

Alternator for Forklift

Forklift Alternators - A machine utilized so as to convert mechanical energy into electrical energy is referred to as an alternator. It can perform this function in the form of an electrical current. An AC electrical generator could in essence likewise be referred to as an alternator. However, the word is typically utilized to refer to a small, rotating machine powered by internal combustion engines. Alternators that are placed in power stations and are driven by steam turbines are actually referred to as turbo-alternators. Nearly all of these devices use a rotating magnetic field but from time to time linear alternators are used.

Whenever the magnetic field around a conductor changes, a current is produced inside the conductor and this is the way alternators generate their electricity. Often the rotor, which is a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field also called EMF is generated as the mechanical input causes the rotor to revolve. This rotating magnetic field generates 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 could be made by production of a lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are usually found in larger machines as opposed to those used in automotive applications. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators often make use of a rotor winding which allows control of the voltage induced by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current inside the rotor. These machines are limited in size because of the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.