

Forklift Alternators

Forklift Alternators - A device utilized so as to change mechanical energy into electric energy is called an alternator. It can carry out this function in the form of an electrical current. An AC electrical generator could in principal be termed an alternator. However, the word is typically used to refer to a rotating, small device powered by internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are actually known as turbo-alternators. Most of these machines use a rotating magnetic field but occasionally linear alternators are utilized.

Whenever the magnetic field surrounding a conductor changes, a current is produced within the conductor and this is actually the way alternators produce 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 called the stator. Whenever the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input makes 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 produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these utilize slip rings and brushes with a rotor winding or a permanent magnet to be able to produce a magnetic field of current. Brushless AC generators are most often located in bigger devices such as industrial sized lifting equipment. A rotor magnetic field could 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 generated by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current within the rotor. These machines are limited 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.