Alternator for Forklift

Forklift Alternators - An alternator is actually a device that transforms mechanical energy into electrical energy. This is done in the form of an electric current. In principal, an AC electrical generator could likewise be called an alternator. The word normally refers to a small, rotating machine driven by automotive and various internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are called turbo-alternators. Nearly all of these devices utilize a rotating magnetic field but sometimes linear alternators are also used.

A current is induced inside the conductor when the magnetic field around the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input makes the rotor to turn. This rotating magnetic field generates an AC voltage in the stator windings. Typically, there are 3 sets of stator windings. These physically offset so that the rotating magnetic field produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these utilize brushes and slip rings together with a rotor winding or a permanent magnet so as to generate a magnetic field of current. Brushlees AC generators are normally found in bigger machines like for instance industrial sized lifting equipment. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often make use of a rotor winding which allows control of the voltage induced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current in the rotor. These machines are limited in size due to the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.