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EC & ECII :

Energy Conserving (1.5% Fuel Conserving) and Energy Conserving Level II (2.7% Fuel Conserving). It is the ability of lubricant to conserve fuel in gasoline automotive type engines when compared to ASTM HR-2 20W-30 reference motor oil.

Elastohydrodynamic Lubrication :

Lubrication model modified to take into consideration the elastic properties of the bearing material and the viscosity increase of the lubricant under concentrated load.

Emissions (automotive) :

The three major pollutant emissions for which gasoline-powered vehicles are controlled are: unburned hydrocarbons (HC), carbon monoxide (CO), and nitrogen oxides (NOx). Diesel-powered vehicles primarily emit NOx and particulates. Motor vehicles contribute only a small percentage of total man-made emissions of other atmospheric pollutants, such as sulfur oxides. Evaporative HC emissions from the fuel tank and carburetor are adsorbed by activated carbon contained in a canister installed on the vehicle. Blow-by HC emissions from the crankcase are controlled by positive crankcase ventilation (PCV). Exhaust emissions of HC, CO, and NOx — the products of incomplete combustion — are controlled primarily by a catalytic converter, in conjunction with exhaust gas recirculation (EGR) and increasingly sophisticated technology for improving combustion efficiency, including electronic emission controls.

Emulsibility :

The ability of a non-water soluble fluid (such as oil) to form an emulsion with water.

Emulsifier :

A substance used to promote or aid the emulsification of two liquids and to enhance the stability of the emulsion. additive that promotes the formation of a stable mixture, or emulsion, of oil and water.

Common emulsifiers are: metallic soaps, certain animal and vegetable oils, and various polar compounds (having molecules that are water-soluble at one extremity of their structures and oil-soluble at the other)

Emulsion :

A mechanical mixture of two insoluble liquids such as oil and water.

Energy Conserving Oil :

Engine oil categories developed by SAE, ASTM, and API, based on an oil's fuel-saving performance in passenger cars, vans, and light trucks. Originally "Energy Conserving" rating was based on the average fuel economy gain of a five vehicle test, this however proved to be too costly and difficult to repeat the test results. Later engine-stand test was used for "Energy Conserving" oil which must have produced a fuel economy improvement of 1.5% or greater over a reference oil (ASTM HR-2) in a standard ASTM test procedure. An "Energy Conserving II" oil must have produced a fuel economy improvement of at least 2.7%. With ILSAC GF-2 and API SJ the "Energy Conserving II" rating was dropped and only one "Energy Conserving" rating was used, but with different values based on motor oils SAE Viscosity rating. (Note: the fuel economy gain of SynLube™ SAE 5W-50 Motor Oil in ASTM test is 5% when compared to HR-2 test oil) Since all current motor oil ratings such as API SK, ILSAC GF-3 incorporate "Energy Conserving" performance into their specifications, and therefore most motor oils on the market today are "Energy Conserving". The rating is not as important as it once was. In actual vehicle operation, the fuel economy obtained by these lubricants differs, depending on vehicle type, operating conditions, and driving habits. Therefore the fuel saving ability of any Motor Oil is mostly a theoretical value. In real life day-to-day operation, a fuel saving of less than 2% is not possible to verify, since tank-to-tank fuel economy in normal driving can vary by up to 20%.

Engine deposits :

Hard or persistent accumulations of sludge, varnish, and carbonaceous residues due to blow-by of unburned and partially burned (partially oxidized) fuel, and/or from partial breakdown of the crankcase lubricant. Water from condensation of combustion products, carbon, residues from fuel or lubricating oil additives, dust, and metal particles also contribute. Engine deposits can impair engine performance and damage engine components by causing valve and ring sticking, clogging of the oil screen and oil passages, and excessive wear of pistons and cylinders. Engine deposits are increased by short trips in cold weather, high-temperature operation, heavy loads (such as pulling a trailer), and over-extended oil drain intervals.

Engine Oil :

An engine oil is a lubricating agent that can be classified according to one or a combination of the viscosity grades identified in Table 1 of the most recent edition of SAE Standard J300. Engine Oils are also called Motor Oils. Engine oils include diesel engine oils and passenger car motor oils (PCMOs).

Engine test :

Also called engine sequence test or sequence test, it refers to a test of an oil's performance using a full-scale engine operating under laboratory conditions.

Engler degree :

A measure of viscosity. The ratio of the time of flow of 200 ml of the liquid tested, through the viscometer devised by Engler, to the time required for the flow of the same volume of water gives the number of degrees Engler.

EOLCS :

Engine Oil Licensing and Certification System (EOLCS) refers to an administrative process and legally enforceable system by which API authorizes marketers of engine oil to display an API Mark or Marks on oils that meet specified industry standards, as prescribed in a formal licensing agreement.

EPA :

Environmental Protection Agency

agency of the federal executive branch, established in 1970 to abate and control pollution through monitoring, regulation, and enforcement, and to coordinate and support environmental research.

EP additive :

Lubricant additive that prevents sliding metal surfaces from seizing under conditions of extreme pressure (EP). At the high local temperatures associated with metal-to-metal contact, an EP additive combines chemically with the metal to form a surface film that prevents the welding of opposing asperities, and the consequent scoring that is destructive to sliding surfaces under high loads. Reactive compounds of sulfur, chlorine, or phosphorus are used to form these inorganic films.

EP agent :

An Extreme Pressure additive introduced into a lubricant to improve the load-carrying or anti-weld qualities.

EP lubricant :

Any of the lubricating oils or greases which contain an Extreme Pressure additive specifically introduced to prevent metal-to-metal contact in the operation of highly loaded gears. In some cases, this is accomplished by the additive reacting with the metal to form a protective film.

Exhaust gas recirculation (EftR) :

System designed to reduce automotive exhaust emissions of nitrogen oxides (Nox). The system routes exhaust gases into the carburetor or intake manifold; the gases dilute the air-fuel mixture (see combustion) which lowers peak combustion temperatures, thus reducing the tendency for NOx to form.



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