

Forklift Alternators

Forklift Alternators - An alternator is a device which changes mechanical energy into electric energy. It does this in the form of an electric current. Basically, an AC electric generator could likewise be referred to as an alternator. The word typically refers to a rotating, small device driven by automotive and different internal combustion engines. Alternators that are located in power stations and are powered by steam turbines are referred to as turbo-alternators. Most of these devices utilize a rotating magnetic field but at times linear alternators are also used.

A current is generated within the conductor if the magnetic field surrounding the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core called the stator. If 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 produces 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 generate a magnetic field of current. Brushless AC generators are usually located in larger machines like for instance industrial sized lifting equipment. A rotor magnetic field may be produced by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding which allows control of the voltage produced 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 inside the rotor. These machines are limited in size due to the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.