

Synopsis

Mini-project Group No: 43

Register No:

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Name:

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Project Title: Effect of Bio Diesel on CI Engine Performance and Emission

Name of the Guide: Dr Mohan Raj. T, Associative professor, SOME.

Abstract:

The objective of this mini project is to investigate the effects of using bio diesel on a CI (Compressive Ignition) engine. Bio diesel is a renewable fuel made from the natural resources such as vegetable oil, animal fats, and recycled oil. It is a cleaner-burning alternative to petroleum diesel that can be used in diesel engines without modification. The resulting bio diesel has a similar chemical composition to petroleum diesel, but with lower levels of pollutants such as sulphur and aromatics. Its use in internal combustion engines can lead to several challenges such as engine performance and emissions. The experiment was conducted using a single-cylinder, air-cooled VCR engine. The engine was run on fuel like rice bran oil and cotton seed oil blends (B20). The engine performance and emissions were measured and compared between Bio diesel and Diesel. We have obtained values at 0, 2, 4, 6, 8, 10 and 12 kg of load and at a compression ratio of 18

Specific Contribution:

- Analysed the data and compared data using graphs.
- Conducted experiment on VCR engine and collected results.

Specific Learning:

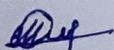
- What is cetane number and how it effects the engine performance.
- Biofuel is a oxygenated fuel, the stoichiometry air-fuel ratio of bio diesel having extra oxygen which results in complete combustion and emission is reduced.

Technical Limitations & Ethical Challenges faced:

- Bio diesel can solidify at low temperatures, which can cause engine starting problems and reduce performance.
- Bio diesel is not compatible with all engine materials, including some types of rubber and plastic components, which can lead to fuel system failures.

Keywords: *Performance, Efficiency, Emission, Blends.*

Signature of the Student:



Signature of Guide:



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