

## Forklift Alternator

Forklift Alternator - An alternator is a device that changes mechanical energy into electric energy. It does this in the form of an electrical current. In principal, an AC electrical generator could likewise be called an alternator. The word typically refers to a small, rotating machine powered by automotive and various internal combustion engines. Alternators that are placed in power stations and are powered by steam turbines are actually called turbo-alternators. Most of these devices use a rotating magnetic field but sometimes linear alternators are used.

A current is produced in the conductor whenever the magnetic field all-around the conductor changes. Normally 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 otherwise called EMF is produced as the mechanical input causes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Normally, 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 made by induction of a lasting magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are normally found in bigger machines as opposed 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 normally use a rotor winding which allows control of the voltage generated by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current within the rotor. These devices are restricted 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.