Forklift Alternator

Alternator for Forklift - An alternator is actually a machine that transforms mechanical energy into electric energy. This is done in the form of an electrical current. In principal, an AC electric generator could also be called an alternator. The word usually refers to a rotating, small device driven by automotive and other internal combustion engines. Alternators which are located in power stations and are driven by steam turbines are referred to as turbo-alternators. Most of these devices use a rotating magnetic field but occasionally linear alternators are used.

A current is induced within 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 located on an iron core referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input causes the rotor to revolve. This rotating magnetic field produces 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 slip rings and brushes along with a rotor winding or a permanent magnet so as to generate a magnetic field of current. Brushlees AC generators are usually found in bigger devices such as industrial sized lifting equipment. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often use a rotor winding that allows control of the voltage produced by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current within 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.