

## Forklift Alternators

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

When the magnetic field all-around a conductor changes, a current is produced inside the conductor and this is the way alternators produce their electricity. Often the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils situated on an iron core which is actually known as the stator. If 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 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.

In a "brushless" alternator, the rotor magnetic field can be caused by induction of a lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often found in larger machines compared to those utilized in automotive applications. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators often make use of a rotor winding that allows control of the voltage produced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current within the rotor. These devices 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.