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Diesel Engine Oil Specifications: Making Sense of CK-4 & FA-4

The API CK-4 and FA-4 diesel engine oil specifications are designed to help meet tight regulations while providing excellent wear...



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Hardworking truckers and diesel enthusiasts have a ton of money wrapped up in their rigs. A new semi can easily cost nearly \$200,000, while turbodiesel pickups can eclipse \$60,000, and more with a few modifications. For that reason, the topic of diesel regulations often elicits an earful. The good news, however, is that advances in diesel technology in response to regulations have resulted in diesel engine oil specifications that promise improved engine protection compared to previous specs.



Engines are made with **new materials**, produce **more horsepower** and **torque** than ever, **run much hotter**, operate under **higher boost pressure** and can burn up to **20% biodiesel**.

These advances are great for diesel owners, but they place new demands on **diesel oil**. And these demands come in addition to the ongoing requirement from enthusiasts and professionals for increased engine protection.



Upgraded protection for older & newer diesels

Meeting the demands of the latest diesel engines means engine oil must offer increased protection compared to prior generations of oil technology.

This added performance applies to older diesel vehicles as well as 2017 model-year and newer diesels.

Diesel engine oil specifications (API CK-4 & FA-4) take divergent paths

To meet regulations for increased fuel economy and reduced emissions, 2017 model-year and later diesels rely on a combination of engine technology and unique oil technology. Some can use oils formulated with a lower viscosity than traditionally used (e.g. 15W-40) to meet the demand for increased fuel economy and reduced emissions without sacrificing wear protection.

The American Petroleum Institute (API) has established its FA-4 performance specification for **2017 and newer diesels**. Due to the oil technology needed to meet low-viscosity requirements, API FA-4 oils can NOT be used in diesel engines made prior to 2017 unless recommended by the engine manufacturer.

For 2017 model-year and older diesels, where the engine manufacturer does not allow for use of FA-4 oils, the API has established its CK-4 specification.

The following table outlines the two specifications. Note that model-year recommendations are a guideline – check the owner's manual for specific requirements.



compete profitably in markets that demand peak reliability and efficiency.

New API CK-4 and FA-4 Diesel Oil Specifications

Model Year	2017 & Older	2017 & Newer
API Specification	CK-4	FA-4
OEM recommendations (check your owner's manual)	CK-4 only	Allows CK-4 and FA-4
Compatibility	Offers more protection and is backward compatible with API CJ-4, CI-4+...	Do not use in 2016 model year or older vehicles, or where API CJ-4, CI-4+... are specified
Viscosity range	Wider range of viscosities, including traditional heavier viscosities: 15W-40, 10W-30, 5W-40	Lower viscosities: 10W-30 and possibly 5W-30
Protection upgrade (CK-4 and FA-4)	• More piston-scuffing protection for reduced wear • Better thermal control to resist oil thickening, aid in cooling and reduce wear • Improved shear stability to help prevent oil from thinning for maximum resistance to oil consumption and wear • Enhanced aeration control helps prevent foam, which promotes heat resistance, oil-pump efficiency and protection against wear	

To find the right AMSOIL synthetic diesel oil for your application, head over to [AMSOIL.com](https://www.amsoil.com) and use our Product Guide.

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What Does Oil Viscosity Mean

Oil viscosity is the measure of its resistance to flow. How quickly or slowly motor oil flows affects how well it protects your engine.

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