Forklift Alternators

Forklift Alternators - An alternator is a machine that transforms mechanical energy into electrical energy. This is done in the form of an electric current. Basically, an AC electric generator can likewise be labeled an alternator. The word typically refers to a rotating, small machine driven by automotive and other internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are known as turbo-alternators. Most of these devices make use of a rotating magnetic field but every now and then linear alternators are also utilized.

If the magnetic field all-around a conductor changes, a current is induced within the conductor and this is actually how alternators produce their electricity. 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. When the field cuts across the conductors, an induced electromagnetic field also called EMF is produced as the mechanical input makes the rotor to revolve. This rotating magnetic field generates an AC voltage in the stator windings. Usually, 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 could be caused by production of a permanent magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are often found in bigger devices as opposed to those used in automotive applications. A rotor magnetic field may be produced 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 produced by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current in the rotor. These devices 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.