

Alternator for Forklift

Forklift Alternators - A device utilized in order to convert mechanical energy into electrical energy is actually called an alternator. It could carry out this function in the form of an electric current. An AC electric generator can basically be termed an alternator. Nevertheless, 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 called turbo-alternators. Nearly all of these machines utilize a rotating magnetic field but every now and then linear alternators are utilized.

If the magnetic field all-around a conductor changes, a current is produced inside the conductor and this is the way alternators produce their electricity. Normally the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils situated on an iron core which is actually referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field also called EMF is generated as the mechanical input causes the rotor to turn. 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 may be made by induction of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often located in larger machines than those used in automotive applications. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of 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 restricted in size due to the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.