

Forklift Alternators

Alternator for Forklift - A device used to transform mechanical energy into electric energy is actually referred to as an alternator. It could perform this function in the form of an electric current. An AC electric generator could basically also be labeled an alternator. Nonetheless, the word is typically used to refer to a small, rotating machine driven by internal combustion engines. Alternators which are located in power stations and are driven by steam turbines are known as turbo-alternators. Nearly all of these machines use a rotating magnetic field but occasionally linear alternators are used.

A current is produced within the conductor when 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 located on an iron core called the stator. If the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input makes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Typically, there are 3 sets of stator windings. These are 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 lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally located in larger devices as opposed to those utilized in automotive applications. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of a rotor winding which allows control of the voltage induced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current inside the rotor. These devices are limited in size because of the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.