

## **“Gas Saving Secrets”**

### **“How to Lower Your Gasoline Costs by up to 50% !”**

“Gas Saving Secrets was created from hundreds of hours of extensive fuel economy research so that you can learn to protect your hard earned money while also protecting our environment”

**By:**

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**&**

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## **Introduction:**

Many of us have become increasingly concerned with the rapidly rising cost of gasoline prices. Although we can't change or control the price of gas we can alter many of our habits associated with our gasoline consumption that will dramatically lower our automobile fuel expenses.

This book was written to teach you the leading techniques, tips, secrets, products and general knowledge that you'll use to significantly save on your gasoline costs and help to save our environment.

We are highly confident that when you apply the techniques described in this e-book and install our gas savings products you will see massive increases in your vehicle's miles per gallon!

J. P. Madison

&

Shane Maneri

## **Maintaining Your Vehicle:**

It is important that you maintain your vehicle and have a good understanding of how your vehicle operates. The more you can understand about how your car operates and how to properly maintain it, the more successful you will become at saving money on your gas. You don't have to be a mechanic or even do any work to your vehicle, but you do have to learn enough about your automobile to keep it properly maintained and fuel efficient.

- **Oil Changes:**

Keep your oil changed as often as your owner's manual recommends. If you're not sure how often to have it changed, look at your car manufacturer's website online. I recommend typing your vehicle's year, make and model into [www.Google.com](http://www.Google.com). The vehicle's engine runs much smoother and cleaner with new oil installed when recommended. We suggest getting to know a mechanic and building a business relationship with them so you ask them for more information about your vehicle maintenance when necessary. Try visiting the following website to locate a mechanic near you: [www.TrustMyMechanic.com](http://www.TrustMyMechanic.com). You can also try to get a referral from a friend who has a trustworthy mechanic. Don't be afraid to get a second opinion when your car needs parts or repair work to be done.

- **The Correct Motor Oil Grade:**

Make sure you are using the correct type of motor oil. The grades of oil are measured in viscosity, which tells how much the oil can resist flow. Check to see if the 10W-30 you've been using is the correct oil you should be using. Look in your owner's manual, ask your dealer, or search [www.Answers.Yahoo.com](http://www.Answers.Yahoo.com) to find out the correct kind of oil you need for your vehicle. You can also try: [www.Autos.Yahoo.com](http://www.Autos.Yahoo.com) or visit your automobile manufacturer's main website by searching the vehicles make in [www.Google.com](http://www.Google.com). You're in line to gain up to 2% in increased gas mileage by using the correct oil. It might not sound like a lot, but 2% x 50 fill-ups is a free tank of gas!

- **Synthetic Oils:**

We like and recommend the synthetic oils as they can work just as good for twice as long as regular motor oils. Please ask a professional mechanic if your car supports synthetic oils or look in your owner's manual. If you have misplaced your owner's manual, just research your car manufacturer's website or request a new owners manual wherever you may have purchased your car or look for a downloadable manual on [www.Google.com](http://www.Google.com). You can ask for synthetic oil when you get your oil changed at an express oil change station or anywhere else you may choose to get the oil changed...your dealership, or local service station.

- **Upgrade your tires:**

Low resistance tires, such as Michelin Energy MX 4 Plus claim to increase gas. Keep it green! [Visit Web Site](#) for tire discounts.

- **Tune-ups:**

Always keep your vehicle tuned up. Cars that are in excellent running condition will use on average 4% less gasoline than cars that need a tune-up, saving you money immediately and in the long run. If your vehicle is severely out of shape, a tune-up can increase your gas mileage by 10-20%. This means fresh spark plugs, a regular check up and tune-up as much as every few months. A good running vehicle is going to be the absolute best on gas, your wallet and keeping it green for the future generations. To find the most trustworthy mechanic in your area, again try visiting: [www.TrustMyMechanic.com](http://www.TrustMyMechanic.com) and to learn more about the importance of tune-ups visit these sites: [www.AAAutoServiceCenter.com](http://www.AAAutoServiceCenter.com) and [www.CarJunky.com](http://www.CarJunky.com).

- **Power Steering Fluid:**

Keep your power steering fluids full. By keeping your power steering fluid full, your vehicles will steer much better causing less resistance on your tires, in turn causing you to use less fuel.

- **Make sure your cooling system thermostat is not stuck:**

A cooling system thermostat stuck in the open position, causing the engine to run too cool, can reduce engine efficiency by another 7%.

- **Tires Alignment:**

Always pay attention to the vehicles alignment. A wheel alignment consists of adjusting the angles of the wheels so they are perpendicular to the ground and parallel to each other in order to give you the smoothest and most fuel efficient ride. The best way that you can notice if your car is ready for an alignment is if you are driving on a level road and the vehicle pulls to one side of the road when your hands are not on the wheel. If you are experiencing a pulling sensation, it is time to get the alignment checked because you are also putting unnecessary wear on your tires. To get a short internet course and more detailed information on wheel alignment try visiting the “Family Car” website at: <http://www.familycar.com/alignment.htm>. This site also offers “The Family Car Learning Center” section with detailed photos, diagrams, answers, and great vehicle maintenance information about almost every vehicle made. [www.FamilyCar.com](http://www.FamilyCar.com) .

- **Tire Pressure:**

**This is a very important suggestion!** When choosing the optimum air pressure for your tires the figure imprinted on the tire wall is the most accurate. The figures printed on the sticker in the door frame, in the fuel filler flap, and in the manual are for comfort rather than fuel efficiency. Generally speaking, a slightly higher pressure will improve fuel mileage and handling, but too high will degrade traction and wear the tires rapidly. Buy a cheap tire gauge

for about a buck or two at your local auto parts store or gas station and always keep it in your glove compartment. Keep your tires at the exact pressure that is recommended in the small lettering found on your car's tire walls. Basically you just stick the tire gauge on the valve for a second and wait for the white stick to pop out with the meter on it. The meter will have numbers that measures in PSI's. This stands for "pounds per square inch. Fill the tires to the maximum PSI for best mileage. Tires can lose air quickly, so check them every week. At a minimum check them once a month or every 1500 miles. Under-inflated tires also wear out faster, which also contributes to higher gas consumption. The best time to check your tire pressure is when it is cooler outside or sometime in the morning after your vehicle has been sitting for a few hours.

- **Tire Balancing:**

Keep your tires balanced! Ask your service station attendant, mechanic or car dealer to help you keep up on this. This can make a world of difference and it usually doesn't cost anything to have a mechanic or a tire shop worker to check this out for you. Make sure you give your auto mechanic a buck or two for a tip if they happen to do this for you. The small tip you give will come back to a hundred times over in the long run when you need your mechanic to check on something in the future and he will be more likely to be honest with you about your vehicle's true needs. I would ask

your mechanic to check your tire balance every few months to get the best possible gas mileage. For a complete free guide from the United States Department of Transportation and National Highway Traffic Administration, and to learn everything about your car's tires and their safety, just cut and paste the following link into your computer:

<http://www.nhtsa.dot.gov/cars/rules/tiresafety/ridesonit/brochure.html> .

- **Tires Spun:**

Keep your tires spun! This means make certain to have them rotated when necessary. How do you know your tires need to be spun? Again, most tire shops or service stations will check them free of charge if you ask nicely and build a relationship with one good service center, tire shop, or mechanic. This type of check up will also allow you to make sure your tires are good and safe for the road. You definitely do not want to be driving down the road on junky, worn out, or old tires. This is what you and your car are literally "riding-on". You will save more money on gas and it is environmentally friendly. For more information on this topic, try visiting the following website: [www.JustTires.com](http://www.JustTires.com).

- **Proper Tires For the Different Seasons:**

Don't forget to remove your snow tires when winter is over. Traveling on these deep thread tires can really cause you to burn more fuel. This is bad for the environment and bad on your wallet.

Keep in mind the same thing for summer tires in the winter. Make sure you are running snow tires in the winter if you live in cold, snowy areas. The traction you get from your snow tires guarantees you better gas mileage!

- **Keep your Car Waxed:**

Always keep your automobile clean and waxed! Drag (friction with the air) greatly reduces fuel economy. A clean and waxed vehicle will have reduced aerodynamic drag, thus providing better gasoline mileage. This kind of detail all adds up pennies and dollars immediately and in the long run. Keep it green and save on gas! To see a free video about the best way to wax your automobile, try visiting the following website or cutting and pasting the link into your computers URL bar:

[http://www.ehow.com/video\\_1327\\_wax-car.html](http://www.ehow.com/video_1327_wax-car.html).

- **Avoid Muddy Vehicles:**

If you are the four wheeler type or the mud-bogger type, always clean the mud out from under the vehicle when you are done playing in the mud. Mud will add a ton of extra weight, cause resistance and will definitely cause you to spend more on gasoline!

- **Luggage and Bike Racks:**

If you have a luggage rack or a removable bike rack, take it off when you are not going to be taking your bike with you. Smooth driving with no drag is what you always want to consider. I started taking my bicycle apart and putting it in the back seat or in the trunk of my car when I am going riding by myself. If I am riding with one other person, I put one bike in the back seat and one bike in the trunk.

- **Extra Weight:**

Take anything or any extra weight that you may not really need out of the vehicle. You will not need any winter items in the car in the summer and vice-versa. If you have junk in your trunk or under the seats, get rid of it. Clean out any old tools, clothes or anything that may be adding extra weight to the vehicle. Extra weight only causes you to consume more gasoline, so if you just don't need it, get rid of it!

- **Air Filters:**

Change the air filter in your automobile as often as the owner's manual for your car recommends or your mix won't be right. Reusable air filters are not recommended, as they can destroy expensive Mass Airflow Sensors if they are over-oiled. A quality paper filter does a better job of filtering. If you bought a used car and don't have the owner's manual anymore, again ask your

dealership about a replacement, or look online for a downloadable owner's manual for your car by typing "Owner's Manual" and your cars year, make and model into [www.Google.com](http://www.Google.com) . You can also visit: [www.Autos.Yahoo.com](http://www.Autos.Yahoo.com) or go straight to the following link or cutting and pasting it into your computers URL bar: [http://autos.yahoo.com/maintain/repairqa/air\\_filters\\_oil/ques126\\_0.html](http://autos.yahoo.com/maintain/repairqa/air_filters_oil/ques126_0.html) .

- **Oil Filters:**

Change your oil filter as often as the owner's manual mentions as well. A dirty oil filter will cause you to use more gasoline. We recommend changing your oil filter every time you change your oil. To learn more about how often to change your oil filter, visit: [www.EzineArticles.com](http://www.EzineArticles.com) and search the "Automotive" section. If you would like to learn how to change your oil filter yourself, visit: <http://www.secondchancegarage.com/public/300.cfm> .

- **What is a Fuel Filter?**

Many people are not usually aware that most fuel systems have one or more fuel filters that need a periodic replacement. A fuel filter is a device designed to clean the gasoline before it enters your vehicle's engine. Fuel filters can be located near the gasoline tank, in the engine compartment, or may be anywhere in between. Please try to refer to your owner's manual or speak with your local dealership or auto mechanic to find the location of the fuel filter in your vehicle. Have a professional change the filter if you do not

feel comfortable doing it yourself. For more detailed information on your fuel filters visit: [www.WiseGeek.com](http://www.WiseGeek.com). Also copy and paste this link into your computers URL bar:

<http://www.wisegeek.com/what-is-a-fuel-filter.html>.

- **Why Should I Change my Fuel Filter?**

Over time contaminants will start to build up in your fuel tank. This is from normal deterioration of your vehicles fuel system and also contamination pumped in from gasoline stations along with the gasoline. Yes, your average gasoline station has a certain amount of contamination in their gasoline they are selling you! Not to worry though, this is why your automobile has a fuel filter and is designed to capture this contamination before the gas reaches the engine. Over time, however, these contaminants build up in the fuel filter and will also start to restrict the flow of your gasoline. Therefore, it is very necessary to schedule and replace the fuel filter. We recommend replacing your fuel filter every 10-15 thousand miles for best gas mileage and helping your automobile to last longer!

- **Automatic Chokes:**

Be sure your automatic choke is disengaged after warming up the engine. Chokes often get stuck, resulting in bad gasoline - air mixture. Ask your dealership or auto mechanic if your vehicle has an automatic choke. Ask them for help on locating and properly working your automatic choke. You may also be able to find information about your vehicle and the automatic choke at: [www.Answers.Yahoo.com](http://www.Answers.Yahoo.com) or also try: [www.Autos.Yahoo.com](http://www.Autos.Yahoo.com).

## **14 Products That Increase Miles Per Gallon**

I have been on a mission this year searching worldwide for products and testing scores of them to see if they increase our vehicles' miles per gallon.

As a result of this research, I have created our group of 14 products that increase vehicles' miles per gallon and also come with a 30 day money back guarantee.

I will be adding to our product line in the future as new products emerge into the marketplace.

## **1. TireCheck Air Pressure Valve Caps**

Properly inflated tires improve gas mileage by 3.3%.

(<http://www.fueleconomy.gov/feg/maintain.shtml>)

TireCheck Air Pressure Valve Caps are an innovative gas saving device that lets you know at a glance whether your tires need air. Once your tire pressure drops 2-3 PSI the TireCheck valve indicator attached to your tire valves will turn red letting you know that it's time to add more air to your tires.

TireCheck resets automatically every time that you add air so there is nothing else for you to do but enjoy gas savings. They can be used on all cars, SUVs, light trucks and motorcycles. TireCheck is very easy to install, one size fits all, and comes with a lifetime warranty. They will save you money on gas, enhance your vehicle's handling and prolong the life of your tires.

**[Click Here](#)** to get more information and to purchase the TireCheck Air Pressure Valve Caps.

## **2. Amsoil Synthetic Motor Oil**

Adding Amsoil Synthetic Motor Oil can increase your miles per gallon by 2% over conventional motor oil.

Amsoil was the first company to manufacture synthetic motor oil in 1972 for the racing industry. It has a patented uniform molecular structure which causes the oil to flow more freely between the metal surfaces of the engine enabling your vehicle to run with maximum efficiency and improved fuel economy. It is formulated from jet engine oil to be able to withstand rigorous and lengthy engine operation without chemical breakdown.

Amsoil oil has the automotive industry's longest extended drainage available: it is guaranteed to last 25-35,000 miles between oil changes. (This will save you lots of money on oil changes.) Amsoil oil can be used in any vehicle and even in machinery too.

Make sure that you check your owner's manual for your vehicle's proper oil type prior to purchasing your Amsoil oil. You can bring your Amsoil oil to your local oil change store location, such as Jiffy Lube, to be changed; they will put the oil in for you for about \$15.00.

**[Visit Web Site](#)** for additional information and to buy Amsoil Oil.

### **3. 5 Star Shine – Never Wax Your Car Again**

As I mentioned in the first chapter, a clean and waxed car will have reduced aerodynamic drag and better gas mileage will result.

5 Star Shine's patented PTFE formulation gives your vehicle the auto industry's only 5 year protection plan guaranteed to protect your car's finish for 5 years with only one application. PTFE, or polytetrafluoroethylene, has been used by NASA for decades to protect everything from space suits to the space station. PTFE resists virtually every chemical on the planet and provides superior performance in both hot and cold environments.

5 Star Shine is not a wax. Traditional car waxes offer no long term protection for your car's paint because they break down quickly when exposed to everyday acids, oils and the sun's harsh ultra violet rays. To make matters worse solar heat causes waxes to get sticky and actually attract and hold dust, dirt, acids and chemicals. This is why freshly waxed autos seem to get dirty very quickly.

It is the only product of its kind that is guaranteed to protect your car's paint for up to 5 years, and with only one application. 5 Star Shine will keep your vehicle incredibly clean, add gas mileage and make your car look like new.

**[For More Information and to Buy 5 Star Shine Visit Web Site](#)**

(Note: Be sure to read the testimonials too.)

## **4. ScanGauge II**

ScanGauge II connects to your car's internal computer through its OBDII port. It helps you determine the optimal driving techniques for your vehicle because it provides you with real-time data about your car's miles per gallon when you are driving. With this data you can adjust your driving styles and improve your gas mileage. Most of us are not aware of what our various driving techniques do to our fuel economy but driving habits alone can change fuel economy by up to 33%:

(<http://www.fueleconomy.gov/feg/drivehabits.shtml>)

ScanGauge II also allows you to read your vehicle's trouble codes and diagnose potentially expensive engine problems before they occur. It works on 1996 and newer cars, can be easily transferred from vehicle to vehicle and also comes with a 30 day unconditional money back guarantee. ScanGauge II is a great way to apply the driving tips and techniques found in this e-book.

**[Visit Web Site](#)** and search "ScanGauge" for more information and wholesale prices with free shipping.

## **5. FFT Fuel Saver**

FFT Fuel Saver is an innovative, patented and EPA registered gas catalyst which helps the fuel molecules ignite simultaneously, reducing pre and post ignition detonation causing a more complete burn at the spark on the power stroke. Gas is burned more efficiently resulting in less waste and increasing miles per gallon. Normally only 85% of gas is used, the other 15% goes out the tailpipe unburned as pollution.

Most people are familiar with gas additives sold by large well known automotive companies like STP, but unfamiliar with gas catalysts like FFT Fuel Saver. In general, the gas additive products are designed for one time applications such as cleaning fuel injectors, ridding your gas tank of water and general engine cleaning. Gas catalysts, however, are quite different from gas additives and serve a different purpose. Gas catalysts blend with your automobile's gas to burn your gas more completely.

FFT Fuel Saver contains an ingredient that helps carburetors and fuel injectors disperse the fuel in a finer droplet size so that fuel is burned even more efficiently.

It also has octane improvers which reduce your automobile's gas octane. If your car normally requires mid grade or premium octane the octane improver can allow you to use regular octane and not lose performance. (Without this gas catalyst the lower octane would normally cause your engine to ping.)

The manufacturer claims mileage increases of 5-20% with an average of 12%. Our testing has yielded increases of 10%. FFT Fuel Saver comes with a 30 day money back guarantee.

**[Click Here for More Information and to Buy FFT Fuel Saver](#)**

## **6. MPG Fuel Booster**

MPG Fuel Booster is another gas catalyst made of a super concentrated blend of hydrocarbons designed to increase the mileage performance of gasoline or diesel. Gasoline is a mixture of hydrocarbon molecules that vary in size and shape. Short molecules burn quickly, causing engine knock and nitrous oxide emissions. Longer molecules burn slowly and incompletely, leaving unburned hydrocarbons to exit the car in the form of pollution. MPG Fuel Booster delays the burning of short hydrocarbons and quickens the burning of the longer hydrocarbons.

The following are the results from adding MPG Fuel Booster to gasoline:

1. Increased Mileage per Gallon. The manufacturer claims an average of 5-15%. Our testing has achieved an average of 12%.
2. Increased Power. You can feel the difference when you drive.
3. Increased Performance. The engine runs smoother.
4. Less Wear on Engine. Better combustion reduces engine wear.
5. Reduced Emissions
6. Decreases Engine Maintenance. Spark Plugs and oil stay clean longer.

7. Cleaner ignition System.
8. Faster Starting. Fewer cranking amps needed to start the engine extend battery life.
9. Reduced Octane Requirement. Drop from high or mid octane to regular octane and save an additional 15 cents or more per gallon at the pump.
10. Increased Engine Life. Less wear and tear makes your engine last longer.

**[Visit Web Site For More Info and to Buy MPG Fuel Booster](#)**

## **7. Friction Terminator**

Friction Terminator is a super concentrated proprietary formula designed to eliminate friction and engine wear which will substantially increase equipment life. It will improve your gas mileage and you will also get a longer lasting engine.

Friction Terminator can be mixed with all lubricants, motor oil, transmission fluid, gear oil etc... Manufacturer claims and testing has resulted in 2-5% gas mileage increases and a much smoother running engine.

[Click Here](#) for further information and to buy Friction Terminator.

There is a special trial offer of 1 ounce of Friction Terminator (enough for one year) and 1 ounce of MPG Fuel Booster (for 40 gallons of gas) all for \$14.95 with free shipping.

[For this Special Trial Offer Visit Web Site](#)

## **8. Garmin GPS**

A Garmin GPS (Global Positioning System) is an excellent mileage saving device. You will realize additional fuel economy with GPS because you will never get lost again and will be driving to your destinations via the most direct route. I like the Garmin GPS the best and they have been consistently rated the best by the consumer rating organizations too. Among the additional features are:

1. Gas station locaters that determine the nearest and lowest price gasoline available.
2. Traffic reports that will reveal where traffic is congested so you can alter your driving route.
3. Bluetooth hands-free telephone calling for added driving safety.

The most important feature for our GPS purchase was text to speech. Without text to speech the GPS voice, for example, directs you to turn right in .3 miles. With the text to speech feature the Garmin GPS directs you to turn right in .3 miles at Maple Street for much greater accuracy.

The Garmin GPS systems range in price from \$150.00 to over \$800.00.

I got the guaranteed lowest price on mine and free shipping too. You can get the same deal by [Clicking Here](#) Search “Garmin GPS”

## **9. K&N Air Filter**

Oftentimes the factory installed air filter on your vehicle severely restricts air flow which decreases horsepower and gas mileage.

We have achieved a noticeable increase in our vehicles' horsepower and a 15% increase in fuel mileage by installing an aftermarket K&N Air Filter.

K&N invented the High Flow air filter category in 1969. Their patented High Flow air filter creates much higher air flow to the engine while also maintaining filtration levels guaranteed to ensure long engine life. The K&N air filters come with a million mile warranty so you will save money by never having to replace your air filter again. K&N does recommend that you clean the air filter every 50,000 miles.

**[Click Here for More Information and to Buy This Filter](#)**

Search "K&N Air Filter"

## **10. K&N Air Intake Kit**

K&N Air Intake Kits dramatically increase air flow, throttle response, acceleration and fuel efficiency. After installing a K&N Air Intake Kit into our test SUV gas mileage increased 15% and it suddenly ran like an Indy 500 race car.

This intake kit features the K&N patented High Flow technology air filter that provides more surface area for huge increases in air flow resulting in better gas mileage and a massive increase in horsepower and acceleration.

Learn more about the K&N Air Intake Kit and get wholesale prices with free shipping: [Visit Web Site](#) Search “K&N Air Intake Kit”

## **11. Fuel Filter**

As I mentioned in chapter one, over time fuel contaminants buildup in the fuel filter. To improve your gas mileage and maintain your vehicle it is recommended that you replace your fuel filter every 10-15 thousand miles.

[Click Here](#) to choose the best fuel filter for your car. Search “Fuel Filter”

## **12. Discover Open Road Card**

One of the best gas saving methods is to get the Discover Open Road Card. It gives you 5% cash back on gas and auto maintenance purchases and there is no annual fee.

[Visit Web Site](#) for more details of the card and to fill out an application.

### **13. The HotInaZma Pocket**

The HotInaZma Pocket attaches to your cigarette lighter and becomes an added electrical current that keeps your car's electrical system stable and more efficient.

It stores and provides much needed electricity during times of high pull e. g. Sudden acceleration, turning on the A/C, turning on the lights and starting the radio. By reducing your vehicle's electrical fluctuation and increasing its efficiency, fuel mileage is increased 8% according to the manufacturer. There are also less emissions, better audio quality and increased power.

The HotInaZma Pocket was launched in Japan in 2003 by Sun Automobile, a 40 year old Japanese Company well known for developing hyper voltage kits for the racing industry as well as for supplying OEM parts to Toyota and Honda. This product has been recognized in many US car magazines including Super Street and Honda Tuning.

**[Click Here for More Info and to Purchase the HotInaZma Pocket](#)**

## **14. Water 4 Gas Scam Review**

### **Run Your Car on Water Scam Review**

Hydrogen fuel cell kits or water fuel cell kits have generated an Internet wide debate and controversy during the gas crisis of 2008.

First of all, it is not running your car on water or water vapor. It is hydrogen so, in essence, these kits are modifying vehicles to run on two different gases at the same time.

I have spent hours, like many of you, watching videos and reading blogs, forums and articles regarding this fuel conversion product. Aside from the fact that Honda and major auto manufacturers are heavily invested in developing this fuel technology, it has been a challenge to discern the reality of this product on the consumer level.

My confusion ended when I Googled Water 4 Gas Scam and read the Water Fuel Cell Kit Review of Mark Gittelman, an ASE certified Master Technician with over 23 years of front line experience:

(<http://www.autofacts.org/water4gas-scam.html>)

Mark reported that after innumerable hours reading the 400 page e-books, buying the parts, making highly skilled modification after modification he still only increased fuel mileage by 10-20%. Many people, in addition to Mark, weigh in with their own personal test results during the course of Mark's numerous blogs.

The consensus of all this testing has also been an average 10-20% fuel mileage increase. Test reports further indicate that four cylinder cars which drive mostly highway miles achieve the best hydrogen fuel cell results.

If you feel that you have the time to read 400 page e-books and the mechanical aptitude to make numerous mechanical modifications in building your hydrogen fuel cell, all for a possible 10-20% increase in mileage, then best of luck and feel free to visit:

[Water 4 Gas](#) and [Run Your Car on Water](#)

Due to the time and mechanical difficulties involved with installing the hydrogen fuel cell kits many companies are working on developing a readymade kit for the masses. I will keep you informed of these developments as they emerge in the marketplace via our Newsletter.

Disclaimer

**In this chapter I am stating results that myself, my colleagues, my clients and our product manufacturers have achieved. Miles per gallon increases may vary significantly depending on the type of vehicle, age of vehicle, type of gas and consistency of driving methods. No promises, guarantees or warranties whether stated or implied have been made that you will produce any specific results. You also assume all responsibility for maintaining your vehicle while incorporating these products into your gas savings program. If you are not satisfied with the results from any of these products return the product within 30 days of receipt of the product for a full refund of the product purchase price.**

## **The Most Fuel Efficient Vehicles**

- **Hybrids:**

A hybrid car is an automobile that has two or more major sources of propulsion power. Most hybrid cars currently marketed to consumers have both conventional electric and gasoline motors, with the ability to power the automobile by either one independently or in tandem. These automobiles are appropriately called gas-electric hybrids. Other power sources include propane, hydrogen, CNG, and solar energy. The technology being used strictly depends on the goals set for the vehicle, whether it be fuel efficiency, power, driving range, or reduced greenhouse gas emissions. Consumer oriented hybrid cars, which have been on the market for about ten years, are usually tuned for reduced emissions and driving range. Corporate and government fleets that have been in service for twenty years or so are usually tuned up for fuel efficiency, often at the cost of power, driving range, and hydrocarbon emissions.

A gasoline-electric hybrid car will have one or two auxiliary electric motors that will supplement the main gas engine. Compared to conventional vehicles, the gasoline engine in a gas-electric hybrid is much smaller, much less powerful, and much more efficient. Although the gas engine alone would be sufficient to power the car under most circumstances, during maneuvers requiring unusually high power the electric motor is used as well. These conditions include passing situations, hill climbing, and acceleration from a standstill position. Some hybrid cars, such as the Toyota Prius, will shut down the gasoline engine under conditions in which the electric motor alone would work very well, such as breaking and coasting. Actually, the Toyota Prius has a unique special electric-only mode designed for stop-n-go

traffic situations. This is made possible by the super heavy duty electric motor it has, which is capable of propelling the car from a standstill without the gasoline assist. Therefore, in comparison to most other hybrid vehicles, the Prius actually uses the electric motor more than the gasoline engine.

Many of the technologies found in hybrid cars would benefit automobiles of any type, including conventional gasoline cars. However, the engineering and manufacturing costs associated with these technologies often would increase the price of the vehicle to the point where the gas savings are just negligible in comparison. Only in tax-subsidized electric and hybrid vehicles are these technologies practical, in which associated cost increases are absorbed by the government instead of the manufacturer or consumer. These technologies include regenerative braking, aerodynamic refinements, and lightweight building materials. To find more detailed and updated information on Hybrid automobiles, try saving the following website and keeping yourself updated. To get more detailed information on plug in hybrid cars go to [www.Wikipedia.com](http://www.Wikipedia.com). Search “Hybrid Cars”.

You can also sign up for their free email newsletters and get all the latest and greatest information on gas economy and the most detailed, updated information on hybrid cars at most of these sites

[www.HybridCars.com](http://www.HybridCars.com)

[www.GreenCar.com](http://www.GreenCar.com)

[www.HybridCenter.org](http://www.HybridCenter.org)

[www.Iags.org](http://www.Iags.org)

[www.Hybrid-Car.org](http://www.Hybrid-Car.org)

[www.WhyBuyHybrid.com](http://www.WhyBuyHybrid.com)

[www.Hybrid-Vehicles.net](http://www.Hybrid-Vehicles.net)

[www.EVWorld.com](http://www.EVWorld.com)

- **Plug-in-Hybrids:**

There is also a new type of engine that is being designed that becomes available in 2009 or sooner that will give you even better gas mileage than a hybrid and it is called a plug-in-hybrid. This new automobile alone can save you upwards of 50-75% off of your current gasoline spending, depending on what you are currently driving.

The plug-in-hybrid is a mix between a plug in electric car and a hybrid vehicle. You will be able to go on long trips as with a hybrid car, but it can cost as little to run and be as friendly to the environment as the electric car if you only use it on the short trips. A plug-in-hybrid has both an electric and gas engine, but the electric engine is plugged into an outlet. This way you can always use the cheaper more environmentally friendly electric engine when making short trips. On longer trips the gasoline engine will take over. This means the plug-in-hybrid is less expensive to run and better on the environment than the regular hybrid, but it will not die out after a few hours like it will with an electric vehicle.

- **Electric Cars:**

An electric car is an automobile that utilizes its chemical energy stored in the rechargeable battery packs, and electric motors and motor controllers instead of an internal combustion engine (ICE).

Electric vehicles were amongst the earliest automobiles. They produce no exhaust fumes, and minimal pollution if charged from most forms of renewable energy. Many are capable of acceleration

exceeding that of conventional vehicles, are quiet, and do not produce noxious fumes. Electric cars can and will reduce dependence on petroleum and decrease or eliminate greenhouse gas emissions, depending on how their electricity is produced. Historically, they have had issues with high battery costs, limited travel distance between battery recharging, charging time, and also battery lifespan, which have limited widespread adoption. Ongoing battery technology advancements have addressed many of these problems; many models have recently been prototyped, and a handful of future production models have now been announced. Toyota, Honda, Ford and General Motors all produced electric cars in the 1990s in order to comply with the California Air Resources Board's Zero Emission Vehicle Mandate. The major US automobile manufacturers have recently been accused of deliberately sabotaging their electric vehicle production efforts.

Electric vehicles include automobiles, light trucks, and neighborhood electric vehicles. To learn more about electric vehicles try visiting:

[www.Gas2.org](http://www.Gas2.org)

[www.TreeHugger.com](http://www.TreeHugger.com)

[www.AutoBlogGreen.com](http://www.AutoBlogGreen.com)

[www.ElectricCars.com](http://www.ElectricCars.com)

[www.VentureBeat.com](http://www.VentureBeat.com)

[www.Eaaev.org](http://www.Eaaev.org)

[www.ZapWorld.com](http://www.ZapWorld.com)

[www.TeslaMotors.com](http://www.TeslaMotors.com)

To see the top electric cars you can buy right now visit:

[www.AutoBlogGreen.com](http://www.AutoBlogGreen.com) .

Some mileage stats and more sites about electric cars available:

The ZAP Xebra Sedan - 4 passengers, 40mph, 25 mile range.

<http://www.zapworld.com/ZAPWorld.aspx?id=188>

The Meyers NmG - 1 passenger, 75mph, 30 mile range.

<http://myersmotors.com/index.html>

The Commuter Cars Tango - 2 passengers, 150mph, 160 mile range.

<http://www.commutercars.com>

The Phoenix SUT - 5 passengers, 95mph, 100 mile range, 10 min charge. <http://www.phoenixmotorcars.com>

For the really high end you could go for the Tesla Roadster - 2 passengers, 130mph, 250 mile range, 0-60 in 4 seconds.

<http://www.teslamotors.com/index.php>

You can also do a conversion of an existing gasoline car like those at:

<http://www.evalbum.com>

- **Traditional Automobiles with the Best Gas Mileage:**

There are still several other automobiles made today that get excellent gas mileage and you can capture a terrific savings in this area as well. Here we have listed the Top ten rated 2007 “Non-Hybrid” cars that will get 30 Miles per Gallon or more. The numbers we have listed are Miles per Gallon (MPG).

Honda Fit: 33 Combined - 31 City - 37 Highway

Toyota Yaris: 36 Combined - 34 City - 39 Highway

Nissan Versa: 32 Combined - 30 City - 36 Highway

MINI Cooper: 33 Combined - 30 City - 36 Highway

Honda Civic: 33 Combined - 30 City - 38 Highway

Toyota Corolla: 33 Combined - 30 City - 38 Highway

Nissan Sentra: 32 Combined - 29 City - 36 Highway

Hyundai Accent: 31 Combined - 28 City - 37 Highway

Kia Rio: 32 Combined - 29 City - 38 Highway

Mazda 3: 31 combined - 28 City - 35 Highway

- **Flexible Fuel Vehicles:**

A flexible-fuel vehicle (FFV) or dual-fuel vehicle (also sometimes called *flex-fuel*) is an automobile with a multi-fuel engine that can typically use different sources of fuel which are either mixed in the same tank or with separate tanks and fuel systems for each fuel. A common example is a vehicle that can accept gasoline mixed with varying levels of bio-ethanol (gasohol). Some cars carry a natural gas tank making it possible switch back and forth from gasoline to natural gas.

- **Ethanol E-85 Vehicles:**

Ethanol is the same type of alcohol found in alcoholic beverages. It can be used as a fuel, mainly as a bio-fuel alternative to gasoline, and is widely used in cars in Brazil and is

slowly becoming popular in the USA. Because it is easy to manufacture and process, and can be made from very common crops, such as sugar cane and maize (corn), it is an increasingly common alternative to gasoline in some parts of the world.

- **Anhydrous Ethanol:**

Anhydrous ethanol is ethanol with less than 1% water and can be blended with gasoline in varying quantities up to pure ethanol (E100). Most spark-ignited gasoline style engines will operate well with mixtures of 10% ethanol (E10). Most cars on the road today in the U.S. can run on blends of up to 10% ethanol, and the use of 10% ethanol gasoline is mandated in some cities where harmful levels of auto emissions are possible.

Ethanol can be mass-produced by fermentation of sugar or by hydration of ethylene from petroleum and other sources. Current interest in ethanol mainly lies in bio-ethanol, produced from the starch or sugar in a wide variety of crops, but there has been considerable debate about how useful bio-ethanol will be in replacing fossil fuels in vehicles. Concerns relate to the large amount of arable land required for crops, as well as the energy and pollution balance of the whole cycle of ethanol production. Recent developments with cellulosic ethanol production and commercialization may allay some of these concerns.

According to the International Energy Agency, cellulosic ethanol could allow ethanol fuels to play a much bigger role in the future than previously thought. Cellulosic ethanol offers promise as resistant cellulose fibers, a major component in plant cells walls, can be used to generate ethanol. Dedicated energy crops,

such as switch-grass, are also promising cellulose sources that can be produced in many regions of the United States. The saving potential can range drastically depending on what you are currently driving and where you currently live. Check out these links to learn more about Ethanol and Ethanol Cars:

[www.Eere.Energy.gov](http://www.Eere.Energy.gov)

[www.MotorTrend.com](http://www.MotorTrend.com)

[www.EthanolCars.com](http://www.EthanolCars.com)

[www.GreenCarCongress.com](http://www.GreenCarCongress.com)

[www.Go-Ethanol.com](http://www.Go-Ethanol.com)

[www.DailyFuelEconomyTip.com](http://www.DailyFuelEconomyTip.com)

[www.Wikedpedia.com](http://www.Wikedpedia.com) : Search “Ethanol Cars”

- **Diesel Vehicles:**

Diesel cars often get better mileage than comparable hybrids. Getting a diesel car also allows for use of bio-diesel or even waste vegetable oil (WVO/SVO) fuel. To learn more try visiting the following websites and search for diesel:

[www.Wikedpedia.com](http://www.Wikedpedia.com)

[www.PracticalEnvironmentalist.com](http://www.PracticalEnvironmentalist.com)

[www.PopularMechanics.com](http://www.PopularMechanics.com)

[www.DieselForum.org](http://www.DieselForum.org)

To learn more about what type of car best suits you in today’s gas guzzling economy try reading this analysis of “The Benefits and Costs of New Fuels and Engines for Cars and Light Trucks: [http://www.rand.org/pubs/working\\_papers/WR537/](http://www.rand.org/pubs/working_papers/WR537/) .

- **Best Car Prices, Loans and Leases:**

To get price quotes on the most fuel efficient cars we discussed above, and other cars, trucks, minivans and SUV's [Click Here](#).

For more information on car loans [Visit Web Site](#).

Car buyers can now get a short-term lease with the lowest monthly payments available. [Swap A Lease](#) is the world's largest online lease marketplace. It allows auto buyers access to distressed sellers who place large incentives to get out of their leases early with no penalties or obligations.

- **Motorcycle or Scooter:**

Motorcycles and scooters are cheaper and often get 70 MPG or better. Riding gear is available for most weather conditions. A good example is the Kawasaki EX250, which costs about \$3,000 gets 60-70 MPG at highway speeds, and can go 0-60 MPH in under 6 seconds! Please consider your safety before buying these vehicles. [Click Here](#) for motorcycle parts, accessories, clothing and riding gear at wholesale prices.

## Gas Purchasing Secrets

- **Getting a Gas Card Can Save You Hundreds:**

With gas prices being so high, it's important to try to get gas prices as low as possible. One of the best methods to saving money on gas is to get yourself a gas credit card. You can get up to 5% cash back on all your gasoline purchases. If prices are \$4/gallon - you save \$.20 on every gallon. Over the course of a year this idea alone will save you as much as a few hundred dollars. We recommend you get the [Discover Open Road Card](#). It gives you 5% cash back on ALL gas charges and maintenance costs, and there is no annual fee.

Here is the link to research more details about the benefits of the card and fill out an application: [Discover Card](#).

Also, find the latest updated info about gas credit cards here:

[www.FuelSavingZone.com](http://www.FuelSavingZone.com) - Sign up for free email reports.

[www.PumpAndSave.com](http://www.PumpAndSave.com)

[www.TravelFinances.com](http://www.TravelFinances.com)

[www.FindGascards.com](http://www.FindGascards.com)

[www.CreditCardGuide.com](http://www.CreditCardGuide.com)

[www.Credit-Card-Surplus.com](http://www.Credit-Card-Surplus.com)

- **Using Regular Credit Cards for Gasoline Purchases:**

Never use your regular credit card to purchase gas if you can help it. Unless your credit card company is offering some sort of gas rebate or discount. Contact your credit cards 1-(800) # on the back of your card to ask and make sure you are not missing any fine print! Using your credit card for gasoline purchases only helps you generate more interest to add to that already booming gas bill! Try to never use your credit card for gasoline.

- **Pay Cash for your Gas if Possible:**

Pay CASH for your gas if you have the cash and do not yet have a gas station loyalty card or gas specialty credit card like the Discover. Some gas stations are discounting 6-8 cents per gallon for cash purchases. Make sure you ask the attendant about this at your local gas stations. The company may not be advertising this, but still offering a discount.

- **The Best Times to Purchase Gas:**

Only buy or fill up your car or truck in the early morning when the ground temperature is still cold. Remember that all service stations have their storage tanks buried below ground. The colder the ground the more dense the gasoline will be, when it gets

warmer gasoline expands. This gas tip alone will save you an average of 10% at the pump!

- **Don't fill -up between 10 am and 12 Noon:**

Experts and surveys say that between 10:00 am and 12:00 pm, most gas stations change their prices either up or down.

- **Fill up at Arco:**

Year after year Chevron and Shell are making new record earnings while squeezing the poor motorists for every penny. They advertise their expensive gasoline with buzzwords such as Techron, V-Power and some other BS words. Basically, that means they put some expensive stuff into the gas to sell it at a better profit. In fact, the gasoline of all gas stations flows through the same pipeline and the only difference is the magic stuff they pour into the gas to claim a cleaner burning fuel or better fuel efficiency. At the same time their average gas price is about 10c - 30c above other cheaper gas stations in the neighborhood. I can see no difference in my gas mileage when I empty a tank of Arco vs. a tank full off Techron enhanced souped-up high tech additive gas spritz. And if it cleans anything then certainly my wallet, which is all squeaky clean after filling up. Well, I am tired of financing the billions of those mega empires. I am getting my gas at the Arco and I have never had any trouble with the quality. Of course you are free to throw your hard earned money at Chevron

(pay 10% more and save 3% on their rebate cards - another scam to tie the customer to their high priced gas) or Shell in the hopes their magic bullet fuel additives do anything for your vehicle.

- **The Best Days to Purchase Gas:**

Gas stations will often lower their prices in mid week. Look around while you are driving and try to keep track which stations lower their prices on Tuesdays and Wednesdays and try to always purchase your gas then. Gas prices usually go up on holidays, holiday weekends and most weekends for sure. Gas prices are statistically the cheapest on Wednesdays, but this is only statistically true over a large number of days. It won't be true every week.

- **When to Avoid Buying Gas:**

If you regularly buy along a given route (say, to work or school), notice when the gas station gets refilled by the large tanker trucks. If you know that a station has just been filled, steer clear of it for a day or two. When the tanker dumps its thousands of gallons of gas into the containers below the station, the sediment and old gas get stirred up. This sediment and bad gas gets sucked into the cars that fill up first, and can cause a decrease in fuel efficiency, as well as wear and corrosion of the spark plugs in your vehicle.

- **Gas Allowances:**

If you work for a large company ask them for gas allowance. It will not hurt to ask and if they say no, consider finding a similar job that does pay gas allowances or maybe even car allowances. I was very excited to recently find out that when the old company I worked for recently merged with a much larger company in the same industry, the new larger company offered me a vehicle allowance, gas allowance and a cell phone allowance. Don't be afraid to ask. The worst thing that can happen is a NO!

- **Time your Gas Station Trips:**

If you live in a large metropolitan area where gas lines get backed up, plan to refuel your car during off-peak times to avoid lines and excessive idling at the gas station. Also remember, stopping and starting the engine frequently will cause extra wear. Don't stop the engine if you are going to idle for less than a minute.

- **Pump Gas Properly: Working the Pump!**

If you look you will see that the trigger usually has three different stages; low, medium, and high. Always pump using the lowest mode. In slow mode you should be pumping on low speed, thereby minimizing the vapors that are created while you are pumping. All hoses at the pump have a vapor return. If you are

pumping on the fast rate, some of the liquid that goes to your tank becomes vapor. Those vapors are being sucked up and back into the underground storage tank so you're getting less gas for your money. Because of these facts it is recommended that you always pump your gas on the slowest possible mode.

- **Turn The Nozzle Correctly:**

When you are finished filling up your cars gasoline tank always turn the nozzle of its hose a full 180 degrees. This will always drain more gas (that you are paying for) into your gas tank. In most cases up to an entire  $\frac{1}{4}$  to  $\frac{1}{2}$  a cup that would normally go to the next customer for free. This adds up to several gallons per year to the average driver.

- **Fill Up All the Way:**

If you need to fill up, fill up all the way. The more money you try to save by adding \$10 today and then \$20 tomorrow will be wasted since each time you will have to travel to the station and wait for a pump. Instead, do it all at once to save time and money.

- **Fill Up when Half Full:**

We recommend keeping the tank at least half full. The reason for this is, the more gas you have in your tank the less air is occupying its empty space. Gasoline evaporates faster than you can

imagine. Gasoline storage tanks have an internal floating roof. The roof serves as zero clearance between the gas and the atmosphere, so it minimizes the evaporation. Studies have shown that by utilizing this technique you can consistently save 10% on your fill ups.

- **When not to Fill Up:**

Another reminder, if there is a gasoline truck pumping into the storage tanks when you stop to buy gas, DO NOT fill up--most likely the gasoline is being stirred up as the gas is being delivered, and you might pick up some of the dirt that normally settles on the bottom. We know this will help you get the most value for your money and be nicer to your engine!

- **Fill Up Tip:**

When traveling try to fill up before you leave on the road trip, not when you are on the highway. Often highway gas stations and truck stops will have higher prices because they know that you have no other choice on where to buy and because they have higher overhead because of their location.

- **Buy Gas From a Busy Station:**

Always try to purchase your gasoline from a gas station that is consistently busy because it is having its underground storage

tanks filled on a regular basis. Stations that are less busy have gasoline that has been sitting around in the underground tanks for longer time periods causing the gas to get more contaminated and in turn you are buying less powerful and lower quality gas and decreasing your fuel efficiency. This doesn't mean wait in long lines to purchase your gas. Try to notice the stations that stay busy and fill up at them when they are least busy.

- **Mixing Octane's Properly to Save Money:**

In some areas, the lower octane may be too low for your car and the mid-grade or higher octane may be more than what you need. To avoid overpaying and still get the correct octane for your car you can mix the gas. For example, if your car takes 87 octane and the pumps have 85 octane and 89 octane, then when filling your car, fill half the tank with 85 octane and the other half with 89 octane and this will give you an equivalent of 87 octane plus it will save you money because the lower octane gas costs less.

- **Super - Mart Savings:**

Consider buying you gas from Costco, Kroger or Wal-Mart. They offer savings cards with a yearly fee that will help you save money on gas. To check which stores have gas stations near you visit: [www.CostoConnection.com](http://www.CostoConnection.com) : Search "Gas Stations"  
[www.Kroger.com](http://www.Kroger.com) : Search "Gas"  
[www.Walmart.com](http://www.Walmart.com) : Search "Gas"

- **Kroger:**

If you shop at Kroger, check the bottom of your receipt. When you use your Kroger card and accumulate enough points from buying groceries, you may be eligible to get 10 cents off per gallon at Kroger stores that also have gas stations. You enter your Kroger card number at the pump to get the discount.

- **Online help for Fuel Savings and Online Gas Shopping:**

Try to use websites like: [www.GasBuddy.com](http://www.GasBuddy.com) and also try [www.GasPriceWatch.com](http://www.GasPriceWatch.com) to find the best prices on gasoline near you. These helpful internet links will give you great tips and invaluable information about gasoline, how to save on gasoline, the best and most recent cars to buy for gasoline economy. These websites are free and they can help you save money on gas and these are great ways to help with our fuel economy and our environment in the long run. There are many other ways that you can use the Internet to help you save money at the gas pumps. Use our internet links in the links section for numerous research results and constant tips, updates and more important, updated news about fuel economy.

- **Keep Your Eyes Peeled for the Best Prices:**

While you driving around look at prices at the gas stations and pick the gas stations nearest your home or workplace or on that route that are offering the cheapest gasoline prices. Always get your gas at the cheapest one you can. We never even used to look

at prices before the prices really went up. We would just pull in and buy it anywhere. Not anymore! You want to try to keep up with which gas station has the cheapest gas and continue to buy it where it's cheapest every time.

- **Coupons:**

Check out coupons in your local stores that may be offering dollars off certain items, like maybe convenience food. If you purchase your gas at a service pump that has a convenience store attached then you can use your savings coupons for convenience purchases making your total purchase cheaper.

- **Which Local Stations Should I use?**

Consider using local off-brand stations; avoid the big names with big overhead. Try to use mom and pop type gas stations if possible, they may be a little cheaper because of less overhead. Help out the moms and the pops if you can! Ask about cash discounts.

- **Full Service is a No-No:**

Pump your own gas, don't use full service. Full service is a rip-off. This saves 10-20 cents per gallon. Buy your gas when you are not in your work clothes if you are afraid of getting dirty or smelling like gas. Have your kids pump the gas!

- **Does the Brand of Gas I Buy Really Make a Difference?**

Yes! Not all gasolines are created equal! Some gasoline has a low detergent content and will allow deposits to build up on intake valves, fuel injectors, and combustion chambers. Those deposits can and will cause anything from causing your preventing your engine from actually starting, a minor decrease in engine power, or causing you to be dumping money down the drain for unnecessary gas consumption. This is why the big auto manufacturers have set higher standards for gas known as Top Tier gasoline. For more info on this subject matter and more information on which type of gas you should be using in your vehicle, be sure to visit: [www.TopTierGas.com](http://www.TopTierGas.com).

- **Should We Buy High Grade or Low Grade Gas Octane?**

Buy the lowest grade gasoline that you can. Always avoid the premium gasoline as they only hurt your wallet and do not do much more good for your car unless otherwise mentioned in your owner's manual. Don't pay extra for the higher priced gasoline; it's just not worth it. Regular unleaded which will have approximately 87 octane is fine for your car. Keep it green and economical. Octane is only a measurement of how difficult it is to ignite the gasoline in your engine and has nothing much to do with the quality of the fuel.

- **Tightening Gas Caps:**

Make sure your gas cap is on tight. Gas fumes will escape out of a leaky cap. If your gas cap doesn't screw on tightly, consider

getting a new one at your local auto parts store. CNN news previously announced that there are millions of gallons of gas wasted every year because of evaporation due to improperly tightened gas caps.

- **Do Not Top-Off the Gas Tank:**

Do not try to top off your gas tank. The fumes can escape easier from the tippy top. Also, when you fill up all the way it can run out and spill and also damage you paint, but most importantly you will be wasting gas. Keep it green! Keep the fumes in the gas tank. Double check that your gas cap is on as tight as it will go!

- **Don't Drip:**

When taking the pump out of the tank, shake it a little and tilt the hose up as much as you can, you have paid for whatever is in the gas hose! Do not drip any gas onto the ground. Remember, every little bit counts.

- **Grocery Store Gas Saving Programs:**

Fill out the form and sign up for their loyalty program. Some grocery stores offer gas savings for being a member. Ask your grocer to make sure you are not missing out on any gas savings or other savings opportunities.

## **Driving Tips**

- **Let the Most Efficient Driver Drive:**

If you have more than one licensed driver in the vehicle, let the most efficient driver drive. Take the opportunity to learn from his or her wisdom. Pick the calmest, most relaxed and non-aggressive driver. Sit back and learn!

- **Take the Road Less Traveled:**

Generally speaking, if you have the option of choosing lightly traveled roads over busier ones, you give yourself more flexibility to employ a wider range of fuel saving techniques than if you are surrounded by other vehicles. You may even find that a somewhat longer, lightly traveled route may result in lower overall amount of fuel used than the shorter, busier route.

- **Avoiding Left Turns:**

United Parcel Service (UPS), Fed Ex, and other major shipping companies have their drivers make only right hand turns whenever possible. They computer-map out the trip so that it's one continuous circle. We will teach you how to do this in the training manual in the "Google Maps" section. This eliminates the waiting time and idling at left hand turns. More gas is used when idling. UPS saved up to 12% with this technique, which saved millions of gallons of gas last year.

- **Maintain Appropriate Following Distance:**

Avoid driving so close behind another vehicle that you are forced to “immediately” brake if the other car begins slowing down. This is important to consider at all times, but particularly in sub-urban driving where traffic changes speed more often. Leave enough space that you have time to choose other options; perhaps a lane change. In addition, the greater your following distance, the better your forward visibility will be, which enables you to look well ahead and anticipate changes in the driving environment.

- **Ride the Slip Stream:**

This driving technique has given me some excellent mileage when I used to commute long distance a long time ago. Obviously, it requires a bit of skill and it's not exactly recommended, since you should pay attention to the road and we all know, most people who read this just don't. However it is probably one of the best "secret" fuel saving tips I can give you. This technique is frequently used by race car drivers to gain speed and truck convoys to save fuel. Every car has a certain amount of drag (or wind resistance). This drag, the rolling resistance of your tires and the friction in your engine are the three main causes of reduced efficiency. A car moving through the air causes the air to split around the car and turbulence behind the car (the slipstream). If you drive your car into another cars slipstream, both cars will save fuel (less turbulence). The following car saves the most gasoline. Now remember, we are not advocating tailgating. However, you can try to find a large truck (more turbulence and a longer slipstream tail) and slip in there. Now you can still keep

some distance (unlike the NASCAR driver) and still save gas. However, many people cannot regulate their speed without braking (see above). In this case you are probably better off just keeping your distance and not braking.

- **Use your Horn Defensively:**

Being proactive will save fuel if it means you can avoid having to brake or stop unnecessarily. Don't be afraid to lay on the horn for safety.

- **Traffic Tip:**

Avoid gridlock traffic because stop-n-go traffic definitely takes a huge toll on your gas consumption. Sometimes it may be cheaper to go the longer route if you can avoid stop and go traffic. Drive the long way and try to compare on your next venture. If this means changing your work times, talk to your boss about coming in early or late and leaving early or late to make up for the change and save on gas.

- **Stay Well Away From Store Fronts:**

This is the type of area where you will spend significantly more time idling and waiting for pedestrians and other vehicles. Try to keep on back roads if possible.

- **Look Far Ahead and Anticipate the Road:**

Your ability to drive efficiently depends on being able to anticipate changes in the driving environment. The way to do this is by constantly scanning well ahead in your intended path. In city driving you should know what's happening at least 10-15 seconds ahead. On the freeway, at least 30 seconds visual lead time is appropriate.

- **Crosswind Barrier:**

Headwinds aren't the only winds that increase fuel consumption. Cross winds can have a large negative effect as well. In cross-wind conditions, choosing a route with a barrier (buildings or trees) along the edge will save fuel compared to a road in the open.

- **The “Corridor – Effect”:**

All else being equal, traveling at a constant speed on a freeway within a flow of traffic in the same direction, is more efficient than going the same speed in isolation. The reason is aerodynamic: a flow of traffic generates a localized wind current in the direction of travel. You will always be sure benefit from this artificial breeze.

- **Note your “Transition Points”:**

If you regularly travel the same roads, make a conscious effort to note memorize or jot down the points along the way where transitions occur that maximize efficiency. For example memorize where you can initiate a coast to just make it to the next stop sign. Or note at what speed you can crest a hill so you're traveling just fast enough for the next transition after the descent.

- **Avoid Drive - Thru Restaurants:**

Avoid drive thru windows. They only lead to excessive idling. It is also unhealthy to sit with your windows down breathing in the fumes from that vehicle in front of you. Go in and eat!

- **Lane of Least Resistance:**

In multi-lane traffic, choose the "lane of least resistance" to avoid unnecessary and unpredictable braking/changes in speed. Try to stay in the lane that is the most free-flowing. Example: Avoid lanes where buses are starting and stopping, or cars may be braking unpredictably to turn into driveways and parking lot entrances.

- **Avoid Stops at Bottom of Hills:**

Avoid roads with stop signs at the bottom of the hills, which will only force you to brake and waste the kinetic energy you just gained going downhill.

- **Take Advantage of the Wind:**

If possible, time trips to take advantage of strong tailwinds. Avoid setting out on road trips into strong headwinds/crosswinds.

- **Go Manual:**

Manual transmissions get better fuel economy. If you drive a stick shift try not to red-line those gears. Keep the driving techniques unaggressive and easy going. Don't be so hard on the vehicle and the vehicle will not be so hard on your wallet!

- **Manual Transmissions are Better on Gas:**

A manual transmission saves an average \$1000 on the cost of a new vehicle, and eliminates routine transmission maintenance that an automatic transmission requires (and most people never do this maintenance once the warranty is up - so a used car with an automatic transmission could be is a risky purchase). In most cases, an automatic transmission gets significantly worse mileage overall than a manual transmission.

- **Manual Transmissions:**

If you have a stick shift, don't travel at high speeds in low gears and don't rev the gear to the highest RPM's that you possibly can. Simply put, don't red-line the gears. Calm down, it's not good for the car anyway. Drive the car in an economical fashion. You may have an advantage if you are driving a stick shift as well, because most people say that they are better on gasoline. Let's keep it green motor heads.

- **Manual Transmissions and Coasting:**

Neutral is also a 'gear' on a manual transmission, which you use constantly anyway. Shift into neutral if you are not comfortable with downshifting. Learn how to coast between traffic lights or downhill and applying power only as needed to keep the car rolling (more or less) with traffic. Learn to judge terrain and use neutral to its full potential to keep the car moving 'for free', and save more gas over time. Standard transmission vehicles may save gas by shifting into neutral when going down hills steep enough to maintain speed (although engine braking is safer on steeper declines). Do not do this in a Hybrid car, they use this "regenerative engine braking" to generate electricity and charge the batteries. NOTE: This strategy will result in more wear and tear on your brakes. These strategies are not recommended for normal automatic cars. Also, if you own a car with fuel injection, it is more efficient to keep the car in a high gear while going down hills. Simply take your foot off the gas.

- **Do Not Rev the Engine before Shut-Off:**

Do not rev the engine before you turn the car off. Some people are taught that you should give the engine a quick “rev” before you turn it off. This does absolutely nothing. Let’s save some gas for our great, great grand children so they can enjoy driving all those old classic cars one day too!

- **Drive the Speed Limit:**

Driving the speed limit is guaranteed to save you on gas no questions asked. Just do it. Air resistance goes up as the square of velocity. The power consumed to overcome that air resistance goes up as the cube of the velocity. Rolling resistance is the dominant force below about 40 mph. Above that, every mph costs you mileage. Go as slow as traffic and your schedule will allow. Drive under 60-65 since air grows exponentially denser, in the aerodynamic sense, the faster we drive. To be precise, the most efficient speed is your car's minimum speed in its highest gear, since this provides the best "speed per RPM" ratio. You will also save money on you insurance every year when you don't get anymore speeding tickets. It's safer, more relaxing and we all know you really don't get anywhere much quicker by speeding anyway. Once you start going over 60 mph, your gas mileage decreases rapidly. **Slow down! According to a survey done by the U.S. Department of Energy, most of today's vehicles will get approximately 20 % more miles per gallon on the highway when driving 55 miles per hour than they will get when driving 70 miles per hour!**

- **Speeding Fact:**

With current gas prices at a U.S. national average of approximately \$4.00, it is estimated that every 5 mph that you drive over 60 mph, the average driver is adding an extra 10-15 cents onto each gallon of gas your vehicle is consuming!

- **Maintain a Space Cushion:**

When driving on a multi-lane roadway, try to maintain a "space cushion" around you. Try to avoid driving for any length of time beside a vehicle in the next lane. The more options you leave open for making a prompt lane change if one is needed, the safer and more efficient you'll be. This avoids unnecessary slowdowns.

- **Wait for the Traffic Light Before you Start the Car:**

You can start planning even further ahead with this next suggestion. If you are parked on the street close to the next upcoming traffic light, don't turn the car on until you know you can time the next traffic light down the street and catch that "green light" while you "keep it green" as well!

- **Cold Engine Driving:**

Don't drive a lot with a cold engine. Cold engines do not run efficiently. If you can combine your short trips it will help, as driving further will allow your engine more operating time at higher temperatures. You can use a block heater to pre-heat your engine if you are taking many short trips. Engines are most efficient at full operating temperature, and the block heater helps it get there sooner. About 2 hours is the maximum time needed to pre-warm a small engine.

- **Always Avoid Running Your Car on Empty:**

Don't drive when the gas gauge is on empty. You are using more gas when you are on empty because your car is running much less efficiently as it is trying to accelerate and decelerate in its normal working fashion.

- **Always Remember to Leave Early:**

Learn to leave a little early and you can save a ton of money on gas just by driving the speed limit. Driving the speed limit will also help you catch more green lights giving you better gas mileage in the long run because of no "Stop-N-Go" type traffic. The enemy of efficient driving is finding yourself in a rush. Leave for your destination a little early so you don't feel pressure to drive faster, brake later and otherwise fall back into bad habits sucking your tank and your wallet dry! Remember the environment friends!

- **Stay at Work Late to Avoid Gridlock Traffic:**

If you live in a larger metropolitan area, try talking to your boss or manager about the possibility of coming in early and staying late to avoid the gridlock, gas guzzling traffic. Better on your wallet, your brake pads, and your nerves! Let's not forget the environment.

- **Cruise Control:**

Try to drive at a very steady pace and use cruise control when you can if you are on long flat road trips. Using cruise control saves an average of 10% on gas because there is less accelerating and jerking back and forth to different speeds. You can set the cruise control to the "Speed Limit" and save on the environment and your wallet.

- **Use Overdrive Gears:**

Use your Overdrive gear on your vehicle if you have one. You can cut down on your fuel consumption on long trips and highway driving if you use the overdrive gear on your vehicle. If you are not sure if you have overdrive gear, look in your owner's manual, research it online with your auto manufacturer's main website, or [www.Autos.Yahoo.com](http://www.Autos.Yahoo.com) or ask your mechanic, service station attendant or dealership to show you how to use it. Overdrive also saves wear and tear on the engine and transmission, therefore engine speed, and engine wear is reduced. This saves you money! This saves gas! This saves oil resources! This saves the environment!

- **Idling:**

Make sure you don't idle the vehicle for long periods of time. If you get stuck in traffic somewhere for more than four or five minutes, consider turning the vehicle off.

- **Use the Landscape - Approaching Downhill Roads:**

Always try to think ahead when approaching hills. If you're coming up on a downhill roadway, ease up on the gas pedal, so that once you reach the downhill point, you can let your car glide down, without using gas to accelerate.

- **Driving up Hills:**

When you start to accelerate, do not wait until the last minute. Start accelerating slowly before you get to the hill.

- **Feet on the Floor:**

Keep your left foot on the floor. If you keep your left foot on the brake it will cause drag and cause you to use more gasoline.

- **Road Surfaces:**

Avoid dirt, gravel or rough roads if you can. You can use as much as 30% more gasoline when traveling on rough, bumpy and dirt roads.

- **Don't Idle Too Much:**

Many seem to believe that turning off your car and restarting it uses more gas. Unless you're driving a 1968 Oldsmobile or something like that, it's just not the case. Modern fuel injection proves this to be a myth. Of course, starters will eventually need to be replaced as well. So don't turn the key at every red light you stop at.

- **When Not to use Cruise Control:**

Do not use cruise control if you are traveling on hilly, curvy, mountainous type roads. Cruise control on this type of roadway is more than likely going to burn more gas than a nice steady foot. Try to be consistent with your foot and no jerky accelerations. Keep it smooth. Keep it green! For detailed test results and surveys on using "Cruise Control", try visiting [www.Edmunds.com](http://www.Edmunds.com) and search the site for "Cruise Control".

- **Accelerating:**

When accelerating, accelerate smoothly and moderately. Eliminate "Jack-Rabbit" type starts and accelerate slowly. Accelerating very rapidly "tearing-off" at stop signs or stop lights is guaranteed to use a ton more gasoline than a nice smooth, calm, easy acceleration. **Fact: Fast starts and quick accelerations are said to use more than 50 % more gas than that of normal acceleration. Don't push your foot down on the gas pedal more than ¼ of the way when starting off.** This will always

allow your carburetor to function at peak proficiency. So, in other words don't drive like a "Drag-Car-Racer" and ignore the driver in the car next to you who wants to race! No Jump Starts! No Drag Racing! Trying to see how fast you can go from zero – 60 is going to make you pay at the pump!

- **Avoid Bad Weather:**

Avoid driving in inclement weather if possible, as rain, snow and slush can dramatically increase rolling resistance. The exception to this rule may be when high winds (tailwinds) can be used to your advantage. To avoid bad weather try using these websites we have provided for you. We love all of them as they all offer different options and you can just pick the one that suits your travel needs. You can set your own personal page and request weather updates for your area on [www.Google.com](http://www.Google.com) in the "My Account" section of I-Google to give you daily weather updates in your area. Also try these other Amazing weather sites:

[www.USAToday.com](http://www.USAToday.com)

[www.Weather.com](http://www.Weather.com)

[www.AccuWeather.com](http://www.AccuWeather.com)

[www.WunderGround.com](http://www.WunderGround.com)

[www.Weather.CNN.com](http://www.Weather.CNN.com)

[www.NWS.noaa.gov](http://www.NWS.noaa.gov)

[www.Intellicast.com](http://www.Intellicast.com) .

Each of the previous websites offer different preferences and options and they are all very useful to different people in different areas.

- **Avoid Peak Traffic Hours:**

If you have the option, avoid travel during peak traffic times. With the roads full of other drivers, you have fewer options for using driving techniques that the herd doesn't typically use or tolerate; reduced highway speeds, drawn out coasting up to stop signs, etc).

- **Drive When it's Warm Outside:**

If you have the flexibility, time your trips to coincide with warm temperatures such as in the middle of the day rather than cold nights or early mornings. Cold tires and drive train experience more rolling and mechanical resistance and a cold engine will be less fuel efficient.

- **Conserve Momentum:**

Example: Stop sign....“Stop and Crawl” When multiple vehicles ahead of you are progressing through a stop sign or a right turn at a red light, this represents a mini “Stop and Crawl”,

a situation normally found in a bumper to bumper traffic jam. In these situations, time your approach and try to arrive at the stop sign as the last car ahead is departing. You will save fuel by concentrating on this driving technique.

- **Be Smooth:**

Smooth use of the accelerator, steering, transmission and brakes is not only more comfortable for you and your passengers; it's also a little more efficient (less scrubbing of tires, energy lost through suspension movement). It's also better for the longevity of the vehicle and in general a sign of a skilled driver.

- **Take Advantage of Shortcuts:**

Sometimes options exist to go through corner parking lots, side streets, or alleyways to get around having to come to a stop at an intersection or behind another vehicle. Of course, try to use the utmost care and consideration in parking lots as they can present their own risks such as pedestrians, vehicles reversing from parking spots, blind spots, speedy drivers...etc. Also remember, cutting through corner parking lots may be illegal in some areas.

- **Traffic Light Timing - Green Lights:**

Try to time your green lights so you don't have to "Stop-N-GO" so much. Traffic lights are usually set so that you can catch them when you are driving the speed limit. This gives you another reason to drive the speed limit and just take it easy. In the absence of any other indication about how stale the light is (ex. if there's no pedestrian signal or waiting cross traffic), you can assume that the green light ahead may be about to change. Adjust your approach speed accordingly if traffic permits you will not be holding anyone up to avoid a full-on brake application should the light change. This is an economically friendly driving technique to take into consideration, but be sure to stay on the defensive side as well.

- **Traffic Light Timing - Red Lights:**

Red lights with "Sensors" and approaching the red lights. Just a bit of advice and a little secret...slow down early if there's a car in front of you that can trip the sensor so you may not have to come to a complete stop at the light. This means less aggressive accelerating and saving on fuel. This technique has been nicknamed "Rabbit Timing". Please remember to be safe when using this technique!

- **Lights On For Safety - Lights Off For MPG:**

In certain driving environments and or conditions, the use of daytime running lights (DRLs) or manually switching on headlights during the day increases safety. Depending on the vehicle, power demands of the lighting system ranges from a few watts to well over 100 watts, all of which is ultimately powered by gasoline. In the USA, where DRL implantation is voluntary, automakers have an exemption from CAFE testing which permits vehicles' fuel economy to be tested with the lights switched off. Switching off DRLs where their safety contribution is minimal (e. g. a divided, controlled access highway) will save a small amount of fuel.

- **Find and or Adopt a “Blocker” for Slower Freeway Speeds:**

Some people are uncomfortable driving at speeds less than the average flow of traffic on multi-lane highways. One solution is to find another vehicle going the approximate speed you want to travel (large, conspicuous vehicles work particularly well) and drive either ahead of or behind it.

- **If You Have a Sunroof: Close the Sunroof at Higher Speeds:**

Some sunroof styles are better than others. The worst offenders are the kind which tilt and slide to the outside, on top of the roof. When open, these "Roof-Top Spoilers" can significantly increase aerodynamic drag.

- **Drafting and Cross Wind:**

It is possible to effectively "draft" a larger vehicle in cross wind conditions without following too closely, but rather legally and with increased safety when wind conditions cause the low pressure area trailing the lead vehicle to extend into an adjacent lane. This situation is not describing side-by-side driving, but portioning that is offset to the rear.

- **Drafting Close Behind:**

While it's true that close drafting close behind can dramatically reduce fuel consumption, it could not recommended by some for many reasons, not the least of which is that it's illegal in most areas. We will leave this choice up to you, but it is very good on your gas consumption and the environment. Some of the benefit of drafting depending on the size of the lead vehicle, can still be accomplished at distances much further back that are safe and legal.

- **Windows up on the Highways:**

Drive with windows up at higher speeds to minimize aerodynamic drag. Use your flow-through ventilation vents if possible. Driving at lower speeds with the windows down to cool off is better for fuel economy than it is at higher speeds.

- **Most Efficient Speed:**

Generally, a vehicle's most efficient speed is just after its highest gear has engaged. Try to stick with that gear for the best gas economy!

- **Braking: The Most Efficient way to Slow Down:**

When you “have” to slow down, here's an approximate hierarchy of methods, from best to worst that help save gasoline. Choosing the right method depends on traffic conditions (following vehicles) and how quickly you need to stop.

- 1) Coasting in neutral, engine off (ex. roll to a stop).
- 2) Coasting in neutral, engine idling.
- 3) Regenerative coasting (Hybrid vehicles).
- 4) Regenerative braking (Hybrid vehicles).
- 5) Coasting in "Deceleration Fuel Cut-off" mode (in gear, above a certain engine RPM).
- 6) Conventional friction braking (Non-Hybrid or Hybrid).

- **Conserve Momentum: Avoid Stopping:**

Avoid coming to a complete stop whenever possible and when safe and legal of course. It takes much less energy to accelerate a vehicle when it's already traveling just a few miles per hour than it does from a complete stop.

- **Hybrids and Minimizing Regenerative Braking:**

While regenerative braking in hybrid vehicles - capturing braking energy into the battery - is more efficient than braking with conventional friction brakes, it's still not as efficient as “driving without brakes” (DWB). So even if you drive a hybrid, you'll get better economy when you minimize use of the brake pedal. Regenerative braking' recovers far less energy than acceleration requires to replace the momentum it loses. To 'coast' further without regenerative braking excessively slowing your automatic transmission equipped hybrid, putting just the right pressure on the accelerator can prevent the “regen” drag without adding engine power. *Example:* if done correctly the engine won't start AND the regenerative braking won't kick in. With manual transmission hybrids, just leave it in neutral to defeat “regen” and coast further

- **Drive Without Brakes (DWB):**

Minimize use of the brake pedal. Each time you press it, you're effectively converting gasoline into brake dust and heat.

Obviously you have to balance use of this technique against traffic conditions so as not to adversely affect other drivers. Driving as if you have no brakes will cause you to do two things:

- 1.) Extends the amount of time you spend coasting down to stops and turns.
- 2.) Reduces "excessive" acceleration.

- **Driving Shoeless or Bare Foot:**

Some hardcore gas economists and truck drivers recommend driving in socks or bare feet so they can modulate the accelerator to the finest degree (particularly important when "driving with load" / "target MPG driving" at cruise. It shouldn't be that surprising. Race car drivers typically wear extremely thin-sole boots for similar reasons, for the highest level of tactile feedback from the vehicle, and to better finesse and control the gas and brake pedals. Be careful here, driving barefoot may be illegal in some states! Keep it green, save money, but also legal!

- **Avoid Unnecessary Braking:**

Don't put yourself in a position that you'll need to brake aggressively. Braking means slowing down, this in turn means having to accelerate again.

- **Conserve Momentum - Brake Hard:**

It sounds like a contradiction, but there are rare times when braking hard can save fuel compared to coasting or light braking: it's a "damage control" technique when faced with an unpredictable/unanticipated stop or slow down ahead and not a lot of space. *Example:* approaching a fresh red traffic light that had no other indicators to predict the change (no pedestrian signal and no cars waiting on the cross street). If you brake lightly/moderately, you will cover the entire distance to the intersection and have no option but coming to a full stop. But if you brake quite hard initially, you can potentially scrub enough speed and buy enough time to coast the remaining distance to the intersection at a low speed. With judgment and some luck, you'll arrive at a fresh green light and avoid a full stop. Obviously, rapid deceleration isn't a safe option if there is following traffic.

- **Use the “Racing Line”:**

Knowing how to pick the "racing line" through a corner, when safe, can help to preserve your vehicle's momentum. Generally, the racing line is the path through a turn with the largest possible radius. It may permit a higher speed with more comfort (less body roll and G-forces), and less tire scrub. This is what race car drivers do to try to drive the shortest distance. Note: We are definitely not advocating high speed turns, where the cost of increased tire wear may outweigh fuel savings. Even at low speeds, choosing the "racing line" has benefits.

- **Encourage a Pass - The “Fake - Turn”:**

Drivers who travel below the normal flow of traffic should facilitate drivers approaching from behind to go past safely, with a minimum of interruption. "Faking" a turn by signaling and moving into a turning lane (even though you intend to continue straight on) is one option. Note: Judgment and care is demanded so you don't mislead any driver into making an unwanted move as a result of your "miscommunication". You must be prepared to actually make the turn if your actions create a situation that would make it the safest option.

- **Encourage a Pass – “Hug - Right”:**

Drivers who travel below the normal flow of traffic should facilitate drivers approaching from behind to go past, rather than force them to slow down. One method of gaining the attention of the driver behind is to move your vehicle very obviously to the extreme right of the lane you're traveling in when it's safe for the following vehicle to pass. Adding a turn signal to the move or the 4-way flashers may be even more effective. Of course, pulling completely off the roadway onto the shoulder to let following traffic by is also worthwhile, if you have the option.

- **Hill Tactic - Don't Waste “Potential - Energy”:**

When facing a red traffic light, or some other predictable stop/start situation at the bottom of a hill, you're better off stopping near the top before you've accelerated to full speed. Wait, and time your release to make it through on green, and you avoid turning your potential energy into brake dust and heat. This is also known as “smart braking”.

- **Engine off Coasting:**

Engine-off coasting (EOC) is one of the largest contributors to increased efficiency of hybrid vehicles, many of which automatically shut down the engine when the accelerator is released and the vehicle is coasting. EOC can be accomplished in

non-hybrids as well simply by shifting to neutral and switching the key from "Run" to "Acc" (being careful not to switch to "Off" and cause the steering to lock). As soon as the engine stops, return the key to the "Run" position so the odometer continues to count distance traveled and you're ready for a re-start. This technique is best suited to cars with manual steering and manual transmissions. (Dramatically increased steering effort may be required in some cars with power assist. Also, most vehicles with automatic transmissions are not designed to travel with the engine shut off; the transmission may be damaged). In non-hybrids, EOC is considered an advanced technique and should not be attempted until the skill developed away from traffic. In addition, coasting with the engine off is illegal in some areas.

- **Drive With Load (DWL):**

AKA "target driving". Put most simply, this technique is accomplished by choosing a "target" rate of fuel consumption and ensuring you don't fall below it on hills (or in very strong winds, or any conditions which cause load to vary for a given speed). In other words, you will back off the accelerator and lose speed (possibly also downshifting) as you climb, and gain that speed back on the descent. It's far more efficient than pressing the accelerator more and more to maintain speed on the way up a hill and then releasing it down the other side. DWL is how an economically friendly minded person can greatly outperform cruise control in hilly terrain. Obviously the ability to use this

technique without adversely affecting other drivers depends on the traffic situation. As well, fuel economy instrumentation is required to DWL/target drive to the maximum extent, though it can also be done using a vacuum gauge, and to a much lesser extent by the seat of the pants.

- **Heavy Traffic: “Play the Accordion”:**

If faced with worst-case "stop & crawl" traffic conditions, leave as much space ahead of you as possible and continually "accordion" that space to keep your vehicle moving near a constant speed while the cars in front of you stop & start. Yes, some people will cut into the space you create ahead of you. Deal with it. *Note:* This may aggravate following drivers who can't absorb the big picture, and that must be taken into account.

- **Pulse and Glide (P&G):**

Use pulse and glide or "burn and coast" rather than maintaining a constant speed, where practical. Coast whenever you can especially with a stick shift; shift into neutral and coast baby!

- **Push the Vehicle:**

If you only have to move your car very short distances consider rolling it out in neutral rather than starting it up to move it. Keep it green! *Example:* out of the garage. With a stick shift vehicle or “Standard Transmission” if you're starting out on an incline, give your car a shove to get it rolling as far as possible before starting the engine. Just drop it into gear with the clutch in and jump start that baby. Try to remember to park facing downhill, so you can use this trick more often. Save money, keep it green!

- **Wait for the Snow Plow - Winter Driving:**

Try to avoid the snowy and un-cleared, un-plowed streets as much as possible. The snow and slippery, icy roads will cause your tires to spin and burn gasoline much quicker. There are online sites that will tell you which roads have been cleared and which roads are still snowy. Driving through fresh snow increases rolling resistance moderately to dramatically, depending on the depth/type of snow. Better fuel economy will result when you wait for the plows (or for other vehicles to pack the snow down) before setting out. Wheel-spin is especially inefficient if your vehicle is equipped with brake assisted traction control. Try researching the following link to locate the website that provides information for the area in which you live or are traveling in:  
[www.Dot.Gov](http://www.Dot.Gov) .

- **Follow the Leader in Rain or Snow:**

In weather conditions that leave a lot of precipitation on the road - heavy rain or snow - drive in the tire-tracks of the vehicle in front of you to reduce rolling resistance. An exception to this tip may be on "rutted" surfaces where water tends to pool in the ruts. In that case, driving on the ridges between the ruts offers less resistance.

- **Maintain a Safe Following Distance:**

Don't stick to the bumper of the car directly in front of you. You will brake more and accelerate more to keep that unnecessary and dangerous narrow gap. This also gives you a lot more room to play with when you are timing traffic signals. Likewise, ignore tailgaters. They will tailgate you whether you go the speed limit or 90 MPH over the speed limit. Allow them pass when it's convenient. Don't speed in order to allow them to pass. The general rule of thumb is to stay at least one car length behind for every ten miles per hour you are driving. *Example:* If you are driving 55, stay 5-6 car lengths back from the car in front of you, at least! This gives you plenty of time to think about your next move.

- **Minimize use of Low Range:**

Many 4 wheel drive / AWD vehicles also come with high and low transmission ranges. Low range increases engine RPM and fuel consumption for a given gear/road speed combination compared to high.

- **Minimize use of 4 Wheel Drive:**

The added friction of drive components in four wheel drive mode increases fuel consumption, especially when the center differential is locked and the vehicle is turning.

- **Multiple Vehicles Owners:**

Remember to choose the car that's warmed up. In a multi-vehicle household, if you have the choice of using similar vehicles, choose the one that was driven most recently if it's still warm. A warmed up automobile uses less gasoline period!

- **Multiple Vehicles 2:**

Always choose to drive the most efficient vehicle at your house. If you have a multi-vehicle household or workplace, choose the most efficient vehicle from the fleet that will accomplish the task at hand.

## *Parking Tips*

- **Parking and Departing:**

Start up: wait for the opportunity to move. Don't start the engine until there's actually an opportunity to start driving:

*Example:* A gap in traffic when exiting a driveway or parking space.

- **Park In the Shade:**

Parking in the shade or in a covered parking garage will prevent gas evaporation and reduce the amount of air conditioning needed once you get back to your car. Gasoline actually evaporates right out of your tank, and it does so faster when you park directly in the sun - winter or summer. Parking in the shade also keeps it cooler inside, and you will need less A/C to cool off when you get back in. If there is no shade available, park so that your gas tank (the actual tank under the car, not the valve to fill it) is facing away from the direct sun.

- **Pick a Forward Position Parking Spot:**

Park your vehicle so later when you get back in the car you can begin to travel in a forward gear. Using reverse gear uses more gasoline. Try to keep out of reverse gear situations. It is also less wear and tear on your transmission.

- **Pick the First Parking Spot you can Find:**

Don't waste time driving around the parking lot trying to find the best spot. You will waste more in gas trying to get close. Do something healthy, the walk is good for you anyway!

- **Parking Tactics - "Orbit to Bleed Momentum":**

To save on gas....if you find you have too much momentum after reaching your preferred parking spot, continue coasting further down the row or "orbiting" a spot until you can roll to a stop in position without touching the brakes. The extent to which you might continue "orbiting" depends on whether your engine is on or off and whether you're driving a manual or automatic. Also, all of this depends on traffic in the parking lot.

- **Parking Tactics - "Gravity Assist":**

Slopes can be useful in maneuvering into a parking place. One which I regularly back into (it can't be driven through) has a small slope across from it. I kill the engine approaching the slope, and engine-off coast backwards into the spot. Gravity can be a hindrance in parking as well. Avoid driving down into a parking "hole" which you must drive out of later. Even if you EOC into the hole, you'll face a net efficiency loss when you drive your cold vehicle up and out later.

- **Parking Tactics - “Avoid Parallel Parking” :**

For on-street parking, the better spot is one with enough room to pull in/out rather than multiple reverse/forward maneuvering (parallel parking). Multiple shifting only burns more gas!

- **Parking Tactics - “Reverse - in”:**

If you have no pull-through spots to choose from, reverse in when arriving, instead of driving in when warm and backing out/turning around when the vehicle is cold and fuel economy is at its worst. Also note that reversing into a flow of traffic is riskier (and therefore much slower and less efficient) because you may not have a clear view until your vehicle's back end is well out of the space.

- **Parking Tactics – “Pick the Periphery”:**

Choosing a spot in the "periphery" of a busy lot will be more efficient than navigating the rows of traffic/pedestrians to get as close as possible to the building or destination.

- **Parking Tactics - “Pull Through Spots”:**

Drive into a "pull through" spot, rather than a spot that requires reverse and forward maneuvering. Reverse gear uses more gas.

- **Look for Green Parking Areas:**

Many malls, shopping centers, parking garages...etc...around the world have initiated parking policies where the “green car” or “hybrid type” car owner is allowed to park in the closest/best parking spaces. They have done this to encourage the public to “go green”. I like exercise, so I don’t care, but this could save you money on gas and will help you avoid roaming around the parking lot looking for the closest available space! Again, keeping green!

- **Winter Parking - Clean out the Garage:**

If you have a garage, clean out your garage so you can park your car inside during the cold months of the year. The faster warm up will return better fuel economy.

- **Winter - Use Heated Parking:**

If you have the choice, heated parking will improve fuel economy. The heat will keep the vehicle warm enabling the engine to work less while getting warmed back up.

## **Transmission Tips**

- **Manual Transmission Tip - Cruise in High Gear:**

When cruising at a constant speed, shift to the highest gear you can use without lugging the engine.

- **Manual Transmission Tip – Fuel Injection:**

If you are driving a stick shift with fuel injection, note that 50% throttle at 1200 rpm's uses less gas than 10% throttle at 2500 rpm's. As long as the engine is not lugging or pinging, shift as soon as possible and use plenty of throttle. The engine is more efficient when it does not have to pump air past a closed throttle plate.

- **Automatic Transmission - Highest Gear - Lowest RPM for Posted Speed:**

When cruising, drive the speed that allows the lowest RPM for the speed zone you are in. *Example:* If the posted speed is 30 and your car shifts into 3rd at 35, you may be able to achieve the 3rd gear shift, then reduce and hold 30 without causing a downshift.

- **Automatic Transmission - Torque Converter (TC) Lockup:**

Drive at the speed that allows the TC (Torque Converter) to lock up. This is often around 40-45 mph. Speeds just above this typically return the highest cruising fuel economy.

- **Automatic Transmission - Neutral When Stopped:**

Shift automatic transmissions to neutral when stopped (assuming you're going to leave the engine running). Remaining in drive wastes fuel as the engine continues to try to creep the car forward while being held back by the brakes.

- **Automatic Transmission - Up-Shift Coaxing:**

Some automatic transmissions can be coaxed to upshift sooner when accelerating by briefly releasing some throttle pressure, then re-applying to continue accelerating.

- **Automatic Transmission - How and When to Use the Overdrive Gear & What “OD” is:**

Overdrive is simply a gear with a ratio less than 1:1. Gears in a car have different ratios to utilize the engine's power band at different speeds. Usually the engine is turning faster than the transmission. For instance: 1st gear may be 3.27:1 - The engine revs quickly through 1st gear to get it up to speed 2nd, 3rd, and 4th gears will decline in ratio and get closer to 1:1. Many manual transmission cars have a 4th gear with a ratio of 1:1 meaning the engine and the transmission are spinning at the same rate.

Overdrive is a ratio of less than 1:1...85:1 for example. This means that the engine is spinning slower than the transmission, allowing for better fuel economy on the highway where speed maintenance is required, not speed increases (ex. acceleration.) Automatic transmissions use the same principle of less than 1:1 ratio, they just go about it a different way (by means of planetary gears and clutches.) You can cut down on your fuel consumption on long trips or highway driving if you use the overdrive gear on your car. If you are not sure if you have overdrive gear, look in your owner's manual or research it online with your manufacturer or ask your service attendant at the service center to show you how to use it. This also saves wear and tear on the engine and transmission. So, if your transmission has an "OD" (overdrive) button or position, leave it engaged to ensure the transmission will shift into its highest gear as soon as possible.

- **Automatic Transmission - Use Economy Mode:**

If your automatic transmission has a "power/economy" button, leave it in economy mode. This usually results in earlier up-shifts and later downshifts, saving fuel. Keeping green!

- **Automatic Transmission Tip:**

Always remember to turn the key off before shifting the transmission into park. Save a few drops of fuel by modifying your shutdown procedure.

## **Miscellaneous Techniques and Tips**

- **Choosing and Purchasing a GPS (Global Positioning System):**

A GPS will guarantee you the shortest route every time, saving you gasoline. GPS systems have come down so much in price that they are a no-brainer. These will automatically save you gas money in the long run, especially on trips and appointments in which you are going on for your first time. You can also use a GPS to calculate how far away you are from the next state if you are traveling and if you know fuel tax is less in the next state, just put enough fuel in to get you to the next state and fill up with gas where it is cheaper. If you do buy a GPS, I recommend a smaller portable one. Also, now companies offer GPS systems on the newer cell phones. Call and ask your cell phone provider or look on their website. For the best quality GPS, we recommend a Garmin. To get the guaranteed lowest price Garmin as well as free shipping: [Visit Web Site](#).

- **Google Maps: [www.Maps.Google.com](http://www.Maps.Google.com) :**

Start using Google maps to make sure you are traveling the best possible route during your road trips or even to areas you just aren't familiar with. If you have to run errands and make more than one or two stops, try to use Google maps to find the quickest route for these numerous stops. You can also get

Google maps on newer cell phones. Google maps has some incredibly helpful options where you can actually build your own maps and track out your stops and can be used for future reference as well. You can use Google maps for setting appointments if you are a business person or you can use it for personal errands and appointments as well. Take advantage of this fantastic free service that we didn't have the luxury of a few years ago. You can save a ton of money on your business travel if you get into Google maps and learn how to use it.

- **Fuel Economy Computers: OB I I Reader Devices:**

Some newer vehicles will have factory installed fuel economy computers already installed. But, an option for vehicles without factory installed fuel economy computers is the ScanGauge II. Even the venerable vacuum gauge can help you improve efficiency when driving with load / target driving. The ScanGauge II is basically an integrated Trip Computer that provides real-time feedback while simultaneously tracking three sets of trip data for you. The digital gauges give you real-time data for your vehicle and the built-in Scan Tool allows you to read its trouble codes and diagnose potentially expensive problems before they get out of hand and cause your vehicle to guzzle gas. To learn more about the ScanGauge II and get discounted prices with free shipping [Click Here](#).

Also keep your eyes peeled for a possible upcoming unit called the “SuperMID”. We have no website available for this mechanism yet. But there is more information if you Google “SuperMID”.

- **Fuel Costs Calculators:**

Try to use a fuel costs calculator to help you estimate the specific fuel costs of your vehicle. We like the one that AAA offers for free on their website: [www.FuelCostCalculator.com](http://www.FuelCostCalculator.com) and [www.AAA.com](http://www.AAA.com) There are also several other websites available with free downloadable gas calculators. We like these:

More fuel cost calculators: Cut and paste these links into your browser. The second one has a log to help you keep track of your gas savings: <http://www.gas-price-calculator.qarchive.org>  
[http://www.soft32.com/download\\_125850.html](http://www.soft32.com/download_125850.html) .

- **Look at the Fuel Economy Ratings when Purchasing Vehicles:**

When it comes time to purchase your next car, look at the fuel economy ratings. The ratings will be listed on the sales sticker on the window of brand new vehicles. If it’s a used car, you can look up the fuel ratings online before you purchase the vehicle. The following websites will help you check Miles per Gallon (MPG) ratings when you are purchasing a used car or shopping for any car at all from home, in the newspaper or online: [www.EPA.Gov](http://www.EPA.Gov) and [www.FuelEconomy.Gov](http://www.FuelEconomy.Gov) : Search “Fuel Economy Ratings”.

- **Heater in the Winter:**

Avoid heater use until the engine has reached operating temperature. Engines run rich until a minimum temperature threshold is reached. Running the heater blower before that has happened will slightly increase warm-up time and increase fuel consumption.

- **Hybrid Festivals:**

Some organizations and fuel economist groups periodically run fuel efficiency rallies where you can hone your skills in competition with others in real time. To learn more and keep yourself updated on this type of “rally” try visiting these sites: [www.HybridFest.com](http://www.HybridFest.com) and [www.GreenGrandPrix.com](http://www.GreenGrandPrix.com) .

- **Track Your MPG (Miles Per gallon):**

Keep track of your gas mileage per gallon, it will not only tell you how far you will go but it can also tell you how far you can go with a full tank of gas and will give you early signs of car trouble. If you regularly get 30 miles to a gallon and it starts to drop down consistently, it is time to get the car checked for potential maintenance problems.

- **Keep a Fuel Log:**

Keep a fuel log so you are actually keeping track of your spending & savings. Put it in your computer or a notebook. Refer back and keep up with how much you're spending. One of the first steps in improving efficiency is tracking fuel consumption. A fuel log also basically helps you stay focused on savings and keeping green! To download a free fuel log online try visiting: [www.BrothersSoft.com](http://www.BrothersSoft.com) . There are several others to choose from when you search [www.Google.com](http://www.Google.com) for "free fuel log downloads".

- **Keep Track of Your Gas Consumption:**

How much gas does your car use? This website will give you excellent gas estimates and more about cars from 1985-2008 at [www.FuelEconomy.gov](http://www.FuelEconomy.gov) if your automobile is not getting the mileage that this site suggest, consider a tune-up.

- **Make Fuel Economy a Game or a Challenge:**

Competing against yourself (or others) to get the best possible fuel economy will do wonders for increasing motivation to learn more, refine your skills, and try harder. Several web sites like [www.EcoModder.com](http://www.EcoModder.com) permit you to track and compare your fuel economy against other drivers, and some organize informal fuel economy challenges.

- **Icy Cars in the Winter:**

Keep the ice and snow cleared off your vehicle as much as you can in the winter time if you live in cold, snowy areas. Ice will weigh the automobile down and will again cause more drag and once again hurt your fuel economy and your bank account. Pick a good car wash that will not scratch your vehicles paint and keep that car cleared of all ice chunks! If you choose to keep the car clear of ice on your own, make sure you are not scratching the paint when removing the ice. Clearing ice will also minimize your use of energy hungry accessories (defrosters), remove an aerodynamic penalty (increased frontal area), and reduce weight (a layer of ice and snow over an entire vehicle can weigh a surprising amount).

- **Starting the Vehicle up....but not until you're Ready to Drive:**

Don't start the vehicle until you're settled in. This means IPOD/Radio fired up and tuned in, seat adjusted, seatbelt on, GPS programmed, mirrors adjusted and passengers settled in as well.

- **Fuel Additives:**

What is a fuel system additive and do they really work? A fuel system additive is something you can put in your fuel system in order to provide some type of benefits. There are a wide variety of additives available. They all claim to do all sorts of wonderful things. From increasing engine power to guaranteeing you pass your emissions test, or giving you better gas mileage. These

additives make some bold statements. But please remember, buyer beware! These products won't always deliver as promised. Example, a fuel additive that promises to make your vehicle pass emissions, will not help if you have major engine problems. However, some fuel additives can be beneficial. You can find the best info for fuel additives for you particular car at the US Environmental Protection Agency website at:  
<http://www.epa.gov/OMS/fuels.htm> .

Can fuel additives really help? Do fuel additives really work? These are both excellent questions. The general answer is yes, fuel additives can help and may work. But, as we have discussed in "What is a fuel system additive?" fuel additives will not always deliver on the promises they make to the public. One of the most valuable additives is fuel system cleaner, or fuel injector cleaner. These additives are formulated to remove deposits that build up on fuel injectors, intake valves, and in combustion chambers. Regular usage of this type of additive can keep these deposits from getting out of hand in your automobile, which will keep your engine running smoothly over the course of its life. Of course, the key here is *regular* usage. If your engine is already having some problems, then multiple treatments may be necessary, and even then it can be too late for a fuel additive to make any difference. If you use a fuel injector cleaner or complete fuel system treatment occasionally, not only will you see a boost in gas mileage, but in your car's overall performance. Fouled injectors vaporize fuel poorly, affecting how completely the fuel is burned.

- **Tax Write-Offs:**

Consider writing off your gasoline expenses with your income taxes. Talk to an accountant about the proper way to expense your gasoline bill and find out if you are eligible for a gasoline write off. Be careful and make sure you are doing this legally and correctly. There are certain jobs out there that will allow you to write off the gas used for your work travels. Get a good accountant, ask around. People with money usually have good accountants. Just ask! You can also research more detailed information about the laws of gas write-offs at [www.IRS.com](http://www.IRS.com) and get help finding an accountant at:

[www.SearchForAccountants.com](http://www.SearchForAccountants.com)    [www.AccountingAisle.com](http://www.AccountingAisle.com)

[www.AccountantsWorld.com](http://www.AccountantsWorld.com) .

- **Clothing:**

Wear more layers and warmer clothes in your car in the winter so you don't have to keep that heat blasted. You will save money and it's better for the environment. Try warming up the heater and then just keeping it on low. Do not blast the heater! You can also use the vents to circulate the warm air that the engine has created and not even run the heat at all.

- **Warming up the Car:**

Avoid excessive warming. Newer model cars 1998 and above are usually designed to run when the engine is cold, so don't worry about warming up the car. You are only wasting gasoline by sitting there with the engine running. If you think you must warm the car up or your owner's manual recommends warming up, then warm up the car for 30-45 seconds only. Years ago, it was recommended that you warm the vehicle up for two to three minutes before you put the car in gear, now you don't have to. Get in and drive. Don't waste gas sitting around with the car running waiting for it to warm up. *Consider this:* In very cold environments, it is recommended to allow the vehicle to idle and warm up a little bit, rather than just start it and take off. You might save gas if you don't, but your engine oil won't do its job until it's fully liquid, so you'll spend more money on overhauls.

- **Air Conditioner:**

Minimize air conditioner use. If you have to, keep the air on low. But, if you are driving at higher speeds, it may be cheaper to run the air on low than having the windows down as the windows down can burn more gas because of the resistance and drag that it creates on the car. At highway speeds, whether A/C is more or less efficient than opening windows will depend on the speed, your vehicle's aerodynamics and A/C design. The car does use more gasoline when you run the air conditioner. Some people say you can run the air until the car gets cool and then just run the fan only, with the air turned off. This is called "Cycling the AC". If

you have to use the air conditioner, set the air flow to re-circulate and manually turn the A/C on and off as needed. For greater efficiency, switch it on when under light engine loads or deceleration fuel cut off and off when under moderate/heavy loads. Some newer vehicles do this automatically. Driving at city speeds, you'll save fuel by using your flow through vents and opening windows.

- **Use a Beaded Seat Cover:**

Beaded Seat covers work surprisingly well as an alternative to or defer the use of air conditioning, by letting air flow behind and beneath you. They keep you from sticking to your seat, and your clothes from sticking to you.

- **Trip Timing:**

Avoid the hottest times of day to reduce A/C use. If you live where the weather is very hot, avoid driving if possible during the peak temperatures of the day when use of the air conditioner is usually required.

- **Shuttle Services:**

Consider using shuttles to and from the airport and to and from work. They can be found online and save huge and they will usually have the air condition and heaters cranked up too. They will also carry your bags for you on a hot day when you don't want to get hot. Try this useful link: [www.ShuttleFinder.net](http://www.ShuttleFinder.net) .

- **Think Twice Before Driving Anywhere:**

Every time you plan a trip ask yourself if the trip is really necessary and try to plan a way to make that trip along with another errand you may have to run. If the trip really isn't necessary, you may want to think twice before using the vehicle for the trip. Every mile you are driving in 2008 costs between 35 and 50 cents. Try to cut down on the number of errands you run one at a time. Also try running errands just one or two set days per week.

- **Organize and “Think Considerably” about your Errands:**

Run your errands on your way to and from work. Find a way to do everything in the straightest line as possible. This will save you on gas and it saves the environment and on oil consumption. Also note: “Combining Errands”; do the longest leg first. When combining multiple trips into one journey, go to your farthest destination first, and work your way back. This ensures the vehicle is warmed up as much as possible before subjecting it to multiple starts and stops. Try to schedule your errands when traffic is least backed up.

- **Appointment Setting:**

Set your appointments when traffic is least backed up or congested. Do not make a doctor's appointment or a sales trip when it's rush hour. As you already know, this cuts down on stopping-and-going and you save on gas. Think about how much worldwide energy is already being burned up with all those cars

sitting in traffic. Don't be a part of it. It's not worth the hassle sitting in traffic and it's wasting endless fuel that could be used 200 years from now.

- **Online Shopping for Household Needs:**

Shopping for household needs online can save on gas as long as the delivery fees are not more than the gas. Some companies deliver free. To find a grocery delivery service near you the following links may help:

[www.TopTenLinks.com](http://www.TopTenLinks.com)

[www.Squidoo.com](http://www.Squidoo.com)

[www.Stretch.com](http://www.Stretch.com)

[www.GroceryCouponGuide.com](http://www.GroceryCouponGuide.com)

[www.Groceries-Express.com](http://www.Groceries-Express.com)

- **Buy in Bulk:**

Buying your home needs in bulk can save trips to store, in turn saving you on gasoline expenses. Better on the environment! We have included some websites that may help you find a company in your area that will help you to save money on bulk purchasing. Try visiting: [www.BulkFoods.com](http://www.BulkFoods.com) or [www.Costco.com](http://www.Costco.com).

- **Sunroofs:**

Please keep in mind when you are considering purchasing that new car, a sun roof helps disturb smooth air flow in turn causing

you to use more gasoline. No sunroofs if you want to be green, stay economical, help the environment and avoid extra problems and expenses with your vehicle's maintenance. Sunroofs can also cause other big problems like leaks, noise, and mechanical break downs. Sunroofs are just not worth the trouble.

- **Younger Drivers in Your Household:**

It is very important that you make the younger drivers in your household aware of the higher gas costs that are associated with driving fast and obnoxiously. Some teens who don't have to pay for the gas may be the drivers likely to waste the most with aggressive driving techniques.

- **Walk or ride your bike to the store if you can:**

Riding your bike and walking is very good for you and it's good for the environment and your bank account.

- **Train and Bus:**

Take the train or the bus if you can, it saves on the environment. It only costs a couple bucks and it's quick and easy.

- **Don't Let the Kids Miss the Bus:**

Make sure your kids don't miss the bus. That extra trip to school in your vehicle means extra gas money. Get the kids out the door early. Being on time is a good quality to learn anyway. I know my mother wasted a ton of gas on this one years ago!

- **Vacations:**

Choose vacation spots closer to home. Wait until you downsize to that hybrid car before you venture off on another long road trip. You will literally save hundreds of dollars on your gas traveling expenses!

- **Look for New Fuel-Savings Tips Classes or Organizations Online:**

Join an environmental organization or mini-class at your local college to learn more tips. Environmentally friendly people will often hold sessions like these for free. Also, there will also always be new groups, agencies and organizations devoted to saving the earth, oil resources, and the environment in general. Look for these groups and websites periodically online.

- **AAA Auto Club Survey: American Automobile Association:**

Every time you go to get in your car remember that AAA (American Automobile Association) did a recent study that said that it will cost you approximately 50-55 cents to drive one mile this year. Keep up with constant surveys and facts like these at [www.AAA.com](http://www.AAA.com) you can also join this amazing auto club for about \$50 per year and receive great driving incentives and emergency roadside service, and if you ever run out of gas AAA will bring you some for free to get you to the nearest gas station! How's that for some free gas?

- **Rental Cars for Vacations:**

If you are going on a trip or a small adventure, you may want to consider renting a smaller car instead of taking your own bigger vehicle. It may be better and gas and it's bad for your car to take it on rough trips anyway. This could save on future problems with your vehicle as well. To find the cheapest rental cars shop around online to find the cheapest possible prices and compare with our top recommended companies for discount rates at the following discount car rental websites:

[www.Expedia.com](http://www.Expedia.com)

[www.PriceLine.com](http://www.PriceLine.com)

[www.CarRentals.com](http://www.CarRentals.com)

[www.HotWire.com](http://www.HotWire.com)

[www.BookingBuddy.com](http://www.BookingBuddy.com)

[www.Kayak.com](http://www.Kayak.com)

[www.BookingBuddy.com](http://www.BookingBuddy.com)

[www.PayLessCarrental.com](http://www.PayLessCarrental.com)

[www.BookingBuddy.com](http://www.BookingBuddy.com)

[www.BookingBuddy.com](http://www.BookingBuddy.com)

- **Rent a Hybrid Car:**

Most large worldwide rental car companies will now give you the opportunity to rent a hybrid automobile. If you would like to contact the largest rental companies directly here are their links:

[www.Budget.com](http://www.Budget.com)

[www.Thrifty.com](http://www.Thrifty.com)

[www.Avis.com](http://www.Avis.com)

[www.Dollar.com](http://www.Dollar.com)

[www.NationalCar.com](http://www.NationalCar.com)

[www.Enterprise.com](http://www.Enterprise.com)

[www.FoxRentaCar.com](http://www.FoxRentaCar.com)

[www.Alamo.com](http://www.Alamo.com)

- **Ride Share Programs:**

Look for “Ride Sharing Programs” online. This is easy on the wallet and easy on the earth. You may actually meet someone cool to ride with that is just interested in helping to save on the wallet and save on the environment like you are. Try these websites to find a match near you:

[www.ERideShare.com](http://www.ERideShare.com) and [www.RideShare.com](http://www.RideShare.com).

- **Carpool:**

Not only do you save gas money, but you may also qualify to drive in the HOV (high-occupancy vehicle) lane. Wave goodbye to the suckers stuck in traffic! To find people to carpool with check out:

[www.ERideShare.com](http://www.ERideShare.com)

[www.CarPoolWorld.com](http://www.CarPoolWorld.com)

[www.RideShare.com](http://www.RideShare.com)

[www.CarPoolConnect.com](http://www.CarPoolConnect.com)

[www.DivideTheRide.com](http://www.DivideTheRide.com)

Also, to get more commuter info online try:

[www.TheCommuterPage.com](http://www.TheCommuterPage.com).

- **Public Transportation - Bus, Train, or Subway:**

Always try to take advantage of your mass transit if you can. You will save thousands every year on gasoline while you spend virtually zero dollars at the pump! To learn more about public transit in your hometown or wherever you may be visiting or vacationing try referring to: [www.PublicTransportation.org](http://www.PublicTransportation.org).

- **Combine Errands:**

Instead of going to the grocery store, going back home, and then picking up your friend later on in the day, only to drive by the grocery store again on the way back; why not tell your buddy he's going to work for his ride...by helping you carry groceries.

- **Keep a List of Errands:**

Keep a list of personal items you need for your home on your refrigerator to save on fewer trips to the store. Get everything in one trip and start avoiding the unnecessary trips.

- **Walk or ride your bike to the store if you can:**

Riding your bike and walking is very good for you and it's good for the environment and your bank account.

- **Top bicycle friendly cities in the world for living and vacationing:**

1. Amsterdam, Holland
2. Portland, Oregon
3. Copenhagen, Denmark
4. Boulder, Colorado
5. Davis, California
6. Sandnes, Norway
7. Trondheim, Norway
8. San Francisco, California
9. Berlin, Germany
10. Barcelona, Spain

- **Change Locations:**

If you're driving 30 miles to work, go work out at a gym, or to shop at your favorite grocery store, you may want to consider working or living somewhere closer. Driving distances should also be a factor, when purchasing a home, or finding a new job. Nobody wants to drive an hour to and from work every day, and that's a surefire way to spend more money on gas.

- **Additives, Gadgets and Devices:**

Rarely do the "Gas-Saving" gadgets ever work and some even decrease fuel mileage. You can waste your money trying to save money. Turn off that next infomercial that claims to increase your gas mileage by 20-30%. Intake twisters, gas pills and fuel line magnets do not help mileage. Even if the mileage improvement claims were true, they often cost enough to negate any potential savings. I have tested dozens of additives and catalysts and have found only four that consistently and significantly increase my car's mileage. You can find further descriptions and test results of these successful additives and gas catalysts in chapter two of this e-book.

- **Carry Loads “In the Vehicle” if Possible - Avoid Towing!**

Try to avoid towing any trailers, if not, minimize towing speeds and adjust your technique to account for the extra momentum the trailer and its load will add.

- **Remove Vinyl Tops:**

Vinyl Tops will cause drag. Rough surfaces disturb otherwise smooth air flow around your automobiles body. The best thing that you can do is buy a car that has smooth look and good gas ratings. Vinyl tops are no good for gas economy and they will rip and tear in the long run anyway causing you to spend even more money on repairs and possibly leaks into the interior of your car. This means long and short term savings for you and once again helping to do what you can in every little way to be friendly to the environment and keeping your automotive habits green. Don't buy cars with Vinyl tops!

- **Walk Between Stops:**

Once you get into town, some of your stops may be near each other. Park between some or all of them and walk or take the trolley.

- **About “Chipping”:**

“Chipping” the car (changing/flushing the ROM in its 'brain') is usually meant to improve power, but often fuel savings are claimed as well. Be paranoid about it. It usually can achieve the power statistics it claims, but possibly at the cost of dreadfully expensive engine and drive-train wear and damage. The wrong chip (or a buggy version of a chip) can result in a dead car that's expensive enough to repair that it's “totaled”. Needless to say, 'chipping' a car definitely voids the warranty.

- **Modifications and Chip - Tuning:**

Most car modifications do not improve mileage. Extra wings add drag. Power improvements often hurt mileage. However, if your car is turbocharged, chip tuning may result in a mileage boost. The mileage boost will be canceled out if you drive more aggressively due to power improvements.

- **Turbo-Charged Cars:**

Turbocharged cars often get better mileage with ethanol blends. This is because the higher (over 100!) octane of ethanol permits more boost, which means more efficient fuel usage.

- **Carry Items on the Back:**

If you have to carry items outside the vehicle, carry them on the back of the vehicle, instead of on the roof or front of the car. Long, skinny items can even be carried beneath some vehicles (with ample ground clearance).

- **Minimize Accessory Loads:**

Minimize use of electrical and mechanical accessory loads when safe and/or practical. *Example:* Lights, defroster, blower, electric heated seats, DVD players/screens, heated mirrors..etc.

- **Clean Out Your Car:**

According to the Federal Trade Commission, "An extra 100 pounds in the trunk can reduce fuel economy by up to 2%." Be sure to take out that bowling ball in your back seat. A clean car means a thicker wallet. Who can argue with that one?

- **Avoid Towing:**

Trailer towing delivers the triple whammy of increased weight, higher aerodynamic drag, and a third (or fourth) set of tires for more rolling resistance. Avoid towing anything if possible.

- **Listen to Slower Music when Driving:**

Leave the speed metal music at home. Fast paced music can make a driver more impatient, more aggressive and likely to speed. At the same time, slower paced music is more relaxing and tends to promote a more sensible driving style while also reducing stress. We recommend a nice smooth jazz station.

- **Note about our Tips:**

Many of these tips change slightly if your engine is turbocharged or diesel. For instance, diesel engines use almost no fuel while idling. Diesel trucks will often be left idling all night to provide heat or power for the trucker inside the cab, at the cost of relatively little fuel. All these tips are well and good while there's still oil in the ground; but one day it will certainly run out or become so horribly expensive that only the rich will be able to afford it. Don't count on government providing the answers in time; get used to the fact that it's a dwindling resource and one that is killing our natural environment.

## Links Section

More websites to visit: Choose the ones you like best, save them, refer to them often for more updated tips and suggestions and updates about the most fuel efficient cars and access the top environmentally aware sites. Always remember to look on my website [www.cheapgasbook.com](http://www.cheapgasbook.com) for an email “newsletter sign-up” type link to get the most updated information, news, and suggestions.

[www.GasBuddy.com](http://www.GasBuddy.com) - Gas Buddy has over 175 websites it uses to help find you the best prices and info on gas.

[www.EHSO.com](http://www.EHSO.com) - Every U.S. governments “Environmental Website” sorted alphabetically by topic or subject area. All EPA Topics and major web pages, sorted alphabetically.

<http://www.world.org/weo/top1000> - World Environmental Organization’s most useful and ranked “Top 1000” Worldwide Environmental Websites.

<http://www.futureofbusiness.info/ten-best-environment-websites-world/> Green Business; News and Information Resource - “Top 10 environmental websites in the world”.

[http://www.readwriteweb.com/archives/top\\_35\\_environmental\\_blogs.php](http://www.readwriteweb.com/archives/top_35_environmental_blogs.php) -Top 35 Environmental Internet Blogs.

[www.PracticalEnvironmentalist.com](http://www.PracticalEnvironmentalist.com) - Useful environmentally friendly news and advice.

[www.GreenCar.com](http://www.GreenCar.com) - Coverage of vehicles and technologies that takes environmental performance into account.

[www.TheAutoChannel.com](http://www.TheAutoChannel.com) - The largest independent automotive research site.

[www.MotorTrend.com](http://www.MotorTrend.com) - Surveys and test of the most recent and the best future gas friendly and environmentally friendly autos.

[www.WiseGeek.com](http://www.WiseGeek.com) - Ask auto questions.

[www.SierraClub.TypePad.com](http://www.SierraClub.TypePad.com) - Get new Green tips free everyday!

[www.SierraClub.org](http://www.SierraClub.org) - Environmental updates. Exploring, enjoying & protecting the planet.

[www.Eere.Energy.gov](http://www.Eere.Energy.gov) - “U.S. Department of Energy” - Energy efficiency and renewable energy information.

[www.Doe.gov](http://www.Doe.gov) - “U.S. Department of Energy” - Stay aware of energy news.

[www.WikiHow.com](http://www.WikiHow.com) - How to manual.

[www.Ase.com](http://www.Ase.com) - National Institute for Automotive Service Excellence.

[www.Dnr.mo.gov](http://www.Dnr.mo.gov) - Missouri department of Natural Resources - Environmental issues are covered.

[www.Progress.org](http://www.Progress.org) - Green friendly economic topics and news.

[www.Edmunds.com](http://www.Edmunds.com) - Endless automotive information.

[www.AutoBlogGreen.com](http://www.AutoBlogGreen.com) - Blog about environmentally friendly cars.

[www.Autos.msn.com](http://www.Autos.msn.com) - Features “Green Central”, a section about getting green driving tips, discovers the latest green technologies and learn to reduce your car's impact on the environment.

[www.Ucsusa.org](http://www.Ucsusa.org) - “Union of Concerned Scientist” – citizens and scientists for environmental solutions.

[www.EPA.gov](http://www.EPA.gov) - U.S. Environmental Protection Agency.

[www.Care2.com](http://www.Care2.com) - News, Video and more for a conscious world.

[www.CoopAmerica.org](http://www.CoopAmerica.org) - Activism, Coop America.

[www.Grist.org](http://www.Grist.org) - Environmental news and commentary.

[www.Aashe.org](http://www.Aashe.org) - Association for the Advancement of Sustainability in Higher Education (AASHE) - is a member organization of colleges and universities in the U.S. and Canada working to create a sustainable future.

[www.Asle.umn.edu](http://www.Asle.umn.edu) - Association for the Study of Literature & Environment

[www.Audubon.org](http://www.Audubon.org) - Audubon - Dedicated to protecting our great natural heritage.

[www.Ban.org](http://www.Ban.org) - Basel Action Network - Earth economics project.

[www.Bioneers.org](http://www.Bioneers.org) - Bioneers - Virtual environmental community with strategies for restoring Earth.

[www.Crle.org](http://www.Crle.org) - Center for Respect of Life and Environment - The work of the Center for Respect of Life and Environment is to awaken people's ecological sensibilities and to transform lifestyles, institutional practices, and social policies to support the whole life community.

[www.Chej.org](http://www.Chej.org) - Center for Health, Environment and Justice.

[www.DumpAndRun.org](http://www.DumpAndRun.org) - Dump & Run - Dump & Run is dedicated to serving the University and College community in waste prevention techniques.

[www.EnviroLink.org](http://www.EnviroLink.org) - EnviroLink - The Online Environmental Community.

[www.EDF.org](http://www.EDF.org) - Environmental Defense - Partnering with businesses, governments and communities to find environmental solutions.

[www.ENature.com](http://www.ENature.com) - The web's premier destination for information about the wild animals and plants of the United States.

[www.Umt.edu](http://www.Umt.edu) - Environmental Ethics Institute, University of Montana.

[www.ENN.com](http://www.ENN.com) - Environmental News Network.

[www.Rachel.org](http://www.Rachel.org) - Environmental Research Foundation.

[www.Oberlin.edu](http://www.Oberlin.edu) - Environmental Studies at Oberlin College.

[www.FOE.org](http://www.FOE.org) - Friends of the Earth - The forefront of the battle to fix the Lieberman-Warner global warming bill.

[www.Gen.Ecovillage.org](http://www.Gen.Ecovillage.org) - Global Eco-Village Network – Eco-Village news and network links.

[www.GreenBiz.com](http://www.GreenBiz.com) - Green Biz – Business, the environment, the bottom line. Free “Green-Buzz newsletter.

[www.GreenCorps.org](http://www.GreenCorps.org) - Green Corps - Field School for Environmental Organizing. Free Newsletter.

[www.GreenPeace.org](http://www.GreenPeace.org) - Greenpeace International Homepage – A group of thoughtful, committed citizens that came together in 1971 to create Greenpeace.

[www.Coba.Usf.edu](http://www.Coba.Usf.edu) - Organization & Environment, International Journal for Eco-social Research. Recognized as a leading international journal for eco-social research and is unique in its emphasis on organizations, institutions, and nature.

[www.EcoBob.co.nz](http://www.EcoBob.co.nz) - Making Eco-Living Easy

[www.Nrdc.org](http://www.Nrdc.org) - Natural Resources Defense Council

[www.NewDream.org](http://www.NewDream.org) - New American Dream

[www.Naaee.org](http://www.Naaee.org) - North American Association for Environmental Education - A network of people who believe in teaching people how to think about the environment.

[www.PlanetArk.org](http://www.PlanetArk.org) - Planet Ark works to show people the many ways they can reduce their day to day impact on the environment - at home, at work and in the community.

[www.Ran.org](http://www.Ran.org) - Rainforest Action Network Introduction - Rainforest Action Network (RAN) is made up of 43 staff members in San Francisco, CA and in Tokyo, Japan, plus thousands of volunteer scientists, teachers, parents, students and other environmentally concerned citizens around the world.

[www.Forests.org](http://www.Forests.org) - Rainforest, Forest and Biodiversity Conservation News & Information - Forest Conservation Archives & Portal: Provides Vast Forest Protection News, Information Retrieval Tools and Original Analysis.

[www.ScoredCard.org](http://www.ScoredCard.org) - Scorecard Home: Pollution Information Site by Zip code.

[www.TheSCA.org](http://www.TheSCA.org) - Earth Vision - Student Conservation Association, Inc. - Actions for a healthy planet.

[www.SustainableGroup.net](http://www.SustainableGroup.net) - Sustainable Group - Manufacturer of a line of environmentally friendly office supplies.

[www.Helsinki.fi/~lauhakan/whale/related.html](http://www.Helsinki.fi/~lauhakan/whale/related.html) - Numerous Whale-Watching-Web/Related Subjects

[www.When.org](http://www.When.org) - The Women's Network on Health & the Environment.

[www.ULSF.org](http://www.ULSF.org) - University Leaders for a Sustainable Future - The Association of University Leaders for a Sustainable Future (ULSF) supports sustainability as a critical focus of teaching, research, operations and outreach at colleges and universities worldwide through publications, research, and assessment.

[www.WestLX.org](http://www.WestLX.org) -Western Land Exchange Project - Research, outreach and advocacy to keep public lands public.

[www.WMF.org](http://www.WMF.org) -The World Monuments Fund (WMF) is the foremost private, nonprofit organization dedicated to the preservation of endangered architectural and cultural sites around the world.

[www.WorldWatch.org](http://www.WorldWatch.org) - World Watch Institute – Vision for a Sustainable world.