The second law of thermodynamics

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- Explain why all real engines are less efficient than the Carnot engine

- In a real engine does the gas inside the piston return to its original state on completion of a cycle as happens in the Carnot cycle? Explain your reasoning

- Write the Clausius inequality.

- Give a mathematical expression for the second law of thermodynamics

The second law of thermodynamics

- Explain in your own words how the mathematical expression you just arrived at for the second law of thermodynamics is derived from the Clausius Inequality.