

Alternator for Forklift

Forklift Alternators - An alternator is actually a device that converts mechanical energy into electrical energy. It does this in the form of an electric current. Basically, an AC electric generator can also be labeled an alternator. The word typically refers to a small, rotating device powered by automotive and different internal combustion engines. Alternators that are located in power stations and are driven by steam turbines are actually referred to as turbo-alternators. Nearly all of these machines make use of a rotating magnetic field but from time to time linear alternators are used.

If the magnetic field all-around a conductor changes, a current is generated in the conductor and this is actually the way alternators produce their electrical energy. Normally the rotor, which is actually a rotating magnet, turns within a stationary set of conductors wound in coils situated on an iron core which is actually known as the stator. When the field cuts across the conductors, an induced electromagnetic field likewise called EMF is generated as the mechanical input causes the rotor to revolve. This rotating magnetic field generates an AC voltage in the stator windings. Normally, 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 to be able to induce a magnetic field of current. Brushless AC generators are most often found in bigger machines like for example industrial sized lifting equipment. A rotor magnetic field may be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding which allows control of the voltage generated by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current inside the rotor. These machines 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.