Forklift Alternator

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

A current is produced in the conductor when the magnetic field surrounding the conductor changes. Normally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core called the stator. Whenever 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. 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.

In a "brushless" alternator, the rotor magnetic field may be caused by induction of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often located in bigger machines than those used in automotive applications. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding which allows control of the voltage generated by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current inside the rotor. These devices are restricted in size due to the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.