Comparison of Frequency Levels in Internal Combustion Engines Using a Gasoline-Methanol Fuel Blend

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Abstract Investigations of the frequency and vibration levels of the internal combustion engine have been intensively carried out to minimize and make the driver comfortable. This experiment was mostly done by changing engine materials and also testing various suitable fuels. In the last few decades, the analysis of the frequency of internal combustion engines has been carried out by making mixtures of alcohol fuels and fuel additives. The purpose of this work is specifically to analyze the frequency level comparison in an internal combustion engine using a petroleum-methanol fuel mixture (G95%-M5% and G100). The experiment in this test was tested five times with engine speed (1000 rpm, 15,000, 2000, 2500, and 3000 rpm). The test results show that the mixed fuel can produce a lower combustion frequency. However, the burning speed is slightly slower than that of pure petroleum fuels. While pure petroleum fuel has a burning speed so that the level of vibration frequency produced is slightly high. Overall shows that the fuel mixture applied in this work can reduce the level of vibration frequency in the internal combustion engine.

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