

Forklift Alternators

Alternator for Forklift - An alternator is a machine which transforms mechanical energy into electric energy. It does this in the form of an electrical current. Basically, an AC electrical generator can also be referred to as an alternator. The word normally refers to a rotating, small machine powered by automotive and other internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are referred to as turbo-alternators. Nearly all of these devices use a rotating magnetic field but from time to time linear alternators are also utilized.

A current is induced within the conductor whenever the magnetic field all-around the conductor changes. Normally 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. If the field cuts across the conductors, an induced electromagnetic field likewise called EMF is generated as the mechanical input makes 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 produces 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 along with a rotor winding or a permanent magnet in order to produce a magnetic field of current. Brushless AC generators are most often located in bigger 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 often use a rotor winding that allows control of the voltage produced 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 due to the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.