

Forklift Alternators

Forklift Alternators - A machine used in order to transform mechanical energy into electric energy is known as an alternator. It could perform this function in the form of an electric current. An AC electrical generator could in essence be referred to as an alternator. Then again, the word is typically used to refer to a small, rotating machine driven by internal combustion engines. Alternators which are located in power stations and are driven by steam turbines are referred to as turbo-alternators. The majority of these devices make use of a rotating magnetic field but sometimes linear alternators are used.

A current is produced inside the conductor when the magnetic field surrounding the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core referred to as the stator. When the field cuts across the conductors, an induced electromagnetic field also 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. Usually, 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 along with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushless AC generators are usually found in larger devices like for instance 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 utilize 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 devices avoid the loss because of the magnetizing current inside the rotor. These devices are restricted 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.