

Forklift Alternator

Forklift Alternator - An alternator is actually a device that converts mechanical energy into electrical energy. It does this in the form of an electrical current. In essence, an AC electrical generator could be referred to as an alternator. The word typically refers to a small, rotating device driven by automotive and various internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are referred to as turbo-alternators. Nearly all of these devices utilize a rotating magnetic field but every now and then linear alternators are likewise utilized.

A current is produced inside the conductor when the magnetic field around the conductor changes. Usually the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core known as the stator. Whenever 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 make use of slip rings and brushes along with a rotor winding or a permanent magnet to be able to generate a magnetic field of current. Brushless AC generators are normally located in larger devices like for instance industrial sized lifting equipment. A rotor magnetic field can be produced 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 induced by the alternator. This is done 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. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.