

Forklift Alternators

Forklift Alternator - An alternator is a device that converts mechanical energy into electrical energy. This is done in the form of an electric current. Basically, an AC electric generator can also be called an alternator. The word usually refers to a rotating, small machine driven by automotive and various internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are called turbo-alternators. Nearly all of these devices use a rotating magnetic field but from time to time linear alternators are utilized.

Whenever the magnetic field all-around a conductor changes, a current is produced inside 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 situated on an iron core which is referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is produced as the mechanical input makes 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.

"Brushless" alternators - these make use of brushes and slip rings with a rotor winding or a permanent magnet to be able to produce a magnetic field of current. Brushless AC generators are normally found in larger machines like for example industrial sized lifting equipment. A rotor magnetic field may be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually use a rotor winding which allows control of the voltage generated by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current within the rotor. These machines are restricted in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.