Forklift Alternators

Forklift Alternator - A machine utilized to change mechanical energy into electric energy is actually known as an alternator. It can carry out this function in the form of an electrical current. An AC electric generator could in principal also be called an alternator. Then again, the word is normally used to refer to a small, rotating device powered by internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are actually referred to as turbo-alternators. The majority of these devices use a rotating magnetic field but occasionally linear alternators are also utilized.

Whenever the magnetic field surrounding a conductor changes, a current is produced inside the conductor and this is how alternators produce their electrical energy. Often the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils located on an iron core which is called 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 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 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 induction of a permanent magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are often located in bigger devices compared to those used in automotive applications. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding which allows control of the voltage generated 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 within the rotor. These devices are restricted in size due to the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.