

Work Package 9, Task 9.1 highlights

Carl-Erik Rösgren 15.04.2005

Hercules Task 9.1 highlights

”Friction Loss Mapping” is made in a full scale engine test rig based on a 200mm bore engine

- the target is to understand where and how the mechanical losses are created

”Bearing Technologies” are developed in a purposely built test rig and verified in a 460mm bore test engine operating at high peripheral speed and load

- the target is to reduce frictional losses in bearings and increase safety margins

”Low Friction Engine” research is made in a friction test rig by running an extensive test matrix of cylinder liner materials, cylinder liner surface structures and piston ring coatings

- the target is to reduce frictional losses in engine cylinders

Hercules Task 9.1 highlights

”Development of Fuel Injection Rate Shaping Methods” is done by hydraulic manipulation of the injection characteristic of a Common Rail-type fuel injection system, both in a test rig and in full scale engine testing

- the target is to indirectly reduce losses by optimal tuning of the fuel injection process to the combustion process

”Other Adaptive Components” based on so called Magnetic Shape Memory materials are investigated and the material properties tuned to the specific needs

- the target is to find applications where advanced MSM-materials could bring benefits to engine efficiency