

Steam_engine

The Stanford Question Answering Dataset

Steam engines are external combustion engines, where the working fluid is separate from the combustion products. Non-combustion **heat sources** such as **solar power, nuclear power or geothermal energy** may be used. The ideal thermodynamic cycle used to analyze this process is called the Rankine cycle. In the cycle, water is **heated** and transforms into steam within a boiler operating at a high pressure. When expanded through pistons or turbines, mechanical work is done. The reduced-pressure steam is then condensed and pumped back into the boiler.

Along with geothermal and nuclear, what is a notable non-combustion heat source?

Ground Truth Answers: **solar** **solar power** **solar power, nuclear power or geothermal energy** **solar**

Prediction: **solar power**

What ideal thermodynamic cycle analyzes the process by which steam engines work?

Ground Truth Answers: **Rankine** **Rankine cycle** **Rankine cycle** **Rankine cycle**

Prediction: **Rankine cycle**

In the Rankine cycle, what does water turn into when heated?

Ground Truth Answers: **steam** **steam** **steam** **steam**

Prediction: **steam**

At what pressure is water heated in the Rankine cycle?

Ground Truth Answers: **high** **high** **high pressure** **high**

Prediction: **high**

What types of engines are steam engines?