

Abstract

In this thesis, we will convert a diesel engine to run on other fuels and thus become a flex-fuel engine in dual-fuel operation.

To do this, we looked at the operation of dual-fuel and studied the advantages and disadvantages of using dual-fuel engines.

The dual-fuel engine is an engine that uses diesel as a pilot fuel, as the diesel is used to initiate the combustion of the second alternative fuel.

We have drawn up a plan to implement an indirect gas injection system that will allow us to admit gas into the engine's combustion chamber. We designed a system based on the operation of a petrol engine carburetor, but to work with gas.

We then took readings of the exhaust gases produced by the engine to compare the changes in their characteristics. In this way we were able to compare the impact of bi-fuel operation on the exhaust gases.