What You Should Know About Gas−Electric Hybrid Vehicles

By Carol Evans

As gas prices continue to rise to unprecedented heights with future increases on the horizon

(projected prices for the summer of 2006 are as much as $1.50 per liter, or $6 per gallon) more and more people are considering purchasing a hybrid vehicle. It is important to understand what a hybrid car is, what types are available, and the benefits of purchasing a hybrid vehicle.

A hybrid car is a vehicle that uses a combination of at least two different fuel sources for its propulsion. Although many combinations are possible, generally when people are talking about hybrid cars, they are referring to cars with a combination of a gasoline internal combustion engine, an electric motor, and a battery that powers the electric motor and stores energy for future use. Hybrid cars may also be called gas−electric hybrids.

Some examples of current hybrid cars include the Toyota Prius, Honda Civic Hybrid (HCH), the Ford Escape Hybrid, the Honda Accord Hybrid, and the Honda Insight.

Due to their special use of technology, hybrid cars receive much higher gas mileage than the average U.S. vehicle. In fact, hybrid cars hold the top spots for fuel economy in their respective categories: two−seaters, compact cars and mid size cars. The clean burning hybrids also receive a one−time deduction for tax purposes in the year of their purchase, as part of the Federal Government's clean air initiative. Hybrids will save you money in gas, but this should be set against what they may cost you in other areas. Hybrid cars are as much as $2,000 to $5,000 more than the standard version of the same vehicle. They also contain parts that might be more costly to repair or replace due to specialized mechanics. The more complex powertrain of the hybrid car also means that you will require a more specialized mechanic when it comes time for repairs.

Hybrid cars also typically have less power that the non−hybrid version. The emphasis has not been put on speed, and the acceleration capabilities are often not up to par with comparable vehicles.

It is important to remember that hybrid cars are a new technology. As with most technologies, they will inevitably improve over time, so it might be best to hold off on purchasing that new hybrid for a little while, until their engineering catches up to their economy.

How Do Hybrid Vehicles Work?

By Gray Rollins

How many times have you pulled up to the pumps lately only to be shocked at the price of gasoline? Suddenly your $25 tank of gas is costing $40. Have you considered trading your vehicle in for something that gets better fuel economy? How about a Hybrid vehicle? If you've ever wondered "how do hybrid vehicles work?" read on.

Hybrid vehicles address two issues - global warming by reducing emissions and reduced fuel costs. There are lots of different hybrid designs showing up on the market, so understanding how they work is very important to getting the best value for your money.

If you have ever owned a moped, you can proudly consider yourself a first generation hybrid owner because they combine pedal power and gasoline. Hybrid vehicles really aren't that new a concept. You'll find them all around you in commercial use. Giant mining trucks, submarines, buses, and even train engines all have a fuel source and an electrical source of power.

Most of the hybrid vehicles we are seeing on the market are gasoline and electric hybrids. This means they use both gas and electricity to power them.

The two power sources can be combined in different ways. The parallel hybrid has a fuel tank which supplies fuel to the engine and a set of batteries which supplies power to the electric motor. Both sources are able to turn the transmission.

The series hybrid is a little different. The gasoline engine turns a generator which can either power the electric motor that drives the transmission or charge the batteries. In this type of hybrid the gas engine never directly powers the vehicle.

With a hybrid car the gas engine can be a lot smaller than in a conventional car so it can be a lot more efficient. Acceleration requires a larger engine to produce the power needed, but by using a smaller engine and combining it with the assistance of an electrical motor that is operating at peak load the acceleration needs of a vehicle can be met.

Hybrid vehicles also capture the energy from the braking system. When the brake is applied, energy is removed from the car and dissipated as heat which is then captured and stored in the batteries for later use.

Hybrid cars also have an automatic shutoff, so when the vehicle comes to a stop the engine is shut off and then restarts automatically when the accelerator is touched. This conserves energy that would be wasted when idling.

Depending on the manufacture, the technology is used in various forms but the basics remain simple. Hybrid technology in the consumer auto market is still relatively new but will continue to develop and improve.

Hybrid vehicles work efficiently to reduce tailpipe emissions and improve mileage. So if you are in the market for a new vehicle you might want to have a look at the hybrids.

Gray Rollins is a featured writer for NewHybridAutos. To learn more about hybrid cars, visit us at

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