Forklift Alternator

Alternator for Forklift - A device used to change mechanical energy into electrical energy is actually called an alternator. It can carry out this function in the form of an electric current. An AC electric generator can in essence likewise be termed an alternator. However, the word is typically utilized to refer to a small, rotating 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 use a rotating magnetic field but every so often linear alternators are used.

When the magnetic field around a conductor changes, a current is induced in the conductor and this is how alternators generate their electricity. Usually the rotor, which is a rotating magnet, revolves within a stationary set of conductors wound in coils located on an iron core which is called the stator. If 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 produces an AC voltage in the stator windings. Typically, 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 slip rings and brushes with a rotor winding or a permanent magnet so as to generate a magnetic field of current. Brushlees AC generators are normally located in bigger devices like for instance industrial sized lifting equipment. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators normally use a rotor winding which 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 inside the rotor. These devices are restricted in size due to the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.