Forklift Alternators

Alternator for Forklift - An alternator is a machine that changes mechanical energy into electrical energy. This is done in the form of an electrical current. Basically, an AC electrical generator can be called an alternator. The word normally refers to a small, rotating machine powered by automotive and various internal combustion engines. Alternators which are situated in power stations and are powered by steam turbines are actually called turbo-alternators. Nearly all of these devices utilize a rotating magnetic field but every now and then linear alternators are utilized.

Whenever the magnetic field surrounding a conductor changes, a current is induced inside the conductor and this is actually the way alternators produce their electrical energy. Usually the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils situated on an iron core which is actually referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is produced 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 induces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these utilize brushes and slip rings along with a rotor winding or a permanent magnet to be able to induce a magnetic field of current. Brushlees AC generators are normally located in larger machines like industrial sized lifting equipment. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators usually use a rotor winding which allows control of the voltage generated by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current in the rotor. These machines are limited in size because of the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.