

Alternator for Forklift

Forklift Alternator - A device utilized to change mechanical energy into electrical energy is actually known as an alternator. It could perform this function in the form of an electric current. An AC electric generator can basically likewise be labeled an alternator. Then again, the word is usually used to refer to a small, rotating device driven by internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are actually referred to as turbo-alternators. Nearly all of these machines make use of a rotating magnetic field but sometimes linear alternators are also used.

A current is produced within the conductor whenever the magnetic field surrounding 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 known as the stator. If the field cuts across the conductors, an induced electromagnetic field or EMF is produced as the mechanical input makes the rotor to turn. This rotating magnetic field generates an AC voltage in the stator windings. Usually, 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 made 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 larger devices as opposed 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 normally use a rotor winding that allows control of the voltage induced 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 inside the rotor. These machines are restricted 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.