Forklift Alternators

Forklift Alternators - A machine used in order to change mechanical energy into electrical energy is actually referred to as an alternator. It can carry out this function in the form of an electrical current. An AC electrical generator can in principal also be referred to as an alternator. Nevertheless, the word is normally used to refer to a small, rotating device powered by internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are known as turbo-alternators. Nearly all of these devices utilize a rotating magnetic field but occasionally linear alternators are used.

Whenever the magnetic field around a conductor changes, a current is induced inside the conductor and this is actually the way alternators generate their electrical energy. Often the rotor, which is actually a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is referred to as the stator. When the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field generates an AC voltage in the stator windings. Usually, 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.

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