Forklift Alternator

Forklift Alternator - A device used in order to change mechanical energy into electrical energy is actually called an alternator. It could perform this function in the form of an electrical current. An AC electrical generator could basically be referred to as an alternator. However, the word is usually utilized to refer to a small, rotating machine driven by internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are actually referred to as turbo-alternators. The majority of these devices make use of a rotating magnetic field but sometimes linear alternators are also used.

A current is produced inside the conductor when the magnetic field around the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core known as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input causes the rotor to revolve. 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 generates 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these use brushes and slip rings together with a rotor winding or a permanent magnet in order to produce a magnetic field of current. Brushlees AC generators are most often located in bigger machines such as 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 changing the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current within the rotor. These machines are restricted in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.