CAD LAB PROJECT REPORT

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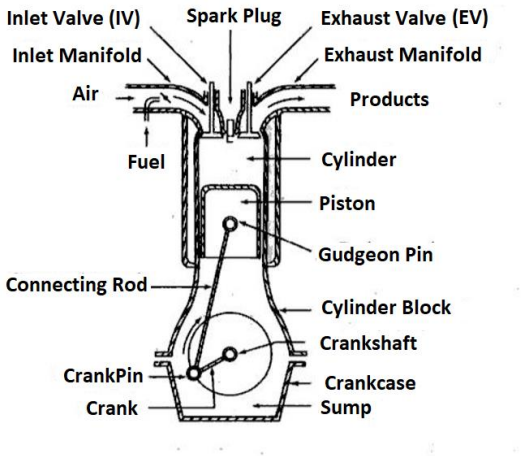
IC ENGINE

OBJECTIVE: To understand what is an IC ENGINE, parts, diagram. And an overview of what I have done in my CAD LAB project.

DESCRIPTION: IC ENGINE is a type of heat engine that converts the heat energy released during the combustion of fuel into mechanical work. As the combustion takes place within the engine cylinder it is named as internal combustion engine. This type of engine makes use of liquid and gaseous fuels for combustion. Most of the modern IC ENGINES works on operating cycle such as Otto and Diesel cycles. They are used in automobiles, industries, and many other applications. Different types of IC ENGINES are two-stroke engines, four-stroke engines, petrol engines, etc. Here I made a CAD model of four-stroke IC ENGINE as my project.



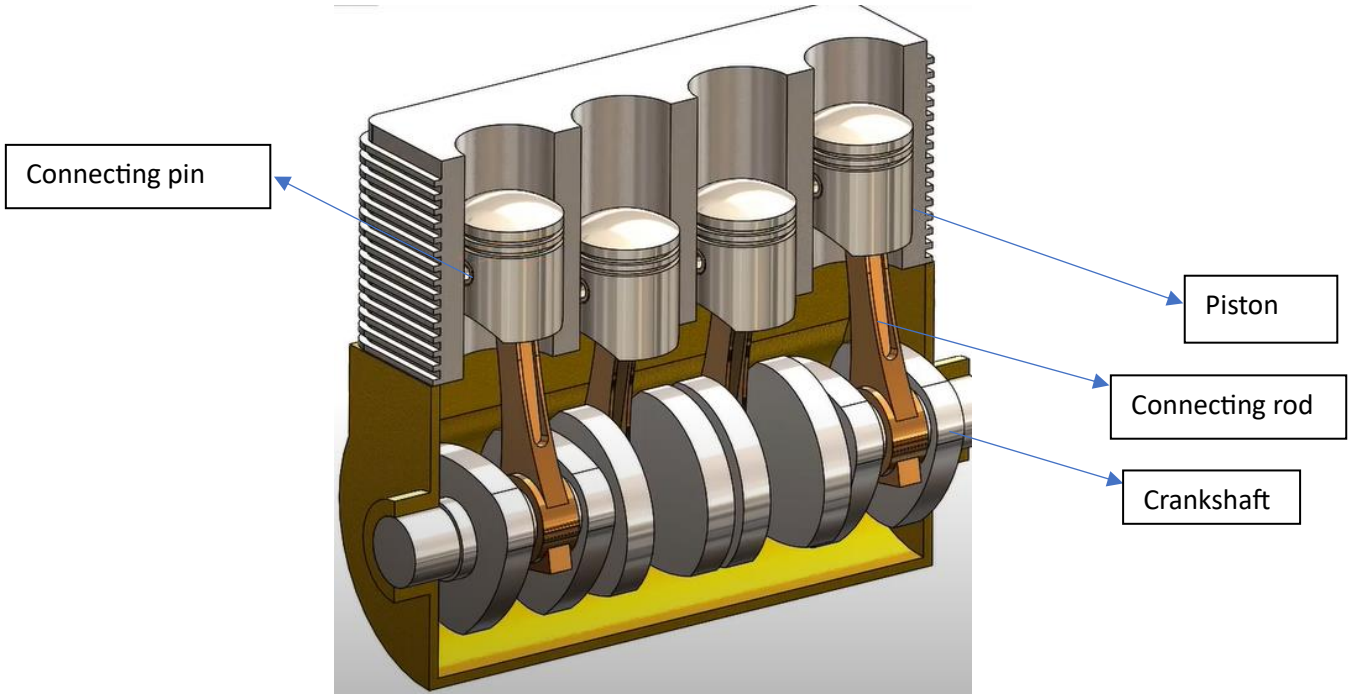
I have made the following parts:-

1) CRANKSHAFT: A crank is a lever that is connected to the end of the connecting rod by a pin joint with its other end connected rigidly to a shaft called a crankshaft. It rotates about the axis of the crankshaft and causes the connecting rod to oscillate. The main function of a crankshaft is to convert the reciprocating motion of the piston into rotary motion with the help of a connecting rod.

2) PISTON: It is a close-fitted cylindrical plunger, which moves to and from inside an engine cylinder. The main function of the piston is to transmit the force exerted due to

combustion of fuel to the connecting rod which in turn transmits it to the crankshaft to produce mechanical power.

3) CONNECTING ROD: It is the link that connects the piston and the crankshaft by means of pin joints. It converts the reciprocating movement of the piston into the circular motion of the crankshaft as it is subjected to alternatively tensile and compressive stresses as well as bending stresses. Therefore, it should be designed and manufactured carefully. Etc.



The final view of my project