How idle time impacts engine maintenance

Power Stroke® Diesel engines provide unmatched performance and durability, but they also require regularly scheduled maintenance. Power Stroke Diesel engines and Super Duty® pickups are used in a large variety of demanding applications. Depending on the application of the vehicles, maintenance intervals may vary. Some of the more common applications of Super Duty Trucks and Econoline Vans require the engines to idle extensively. With these applications, it is important to understand how idling impacts certain regular maintenance intervals.

The 6.0L Power Stroke Diesel uses compressed engine oil to actuate the fuel injectors and deliver fuel into the combustion chamber. In order to achieve the desired fuel pressure, the engine oil is repeatedly compressed to levels above 3,000 pounds per square inch (psi).

This process of oil compression takes place during all duty cycles of engine operation. This means that whether the vehicle is towing a heavy load or idling at a job sight, the oil is being compressed repeatedly.

Therefore, at idle, the oil becomes fatigued although the vehicle's odometer reading remains unchanged, making maintenance intervals based simply on miles driven inadequate.

What exactly is extended idling?

Ford Motor Company defines extended idling as follows:

- Over 10 minutes per hour of normal driving
- Frequent low speed operation
- Sustained heavy traffic less then 25 MPH
  - One hour of idle time, is equal to approximately 25 miles of driving

If any 6.0L powered vehicle falls into the above categories it is classified under Severe Service Operations and thus the following maintenance intervals are suggested in the Owner's Manual:

- Oil Filter: 5,000 miles, 200 engine hours, 250 gallons of fuel or 3 months (whichever comes first)
- Fuel Filters: 10,000 miles, 400 engine hours or 6 months (whichever comes first)

Example: Each day a certain vehicle averages 50 miles driven and 6 hours of idle time. Here's how its maintenance schedule would look different based simply on miles driven:

- 5,000 miles recommended interval divided by 50 miles driven per day would result in a scheduled oil change every 100 days
- Factoring in the idle hours on those 100 days: 6 hours of idle time per day at an estimated 25 miles per idle hour (from above; one hour of idle time is equal to approximately 25 miles of driving) results in 15,000 simulated miles.

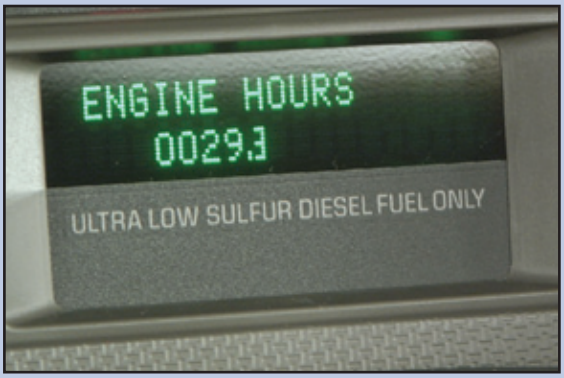
Conclusion: after 100 days the engine oil actually has 20,000 miles of wear! If this vehicle were to perform scheduled maintenance based on engine hours instead of miles driven the interval would change to approximately 30 days.

Why is this important?

To ensure proper fuel injector performance and durability the engine must be maintained properly. Extended oil change intervals may cause injector damage that may lead to reduced performance, reduced durability and possibly component failure.

What can I do?

All F-Series Super Duty trucks built in model year 2005 and after are equipped with hour meters in the dash instrument cluster from the factory. In the photo to the right you will see an example of an hour meter as seen in a 2008 Super Duty. Take a look at how your vehicles operate and ensure that your maintenance intervals match that of those recommended by Ford Motor Company. Ultimately, you can improve your engine's performance; reduce downtime and cost of ownership by making sure that you are maintaining it properly.



In addition to oil, oil filter & fuel filter maintenance, the engine coolant system nitrite level should be checked at the mileage or equivalent hour intervals specified by the maintenance schedule. For example, when operating the 2009 Super Duty 6.4L Power Stroke® diesel engine equipped truck under Special Operating Conditions, coolant nitrite level should be checked every 20,000 miles or 800 hours of operation.

Ford POWER STROKE DIESEL

Ford GENUINE PARTS

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