

# Green Maintenance Tips

You can save money and energy—and wear and tear on your vehicle—with proper care and maintenance. Here are the items that most affect fuel economy.

- ❑ **Motor oil.** Top off and change oil as necessary with manufacturer-recommended grade, “energy conserving” motor oils. Doing so can improve fuel economy by up to 2 percent, according to the U.S. Environmental Protection Agency (EPA). Replacing conventional oils with synthetics may offer even greater fuel economy benefits.
- ❑ **Air filters.** Make sure you change your air filter at the end of its recommended lifespan. Replacing a clogged air filter can improve a vehicle’s gas mileage by up to 10 percent, according to the U.S. Department of Energy.
- ❑ **Engine performance.** Enhance fuel economy performance by having engines tuned and spark plugs replaced according to the manufacturer’s recommended schedule. A single misfiring spark plug can cut fuel economy by up to 4 percent, according to the EPA.
- ❑ **Brakes.** Improperly maintained brakes can result in unwanted drag. This unnecessary resistance can have the same effect as driving with a foot on the brake pedal: a dramatic drop in fuel economy.
- ❑ **Warning lights** for “Service Engine Soon” or “Check Engine.” Ignoring these indicators may result in poor fuel economy performance and require expensive repairs. For example, a warning light may indicate a faulty oxygen sensor is sending more fuel to the engine than necessary, which can result in a 40-percent fuel economy decline. A warning light could also indicate a faulty thermostat, which can prevent a cold engine from reaching its normal operating temperature resulting in the unnecessary injection of fuel.
- ❑ **Tire wear.** Replacing worn tires with a manufacturer-recommended size and style can save hundreds of dollars a year. To improve fuel economy performance, consider low rolling-resistance replacement tires.
- ❑ **Tire inflation pressure.** Keeping tires inflated to at least the manufacturer-recommended pressure can improve fuel economy by up to 3 percent, according to the EPA. Under-inflated tires require more energy to roll, meaning more fill-ups.
- ❑ **Unnecessary items that add weight to the vehicle.** Unnecessary weight lowers fuel economy; remove heavy items from your trunk and back seat.
- ❑ **Evaporative emission controls.** Poorly operating evaporative emission controls can fail to capture gasoline vapors and recycle them to the fuel tank. Faulty controls waste gas and degrade air quality.
- ❑ **Transmission.** Properly operating modern transmissions and drive components are critical to vehicle fuel economy performance. Routinely check proper fluid levels and system operation.



Item	Fuel Economy Benefit	Gas Savings	Annual Car Savings	Annual SUV savings
Tires properly inflated	Up to 3%	Up to \$0.12/gal	\$67.92	\$86.52
Check and re-place air filter	Up to 10%	Up to \$0.40/gal	\$226.40	\$288.40
Recommended motor oil	Up to 1-2%	\$0.05–0.08/gal	\$28.30–44.48	\$36.05–57.68
Engine properly tuned	Up to 4%	\$0.16/gal	\$84.90–90.56	\$115.36
Drive sensibly <sup>1</sup>	From 5–33%	\$0.20–1.32/gal	\$113.20–735.80	\$144.20–951.72
Observe the speed limit <sup>2</sup>	From 7–23%	\$0.28–0.92/gal	\$158.48–520.72	\$201.88–663.32
Remove excess weight <sup>3</sup>	1-2%/100 lbs	\$0.05–0.08/gal	\$28.30–44.48	\$36.05–57.68
Loaded roof rack	Reduce FE by 5%	\$0.20/gal <sup>4</sup>	\$88.80	\$115.40
Every 5 mph over 60 mph		\$0.20/gal (\$0.09/gal) <sup>5</sup>	\$50.94	\$64.89

**Total Annual Dollar Savings: \$1,656.86 for cars, \$2,400.97 for SUVs.**

All values are based on a gasoline price of \$4/gallon.

<sup>1</sup> Assuming that driving sensibly is no “jack-rabbit starts” and no wide-open throttle accelerations.

<sup>2</sup> The assumption made for observing the speed limit was the people generally speed across all types of driving, both city and highway. For example, going 35-40 mph in a 25 mph speed zone and going 70 mph on a highway that is limited to 55 mph.

<sup>3</sup> This estimate is based on a consumer carrying a tool kit and a set of golf clubs. These two items were actually measured and came out at a weight of 90 pounds.

<sup>4</sup> The fuel economy savings estimate for a loaded roof rack was not given full credit in this analysis. It was not reasonable to assume that a consumer drives all year long with a loaded roof rack. So, the assumption was made that 3,000 miles of the average 15,000 miles per year was done with a loaded roof rack. Then the credit was given for 12,000 miles not driving with a loaded roof rack.

<sup>5</sup> The EPA estimate did not specify the assumption on the losses associated with adding 5 mph increments over 60 mph. To make this estimate more realistic, the assumption was made that the benefit of going slower only applied during highway driving, which according to EPA is 45% of the time.



# 6 Green Driving Tips

**Avoid quick starts and aggressive driving.** A smooth, steady speed saves gasoline and reduces wear and tear on the engine, tires, transmission and brakes.

**Slow down!** Fuel economy decreases about 1% for each mph over 55. Driving 65 mph vs. 75 miles mph, for example, increases fuel economy by about 10%.

**Use overdrive and cruise control.** Overdrive gears slow engine speeds, saving gasoline and reducing wear. By helping to maintain a constant speed, cruise control reduces gasoline consumption. Use both features only when safe and appropriate.

**Combine trips when possible.** Your engine runs more efficiently once it's warmed up, so avoid making multiple short trips. Stop-and-go driving also burns more gasoline. Avoid driving during rush hour whenever you can.

**Reduce drag.** Remove roof racks and other items from your vehicle when you're not using them.

**Avoid unnecessary idling.** In addition to contributing to engine wear and tear and air pollution, consider that when your vehicle is idling, you are getting 0 miles per gallon of gasoline you use.

PLUS, 6 GREEN DRIVING TIPS!

# GREEN CHECKUP



## Maintenance Tips to Help You Save Gas



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