Forklift Alternators

Forklift Alternators - An alternator is a machine that transforms mechanical energy into electrical energy. This is done in the form of an electric current. Basically, an AC electric generator could also be referred to as an alternator. The word usually refers to a rotating, small device powered by automotive and other internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are actually called turbo-alternators. Nearly all of these machines use a rotating magnetic field but from time to time linear alternators are utilized.

A current is generated within the conductor whenever the magnetic field around the conductor changes. Normally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core known as the stator. When the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input causes the rotor to turn. 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 produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these use brushes and slip rings along with a rotor winding or a permanent magnet to be able to generate a magnetic field of current. Brushlees AC generators are normally found in larger devices like for instance industrial sized lifting equipment. 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 that 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 machines are restricted in size because of the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.