

Forklift Alternators

Forklift Alternators - A machine utilized in order to transform mechanical energy into electrical energy is referred to as an alternator. It can perform this function in the form of an electric current. An AC electrical generator can basically be termed an alternator. However, the word is typically used to refer to a small, rotating device powered by internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are called turbo-alternators. Most of these machines utilize a rotating magnetic field but every so often linear alternators are likewise used.

A current is induced in the conductor when the magnetic field all-around 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. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input makes the rotor to turn. This rotating magnetic field generates an AC voltage in the stator windings. Typically, 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 make use of brushes and slip rings with a rotor winding or a permanent magnet to be able to generate 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 generated by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding which allows control of the voltage induced by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet devices avoid the loss due to 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.