

Forklift Alternator

Forklift Alternators - An alternator is actually a device that changes mechanical energy into electric energy. This is done in the form of an electrical current. In principal, an AC electric generator could be labeled an alternator. The word normally refers to a rotating, small machine driven by automotive and different internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are actually referred to as turbo-alternators. Nearly all of these machines utilize a rotating magnetic field but sometimes linear alternators are utilized.

A current is induced inside the conductor whenever the magnetic field all-around the conductor changes. Usually 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. Whenever the field cuts across the conductors, an induced electromagnetic field also 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. Typically, 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 utilize slip rings and brushes along with a rotor winding or a permanent magnet to induce a magnetic field of current. Brushless AC generators are most often located in larger machines like for instance industrial sized lifting equipment. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding that 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 due to the magnetizing current inside the rotor. These machines are limited in size due to the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.