Alternator for Forklift

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

If the magnetic field surrounding a conductor changes, a current is produced in the conductor and this is actually the way alternators generate their electricity. 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 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 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 induces 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 made by induction of a lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often found in larger machines as opposed to those utilized in automotive applications. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding that 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 due to the magnetizing current inside the rotor. These devices are restricted in size due to the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.