

Engine for Forklift

Forklift Engine - An engine, otherwise called a motor, is a tool that changes energy into useful mechanical motion. Motors which change heat energy into motion are referred to as engines. Engines are available in several kinds like for instance internal and external combustion. An internal combustion engine typically burns a fuel with air and the resulting hot gases are utilized for generating power. Steam engines are an illustration of external combustion engines. They utilize heat to be able to produce motion making use of a separate working fluid.

The electric motor takes electrical energy and produces mechanical motion through varying electromagnetic fields. This is a common type of motor. Various kinds of motors function through non-combustive chemical reactions, other kinds can utilize springs and be driven through elastic energy. Pneumatic motors function through compressed air. There are different designs depending on the application required.

ICEs or Internal combustion engines

An internal combustion engine happens when the combustion of fuel combines with an oxidizer in a combustion chamber. Inside an internal combustion engine, the expansion of high pressure gases combined with high temperatures results in making use of direct force to some engine components, for example, turbine blades, nozzles or pistons. This force produces useful mechanical energy by moving the part over a distance. Usually, an ICE has intermittent combustion as seen in the popular 2- and 4-stroke piston motors and the Wankel rotating motor. Nearly all jet engines, gas turbines and rocket engines fall into a second class of internal combustion motors known as continuous combustion, which happens on the same previous principal described.

External combustion engines like Stirling or steam engines vary very much from internal combustion engines. External combustion engines, where the energy is delivered to a working fluid like for example hot water, pressurized water, and liquid sodium or air that are heated in some kind of boiler. The working fluid is not mixed with, consisting of or contaminated by combustion products.

Various designs of ICEs have been developed and are now available with several strengths and weaknesses. When powered by an energy dense gas, the internal combustion engine provides an effective power-to-weight ratio. Although ICEs have been successful in several stationary utilization, their real strength lies in mobile utilization. Internal combustion engines dominate the power supply meant for vehicles like for instance boats, aircrafts and cars. A few hand-held power tools use either battery power or ICE equipments.

External combustion engines

An external combustion engine uses a heat engine where a working fluid, like for instance steam in steam engine or gas in a Stirling engine, is heated through combustion of an external source. This particular combustion happens via a heat exchanger or via the engine wall. The fluid expands and acts upon the engine mechanism that produces motion. Afterwards, the fluid is cooled, and either compressed and reused or thrown, and cool fluid is pulled in.

Burning fuel together with the aid of an oxidizer to be able to supply the heat is known as "combustion." External thermal engines could be of similar application and configuration but utilize a heat supply from sources like for example solar, nuclear, exothermic or geothermal reactions not involving combustion.

Working fluid can be of any composition, though gas is the most common working fluid. At times a single-phase liquid is occasionally used. In Organic Rankine Cycle or in the case of the steam engine, the working fluid varies phases between liquid and gas.