

Forklift Alternator

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

A current is generated within the conductor whenever the magnetic field surrounding 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 known as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field produces an AC voltage in the stator windings. Normally, 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 make use of slip rings and brushes with a rotor winding or a permanent magnet to generate a magnetic field of current. Brushless AC generators are most often located in larger devices like for example industrial sized lifting equipment. A rotor magnetic field could 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 induced 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 within the rotor. These machines are limited in size because of the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.