Forklift Alternator

Alternator for Forklift - An alternator is a machine that changes mechanical energy into electrical energy. It does this in the form of an electric current. In principal, an AC electrical generator can also be labeled an alternator. The word normally refers to a rotating, small device powered by automotive and different internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are actually known as turbo-alternators. Most of these machines utilize a rotating magnetic field but every so often linear alternators are utilized.

A current is generated inside the conductor when the magnetic field surrounding 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 known as the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated 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 produces 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 production of a permanent magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are normally found in bigger devices compared to those utilized in automotive applications. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of a rotor winding which allows control of the voltage generated by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current within the rotor. These machines 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.