Forklift Alternator

Forklift Alternators - An alternator is a device that transforms mechanical energy into electrical energy. It does this in the form of an electric current. In principal, an AC electrical generator can likewise be referred to as an alternator. The word normally refers to a rotating, small device powered by automotive and various internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are actually known as turbo-alternators. Most of these devices use a rotating magnetic field but every now and then linear alternators are used.

A current is produced inside the conductor whenever the magnetic field all-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 called the stator. Whenever the field cuts across the conductors, an induced electromagnetic field otherwise 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. Normally, there are 3 sets of stator windings. These physically offset so that the rotating magnetic field produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these utilize brushes and slip rings with a rotor winding or a permanent magnet to be able to generate a magnetic field of current. Brushlees AC generators are usually located in larger 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 usually make use of a rotor winding which allows control of the voltage induced by the alternator. This is done 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 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.