

Idle Impacts  
by Erica Hellen, Kerr Center Intern



Photo: [www.tsunamigreen.com](http://www.tsunamigreen.com)

Here in Poteau, most people will tell you that if a vehicle runs on diesel, you should leave it running when you stop because it wastes more fuel and is bad for the engine to turn it on and off. Admittedly, that's what I've thought for a long time too, because that's what I've always been told.

But lately I've been wondering - if it's better for your vehicle to leave it running, what about the emissions from idling and the subsequent effects on air quality and greenhouse gases? And just how much fuel is being used to keep it idling?

While riding around in the Mule or Kubota here at the Kerr Stewardship Ranch, I often have to stop for short periods of time to do things like feed the goats, check the cattle, run in and grab a cup of coffee, discuss something with a coworker, water the plants, etc.

The Mule runs on gas, and the Kubota runs on diesel. So, deciding whether it's best to leave them running or turn them off and on is always a dilemma.

This dilemma then leads me to wonder if there are also different management

practices for various vehicles, like ATV's, cars and trucks, and tractors, new and old. I decided to devote some time to researching what is really going on and to answer the age old question: To Idle, or Not to Idle?

Before I began, I assumed there would be a lot of disparity among sources, considering the varying recommendations I've heard over the years. To my surprise though, the overwhelming and consistent answer to that question is *Not to Idle*. Indeed, **regardless of the vehicle – ATV, diesel car/truck, gas car/truck, or tractor – it's best to turn it off if you think you'll be stopped for ten seconds or more.**

Exceptions include being in traffic that may resume at any moment; operating functional features of a vehicle (e.g. hydraulics on a tractor or safety lights for service vehicles); emergency situations; and extreme low or high temperatures.

A common theory is that turning your car off and on instead of letting it idle will damage your engine. This used to be true twenty years ago, when most cars had carburetors and fuel poured into the cylinders on a cold start.

After running on a cold start for 15 or 20 minutes, all that excess gasoline diluted the oil, which would shorten the life of the engine and catalytic converter.

These days though, vehicles are equipped with electronic ignition with an automatic computer system to inject the exact amount of fuel instead of just pouring it into the cylinders.

So now, over the course of a year, a vehicle will accrue only about \$10 worth

of damages if it is turned off and on instead of left idling. With a \$30 to \$50 savings in fuel costs and fewer emissions in the air, it's better on the wallet to turn it off.

Each minute a vehicle sits idle uses up about 2/10 of a gallon of fuel. That may not sound like much, but consider all the circumstances in which people idle in the course of a day: warming up the car, waiting in a drive-through, sitting in line at the ATM, picking up kids from school, running a quick errand, etc.

Multiply that times millions of other people doing the same thing, and you've got a lot of fuel going down the drain.

It is pretty common practice for people to let their cars warm up for several minutes on cold days, because of the myth that it's better to let the engine warm up before driving. Actually, a car needs no more than 30 seconds to circulate the engine oil before slowing driving away. Anything longer wastes fuel and puts unnecessary emissions into the air.

People forget that a car is not just an engine, but an assemblage of many parts. Letting your engine warm up for 20 minutes doesn't do a thing for your tires, transmission, wheel bearings or other moving parts.

Not to mention, the catalytic converter doesn't function at its peak until it reaches between 400°C and 800°C. So, the best way to warm the engine and all other components is to drive.

In fact, letting your vehicle idle can actually cause damage. While idling, the engine is not running at its peak

operating temperature, which means the fuel may not undergo complete combustion. This causes build-up of residues that can contaminate your engine oil and damage parts if not regularly maintained.

For example, fuel residues often accumulate on spark plugs. The more you let your vehicle idle, the more the plugs' average temperature drops. This means they will get dirtier, faster. Build-up like this can increase fuel consumption by four to five percent.

Frequent and lengthy idling can also allow water to condense in the vehicle's exhaust. This can lead to corrosion and reduce the overall life of the exhaust system.

Idling not only wastes fuel and damages your engine, but those emissions are going straight into the atmosphere. Even diesel engines, which use about a third less fuel while idling, are still emitting noxious fumes.

Accumulation of greenhouse gases contributes to global warming and also affects air quality. In fact, parents who sit idling in their cars while waiting for their kids to get out of school may be doing more harm than they realize.

Children are more vulnerable to poor air quality because their growing bodies breathe faster and inhale more air per kilogram of body weight than adults. More greenhouse gases mean more respiratory problems and higher rates of asthma, in addition to the multitude of environmental problems caused by global warming.

Many farmers naturally raise questions regarding older tractors which may not

reliably or easily start up if turned off and on repeatedly. And the answer is really the most logical one: if the chances are good that your antique tractor won't start back up again if you turn it off, go ahead and leave it running.

But try to keep the idle time low, and don't stop for unnecessary tasks. Be conscious of the hefty emissions being given off by such a large vehicle, and perhaps consider replacing the old one with a more reliable and efficient model.

To make my research more interesting, I decided to consult radio's favorite car gurus, Click and Clack of the NPR show Car Talk. I've been a fan of the show for a long time, and knew that these two characters would shoot me straight.

Sure enough, they confirmed my findings and recommended that vehicles always be turned off instead of idling. They said even the Kubota, which runs on diesel, should be turned off because although it uses less fuel to idle, idling can still damage the engine and release harmful emissions. Sounds pretty familiar.



Photo:

<http://lettersfromahillfarm.blogspot.com>

From the experts themselves: "Some people have heard a myth that it takes

more gas to start a car than to run it. So they use that as an excuse to leave a car idling. It's complete B.S. If you're stationary for more than a couple of minutes, shut it off, and save gas.

"This tip also applies to warming up the car. Unless it's below freezing, cars don't need to be warmed up at all. Driving them gently is the best warm up there is. If it's 25 degrees out, you might want to let it warm up for 30 seconds. If it's 10 degrees out, warm it up for a minute. If it's -10 degrees out, move somewhere warmer."

Considering that Tom and Ray have been dishing out car information for over 30 years now, I figure they're a reliable source.

Conveniently, our Oklahoma temperatures are pretty moderate, so we rarely have a real excuse to keep our vehicles idling for a long period of time. Although we don't have any laws restricting idling, there are 21 states that do. Some states restrict idling to no more than five minutes per day, some to no more than three minutes and punishable with \$300 - \$2500 fines.

Regardless, it is apparent that idling causes more of a problem than we have realized in the past. We would all do well, especially here at the Kerr Center to be more conscious about leaving our vehicles running.

So there you have it: the answer to that mythical question. Going to stop for more than ten seconds? Shut 'er off.

## Sources

### Car Talk

<http://www.cartalk.com/content/columns/Archive/2003/May/03.html>

### Consumer Energy Center

<http://www.consumerenergycenter.org/myths/idling.html>

### Consumer Reports

<http://www.consumerreports.org/cro/cars/tires-auto-parts/car-maintenance/get-the-most-mileage-for-your-fuel-dollars-406/>

### Edmunds.com

<http://www.edmunds.com/advice/fueleconomy/articles/106842/article.html>

### Environmental Protection Agency

<http://www.epa.gov/otaq/smartway/documents/statelaws.pdf>

### Federal Trade Commission

<http://www.ftc.gov/bcp/edu/pubs/consumer/autos/aut10.shtm>

### Hamilton County Environmental Services

<http://www.hcdoes.org/airquality/Anti-Idling/IdleFAQ.htm>

### Lexington, Massachusetts Health Department

<http://ci.lexington.ma.us/OCD/Health/Engine%20Idling.htm>

### Mother Earth News

<http://www.motherearthnews.com/Ask-Our-Experts/Green-Transportation/Car-Engine-Warm-Up.aspx>

### Project Green

<http://www.greenrightnow.com/kvue/tag/idling/>



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