Forklift Alternator

Forklift Alternators - An alternator is actually a device that converts mechanical energy into electrical energy. It does this in the form of an electric current. In principal, an AC electrical generator can be labeled an alternator. The word normally refers to a small, rotating machine driven by automotive and different internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are actually known as turbo-alternators. The majority of these machines make use of a rotating magnetic field but from time to time linear alternators are utilized.

Whenever the magnetic field around a conductor changes, a current is produced inside the conductor and this is the way alternators produce their electrical energy. Often the rotor, which is a rotating magnet, revolves within a stationary set of conductors wound in coils located on an iron core which is known as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field also called EMF is generated as the mechanical input makes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Typically, there are 3 sets of stator windings. These physically offset so that the rotating magnetic field generates 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 caused by production of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often found in bigger devices as opposed to those used in automotive applications. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators normally use a rotor winding which allows control of the voltage produced by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current in the rotor. These devices are limited in size due to the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.