ENERGYWISE[SM]
Use less. Spend less. Do more.

EnergyWise[SM] Tip: Engine Block Heaters

Nothing can be more aggravating in the winter than jumping into your vehicle and turning the key in the ignition, only to find the engine will not start. And it is bitterly cold outside! Unfortunately, three things have happened under your hood as a result of the bone-chilling weather.

First, your gasoline will not evaporate as quickly when it is cold. Vaporization is necessary for combustion to properly occur. Second, oil becomes much thicker in cold weather. Thicker fluids take more effort to pump. Finally, batteries have problems with the cold, too. Chemical reactions inside a battery produce the electrons needed to power the engine's starter. Since these reactions are occurring more slowly, there are fewer electrons flowing to the starter. Fortunately, Andrew Freeman of Grand Forks, North Dakota came up with a remedy for these problems in the 1940s: the electric engine block heater.

But remember! If you do not pay attention to how you use this nifty device, it could end up costing you each winter more than twice its initial purchase price. You may be tempted to "plug" it in when you get home every day so your vehicle will start easily the next morning. If you are using a 500-watt heater for 12 hours per day from November through February, you can expect to pay around $100 for this convenience. Here are a few tips for managing that cost.

Unless it is going to be colder than 10º or 15ºF outside, it is usually not necessary to plug in your vehicle. The electronic fuel and ignition systems in today's vehicles automatically adjust to compensate for cold temperatures. At this point, the best way to warm your engine is to drive gently for the first couple of minutes. Do not rev your engine! That is the worst thing you can do, because you are putting a lot of strain on the engine at the very time it is least prepared to handle it. Not to mention, it wastes fuel and releases more emissions due to inefficient combustion.

Similar concern can be expressed for starting your vehicle and allowing it to idle for five to 10 minutes before driving. You may think you are doing your car and yourself a favor by "heating" things up before you go, but that is not necessarily true. The greatest amount of wear and tear on an engine occurs when it is first started. Idling wastes gas and creates more air pollution.

Consider using a timer on your heater to reduce unnecessary usage. Research done by the Agricultural Engineering Department of the University of Saskatchewan has shown that operating a block heater for longer than four hours prior to starting a vehicle is a waste of energy. It was found that engine coolant temperature increased by about 36ºF during a four-hour period. However, continued use of the heater for an additional one to two hours only achieved an additional 3º to 5ºF increase.

You may also want to consider an engine heater with reduced wattage. Finally, electric battery blankets typically draw less power than block heaters and still condition the battery to provide ample electrons that will get the engine started when it is bitter out.

Having peace-of-mind that your car will start on the coldest days should not have to cost you an arm-and-a-leg. By making some EnergyWise[SM] choices this winter, you can be assured you will get to your destination and be energy efficient at the same time.