

Forklift Alternator

Forklift Alternators - An alternator is actually a device which transforms mechanical energy into electric energy. It does this in the form of an electrical current. In principal, an AC electrical generator can also be labeled an alternator. The word normally refers to a rotating, small machine powered by automotive and different internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are actually known as turbo-alternators. Most of these devices use a rotating magnetic field but occasionally linear alternators are likewise used.

If the magnetic field surrounding a conductor changes, a current is induced inside the conductor and this is how alternators produce their electrical energy. Usually the rotor, which is a rotating magnet, turns within a stationary set of conductors wound in coils situated on an iron core which is referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is produced as the mechanical input causes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Usually, 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 brushes and slip rings 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 bigger devices 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 that allows control of the voltage induced 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 limited in size due to the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.