Forklift Alternators

Forklift Alternators - An alternator is actually a device which converts mechanical energy into electric energy. It does this in the form of an electric current. In essence, an AC electrical generator can likewise be labeled an alternator. The word normally refers to a small, rotating device powered by automotive and various internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are actually referred to as turbo-alternators. Nearly all of these machines use a rotating magnetic field but every so often linear alternators are likewise utilized.

When the magnetic field around a conductor changes, a current is produced in the conductor and this is how alternators produce their electrical energy. Often the rotor, which is a rotating magnet, revolves within a stationary set of conductors wound in coils located on an iron core which is referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field produces an AC voltage in the stator windings. Usually, 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.

"Brushless" alternators - these utilize brushes and slip rings with a rotor winding or a permanent magnet to induce a magnetic field of current. Brushlees AC generators are usually found in larger devices such as industrial sized lifting equipment. A rotor magnetic field could be generated by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize 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 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.