

Forklift Alternator

Forklift Alternator - An alternator is a device which transforms mechanical energy into electric energy. It does this in the form of an electric current. Basically, an AC electrical generator could likewise be called an alternator. The word normally refers to a rotating, small machine powered by automotive and various internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are actually referred to as turbo-alternators. The majority of these devices use a rotating magnetic field but sometimes linear alternators are utilized.

A current is generated inside the conductor when the magnetic field around the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core referred to as 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 revolve. This rotating magnetic field generates an AC voltage in the stator windings. Normally, 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 utilize brushes and slip rings along with a rotor winding or a permanent magnet so as to produce a magnetic field of current. Brushless AC generators are most often located in larger machines such as industrial sized lifting equipment. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of a rotor winding that allows control of the voltage generated by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet machines avoid the loss because of 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.