

Forklift Alternators

Forklift Alternators - An alternator is actually a machine that changes mechanical energy into electric energy. It does this in the form of an electric current. In essence, an AC electric generator could also be called an alternator. The word normally refers to a rotating, small device driven by automotive and different internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are known as turbo-alternators. The majority of these machines utilize a rotating magnetic field but occasionally linear alternators are likewise utilized.

A current is produced in the conductor when the magnetic field surrounding the conductor changes. Normally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core called the stator. If the field cuts across the conductors, an induced electromagnetic field likewise called EMF is generated as the mechanical input causes the rotor to turn. This rotating magnetic field produces an AC voltage in the stator windings. Typically, 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 utilize slip rings and brushes together 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 larger machines like for instance industrial sized lifting equipment. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding which allows control of the voltage induced by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet machines 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.