Forklift Alternator

Forklift Alternator - An alternator is a machine that converts mechanical energy into electrical energy. This is done in the form of an electric current. In principal, an AC electrical generator can likewise be labeled an alternator. The word normally refers to a small, rotating machine powered by automotive and various internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are referred to as turbo-alternators. Nearly all of these machines make use of a rotating magnetic field but occasionally linear alternators are likewise utilized.

A current is induced inside the conductor when the magnetic field all-around the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core known as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field produces an AC voltage in the stator windings. Usually, 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.

In a "brushless" alternator, the rotor magnetic field can 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 usually located in larger machines compared to those used in automotive applications. A rotor magnetic field may be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often utilize a rotor winding which allows control of the voltage generated by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current within the rotor. These machines are restricted in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.