Impact of Viscosity of Motor Oil on the Wear of Plain Bearings

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Manufactures of automotive engines and complete vehicles strive for the lowest possible fuel consumption, which also leads to the use of motor oils with lower viscosity. Lower viscosity of oil reduces internal friction and provides faster distribution of oil into lubrication points, but simultaneously reduces the size of transmitted power. The design of automotive engines use plain bearings, which are based on aluminium, brass. Further are used steels with coating based on aluminium and bronze. The paper describes the impact of viscosity of motor oil to wear of basic materials, which are used in production of plain bearing. Reichert tester M2 for evaluation the lubricity from Petrotest Company was used in order to assess ability of motor oils to create proper lubricating film. Reichert tester M2 belongs to a group of equipments simulating real frictional contact. Stabinger viscometer was also used for the precise determination of viscosity of various types of motor oils.

Keywords: Aluminium alloy, Motor oil, Viscosity, Wear

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