## Forklift Alternators

Forklift Alternators - An alternator is actually a machine which transforms mechanical energy into electrical energy. This is done in the form of an electrical current. Basically, an AC electrical generator can be labeled an alternator. The word typically refers to a rotating, small machine driven by automotive and different internal combustion engines. Alternators that are placed in power stations and are driven by steam turbines are actually called turbo-alternators. Most of these machines utilize a rotating magnetic field but from time to time linear alternators are also used.

A current is induced in the conductor if the magnetic field surrounding the conductor changes. Normally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field likewise 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. 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 could be made by induction of a permanent magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are normally located in bigger machines compared to those utilized in automotive applications. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often use a rotor winding that allows control of the voltage induced by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current in 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.