

Abstract

Lubricating oil is a liquid consisting of combined chemical substances through a process of distillation. The process of distillation of the oil that has temperature reaches 105 ° C-135 ° C. Lubrication consists of basic substances i.e. 2 combined crude oil and additional substances. Crude oil has many elements about 90% while the additives range from 10%. Additional substances to be enabled to determine the characteristics of lubricating oil. Oil lubrication lubricate the functioning parts in motorcycle engines, the inside of the engine itself, there are several important components of the motor drive systems, such as crankshaft, valve, shaft and other components. Aside from being a liquid fire retardant friction lubricant also serves as a cooling motorcycle engine.

This research aims to know the influence of characteristics of viscosity and thermal conductivity of some type of lubricating oil temperature and performance against Honda Beat motorcycle of the year 2008. By using lubricants Top One full synthetic characteristic and Evalube pro are synthetic, Ahm Mpx 1 characteristic semi synthetic, Idemitsu 4T SAE 10W30 with mineral characteristic. With testing methods form measurements of thermal conductivity, viscosity, torque, power, fuel consumption and engine temperature, manifold, exhaust, lubrication. For fuel used is Pertalite RON 90 drove 4 km at a speed of 40 km/h.

The test results obtained from the highest conductivity was Idemitsu 4T 0.1414 value W/m. K while the lowest value is evalube pro with a value of 0, 1272W/m.K. Viscosity highest is evalube pro with 53.96 value MPa. s and viscosity the lowest is the One with the Top value lubricant 42.71 Mpa. s. Highest torque when testing is Ahm mpx 1 with a value of 9.76 n. m and the lowest torque is Evalube pro lubricant with a value of 7.57 N.m. Power maksium obtained the Top One lubricant has the highest power 7 HP and lowest power pro Evalube with a value of 6.2 HP. Fuel consumption at least on testing is Ahm mpx1 value 43.58 km/liter and highest engine Temperature with Idemitsu the value of 76.98 ° C. It can be concluded that the trial of the four types of lubricating oil with different characteristics have had mixed results, at this testing to 4 lubricating oil have each advantage and disadvantage can be seen from the temperature, power, torque and fuel economy.

Keywords: Lubricating Oil, Viscosity, Thermal Conductivity, Power, Torque, Fuel Consumption.