Alternator for Forklift

Forklift Alternators - A machine utilized to transform mechanical energy into electric energy is actually known as an alternator. It can carry out this function in the form of an electric current. An AC electric generator could in essence be labeled an alternator. However, the word is typically used to refer to a rotating, small device driven by internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are actually referred to as turbo-alternators. The majority of these devices utilize a rotating magnetic field but every now and then linear alternators are utilized.

A current is induced in the conductor whenever the magnetic field all-around the conductor changes. Usually the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core called the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input causes 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 induces 3 phase currents, displaced by one-third of a period with respect to each other.

In a "brushless" alternator, the rotor magnetic field could 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 normally located in bigger machines as opposed to those utilized in automotive applications. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding that allows control of the voltage produced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current in the rotor. These machines 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.