

Alternator for Forklift

Forklift Alternators - An alternator is a device that transforms mechanical energy into electrical energy. This is done in the form of an electrical current. In principal, an AC electric generator could also be labeled an alternator. The word normally refers to a small, rotating device powered by automotive and other internal combustion engines. Alternators that are situated in power stations and are powered by steam turbines are called turbo-alternators. The majority of these devices utilize a rotating magnetic field but at times linear alternators are utilized.

A current is generated within the conductor whenever 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 situated on an iron core referred to as 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 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.

"Brushless" alternators - these make use of slip rings and brushes along with a rotor winding or a permanent magnet in order to produce a magnetic field of current. Brushless AC generators are most often located in larger machines like for example industrial sized lifting equipment. 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 which allows control of the voltage produced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current in the rotor. These machines 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.