

عنوان مقاله:

Effect of gasoline injector rotation on spray and combustion chamber of fuel wall film in a Bi-fuel engine

محل انتشار:

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خلاصه مقاله:

Sprays characteristics of the fuel injectors of internal combustion engine have been widely studied by researchers around the world. The interest in studying of the sprays' characteristics of fuel injectors occur because these systems have a strong relation with the subsequent combustion reaction and thus with the engine thermal efficiency. Gasoline fuel injectors are designed on the way that injected droplets directly impinge on upper face of in intake valves. Some mounting and fixing problems of gasoline injector during assembly, may cause to rotation of gasoline injector. In this study, the worst case of rotated port-fuel injector on in-cylinder mixture formation, was studied. Simulation of EF7 engine in full cycle was performed using Ansys-Fluent to investigate effect of gasoline -injector rotation on fluid flow in runner, intake port, and in-cylinder mixture formation. In-cylinder evaporated fuel, equivalence ratio, and wall film fuel on intake port, cylinder-head, liner and piston were studied. The results show that rotation of injector increases formed .wall film and cause to increasing emissions during combustion

کلمات کلیدی:

EF7, spray, gasoline injector, wall film

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