

Alternator for Forklift

Forklift Alternator - A device utilized to transform mechanical energy into electrical energy is referred to as an alternator. It can carry out this function in the form of an electric current. An AC electrical generator could in principal also be called an alternator. However, the word is usually utilized to refer to a small, rotating machine powered by internal combustion engines. Alternators which are situated in power stations and are powered by steam turbines are known as turbo-alternators. The majority of these machines make use of a rotating magnetic field but from time to time linear alternators are utilized.

A current is generated in the conductor whenever 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 situated on an iron core referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is produced 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 induces 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 normally located in bigger machines than those utilized in automotive applications. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally use a rotor winding that allows control of the voltage induced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current inside the rotor. These devices are restricted in size due to the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.