T.E.M.S Journal
ISSN: 2456 8368
Volume 3: Issue 1: October 2021 : PP: 240-241
https://journals.wingsofaero.in

Diesel Cycle

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Abstract:-

Today's article is about diesel cycle.

An engine working on the four stroke diesel cycle has normally 3 valves as an admission valve , fuel valve and an exhaust valve.

Here are 4 distinct operations and there is no separate arrangement to send the spark will Ignite the fuel. Sequentially these operations are as follows and are represented on the PV diagram and TS diagram.

Suction Stroke:-

The exhaust valve and the will bars are closed the year admission was open and the Piston moves outward. Achcha job fair is there was tucked in shirt near atmospheric pressure this is represented by EA on the PV indicator diagram.

Compression stroke:-

All three bulbs remain closed and the Piston moves in word and sucked in air is compressed adiabatically to about 1/17 th of the original volume resulting in a high pressure and a tremendous rise in temperature. The line AB on the indicator diagram represents the operation.

Working Stroke:-

The airport and exhaust pagal close the valve is opened just at the beginning of the stroke and remains open for short while. The high temperature of air due to compression in the previous job ignites approval as soon as it is injected into the cylinder. Combustion goes on at least as long as well but remains open and offers theoretically at constant pressure represented by BC on the indicator diagram.

Due to combustion, the gaseous mixture(products of combustion and heated excess air) expands adiabatically forcing the piston outward as shown by CD on the indicator diagram. At the end of this stroke, the exhaust valve opens and the contents of the cylinder starts leaving it, the pressure falling to the atmospheric value

Exhaust(or scavenging) stroke:-

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The air valve and the fuel valve are closed, the exhaust valve remain open, piston moves inward. The residue of spent up charge escapes to make the engine ready for the next cycle.

Reference:-

Thermal physics:- prof Gupta

Image 1: research gate
Image2: janisULT

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