

Alternator for Forklift

Forklift Alternators - A machine used so as to convert mechanical energy into electrical energy is actually referred to as an alternator. It can carry out this function in the form of an electrical current. An AC electric generator can in essence be termed an alternator. Nevertheless, the word is usually utilized to refer to a small, rotating device driven by internal combustion engines. Alternators that are placed in power stations and are driven by steam turbines are actually called turbo-alternators. Most of these machines utilize a rotating magnetic field but every now and then linear alternators are utilized.

Whenever the magnetic field surrounding a conductor changes, a current is generated in the conductor and this is the way alternators produce their electricity. Often the rotor, which is actually a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is actually called the stator. When the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated as the mechanical input makes the rotor to revolve. 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 could be caused by production of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are usually located in larger machines as opposed to those utilized in automotive applications. A rotor magnetic field can be induced by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding that allows control of the voltage produced 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 limited 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.