

COMPARATIVE STUDY OF NUMERICAL PERFORMANCE ENGINE WATER PUMP KOHLER CS4 123CC GASOLINE WITH A LPG

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Abstract

Increasingly high price of fuel (fuel oil) to fuel water pump, making the fuel is no longer efficient. As a first step in the conversion is to change gasoline fuel intake system on the water pump, in this case water pump KOHLER CS4 cc petrol which initially berbahn try compared with full LPG.

In comparison to the performance of the engine water pump kohler cs4 123 cc petrol and LPG using Lotus Engine Simulation (Les), then the required specifications kohler engine water pump cs4 book darimanual obtained from the factory. Then the specifications that have been obtained at the input into the software so that the data can be obtained outcome Power Brake, Brake Torque, Brake Mean Effective Pressure (BMEP), Brake Specific Fuel Consumption (BSFC), and Volumetric Efficiency.

After analysis and validation of numerical perbnadangan performance cs4 kohler engine water pump gasoline with LPG using software Lotus Engine Simulation (LES) found the following results (brake torque, brake power, BMEP and BSFC) LPG-fueled overall can be maximized by how ignition timing ideal conditions, ie 10° BTDC and AFR settings at state 12 (LPG 1) with the increase of each - amounting to +3.36%; +3.36%; +9.3% And a decrease of -4.90%.

Keywords; LPG, *Full gas system*, *Water Pump Engine*