

Forklift Alternator

Alternator for Forklift - An alternator is a machine that transforms mechanical energy into electrical energy. This is done in the form of an electric current. In essence, an AC electric generator could also be labeled an alternator. The word typically refers to a small, rotating device driven by automotive and other internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are referred to as turbo-alternators. The majority of these devices utilize a rotating magnetic field but occasionally linear alternators are utilized.

If the magnetic field around a conductor changes, a current is induced in the conductor and this is actually how alternators produce their electricity. Usually 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 called the stator. Whenever the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input causes the rotor to revolve. 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.

In a "brushless" alternator, the rotor magnetic field can 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 normally located in bigger devices as opposed to those utilized in automotive applications. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators often 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 machines 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.