Forklift Alternators

Forklift Alternators - An alternator is a device that converts mechanical energy into electrical energy. It does this in the form of an electric current. In principal, an AC electric generator can likewise be referred to as an alternator. The word usually refers to a small, rotating machine driven by automotive and different internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are called turbo-alternators. Most of these machines use a rotating magnetic field but occasionally linear alternators are utilized.

Whenever the magnetic field surrounding a conductor changes, a current is produced inside 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 situated on an iron core which is actually referred to as the stator. Whenever 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. 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 may be caused by production 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 devices as opposed to those used in automotive applications. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often utilize a rotor winding that allows control of the voltage induced 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 machines 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.