

# It All Adds Up to Cleaner Air

## **Emissions and Idling Questions Recap**

To get answers to the questions listed below, a literature search was conducted and phone calls were made to the Ford Motor Company, General Motors, American Honda, Toyota, the American Automobile Association of WA, the Auto Alliance as well as the Automotive Service Association of America. In each case, the corporate offices were called. We then asked to speak with the public relations and/or environmental affairs offices. Once a contact was made on the phone, a detailed e-mail was sent to a representative from each organization. Each of the e-mails was followed up with a phone call and subsequent e-mails depending on the responses are lack thereof. Certain organizations did not respond and others responded but asked that their names not be used for legal reasons.

### **What is the break-even time for fuel consumption idling versus restarting?**

One minute according to the EPA

Twenty seconds according to Ford's Eco-Driving Program in Europe

### **Is there a difference in fuel consumption of a car idling versus running?**

Idling consumes more than driving according to Auto Alliance, Ford, AAA WA

### **Is there a difference in emissions of a car idling versus running?**

About the same. If there is a difference, more emissions when idling versus running if the vehicle is older – Ford, AAA WA

### **Does an engine need to be warmed up before driving?**

No – Ford, Auto Alliance

### **Is it different for diesel?**

Diesel engines do not need to be warmed before driven unless it is very cold outside, and even then, only for less than a minute – Ford, Auto Alliance, AAA WA

### **How long can people operate electric equipment—like a CD player, radio, or windshield wipers—without the car running?**

About an hour (with a full charged battery) – Ford, Auto Alliance, AAA WA

### **Does the engine need to be running for the heat/AC to work?**

Yes – Ford, Auto Alliance, AAA WA

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### **Do emissions levels change as the engine warms? If yes, then how?**

Engine temperature is not as important as catalyst temperature. Emissions are higher until the catalyst reaches the proper temperature (new cars typically require 20 seconds to a minute to heat a "cold" - ambient temperature - catalyst to 700°F) and then practically go to zero. Emissions will stay low as long as the catalyst stays hot. When the vehicle is turned off, the catalyst will cool slowly - when restarted, even quite a while later, it will reheat more quickly than during a "cold start" which keeps restart emissions very low relative to the "cold" start emissions. – Ford, Auto Alliance, AAA WA

### **Does frequently restarting the car place wear and tear on the starter/ignition?**

No assuming the start/re-start is not excessive – Ford, Auto Alliance, AAA WA

## **Follow Up Questions & Answers**

**We know present day vehicles do not need to be warmed, i.e. - turn the key and go. My question: what year vehicles does this apply to - such as it is for vehicles produced after a certain date, e.g. - 1985?**

Vehicles produced in the mid-80's and later have direct injection engines, which replaced carbureted engines and these vehicles do not need to be warmed up - Ford

**How long does it take for a "warmed up" catalyst to completely cool down? And if it is only partially cooled, let's say 400 degrees F, does it then heat up to full temp almost immediately?**

Full cool down can take up to 12 hours; in a test case scenario, a vehicle driven on a highway then shut down for 10 minutes, had significantly less emissions than an engine from a "cold start" - Ford

**According to a study done in Ontario, Canada, ten (10) seconds of idling uses more fuel than restarting the engine. Do you agree with this statement?**

Cannot agree or disagree with this statement, stand by answer given previously which was one minute according to the EPA and 20 seconds according to Ford's Eco-Driving Program in Europe - Ford