

Alternator for Forklift

Forklift Alternators - An alternator is actually a device that converts mechanical energy into electrical energy. This is done in the form of an electrical current. In principal, an AC electrical generator could be called an alternator. The word typically refers to a rotating, small device driven by automotive and different internal combustion engines. Alternators that are located in power stations and are powered by steam turbines are actually known as turbo-alternators. Nearly all of these devices utilize a rotating magnetic field but sometimes linear alternators are also utilized.

When the magnetic field around a conductor changes, a current is induced inside the conductor and this is how alternators produce 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 known as the stator. If the field cuts across the conductors, an induced electromagnetic field or EMF is generated 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 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 induction of a lasting magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are normally found in bigger machines than 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 generated by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current inside the rotor. These devices are restricted 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.