How come all engines pollute & inefficient in XXI century?

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Abstract

This paper explains design flaws and causes of inefficiencies plaguing all engines and also suggests a concept how to make engines efficient and not polluting. Then it explains that the entire trend of engine research violates the second law of thermodynamics by preventing detonations. Also paper defines basics of physics violated by existing engine designs, which have been preventing developments of efficient and environmentally sound engines for more than a century. Then the paper proposes a new thermodynamic cycle, from which all flaws, as seen in the Diesel and Otto cycles, are eliminated and suggests an ideal engine and a design of the ideal engine, which agrees completely with the basics of physics. The ideal engine is cooled by complete conversion of heat into work only, without heat losses as seen in all engines today.

If you quarrel with PHYSICS …guess what… Physics always wins!!!

Introduction

Today thermodynamic cycles, as well engine designs violate basics of physics. The violations results from many design flaws responsible for many causes of inefficiency. The causes have been handed down from generation to generation and those are still penetrating into engines under development for the future. Thus it is obvious that researchers simply do not know what causes inefficient and polluting operation of all engines, because current trend of engine research was inherited from XIX century, when neither the efficiency nor pollution was issues.

Background

There are many faults in all engines which relate to flaws of engine design or even flaws of the thermodynamic cycle on which the design is based. Those relate to violations of basics of physics as well violations of laws of nature such as the second law of thermodynamics

Basics of physics demand that**:**

1. Max force should act onto max distance to produce max torque, which in all engines occurs when crank is horizontal
2. Energy should be released from fuel at max possible rate to maximize power available from used fuel, because power available from consumed fuel id defined as energy release in time
3. Max torque should retain high from starting up to max speed
4. Max efficiency should retain high from starting up to max speed
5. Expansion of exhaust produces work cooling the exhaust, thus expansion should be complete, preferably below atmospheric pressure
6. Torque should remain high from starting up to max speed
7. Efficiency should remain high from starting up to max speed