

Forklift Alternator

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

A current is produced in 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 situated on an iron core known as the stator. When the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated as the mechanical input causes the rotor to turn. 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 generates 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 lasting magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are usually located in bigger machines compared to those used in automotive applications. A rotor magnetic field may be generated by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of a rotor winding that allows control of the voltage produced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current within the rotor. These devices are limited 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.