

Alternator for Forklift

Forklift Alternators - An alternator is a machine that converts mechanical energy into electrical energy. This is done in the form of an electric current. In essence, an AC electric generator could also be called an alternator. The word normally refers to a rotating, small machine powered by automotive and different internal combustion engines. Alternators which are situated in power stations and are powered by steam turbines are actually referred to as turbo-alternators. Most of these devices make use of a rotating magnetic field but every so often linear alternators are used.

A current is produced inside the conductor if the magnetic field around the conductor changes. Generally 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. Whenever the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated as the mechanical input causes the rotor to turn. 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.

"Brushless" alternators - these utilize slip rings and brushes along with a rotor winding or a permanent magnet to be able to generate a magnetic field of current. Brushless AC generators are normally located in larger machines such as industrial sized lifting equipment. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding which allows control of the voltage produced 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 within the rotor. These machines are restricted in size because of the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.