Forklift Alternators

Forklift Alternators - A device used to transform mechanical energy into electric energy is actually called an alternator. It could perform this function in the form of an electric current. An AC electrical generator can in essence likewise be termed an alternator. Nevertheless, the word is usually used to refer to a rotating, small machine powered by internal combustion engines. Alternators that are placed in power stations and are powered by steam turbines are known as turbo-alternators. The majority of these machines make use of a rotating magnetic field but every so often linear alternators are also utilized.

A current is produced inside the conductor when the magnetic field all-around the conductor changes. Normally 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. If 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 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 induces 3 phase currents, displaced by one-third of a period with respect to each other.

In a "brushless" alternator, the rotor magnetic field can be made by induction of a lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally located in bigger machines compared to those used in automotive applications. A rotor magnetic field could be produced 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 devices are limited in size because of the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.