containers. Various additions for each brand of gasoline are added at the distributor. Always use the octane rating recommended by the vehicle manufacturer. Always use fresh gasoline (less than 90 days old) because the volatility is adjusted for each season of the year. This is particularly important is storing a vehicle.

