

Nano gas bubbles dissolve in gasoline fuel and its influence on engine combustion performance

ABSTRACT

Nowadays, the issues of air pollution and global warming have become serious as the atmosphere contaminated with harmful gases from human daily life use of vehicles and industrial manufacturing process, leading to global warming and greenhouse effect. These had emphasised the need for better engines with higher performance and less emission level towards non-harmful and friendly environmental vehicle axillary. There are various techniques and methods used for such purposes. For instance, the nano gas dissolve technique can be used for fuel enhancement through a better combustion reaction by adding more oxidant gases molecular into combustion reaction. Dissolved gases can improve engine combustion performance for reducing the levels of harmful gas emission. The property of small nano particles helps to join or mix or transport interfacial within large molecules of fuels to mix up together and form new combination, introducing different chemical properties. Thus, this paper introduces a pre-design concept for fuel enhancement technique by dissolving nano gases such as air or oxygen into the gasoline fuel, taking advantage of hammer shock phenomena in fluid flow. It presents a case study for understanding combustion influence through use of gas dissolve technique with theoretical calculation validating the condition. The validating results obtained from the theoretical calculation and chemical theoretical results reactions theoretically expressed significant development in combustion mixture. Such technology can provide better fuel improvement for future recommended work by direct integration of the nano bubble generator hardware mobile size device on the fuel supply line.