Forklift Alternators

Forklift Alternators - An alternator is a device which converts mechanical energy into electrical energy. This is done in the form of an electrical current. Basically, an AC electric generator can likewise be referred to as an alternator. The word typically refers to a rotating, small machine powered by automotive and various internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are known as turbo-alternators. The majority of these devices utilize a rotating magnetic field but at times linear alternators are also used.

A current is induced inside the conductor whenever the magnetic field all-around the conductor changes. Usually the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core known as the stator. When 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 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 usually located in larger machines than those utilized in automotive applications. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding which allows control of the voltage induced by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet machines 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.