

Alternator for Forklift

Forklift Alternators - An alternator is actually a machine that transforms mechanical energy into electric energy. This is done in the form of an electric current. In principal, an AC electrical generator can likewise be labeled an alternator. The word usually refers to a small, rotating machine powered by automotive and various internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are actually referred to as turbo-alternators. The majority of these machines use a rotating magnetic field but from time to time linear alternators are also utilized.

When the magnetic field surrounding a conductor changes, a current is generated in the conductor and this is actually the way alternators generate their electricity. Often the rotor, which is a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is called the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise 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 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 induction of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally found in larger machines compared to those utilized in automotive applications. A rotor magnetic field could be generated by a stationary field winding with moving poles in the rotor. Automotive alternators often utilize a rotor winding that allows control of the voltage produced by the alternator. It does this 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.