

Alternator for Forklift

Alternator for Forklift - A machine used in order to change mechanical energy into electric energy is actually called an alternator. It can carry out this function in the form of an electrical current. An AC electrical generator can in principal be termed an alternator. Nevertheless, the word is normally utilized to refer to a rotating, small device driven by internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are actually called turbo-alternators. Nearly all of these machines make use of a rotating magnetic field but occasionally linear alternators are also utilized.

Whenever the magnetic field around a conductor changes, a current is generated inside the conductor and this is how alternators produce their electricity. Often the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils located on an iron core which is referred to as the stator. When 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 generates an AC voltage in the stator windings. Usually, 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.

"Brushless" alternators - these use brushes and slip rings together with a rotor winding or a permanent magnet so as to produce a magnetic field of current. Brushless AC generators are usually located in larger devices like industrial sized lifting equipment. A rotor magnetic field may be generated by a stationary field winding with moving poles in the rotor. Automotive alternators often make use of a rotor winding which allows control of the voltage generated by the alternator. It does this 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 because of the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.