



# **Diesel Engine Emissions Regulations & Effects on Lube System FAQs**

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**What is Ash?**

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**Are all '07 trucks equipped with '07 certified engines?**

No. Many engine manufacturers have built inventories of '06 engines that will be used in many '07 vehicle chassis. The Environmental Protection Agency (EPA) regulations apply to the engines themselves, and not the vehicle. A '07 vehicle with a '06 engine is not required to use ultra-low sulfur diesel (ULSD). The EPA has released a statement supporting this for fleet owners.

**What can I expect the service intervals to be on '07 engines?**

Check your Operations and Maintenance manual for specific recommendations for different oil types. In general, using CJ-4 oils and ULSD will allow maintenance intervals similar to pre-'07 engines.

**What is Ash?**

Trace elements remaining from lube oil additives after the combustion process, consisting of calcium, zinc, phosphorous. Ash plugs diesel particulate filter (DPF) devices.

**What is Low Ash Oil?**

It has lower amounts of trace elements in the lube-oil additives, including calcium, zinc and phosphorous which, when burned, forms less ash. CJ-4 is a low ash oil.

## **Are API CJ-4 oils backwards-compatible?**

Yes, API CJ-4 oils are designed for use in new engines as well as the existing (pre-'07) on-highway engines using ULSD. As always, users should seek guidance from their engine or vehicle manufacturer regarding specific service recommendations, especially when using higher sulfur fuels.

## **What is Sludge?**

Sludge is the organic (carbon based) byproducts of combustion: resins, soot, unburned fuel and moisture. Excessive amounts or rapid formation of sludge may plug oil filters, create deposits within the engine, cause poor oil circulation and increase engine wear.

## **What is Soot?**

A hard carbon particle, sub-micron in size, formed as a byproduct of the combustion process. Soot can cause wear in highly loaded components in an engine, such as fuel injector adjuster screws, push-rod ball ends, valve-train, tappets, etc.

## **What is TBN?**

It means Total Base Number – A measure of oil's remaining acid control properties. CI-4 oil has an initial TBN of between 11 and 12, while CJ-4 oil has an initial TBN of between 8 and 9.

## **What happens if I use CI-4 oil in my '07 certified engines?**

CI-4 oil contains more ash than the recommended CJ-4 oil. The higher ash content of CI-4 oil will increase the ash loading of the Diesel Particulate Filter (DPF) and shorten the cleaning intervals.

## **Can I use CJ-4 oil in older (2006 and previous) engines?**

Yes you can, however, if you use CJ-4 oil, you must also use ULSD fuel. ULSD fuel and CJ-4 oils are designed to work together. If you use CJ-4 oil in an older engine with LSD fuel at 500-ppm, you may need to reduce your oil drain interval. Check your Operations and Maintenance manual for specific interval recommendations.

## **What are the biggest concerns with lube filtration for 2007 engines?**

As in the past, soot and sludge are not going away, and in some cases may actually increase due to the increased exhaust gas recirculation (EGR) rates, and the desire to continue to extend service intervals. Follow the engine manufacturers' service interval recommendations, continue to use an effective oil analysis tool, and ensure your filtration products have high sludge holding capacity. Fleetguard Venturi™ Combo filters are designed for just these applications, and are insisted upon for Cummins engines running extended service intervals. For more information on Venturi™ Combo oil filters, visit [cumminsfiltration.com](http://cumminsfiltration.com).

