Forklift Alternators

Alternator for Forklift - A machine used in order to transform mechanical energy into electrical energy is actually known as an alternator. It could carry out this function in the form of an electric current. An AC electric generator can basically be labeled an alternator. However, the word is typically used to refer to a rotating, small machine driven by internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are actually referred to as turbo-alternators. Most of these devices use a rotating magnetic field but sometimes linear alternators are used.

A current is generated in the conductor when 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 referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field likewise called EMF is generated as the mechanical input causes the rotor to turn. This rotating magnetic field generates 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.

"Brushless" alternators - these use slip rings and brushes together with a rotor winding or a permanent magnet to generate a magnetic field of current. Brushlees AC generators are usually found in bigger machines such as industrial sized lifting equipment. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding that allows control of the voltage generated by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current in the rotor. These machines are restricted in size due to the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.