Forklift Alternators

Alternator for Forklift - An alternator is actually a device which converts mechanical energy into electrical energy. It does this in the form of an electric current. In essence, an AC electric generator could likewise be referred to as an alternator. The word usually refers to a small, rotating device driven by automotive and various internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are actually known as turbo-alternators. The majority of these devices make use of a rotating magnetic field but occasionally linear alternators are also used.

A current is induced inside the conductor whenever the magnetic field around the conductor changes. Usually 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 likewise called EMF is generated as the mechanical input causes the rotor to revolve. 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 generates 3 phase currents, displaced by one-third of a period with respect to each other.

In a "brushless" alternator, the rotor magnetic field may be made by induction of a permanent magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are usually found in larger devices as opposed to those utilized in automotive applications. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually use a rotor winding which allows control of the voltage produced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current inside the rotor. These devices are limited in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.