

Alternator for Forklift

Forklift Alternators - An alternator is a device that changes mechanical energy into electrical energy. It does this in the form of an electric current. In principal, an AC electric generator could be referred to as an alternator. The word normally refers to a small, rotating device driven by automotive and different internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are known as turbo-alternators. The majority of these devices make use of a rotating magnetic field but from time to time linear alternators are likewise used.

A current is induced within 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 located on an iron core called 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. Normally, 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 made 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 found in bigger devices than 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 make use of a rotor winding that allows control of the voltage produced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet devices 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. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.