

Measurement of Gasoline Consumption by Fuel Economy

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DESCRIPTION

The distance travelled by a vehicle and the amount of gasoline consumed are measured by its fuel economy. Consumption can be measured in terms of the amount of fuel required to travel a given distance or in terms of the distance travelled per unit of fuel spent. Many countries implement fuel economy regulations because vehicle fuel consumption is a substantial contributor to air pollution, and motor fuel importation can account for a significant portion of a country's foreign trade. To approximate the vehicle's actual performance, many methods are applied. Fuel energy is used to overcome different losses (wind resistance, tire drag, and others) encountered when propelling the vehicle, as well as to power car systems like ignition and air conditioning. To reduce losses at each of the conversions between the chemical energy in the fuel and the kinetic energy of the vehicle, a variety of strategies can be used. Driver conduct can have an impact on fuel economy; moves like rapid acceleration and hard braking waste energy.

Because electric automobiles do not burn fuel directly, they do not have fuel economy per se. However, equivalence measurements such as miles per gallon gasoline equivalent have been developed to compare them.

Future technologies

The following are examples of technologies that may improve fuel efficiency but are not yet available on the market:

- The combustion process is known as HCCI (Homogeneous Charge Compression Ignition).
- Engine Scudery
- Compound engines are engines that include multiple components.
- Diesel engines with two strokes
- Gas turbine engines with high efficiency
- BMW's Turbo steamer generates electricity by spinning a tiny turbine using the heat from the engine.
- Vehicle electronic control systems prevent ripple back braking and subsequent re-acceleration by automatically maintaining spacing between vehicles on highways and freeways.

- Time-optimized piston path to capture energy from hot gases in the cylinders at their peak temperatures.
- Sterling battery hybrid vehicle.

Many aftermarket consumer goods claim to improve fuel economy, but many of these claims have been debunked. The Environmental Protection Agency in the United States keeps track of devices that have been evaluated by independent laboratories and makes the results public.

Techniques for drivers to conserve fuel

Drivers can save fuel and money by learning how different driving behaviors affect fuel efficiency and implementing fuel-saving measures. The quantity of fuel your vehicle uses is mostly determined by how you drive. As a result of tire rolling resistance and air resistance, speeding increases fuel consumption and affects fuel economy. While automobiles achieve ideal fuel efficiency at various speeds, gas mileage drops dramatically at 50 miles per hour (mph). For light-duty automobiles, for example, every 5 mph above 50 mph is equivalent to costing \$0.18 more per gallon of gas (based on a \$2.63 per gallon gas price). Reducing your speed by 5 to 10 mph can increase your fuel consumption by 7%–14%. On the highway, cruise control can assist drivers in maintaining a consistent pace; vehicles expend the most energy when accelerating. Following the speed limit, softly accelerating and braking, and reading the road ahead can all help you save money on gas.

- Faster speeds and acceleration
- Air conditioner use
- Colder outside temperatures
- Combine Trips
- Reduce Vehicle Load

CONCLUSION

The terms "fuel consumption" and "fuel economy" are sometimes used interchangeably, yet they have very different meanings. The main distinction is that fuel consumption refers to how much fuel a car uses to travel a specific distance, whereas fuel economy refers to how far a car can travel before running out of fuel. The liter of petroleum per 100 kilometers, the mile per gallon of

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petroleum, and the kilometer per liter of petroleum are the three standard units of fuel consumption. The distance travelled per unit volume of fuel consumed is measured in kilometers per

liter (km/L) or miles per gallon (mpg). The higher the value, the more cost-effective the car (the more distance it can travel with a certain volume of fuel).