Alternator for Forklift

Alternator for Forklift - An alternator is actually a machine which changes mechanical energy into electric energy. It does this in the form of an electrical current. In principal, an AC electric generator could likewise be labeled an alternator. The word normally refers to a rotating, small machine driven by automotive and various internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are actually known as turbo-alternators. The majority of these devices make use of a rotating magnetic field but occasionally linear alternators are utilized.

Whenever the magnetic field surrounding a conductor changes, a current is generated within the conductor and this is actually how alternators produce their electrical energy. Normally the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils situated on an iron core which is referred to as the stator. When 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 generates an AC voltage in the stator windings. Typically, 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.

"Brushless" alternators - these use brushes and slip rings with a rotor winding or a permanent magnet to produce a magnetic field of current. Brushlees AC generators are usually found in bigger devices like for example industrial sized lifting equipment. 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 which allows control of the voltage generated by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current in the rotor. These devices are restricted in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.