Forklift Alternators

Alternator for Forklift - A device used to be able to transform mechanical energy into electrical energy is actually referred to as an alternator. It can carry out this function in the form of an electric current. An AC electrical generator can in principal likewise be termed an alternator. Nonetheless, the word is normally used to refer to a rotating, small machine driven by internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are known as turbo-alternators. Nearly all of these machines utilize a rotating magnetic field but sometimes linear alternators are also utilized.

When the magnetic field around a conductor changes, a current is generated within the conductor and this is the way alternators produce their electrical energy. Usually the rotor, which is a rotating magnet, turns within a stationary set of conductors wound in coils situated on an iron core which is actually called 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 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 generates 3 phase currents, displaced by one-third of a period with respect to each other.

In a "brushless" alternator, the rotor magnetic field could be caused by induction of a lasting magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are often found in larger machines compared to those utilized in automotive applications. A rotor magnetic field could be induced 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 devices avoid the loss due to the magnetizing current in the rotor. These devices are restricted in size because of the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.