

## Forklift Alternator

Forklift Alternator - A device used to be able to change mechanical energy into electrical energy is actually called an alternator. It could perform this function in the form of an electrical current. An AC electric generator can in principal also be labeled an alternator. Then again, the word is typically used to refer to a small, rotating device powered by internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are actually called turbo-alternators. Most of these devices use a rotating magnetic field but occasionally linear alternators are utilized.

A current is induced inside the conductor when the magnetic field all-around 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 called the stator. If 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 induces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these use slip rings and brushes together with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushless AC generators are most often located in larger machines like industrial sized lifting equipment. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding that 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 inside the rotor. These devices are restricted in size due to the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.