

Properties

What it means: The lower the pour point, the more useful the lubricant is in cold temperatures. AMSOIL synthetic lubricants offer exceptionally low pour points.

FLASH AND FIRE POINTS

Test Number & Name: ASTM D-92 Standard Test Method for Flash and Fire Points by Cleveland Open Cup

Significance & Use: Flash point is the lowest temperature at which application of a flame causes specimen vapors to ignite. Flash point is used to assess the overall hazard of a material and is used in shipping and safety regulations to define “flammable” and “combustible” materials.

Fire point is the lowest temperature at which a specimen sustains burning for five seconds.

What it means: Lubricants with high flash and fire points, such as AMSOIL synthetic lubricants, are safer to use and transport than lubricants with lower ones and have a greater high temperature operating range.

NOACK VOLATILITY

Test Number & Name: ASTM D-5800 Determining the Evaporation Loss of Lubricating Oils (Noack’s Method)

Significance & Use: Test determines the evaporation loss of lubricating oils at high temperature. Evaporation loss is particularly important to motor and cylinder lubrication, due to the high temperature of these operations and the tendency of evaporative loss to increase in high temperatures. Significant evaporative loss of oil leads to excessive oil consumption and destructive changes in oil properties.

What it means: Lubricants with low Noack scores, such as AMSOIL synthetic lubricants, lose less to volatility than lubricants with higher scores. Low-loss oils keep their original protective and performance qualities longer than high-loss oils do, which keeps oil consumption low and fuel economy and equipment protection high.

HIGH TEMPERATURE/HIGH SHEAR VISCOSITY

Test Number & Name: ASTM D-4683 Standard Test Method for Measuring Viscosity at High Temperature and High Shear Rate by Tapered Bearing Simulator

Significance & Use: Viscosity at the shear rate and temperature of this test is considered representative of the condition encountered in the bearings of automotive engines in severe service. Lubricant viscosity in the bearings of automotive engines in severe service is a critical factor in bearing wear.

What it means: Lubricants with high scores, such as AMSOIL synthetic lubricants, maintain their viscosity in high temperatures after exposure to high shear. That means they continue to protect engine bearings even after exposure to severe service conditions.

FOUR BALL WEAR TEST

Test Number and Name: ASTM D-4172B Standard Test Method for Wear Preventive Characteristics of Lubricating Fluid (Four-Ball Method)

Significance & Use: Test method determines the relative wear preventive properties of lubricants in sliding contact under the test conditions. Lubricant comparisons are made by comparing the average wear scars on three fixed balls made by one ball in rotating contact with them in baths of the test lubricants.

What it means: The smaller the average wear scar, the better the protection. AMSOIL synthetic lubricants deliver much smaller wear scars – and much better protection – than other lubricants do.

The Four Ball Wear Test may be conducted at various levels of severity. Independent laboratory testing shows that AMSOIL Series 2000 and Series 3000 motor oils’ wear scars are significantly smaller than those of popular competitor oils in extremely severe test conditions, making these oils ideal for extreme service engine operations.

ASTM

ASTM (American Society for Testing and Materials), founded in 1898, is a scientific and technical organization formed for the development of standards on characteristics and performance of materials and services.

ASTM is the world’s largest source of voluntary consensus standards.

ASTM operates through a system of committees and subcommittees. Its committees function in prescribed fields under regulations that ensure balanced representation among producers, users, general interest and consumer participants.

ASTM standards govern the majority of testing performed on motor oils in North America.