A Review On Propanol As An Alternative Fuel In SI Engine

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ABSTRACT

The fossil fuel is gift from the god for globe. In today's scenario the fuel is an important issue around the world. Every country is facing the problem of scarcity of fuel, to overcome this, initiatives are being taken to substitute gasoline and diesel fuel. The rise in oil price and the adoption of stringent emission norms become critical. Many substitute fuels liken Biodiesel, Alcohols, methanol, propylene ethanol, LPG, CNG etc. have been already commercialized in the transport sector. In this research the different types researches presented in context to blending of gasoline.

Keywords: *Blending fuel, Ethanol, Propanol, Alcohol*

1. INTRODUCTION

The idea of adding low contents of ethanol or methanol or propylene to gasoline is not new, extending back at least to the 1970s, when oil supplies were reduced and a search for alternative energy carriers began in order to replace gasoline and diesel fuel. Originally, methanol was considered the most suitable alcohol to be supplementary to gasoline. Since methanol can be produced from natural gas at no great cost, and is quite easy to blend with gasoline, this alcohol was seen as an attractive additive. On the other hand, the used methanol in practice it is very is destructive to some materials like plastic components and metals in the fuel system. This very important and have great value of experience when ethanol came to be more commonly used as an alternative to the commercial fuels, since even ethanol can be characterized as an aggressive fluid. This research aims to study the different literature based on ethanol and propanol blends with gasoline.

2. LITERATURE REVIEW

Aman Hira et.al.[1] carried out the performance & emission characteristics on the CI engine using blends of ethanol and biodiesel with diesel. The experimental study is carried out with used of ethanol as blend in CI egine.The results of study concludes that the used of ethanol blend in CI engine consumes minimum amount of fuel.

Mr.Hirenkumar M Patel et.al.[2] investigated the research on performance testing of single cylinder with Pyrolysis oil diesel blends with ethanol. The test is carried out with different percentages of blend fuel. The results of study conclude that the used of ethanol minimize the fuel consumption.

Li-hong Yao et.al.[3] investigated research on the effects on Two-Stroke Engine with the Mixture fuel blends with Ethanol. In this the different ratios of blends are used for finding out the different characteristics of engine parameters. The results show that the 20% ethanol blends enhance efficiency to great extent.

Yanju Wei et.al.[4]carried out the work for finding out effects of Methanol/Gasoline Blends on a SI Engine performance and emissions. The experimental results of study show that the engine power,torque ratio under the wide open throttle condition mainly depends on the amount of heat delivered to the engine. The addition of methanol considerably improves the brake thermal efficiency, while the methanol/gasoline ratio has a slight effect on it. Engine out CO and NOx emissions decrease with the boost of the methanol/gasoline ratio.

Şehmus Altun et.al. [5] investigated on the exhaust emissions from a SI engine operating on iso-propanol and unleaded gasoline blends.The exhaust emission test is carried SI engine, the experimental results shows that the emission of carbon oxide is minimum with propanol blend with gasoline.P.

Xyradakis et.al.[6] carried out the works on the emission characteristics of SI engine operating on pure and high alcohol blended gasoline fuels.The results of this study shows that levels hydrocarbon and carbon oxide is minimum with alcohol blend.

Yingjia Zhang et.al.[7] studied on the emission characteristics of SI engine.In this study the iso-propanol blends with gasoline is analyzed. The results of this shows that less emission of HC and CO with used of is propanol.

Lalit Kumar Daheriya et.al. [8] presented the review on the effect of performance and emission on DI engine with ethanol blending. In this study the different review were presented for studying the performance of diesel engine.

F. Khieralla et.al. [9] investigated on the ethanol blends with gasoline in SI engine.In this work ethanol alcohol with 98.3 % concentration is selected. The performance of engine at constant speed tested. The results of study found that the power output and torque producing for blends decreased when the ratio of ethanol was increased.

Farha Tabassum Ansari et.al.[10]carried out investigation on the ethanol blend gasoline in SI engine.The different blend ratios are used for determine the performance of SI engine with ethanol blends.The results concluded that the emission of HC and CO minimized with used ethanol as blend.

K.Manikandan [11] studied the performance and effect on compression ratios on exhaust emission with ethanol gasoline blends.The different concentration of blends is analyzed with two compression ratios of 6:1 and 8:1.The results concluded that the increase of ethanol blending allows the engine to operate at higher compression ratio without knock occurrence.

B.V. Lande [12] investigated on the experimental analysis on two stroke SI engine with ethanol and gasoline blend. The used ethanol as blend improves the quality of fuel and also emission is of HC and CO is minimum.

3. CONCLUSION

This research discussed about the different literature based on the blending of gasoline along with ethanol and propanol. The different researches are widely investigated about the different types blends agent in base fuel. A number of studies have been agreed in order to study the effect of various parameters on SI engine with used ethanol and propanol blends.

4. REFERENCES

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