

Forklift Alternator

Forklift Alternators - A device utilized to be able to change mechanical energy into electric energy is known as an alternator. It can perform this function in the form of an electric current. An AC electric generator could in principal be called an alternator. However, the word is usually used to refer to a rotating, small machine driven by internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are known as turbo-alternators. The majority of these devices make use of a rotating magnetic field but occasionally linear alternators are utilized.

If the magnetic field around a conductor changes, a current is produced inside the conductor and this is how alternators generate their electricity. Often 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 referred to as the stator. When the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field produces an AC voltage in the stator windings. Normally, there are 3 sets of stator windings. These physically offset so that the rotating magnetic field generates 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 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 bigger devices than those used in automotive applications. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding which allows control of the voltage produced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current inside the rotor. These machines 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.