

## Forklift Alternators

Forklift Alternators - A device used 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 electrical generator can basically be termed an alternator. Nevertheless, the word is normally utilized to refer to a small, rotating machine powered by internal combustion engines. Alternators that are placed in power stations and are driven by steam turbines are referred to as turbo-alternators. The majority of these devices use a rotating magnetic field but at times linear alternators are also used.

Whenever the magnetic field all-around a conductor changes, a current is produced in the conductor and this is how alternators generate their electricity. Usually the rotor, which is actually a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is actually known as the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is produced as the mechanical input makes the rotor to revolve. This rotating magnetic field generates 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 induces 3 phase currents, displaced by one-third of a period with respect to each other.

In a "brushless" alternator, the rotor magnetic field can be made by induction of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often located in larger machines compared to those used in automotive applications. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding which allows control of the voltage generated by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current within the rotor. These devices 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.