

## Forklift Alternator

Forklift Alternators - An alternator is a machine that converts mechanical energy into electrical energy. This is done in the form of an electrical current. Basically, an AC electrical generator could be called an alternator. The word normally refers to a rotating, small machine powered by automotive and other internal combustion engines. Alternators that are situated in power stations and are powered by steam turbines are actually known as turbo-alternators. Nearly all of these machines utilize a rotating magnetic field but at times linear alternators are utilized.

If the magnetic field around a conductor changes, a current is generated inside the conductor and this is how alternators produce their electricity. Often the rotor, which is actually a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is actually called the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated as the mechanical input makes the rotor to turn. 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 generates 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 generate a magnetic field of current. Brushless AC generators are normally found in larger devices 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 make use of a rotor winding that 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 inside the rotor. These machines are limited in size because of the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.