Forklift Alternators

Forklift Alternator - A device utilized to change mechanical energy into electric energy is actually referred to as an alternator. It could perform this function in the form of an electric current. An AC electric generator could in principal be called 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. The majority of these devices use a rotating magnetic field but at times linear alternators are used.

When the magnetic field all-around a conductor changes, a current is induced in the conductor and this is the way alternators generate their electricity. Usually the rotor, which is 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 causes the rotor to revolve. 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 utilize brushes and slip rings together with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushlees AC generators are usually located in bigger machines like for instance industrial sized lifting equipment. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually use a rotor winding that allows control of the voltage produced 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 in the rotor. These devices are limited 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.