Alternator for Forklift

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

A current is produced within the conductor whenever the magnetic field 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 called the stator. When the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated as the mechanical input causes the rotor to turn. 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 could be caused 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 found in larger machines than those used in automotive applications. A rotor magnetic field can be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of a rotor winding that allows control of the voltage generated 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 restricted in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.