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V

Valves

The intake and exhaust valves in the head are 'poppet' type valves or (mushroom valves) with an operation as rising and falling valves consisting of a disk at the end of a vertically set stem, used in internal-combustion. [1)]

Valve Lift

The distance a valve is lifted off it's seat by the camshaft lobe [2)]

Varnish

Thin, insoluble non-wipeable layer on the internal parts of the engine. It can cause the sticking and breakdown of internal moving engine parts.[3)]

Vernier Caliper

A precision instrument that measure both outside and non-cylindrical inside dimensions

VIN

Abbreviation for Vehicle Identification Number

Viscosity

A measure of thickness or resistance to flow of a liquid or flow-ability at definite temperatures and is one of motorcycle oils most important properties.

Viscosity (Dynamic Viscosity)

Dynamic viscosity, which is also referred to as absolute viscosity, or just viscosity, is the quantitative

expression of a fluid's resistance to flow (shear). Fluid dynamicists, chemical engineers and mechanical engineers commonly consider the use of the Greek letter mu (Âμ) as the symbol to denote dynamic viscosity. Dynamic viscosity is different than kinematic viscosity, which is sometimes called the diffusivity of momentum. [4)]

Viscosity HTHS (High Temperature - High Shear)

Viscosity of engine oils is a critical property that relates to the fuel economy and durability of an engine. The drivers behind lowering HTHS viscosity are new global governmental regulations to improve fuel economy (FE) and lower greenhouse gases (GHG) in new vehicles. Lower HTHS viscosity tends to improve FE and lower GHG and higher HTHS viscosity affords better wear protection. Sufficient HTHS viscosity is critical in preventing engine wear in the critical ring/liner interface area by maintaining a protective oil film between moving parts. HTHS viscosity by ASTM D4683 has been found to relate to the viscosity providing hydrodynamic lubrication in light duty and heavy duty engines. HTHS viscosity has also been found to relate to fuel economy. Think of the protective oil film as if you are trying to swim. If the film is too thick like molasses you can barely move and have to expend a lot of energy; too thin and you sink to the bottom. What you want is the right balance of support and ease of movement. The oil has to be thick enough to maintain separation of the critical moving parts but thin enough to allow for fuel efficient operation. [5)]

Viscosity Index (VI)

The relationship between a fluid's viscosity and temperature. Fluids with a higher viscosity index change their viscosity to a lesser degree due to the change of temperature.[6)] The viscosity index was developed by E. Dean and G. Davis in 1929. It is an empirically derived, unitless number. Based on the methodology, Pennsylvania crude (paraffinic) was set as a benchmark at one extreme, representing low viscosity changeability relative to temperature. At the other extreme was Texas Gulf crudes (naphthenic). If a lubricant was similar to the Pennsylvania crude, it was assigned a VI of 100. If it was similar to Texas Gulf crude, it was assigned a VI of 0. Halfway in between was a VI of 50, and so forth. The higher the VI, the more stable the viscosity across a range of temperatures (more desirable). The temperatures used to determine the VI are 40 degrees C to 100 degrees C. [7)]

Viscosity Kinematic Values

Kinematic viscosity is a measure of the resistive flow of a fluid under the influence of gravity. This measurement is generally displayed in most oil manufacturers respective TDS and/or SDS information data. When two fluids of equal volume are placed in identical capillary viscometers and allowed to flow under the influence of gravity, a viscous fluid takes longer than a less viscous fluid to flow through the tube. [8)] The most common unit of measure for kinematic viscosity is the square millimeter per second [mm2/s] or the centistokes [cSt]. One square meter per second is equal to one million centistokes. 1 mm2/s = 1 cSt [9)]The standard evaluating temperature set for comparison is 40°C (104°F) and 100°C

(212°F); example (Viscosity at 40°C ASTM D445 18.1 mm²/s)Therefore, viscosity cSt @ 40°C is 18.1 mm²/s.

Viscosity Modifier

Lubricant additive, usually a polymer that provides beneficial rheological properties to lubricating oils, such as reducing the tendency of an oil's viscosity to change with temperature.[10)]

Viscosity SUS

(Saybolt Universal Seconds) are the number of seconds it takes for a fixed amount of hydraulic fluid to move through a standard-sized orifice at a fixed temperature. [11)]Rule of thumb conversion: SUS @ 100ºF / 5 = cSt @ 40ºC. [12)]

V.O.E.S.

Vacuum Operated Electric Switch. Senses intake manifold vacuum from the carburetor and switches to one of two different spark advance curves. [13)]

Research Voes: voes

Volt

Unit for expressing 'pressure' in a circuit. Volts= Current x Ohms [14)]

Voltage Regulator

Maintains voltage to the battery and load (lights, horn, ignition system etc.) at the same voltage regardless of engine speed or load. [15)]

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1)
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2)
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