Forklift Alternators

Forklift Alternators - A machine used so as to change mechanical energy into electric energy is referred to as an alternator. It could carry out this function in the form of an electrical current. An AC electrical generator could in principal likewise be termed an alternator. Then again, the word is usually utilized to refer to a small, rotating machine driven by internal combustion engines. Alternators that are placed in power stations and are driven by steam turbines are actually called turbo-alternators. Most of these devices make use of a rotating magnetic field but every so often linear alternators are also utilized.

Whenever the magnetic field surrounding a conductor changes, a current is generated in the conductor and this is how alternators produce their electricity. Usually 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 actually referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input causes the rotor to turn. This rotating magnetic field generates an AC voltage in the stator windings. Usually, 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 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 usually found in larger devices as opposed to those used in automotive applications. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators often 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 due to the magnetizing current inside the rotor. These devices are limited 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.