

How your hybrid vehicle works

Hybrids use two sources of power: a gasoline engine, and a battery-powered electric motor.

The gasoline engine provides the initial charge for the battery and powers the vehicle when energy demands are high (for example, when climbing a steep hill). When energy demands are low, the electric motor kicks in to power the vehicle.

There are also times when the battery is powering the electric motor at the same time the gas engine is powering the

vehicle. An onboard computer constantly monitors power needs and manages energy flow from these two sources to maximize fuel economy.

In addition to these power sources, the regenerative braking systems on hybrids turn friction into battery-charging electricity. Each time you apply the brakes, you're charging the batteries.

Another way a hybrid vehicle works lies in the body design. Carefully tuned aerodynamics help the vehicle to slip through the air, further reducing energy needs.

For additional hybrid information and more details about the AAA Greenlight Initiative and alternative fuels, visit aaa.com/greenlight.

The AAA Greenlight Initiative

We're committed to promoting the awareness and development of alternative fuels and vehicles and we'd like to hear from you. Please send your questions or comments to greenlight@csaa.com or call (866) 554-9929.

Hybrid Driving Tips



Maximizing performance and fuel economy



Guidance from the AAA Greenlight™ Initiative

Fine-tune your driving skills and drive a greener road.



If you drive your hybrid in exactly the same way you drive a conventional vehicle, you might be missing an opportunity to increase your mileage.

Cruise control The best time to use cruise control is when you're driving long stretches of flat roads. In hilly terrain, it's best to turn the cruise control off and anticipate hills by starting your acceleration early.

Air conditioning On hot days, turning the air conditioning on full blast is not the most effective way to maximize your mileage. But this doesn't mean you must suffer in a hot car.

Using your air conditioning in the max A/C mode will force the gasoline engine to engage. This will certainly reduce your mileage. If you use the A/C sparingly—you can improve your performance. Even turning it off while you're going uphill and waiting until you start downhill to turn it back on will have a positive impact.

Tire pressure Keep your car's tires at their recommended pressure. Driving with under- or over-inflated tires can be unsafe and decrease fuel efficiency.

After-market equipment Hybrids are carefully designed to maximize aerodynamics. By adding bug shields, fender trim, custom wheels and other owner-add-ons, you reduce your vehicle's ability to slip through the air with minimum drag. Even a simple antenna ball or clip-on flag has a negative affect on mileage.

Plan your trips How many errands can you run in one stop? It's best to plan your route to avoid frequent shut downs and restarts. In addition, listen to traffic reports before setting out on a journey and try to avoid heavy commute hours. Maybe you can drive before the temperature rises and requires you to run the A/C. Maybe you know the shortest distance. It may also have the most hills or a very windy section. What are your alternatives? Maybe driving a few miles longer but with less wind and no hills? Give it some thought.

Get up to speed quickly Most experts say that a hybrid has a "sweet spot" at about 45 mph. Granted, you can't drive 45 mph on the freeway. But for every mph over 45, you lose efficiency. So if you drive at 80 mph, aside from this being dangerous and illegal, you are reducing your fuel savings. Steady speed is best. Use cruise control when possible and plan for hills. As you prepare for taking a hill, steadily increase your speed so that you gradually accelerate instead of playing catch-up. Give yourself work space. You want to maintain a constant speed whenever possible. When braking, apply the brakes to maximize the regenerative feature of your vehicle. This is most effective when you can apply the brakes in long, steady brake applications.

Maintenance Just because you own a hybrid doesn't mean you get to skip the maintenance. Oil changes, balancing and rotating tires, and replacing air filters all need your attention. They keep your vehicle

running properly and help protect your investment. And for hybrids, a clean car is a happy car—a clean surface keeps the air flowing smoothly over the body, and helps maximize your gas mileage.

Did you know? As part of its commitment to the Greenlight Initiative, AAA of Northern California, Nevada and Utah is switching its entire fleet of 400 vehicles to hybrids. If you are interested in purchasing a hybrid, check out AAA's Vehicle Purchasing Service at csaa.com or call (877) 228-3722.

