How to improve winter fuel economy

Many motorists notice that their vehicles seem to get less miles per gallon in cold weather than in warm weather. That's not a trick of the brain, as studies have shown that cars do, in fact, have poorer fuel in economy in cold weather.

According to the United States Department of Energy, fuel economy tests have indicated that, when driving in short-trip city driving, a conventional gasoline car's gas mileage is about 12 percent lower at 20 F than it would be at 77 F. The disparity is even greater in hybrid vehicles, which can see their fuel economy decline by roughly 34 percent when driven at 20 F. Before drivers can understand how to improve their winter fuel economy, it's beneficial to learn why cold weather has such an adverse effect on a car's fuel economy.

A host of factors combine to reduce fuel economy in the winter. When temperatures dip, engine oil and other drive-line fluids also get colder, and this increases engine and transmission friction. That forces the vehicle to work harder and use more fuel. An engine also takes longer to reach its most fuel-efficient temperature when the weather outside is cold. This won't have too great an impact on fuel efficiency when taking long trips, but the shorter the trip the less economical the vehicle's use of fuel will be, as a shorter trip means the vehicle is spending a larger percentage of the overall drive at a less fuel efficient temperature.

Another reason fuel economy suffers in the winter is the necessities and certain creature comforts drivers need when driving in the cold weather. Windshield defrosters and vehicle heating systems use a substantial amount of power, and that usage forces the vehicle to expend more energy and use more fuel. And while many drivers consider heated seats one of the greatest automotive inventions known to man, those seats also use up a lot of power that negatively impacts fuel economy.

But factors outside the vehicle also impact its fuel economy in the winter. For example, colder temperatures decrease tire pressure, and that increases roll resistance, which means the car must work harder and use more fuel to get down the street than it would if it were riding on fully inflated tires in the summertime. Cold air also is more dense than warm air, and that increases aerodynamic drag on the vehicle, which then needs to use more fuel to counter the increased drag.

So what can be done to improve fuel economy in the winter? Fortunately, drivers can take several steps to do just that.

• **Park the vehicle in a garage.** Leaving your car in the driveway in the winter means you might have to dig the vehicle out come winter snowstorms. But that's not the only inconvenience of parking your vehicle outside in the winter, as doing so can adversely affect its fuel economy. When possible, park the car in the garage, as this increases the initial temperature of the engine, engine oil, drive-line fluids, and the vehicle's cabin. This can shorten the time it takes for the engine to reach its most fuel-efficient temperature while decreasing the engine and transmission friction that negatively impacts fuel efficiency.

• **Disregard conventional wisdom.** Conventional wisdom has long suggested that idling a vehicle for several minutes will warm up the engine more quickly than simply driving. But many vehicle manufacturers now recommend that drivers idle their vehicles for no more than 30 seconds, noting that idling the car unnecessarily wastes fuel and that driving the vehicle is the fastest way to warm up its engine. If you must warm up the vehicle, stick to the now widely accepted guideline that recommends idling for no more than half a minute.

Another nugget of conventional wisdom motorists may want to ignore concerns the motor oil they use in the winter. Many vehicle manufacturers now recommend a specific type of oil to use when driving in cold weather, so follow that advice instead of adhering to past practices that may not have been as fuel efficient.

• **Monitor tire pressure.** As noted, colder temperatures decrease tire pressure, so drivers should monitor their tire pressure regularly throughout winter to keep their vehicle safe and to ensure they are not wasting fuel.

• **Remove the roof rack.** Summer adventurists who love tying their mountain bike or kayak to their vehicles' roof rack before heading off to explore parts unknown should remove those roof racks when the temperatures dip. Roof racks increase wind resistance and decrease fuel economy, so remove them during the offseasons.

Fuel economy will almost certainly decrease when the mercury drops. But drivers can employ a number of strategies to make their vehicles more fuel efficient in cold weather.

Don't be a distracted driver

Distracted driving can be very dangerous. Diverting one's attention from the road for mere seconds can have serious, and potentially fatal, consequences.

The Centers for Disease Control and Prevention have found distracted driving kills more than 15 people each day while injuring more than 1,200. Any activity that takes attention away from driving is considered a distraction. These include taking your hands off the wheel, daydreaming or engaging in any behavior that takes your eyes off of the road. Certain activities are known distractions, and understanding which habits can be dangerous and making strides to correct behaviors can help save lives, prevent injuries and reduce accident-related expenses.

A study by the National Highway Traffic Safety Administration and the Virginia Tech Transportation Institute indicates 80 percent of crashes and 65 percent of near-crashes in the United States involve some form of driver distraction. This distraction took place a mere three seconds before the vehicle crash. An Allstate Canada marketing survey of 1,605 Canadian adults conducted between July 26 and July 28 found that, although the vast majority of Canadians thinks driving while distracted is unacceptable, nearly three out of four Canadian drivers admits to engaging in a behavior that is considered a distraction. That is perhaps in part because drivers are not aware just how distracting some the following behaviors truly are.

Using mobile phones

Leading the list of the top distractions behind the wheel are mobile phones. Phones now do more than just place calls, and drivers often cannot pull away from their phones, even when driving. According to the California Department of Motor Vehicles, studies have shown that driving performance is lowered and the level of distraction is higher for drivers who are heavily engaged in cell phone conversations. The use of a hands-free device does not lower distraction levels. The percentage of vehicle crashes and

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