

Forklift Alternators

Forklift Alternators - A machine utilized to convert mechanical energy into electric energy is referred to as an alternator. It can perform this function in the form of an electrical current. An AC electrical generator can in principal also be called an alternator. Nonetheless, the word is usually used to refer to a rotating, small device driven by internal combustion engines. Alternators that are placed in power stations and are powered by steam turbines are actually called turbo-alternators. The majority of these machines utilize a rotating magnetic field but at times linear alternators are utilized.

If the magnetic field around a conductor changes, a current is generated inside the conductor and this is actually how alternators produce their electrical energy. 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 known as the stator. When the field cuts across the conductors, an induced electromagnetic field also called EMF is produced as the mechanical input causes the rotor to revolve. This rotating magnetic field produces 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 make use of brushes and slip rings with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushless AC generators are most often located in bigger devices like for instance industrial sized lifting equipment. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding that allows control of the voltage produced 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 in the rotor. These machines are restricted in size due to the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.