

## Forklift Alternators

Forklift Alternators - A device used to be able to change mechanical energy into electrical energy is actually called an alternator. It can carry out this function in the form of an electric current. An AC electric generator could in principal also be termed an alternator. However, the word is usually utilized to refer to a small, rotating device powered by internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are referred to as turbo-alternators. The majority of these machines make use of a rotating magnetic field but occasionally linear alternators are also used.

A current is produced in the conductor if the magnetic field around 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 or EMF is produced as the mechanical input makes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Typically, there are 3 sets of stator windings. These are physically offset so that the rotating magnetic field generates 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these make use of brushes and slip rings with a rotor winding or a permanent magnet to induce a magnetic field of current. Brushless AC generators are most often located in bigger devices like for instance industrial sized lifting equipment. A rotor magnetic field may be generated 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 produced by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current in the rotor. These devices 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.