

AMSOIL Motor Oils Meet New SL/GF-3 Specifications

Work on the new GF-3/SL engine oil classification was initiated by automakers back in 1995 when they were facing ways to meet tough governmental regulations in regard to fuel mileage and emissions. They wanted engine oils that boosted fuel economy without sacrificing wear protection and emission control systems. They also wanted better oxidation control to reduce deposits in an engine's hottest, most critical pathways. In the process of meeting these new guidelines, it was discovered that many of the tests used were (1) out-dated, (2) redundant, and (3) performed on equipment for which there were no parts in existence. In short, these tests are dead. Therefore, all new tests were designed with the automakers, oil companies, additive manufacturers and the American Petroleum Institute having a voice in how the tests should be run and what the operational parameters should be. The processes and standards were contentious and all the deadlines were demolished.

In July of 2001, however, the new GF-3/API-SL engine oil specification will finally go into effect. According to Lew Williams of Lubrizol Corp., "It's definitely a significant upgrade over GF-2 [current oils] in key performance parameters of fuel economy, oxidation thickening, deposit control and oil consumption/emissions systems protection.

"In fuel economy, there is a definite improvement. Fuel economy durability is now a part of the category, a goal of the OEMs and EPA. The fuel economy engine test, Sequence VIB, is very robust."

The new GF-3/SL oils have improved fuel economy somewhere between one half and a full percent over GF-2/SJ. That may not sound like a lot, but on a national basis, just a 0.6 percent gain is equivalent to having the fuel for an extra 23,000 passenger cars. An interesting aspect of the VIB fuel economy test is that it measures both initial fuel economy (fuel economy improvement after just 16 hours of aging) and fuel economy durability (fuel economy improvement after 96 hours of aging). Thus, it assesses the fuel economy of engine oil aged in the crankcase for the equivalent of 4,000 miles. Fuel economy durability is a significant new concept that helps to differentiate GF-3/SL oils from their predecessors and represents a significant change. Aging is accomplished by running an engine on a stand for a measured length of time.

"In emissions systems improvement," continues Williams, "one aspect didn't happen: a new OPEST test [for oil's effect on emissions systems]. But controlling oil consumption did happen. The less oil the engine burns and runs across the catalyst, the longer the catalyst will function properly, and we accomplished that through volatility control. This means that you'll have less oil

consumption and therefore less stress on the catalytic converter. So one aspect of emissions systems improvement and durability was addressed successfully."

Substantial improvements in addressing high-temperature deposits were made, as well as major improvements in oxidative stability. The new GF-3/SL oil's resistance to high temperature burn-off and deposit formation is considered a major step forward. Although oxidative stability had not been specifically identified as a need, it's tied indirectly with the improved retention of fuel economy because if the viscosity increases you can't maintain fuel economy improvement over the life of the oil.

So in the area of volatility control, the goals of GF-3/SL were set because the new minimal levels set forth by API called for lower oil consumption due to burn-off, longer service life, and more oil robustness. GF-3/SL is equal to or better than GF-2/SJ in every category. It's better in deposit control and oxidation, equal in wear performance and maybe slightly better in sludge control.

AMSOIL ASL, ATM, HDD, PMO, TSO, XLF, XLM and XLT Synthetic Motor Oils are recommended for applications requiring GF-3 and API-SL specifications. AMSOIL ACD, AHR, AME, AMO, ARO, PCO, and TRO are recommended for applications requiring API-SL specifications. As always, AMSOIL synthetic lubricants use the *best* additive packages and base stocks available.

AMSOIL SL Synthetic Motor Oils increase fuel economy, reduce oil consumption and piston deposits, decrease component wear and sludge buildup, resist oxidative thickening and offer corrosion resistance. The new SL oils are for some 2002 vehicles. Current AMSOIL products continue to be the best choice for 2002 model year vehicles and all those before it. Products in the distribution centers are not labeled SL at this time, but they do meet the new SL standards. Product labels will be updated when existing inventories are depleted.

Although GF-3/SL is an improvement on the performance of existing petroleum products in many areas, AMSOIL Motor Oils have always excelled in these same areas and still exceed them by a wide margin, as evidenced by the charts, graphs and laboratory and field tests demonstrating reduced volatility, increased wear protection and superior oxidation and deposit control.