dexos1™ Features and Benefits

Introduction

dexos1™ is GM's new global engine oil specification for gasoline engines which will replace GM 4718M and GM 6049M. Although it is being specified for all GM vehicles starting with the 2011 model year, it is also an excellent choice for previous model year vehicles.

Oils meeting the dexos1™ specification exhibit enhanced performance compared to many oils on the market today. In fact, the dexos1™ specification is made up of a combination of some of the most demanding tests found in industry specifications such as those from API (American Petroleum Institute) and ACEA (European Automobile Manufacturers Association).

The dexos™ specification sets a high standard, requiring both improvements in fuel economy and fuel economy retention over the life of the oil while at the same time requiring improvements in oil robustness. It is also designed to perform where GM's engine technology requires enhanced performance to operate at its best.

In making a shift from how engine oil specifications are traditionally set, GM is providing for the future with a means to design and specify oils for its engines and engine technology as well as take full advantage of features such as the Engine Oil Life System (EOLS).

Features & Benfits

- Compared to GF-5, the dexos™ weighted piston deposit (WPD) limit has been increased from 4.0 to 4.5. This translates to 'cleaner pistons' and better engine performance. How? Piston deposits can form behind and around piston rings causing the rings to stick and be "sluggish". Full compression does not occur resulting in increased emissions, decreased fuel economy and decreased engine performance overall.

- The dexos™ specification includes an aeration test on new and used oil. No such test is included in the next generation, GF-5 industry specification. Sufficient aeration control is a key criteria when the motor oil also functions as a hydraulic fluid, which is the case in GM engines designed with Variable Valve Timing. Variable Valve Timing (also referred to as cam phasing) is an increasingly common design in GM engines to improve fuel efficiency.

- dexos™ exhibits improved oxidation and wear performance:
    - Improved oxidation means the oil better resists thickening. As an oil becomes more viscous (or thickens), fuel economy is reduced. Oil thickening could lead to problems in pumping the oil through the lubricating passages of the engine resulting in engine damage.

- The dexos™ specification includes a test for low-temperature pumpability. This sort of test is not currently included in the next generation industry specification. Although generally not an issue in warmer climates, if an oil becomes too viscous in colder temperatures, adequate lubrication may not occur resulting in increased wear and in severe cases, engine failure.

- Oils meeting the dexos™ specification have more stringent volatility requirements than the next generation GF-5 industry specification, meaning that the amount of oil volatilized (or consumed during use) is lower. This performance requirement was put in place to limit oil consumption over extended drain intervals.

The spider chart below shows a relative comparison of dexos™ to current industry specifications. A score closer to 10 indicates better performance. As is shown, dexos™ performs at least as well, if not better than, current industry standards in all areas.